FCC Test Report

Product Name	：	Tire Pressure Monitoring System-A Series
Trade Name	：	Picolink
Model No.	：	A1, A2
FCC ID.	：	2AEJRPA12X

Applicant	：	Picolink Technology Co., Ltd
Address	：	5F.-7, No.18, Taiyuan St.Zhubei 302 Taiwan

Date of Receipt	：	Jun. 03, 2016
Issued Date	：	Mar. 16, 2017
Report No.	：	1660176R-RFUSP01V00
Report Version	：	V1.0

Testing Laboratory
3024

Test Report Certification

Issued Date : Mar. 16, 2017
Report No. : 1660176R-RFUSP01V00

Product Name	:	Tire Pressure Monitoring System-A Series
Applicant	:	Picolink Technology Co., Ltd
Address	:	5F.-7, No.18, Taiyuan St.Zhubei 302 Taiwan
Manufacturer	:	Picolink Technology Co., Ltd
Trade Name	:	Picolink
Model No.	:	A1, A2
FCC ID.	:	2AEJRPA12X
EUT Voltage	:	DC 12V
Testing Voltage	:	DC 12V
Applicable Standard	:	FCC CFR Title 47 Part 15 Subpart C Section 15.247: 2015
Test Lab	:	Hsin Chu Laboratory
Test Result	:	Complied

The test results relate only to the samples tested.
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Tested By : Elwin Lin
(Elwin Lin / Assistant Engineer)

Approved By : Roy Wang
(Roy Wang / Director)

Revision History

Report No.	Version	Description	Issued Date
1660176R-RFUSP01V00	V1.0	Initial issue of report	Mar. 16, 2017

Laboratory Information

We, **DEKRA Testing and Certification Co., Ltd.**, are an independent RF consultancy that was established the whole facility in our laboratories. The test facility has been accredited/accepted (audited or listed) by the following related bodies in compliance with ISO 17025 specified testing scopes:

Taiwan R.O.C.	**:**	**TAF, Accreditation Number: 3024**
USA	**:**	**FCC, Registration Number: 834100**
Canada	**:**	**IC, Submission No: 181665** **IC Registration Number: 22397-1 / 22397-2 / 22397-3**

The related certificate for our laboratories about the test site and management system can be downloaded from DEKRA Testing and Certification Co., Ltd. Web Site:
http://www.dekra.com.tw/english/about/certificates.aspx?bval=5
The address and introduction of DEKRA Testing and Certification Co., Ltd. laboratories can be founded in our Web site : http://www.dekra.com.tw/index_en.aspx
If you have any comments, Please don't hesitate to contact us. Our contact information is as below:

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1. General Information

1.1. EUT Description

Product Name	Tire Pressure Monitoring System-A Series
Trade Name	Picolink
Model Name	A1, A2
Frequency Range	2402~2480MHz
Channel Number	40 Channels
Type of Modulation	BLE 4.0 (GFSK)

Antenna Information	
Antenna Type	Soldered on PCB Antenna
Antenna Gain	0dBi

Working Frequency of Each Channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 00	2402 MHz	Channel 10	2422 MHz	Channel 20	2442 MHz	Channel 30	2462 MHz
Channel 01	2404 MHz	Channel 11	2424 MHz	Channel 21	2444 MHz	Channel 31	2464 MHz
Channel 02	2406 MHz	Channel 12	2426 MHz	Channel 22	2446 MHz	Channel 32	2466 MHz
Channel 03	2408 MHz	Channel 13	2428 MHz	Channel 23	2448 MHz	Channel 33	2468 MHz
Channel 04	2410 MHz	Channel 14	2430 MHz	Channel 24	2450 MHz	Channel 34	2470 MHz
Channel 05	2412 MHz	Channel 15	2432 MHz	Channel 25	2452 MHz	Channel 35	2472 MHz
Channel 06	2414 MHz	Channel 16	2434 MHz	Channel 26	2454 MHz	Channel 36	2474 MHz
Channel 07	2416MHz	Channel 17	2436 MHz	Channel 27	2456 MHz	Channel 37	2476 MHz
Channel 08	2418 MHz	Channel 18	2438 MHz	Channel 28	2458 MHz	Channel 38	2478 MHz
Channel 09	2420 MHz	Channel 19	2440 MHz	Channel 29	2460 MHz	Channel 39	2480 MHz

Note:

1. This device is Tire Pressure Monitoring System-A Series including BT4.0 / 433.92MHz transmitting and receiving functions.
2. The different of the each model is shown as below:

Model Number	Description
A1	Tire inside
A2	Tire outside

3. Regards to the frequency band operation; the lowest、middle and highest frequency of channel were selected to perform the test, and then shown on this report.
4. This device is a composite device in accordance with Part 15 regulations. The function of the 433.92MHz transmitting was tested and its test report number is 1660176R-RFUSP14V00. The function of the receiving was tested and its test report number is 1660176R-RFUSP01V00-B.

1.2. Test Mode

DEKRA has verified the construction and function in typical operation. The preliminary tests were performed in different data rate, and to find the worst condition, which was shown in this test report. The following table is the final test mode.

TX	Mode 1: Transmit Mode

Test Items	Modulation	Channel	Antenna	Result
Conducted Emission	GFSK	00/19/39	0	N/A
Peak Power Output	GFSK	00/19/39	0	Complies
Radiated Emission	GFSK	00/19/39	0	Complies
RF antenna conducted test	GFSK	00/19/39	0	Complies
Radiated Emission Band Edge	GFSK	00/19/39	0	Complies
DTS Bandwidth	GFSK	00/19/39	0	Complies
Occupied Bandwidth	GFSK	00/19/39	0	N/A
Power Density	GFSK	00/19/39	0	Complies

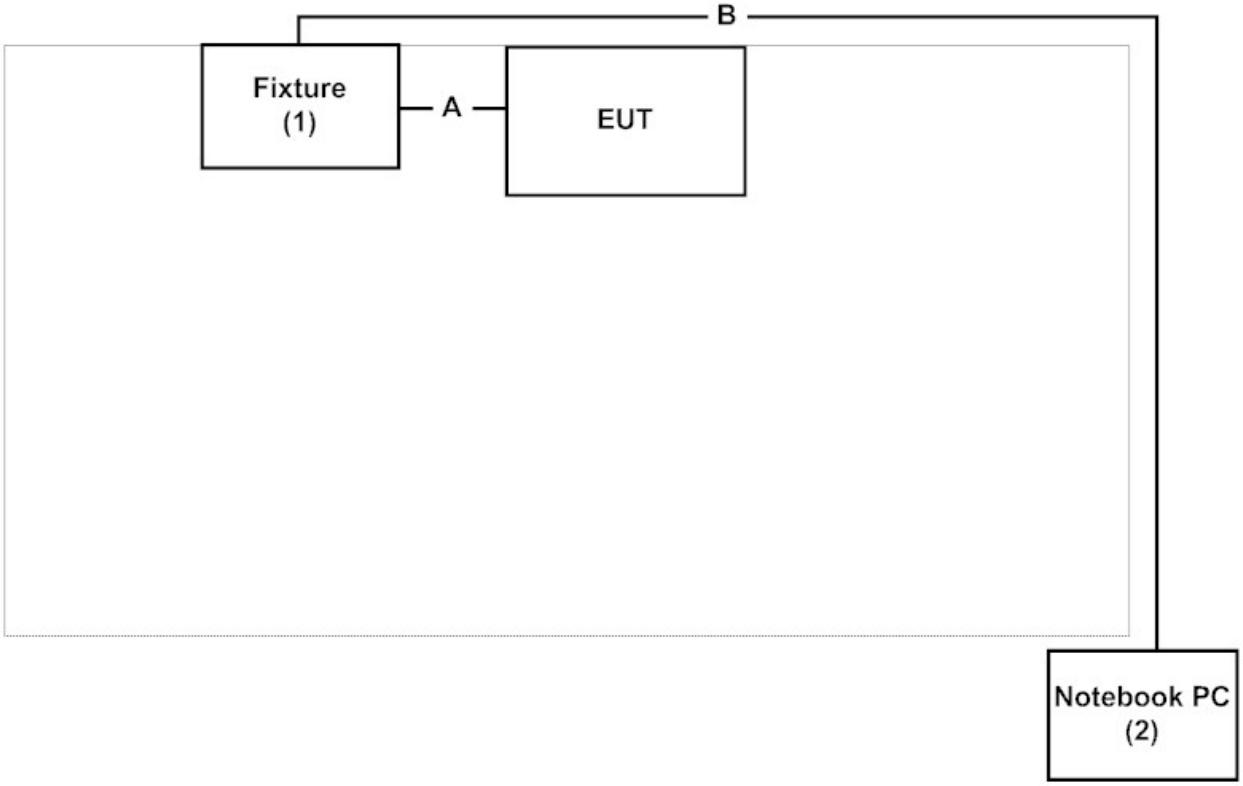
1.3. Tested System Details

The types for all equipments, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product		Manufacturer	Model No.	Serial No.	FCC ID	Power Cord
1	Fixture	N/A	N/A	N/A	DoC	--
2	Notebook PC	ASUS	K45VD	K45VD-0343G3110M	DoC	Non-Shielded, 1.8m

1.4. Configuration of tested System

Connection Diagram



Signal Cable Type		Signal cable Description
A	Signal Cable	Non-Shielded, 0.5m
B	USB Cable	Non-Shielded, 2m

1.5. EUT Exercise Software

1	Setup the EUT as shown in Section 1.4.
2	Execute the Smart RF Studio 7 on the notebook.
3	Configure the test mode, the test channel, and the data rate.
4	Press “Start TX” to start the continuous transmitting.
5	Verify that the EUT works properly.

1.6. Test Facility

Ambient conditions in the laboratory:

Items	Test Item	Required (IEC 68-1)	Actual
Temperature (°C)	FCC PART 15 C 15.247 Peak Power Output	15 - 35	23 °C
Humidity (%RH)		25 - 75	50 %RH
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.247 Radiated Emission	15 - 35	23 °C
Humidity (%RH)		25 - 75	50 %RH
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.247 RF antenna conducted test	15 - 35	23 °C
Humidity (%RH)		25 - 75	50 %RH
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.247 Band Edge	15 - 35	23 °C
Humidity (%RH)		25 - 75	50 %RH
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.247 DTS Bandwidth	15 - 35	23 °C
Humidity (%RH)		25 - 75	50 %RH
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.247 Power Density	15 - 35	23 °C
Humidity (%RH)		25 - 75	50 %RH
Barometric pressure (mbar)		860 - 1060	950-1000

2. Peak Power Output

2.1. Test Equipment

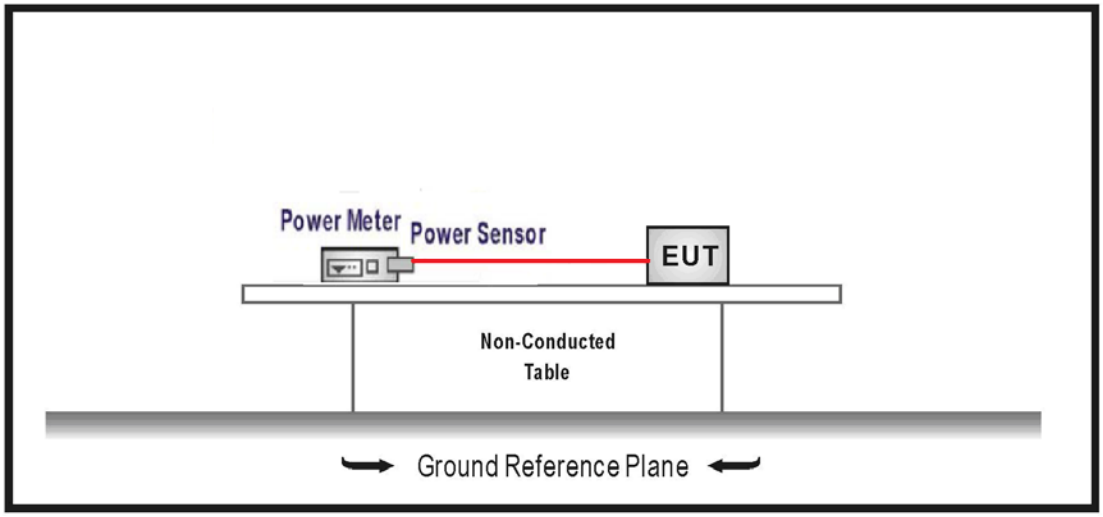
The following test equipments are used during the test:

Peak Power Output / SR10-H

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
High Speed Peak Power Meter Dual Input	Anritsu	ML2496A	1602004	2017/01/20
Pulse Power Sensor	Anritsu	MA2411B	1531043	2017/01/20
Pulse Power Sensor	Anritsu	MA2411B	1531044	2017/01/20

Note: All equipments that need to calibrate are with calibration period of 1 year.

2.2. Test Setup



2.3. Test procedures

The EUT was tested according to DTS test procedure section 9.1.2 of KDB558074 v03r02 measurement to FCC 47CFR 15.247 requirements.

2.4. Limits

The maximum peak power shall be less 1 Watt.

2.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2015

2.6. Uncertainty

The measurement uncertainty is defined as ± 1.27 dB.

2.7. Test Result

Product	Tire Pressure Monitoring System-A Series		
Test Item	Peak Power Output		
Test Mode	Mode 1: Transmit Mode		
Date of Test	2017/01/25	Test Site	SR10-H

BLE 4.0 (GFSK)

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
00	2402	-0.86	≦30	Pass
19	2440	-1.74	≦30	Pass
39	2480	-2.02	≦30	Pass

3. Radiated Emission

3.1. Test Equipment

The following test equipment are used during the test:

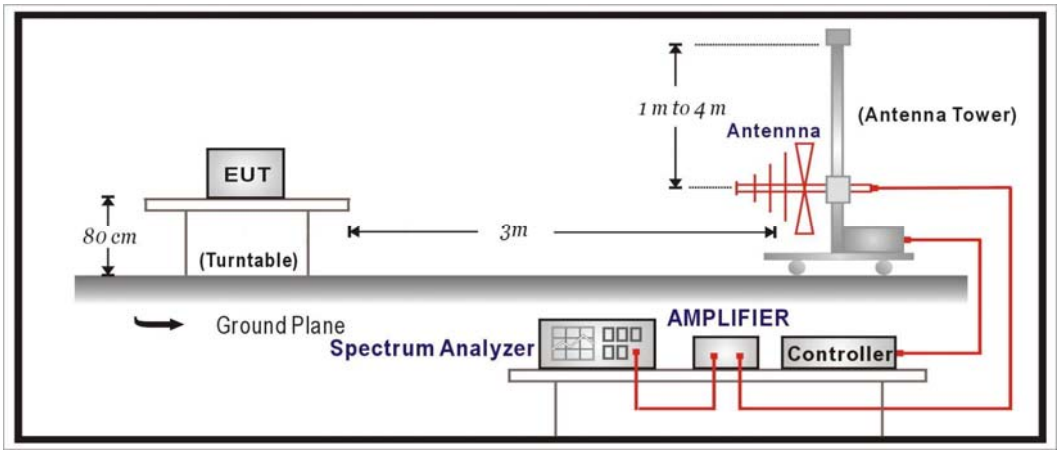
Radiated Emission / CB4-H

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Bilog Antenna	Schaffner	CBL6112B	2891	2017/08/14
Horn Antenna	Schwarzbeck	BBHA 9120	D312	2017/10/25
Pre-Amplifier	EMCI	EMC0031835	980233	2018/02/02
Pre-Amplifier	Schwarzbeck	DBL-1840N506	013	2017/09/29
Pre-Amplifier	Miteq	JS41-001040000-58-5P	1573954	2017/10/04
Horn Antenna	Schwarzbeck	BBHA 9170	203	2017/08/28
Signal & Spectrum Analyzer	R&S	FSV40	101049	2018/01/22

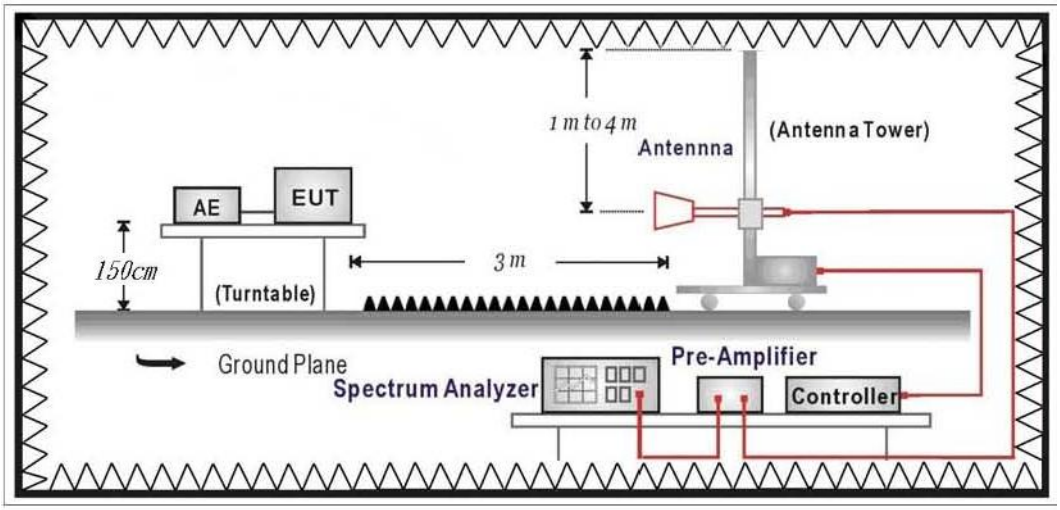
Note: All equipments that need to calibrate are with calibration period of 1 year.

3.2. Test Setup

Under 1GHz Test Setup:



Above 1GHz Test Setup:



3.3. Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

FCC Part 15 Subpart C Paragraph 15.209 Limits		
Frequency MHz	dBuV/m	dBuV/m
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

Remark: E field strength (dBuV/m) = 20 log E field strength (uV/m)

3.4. Test Procedure

The EUT was setup according to ANSI C63.10: 2013 and tested according to DTS test procedure of KDB558074 v03r02 for compliance to FCC 47CFR 15.247 requirements.
The EUT and its simulators are placed on a turn table which is 0.8 and 1.5 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level.
The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.
Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.10: 2013 on radiated measurement.
On any frequency or frequencies below or equal to 1000 MHz, the limits shown are based on measuring equipment employing a quasi-peak detector function and on any frequency or frequencies above 1000 MHz the radiated limits shown are based upon the use of measurement instrumentation employing an average detector function. When average radiated emission measurement are included emission measurement below 1000 MHz, there also is a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit.
The bandwidth below 1GHz setting on the field strength meter is 120 kHz and above 1GHz is 1MHz.

3.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2015

3.6. Uncertainty

The measurement uncertainty

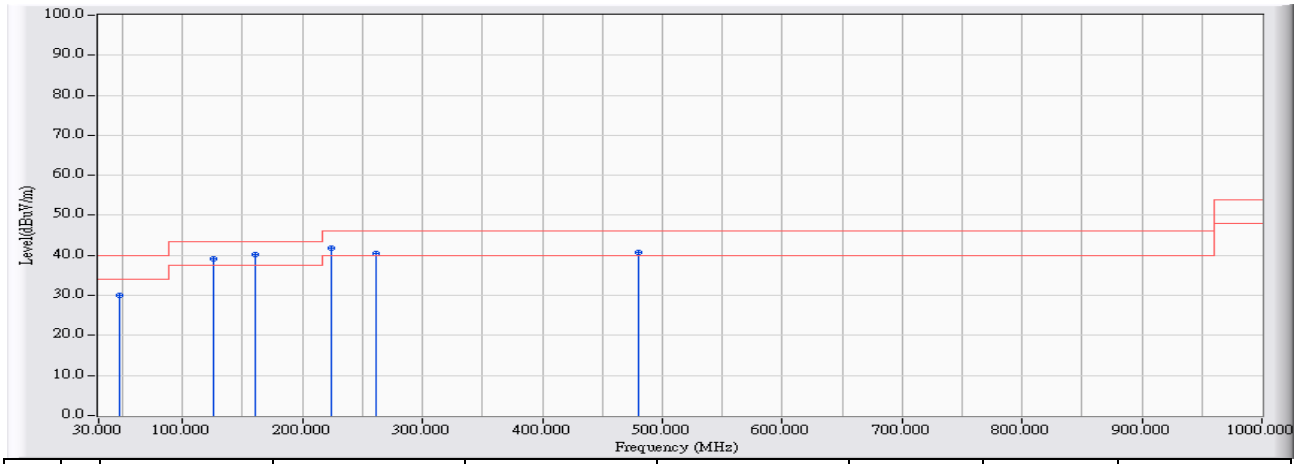
30MHz～1GHz as ±3.43dB

1GHz～26.5Ghz as ±3.65dB

3.7. Test Result

30MHz-1GHz Spurious

Site : CB4-H	**Time : 2017/01/20**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : CB4-H_FCC_EFS_S2_30M-1GHz_1116 - HORIZONTAL	**Power : DC 12V**
EUT : Tire Pressure Monitoring System-A Series	**Note : Mode 1: Transmit Mode_2440MHz**

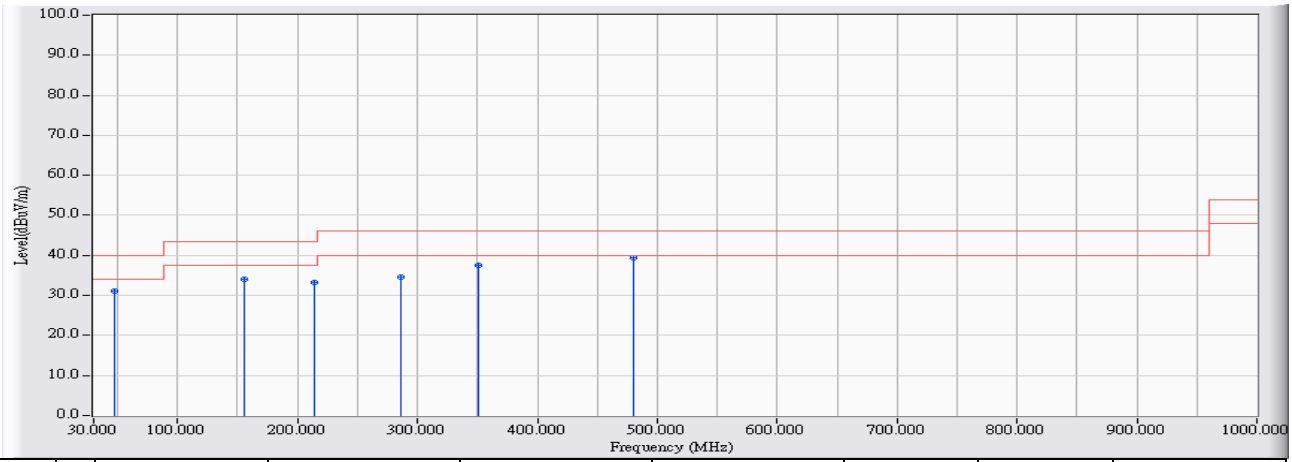


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		47.980	17.715	12.360	30.075	-9.925	40.000	QUASIPEAK
2		126.214	20.728	18.339	39.067	-4.433	43.500	QUASIPEAK
3	*	159.967	19.213	21.074	40.287	-3.213	43.500	QUASIPEAK
4		224.175	20.025	21.923	41.948	-4.052	46.000	QUASIPEAK
5		261.031	21.708	18.825	40.533	-5.467	46.000	QUASIPEAK
6		479.938	27.050	13.779	40.829	-5.171	46.000	QUASIPEAK

Note:

1. All Reading Levels are Quasi-Peak value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Site : CB4-H	**Time : 2017/01/20**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : CB4-H_FCC_EFS_S2_30M-1GHz_1116 - VERTICAL	**Power : DC 12V**
EUT : Tire Pressure Monitoring System-A Series	**Note : Mode 1: Transmit Mode_2440MHz**



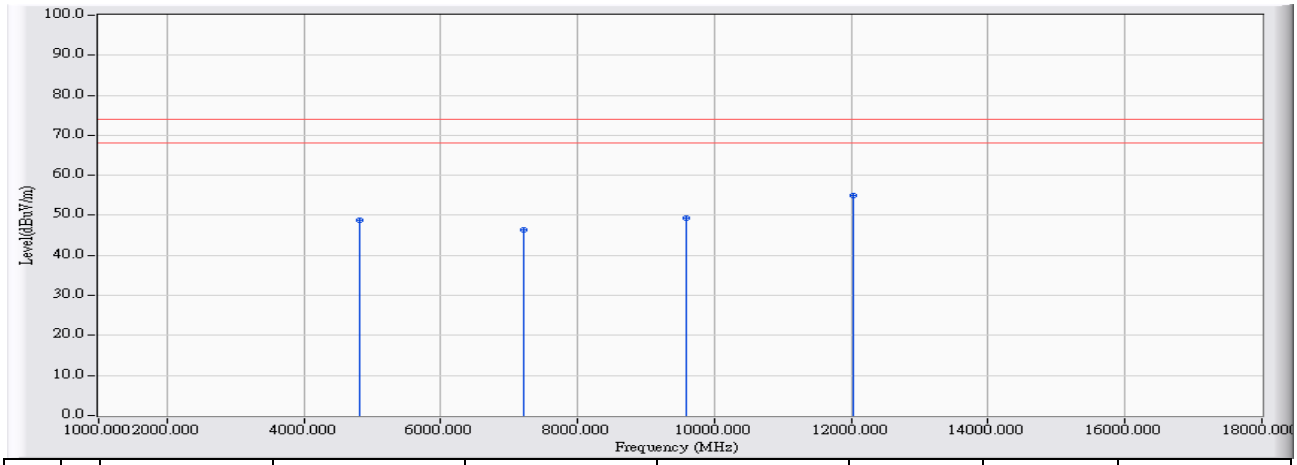
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		47.980	17.715	13.260	30.975	-9.025	40.000	QUASIPEAK
2		156.214	19.436	14.560	33.996	-9.504	43.500	QUASIPEAK
3		213.451	19.407	13.781	33.189	-10.311	43.500	QUASIPEAK
4		285.631	22.158	12.369	34.526	-11.474	46.000	QUASIPEAK
5		351.321	24.073	13.562	37.635	-8.365	46.000	QUASIPEAK
6	*	479.923	27.050	12.410	39.459	-6.541	46.000	QUASIPEAK

Note:

1. All Reading Levels are Quasi-Peak value.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Above 1GHz Spurious

Site : CB4-H	**Time : 2017/01/23**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	**Power : DC 12V**
EUT : Tire Pressure Monitoring System-A Series	**Note : Mode 1: Transmit Mode_2402MHz**

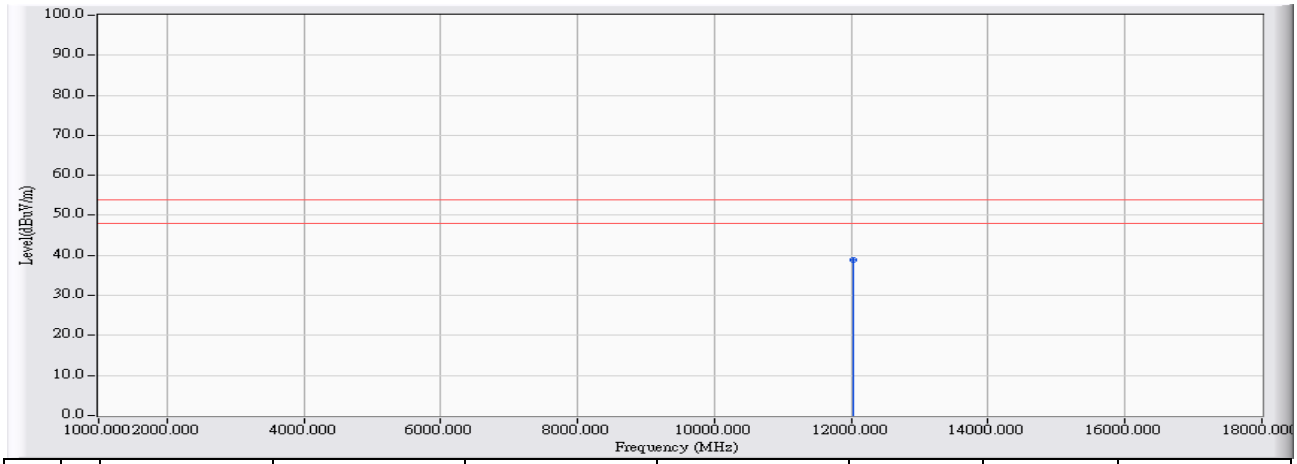


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4804.000	-0.376	49.200	48.824	-25.176	74.000	PEAK
2		7219.000	7.097	39.290	46.386	-27.614	74.000	PEAK
3		9595.000	12.030	37.220	49.250	-24.750	74.000	PEAK
4	*	12023.000	17.160	37.830	54.989	-19.011	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB4-H	**Time : 2017/01/23**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	**Power : DC 12V**
EUT : Tire Pressure Monitoring System-A Series	**Note : Mode 1: Transmit Mode_2402MHz**

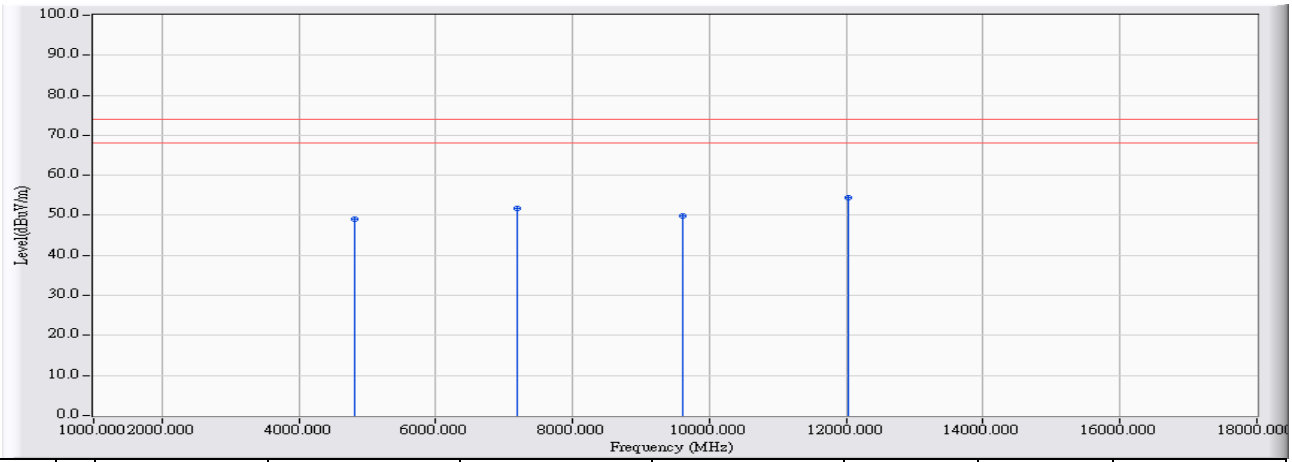


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	12026.000	17.154	21.740	38.894	-15.106	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB4-H	**Time : 2017/01/23**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	**Power : DC 12V**
EUT : Tire Pressure Monitoring System-A Series	**Note : Mode 1: Transmit Mode_2402MHz**

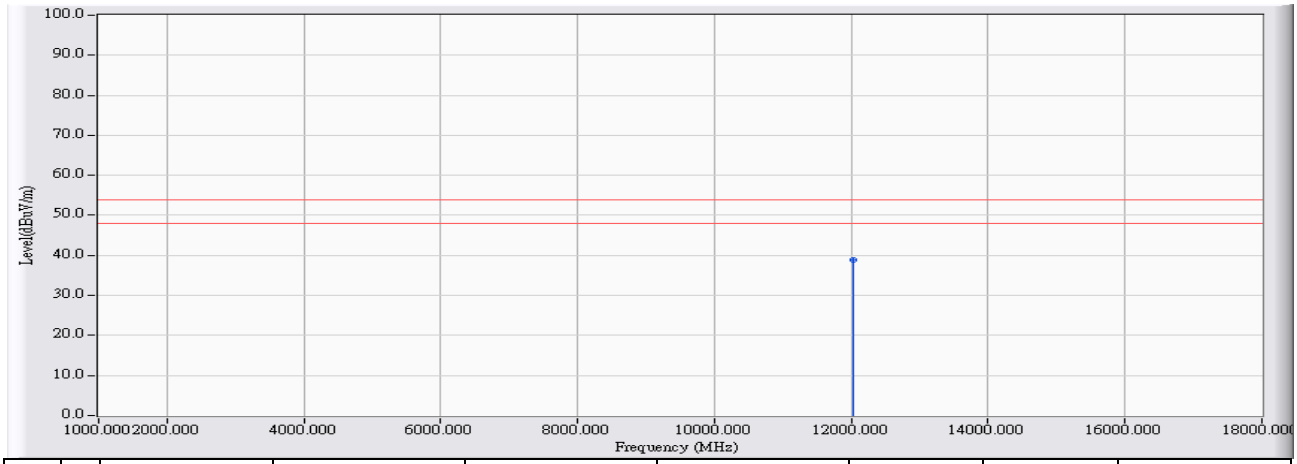


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4804.000	-0.376	49.400	49.024	-24.976	74.000	PEAK
2		7189.000	6.946	44.760	51.706	-22.294	74.000	PEAK
3		9611.000	12.058	37.850	49.909	-24.091	74.000	PEAK
4	*	12022.000	17.161	37.180	54.341	-19.659	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB4-H	**Time : 2017/01/23**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	**Power : DC 12V**
EUT : Tire Pressure Monitoring System-A Series	**Note : Mode 1: Transmit Mode_2402MHz**

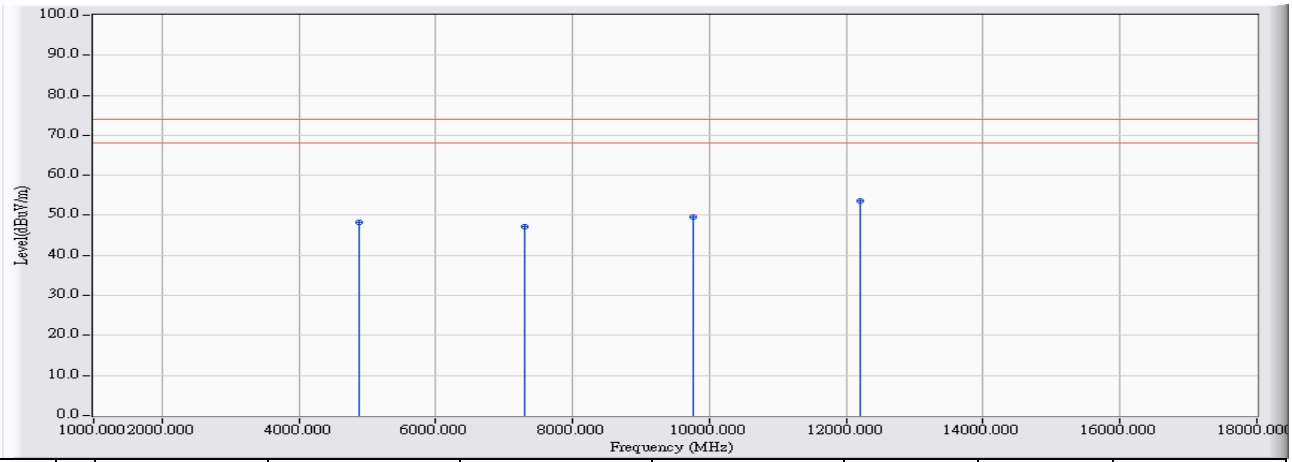


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	12028.000	17.151	21.720	38.871	-15.129	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB4-H	**Time : 2017/01/23**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	**Power : DC 12V**
EUT : Tire Pressure Monitoring System-A Series	**Note : Mode 1: Transmit Mode_2440MHz**

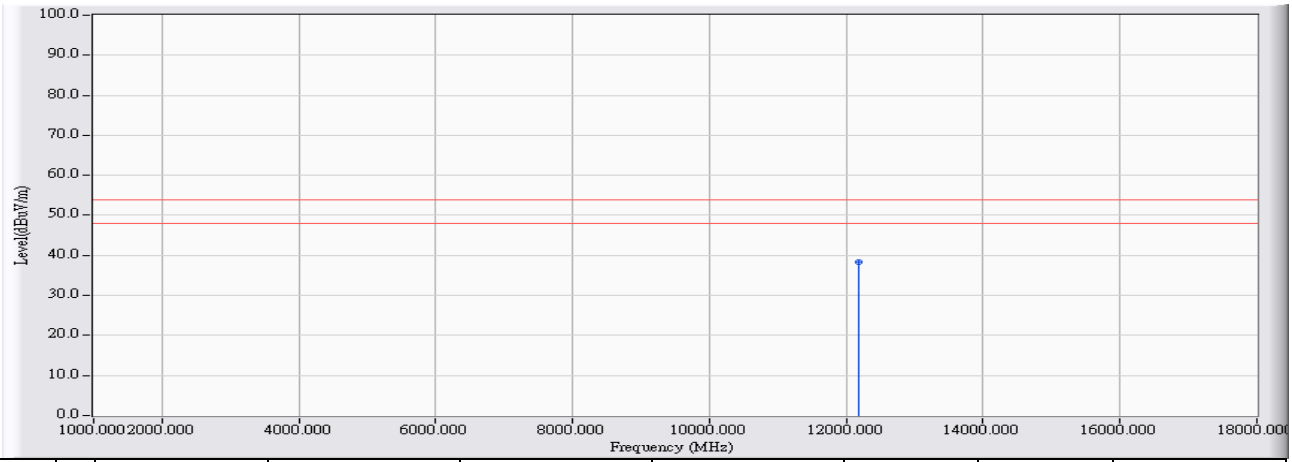


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4880.000	-0.188	48.430	48.242	-25.758	74.000	PEAK
2		7309.000	7.543	39.740	47.283	-26.717	74.000	PEAK
3		9767.000	12.304	37.340	49.644	-24.356	74.000	PEAK
4	*	12206.000	16.826	36.820	53.646	-20.354	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB4-H	**Time : 2017/01/23**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	**Power : DC 12V**
EUT : Tire Pressure Monitoring System-A Series	**Note : Mode 1: Transmit Mode_2440MHz**

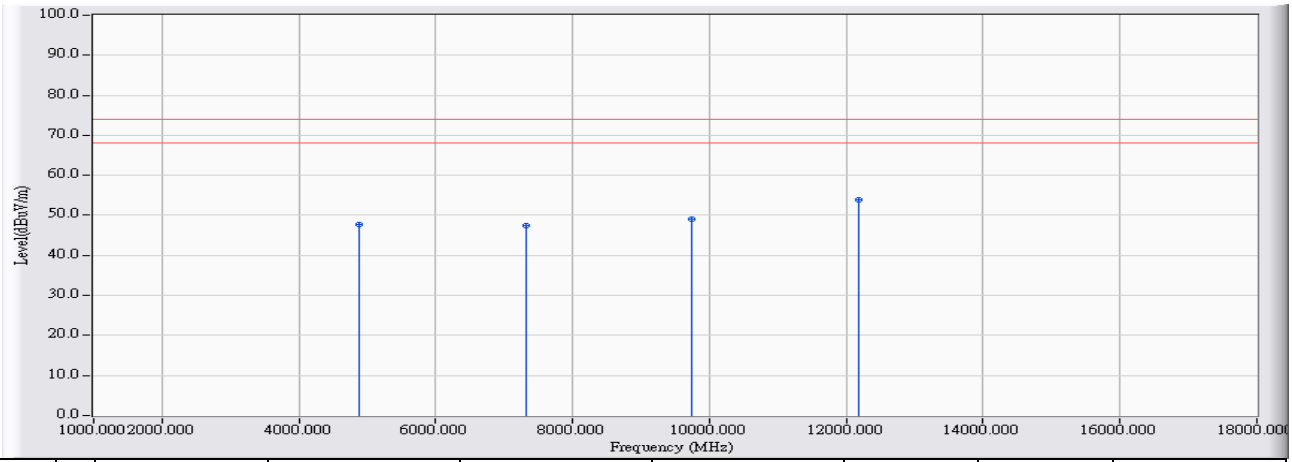


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	12188.000	16.861	21.430	38.290	-15.710	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB4-H	**Time : 2017/01/23**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	**Power : DC 12V**
EUT : Tire Pressure Monitoring System-A Series	**Note : Mode 1: Transmit Mode_2440MHz**

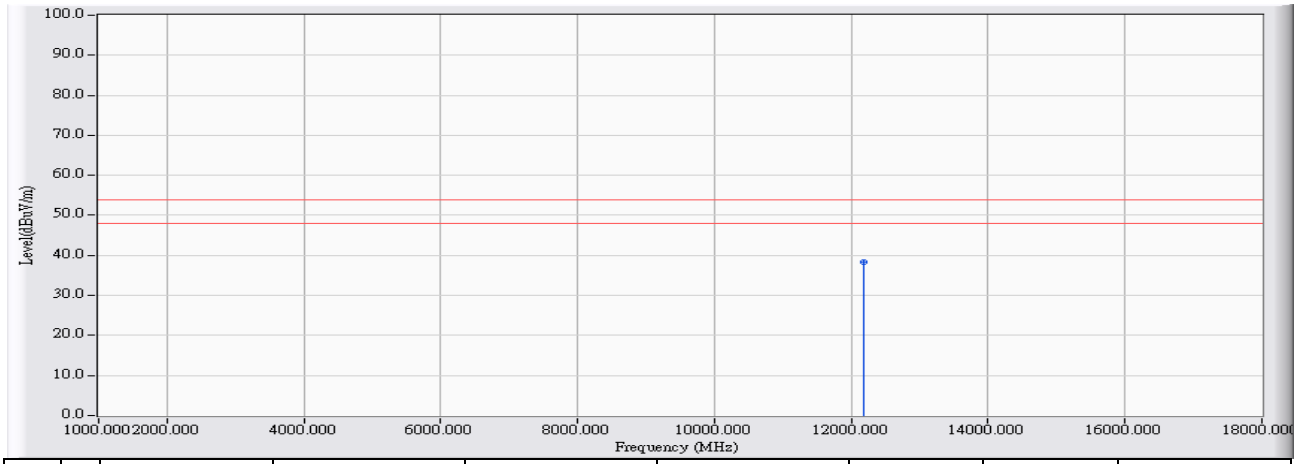


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4880.000	-0.188	47.800	47.612	-26.388	74.000	PEAK
2		7318.000	7.587	39.870	47.457	-26.543	74.000	PEAK
3		9743.000	12.270	36.780	49.050	-24.950	74.000	PEAK
4	*	12185.000	16.865	36.890	53.756	-20.244	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB4-H	**Time : 2017/01/23**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	**Power : DC 12V**
EUT : Tire Pressure Monitoring System-A Series	**Note : Mode 1: Transmit Mode_2440MHz**

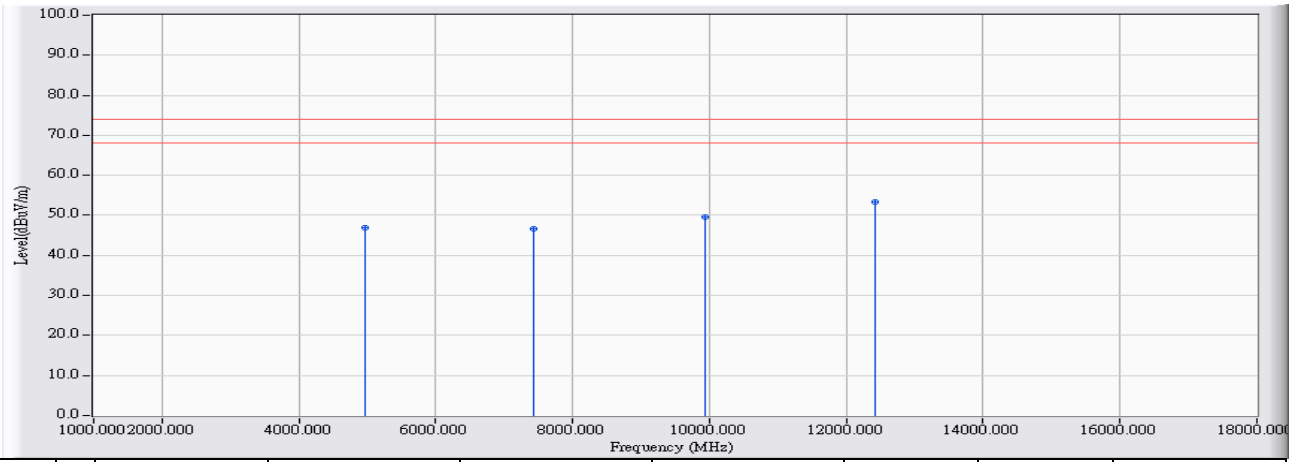


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	12188.000	16.861	21.440	38.300	-15.700	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB4-H	**Time : 2017/01/23**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	**Power : DC 12V**
EUT : Tire Pressure Monitoring System-A Series	**Note : Mode 1: Transmit Mode_2480MHz**

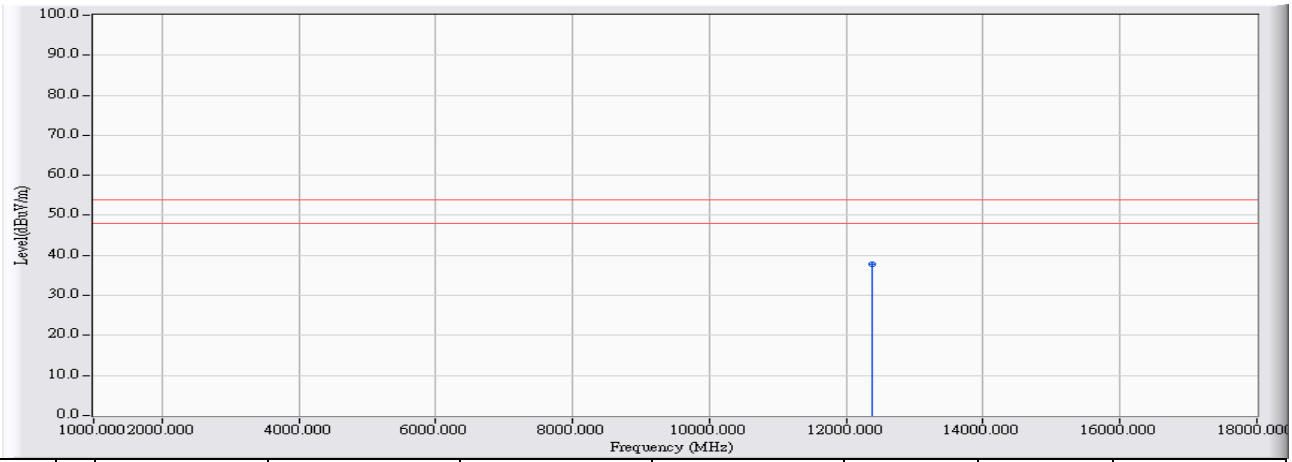


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4959.000	0.009	46.800	46.808	-27.192	74.000	PEAK
2		7423.000	8.112	38.520	46.633	-27.367	74.000	PEAK
3		9928.000	12.531	37.170	49.702	-24.298	74.000	PEAK
4	*	12419.000	16.379	36.850	53.229	-20.771	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB4-H	**Time : 2017/01/23**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	**Power : DC 12V**
EUT : Tire Pressure Monitoring System-A Series	**Note : Mode 1: Transmit Mode_2480MHz**

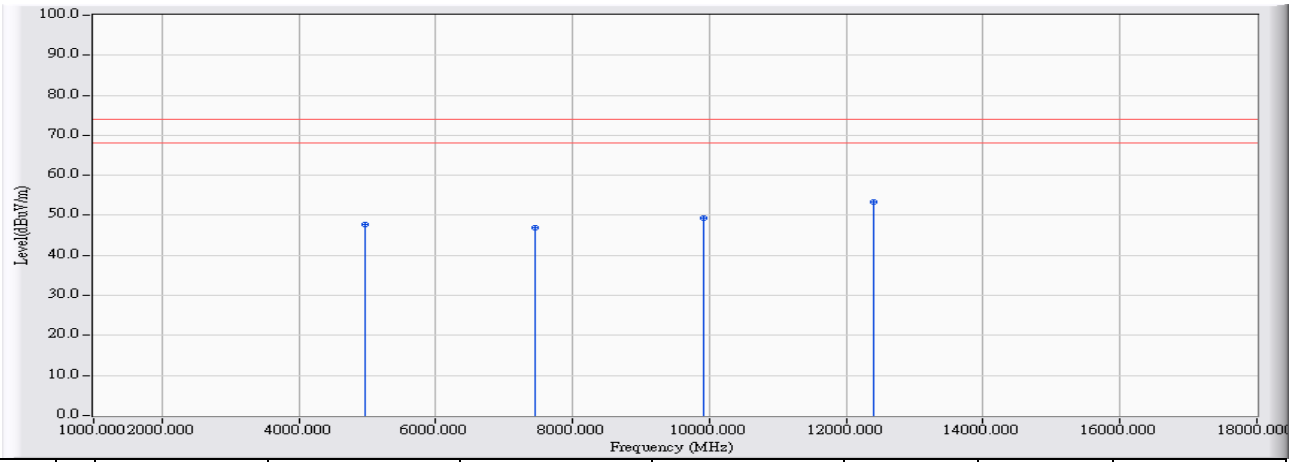


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	12382.000	16.454	21.260	37.715	-16.285	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB4-H	**Time : 2017/01/23**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	**Power : DC 12V**
EUT : Tire Pressure Monitoring System-A Series	**Note : Mode 1: Transmit Mode_2480MHz**

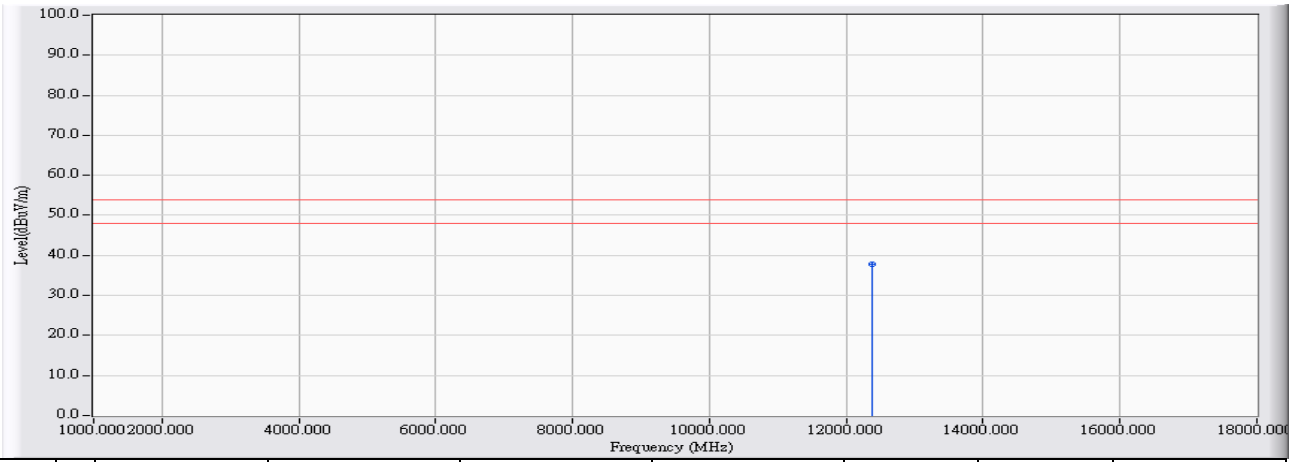


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4959.000	0.009	47.730	47.738	-26.262	74.000	PEAK
2		7441.000	8.205	38.840	47.046	-26.954	74.000	PEAK
3		9924.000	12.526	36.720	49.246	-24.754	74.000	PEAK
4	*	12388.000	16.443	36.980	53.422	-20.578	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB4-H	**Time : 2017/01/23**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	**Power : DC 12V**
EUT : Tire Pressure Monitoring System-A Series	**Note : Mode 1: Transmit Mode_2480MHz**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	12380.000	16.459	21.310	37.769	-16.231	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

4. RF antenna conducted test

4.1. Test Equipment

The following test equipments are used during the test:

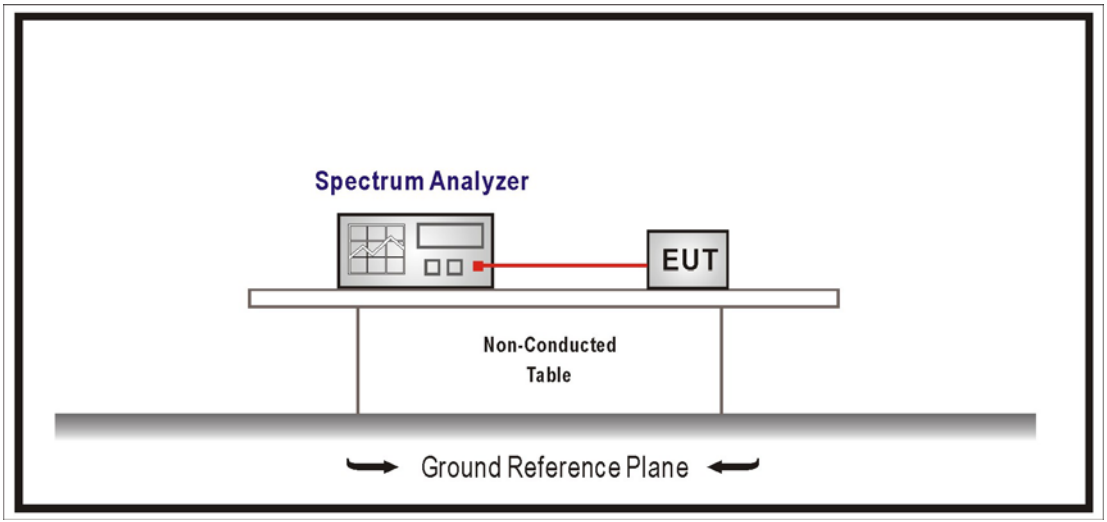
RF antenna conducted test / SR10-H

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A	US47140172	2017/08/08

Note: All equipments that need to calibrate are with calibration period of 1 year.

4.2. Test Setup

RF Antenna Conducted Measurement:



4.3. Limits

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on an RF conducted or radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

4.4. Test Procedure

The EUT was setup according to ANSI C63.10: 2013 and tested according to DTS test procedure section 11.2 of KDB558074 v03r02 for compliance to FCC 47CFR 15.247 requirements. Set RBW = 100 kHz, Set VBW> RBW, scan up through 10th harmonic.

4.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2015

4.6. Uncertainty

Conducted is defined as ± 1.27dB

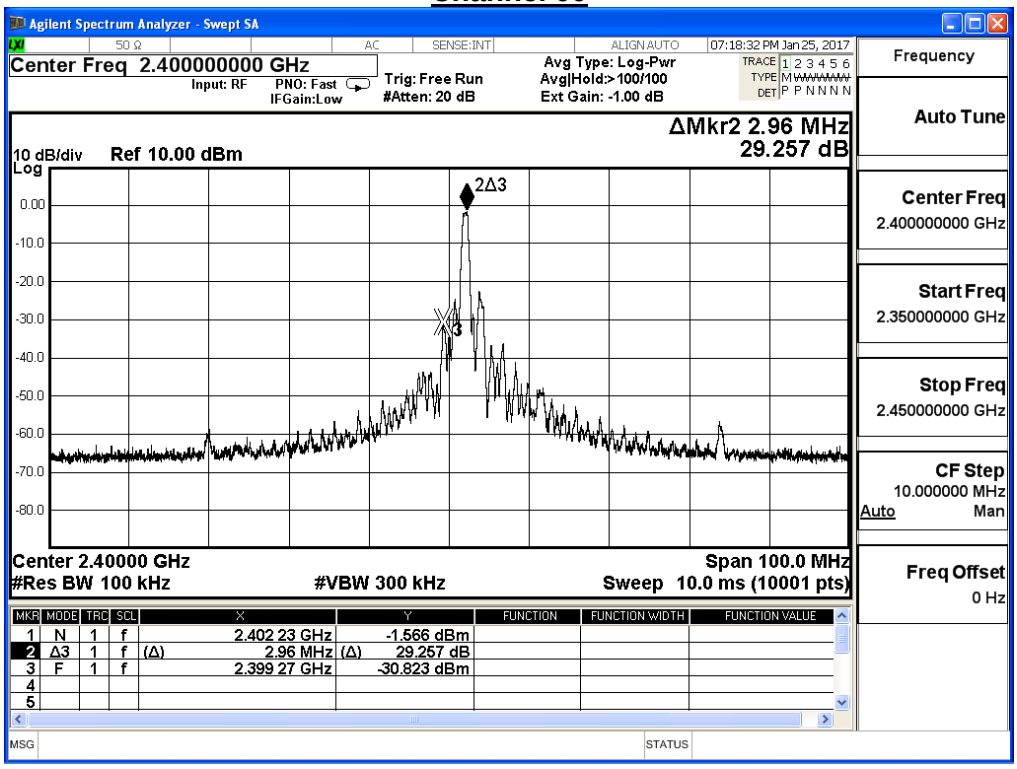
4.7. Test Result

Product	Tire Pressure Monitoring System-A Series		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit Mode		
Date of Test	2017/01/25	Test Site	SR10-H

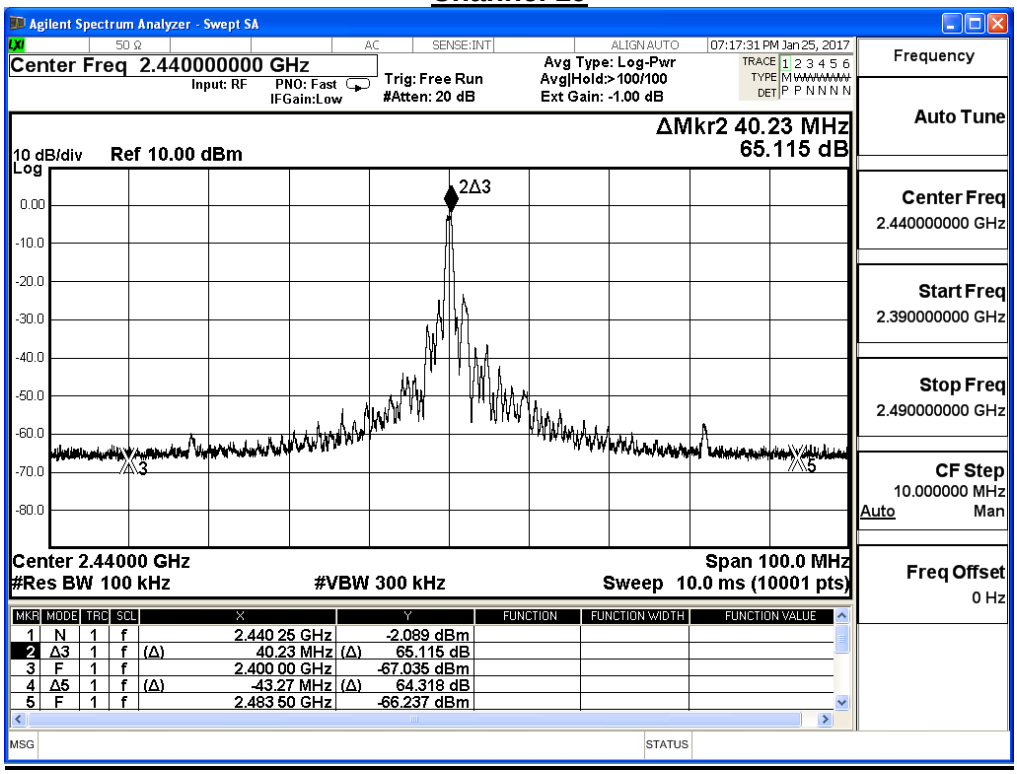
BLE 4.0 (GFSK)

Channel	Frequency (MHz)	Measure Level (dBc)	Limit (dBc)	Result
00	2402	29.257	≧20	Pass
19	2440	64.318	≧20	Pass
39	2480	43.708	≧20	Pass

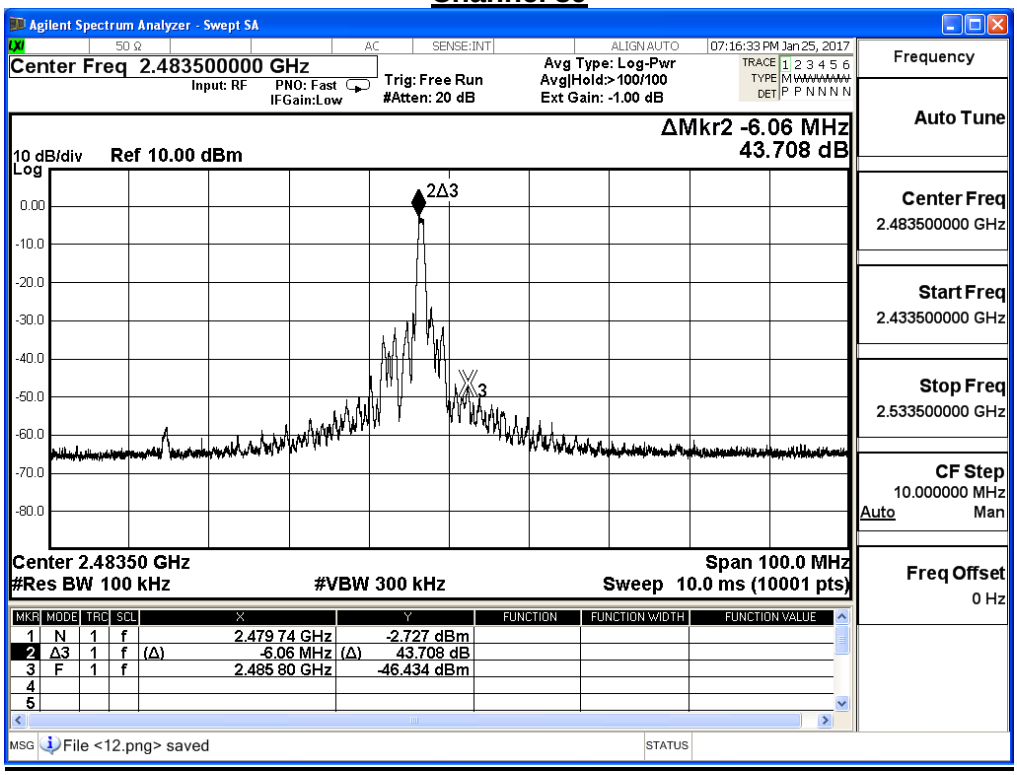
Channel 00



Channel 19

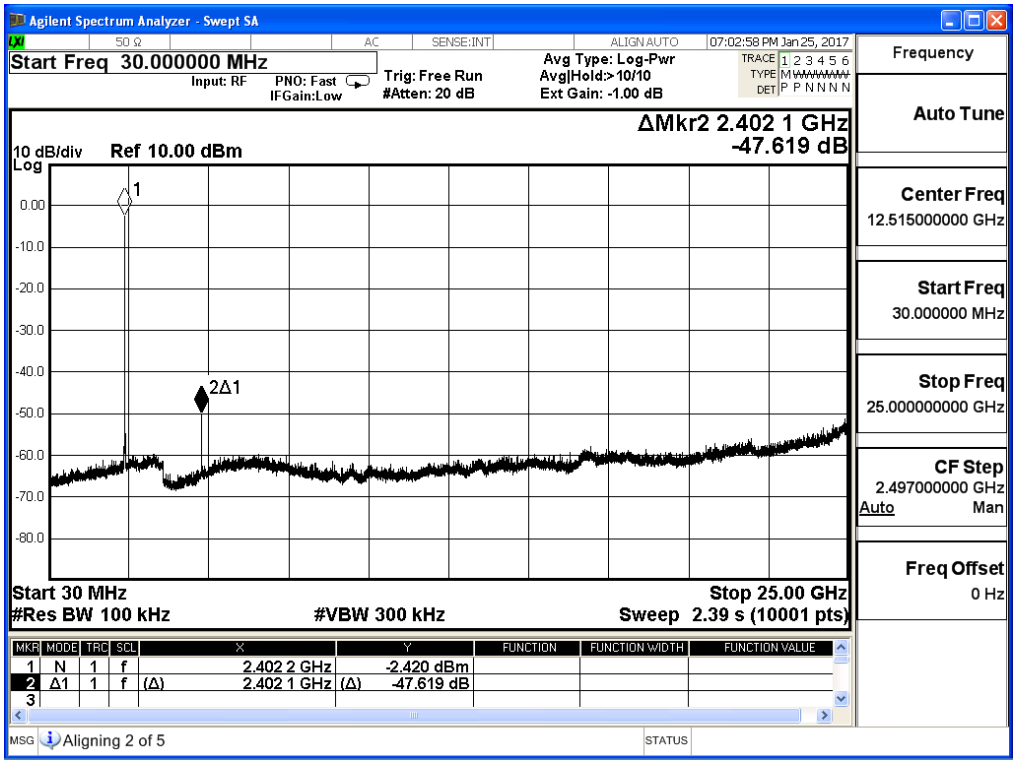


Channel 39

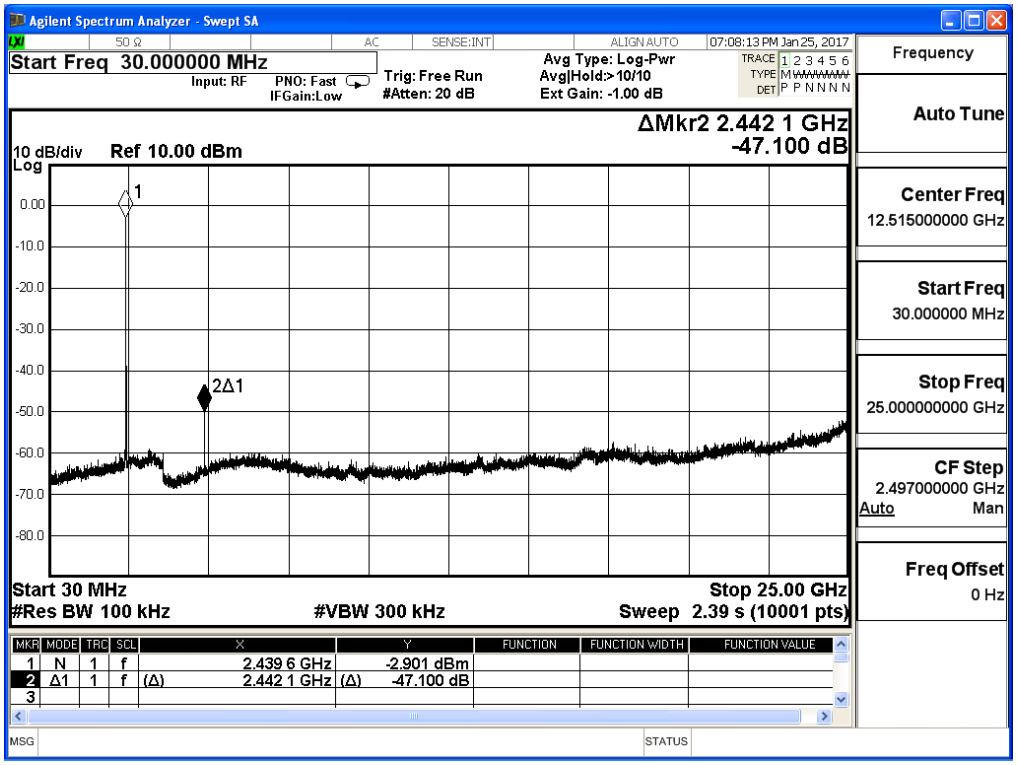


Product	Tire Pressure Monitoring System-A Series		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit Mode		
Date of Test	2017/01/25	Test Site	SR10-H

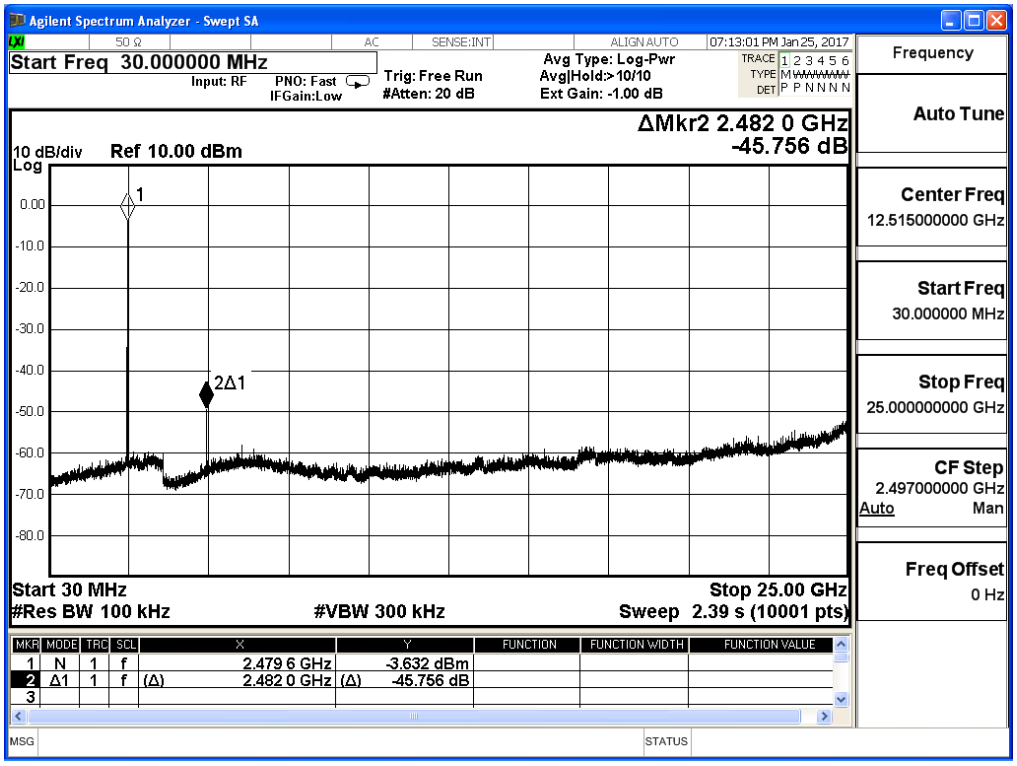
Channel 00 (30MHz-25GHz)- 2402MHz_BLE 4.0 (GFSK)



Channel 19 (30MHz-25GHz)- 2440MHz_BLE 4.0 (GFSK)



Channel 39 (30MHz-25GHz)- 2480MHz_BLE 4.0 (GFSK)



5. Radiated Emission Band Edge

5.1. Test Equipment

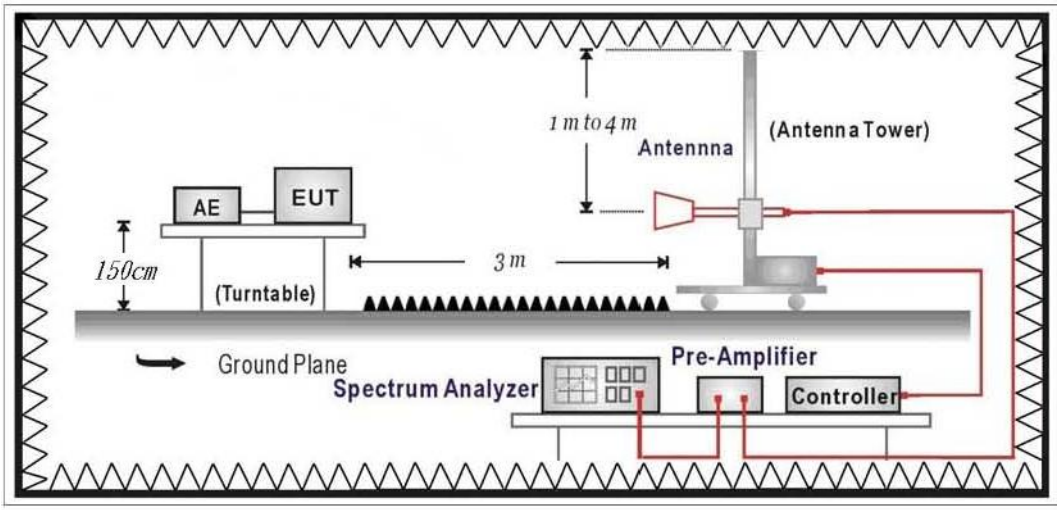
The following test equipments are used during the test:

Radiated Emission Band Edge / CB4-H

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Horn Antenna	Schwarzbeck	BBHA 9120	D312	2017/10/25
Signal & Spectrum Analyzer	R&S	FSV40	101049	2018/01/22

Note: All equipments that need to calibrate are with calibration period of 1 year.

5.2. Test Setup



5.3. Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

5.4. Test Procedure

The EUT was setup according to ANSI C63.10: 2013 and tested according to DTS test procedure of KDB558074 v03r02 for compliance to FCC 47CFR 15.247 requirements.

The EUT and its simulators are placed on a turn table which is 1.5 meter above ground.

The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.10: 2013 on radiated measurement.

5.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2015

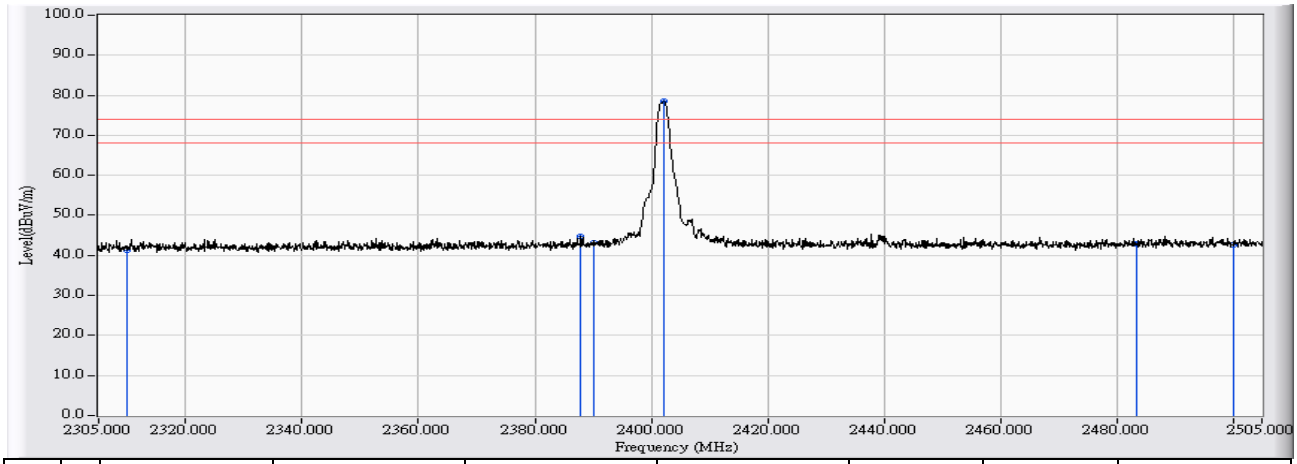
5.6. Uncertainty

The measurement uncertainty

± 3.9 dB above 1GHz

5.7. Test Result

Site : CB4-H	**Time : 2017/01/23**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	**Power : DC 12V**
EUT : Tire Pressure Monitoring System-A Series	**Note : Mode 1: Transmit Mode_2402MHz**

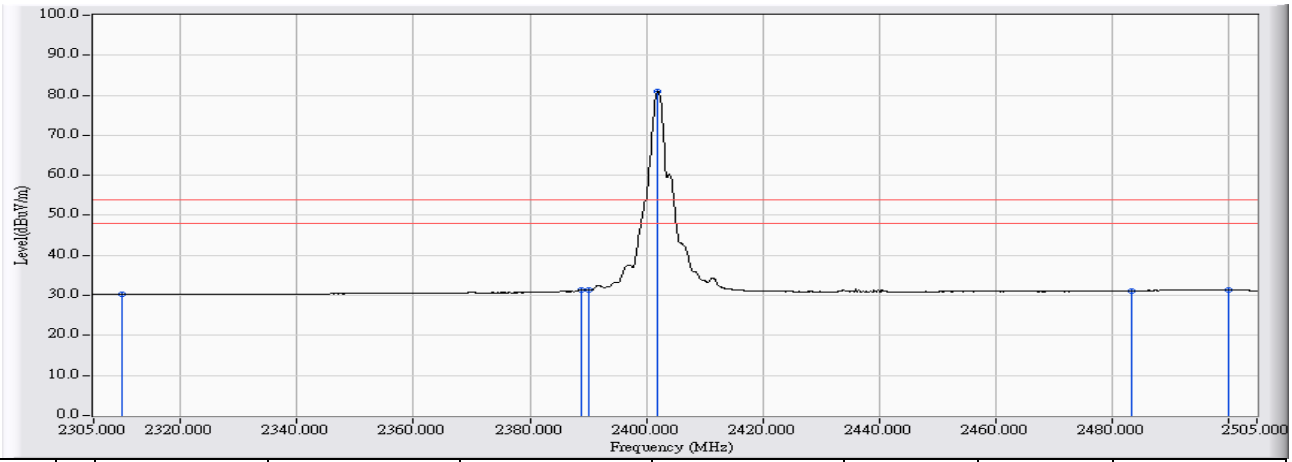


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	13.346	28.046	41.392	-32.608	74.000	PEAK
2		2387.900	13.828	30.870	44.697	-29.303	74.000	PEAK
3		2390.000	13.840	29.376	43.216	-30.784	74.000	PEAK
4	*	2402.300	13.917	64.531	78.447	4.447	74.000	PEAK
5		2483.500	14.417	28.481	42.899	-31.101	74.000	PEAK
6		2500.000	14.518	28.004	42.523	-31.477	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB4-H	**Time : 2017/01/23**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	**Power : DC 12V**
EUT : Tire Pressure Monitoring System-A Series	**Note : Mode 1: Transmit Mode_2402MHz**

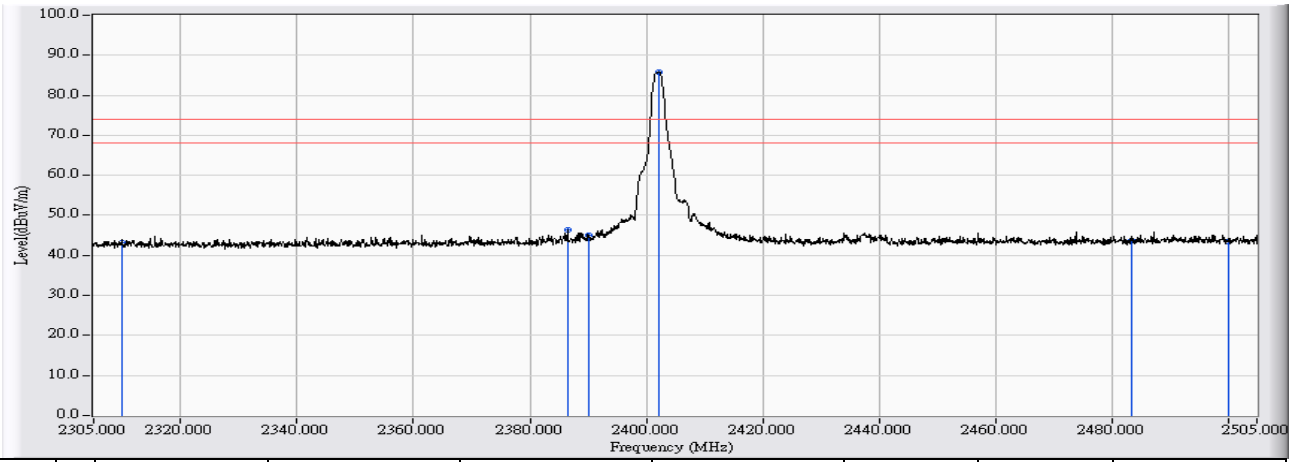


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	13.346	16.902	30.248	-23.752	54.000	AVERAGE
2		2388.800	13.832	17.510	31.343	-22.657	54.000	AVERAGE
3		2390.000	13.840	17.568	31.408	-22.592	54.000	AVERAGE
4	*	2402.000	13.914	67.148	81.062	27.062	54.000	AVERAGE
5		2483.500	14.417	16.734	31.152	-22.848	54.000	AVERAGE
6		2500.000	14.518	16.782	31.301	-22.699	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB4-H	**Time : 2017/01/23**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	**Power : DC 12V**
EUT : Tire Pressure Monitoring System-A Series	**Note : Mode 1: Transmit Mode_2402MHz**

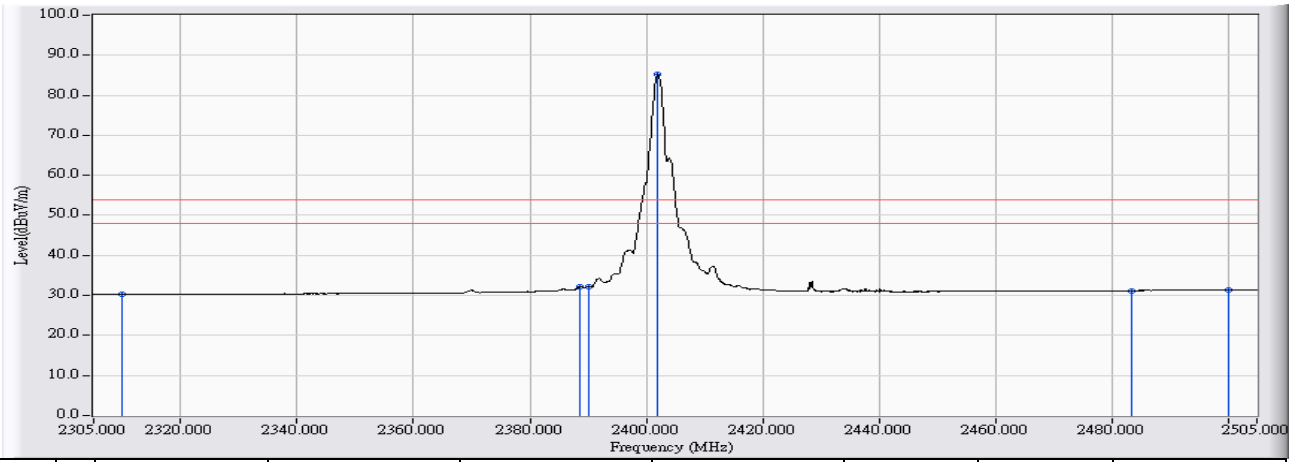


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	13.346	29.738	43.084	-30.916	74.000	PEAK
2		2386.500	13.819	32.531	46.350	-27.650	74.000	PEAK
3		2390.000	13.840	31.205	45.045	-28.955	74.000	PEAK
4	*	2402.200	13.916	71.983	85.899	11.899	74.000	PEAK
5		2483.500	14.417	29.342	43.760	-30.240	74.000	PEAK
6		2500.000	14.518	29.003	43.522	-30.478	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB4-H	**Time : 2017/01/23**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	**Power : DC 12V**
EUT : Tire Pressure Monitoring System-A Series	**Note : Mode 1: Transmit Mode_2402MHz**

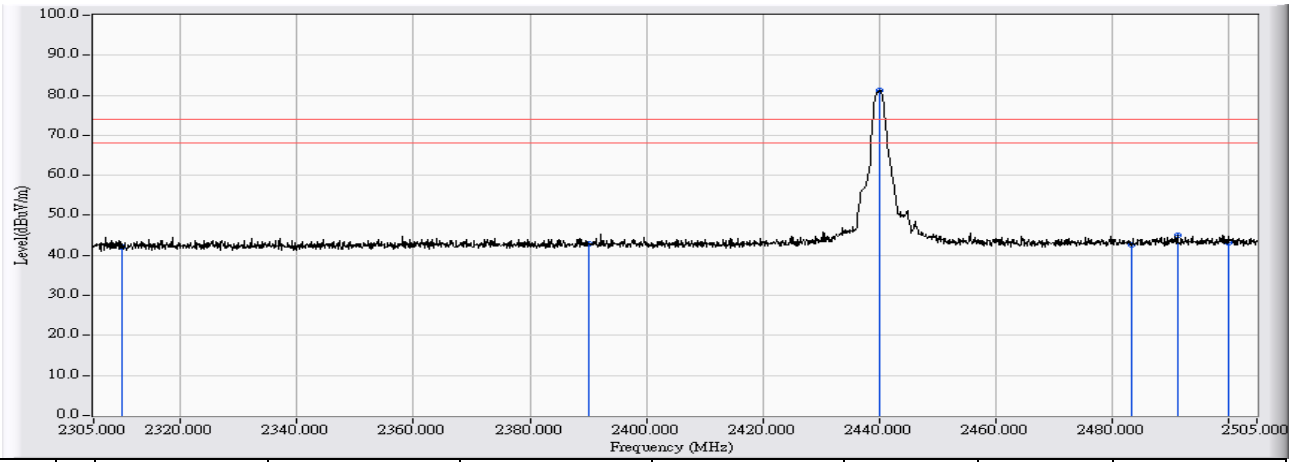


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	13.346	16.999	30.345	-23.655	54.000	AVERAGE
2		2388.700	13.832	18.373	32.205	-21.795	54.000	AVERAGE
3		2390.000	13.840	18.286	32.126	-21.874	54.000	AVERAGE
4	*	2402.000	13.914	71.210	85.124	31.124	54.000	AVERAGE
5		2483.500	14.417	16.745	31.163	-22.837	54.000	AVERAGE
6		2500.000	14.518	16.814	31.333	-22.667	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB4-H	**Time : 2017/01/23**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	**Power : DC 12V**
EUT : Tire Pressure Monitoring System-A Series	**Note : Mode 1: Transmit Mode_2440MHz**

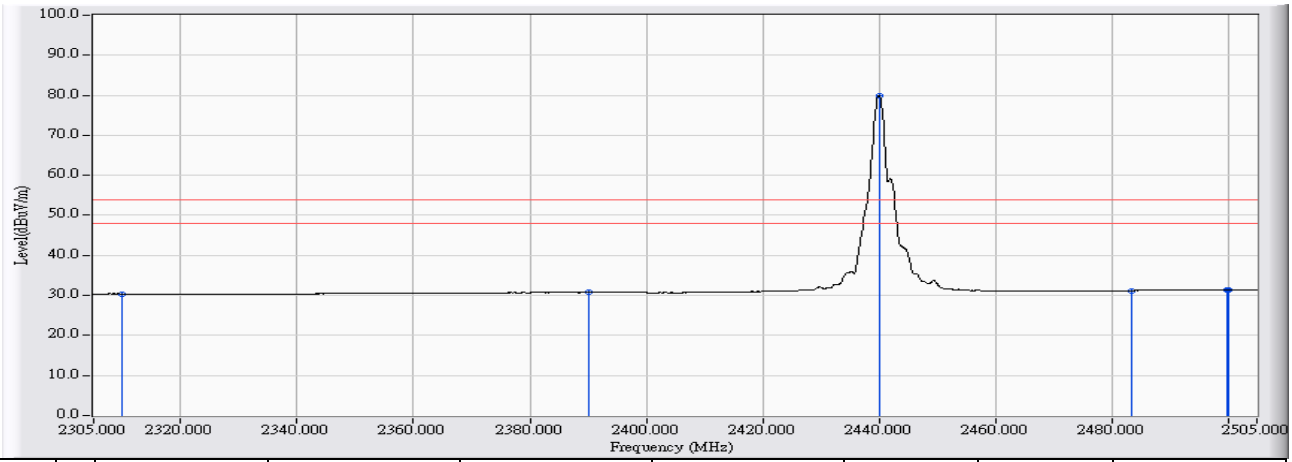


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	13.346	28.690	42.036	-31.964	74.000	PEAK
2		2390.000	13.840	29.027	42.867	-31.133	74.000	PEAK
3	*	2440.200	14.150	67.025	81.175	7.175	74.000	PEAK
4		2483.500	14.417	28.338	42.756	-31.244	74.000	PEAK
5		2491.300	14.466	30.502	44.968	-29.032	74.000	PEAK
6		2500.000	14.518	28.581	43.100	-30.900	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB4-H	**Time : 2017/01/23**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	**Power : DC 12V**
EUT : Tire Pressure Monitoring System-A Series	**Note : Mode 1: Transmit Mode_2440MHz**

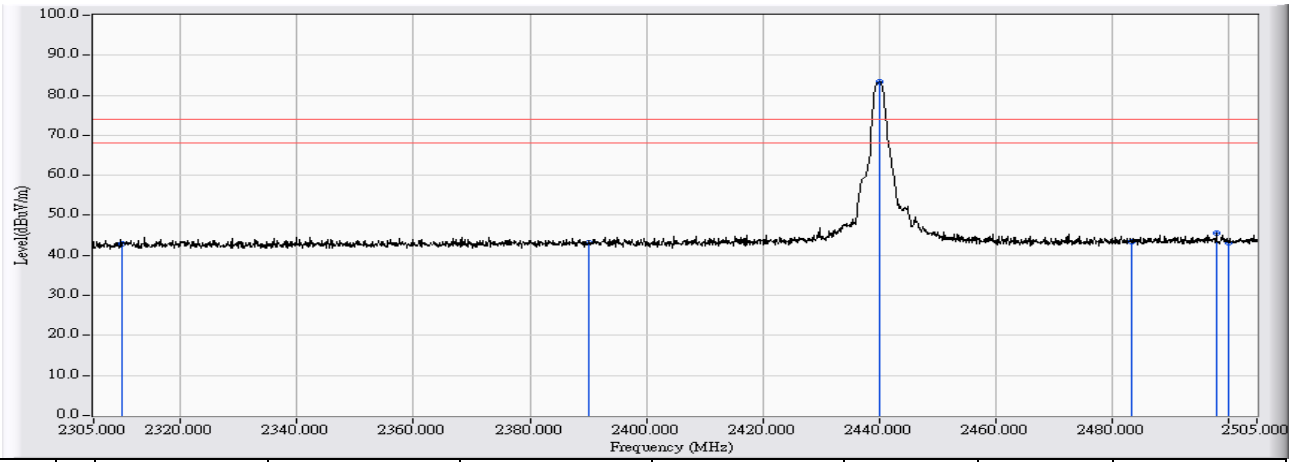


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	13.346	16.977	30.323	-23.677	54.000	AVERAGE
2		2390.000	13.840	16.988	30.828	-23.172	54.000	AVERAGE
3	*	2440.000	14.149	65.750	79.899	25.899	54.000	AVERAGE
4		2483.500	14.417	16.785	31.203	-22.797	54.000	AVERAGE
5		2499.800	14.517	16.832	31.349	-22.651	54.000	AVERAGE
6		2500.000	14.518	16.861	31.380	-22.620	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB4-H	**Time : 2017/01/23**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	**Power : DC 12V**
EUT : Tire Pressure Monitoring System-A Series	**Note : Mode 1: Transmit Mode_2440MHz**

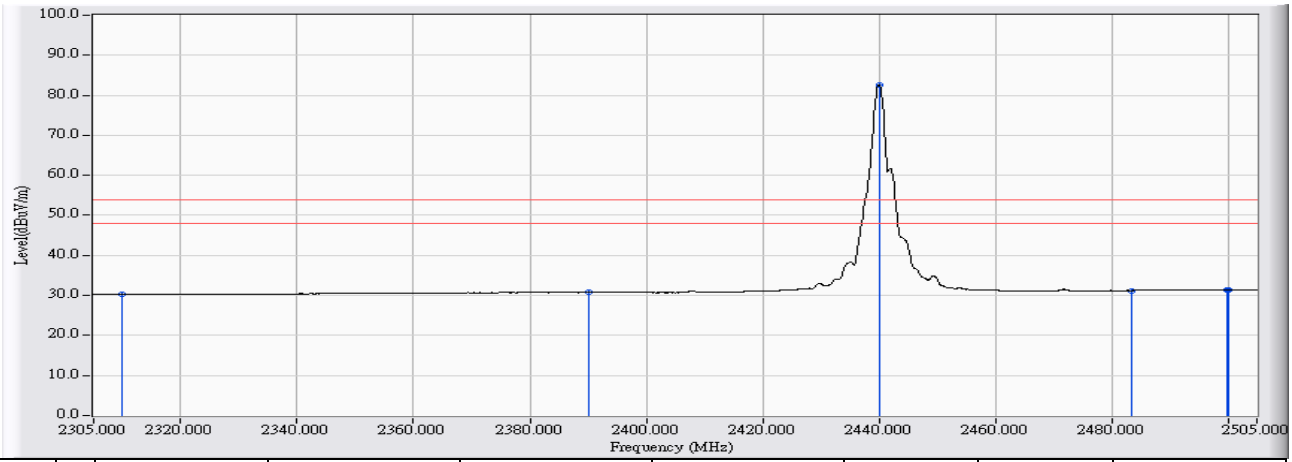


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	13.346	29.488	42.834	-31.166	74.000	PEAK
2		2390.000	13.840	29.343	43.183	-30.817	74.000	PEAK
3	*	2440.200	14.150	69.319	83.469	9.469	74.000	PEAK
4		2483.500	14.417	29.067	43.485	-30.515	74.000	PEAK
5		2498.000	14.507	31.049	45.556	-28.444	74.000	PEAK
6		2500.000	14.518	28.769	43.288	-30.712	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB4-H	**Time : 2017/01/23**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	**Power : DC 12V**
EUT : Tire Pressure Monitoring System-A Series	**Note : Mode 1: Transmit Mode_2440MHz**

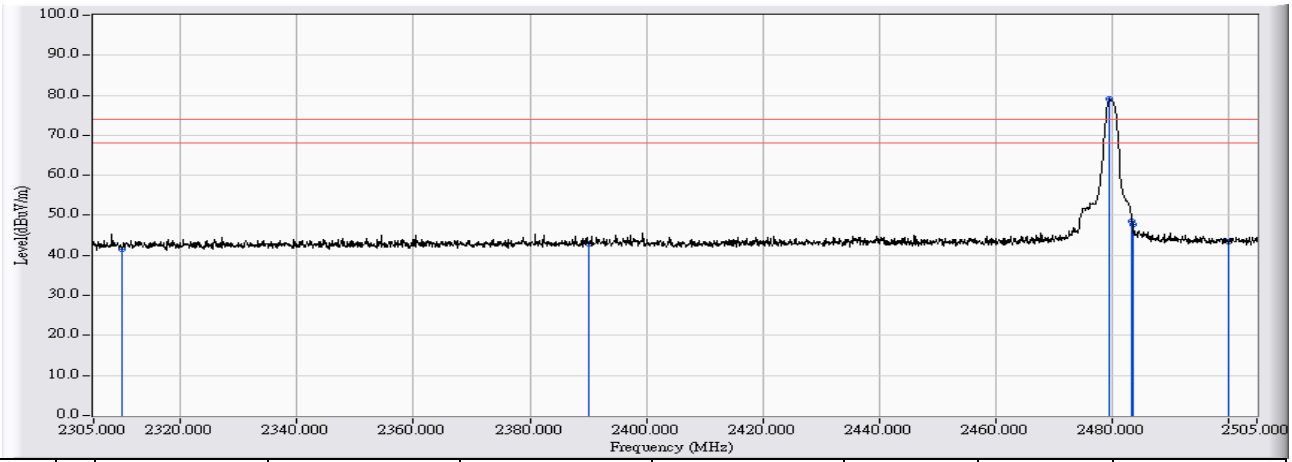


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	13.346	16.976	30.322	-23.678	54.000	AVERAGE
2		2390.000	13.840	16.987	30.827	-23.173	54.000	AVERAGE
3	*	2440.000	14.149	68.417	82.566	28.566	54.000	AVERAGE
4		2483.500	14.417	16.790	31.208	-22.792	54.000	AVERAGE
5		2499.800	14.517	16.905	31.422	-22.578	54.000	AVERAGE
6		2500.000	14.518	16.929	31.448	-22.552	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB4-H	**Time : 2017/01/23**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	**Power : DC 12V**
EUT : Tire Pressure Monitoring System-A Series	**Note : Mode 1: Transmit Mode_2480MHz**

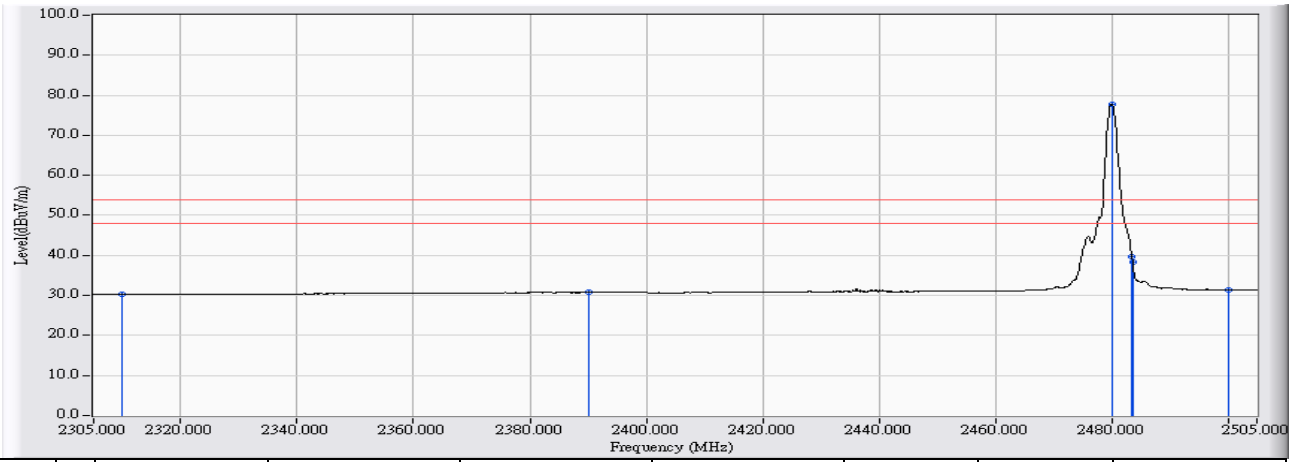


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	13.346	28.253	41.599	-32.401	74.000	PEAK
2		2390.000	13.840	29.056	42.896	-31.104	74.000	PEAK
3	*	2479.700	14.394	64.650	79.045	5.045	74.000	PEAK
4		2483.500	14.417	34.054	48.472	-25.528	74.000	PEAK
5		2483.600	14.419	33.176	47.595	-26.405	74.000	PEAK
6		2500.000	14.518	29.002	43.521	-30.479	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB4-H	**Time : 2017/01/23**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	**Power : DC 12V**
EUT : Tire Pressure Monitoring System-A Series	**Note : Mode 1: Transmit Mode_2480MHz**

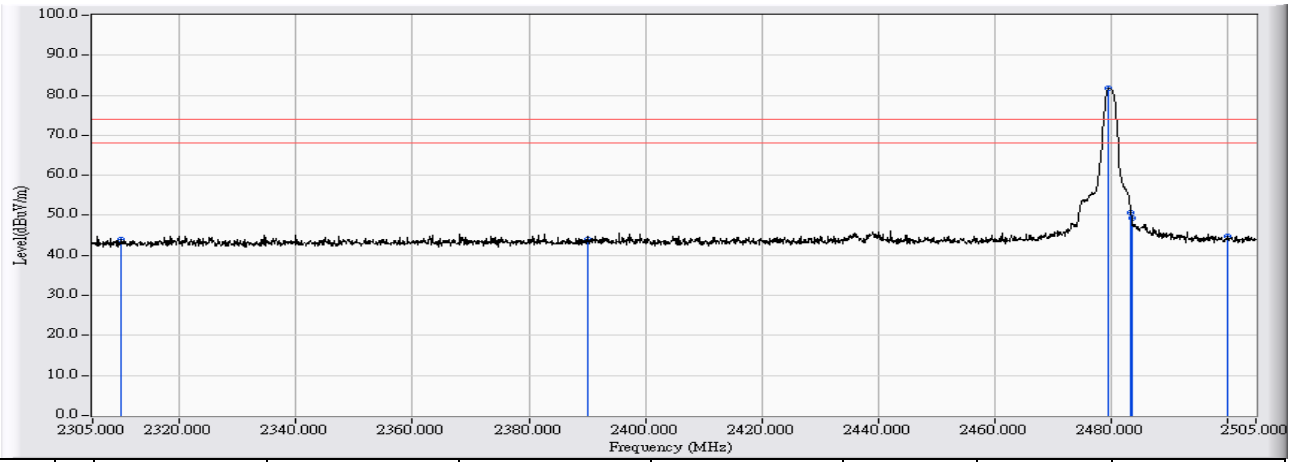


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	13.346	16.963	30.309	-23.691	54.000	AVERAGE
2		2390.000	13.840	16.991	30.831	-23.169	54.000	AVERAGE
3	*	2480.000	14.396	63.478	77.874	23.874	54.000	AVERAGE
4		2483.500	14.417	25.161	39.579	-14.421	54.000	AVERAGE
5		2483.600	14.419	23.994	38.413	-15.587	54.000	AVERAGE
6		2500.000	14.518	16.820	31.339	-22.661	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB4-H	**Time : 2017/01/23**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - VERTICAL	**Power : DC 12V**
EUT : Tire Pressure Monitoring System-A Series	**Note : Mode 1: Transmit Mode_2480MHz**

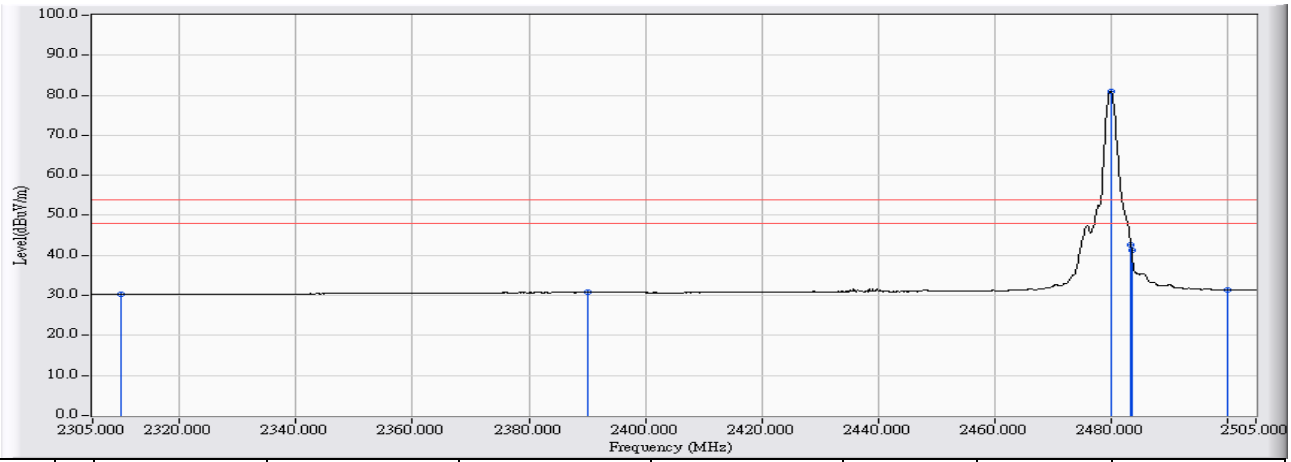


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	13.346	30.702	44.048	-29.952	74.000	PEAK
2		2390.000	13.840	30.043	43.883	-30.117	74.000	PEAK
3	*	2479.700	14.394	67.469	81.864	7.864	74.000	PEAK
4		2483.500	14.417	36.264	50.682	-23.318	74.000	PEAK
5		2483.600	14.419	35.031	49.450	-24.550	74.000	PEAK
6		2500.000	14.518	30.206	44.725	-29.275	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : CB4-H	**Time : 2017/01/23**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : CB4-H_FCC_EFS_B432_1-18GHz_3M_1116 - HORIZONTAL	**Power : DC 12V**
EUT : Tire Pressure Monitoring System-A Series	**Note : Mode 1: Transmit Mode_2480MHz**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	13.346	17.001	30.347	-23.653	54.000	AVERAGE
2		2390.000	13.840	17.058	30.898	-23.102	54.000	AVERAGE
3	*	2480.000	14.396	66.593	80.989	26.989	54.000	AVERAGE
4		2483.500	14.417	28.233	42.651	-11.349	54.000	AVERAGE
5		2483.600	14.419	26.980	41.399	-12.601	54.000	AVERAGE
6		2500.000	14.518	16.862	31.381	-22.619	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

6. DTS Bandwidth

6.1. Test Equipment

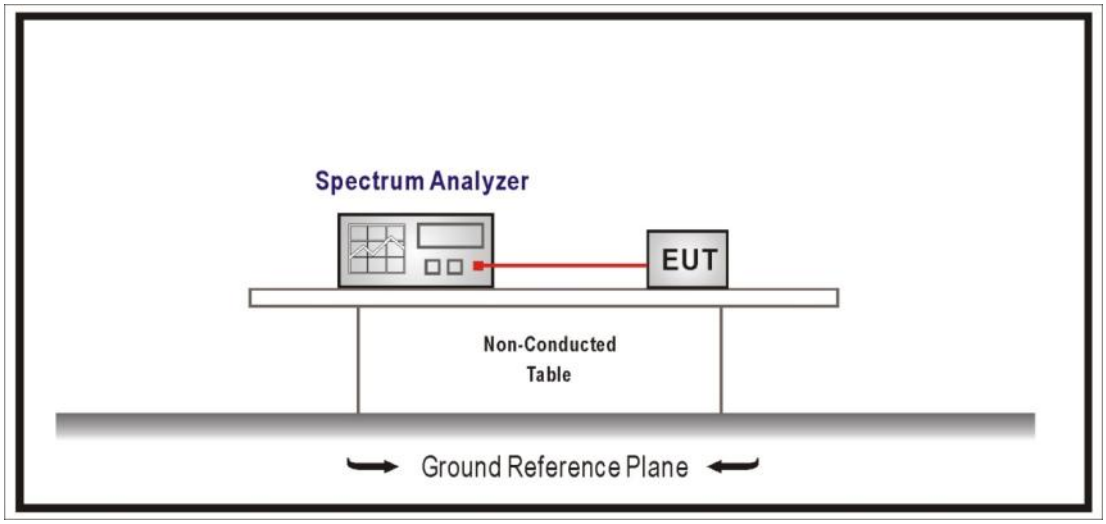
The following test equipments are used during the test:

DTS Bandwidth / SR10-H

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A	US47140172	2017/08/08

Note: All equipments that need to calibrate are with calibration period of 1 year.

6.2. Test Setup



6.3. Test Procedures

The EUT was setup according to ANSI C63.10: 2013; tested procedure section 8.1 of KDB558074 v03r05 for compliance to FCC 47CFR 15.247 requirements. Set RBW = 100KHz, Set the VBW≧3xRBW, Sweep Time=Auto, Set Peak Detector.

6.4. Limits

The 6 dB bandwidth must be greater than 500 kHz.

6.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2015

6.6. Uncertainty

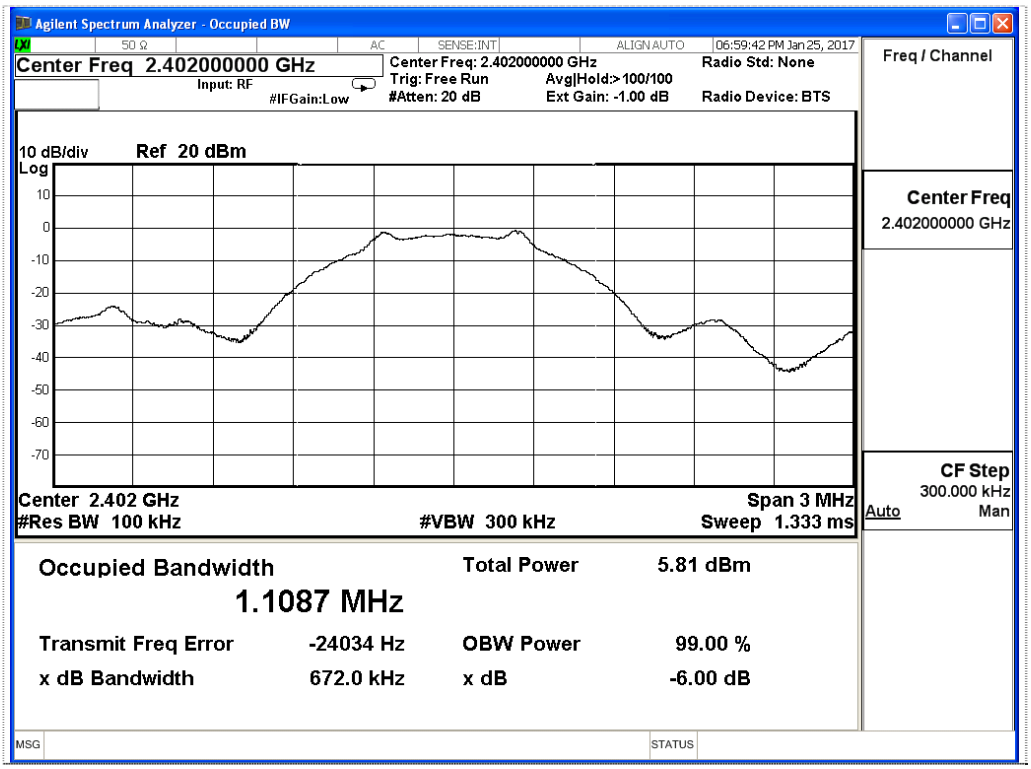
The measurement uncertainty is defined as ±150Hz

6.7. Test Result

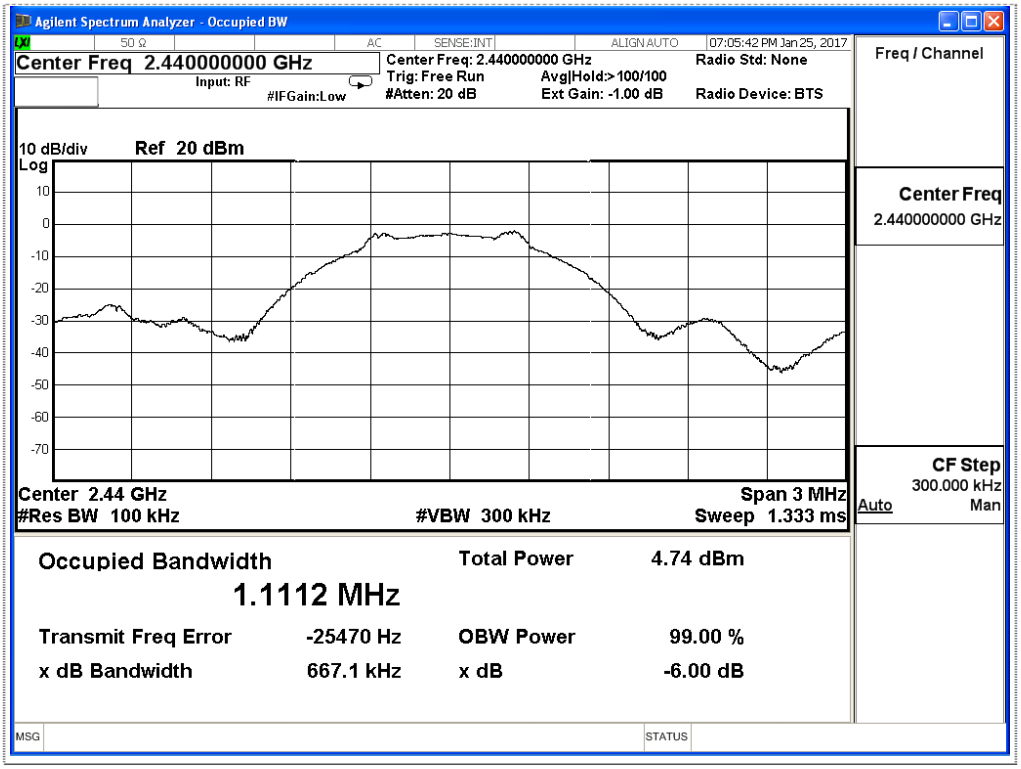
Product	Tire Pressure Monitoring System-A Series		
Test Item	DTS Bandwidth		
Test Mode	Mode 1: Transmit Mode		
Date of Test	2017/01/25	Test Site	SR10-H

BLE 4.0 (GFSK)				
Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
00	2402	0.672	≧0.5	Pass
19	2440	0.667	≧0.5	Pass
39	2480	0.675	≧0.5	Pass

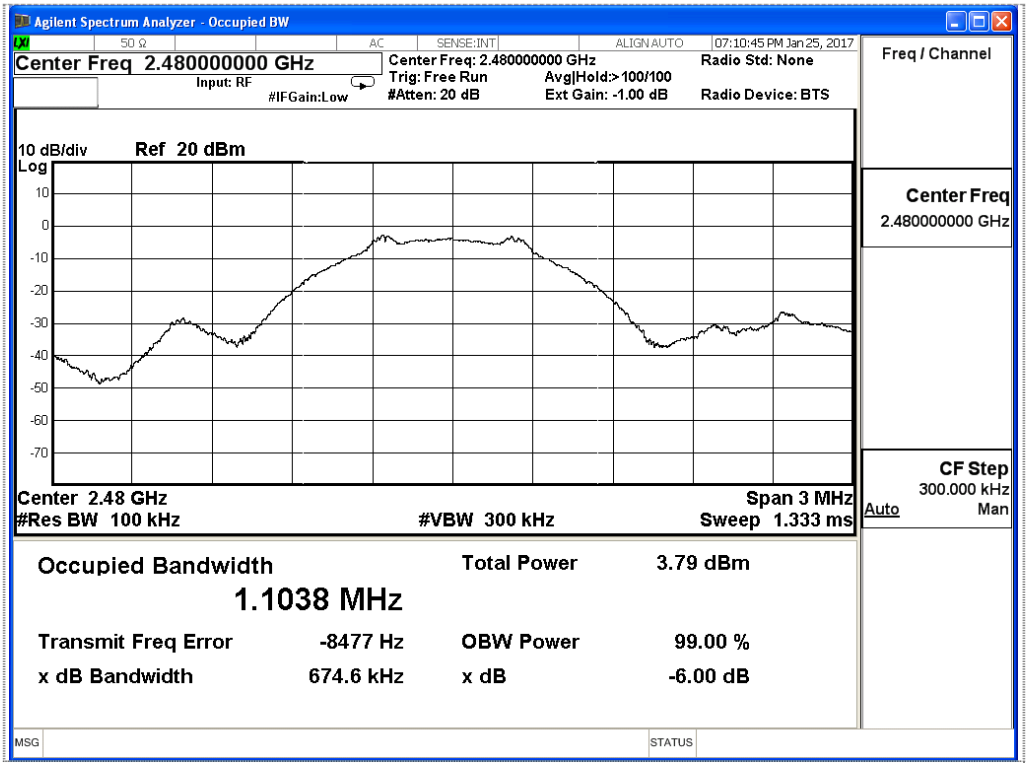
Channel 00



Channel 19



Channel 39



7. Power Density

7.1. Test Equipment

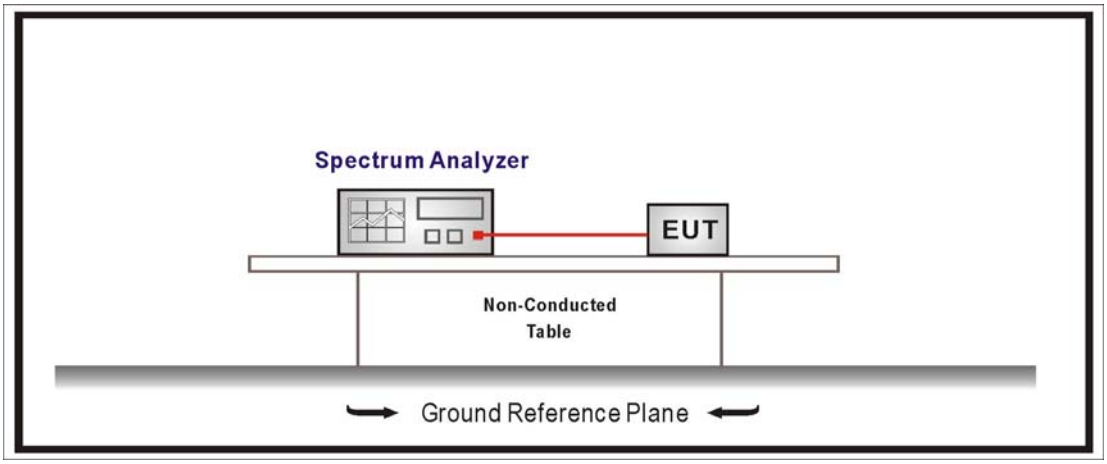
The following test equipment is used during the test:

Power Density / SR10-H

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A	US47140172	2017/08/08

Note: All equipments that need to calibrate are with calibration period of 1 year.

7.2. Test Setup



7.3. Limits

The peak power spectral density conducted from the intentional radiated to the antenna shall not be greater than +8dBm in any 3kHz band during any time interval of continuous transmission.

7.4. Test Procedures

The EUT was setup according to ANSI C63.10: 2013; tested according to DTS test procedure section 10.2 of KDB558074 v03r02 for compliance to FCC 47CFR 15.247 requirements.
Set 3KHz ≦RBW≦100 kHz, Set VBW≧3xRBW, Sweep time=Auto, Set Peak detector;
The tested according to section E)c) of KDB662911 v02v01.

7.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2015

7.6. Uncertainty

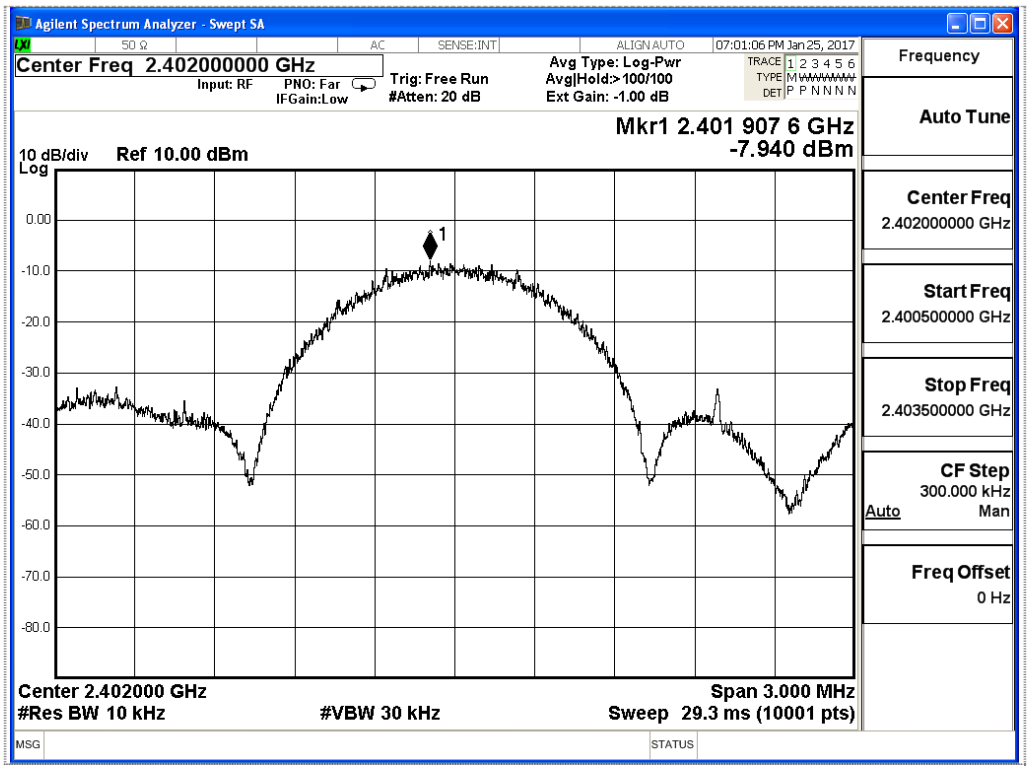
The measurement uncertainty is defined as ±1.27dB.

7.7. Test Result

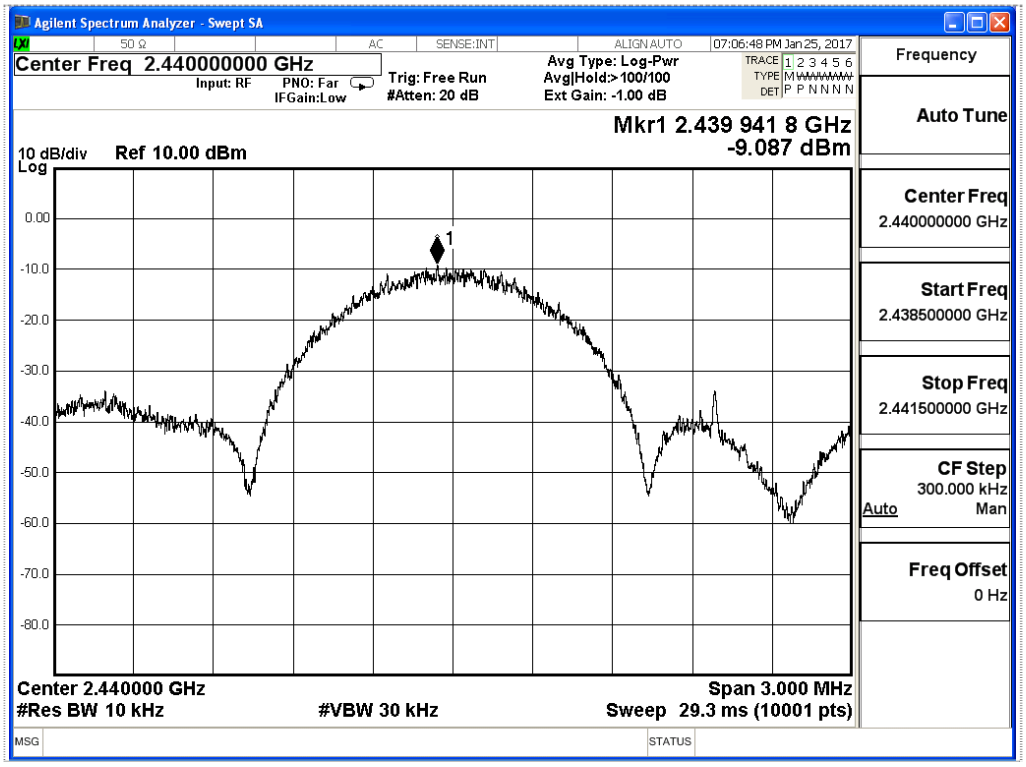
Product	Tire Pressure Monitoring System-A Series		
Test Item	Power Density		
Test Mode	Mode 1: Transmit Mode		
Date of Test	2017/01/25	Test Site	SR10-H

BLE 4.0 (GFSK)				
Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
00	2402	-7.940	≦8	Pass
19	2440	-9.087	≦8	Pass
39	2480	-9.533	≦8	Pass

Channel 00



Channel 19



Channel 39