FCC Test Report

Product Name	：	GPS Datalogger
Trade Name	：	TranSystem
Model No.	：	GL-770, GL-770M
FCC ID.	：	OUP0310GL770

Applicant	：	TranSystem
Address	：	No.1-2, Li-Hsin Rd.1, Science-Based Industrial Park, Hsinchu 300, Taiwan R.O.C.

Date of Receipt	：	Oct. 12, 2015
Issued Date	：	Dec. 02, 2015
Report No.	：	15A0152R-RFUSP01V00
Report Version	：	V1.0

Testing Laboratory
3024

Test Report Certification

Issued Date : Dec. 02, 2015
Report No. : 15A0152R-RFUSP01V00

Product Name	：	GPS Datalogger
Applicant	：	TranSystem
Address	：	No.1-2, Li-Hsin Rd.1, Science-Based Industrial Park, Hsinchu 300, Taiwan R.O.C.
Manufacturer	：	TranSystem
Model No.	：	GL-770, GL-770M
FCC ID.	：	OUP0310GL770
EUT Voltage	：	DC 5V (Power by PC)
Testing Voltage	：	DC 5V (Power by PC)
Trade Name	：	TranSystem
Applicable Standard	：	FCC CFR Title 47 Part 15 Subpart C Section 15.247: 2014
Test Lab	：	QuieTek Hsin Chu Laboratory
Test Result	：	Complied

The test results relate only to the samples tested.

The test report shall not be reproduced except in full without the written approval of QuieTek Corporation.

Documented By ：

(Carol Tsai / Senior Engineering Adm. Specialist)

Tested By ：

(Jimmie Liu / Senior Engineer)

Approved By ：

(Roy Wang / Director)

Revision History

Report No.	Version	Description	Issued Date
15A0152R-RFUSP01V00	V1.0	Initial issue of report	Dec. 02, 2015

Laboratory Information

We, **QuieTek Corporation**, 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: 365520**
Canada	**:**	**IC, Submission No: 181665 / IC Registration Number: 4075C-4**

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

HsinChu Testing Laboratory:

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1. General Information

1.1. EUT Description

Product Name	GPS Datalogger
Trade Name	TranSystem
Model No.	GL-770, GL-770M

Frequency Range/Channel Number	2402~2480MHz / 40 Channels
Type of Modulation	Bluetooth 4.0(GFSK)
Antenna Type	Chip
Antenna Gain	0 dBi

Accessories Information	
USB Cable	Non-Shielded, 1m

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 a GPS Datalogger including 2.4G transmitting and receiving function.
2. The different of the each model is shown as below:

Model Number	Chip MFR.	Chip Model No.
GL-770	CSR	CSRG0530B02
GL-770M	MTK	MT3333

3. These test results on a sample of the equipment for the purpose of demonstrating compliance with Part 15 Subpart C Paragraph 15.247 for spread spectrum devices.
4. 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.
5. This device is a composite device in accordance with Part 15 regulations. The receiving function receiving was tested and its test report number is 15A0152R-RFUSP01V00-A.

1.2. Test Mode

QuieTek has verified the construction and function in typical operation. All the test modes were carried out with the EUT in transmitting operation, which was shown in this test report and defined as follows:

Pre-Test Mode	
Test Mode	Mode 1: Tx-Power by PC
Final Test Mode	
Test Mode	Mode 1: Tx-Power by PC

Test Items	Mode	Modulation	Channel	Antenna	Result
Conducted Emission	1	GFSK	19	0	Complies
Peak Power Output	1	GFSK	0/19/39	0	Complies
Radiated Emission	1	GFSK	0/19/39	0	Complies
RF antenna conducted test	1	GFSK	0/19/39	0	Complies
Radiated Emission Band Edge	1	GFSK	0/39	0	Complies
Occupied Bandwidth	1	GFSK	0/19/39	0	Complies
Power Density	1	GFSK	0/19/39	0	Complies

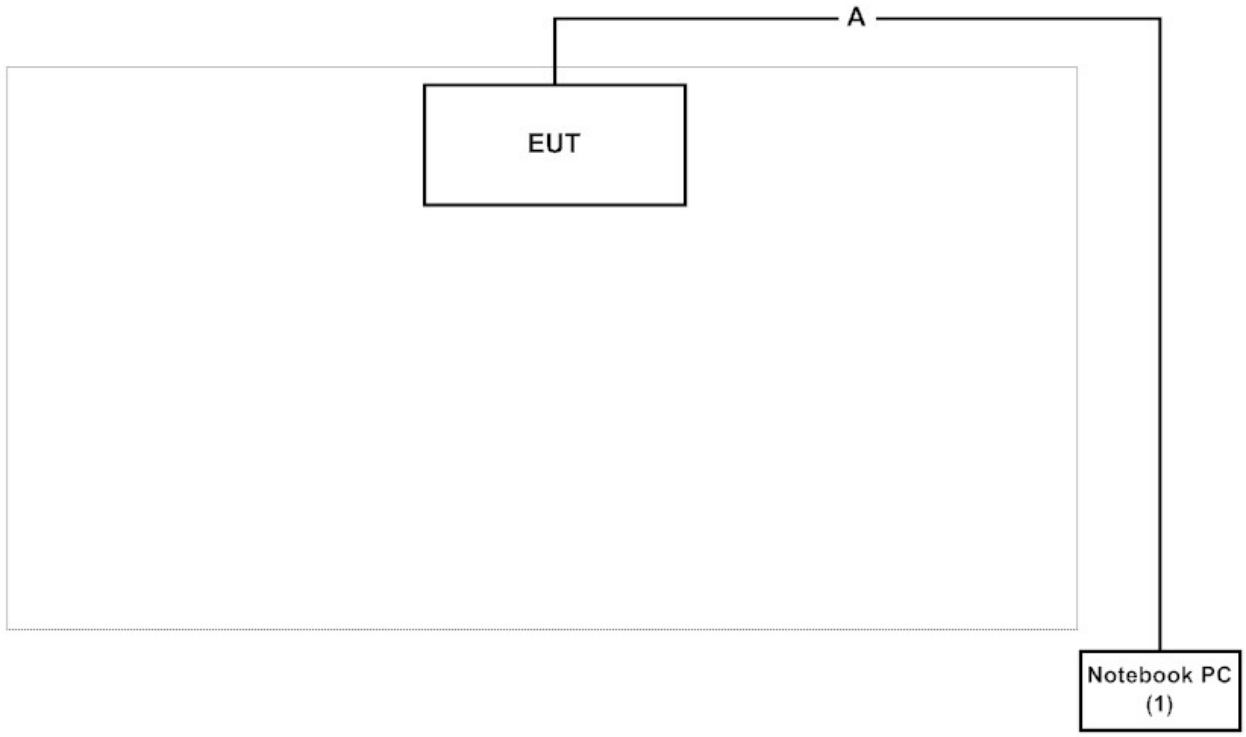
1.3. Tested System Details

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	Notebook PC	DELL	PP37L	CD8BNG1	DoC	Non-Shielded, 1.8m

1.4. Configuration of tested System

Connection Diagram



Signal Cable Type		Signal cable Description
A	USB Cable	Non-Shielded, 10m

1.5. EUT Exercise Software

1	Setup the EUT as shown in Section 1.4.
2	Execute the nrfgostudio on the EUT.
3	Configure the test mode, the test channel to start the continuous transmit.
4	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 15.207 Conducted Emission	15 - 35	20
Humidity (%RH)		25 - 75	50
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.247 Peak Power Output	15 - 35	24
Humidity (%RH)		25 - 75	45
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.247 Radiated Emission	15 - 35	25
Humidity (%RH)		25 - 75	54
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.247 Band Edge	15 - 35	25
Humidity (%RH)		25 - 75	50
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.247 Occupied Bandwidth	15 - 35	24
Humidity (%RH)		25 - 75	45
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.247 RF antenna conducted test	15 - 35	24
Humidity (%RH)		25 - 75	45
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.247 Power Density	15 - 35	24
Humidity (%RH)		25 - 75	45
Barometric pressure (mbar)		860 - 1060	950-1000

2. Conducted Emission

2.1. Test Equipment

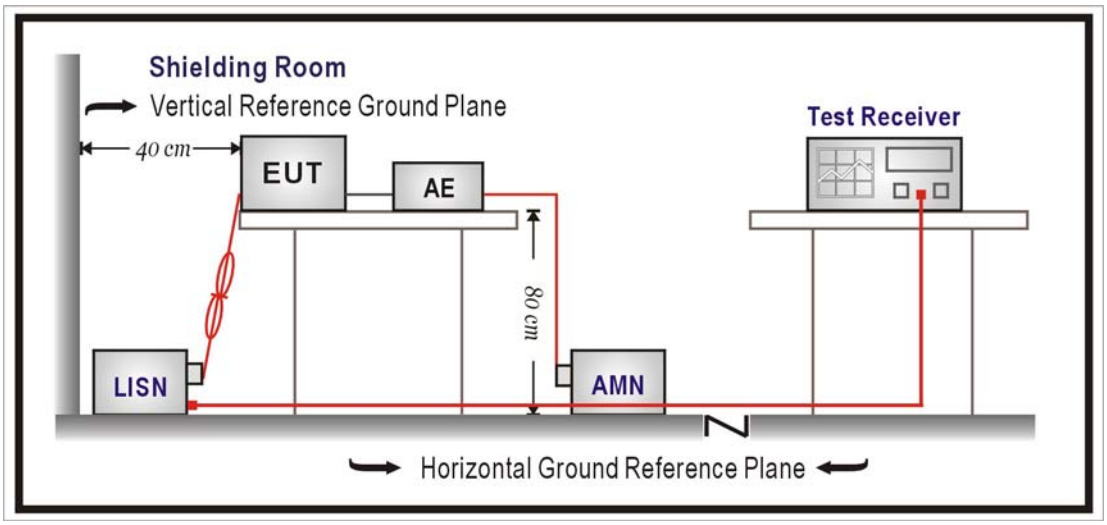
The following test equipments are used during the test:

Conducted Emission / SR2

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Artificial Mains Network	R&S	ENV4200	848411/010	2016/01/25
LISN	R&S	ENV216	100092	2016/08/17
Test Receiver	R&S	ESCS 30	825442/014	2016/07/16

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

2.2. Test Setup



2.3. Limits

FCC Part 15 Subpart C Paragraph 15.207 Limits (dBuV)		
Frequency MHz	QP	AV
0.15 - 0.50	66-56	56-46
0.50 - 5.0	56	46
5.0 - 30	60	50

Remarks: In the above table, the tighter limit applies at the band edges.

2.4. Test Procedure

The EUT was setup according to ANSI C63.10: 2013 and tested according to DTS test procedure of KDB558074 for compliance to FCC 47CFR 15.247 requirements.
The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface. The EUT and simulators are connected to the main power through a line impedance stabilization network (LISN). The LISN provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs.)
Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source.
The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.
Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz.

2.5. Test Specification

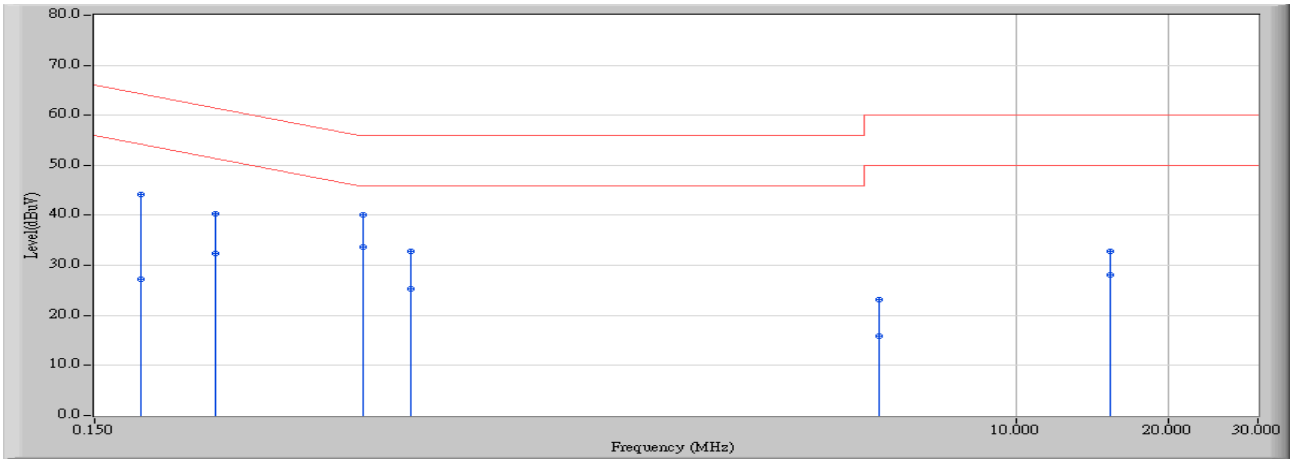
According to FCC Part 15 Subpart C Paragraph 15.207: 2014

2.6. Uncertainty

The measurement uncertainty is defined as ± 2.26 dB.

2.7. Test Result

Site : SR2	**Time : 2015/11/24 - 18:55**
Limit : CISPR_B_00M_QP	**Margin : 10**
Probe : SR2_LISN(16A)-5_0818 - Line1	**Power : DC 5 V (Power by PC)**
EUT : GPS Datalogger	**Note : 2440MHz**

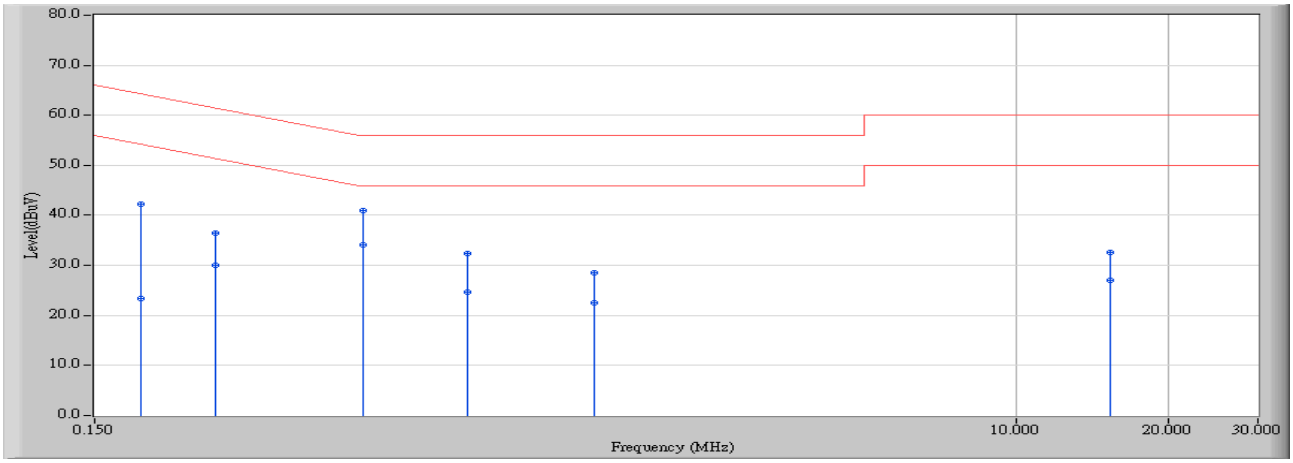


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.185	9.688	34.600	44.288	-19.963	64.251	QUASIPEAK
2		0.185	9.688	17.500	27.188	-27.063	54.251	AVERAGE
3		0.259	9.692	30.580	40.273	-21.179	61.451	QUASIPEAK
4		0.259	9.692	22.660	32.353	-19.099	51.451	AVERAGE
5		0.509	9.719	30.480	40.199	-15.801	56.000	QUASIPEAK
6	*	0.509	9.719	23.860	33.579	-12.421	46.000	AVERAGE
7		0.634	9.720	23.180	32.900	-23.100	56.000	QUASIPEAK
8		0.634	9.720	15.620	25.340	-20.660	46.000	AVERAGE
9		5.338	9.927	13.290	23.217	-36.783	60.000	QUASIPEAK
10		5.338	9.927	5.890	15.817	-34.183	50.000	AVERAGE
11		15.349	10.225	22.580	32.805	-27.195	60.000	QUASIPEAK
12		15.349	10.225	17.960	28.185	-21.815	50.000	AVERAGE

Note:

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

Site : SR2	**Time : 2015/11/24 - 19:03**
Limit : CISPR_B_00M_QP	**Margin : 10**
Probe : SR2_LISN(16A)-5_0818 - Line2	**Power : DC 5 V (Power by PC)**
EUT : GPS Datalogger	**Note : 2440MHz**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.185	9.765	32.570	42.335	-21.916	64.251	QUASIPEAK
2		0.185	9.765	13.710	23.475	-30.776	54.251	AVERAGE
3		0.259	9.772	26.710	36.483	-24.969	61.451	QUASIPEAK
4		0.259	9.772	20.150	29.923	-21.529	51.451	AVERAGE
5		0.509	9.801	31.100	40.901	-15.099	56.000	QUASIPEAK
6	*	0.509	9.801	24.370	34.171	-11.829	46.000	AVERAGE
7		0.822	9.807	22.630	32.437	-23.563	56.000	QUASIPEAK
8		0.822	9.807	14.800	24.607	-21.393	46.000	AVERAGE
9		1.462	9.838	18.620	28.458	-27.542	56.000	QUASIPEAK
10		1.462	9.838	12.660	22.498	-23.502	46.000	AVERAGE
11		15.349	10.170	22.340	32.510	-27.490	60.000	QUASIPEAK
12		15.349	10.170	16.950	27.120	-22.880	50.000	AVERAGE

Note:

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

3. Peak Power Output

3.1. Test Equipment

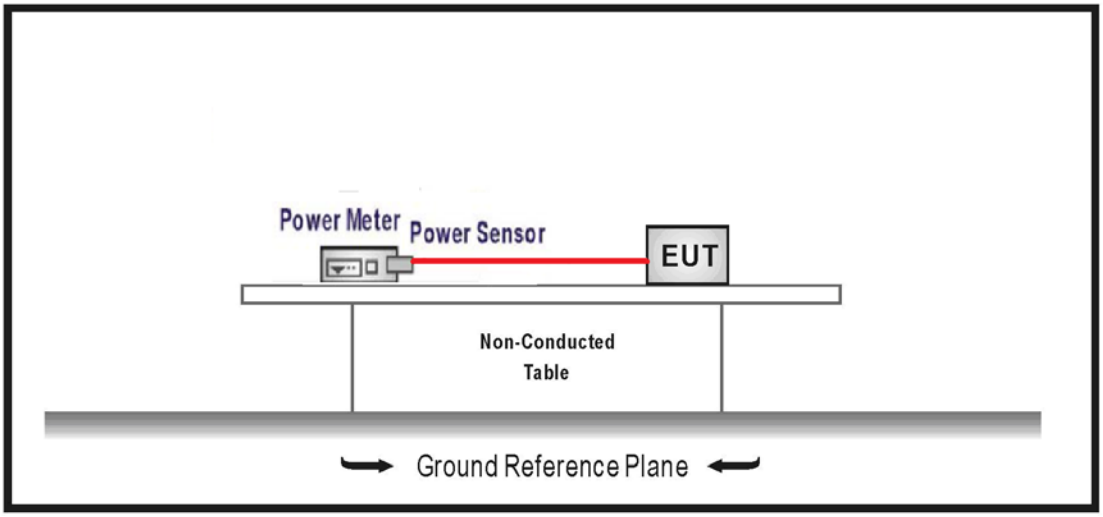
The following test equipment is used during the test:

Peak Power Output / SR7

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Power Meter	Agilent	N1911A	MY45101353	2016/10/11
Power Sensor	Agilent	N1921A	MY45241670	2016/10/11

Note: All equipment upon which need to calibrated are with calibration period of 1 year.

3.2. Test Setup



3.3. Test procedures

The EUT was setup according to ANSI C63.10: 2013; tested according to DTS test procedure of KDB558074 V03R02 for compliance to FCC 47CFR 15.247 requirements.

3.4. Limits

The maximum peak power shall be less 1 Watt.

3.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247

3.6. Test Result

Product	GPS Datalogger		
Test Item	Peak Power Output		
Test Mode	Mode 1: Tx-Power by PC		
Date of Test	2015/11/03	Test Site	SR7

GFSK

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
00	2402	2.22	30	Pass
19	2440	2.61	30	Pass
39	2480	2.79	30	Pass

4. Radiated Emission

4.1. Test Equipment

The following test equipments are used during the test:

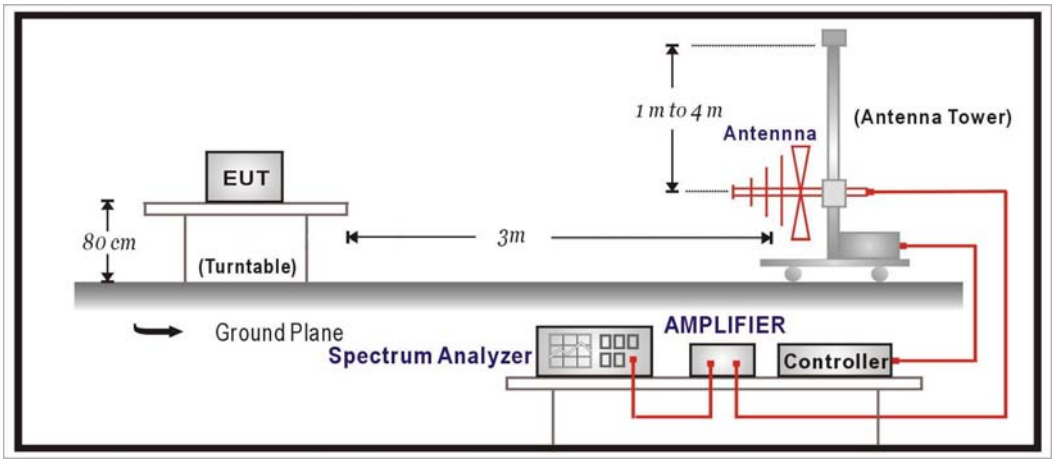
Radiated Emission / CB1

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Bilog Antenna	Schaffner	CBL6112B	2895	2016/08/14
Double Ridged Guide Horn Antenna	Schwarzbeck	BBHA 9120	D743	2016/01/26
Pre-Amplifier	EMCI	EMC0031835	980233	2016/01/18
Pre-Amplifier	QuieTek	AP-025C	CHM-0706049	2016/01/18
Spectrum Analyzer	Agilent	E4440A	MY46187335	2016/01/07
k Type Cable	Huber+Suhner	SF 102	25623/2	2016/01/26
Horn Antenna	Schwarzbeck	BBHA 9170	203	2016/09/07
Signal & Spectrum Analyzer	R&S	FSV40	101049	2016/01/19

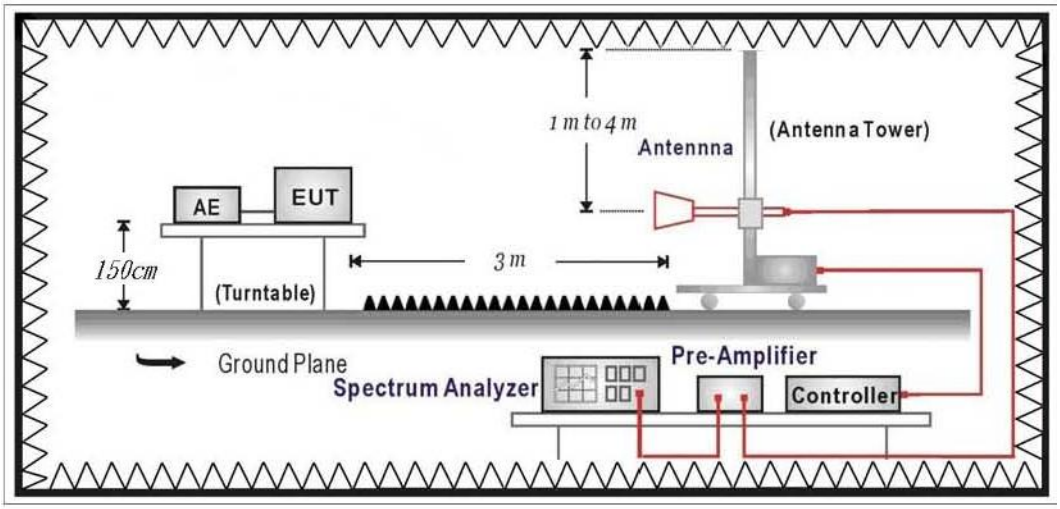
Note: 1. All equipments that need to calibrate are with calibration period of 1 year.

4.2. Test Setup

Under 1GHz Test Setup:



Above 1GHz Test Setup:



4.3. 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	uV/m	dBuV/m
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

Remarks : 1. RF Voltage (dBuV) = 20 log RF Voltage (uV)

2. In the Above Table, the tighter limit applies at the band edges.

3. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

4.4. 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 meter above ground(under 1GHz) or 1.5 meter above ground (above 1GHz). 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.

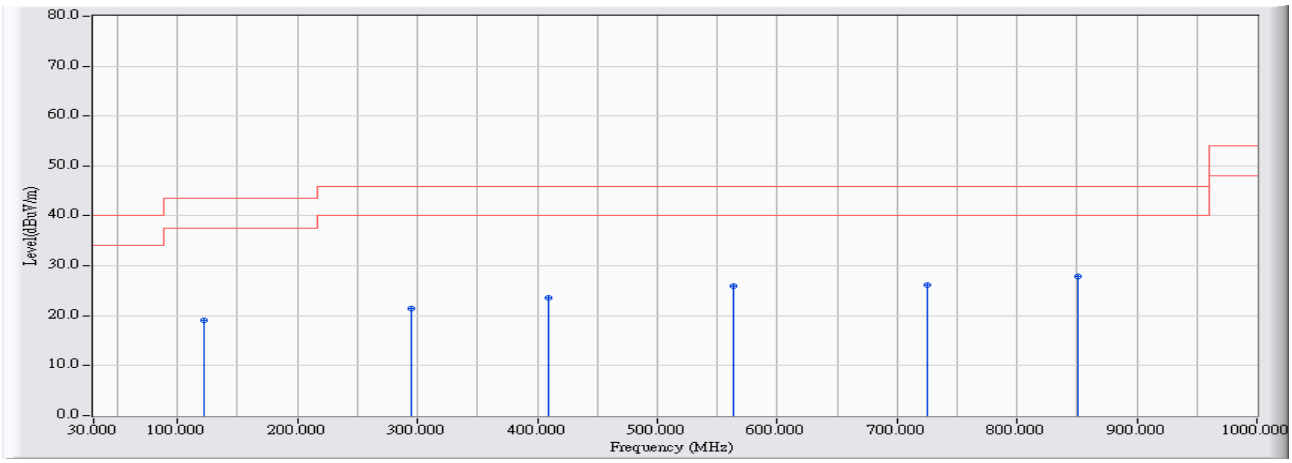
4.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247

4.6. Test Result

30MHz-1GHz Spurious

Site : CB1	**Time : 2015/11/23 - 11:30**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : CB1_FCC_EFS_30-1G-2_1011 - HORIZONTAL	**Power : DC 5 V (Power by PC)**
EUT : GPS Datalogger	**Note : 2440 MHz**

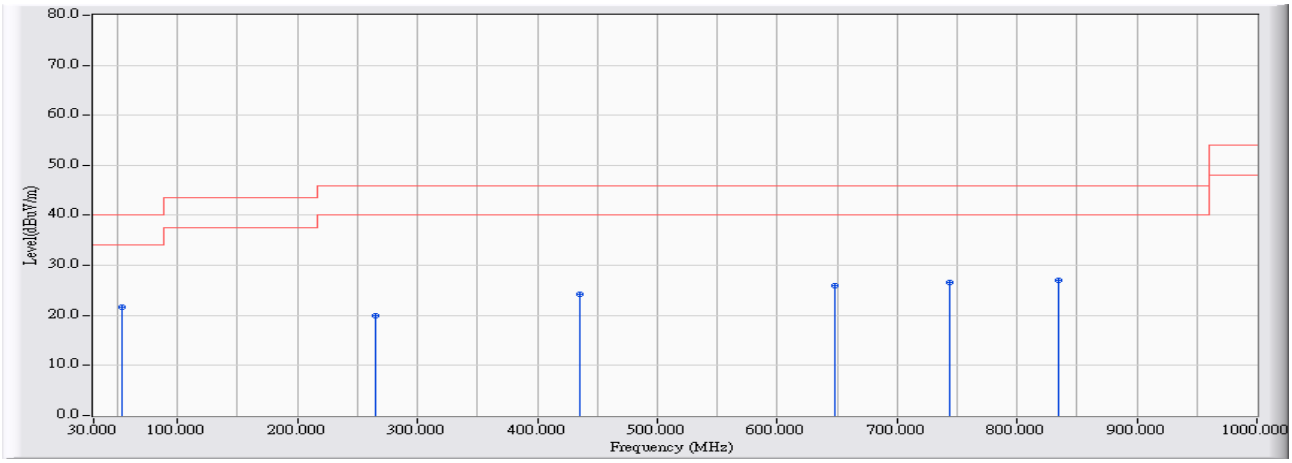


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		122.044	10.747	8.428	19.175	-24.325	43.500	QUASIPEAK
2		295.268	12.670	8.775	21.445	-24.555	46.000	QUASIPEAK
3		408.747	15.332	8.332	23.664	-22.336	46.000	QUASIPEAK
4		563.253	17.373	8.611	25.984	-20.016	46.000	QUASIPEAK
5		725.226	18.301	7.935	26.236	-19.764	46.000	QUASIPEAK
6	*	850.247	19.343	8.479	27.823	-18.177	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 : CB1	**Time : 2015/11/23 - 11:38**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : CB1_FCC_EFS_30-1G-2_1011 - VERTICAL	**Power : DC 5 V (Power by PC)**
EUT : GPS Datalogger	**Note : 2440 MHz**



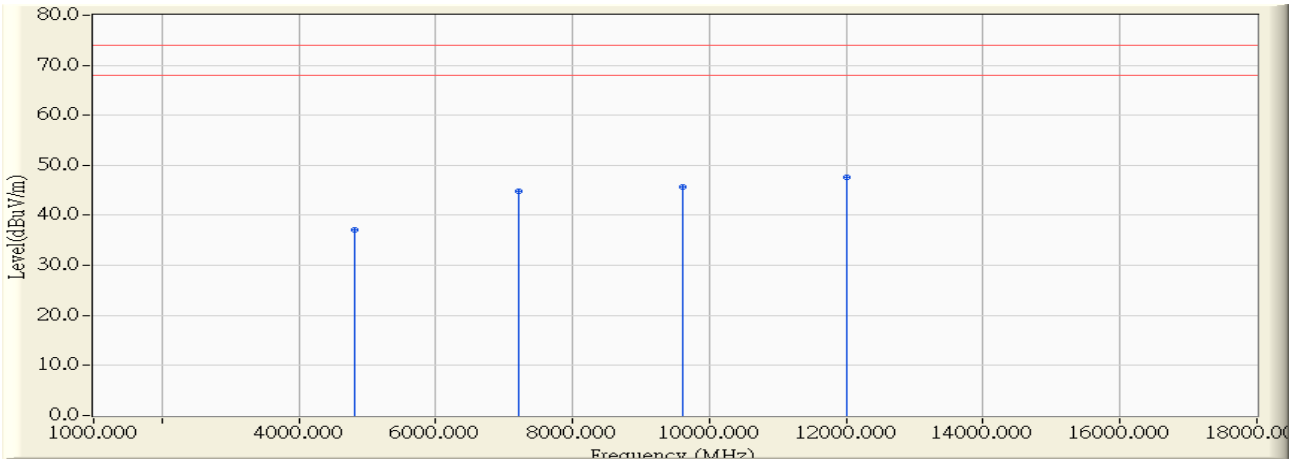
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	53.472	6.234	15.477	21.711	-18.289	40.000	QUASIPEAK
2		265.492	12.153	7.716	19.869	-26.131	46.000	QUASIPEAK
3		435.225	15.869	8.392	24.261	-21.739	46.000	QUASIPEAK
4		647.925	17.728	8.150	25.877	-20.123	46.000	QUASIPEAK
5		744.043	18.530	8.163	26.693	-19.307	46.000	QUASIPEAK
6		834.341	19.302	7.698	27.001	-18.999	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

Harmonic & Spurious:

Engineer :	
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G_H2 - HORIZONTAL	**Power : DC 5 V (Power by PC)**
EUT : GPS Datalogger	**Note : 2402MHz**

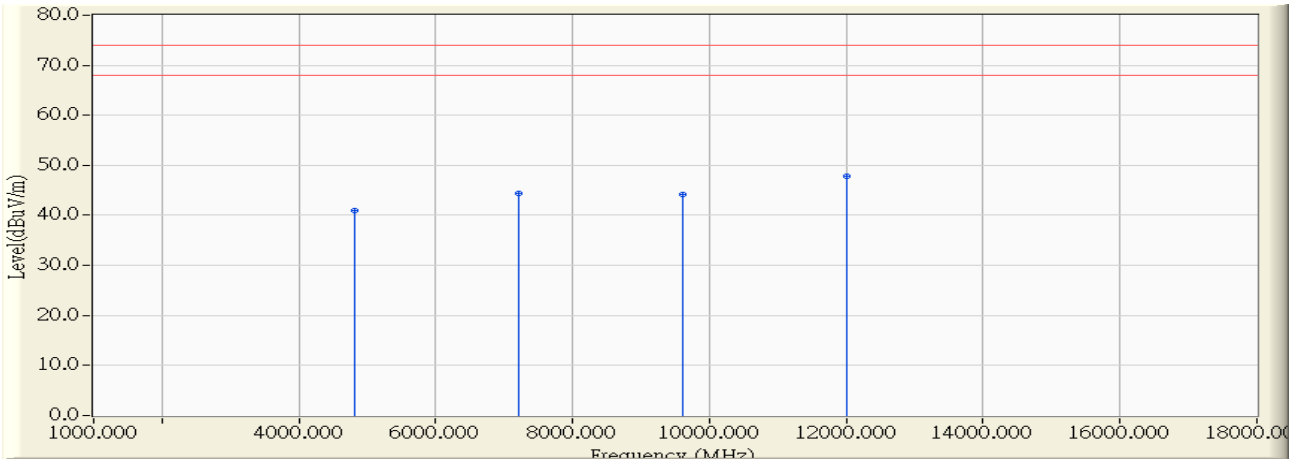


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4804.000	-2.613	39.657	37.044	-36.956	74.000	PEAK
2		7206.000	5.866	39.022	44.889	-29.111	74.000	PEAK
3		9608.000	7.442	38.171	45.613	-28.387	74.000	PEAK
4	*	12010.000	10.398	37.249	47.646	-26.354	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 : CB1	**Time : 2015/11/24 - 18:51**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G_H2 - VERTICAL	**Power : DC 5 V (Power by PC)**
EUT : GPS Datalogger	**Note : 2402 MHz**

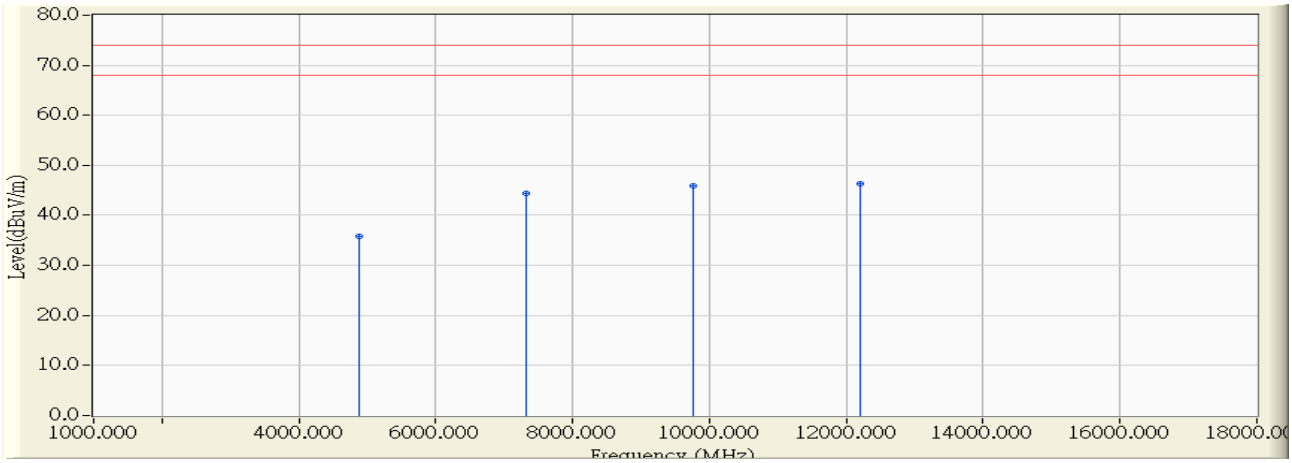


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4804.000	-1.666	42.626	40.960	-33.040	74.000	PEAK
2		7206.000	5.366	38.947	44.314	-29.686	74.000	PEAK
3		9608.000	7.004	37.193	44.198	-29.802	74.000	PEAK
4	*	12010.000	9.925	37.952	47.876	-26.124	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 : CB1	**Time : 2015/11/24 - 18:58**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G_H2 - HORIZONTAL	**Power : DC 5 V (Power by PC)**
EUT : GPS Datalogger	**Note : 2440 MHz**

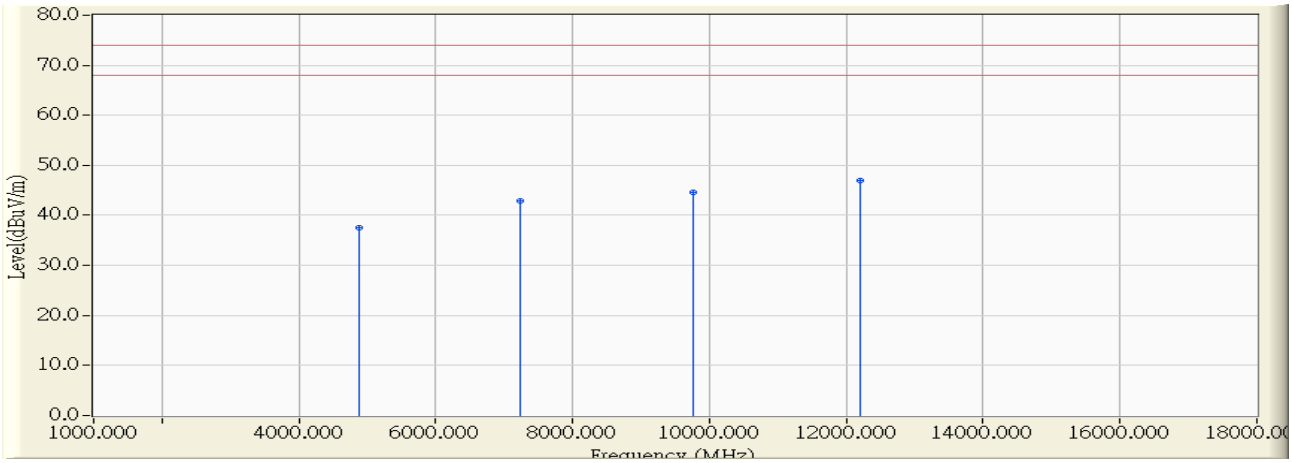


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4880.000	-2.409	38.266	35.857	-38.143	74.000	PEAK
2		7320.000	6.092	38.374	44.465	-29.535	74.000	PEAK
3		9760.000	8.265	37.634	45.899	-28.101	74.000	PEAK
4	*	12200.000	10.171	36.208	46.378	-27.622	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 : CB1	**Time : 2015/11/24 - 19:00**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G_H2 - VERTICAL	**Power : DC 5 V (Power by PC)**
EUT : GPS Datalogger	**Note : 2440 MHz**

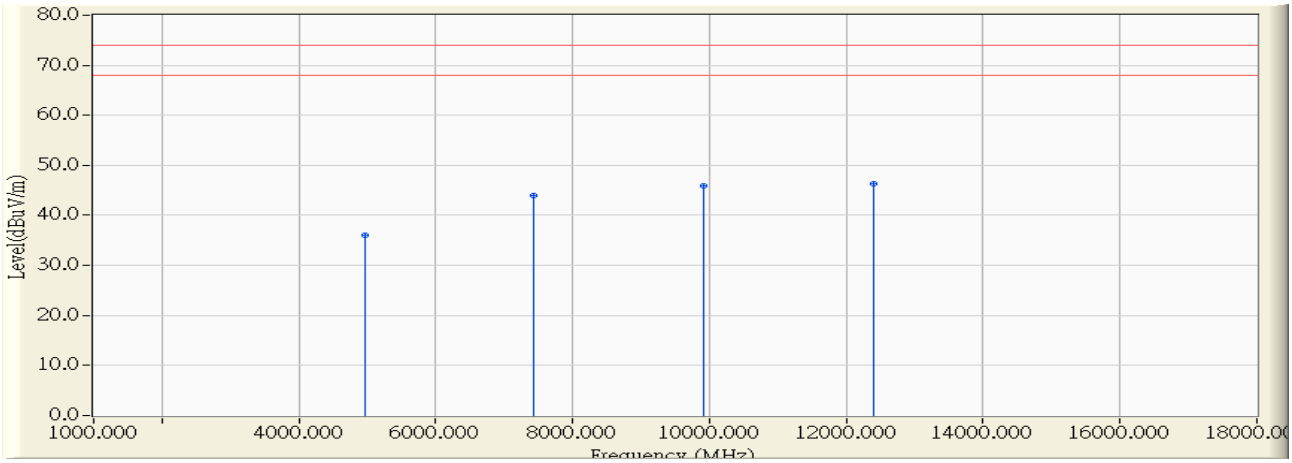


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4880.000	-1.652	39.260	37.608	-36.392	74.000	PEAK
2		7230.000	5.415	37.549	42.963	-31.037	74.000	PEAK
3		9760.000	7.599	37.038	44.638	-29.362	74.000	PEAK
4	*	12200.000	9.888	37.007	46.894	-27.106	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 : CB1	**Time : 2015/11/24 - 19:05**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G_H2 - HORIZONTAL	**Power : DC 5 V (Power by PC)**
EUT : GPS Datalogger	**Note : 2480 MHz**

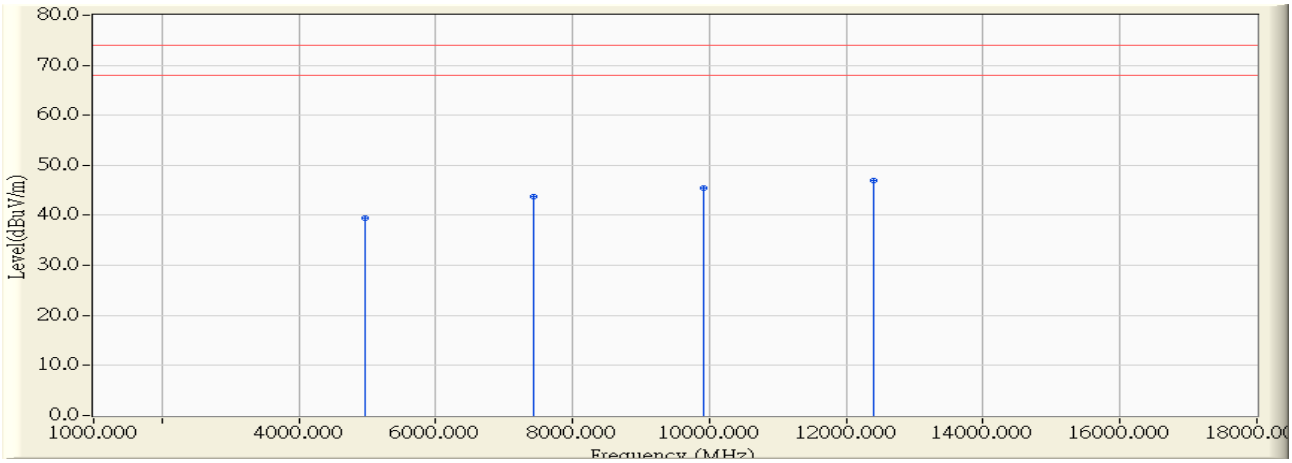


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4960.000	-2.195	38.318	36.123	-37.877	74.000	PEAK
2		7440.000	6.328	37.656	43.983	-30.017	74.000	PEAK
3		9920.000	9.132	36.716	45.848	-28.152	74.000	PEAK
4	*	12400.000	9.933	36.476	46.408	-27.592	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 : CB1	**Time : 2015/11/24 - 19:03**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G_H2 - VERTICAL	**Power : DC 5 V (Power by PC)**
EUT : GPS Datalogger	**Note : 2480 MHz**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4960.000	-1.638	40.996	39.359	-34.641	74.000	PEAK
2		7440.000	5.828	37.837	43.664	-30.336	74.000	PEAK
3		9920.000	8.226	37.262	45.488	-28.512	74.000	PEAK
4	*	12400.000	9.850	37.178	47.027	-26.973	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.

5. RF antenna conducted test

5.1. Test Equipment

The following test equipment is used during the test:

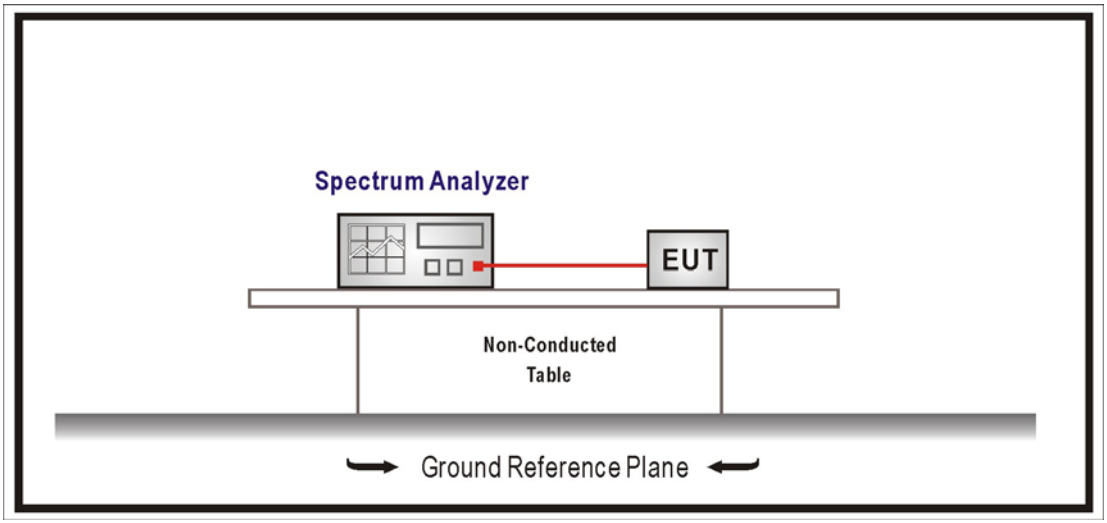
RF antenna conducted test / SR7

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A-EXA	US47140172	2016/08/23
Signal & Spectrum Analyzer	R&S	FSV40	101049	2015/01/20

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

5.2. Test Setup

RF Conducted Measurement:



5.3. 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)).

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.
Set RBW = 100 kHz, Set VBW> RBW, scan up through 10th harmonic.

5.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247

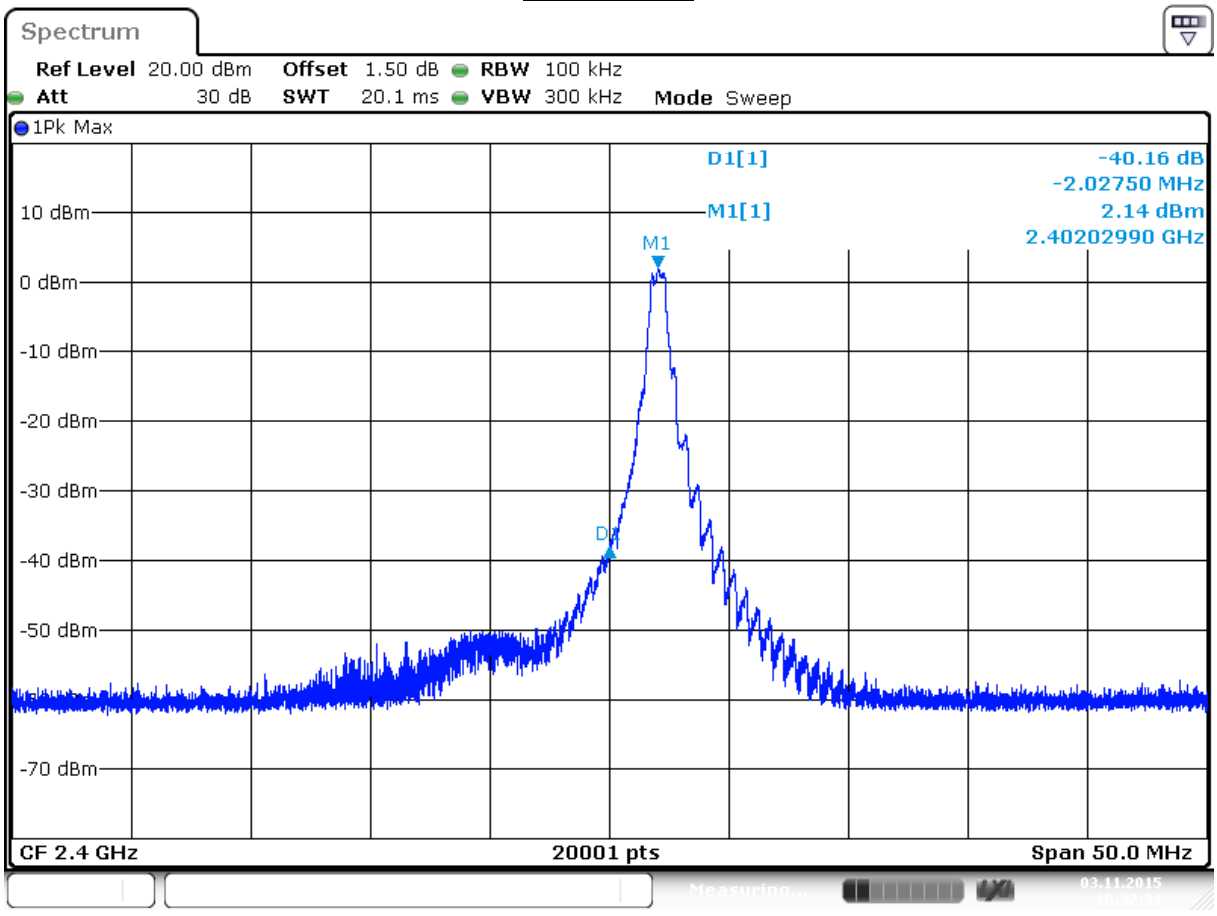
5.6. Test Result

Product	GPS Datalogger		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Tx-Power by PC		
Date of Test	2015/11/03	Test Site	SR7

GFSK

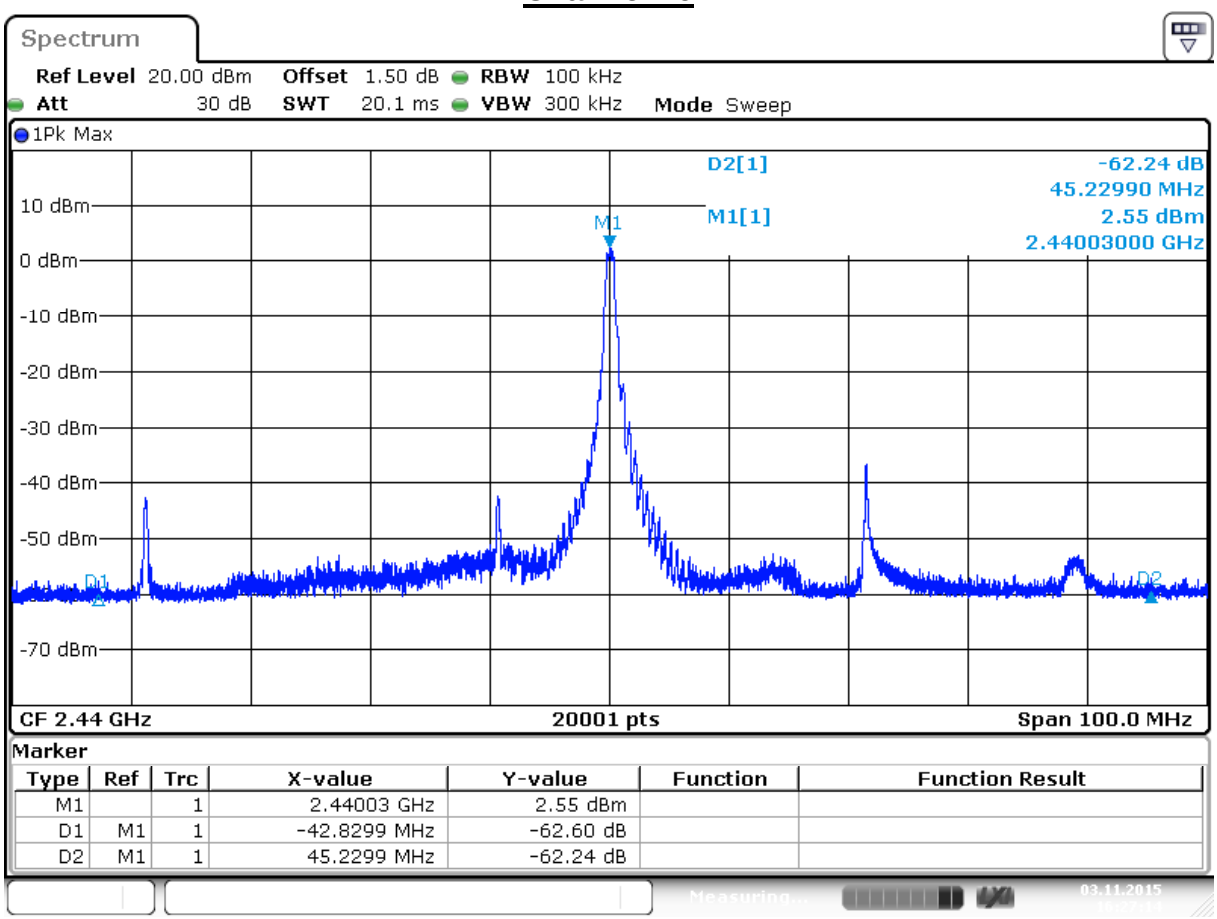
Channel	Frequency (MHz)	Measure Level (dBc)	Limit (dBc)	Result
00	2402	40.16	≧20	Pass
19	2440	62.24	≧20	Pass
39	2480	39.52	≧20	Pass

Channel 00



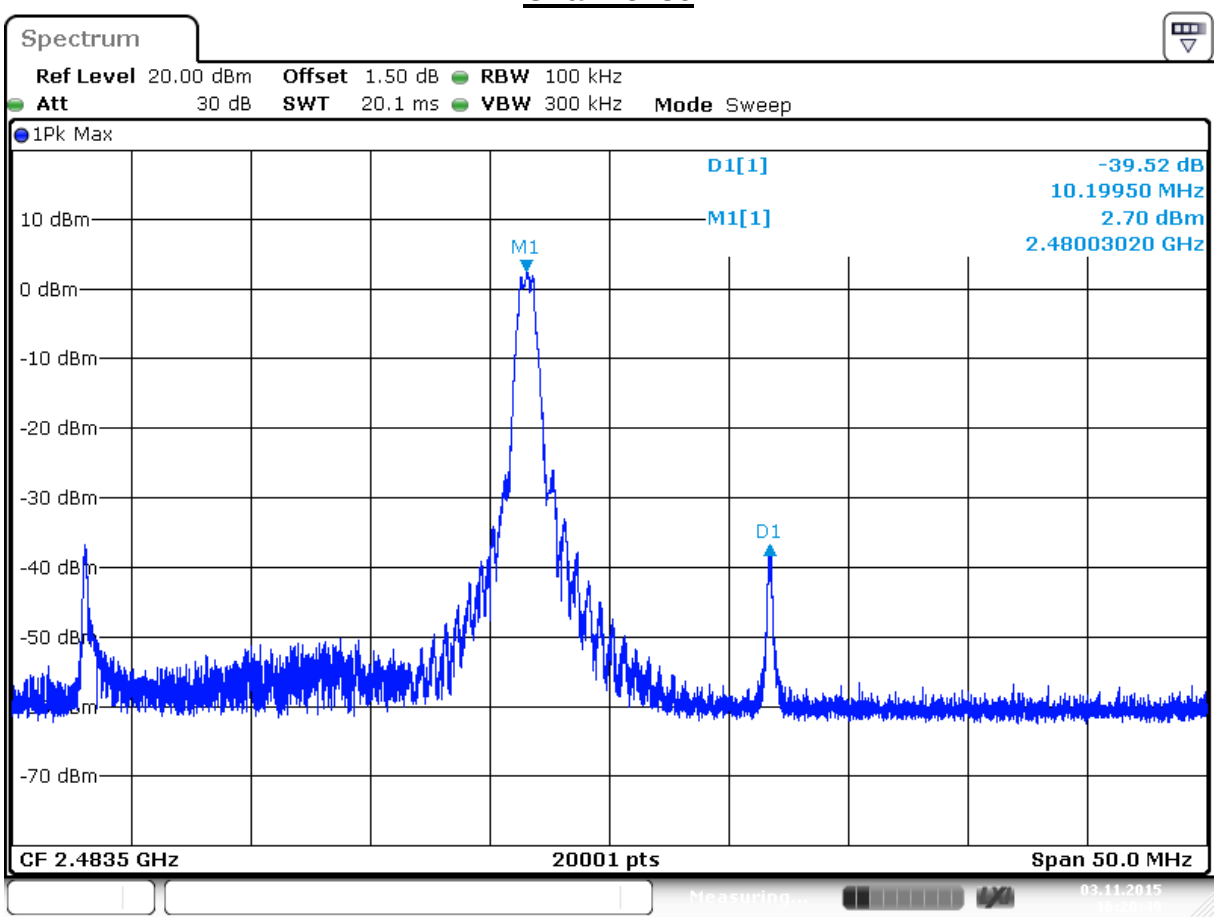
Date: 3.NOV.2015 16:32:32

Channel 19



Date: 3.NOV.2015 16:27:14

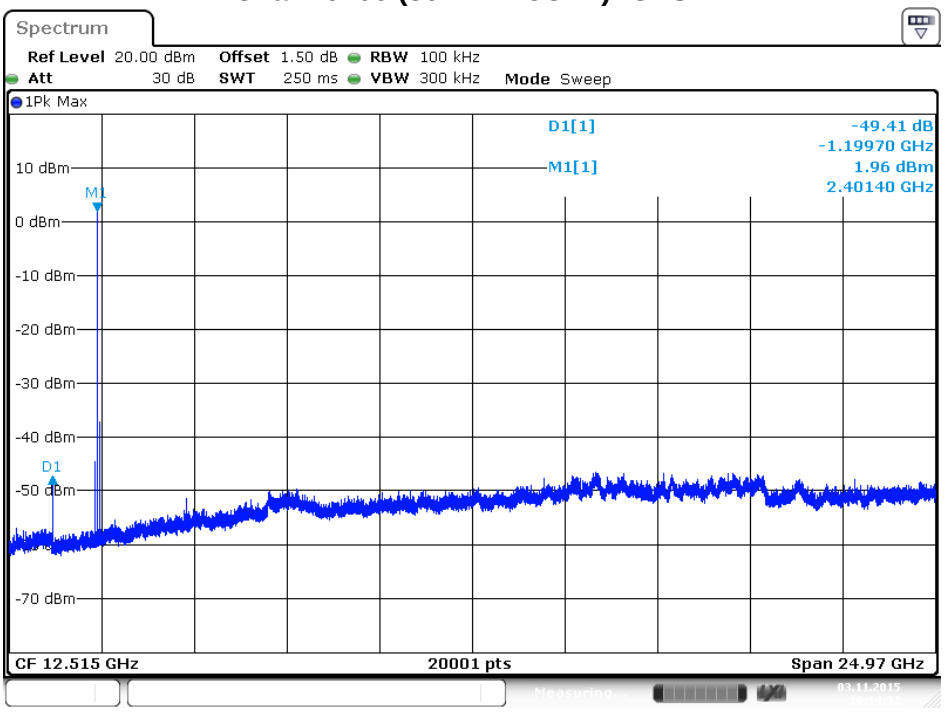
Channel 39



Date: 3.NOV.2015 16:20:49

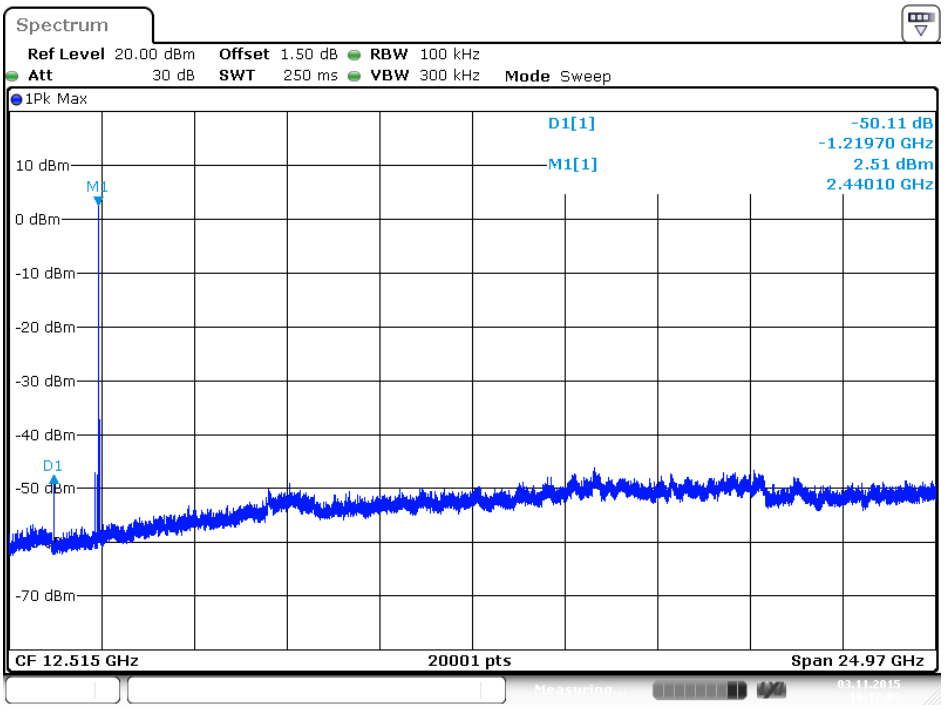
Product	GPS Datalogger		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Tx-Power by PC		
Date of Test	2015/11/03	Test Site	SR7

Channel 00 (30MHz-25GHz)- GFSK



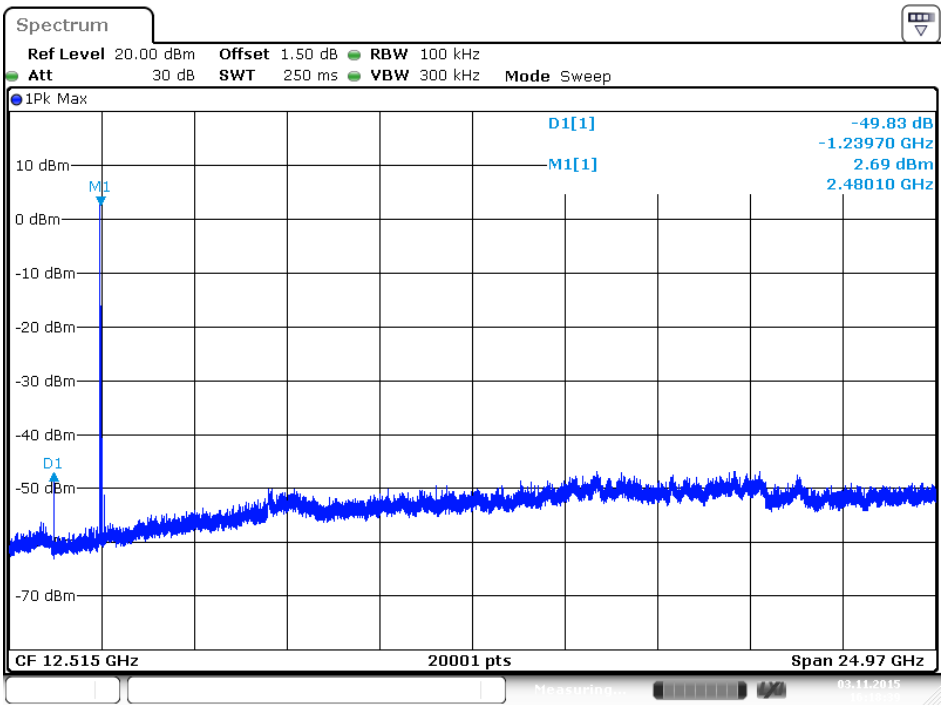
Date: 3.NOV.2015 16:14:32

Channel 19 (30MHz-25GHz)- GFSK



Date: 3.NOV.2015 16:17:03

Channel 39 (30MHz-25GHz)- GFSK



Date: 3.NOV.2015 16:18:39

6. Band Edge

6.1. Test Equipment

The following test equipments are used during the test:

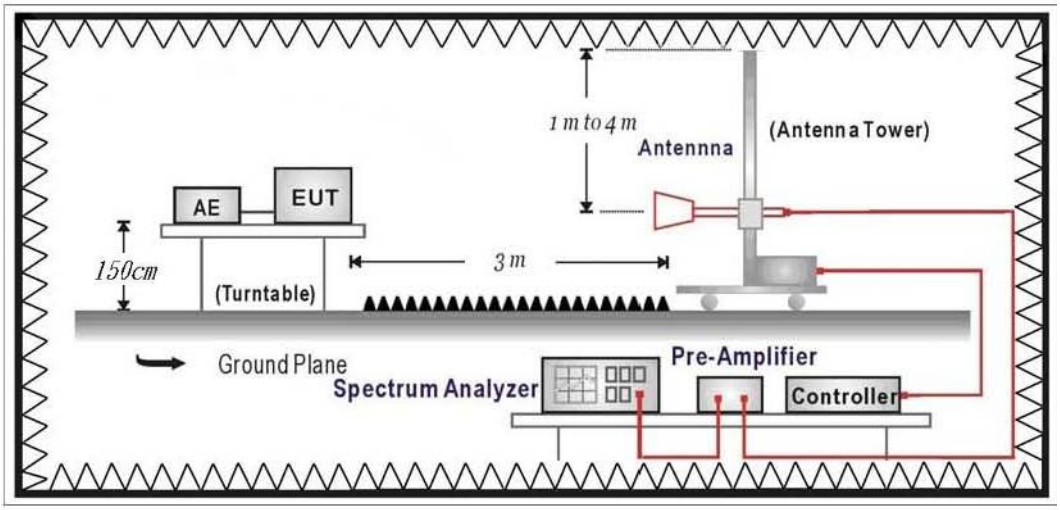
Band Edge / CB1

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Double Ridged Guide Horn Antenna	Schwarzbeck	BBHA 9120	D743	2016/01/26
Spectrum Analyzer	Agilent	E4440A	MY46187335	2016/01/07
k Type Cable	Huber+Suhner	SF 102	25623/2	2016/01/26
Signal & Spectrum Analyzer	R&S	FSV40	101049	2016/01/19

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

6.2. Test Setup

RF Radiated Measurement:



6.3. 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.

6.4. 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.

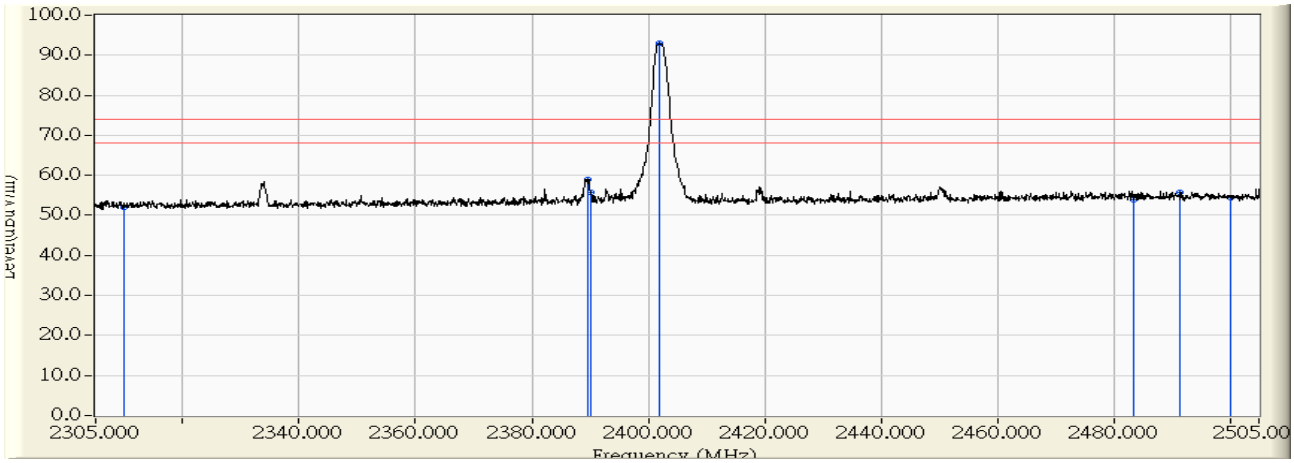
Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.10: 2013 on radiated measurement.

6.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247

6.6. Test Result

Site : CB1	**Time : 2015/11/24 - 17:55**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G_H2 - HORIZONTAL	**Power : DC 5 V (Power by PC)**
EUT : GPS Datalogger	**Note : 802.15.1_2402MHz**

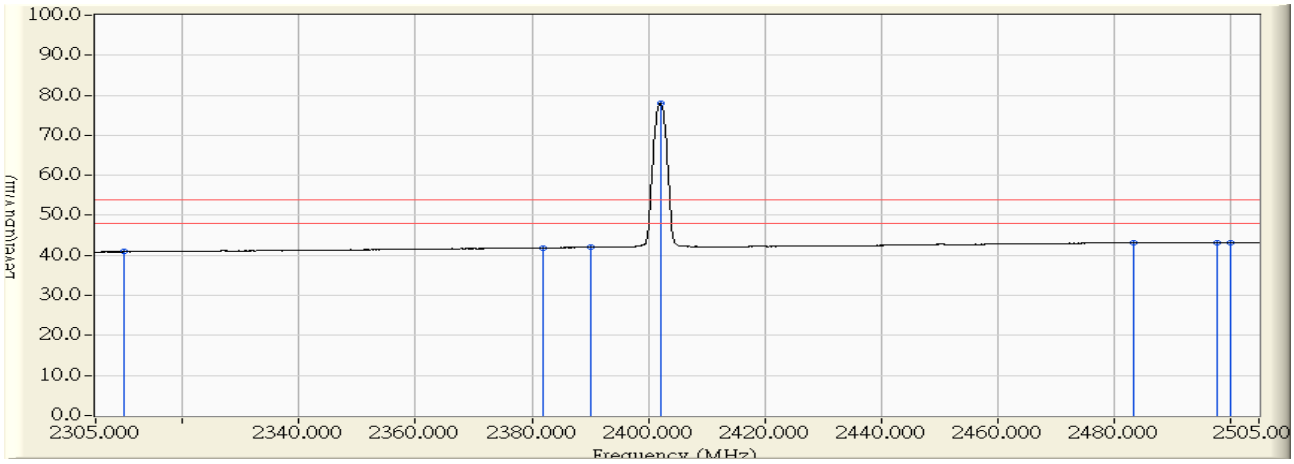


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	28.899	23.155	52.053	-21.947	74.000	PEAK
2		2389.500	29.763	29.291	59.054	-14.946	74.000	PEAK
3		2390.000	29.768	26.045	55.813	-18.187	74.000	PEAK
4	*	2401.800	29.896	63.014	92.910	18.910	74.000	PEAK
5		2483.500	30.738	23.167	53.906	-20.094	74.000	PEAK
6		2491.500	30.745	25.001	55.746	-18.254	74.000	PEAK
7		2500.000	30.740	23.784	54.523	-19.477	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 : CB1	**Time : 2015/11/24 - 17:54**
Limit : FCC_SpartC_15.247_H_03M_AV	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G_H2 - HORIZONTAL	**Power : DC 5 V (Power by PC)**
EUT : GPS Datalogger	**Note : 802.15.1_2402MHz**

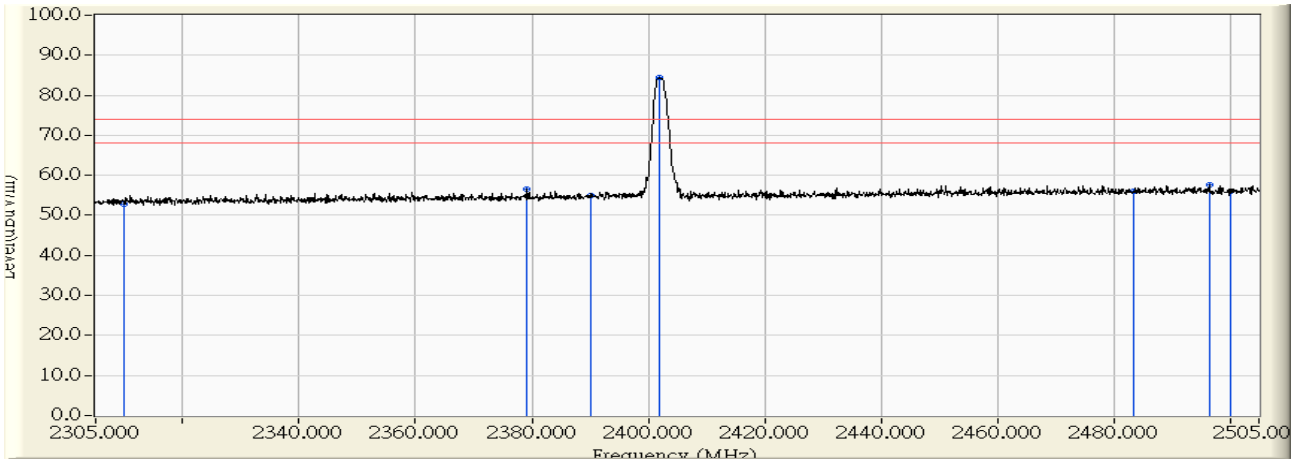


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	28.899	12.008	40.906	-13.094	54.000	AVERAGE
2		2381.800	29.679	12.202	41.881	-12.119	54.000	AVERAGE
3		2390.000	29.768	12.326	42.094	-11.906	54.000	AVERAGE
4	*	2402.100	29.899	48.119	78.019	24.019	54.000	AVERAGE
5		2483.500	30.738	12.432	43.171	-10.829	54.000	AVERAGE
6		2497.700	30.744	12.393	43.137	-10.863	54.000	AVERAGE
7		2500.000	30.740	12.388	43.127	-10.873	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 : CB1	**Time : 2015/11/24 - 18:38**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G_H2 - VERTICAL	**Power : DC 5 V (Power by PC)**
EUT : GPS Datalogger	**Note : 802.15.1_ 2402MHz**

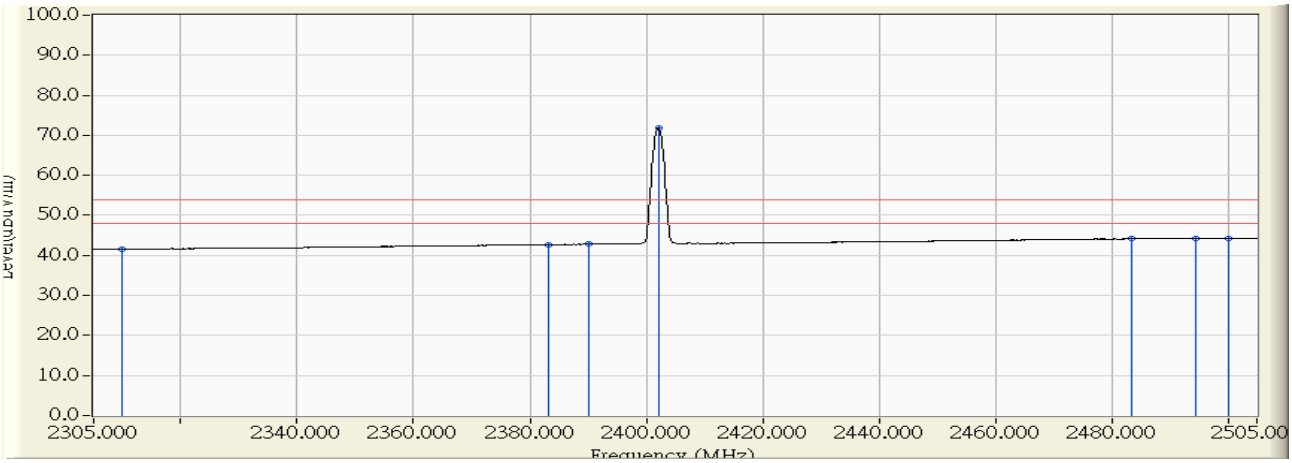


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	29.553	23.227	52.779	-21.221	74.000	PEAK
2		2379.200	30.444	26.025	56.468	-17.532	74.000	PEAK
3		2390.000	30.582	24.389	54.971	-19.029	74.000	PEAK
4	*	2402.000	30.736	53.596	84.333	10.333	74.000	PEAK
5		2483.500	31.739	24.294	56.034	-17.966	74.000	PEAK
6		2496.500	31.774	25.979	57.753	-16.247	74.000	PEAK
7		2500.000	31.774	24.233	56.006	-17.994	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 : CB1	**Time : 2015/11/24 - 18:41**
Limit : FCC_SpartC_15.247_H_03M_AV	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G_H2 - VERTICAL	**Power : DC 5 V (Power by PC)**
EUT : GPS Datalogger	**Note : 802.15.1_2402MHz**

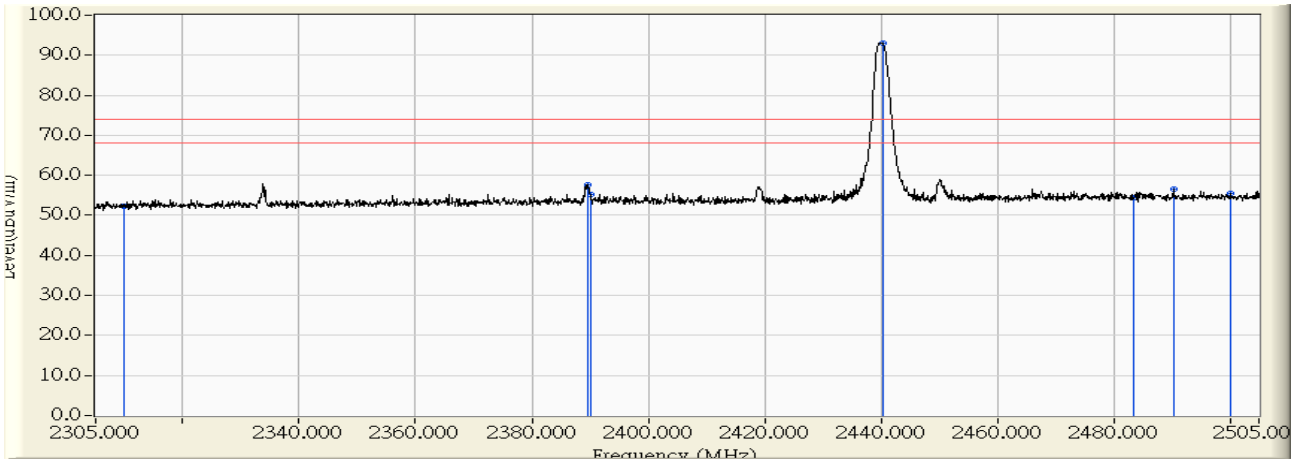


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	29.553	11.970	41.522	-12.478	54.000	AVERAGE
2		2383.200	30.494	12.216	42.711	-11.289	54.000	AVERAGE
3		2390.000	30.582	12.207	42.789	-11.211	54.000	AVERAGE
4	*	2402.100	30.737	41.010	71.748	17.748	54.000	AVERAGE
5		2483.500	31.739	12.373	44.113	-9.887	54.000	AVERAGE
6		2494.400	31.770	12.461	44.231	-9.769	54.000	AVERAGE
7		2500.000	31.774	12.403	44.176	-9.824	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 : CB1	**Time : 2015/11/24 - 17:59**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G_H2 - HORIZONTAL	**Power : DC 5 V (Power by PC)**
EUT : GPS Datalogger	**Note : 802.15.1_2440MHz**

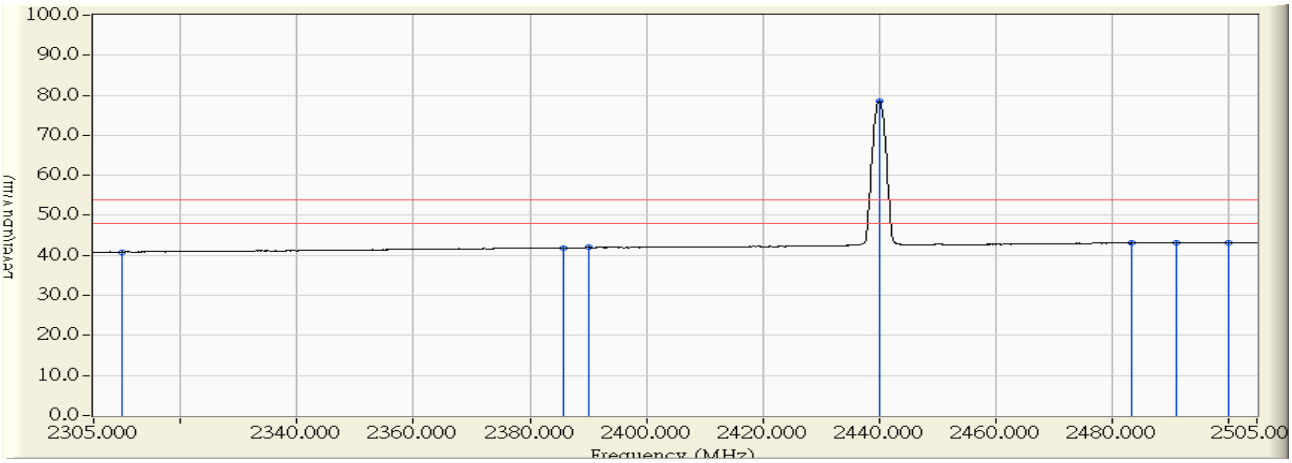


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	28.899	23.429	52.327	-21.673	74.000	PEAK
2		2389.700	29.765	27.945	57.710	-16.290	74.000	PEAK
3		2390.000	29.768	25.408	55.176	-18.824	74.000	PEAK
4	*	2440.300	30.315	62.839	93.154	19.154	74.000	PEAK
5		2483.500	30.738	23.620	54.359	-19.641	74.000	PEAK
6		2490.300	30.744	25.740	56.484	-17.516	74.000	PEAK
7		2500.000	30.740	24.664	55.403	-18.597	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 : CB1	**Time : 2015/11/24 - 18:00**
Limit : FCC_SpartC_15.247_H_03M_AV	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G_H2 - HORIZONTAL	**Power : DC 5 V (Power by PC)**
EUT : GPS Datalogger	**Note : 802.15.1_2440MHz**

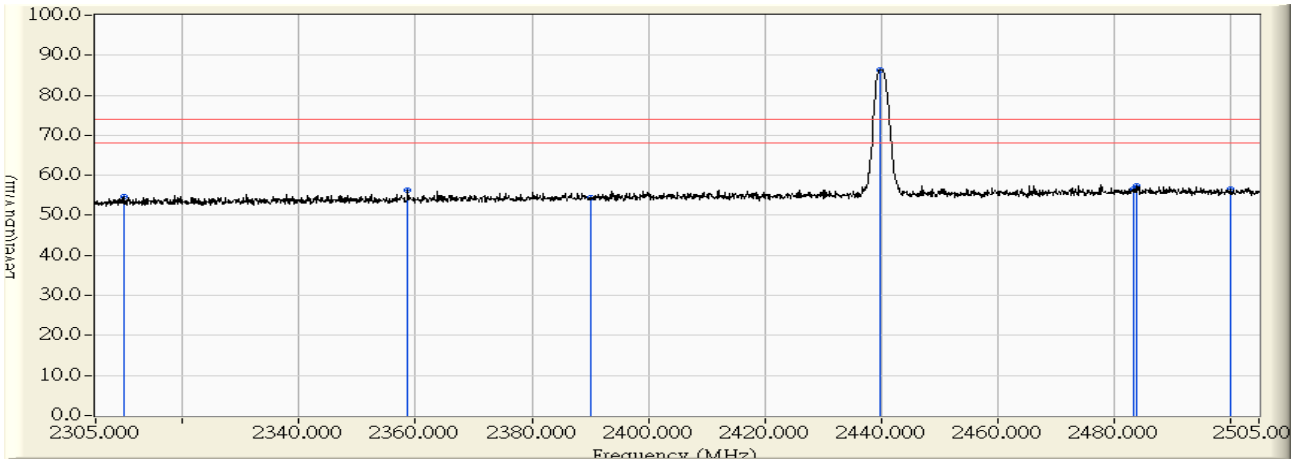


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	28.899	11.938	40.836	-13.164	54.000	AVERAGE
2		2385.700	29.721	12.179	41.900	-12.100	54.000	AVERAGE
3		2390.000	29.768	12.201	41.969	-12.031	54.000	AVERAGE
4	*	2440.000	30.312	48.191	78.503	24.503	54.000	AVERAGE
5		2483.500	30.738	12.321	43.060	-10.940	54.000	AVERAGE
6		2491.100	30.745	12.450	43.195	-10.805	54.000	AVERAGE
7		2500.000	30.740	12.325	43.064	-10.936	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 : CB1	**Time : 2015/11/24 - 18:28**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G_H2 - VERTICAL	**Power : DC 5 V (Power by PC)**
EUT : GPS Datalogger	**Note : 802.15.1_2440MHz**

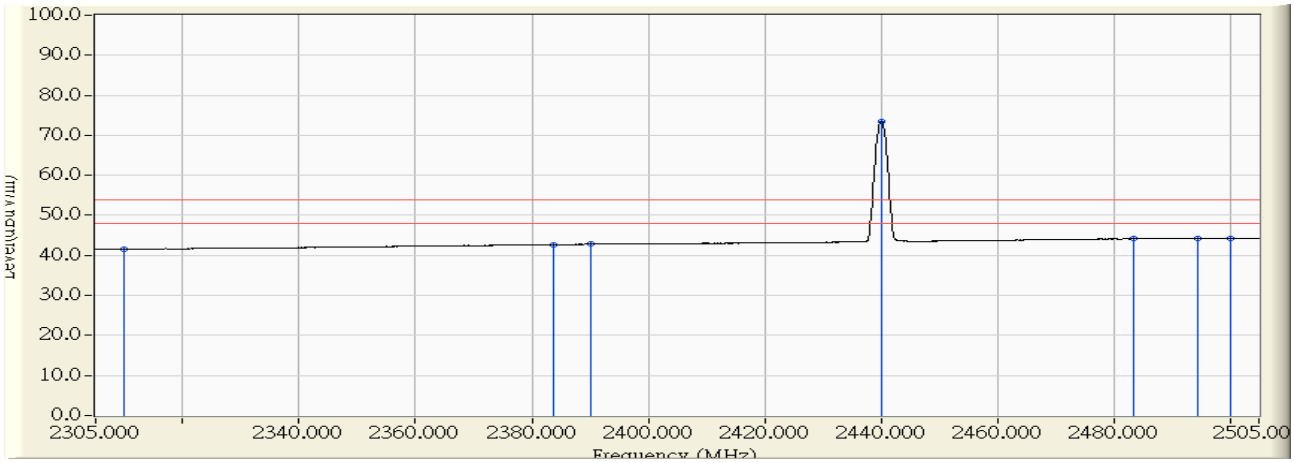


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	29.553	25.213	54.765	-19.235	74.000	PEAK
2		2358.700	30.180	26.056	56.235	-17.765	74.000	PEAK
3		2390.000	30.582	23.846	54.428	-19.572	74.000	PEAK
4	*	2439.800	31.224	55.035	86.258	12.258	74.000	PEAK
5		2483.500	31.739	24.704	56.444	-17.556	74.000	PEAK
6		2484.100	31.742	25.624	57.366	-16.634	74.000	PEAK
7		2500.000	31.774	24.876	56.649	-17.351	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 : CB1	**Time : 2015/11/24 - 18:27**
Limit : FCC_SpartC_15.247_H_03M_AV	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G_H2 - VERTICAL	**Power : DC 5 V (Power by PC)**
EUT : GPS Datalogger	**Note : 802.15.1_2440MHz**

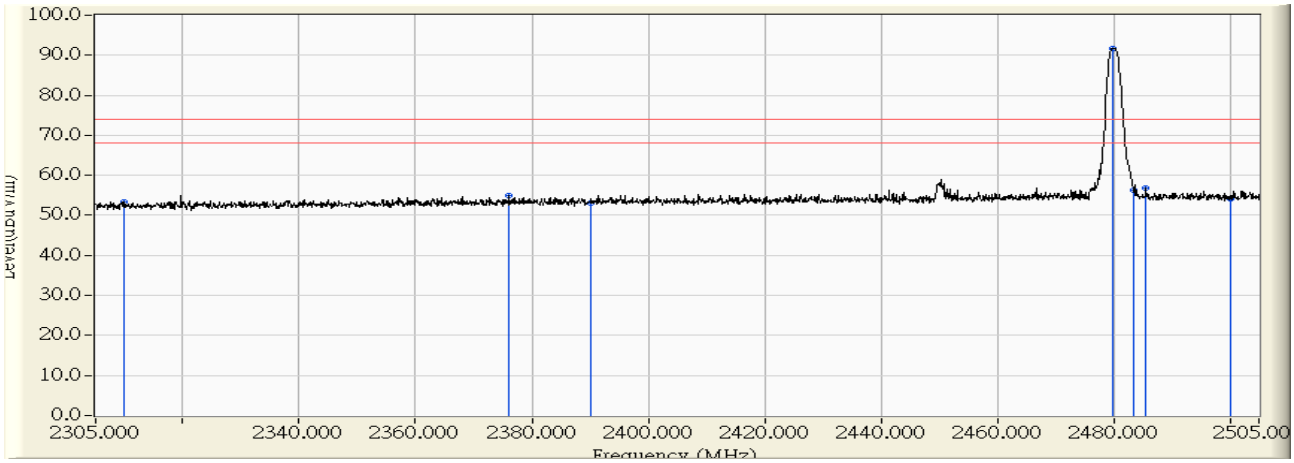


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	29.553	11.975	41.527	-12.473	54.000	AVERAGE
2		2383.600	30.500	12.214	42.714	-11.286	54.000	AVERAGE
3		2390.000	30.582	12.233	42.815	-11.185	54.000	AVERAGE
4	*	2440.100	31.227	42.171	73.398	19.398	54.000	AVERAGE
5		2483.500	31.739	12.372	44.112	-9.888	54.000	AVERAGE
6		2494.400	31.770	12.477	44.247	-9.753	54.000	AVERAGE
7		2500.000	31.774	12.391	44.164	-9.836	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 : CB1	**Time : 2015/11/24 - 18:02**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G_H2 - HORIZONTAL	**Power : DC 5 V (Power by PC)**
EUT : GPS Datalogger	**Note : 802.15.1_ 2480MHz**

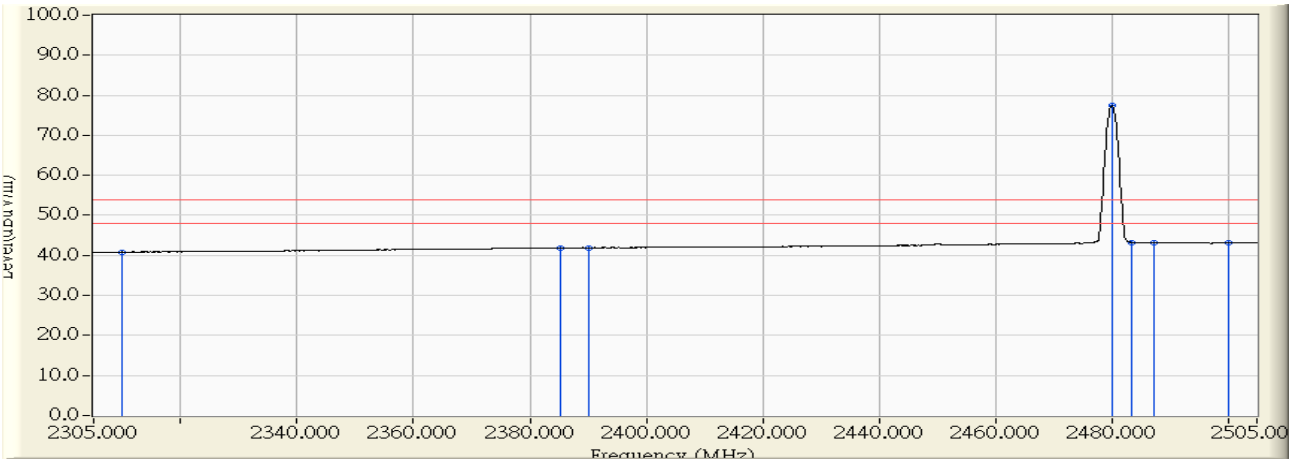


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	28.899	24.321	53.219	-20.781	74.000	PEAK
2		2376.100	29.617	25.469	55.086	-18.914	74.000	PEAK
3		2390.000	29.768	23.302	53.070	-20.930	74.000	PEAK
4	*	2479.800	30.736	60.948	91.684	17.684	74.000	PEAK
5		2483.500	30.738	25.581	56.320	-17.680	74.000	PEAK
6		2485.600	30.741	25.997	56.737	-17.263	74.000	PEAK
7		2500.000	30.740	23.521	54.260	-19.740	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 : CB1	**Time : 2015/11/24 - 18:01**
Limit : FCC_SpartC_15.247_H_03M_AV	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G_H2 - HORIZONTAL	**Power : DC 5 V (Power by PC)**
EUT : GPS Datalogger	**Note : 802.15.1_2480MHz**

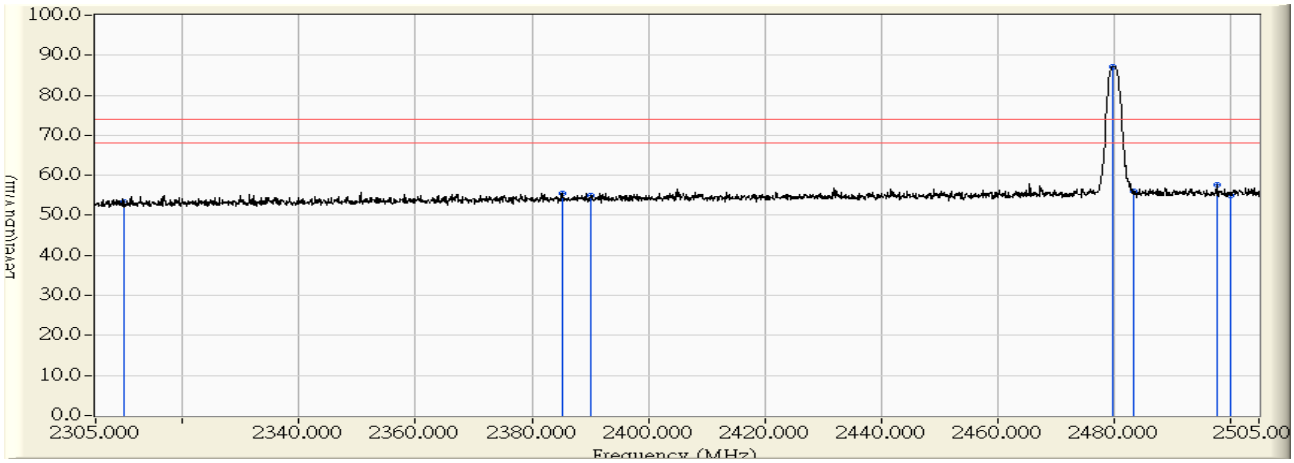


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	28.899	11.980	40.878	-13.122	54.000	AVERAGE
2		2385.300	29.717	12.163	41.880	-12.120	54.000	AVERAGE
3		2390.000	29.768	12.137	41.905	-12.095	54.000	AVERAGE
4	*	2480.100	30.736	46.679	77.415	23.415	54.000	AVERAGE
5		2483.500	30.738	12.498	43.237	-10.763	54.000	AVERAGE
6		2487.300	30.742	12.383	43.125	-10.875	54.000	AVERAGE
7		2500.000	30.740	12.328	43.067	-10.933	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 : CB1	**Time : 2015/11/24 - 18:23**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G_H2 - VERTICAL	**Power : DC 5 V (Power by PC)**
EUT : GPS Datalogger	**Note : 802.15.1_2480MHz**

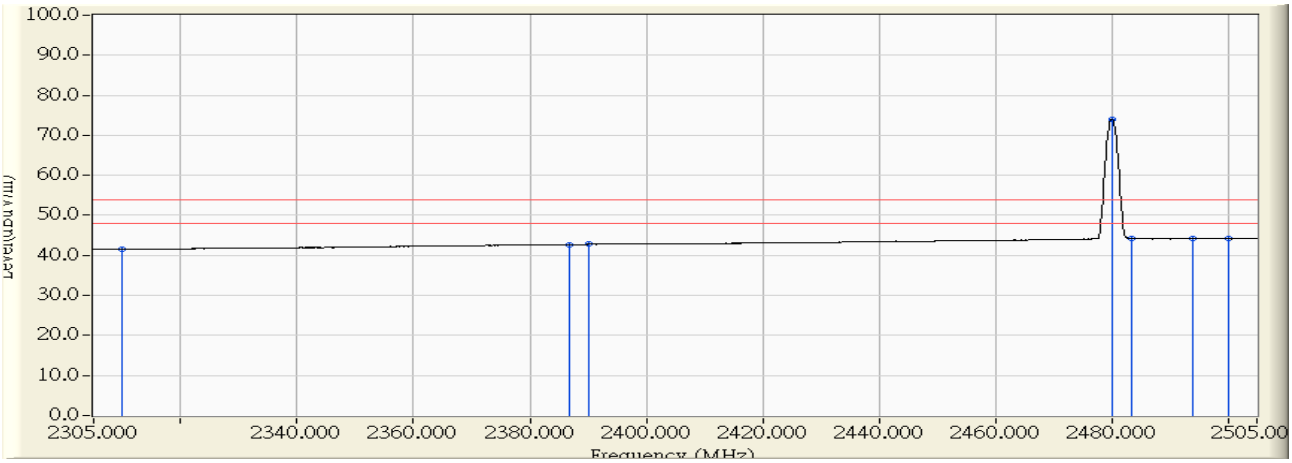


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	29.553	23.898	53.450	-20.550	74.000	PEAK
2		2385.200	30.521	24.982	55.502	-18.498	74.000	PEAK
3		2390.000	30.582	24.365	54.947	-19.053	74.000	PEAK
4	*	2479.800	31.730	55.351	87.081	13.081	74.000	PEAK
5		2483.500	31.739	24.401	56.141	-17.859	74.000	PEAK
6		2497.900	31.774	25.758	57.532	-16.468	74.000	PEAK
7		2500.000	31.774	23.098	54.871	-19.129	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 : CB1	**Time : 2015/11/24 - 18:25**
Limit : FCC_SpartC_15.247_H_03M_AV	**Margin : 6**
Probe : CB1_FCC_EFS_1-18G_H2 - VERTICAL	**Power : DC 5 V (Power by PC)**
EUT : GPS Datalogger	**Note : 802.15.1_2480MHz**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	29.553	11.949	41.501	-12.499	54.000	AVERAGE
2		2386.700	30.539	12.184	42.724	-11.276	54.000	AVERAGE
3		2390.000	30.582	12.185	42.767	-11.233	54.000	AVERAGE
4	*	2480.000	31.730	42.379	74.109	20.109	54.000	AVERAGE
5		2483.500	31.739	12.482	44.222	-9.778	54.000	AVERAGE
6		2493.900	31.768	12.438	44.206	-9.794	54.000	AVERAGE
7		2500.000	31.774	12.390	44.163	-9.837	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.

7. Occupied Bandwidth

7.1. Test Equipment

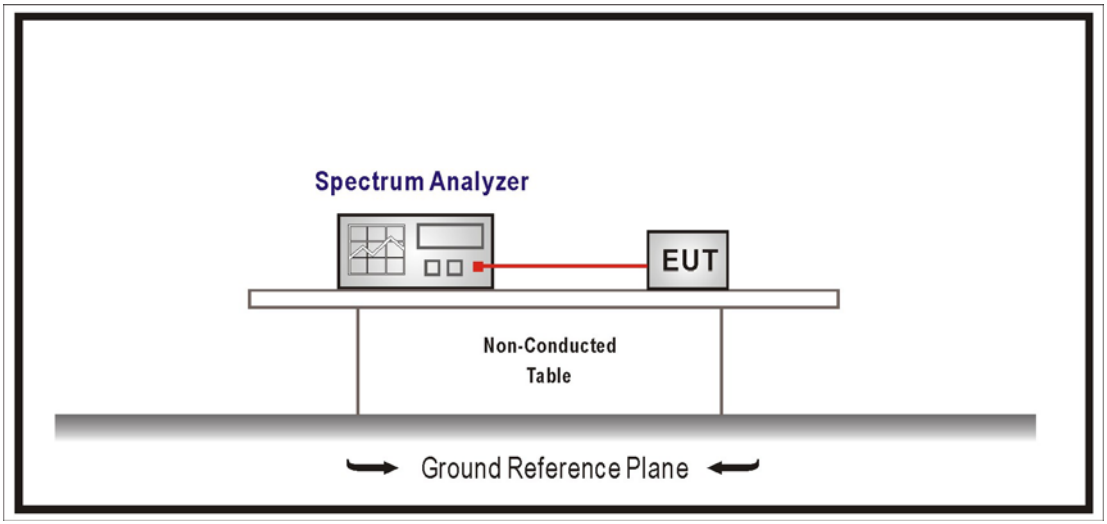
The following test equipment is used during the test:

Occupied Bandwidth / SR7

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A-EXA	US47140172	2016/08/23
Signal & Spectrum Analyzer	R&S	FSV40	101049	2015/01/20

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

7.2. Test Setup



7.3. Limits

The 6 dB bandwidth must be greater than 500 kHz.

7.4. Test Procedures

The EUT was setup according to ANSI C63.10: 2013; tested according to DTS test procedure of KDB558074 V03R02 for compliance to FCC 47CFR 15.247 requirements.
Set RBW = 1% of EBW, Span greater than RBW.

7.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247

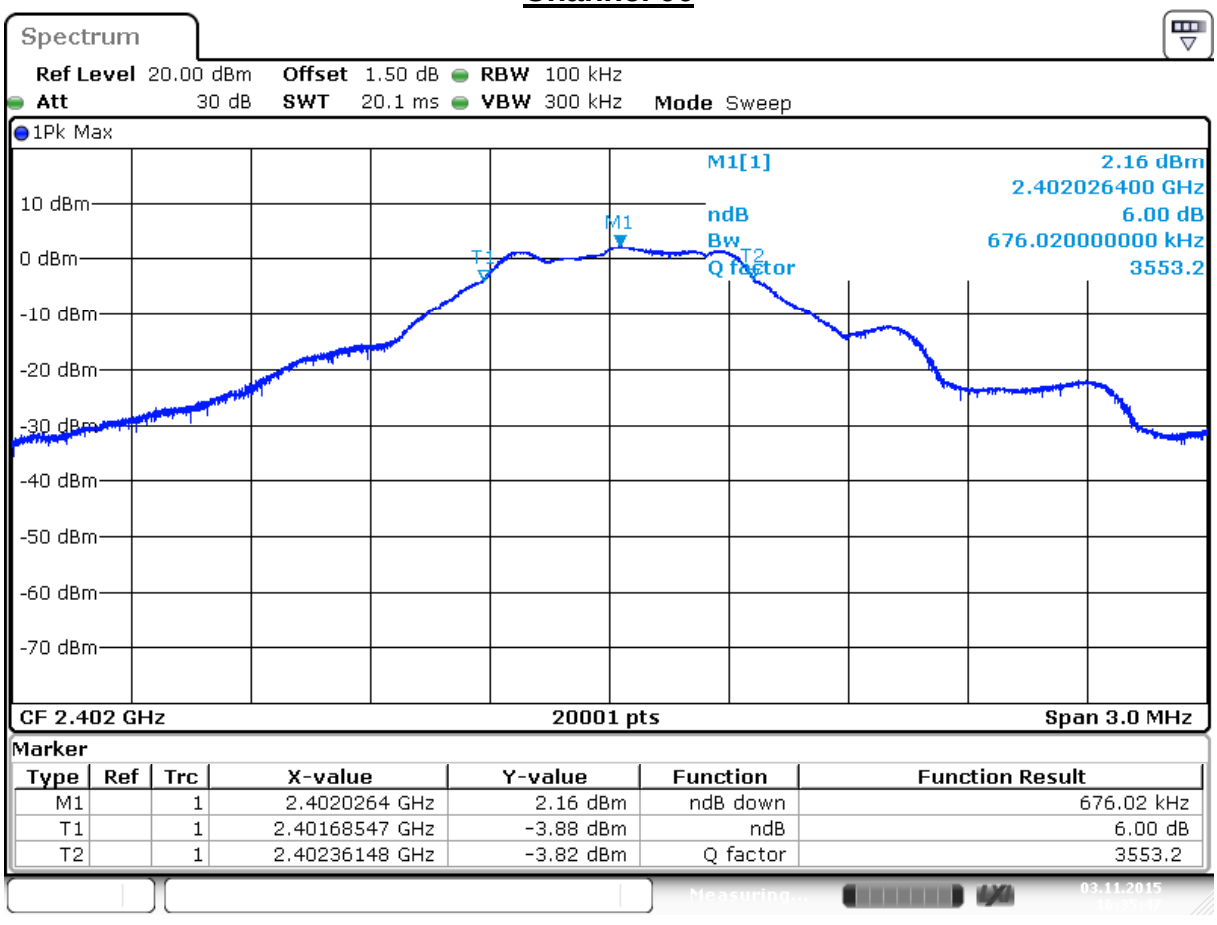
7.6. Test Result

Product	GPS Datalogger		
Test Item	Occupied Bandwidth		
Test Mode	Mode 1: Tx-Power by PC		
Date of Test	2015/11/03	Test Site	SR7

GFSK

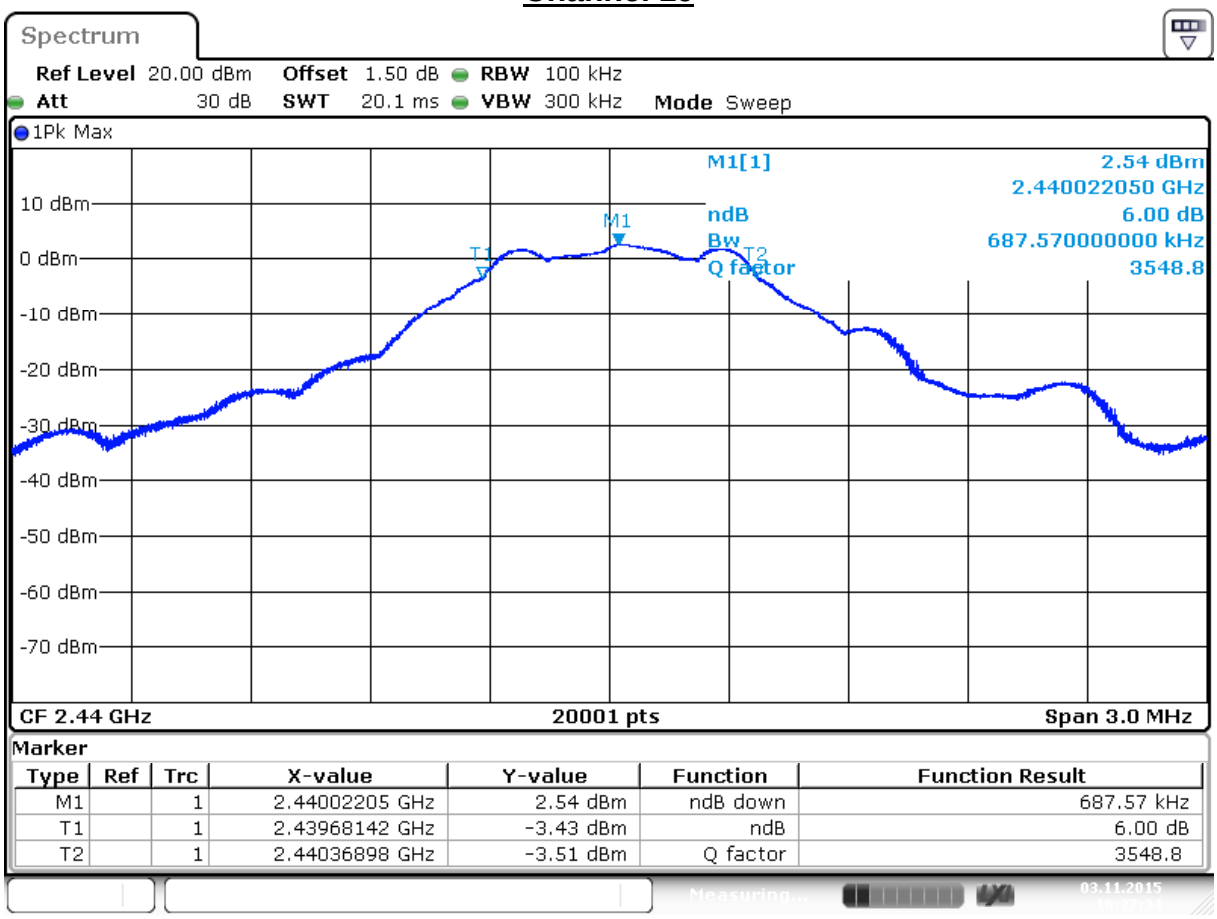
Channel No.	Frequency (MHz)	Measure Level (KHz)	Limit (MHz)	Result
00	2402	0.676	--	Pass
19	2440	0.688	--	Pass
39	2480	0.679	--	Pass

Channel 00



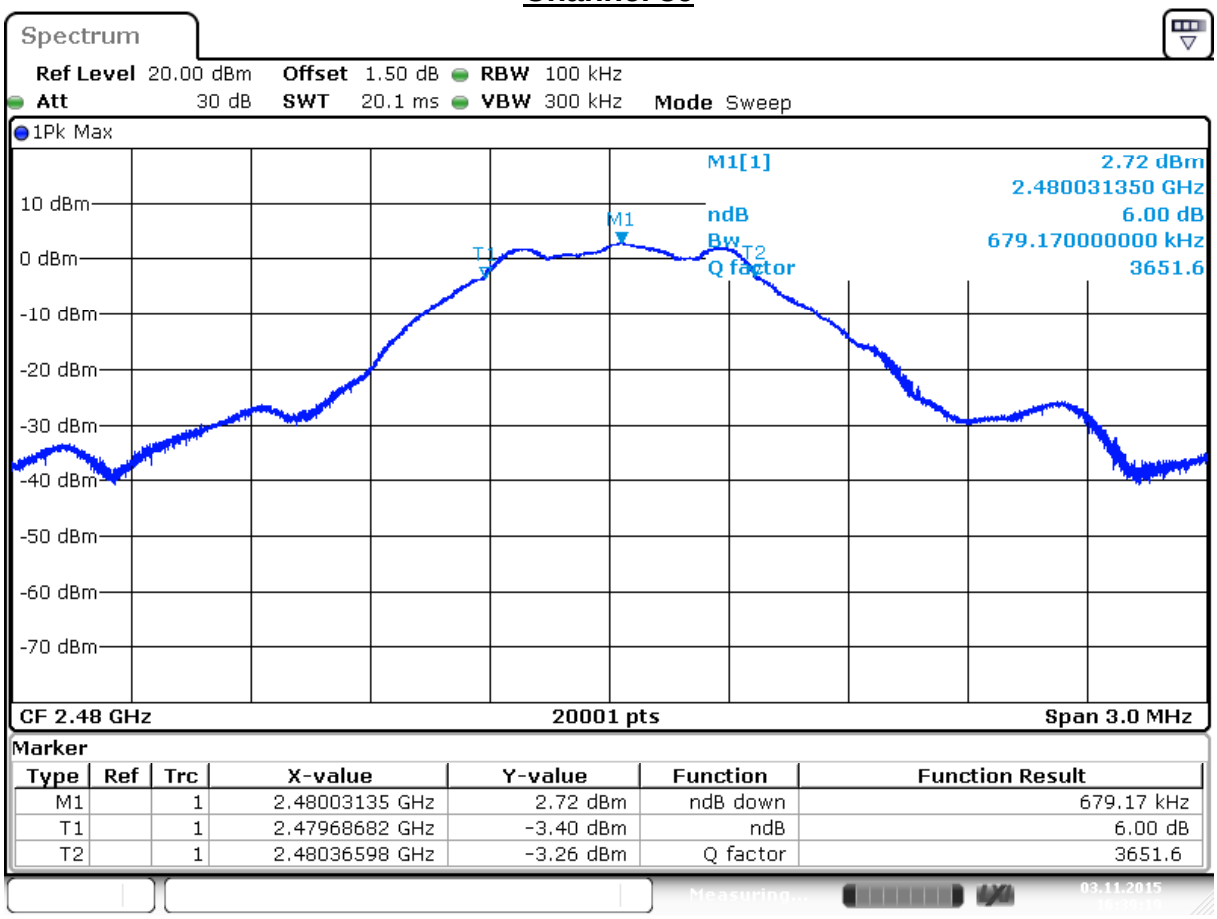
Date: 3.NOV.2015 16:35:47

Channel 19



Date: 3.NOV.2015 16:37:34

Channel 39



Date: 3.NOV.2015 16:39:19

8. Power Density

8.1. Test Equipment

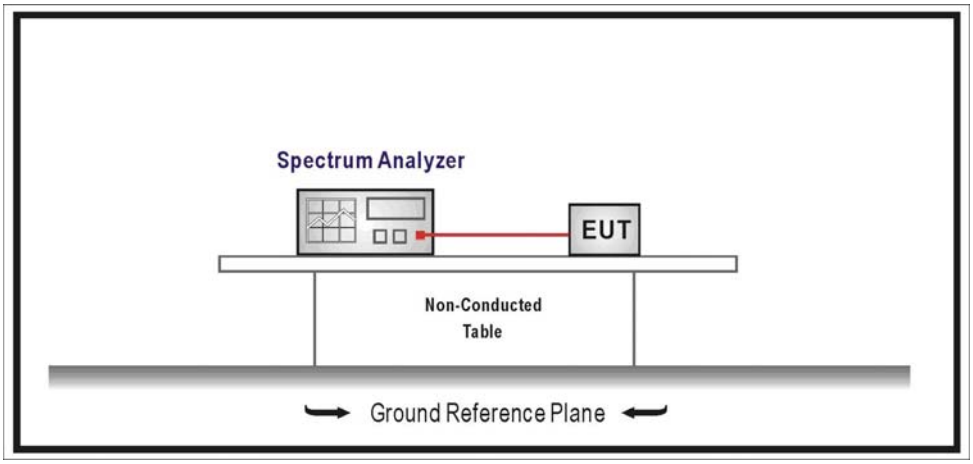
The following test equipment is used during the test:

Power Density / SR7

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A-EXA	US47140172	2016/08/23
Signal & Spectrum Analyzer	R&S	FSV40	101049	2015/01/20

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

8.2. Test Setup



8.3. 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.

8.4. Test Procedures

The EUT was setup according to ANSI C63.10: 2013; tested according to DTS test procedure of KDB558074 V03R02 for compliance to FCC 47CFR 15.247 requirements.

8.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247

8.6. Uncertainty

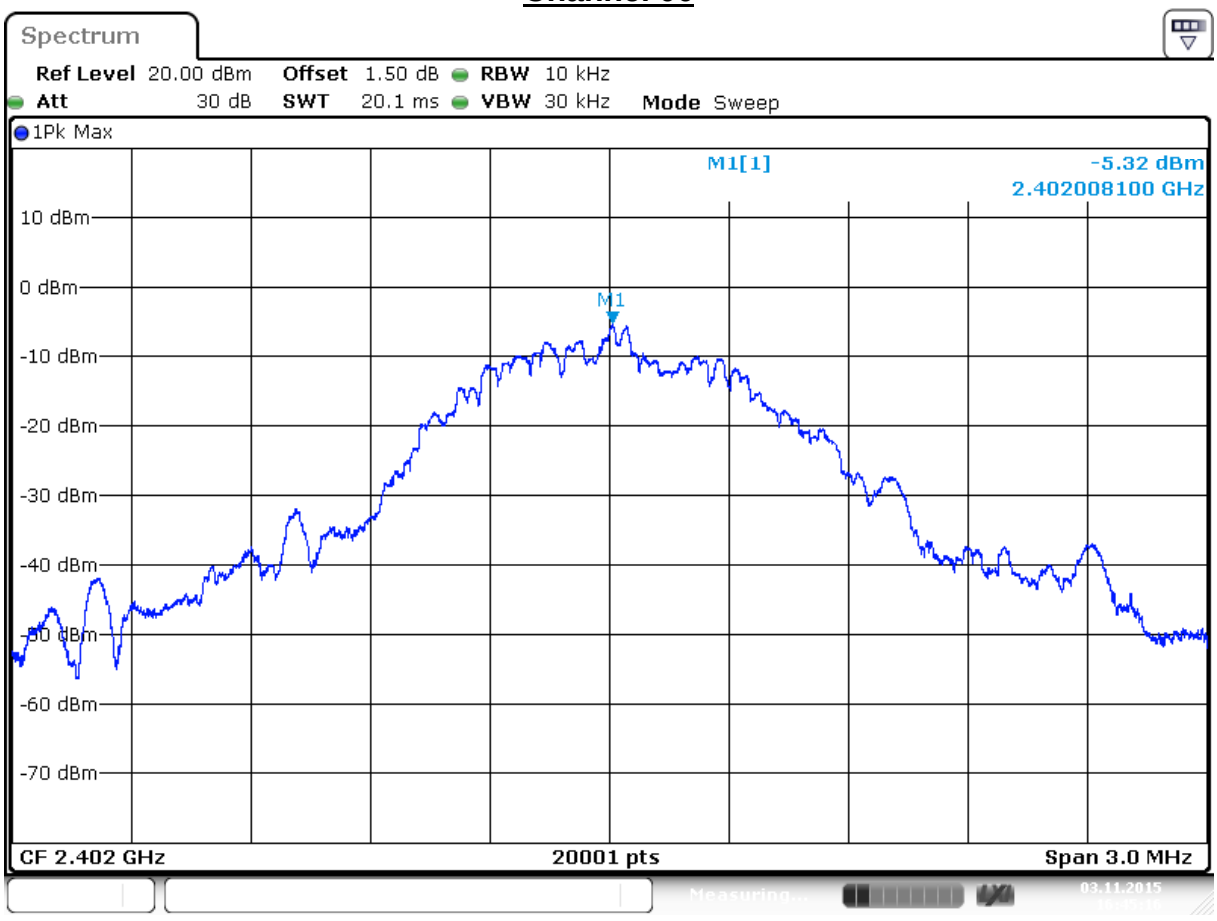
The measurement uncertainty is defined as ±1.27dB.

8.7. Test Result

Product	GPS Datalogger		
Test Item	Power Density		
Test Mode	Mode 1: Tx-Power by PC		
Date of Test	2015/11/03	Test Site	SR7

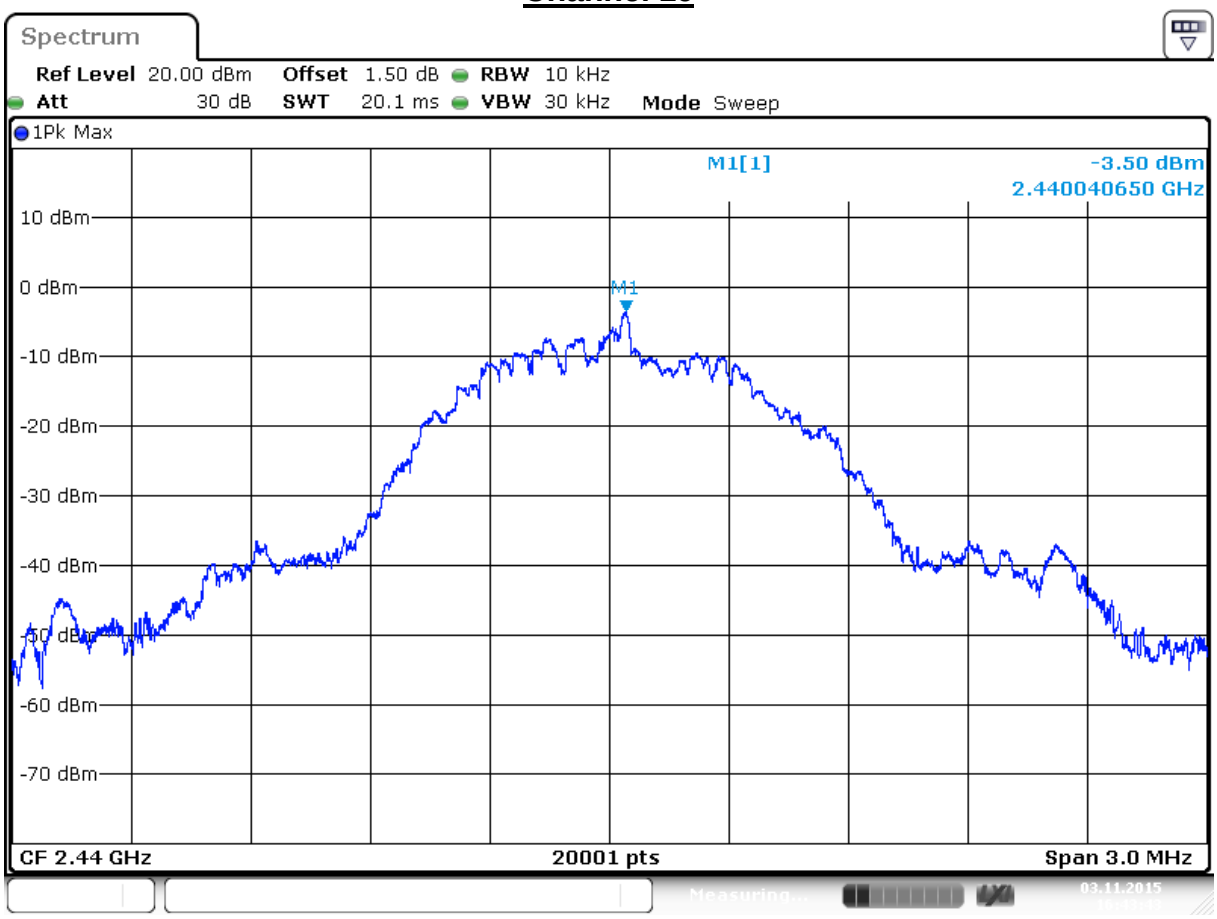
Channel No.	Frequency (MHz)	Measure Level(dBm)	Limit (dBm)	Result
0	2402	-5.32	≦8	Pass
19	2440	-3.50	≦8	Pass
39	2480	-3.64	≦8	Pass

Channel 00



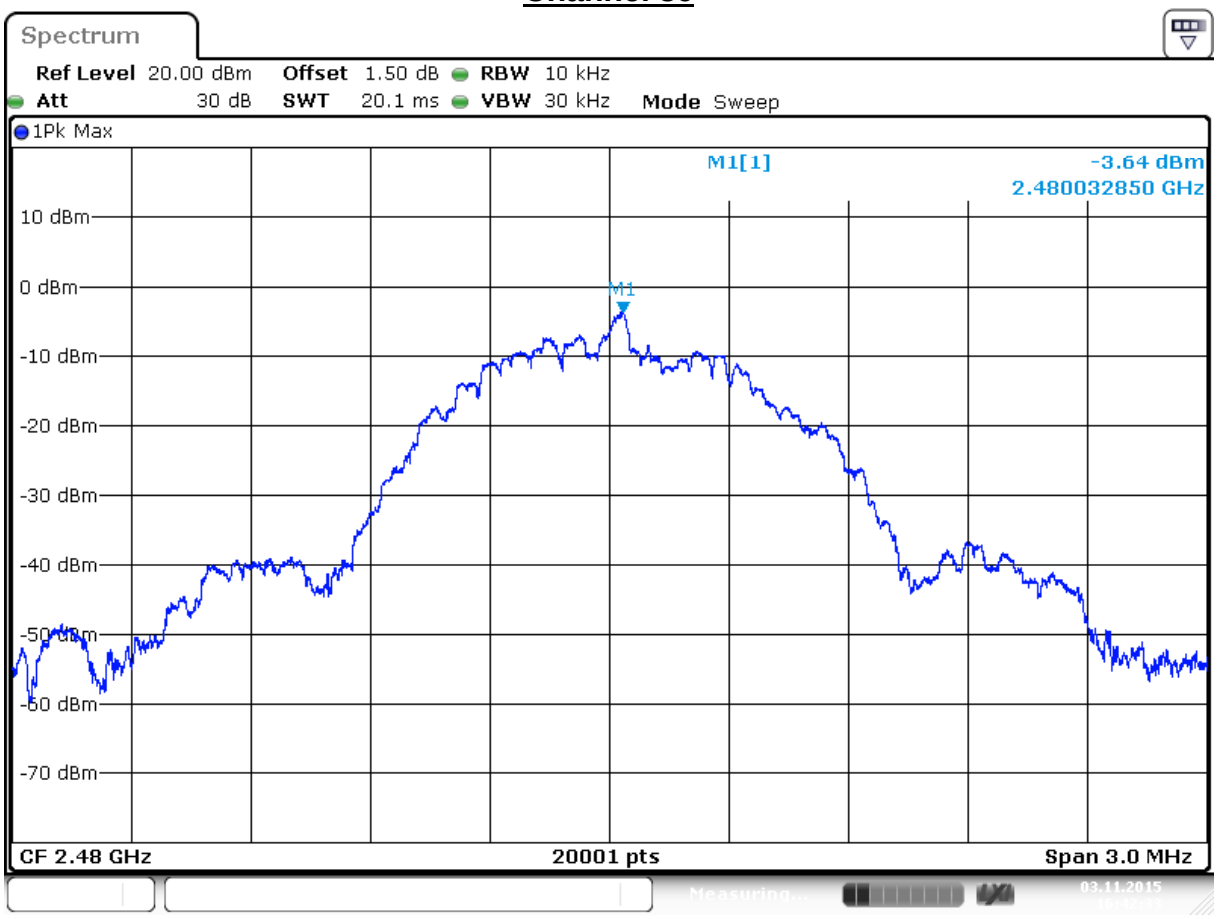
Date: 3.NOV.2015 16:45:16

Channel 19



Date: 3.NOV.2015 16:43:43

Channel 39



Date: 3.NOV.2015 16:42:33