FCC Test Report

Product Name	：	Serafim Keybo
Trade Name	：	Serafim
Model No.	：	SVK-01A
FCC ID.	：	2AOERSVK-01A

Applicant	：	Serafim Technologies Inc.
Address	：	5F., No.6, Aly. 9, Ln. 45, Baoxing Rd., Xindian Dist., New Taipei City 23145, Taiwan (R.O.C.)

Date of Receipt	：	Sep. 19, 2017
Issued Date	：	Nov. 28, 2017
Report No.	：	1790257R-RFUSP01V00
Report Version	：	V1.0

Testing Laboratory
3024

Test Report Certification

Issued Date : Nov. 28, 2017
Report No. : 1790257R-RFUSP01V00

Product Name	:	Serafim Keybo
Applicant	:	Serafim Technologies Inc.
Address	:	5F., No.6, Aly. 9, Ln. 45, Baoxing Rd., Xindian Dist., New Taipei City 23145, Taiwan (R.O.C.)
Manufacturer	:	Serafim Technologies Inc.
Model No.	:	SVK-01A
FCC ID.	:	2AOERSVK-01A
EUT Voltage	:	Mode 1: DC 5V (Power by PC) Mode 2: DC 3.7V (Power by Battery)
Testing Voltage	:	Mode 1: DC 5V (Power by PC) Mode 2: DC 3.7V (Power by Battery)
Trade Name	:	Serafim
Applicable Standard	:	FCC CFR Title 47 Part 15 Subpart C Section 15.247: 2016
Laboratory Name	:	Hsin Chu Laboratory
Address	:	No.372-2, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County 31061, Taiwan, R.O.C. TEL: +886-3-582-8001 / FAX: +886-3-582-8958
Test Result	:	Complied

Documented By :

(Demi Chang / Senior Engineering Adm. Specialist)

Tested By :

(Scott Chang / Engineer)

Approved By :

(Roy Wang / Director)

Revision History

Report No.	Version	Description	Issued Date
1790257R-RFUSP01V00	V1.0	Initial issue of report	Nov. 28, 2017

TABLE OF CONTENTS

1. General Information

1.1. EUT Description

Product Name	Serafim Keybo
Trade Name	Serafim
Model No.	SVK-01A
Frequency Range/Channel Number	2402~2480MHz / 40 Channels
Type of Modulation	Bluetooth 4.0 (GFSK)

Antenna Information	
MFR. / Model	Walsin Technology Corporation / RFANT3216120A1T
Antenna Type	Chip Antenna
Antenna Gain	2 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 an Serafim Keybo including BT4.0 transmitting and receiving function.
2. 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.

1.2. Test Mode

DEKRA 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:

Test Mode	Mode 1: Transmit-Power by PC Mode 2: Transmit-Power by Battery

Test Items	Modulation	Channel	Antenna	Result
Conducted Emission	GFSK	19	0	Complies
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
Occupied Bandwidth	GFSK	00/19/39	0	Complies
Power Density	GFSK	00/19/39	0	Complies

1.3. Tested System Details

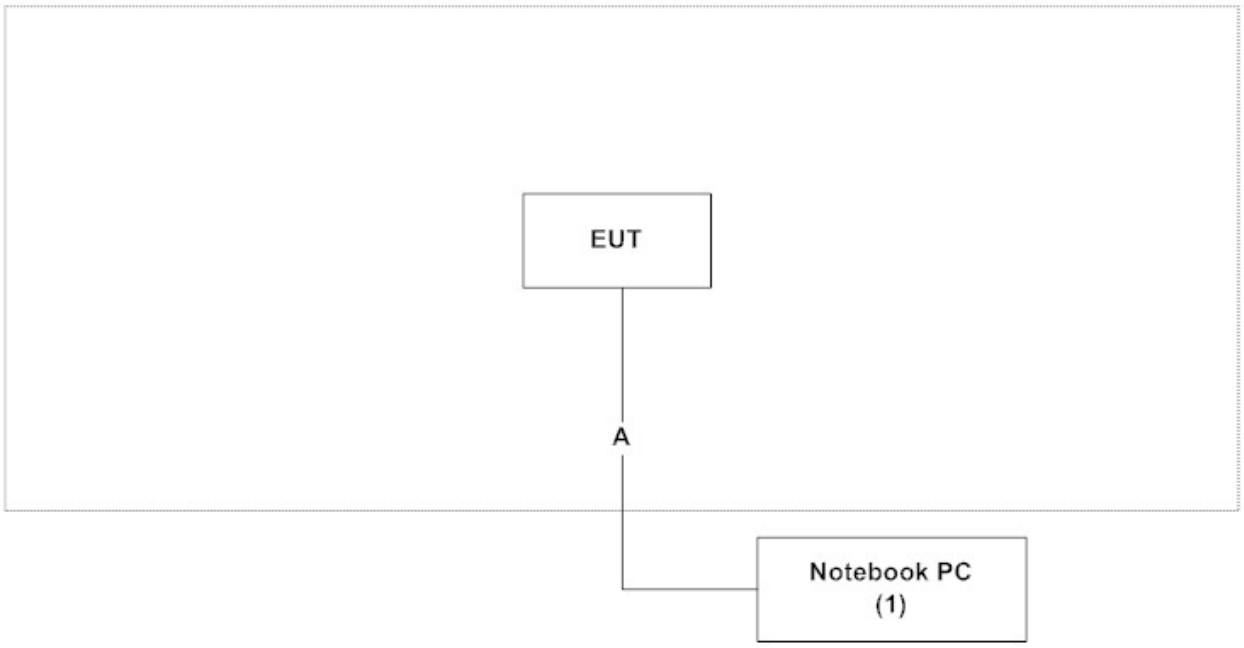
The types for all equipment, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product		Manufacturer	Model No.	Serial No.	FCC ID	Power Cord
1	Notebook PC	IBM	Think Pad 570	27L8835	DoC	Non-Shielded, 1.8m, one ferrite core bonded

1.4. Configuration of tested System

Test Mode	Mode 1: Transmit-Power by PC

Connection Diagram



Signal Cable Type		Signal cable Description
A	USB Cable	Shielded, 2m

Test Mode	Mode 2: Transmit-Power by Battery
Connection Diagram	

1.5. EUT Exercise Software

1	Setup the EUT as shown in Section 1.4.
2	Execute the test program “seraphim keybo RF tool”.
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	Test Site
Temperature (°C)	FCC PART 15 C 15.207 Conducted Emission	15 - 35	20	3
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	3
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	2
Humidity (%RH)		25 - 75	54	
Barometric pressure (mbar)		860 - 1060	950-1000	
Temperature (°C)	FCC PART 15 C 15.247 RF antenna conducted test	15 - 35	24	3
Humidity (%RH)		25 - 75	45	
Barometric pressure (mbar)		860 - 1060	950-1000	
Temperature (°C)	FCC PART 15 C 15.247 Band Edge	15 - 35	25	2
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	3
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	3
Humidity (%RH)		25 - 75	45	
Barometric pressure (mbar)		860 - 1060	950-1000	

Note: Test site information refers to Laboratory Information.

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 test sites as below:

1 No. 75-2, 3rd Lin, WangYe Keng, Yonghxing Tsuen, Qionglin Shiang, Hsinchu County 307, Taiwan (R.O.C.)
TEL:+886-3-592-8858 / FAX:+886-3-592-8859 E-Mail : info.tw@dekra.com
2 No.372, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County 310, Taiwan, R.O.C.
TEL: +886-3-582-8001 / FAX: +886-3-582-8958 E-Mail : info.tw@dekra.com
3 No.372-2, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County 310, Taiwan, R.O.C.
TEL: +886-3-582-8001 / FAX: +886-3-582-8958 E-Mail : info.tw@dekra.com

2. Conducted Emission

2.1. Test Equipment

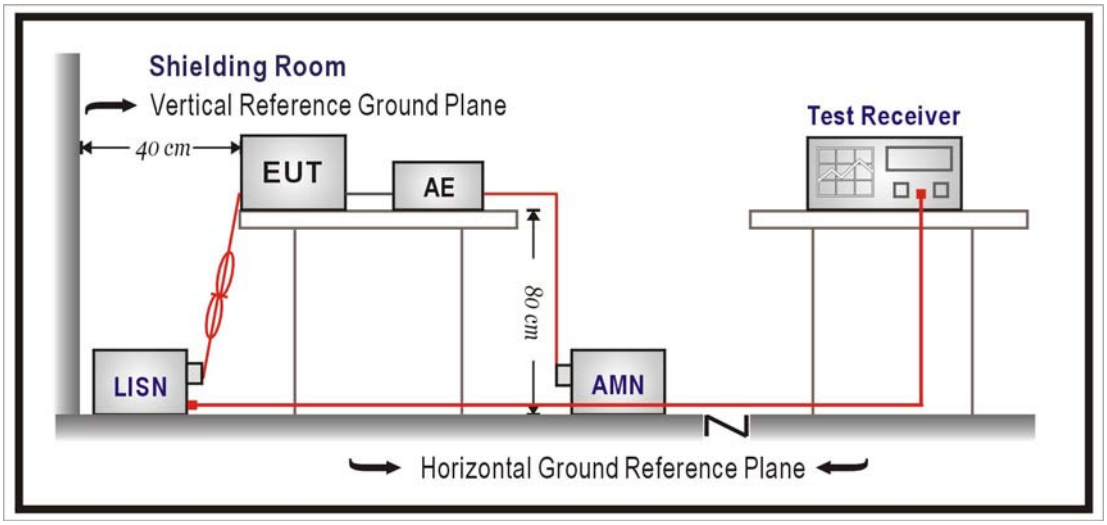
The following test equipment are used during the test:

Conducted Emission /SR2-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Artificial Mains Network	R&S	ENV4200	848411/010	2017/02/06	2018/02/05
Test Receiver	R&S	ESCS 30	836858/022	2017/04/12	2018/04/11
LISN	R&S	ENV216	100092	2017/07/31	2018/07/30

Note: All equipment 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

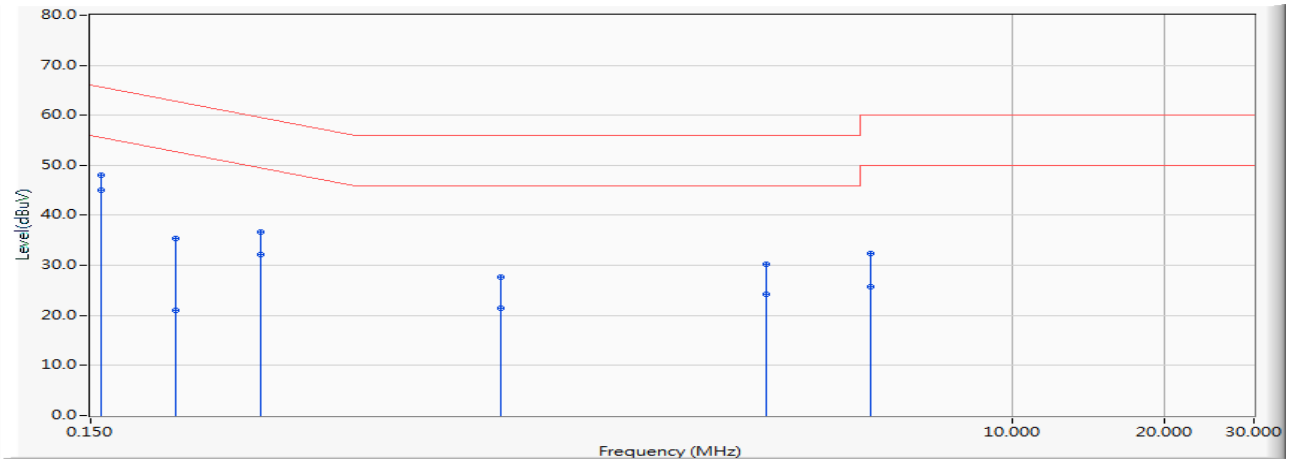
According to FCC Part 15 Subpart C Paragraph 15.207: 2016

2.6. Uncertainty

The measurement uncertainty is defined as ± 2.26 dB.

2.7. Test Result

Site : DEKRA Taiwan SR2-H	**Time : 2017/09/26**
Limit : CISPR_B_00M_QP	**Margin : 10**
Probe : SR2_LISN(16A)-6_0712 - Line1	**Power : DC 5V(Power by PC)**
EUT : Serafim Keybo	**Note : Mode 1: Transmit-Power by PC** **802.15.1_BLE_2440MHz**

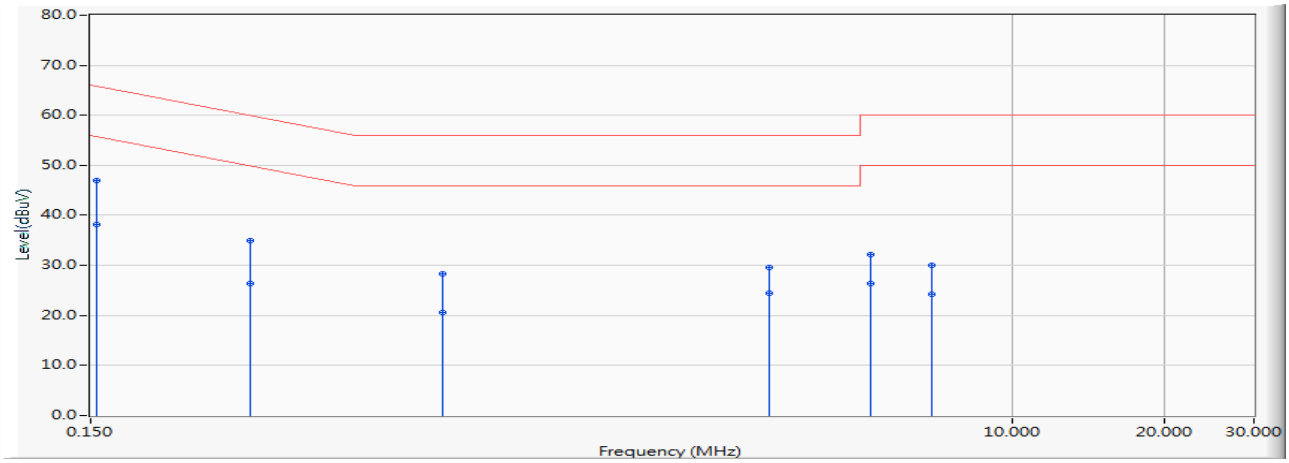


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.158	9.751	38.270	48.021	-17.557	65.578	QUASIPEAK
2	*	0.158	9.751	35.230	44.981	-10.597	55.578	AVERAGE
3		0.220	9.748	25.690	35.438	-27.369	62.807	QUASIPEAK
4		0.220	9.748	11.310	21.058	-31.749	52.807	AVERAGE
5		0.326	9.737	26.870	36.607	-22.951	59.558	QUASIPEAK
6		0.326	9.737	22.350	32.087	-17.471	49.558	AVERAGE
7		0.974	9.815	17.900	27.715	-28.285	56.000	QUASIPEAK
8		0.974	9.815	11.530	21.345	-24.655	46.000	AVERAGE
9		3.255	9.898	20.370	30.268	-25.732	56.000	QUASIPEAK
10		3.255	9.898	14.390	24.288	-21.712	46.000	AVERAGE
11		5.224	9.931	22.480	32.411	-27.589	60.000	QUASIPEAK
12		5.224	9.931	15.870	25.801	-24.199	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 : DEKRA Taiwan SR2-H	**Time : 2017/09/26**
Limit : CISPR_B_00M_QP	**Margin : 10**
Probe : SR2_LISN(16A)-6_0712 - Line2	**Power : DC 5V(Power by PC)**
EUT : Serafim Keybo	**Note : Mode 1: Transmit-Power by PC** **802.15.1_BLE_2440MHz**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.154	9.747	37.270	47.016	-18.770	65.786	QUASIPEAK
2	*	0.154	9.747	28.410	38.156	-17.630	55.786	AVERAGE
3		0.310	9.750	25.170	34.920	-25.046	59.966	QUASIPEAK
4		0.310	9.750	16.710	26.460	-23.506	49.966	AVERAGE
5		0.748	9.782	18.550	28.332	-27.668	56.000	QUASIPEAK
6		0.748	9.782	10.910	20.692	-25.308	46.000	AVERAGE
7		3.306	9.844	19.700	29.544	-26.456	56.000	QUASIPEAK
8		3.306	9.844	14.610	24.454	-21.546	46.000	AVERAGE
9		5.232	9.872	22.200	32.072	-27.928	60.000	QUASIPEAK
10		5.232	9.872	16.420	26.292	-23.708	50.000	AVERAGE
11		6.939	9.972	19.980	29.951	-30.049	60.000	QUASIPEAK
12		6.939	9.972	14.210	24.181	-25.819	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

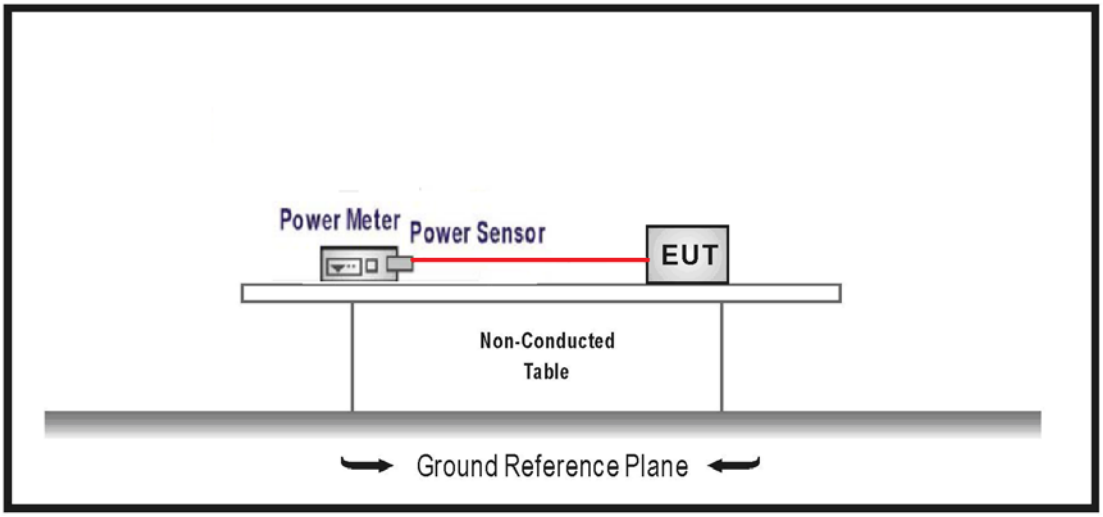
The following test equipment is used during the test:

Peak Power Output /SR10-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
High Speed Peak Power Meter Dual Input	Anritsu	ML2496A	1602004	2017/01/20	2018/01/19
Pulse Power Sensor	Anritsu	MA2411B	1531043	2017/01/20	2018/01/19
Pulse Power Sensor	Anritsu	MA2411B	1531044	2017/01/20	2018/01/19

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 V04 D01 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	Serafim Keybo		
Test Item	Peak Power Output		
Test Mode	Mode 1: Transmit-Power by PC		
Date of Test	2017/10/03	Test Site	SR10-H

GFSK

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
00	2402	-8.750	≦30.0	Pass
19	2440	-9.170	≦30.0	Pass
39	2480	-10.520	≦30.0	Pass

4. Radiated Emission

4.1. Test Equipment

The following test equipment are used during the test:

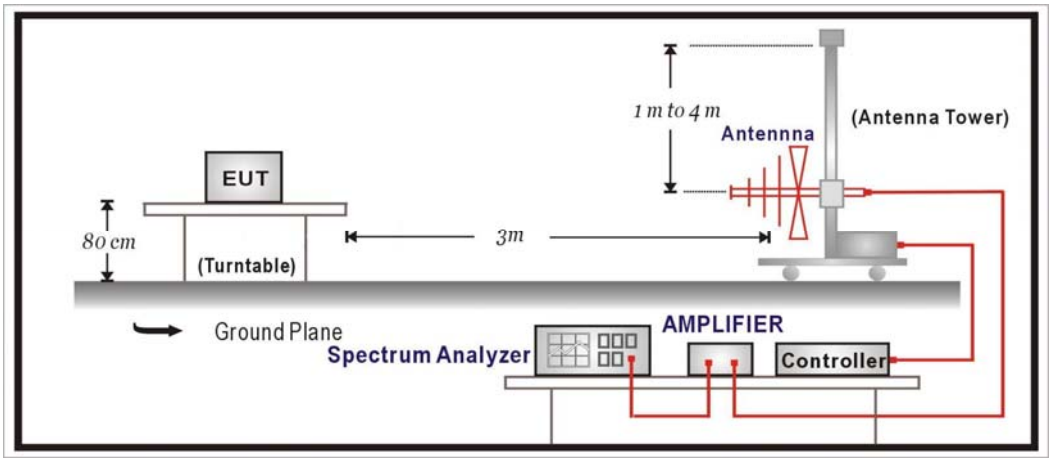
Radiated Emission / CB4-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Signal Analyzer	R&S	FSVA40	101455	2016/11/28	2017/11/27
Signal & Spectrum Analyzer	R&S	FSV40	101049	2017/01/23	2018/01/22
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2017/03/13	2018/03/12
Bilog Antenna	Teseq	CBL6112D	23191	2017/06/28	2018/06/27
Horn Antenna	Schwarzbeck	BBHA 9120D	639	2017/06/14	2018/06/13
Horn Antenna	Schwarzbeck	BBHA 9170	202	2017/02/15	2018/02/14
Pre-Amplifier	RF Bay Inc.	LNA-1330	12162511	2017/03/09	2018/03/08
Pre-Amplifier	EMCI	EMCI 1830I	980366	2017/01/23	2018/01/22
Pre-Amplifier	MITEQ	JS44-45-8P	2014754	2016/12/26	2017/12/25

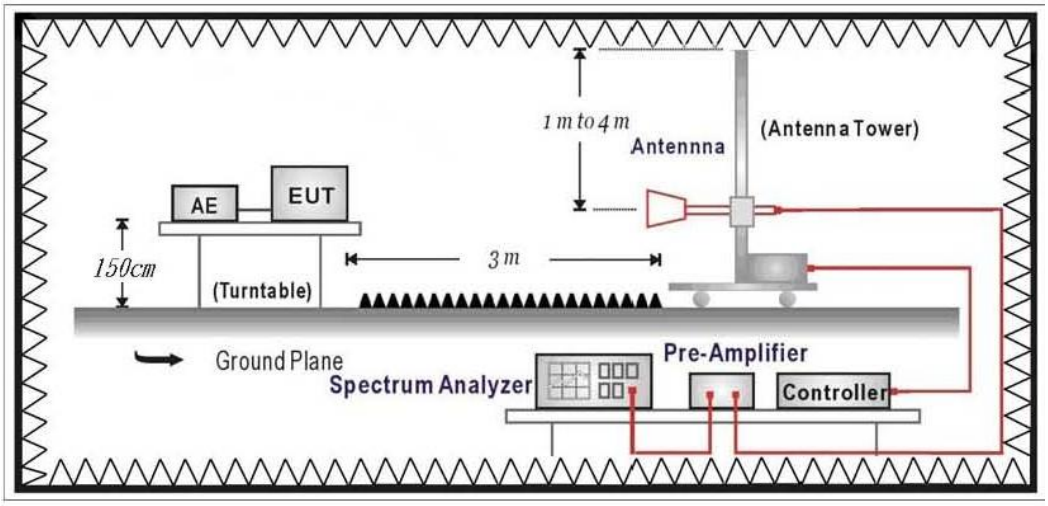
Note: All equipment that need to calibrate are with calibration period of 1 year.

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 V04 D01 for compliance to FCC 47CFR 15.247 requirements.
The EUT and its simulators are placed on a turn table which is 0.8 or 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.

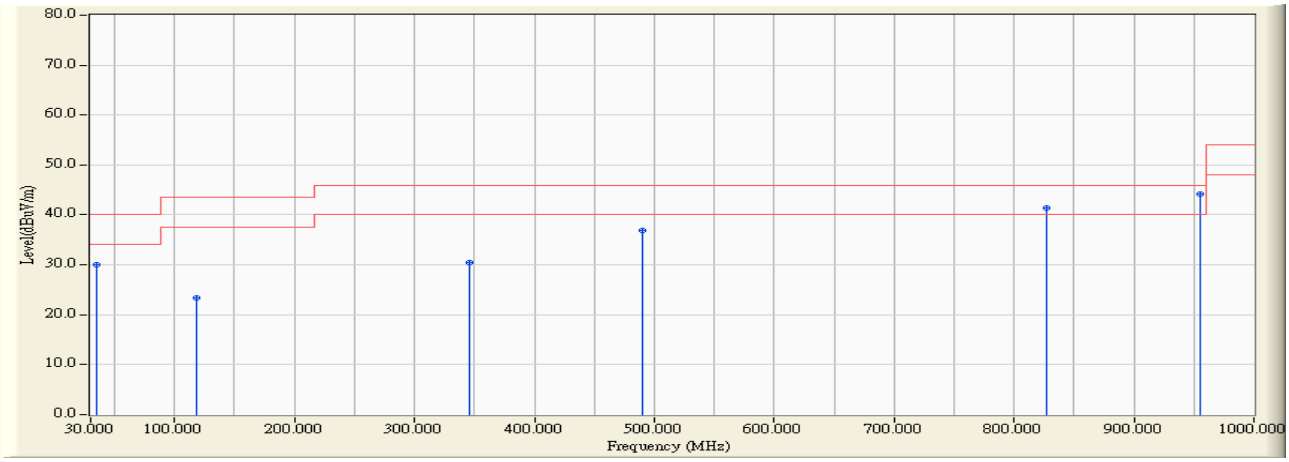
4.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247

4.6. Test Result

30MHz-1GHz Spurious

Site : CB4-H	**Time : 2017/09/25**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : CB4_FCC_EFS_S2_30M-1GHz_1116 - HORIZONTAL	**Power : DC 5V(Power by PC)**
EUT : Serafim Keybo	**Note : Mode 1: Transmit-Power by PC 802.15.1_BLE_2440MHz**

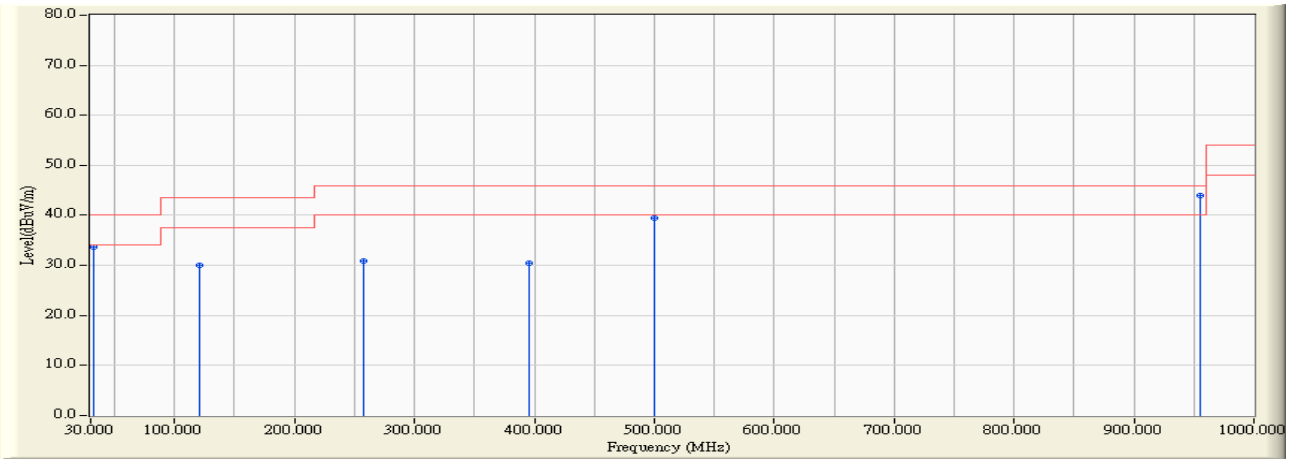


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		34.365	-15.382	45.474	30.092	-9.908	40.000	QUASIPEAK
2		118.755	-20.494	43.967	23.473	-20.027	43.500	QUASIPEAK
3		345.250	-18.017	48.511	30.494	-15.506	46.000	QUASIPEAK
4		490.265	-14.509	51.419	36.909	-9.091	46.000	QUASIPEAK
5		827.340	-10.653	52.134	41.481	-4.519	46.000	QUASIPEAK
6	*	954.895	-8.940	53.183	44.243	-1.757	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 : 2017/09/25**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : CB4_FCC_EFS_S2_30M-1GHz_1116 - VERTICAL	**Power : DC 5V(Power by PC)**
EUT : Serafim Keybo	**Note : Mode 1: Transmit-Power by PC** **802.15.1_BLE_2440MHz**

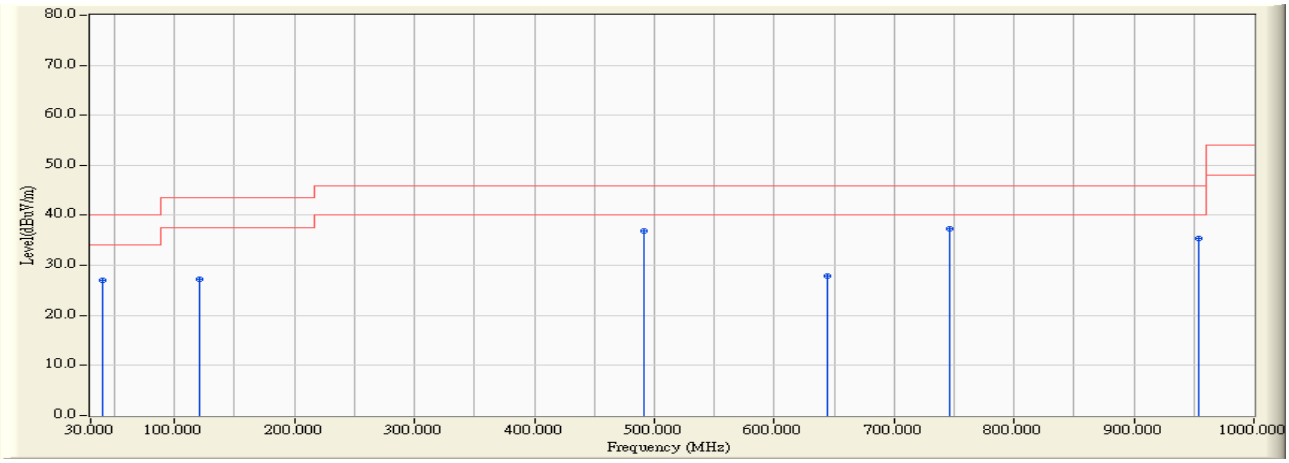


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		32.910	-15.401	49.121	33.720	-6.280	40.000	QUASIPEAK
2		120.210	-20.943	50.939	29.995	-13.505	43.500	QUASIPEAK
3		257.465	-20.348	51.238	30.891	-15.109	46.000	QUASIPEAK
4		395.205	-16.376	46.835	30.459	-15.541	46.000	QUASIPEAK
5		499.480	-14.483	53.983	39.500	-6.500	46.000	QUASIPEAK
6	*	954.895	-8.940	52.819	43.879	-2.121	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 : 2017/09/22**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : CB4_FCC_EFS_S2_30M-1GHz_1116 - HORIZONTAL	**Power : DC 3.7V(Power By Battery)**
EUT : Serafim Keybo	**Note : Mode 2: Transmit-Power by Battery 802.15.1_BLE_2440MHz**

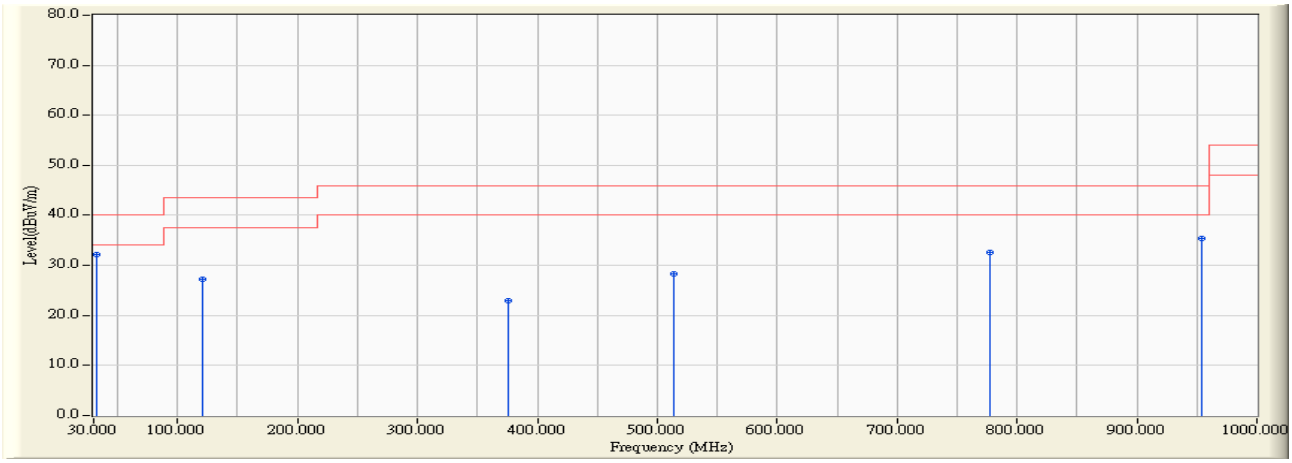


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		40.185	-16.187	43.173	26.986	-13.014	40.000	QUASIPEAK
2		120.210	-20.943	48.264	27.320	-16.180	43.500	QUASIPEAK
3		491.720	-14.553	51.457	36.905	-9.095	46.000	QUASIPEAK
4		644.495	-12.669	40.485	27.816	-18.184	46.000	QUASIPEAK
5	*	745.860	-11.582	48.869	37.287	-8.713	46.000	QUASIPEAK
6		954.410	-8.943	44.404	35.461	-10.539	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 : 2017/09/22**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : CB4_FCC_EFS_S2_30M-1GHz_1116 - VERTICAL	**Power : DC 3.7V(Power By Battery)**
EUT : Serafim Keybo	**Note : Mode 2: Transmit-Power by Battery 802.15.1_BLE_2440MHz**



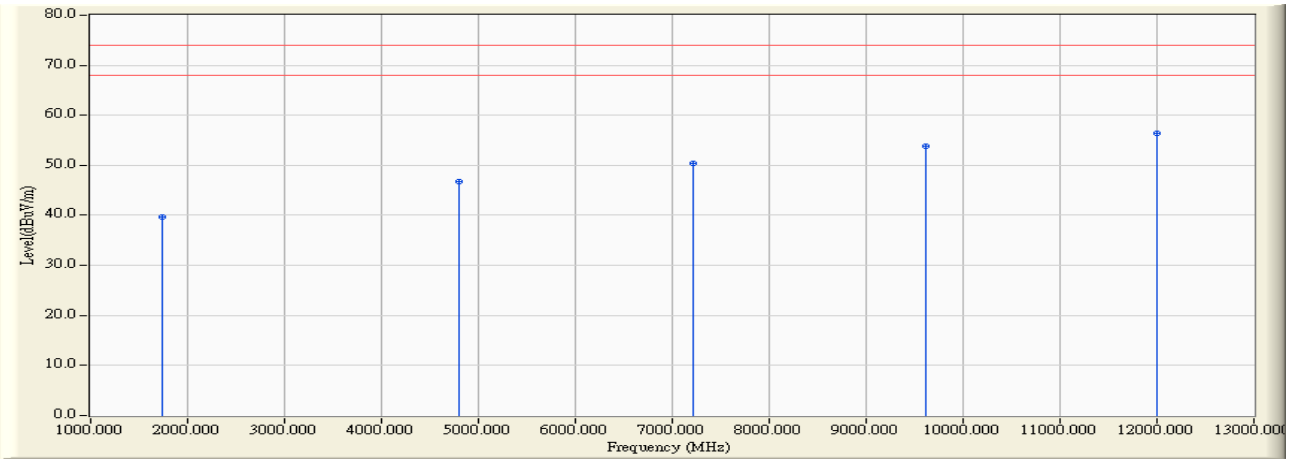
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	32.910	-15.401	47.578	32.177	-7.823	40.000	QUASIPEAK
2		120.210	-20.943	48.264	27.320	-16.180	43.500	QUASIPEAK
3		375.805	-16.974	39.846	22.872	-23.128	46.000	QUASIPEAK
4		514.030	-14.151	42.438	28.287	-17.713	46.000	QUASIPEAK
5		776.900	-11.232	43.903	32.671	-13.329	46.000	QUASIPEAK
6		954.410	-8.943	44.404	35.461	-10.539	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:

Site : CB4-H	**Time : 2017/09/22**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : CB4_FCC_A115_EFS_1-18GHz_1116 - HORIZONTAL	**Power : DC 5V(Power by PC)**
EUT : Serafim Keybo	**Note : Mode 1: Transmit-Power by PC 802.15.1_BLE_2402MHz**

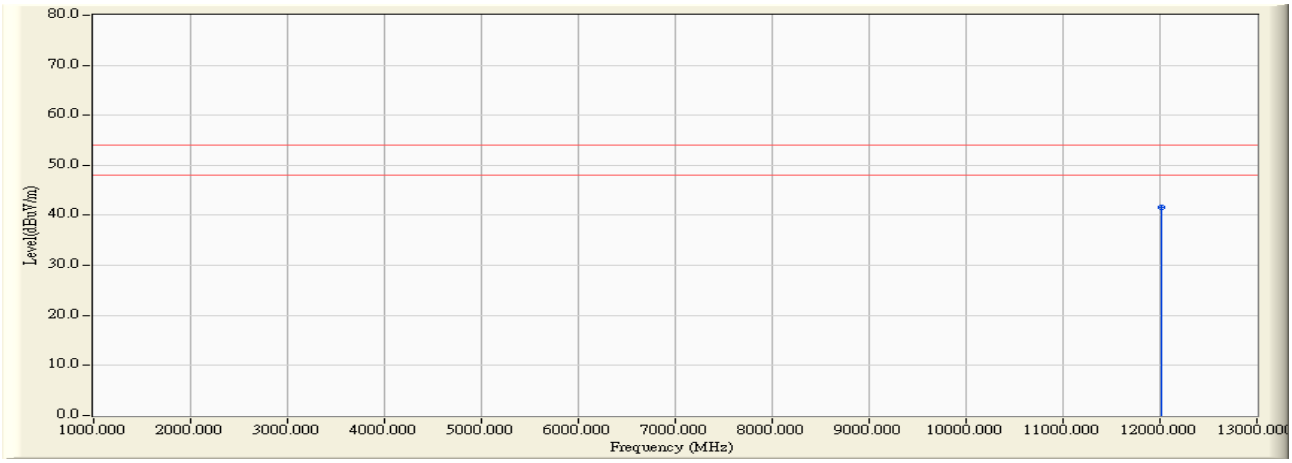


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		1745.500	-3.364	43.100	39.736	-34.264	74.000	PEAK
2		4806.000	8.286	38.370	46.655	-27.345	74.000	PEAK
3		7208.260	17.864	32.570	50.434	-23.566	74.000	PEAK
4		9617.330	22.499	31.420	53.919	-20.081	74.000	PEAK
5	*	12002.340	25.355	31.080	56.436	-17.564	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 : 2017/09/22**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : CB4_FCC_A115_EFS_1-18GHz_1116 - HORIZONTAL	**Power : DC 5V(Power by PC)**
EUT : Serafim Keybo	**Note : Mode 1: Transmit-Power by PC 802.15.1_BLE_2402MHz**

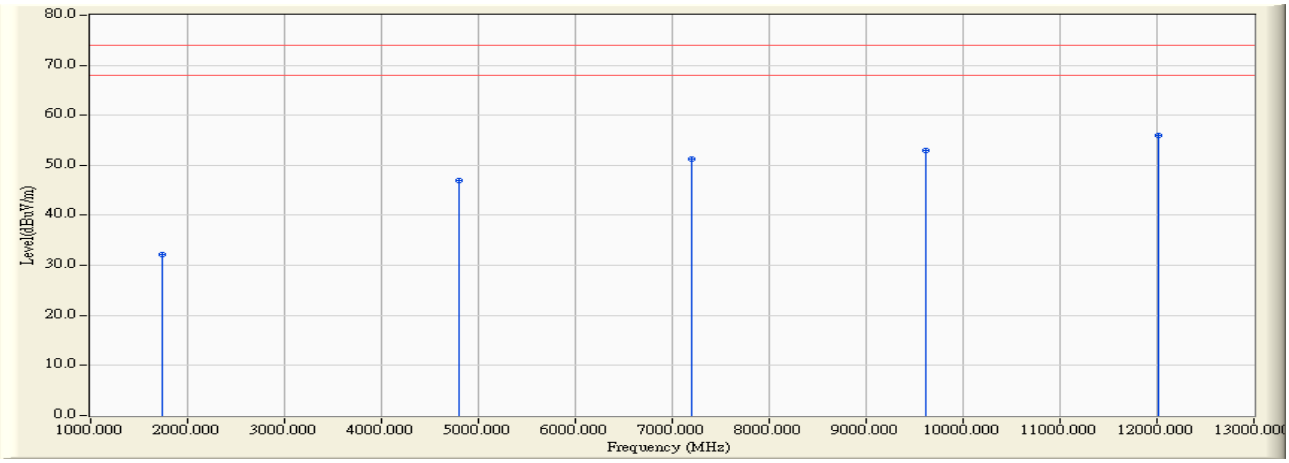


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	12009.700	25.360	16.290	41.650	-12.350	54.000	AVERAGE

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 : 2017/09/22**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : CB4_FCC_A115_EFS_1-18GHz_1116 - VERTICAL	**Power : DC 5V(Power by PC)**
EUT : Serafim Keybo	**Note : Mode 1: Transmit-Power by PC 802.15.1_BLE_2402MHz**

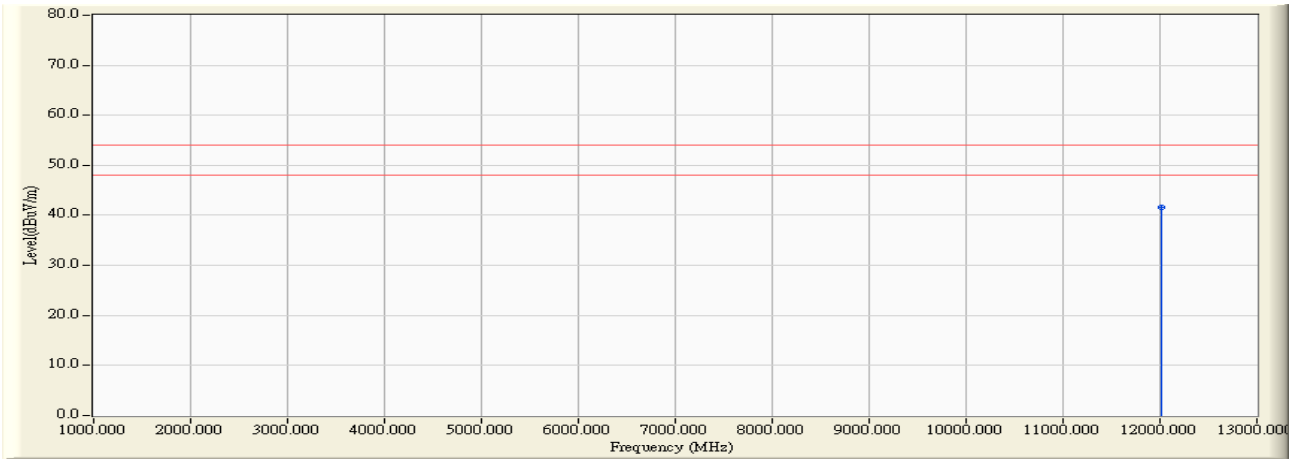


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		1742.500	-3.374	35.610	32.236	-41.764	74.000	PEAK
2		4805.770	8.285	38.720	47.004	-26.996	74.000	PEAK
3		7203.350	17.851	33.470	51.321	-22.679	74.000	PEAK
4		9615.110	22.490	30.380	52.870	-21.130	74.000	PEAK
5	*	12017.000	25.364	30.680	56.044	-17.956	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 : 2017/09/22**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : CB4_FCC_A115_EFS_1-18GHz_1116 - VERTICAL	**Power : DC 5V(Power by PC)**
EUT : Serafim Keybo	**Note : Mode 1: Transmit-Power by PC 802.15.1_BLE_2402MHz**

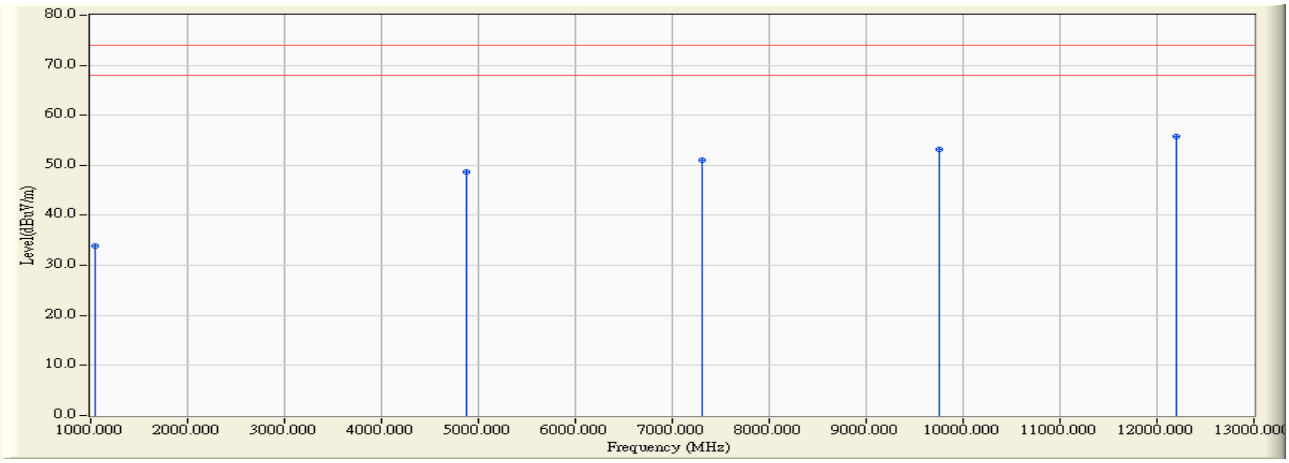


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	12017.000	25.364	16.280	41.644	-12.356	54.000	AVERAGE

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 : 2017/09/22**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : CB4_FCC_A115_EFS_1-18GHz_1116 - HORIZONTAL	**Power : DC 5V(Power by PC)**
EUT : Serafim Keybo	**Note : Mode 1: Transmit-Power by PC 802.15.1_BLE_2440MHz**

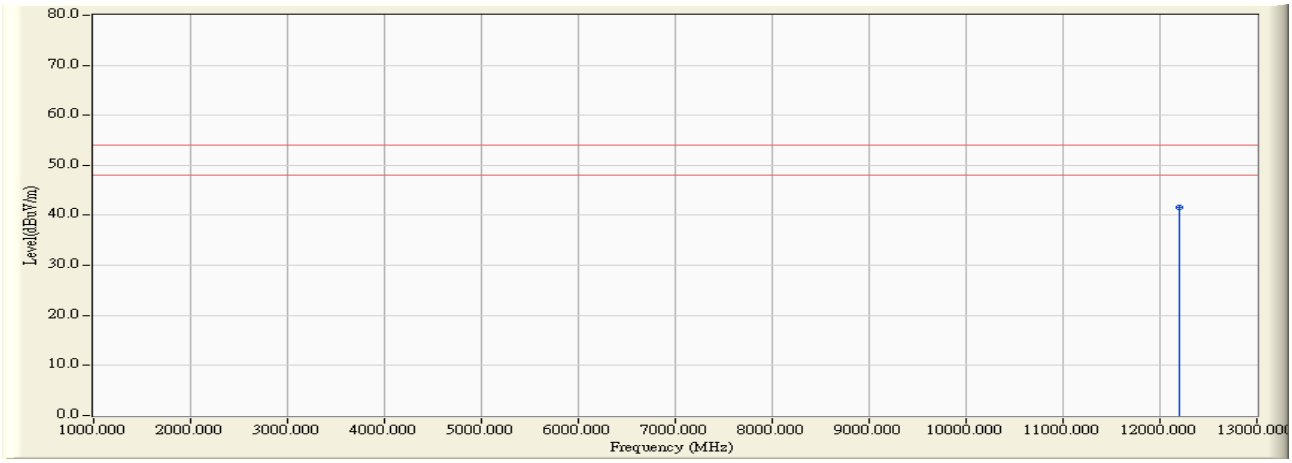


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		1045.500	-5.957	39.760	33.802	-40.198	74.000	PEAK
2		4881.830	8.670	39.970	48.640	-25.360	74.000	PEAK
3		7312.870	18.107	32.940	51.047	-22.953	74.000	PEAK
4		9759.260	23.069	30.090	53.159	-20.841	74.000	PEAK
5	*	12201.600	25.497	30.320	55.816	-18.184	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 : 2017/09/22**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : CB4_FCC_A115_EFS_1-18GHz_1116 - HORIZONTAL	**Power : DC 5V(Power by PC)**
EUT : Serafim Keybo	**Note : Mode 1: Transmit-Power by PC 802.15.1_BLE_2440MHz**

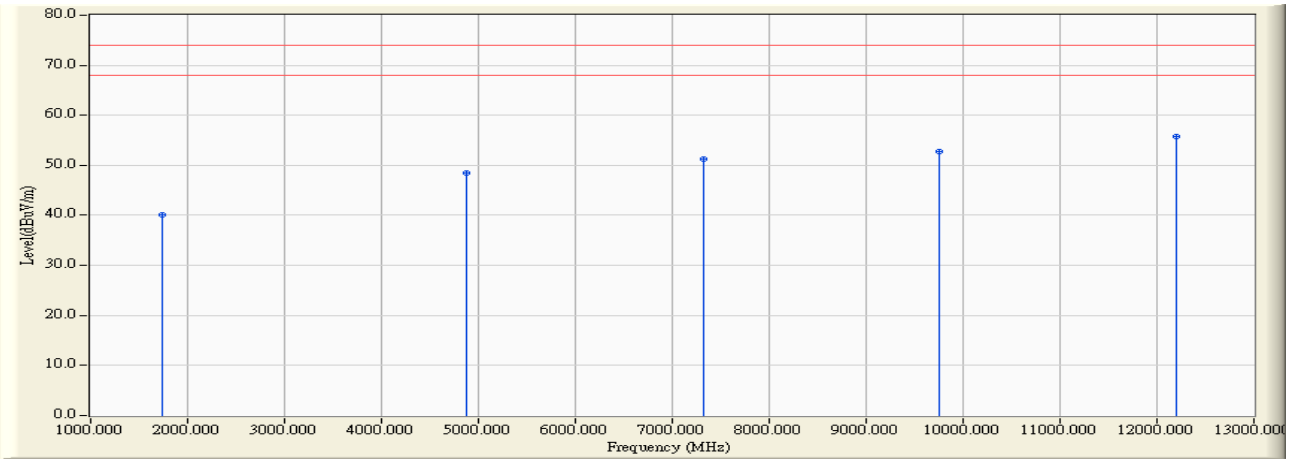


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	12201.600	25.497	16.150	41.646	-12.354	54.000	AVERAGE

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 : 2017/09/22**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : CB4_FCC_A115_EFS_1-18GHz_1116 - VERTICAL	**Power : DC 5V(Power by PC)**
EUT : Serafim Keybo	**Note : Mode 1: Transmit-Power by PC 802.15.1_BLE_2440MHz**

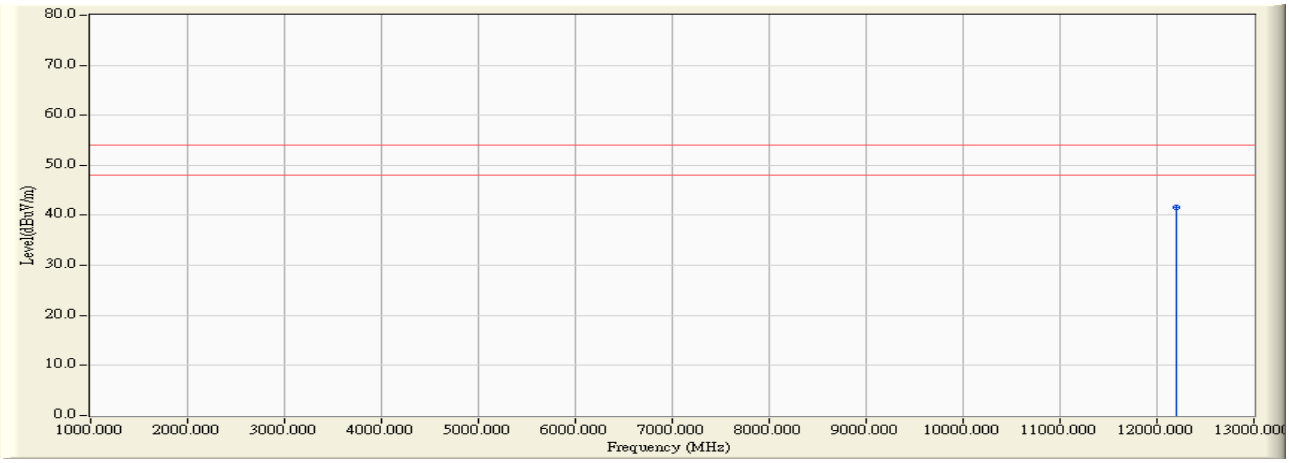


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		1736.500	-3.395	43.500	40.105	-33.895	74.000	PEAK
2		4882.060	8.671	39.750	48.421	-25.579	74.000	PEAK
3		7322.570	18.128	33.060	51.188	-22.812	74.000	PEAK
4		9757.405	23.062	29.780	52.842	-21.158	74.000	PEAK
5	*	12197.290	25.494	30.170	55.663	-18.337	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 : 2017/09/22**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : CB4_FCC_A115_EFS_1-18GHz_1116 - VERTICAL	**Power : DC 5V(Power by PC)**
EUT : Serafim Keybo	**Note : Mode 1: Transmit-Power by PC 802.15.1_BLE_2440MHz**

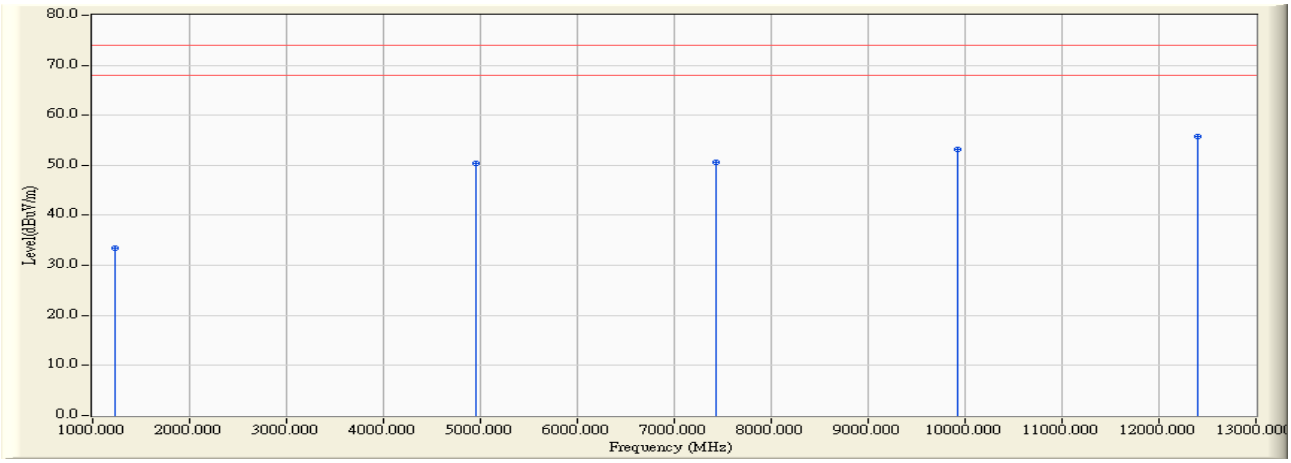


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
2	*	12204.900	25.499	16.080	41.579	-12.421	54.000	AVERAGE

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 : 2017/09/22**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : CB4_FCC_A115_EFS_1-18GHz_1116 - HORIZONTAL	**Power : DC 5V(Power by PC)**
EUT : Serafim Keybo	**Note : Mode 1: Transmit-Power by PC 802.15.1_BLE_2480MHz**

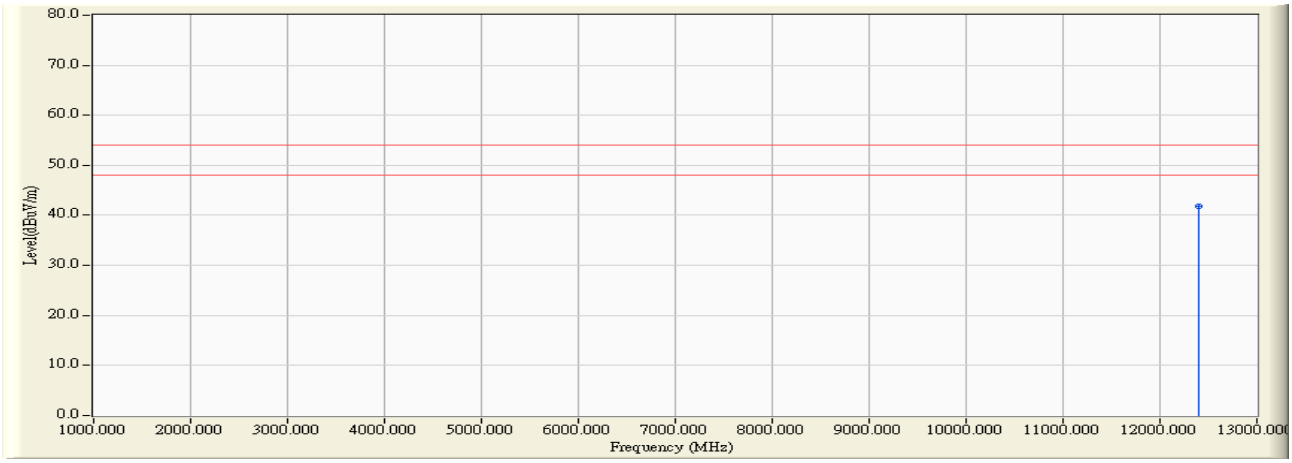


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		1232.500	-5.219	38.620	33.400	-40.600	74.000	PEAK
2		4957.975	9.056	41.420	50.476	-23.524	74.000	PEAK
3		7438.370	18.376	32.140	50.516	-23.484	74.000	PEAK
4		9917.870	23.609	29.650	53.259	-20.741	74.000	PEAK
5	*	12403.470	25.650	30.150	55.800	-18.200	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 : 2017/09/22**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : CB4_FCC_A115_EFS_1-18GHz_1116 - HORIZONTAL	**Power : DC 5V(Power by PC)**
EUT : Serafim Keybo	**Note : Mode 1: Transmit-Power by PC 802.15.1_BLE_2480MHz**

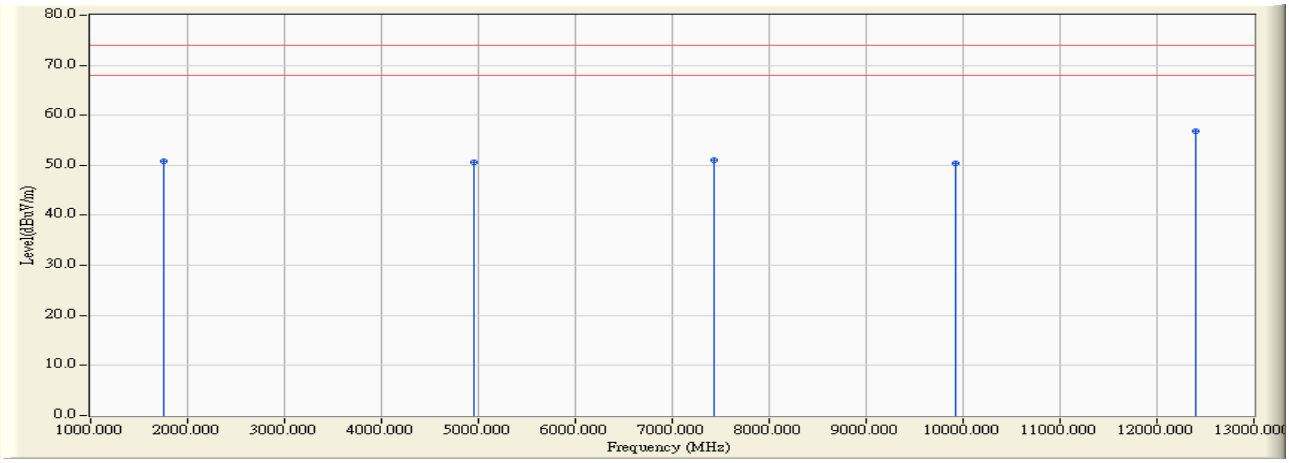


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	12404.640	25.651	16.260	41.911	-12.089	54.000	AVERAGE

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 : 2017/09/22**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : CB4_FCC_A115_EFS_1-18GHz_1116 - VERTICAL	**Power : DC 5V(Power by PC)**
EUT : Serafim Keybo	**Note : Mode 1: Transmit-Power by PC 802.15.1_BLE_2480MHz**

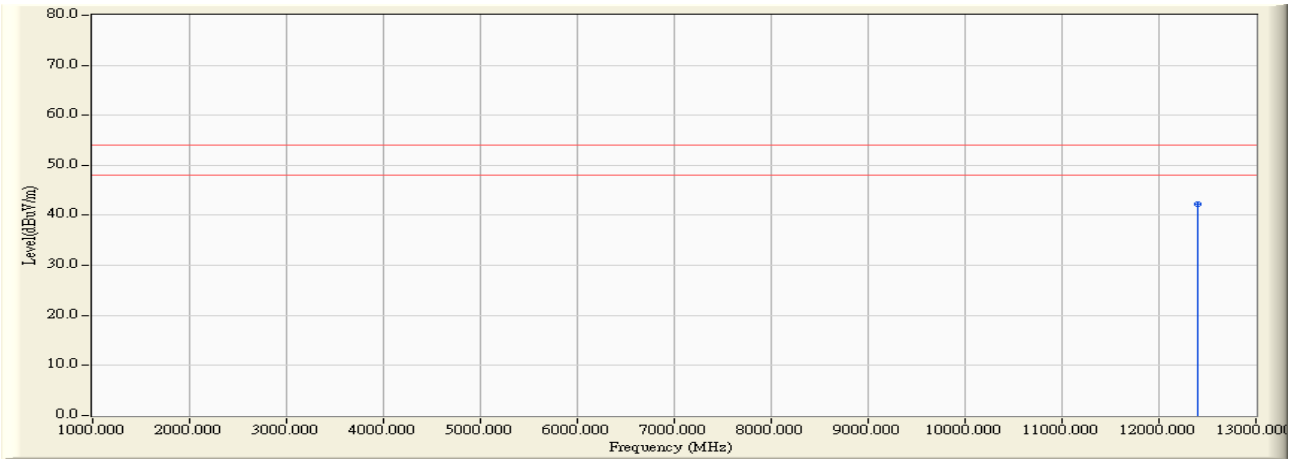


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		1747.500	-3.357	54.140	50.783	-23.217	74.000	PEAK
2		4957.900	9.056	41.550	50.606	-23.394	74.000	PEAK
3		7438.330	18.376	32.710	51.086	-22.914	74.000	PEAK
4		9918.330	23.611	26.880	50.491	-23.509	74.000	PEAK
5	*	12400.000	25.648	31.110	56.758	-17.242	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 : 2017/09/22**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : CB4_FCC_A115_EFS_1-18GHz_1116 - VERTICAL	**Power : DC 5V(Power by PC)**
EUT : Serafim Keybo	**Note : Mode 1: Transmit-Power by PC 802.15.1_BLE_2480MHz**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	12400.250	25.648	16.520	42.168	-11.832	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.

5. RF antenna conducted test

5.1. Test Equipment

The following test equipment is used during the test:

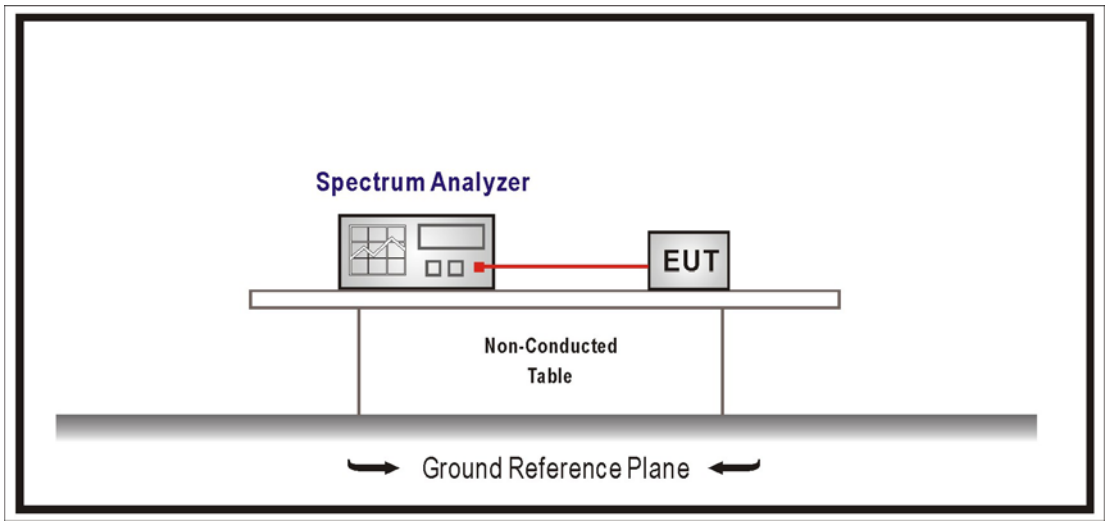
RF antenna conducted test / SR10-H

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A	US47140172	2017/08/08
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2018/03/12

Note: All equipment 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 V04 D01 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

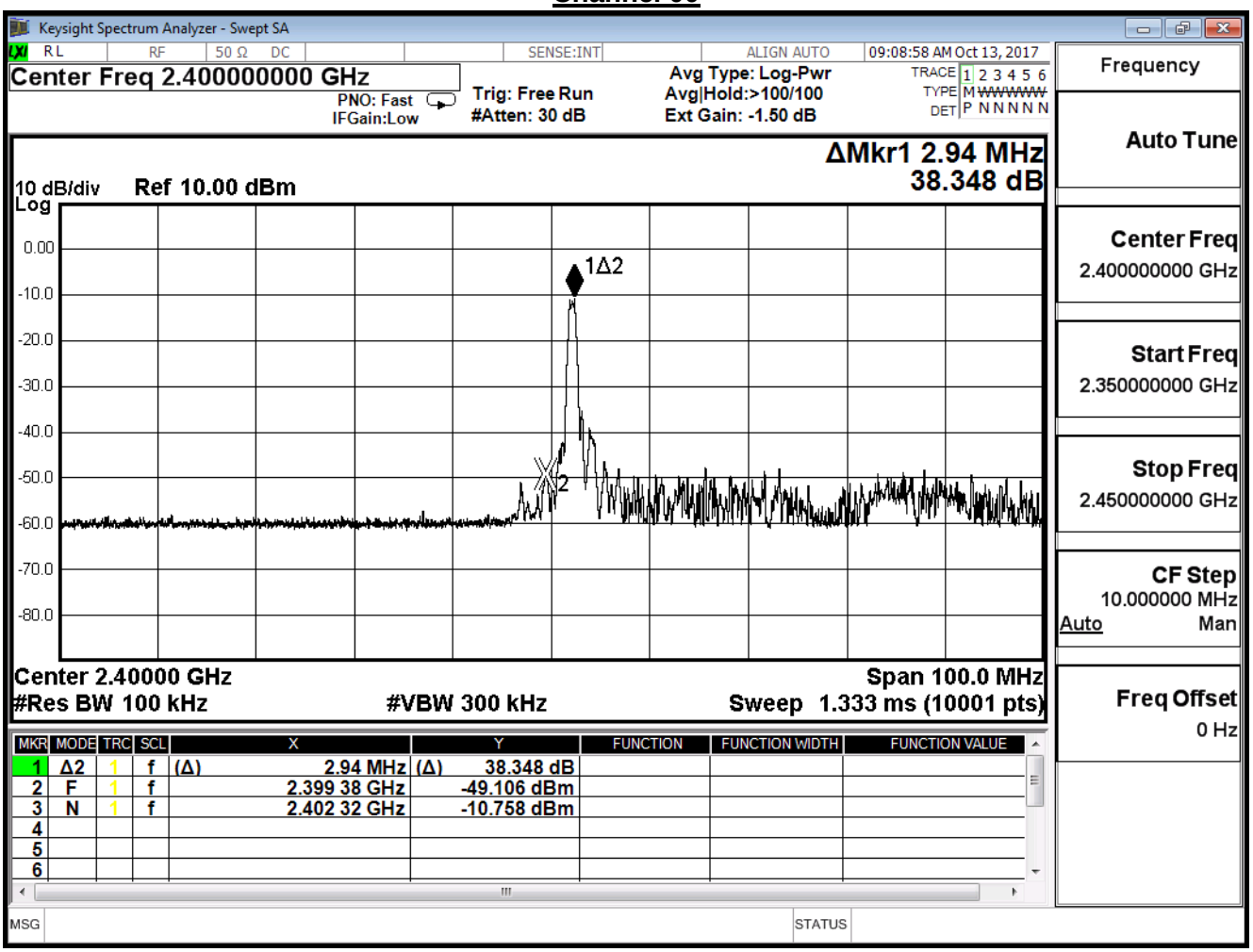
5.6. Test Result

Product	Serafim Keybo		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit-Power by PC		
Date of Test	2017/10/13	Test Site	SR10-H

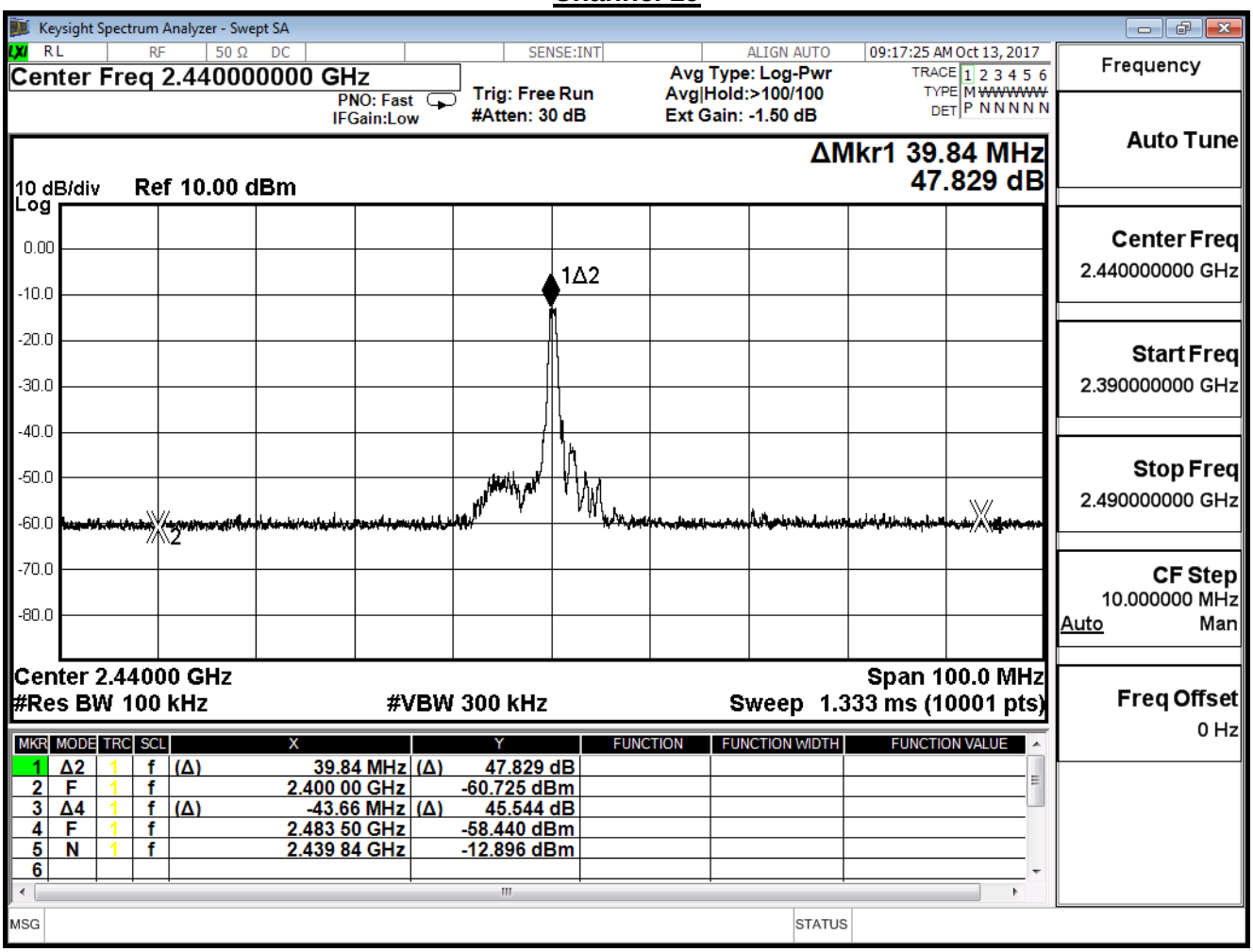
GFSK

Channel	Frequency (MHz)	Measure Level (dBc)	Limit (dBc)	Result
00	2402	38.348	≧20.000	Pass
19	2440	45.544	≧20.000	Pass
39	2480	44.298	≧20.000	Pass

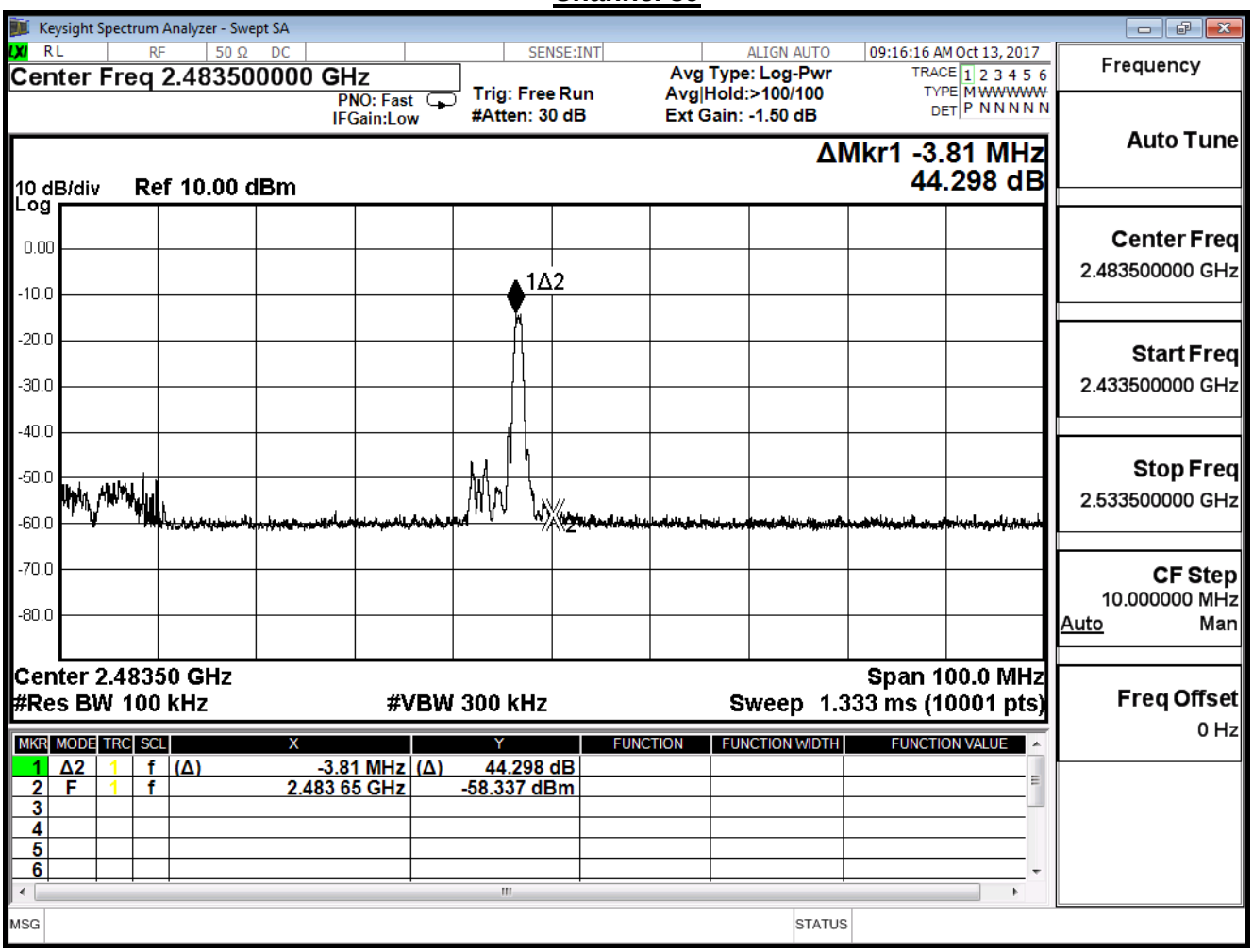
Channel 00



Channel 19

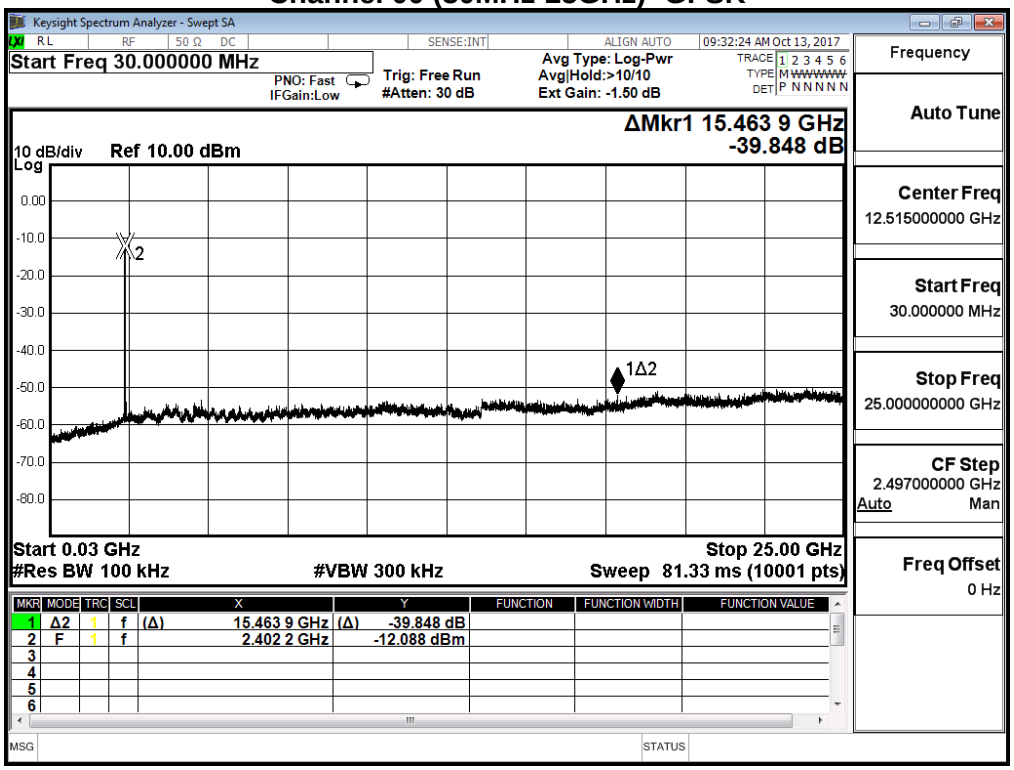

Keysight Spectrum Analyzer - Swept SA
RL
RF
50 Ω DC
SENSE:INT
ALIGN AUTO
09:17:25 AM Oct 13, 2017
Center Freq 2.440000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
Ext Gain: -1.50 dB
TRACE 1 2 3 4 5 6
TYPE M WWWWW
DET P N N N N N
ΔMkr1 39.84 MHz
47.829 dB
10 dB/div
Log
Ref 10.00 dBm
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
-80.0
1Δ2
Center 2.44000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 100.0 MHz
Sweep 1.333 ms (10001 pts)
MKR MODE TRC SCL X Y FUNCTION FUNCTION WIDTH FUNCTION VALUE
1 Δ2 1 f (Δ) 39.84 MHz (Δ) 47.829 dB
2 F 1 f 2.400 00 GHz -60.725 dBm
3 Δ4 1 f (Δ) -43.66 MHz (Δ) 45.544 dB
4 F 1 f 2.483 50 GHz -58.440 dBm
5 N 1 f 2.439 84 GHz -12.896 dBm
6
MSG
STATUS
Frequency
Auto Tune
Center Freq
2.440000000 GHz
Start Freq
2.390000000 GHz
Stop Freq
2.490000000 GHz
CF Step
10.000000 MHz
Auto
Man
Freq Offset
0 Hz

Channel 39

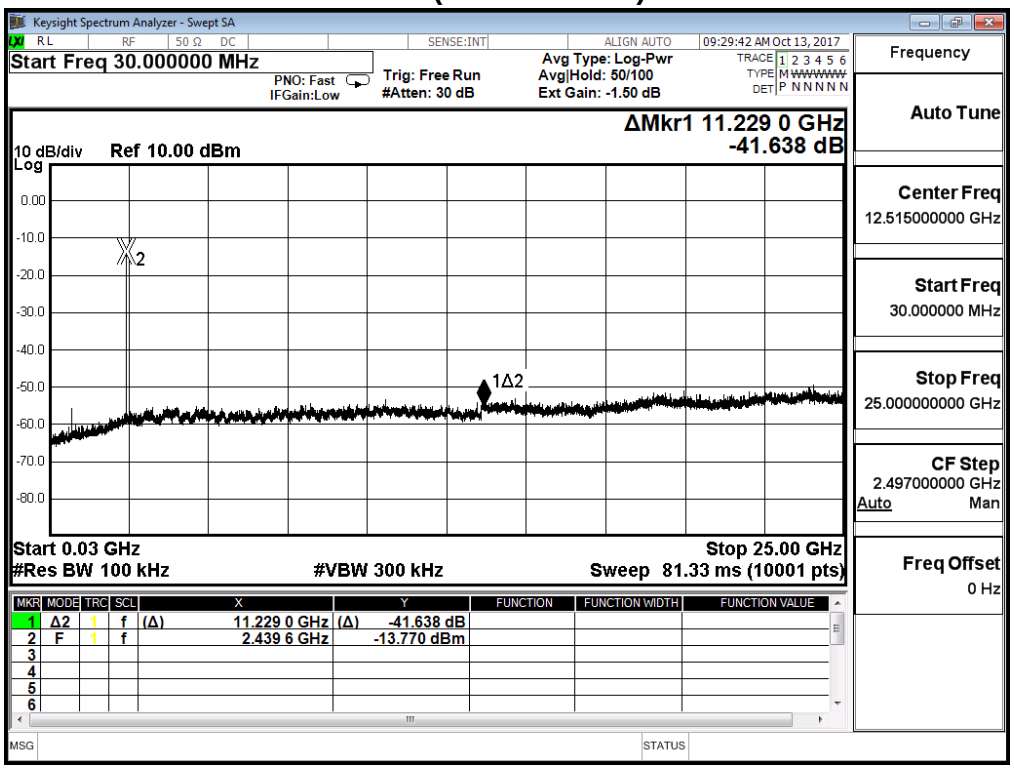

Keysight Spectrum Analyzer - Swept SA
RL
RF
50 Ω DC
SENSE:INT
ALIGN AUTO
09:16:16 AM Oct 13, 2017
Center Freq 2.483500000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
Ext Gain: -1.50 dB
TRACE 1 2 3 4 5 6
TYPE M WWWWW
DET P N N N N N
ΔMkr1 -3.81 MHz
44.298 dB
10 dB/div
Log
Ref 10.00 dBm
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
-80.0
1Δ2
Center 2.48350 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 100.0 MHz
Sweep 1.333 ms (10001 pts)
MKR MODE TRC SCL X Y FUNCTION FUNCTION WIDTH FUNCTION VALUE
1 Δ2 1 f (Δ) -3.81 MHz (Δ) 44.298 dB
2 F 1 f 2.483 65 GHz -58.337 dBm
3
4
5
6
MSG
STATUS
Frequency
Auto Tune
Center Freq
2.483500000 GHz
Start Freq
2.433500000 GHz
Stop Freq
2.533500000 GHz
CF Step
10.000000 MHz
Auto
Man
Freq Offset
0 Hz

Product	Serafim Keybo		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit-Power by PC		
Date of Test	2017/10/13	Test Site	SR10-H

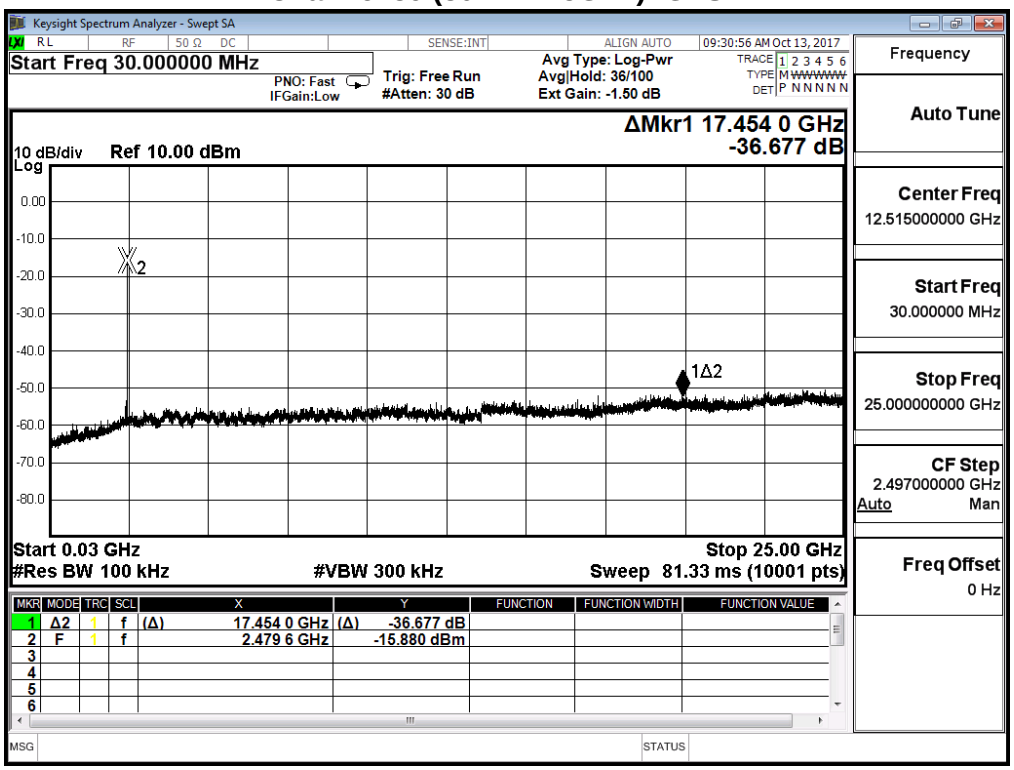
Channel 00 (30MHz-25GHz)- GFSK



Channel 19 (30MHz-25GHz)- GFSK



Channel 39 (30MHz-25GHz)- GFSK



6. Band Edge

6.1. Test Equipment

The following test equipment are used during the test:

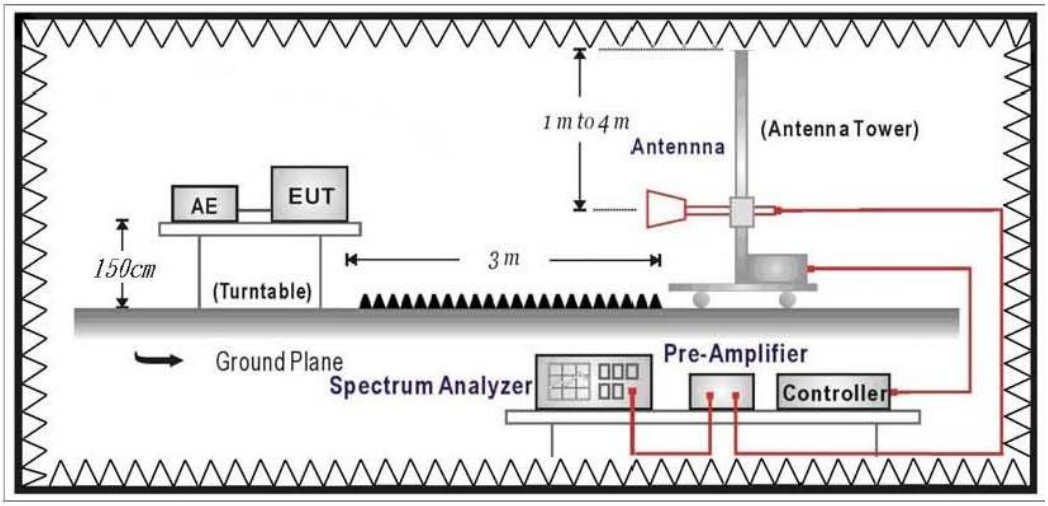
Band Edge / CB4-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Signal Analyzer	R&S	FSVA40	101455	2016/11/28	2017/11/27
Signal & Spectrum Analyzer	R&S	FSV40	101049	2017/01/23	2018/01/22
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2017/03/13	2018/03/12
Bilog Antenna	Teseq	CBL6112D	23191	2017/06/28	2018/06/27
Horn Antenna	Schwarzbeck	BBHA 9120D	639	2017/06/14	2018/06/13
Horn Antenna	Schwarzbeck	BBHA 9170	202	2017/02/15	2018/02/14
Pre-Amplifier	RF Bay Inc.	LNA-1330	12162511	2017/03/09	2018/03/08
Pre-Amplifier	EMCI	EMCI 1830I	980366	2017/01/23	2018/01/22
Pre-Amplifier	MITEQ	JS44-45-8P	2014754	2016/12/26	2017/12/25

Note: All equipment 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 V04 D01 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.

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.

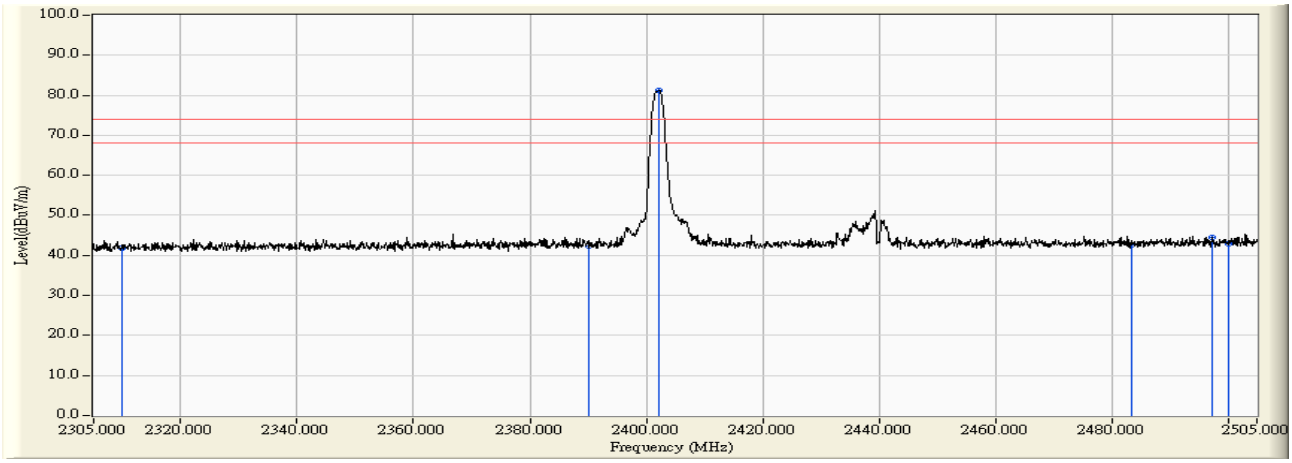
Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.10:2013 on radiated measurement.

6.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247

6.6. Test Result

Site : CB4-H	**Time : 2017/09/22**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : CB4_FCC_A115_EFS_1-18GHz_1116 - HORIZONTAL	**Power : DC 5V(Power by PC)**
EUT : Serafim Keybo	**Note : Mode 1: Transmit-Power by PC 802.15.1_BLE_2402MHz**

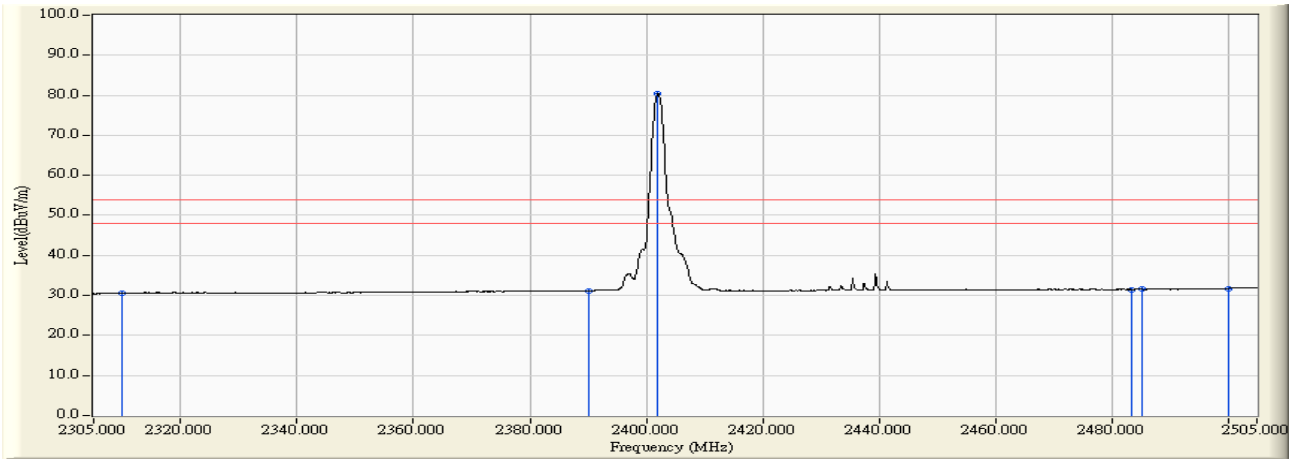


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	13.449	28.318	41.767	-32.233	74.000	PEAK
2		2390.000	14.006	28.404	42.410	-31.590	74.000	PEAK
3	*	2402.200	14.091	67.201	81.292	7.292	74.000	PEAK
4		2483.500	14.649	28.069	42.718	-31.282	74.000	PEAK
5		2497.200	14.742	29.667	44.409	-29.591	74.000	PEAK
6		2500.000	14.758	28.265	43.023	-30.977	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 : 2017/09/22**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : CB4_FCC_A115_EFS_1-18GHz_1116 - HORIZONTAL	**Power : DC 5V(Power by PC)**
EUT : Serafim Keybo	**Note : Mode 1: Transmit-Power by PC 802.15.1_BLE_2402MHz**

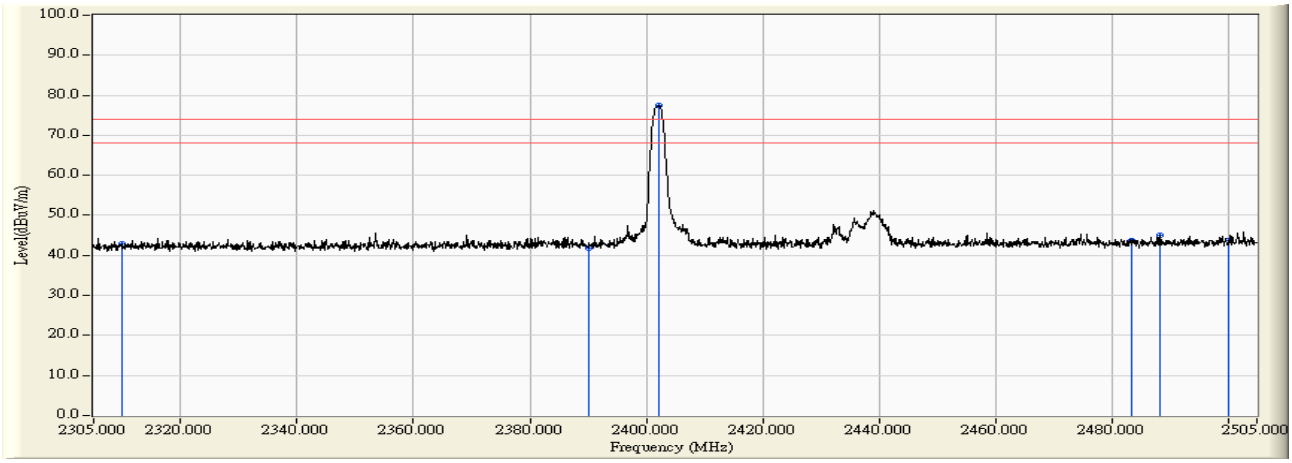


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	13.449	17.107	30.556	-23.444	54.000	AVERAGE
2		2390.000	14.006	17.186	31.192	-22.808	54.000	AVERAGE
3	*	2402.000	14.090	66.366	80.456	26.456	54.000	AVERAGE
4		2483.500	14.649	16.830	31.479	-22.521	54.000	AVERAGE
5		2485.200	14.660	16.874	31.535	-22.465	54.000	AVERAGE
6		2500.000	14.758	16.971	31.729	-22.271	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 : 2017/09/22**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : CB4_FCC_A115_EFS_1-18GHz_1116 - VERTICAL	**Power : DC 5V(Power by PC)**
EUT : Serafim Keybo	**Note : Mode 1: Transmit-Power by PC 802.15.1_BLE_2402MHz**

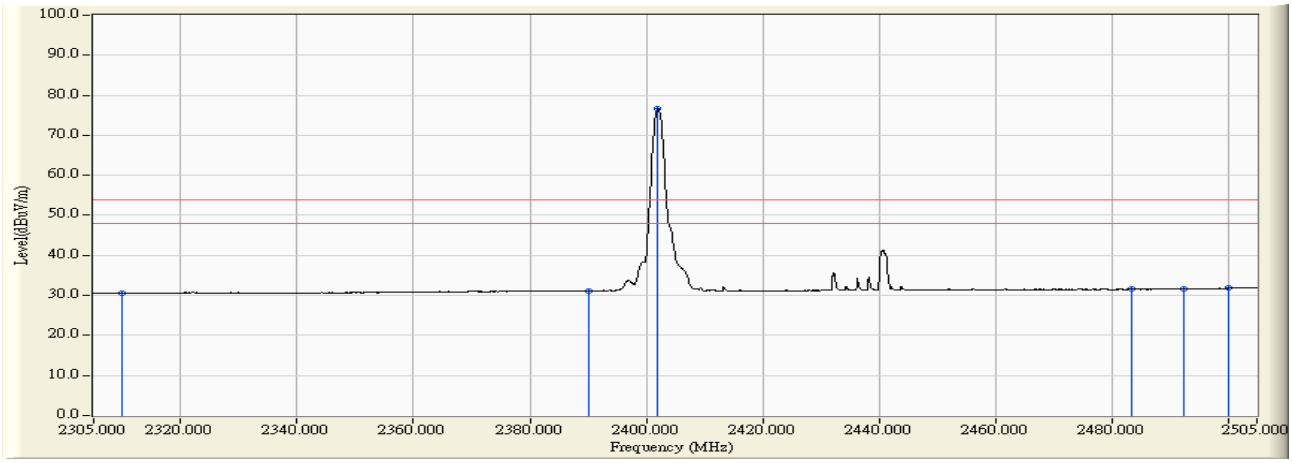


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	13.449	29.457	42.906	-31.094	74.000	PEAK
2		2390.000	14.006	27.853	41.859	-32.141	74.000	PEAK
3	*	2402.200	14.091	63.357	77.448	3.448	74.000	PEAK
4		2483.500	14.649	28.999	43.648	-30.352	74.000	PEAK
5		2488.400	14.682	30.310	44.993	-29.007	74.000	PEAK
6		2500.000	14.758	28.857	43.615	-30.385	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 : 2017/09/22**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : CB4_FCC_A115_EFS_1-18GHz_1116 - VERTICAL	**Power : DC 5V(Power by PC)**
EUT : Serafim Keybo	**Note : Mode 1: Transmit-Power by PC 802.15.1_BLE_2402MHz**

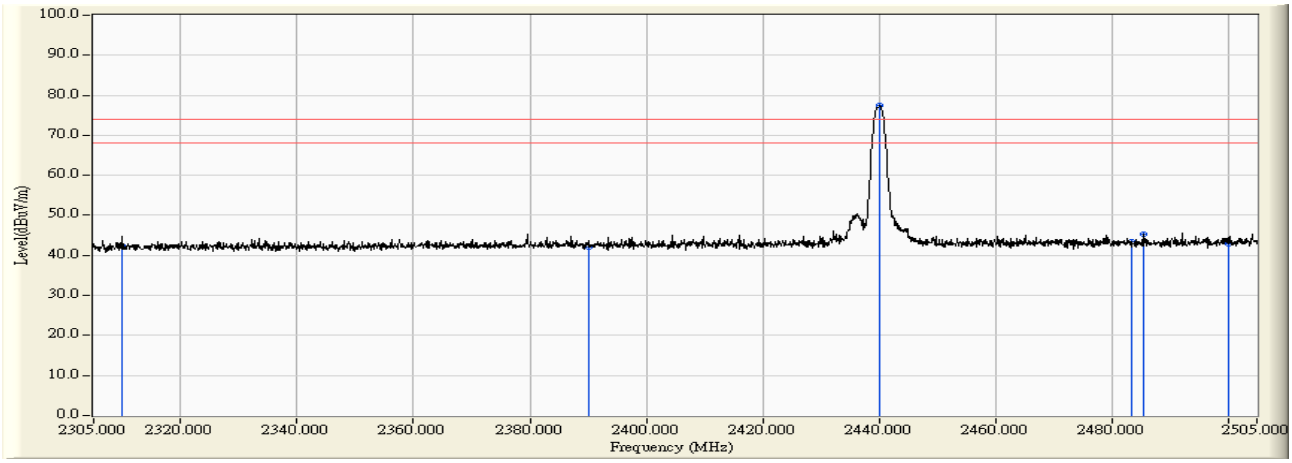


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	13.449	17.224	30.673	-23.327	54.000	AVERAGE
2		2390.000	14.006	17.089	31.095	-22.905	54.000	AVERAGE
3	*	2402.000	14.090	62.516	76.606	22.606	54.000	AVERAGE
4		2483.500	14.649	16.856	31.505	-22.495	54.000	AVERAGE
5		2492.400	14.710	16.850	31.560	-22.440	54.000	AVERAGE
6		2500.000	14.758	17.027	31.785	-22.215	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 : 2017/09/22**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : CB4_FCC_A115_EFS_1-18GHz_1116 - HORIZONTAL	**Power : DC 5V(Power by PC)**
EUT : Serafim Keybo	**Note : Mode 1: Transmit-Power by PC 802.15.1_BLE_2440MHz**

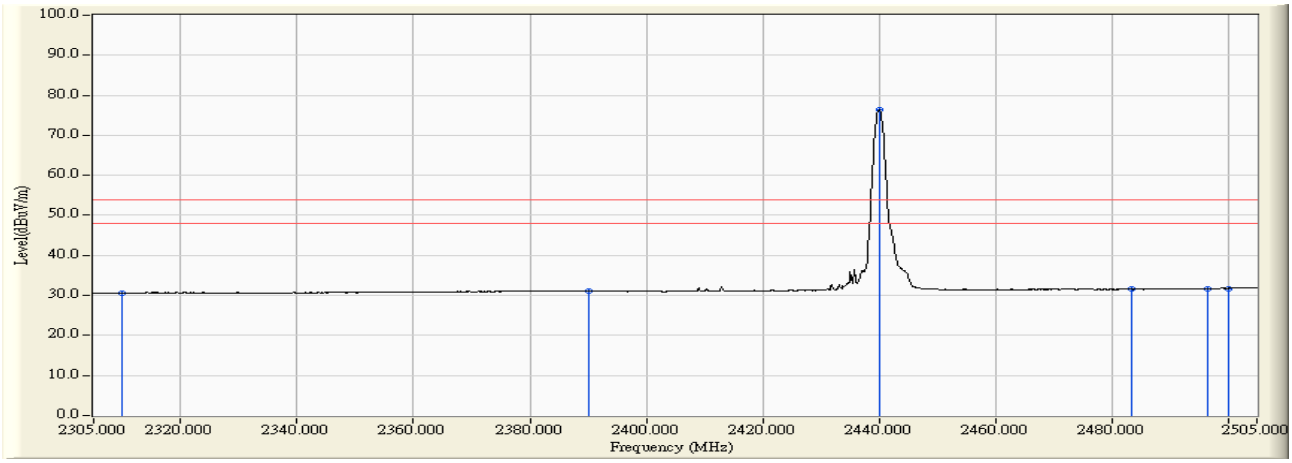


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	13.449	28.815	42.264	-31.736	74.000	PEAK
2		2390.000	14.006	28.172	42.178	-31.822	74.000	PEAK
3	*	2440.200	14.352	63.006	77.358	3.358	74.000	PEAK
4		2483.500	14.649	28.676	43.325	-30.675	74.000	PEAK
5		2485.600	14.663	30.602	45.265	-28.735	74.000	PEAK
6		2500.000	14.758	28.222	42.980	-31.020	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 : 2017/09/22**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : CB4_FCC_A115_EFS_1-18GHz_1116 - HORIZONTAL	**Power : DC 5V(Power by PC)**
EUT : Serafim Keybo	**Note : Mode 1: Transmit-Power by PC 802.15.1_BLE_2440MHz**

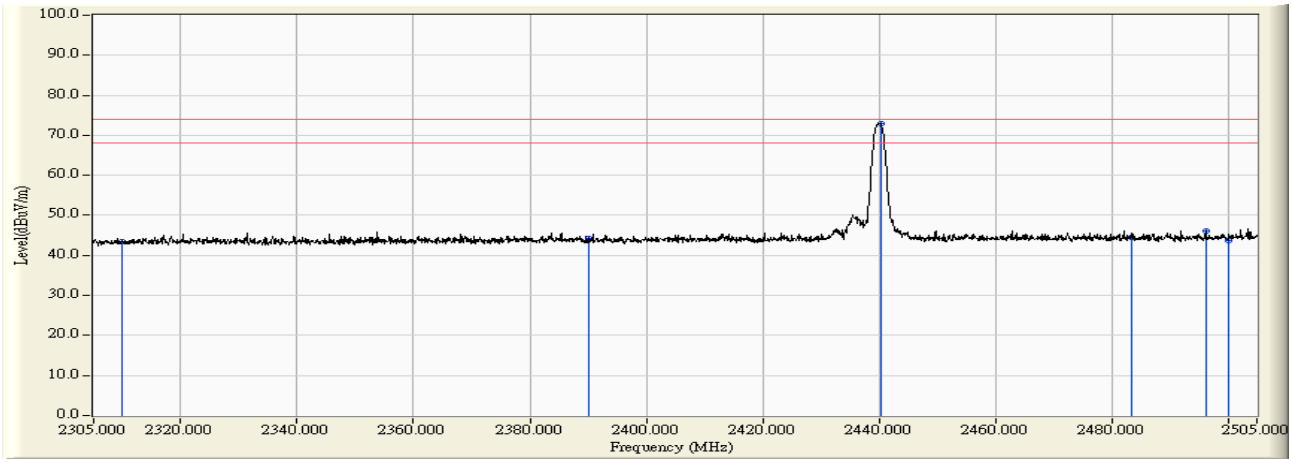


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	13.449	17.185	30.634	-23.366	54.000	AVERAGE
2		2390.000	14.006	17.096	31.102	-22.898	54.000	AVERAGE
3	*	2440.000	14.350	61.968	76.318	22.318	54.000	AVERAGE
4		2483.500	14.649	16.875	31.524	-22.476	54.000	AVERAGE
5		2496.500	14.738	16.947	31.685	-22.315	54.000	AVERAGE
6		2500.000	14.758	17.002	31.760	-22.240	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 : 2017/09/22**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : CB4_FCC_A115_EFS_1-18GHz_1116 - VERTICAL	**Power : DC 5V(Power by PC)**
EUT : Serafim Keybo	**Note : Mode 1: Transmit-Power by PC 802.15.1_BLE_2440MHz**

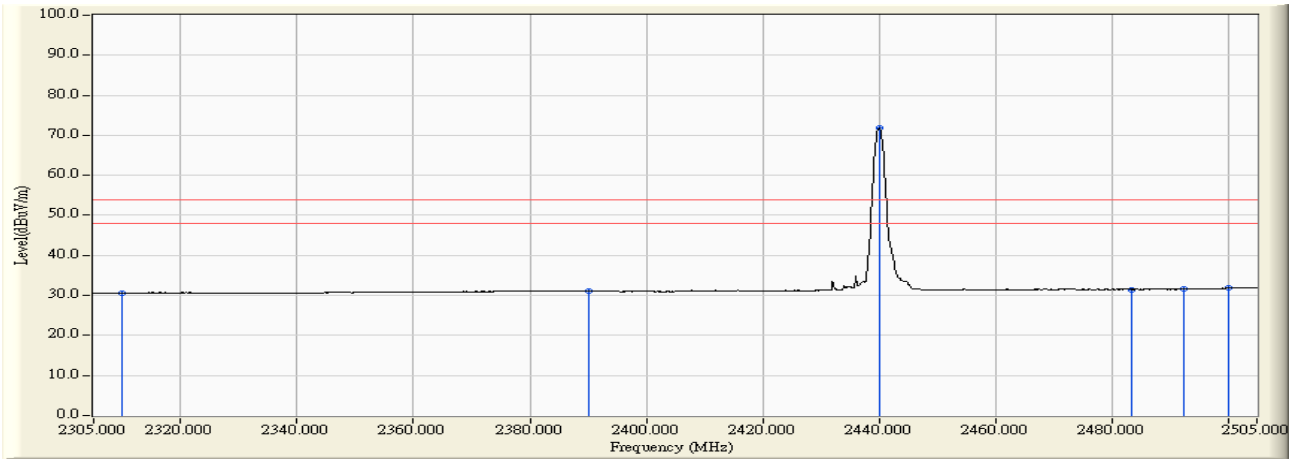


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	13.449	29.863	43.312	-30.688	74.000	PEAK
2		2390.000	14.006	30.128	44.134	-29.866	74.000	PEAK
3	*	2440.300	14.353	58.689	73.041	-0.959	74.000	PEAK
4		2483.500	14.649	29.775	44.424	-29.576	74.000	PEAK
5		2496.200	14.736	31.416	46.152	-27.848	74.000	PEAK
6		2500.000	14.758	29.009	43.767	-30.233	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 : 2017/09/22**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : CB4_FCC_A115_EFS_1-18GHz_1116 - VERTICAL	**Power : DC 5V(Power by PC)**
EUT : Serafim Keybo	**Note : Mode 1: Transmit-Power by PC 802.15.1_BLE_2440MHz**

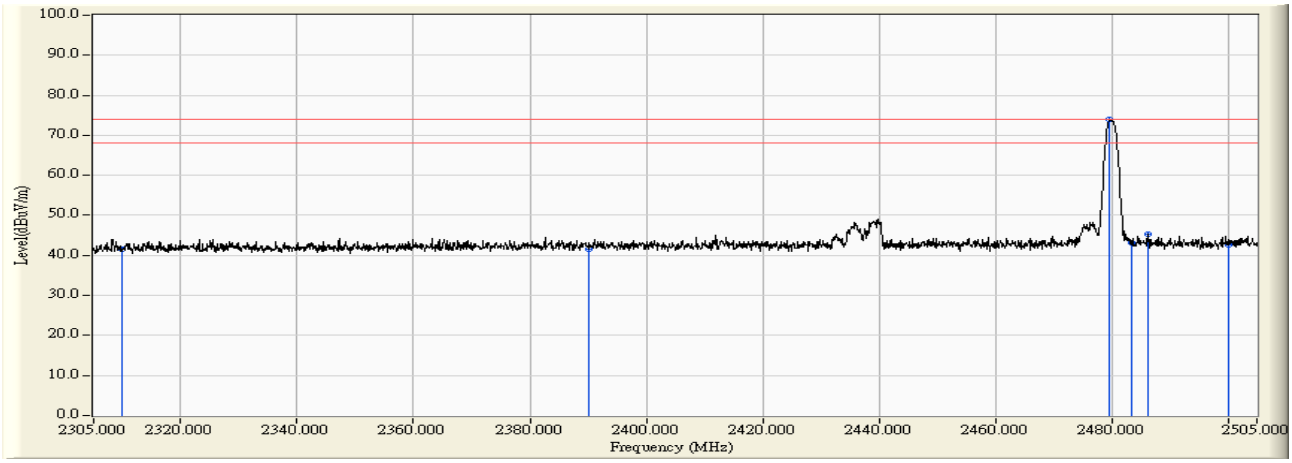


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	13.449	17.143	30.592	-23.408	54.000	AVERAGE
2		2390.000	14.006	17.100	31.106	-22.894	54.000	AVERAGE
3	*	2440.100	14.351	57.417	71.768	17.768	54.000	AVERAGE
4		2483.500	14.649	16.820	31.469	-22.531	54.000	AVERAGE
5		2492.400	14.710	16.865	31.575	-22.425	54.000	AVERAGE
6		2500.000	14.758	17.061	31.819	-22.181	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 : 2017/09/22**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : CB4_FCC_A115_EFS_1-18GHz_1116 - HORIZONTAL	**Power : DC 5V(Power by PC)**
EUT : Serafim Keybo	**Note : Mode 1: Transmit-Power by PC 802.15.1_BLE_2480MHz**

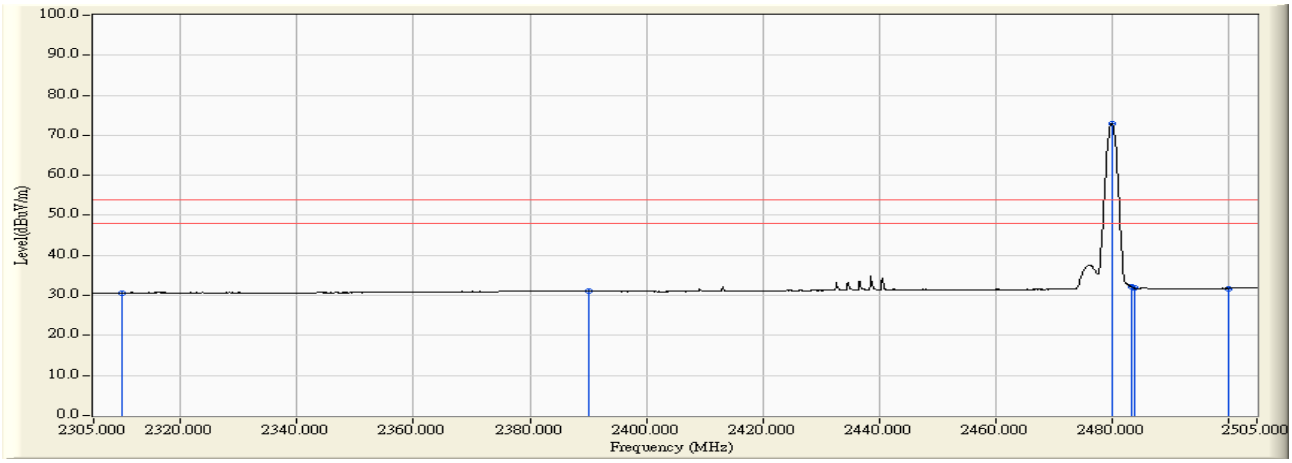


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	13.449	28.182	41.631	-32.369	74.000	PEAK
2		2390.000	14.006	27.603	41.609	-32.391	74.000	PEAK
3	*	2479.700	14.622	59.363	73.986	-0.014	74.000	PEAK
4		2483.500	14.649	28.443	43.092	-30.908	74.000	PEAK
5		2486.400	14.669	30.607	45.276	-28.724	74.000	PEAK
6		2500.000	14.758	27.914	42.672	-31.328	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 : 2017/09/22**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : CB4_FCC_A115_EFS_1-18GHz_1116 - HORIZONTAL	**Power : DC 5V(Power by PC)**
EUT : Serafim Keybo	**Note : Mode 1: Transmit-Power by PC 802.15.1_BLE_2480MHz**

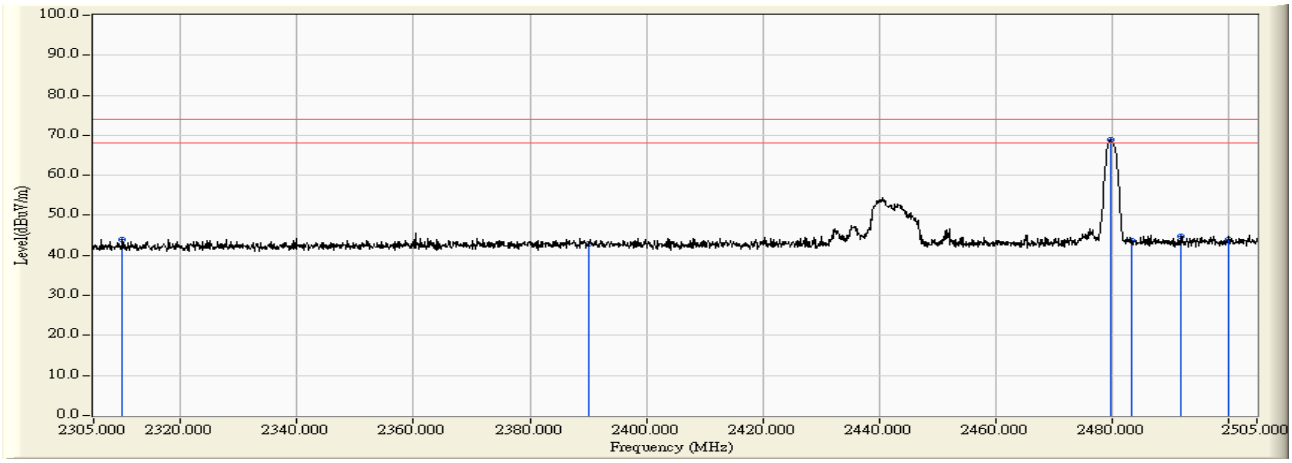


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	13.449	17.101	30.550	-23.450	54.000	AVERAGE
2		2390.000	14.006	17.183	31.189	-22.811	54.000	AVERAGE
3	*	2480.000	14.625	58.310	72.935	18.935	54.000	AVERAGE
4		2483.500	14.649	17.434	32.083	-21.917	54.000	AVERAGE
5		2483.900	14.652	17.147	31.799	-22.201	54.000	AVERAGE
6		2500.000	14.758	16.998	31.756	-22.244	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 : 2017/09/22**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : CB4_FCC_A115_EFS_1-18GHz_1116 - VERTICAL	**Power : DC 5V(Power by PC)**
EUT : Serafim Keybo	**Note : Mode 1: Transmit-Power by PC 802.15.1_BLE_2480MHz**

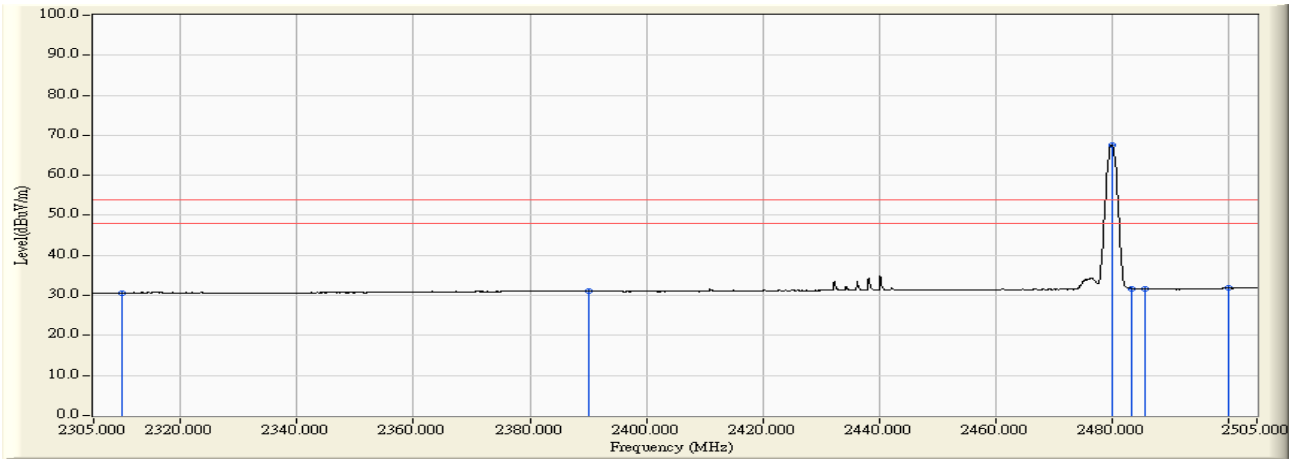


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	13.449	30.395	43.844	-30.156	74.000	PEAK
2		2390.000	14.006	28.930	42.936	-31.064	74.000	PEAK
3	*	2479.800	14.624	54.153	68.776	-5.224	74.000	PEAK
4		2483.500	14.649	29.081	43.730	-30.270	74.000	PEAK
5		2492.000	14.707	30.137	44.844	-29.156	74.000	PEAK
6		2500.000	14.758	29.103	43.861	-30.139	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 : 2017/09/22**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : CB4_FCC_A115_EFS_1-18GHz_1116 - VERTICAL	**Power : DC 5V(Power by PC)**
EUT : Serafim Keybo	**Note : Mode 1: Transmit-Power by PC 802.15.1_BLE_2480MHz**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	13.449	17.142	30.591	-23.409	54.000	AVERAGE
2		2390.000	14.006	17.048	31.054	-22.946	54.000	AVERAGE
3	*	2480.000	14.625	53.034	67.659	13.659	54.000	AVERAGE
4		2483.500	14.649	17.080	31.729	-22.271	54.000	AVERAGE
5		2485.700	14.664	16.913	31.577	-22.423	54.000	AVERAGE
6		2500.000	14.758	17.035	31.793	-22.207	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. DTS Bandwidth

7.1. Test Equipment

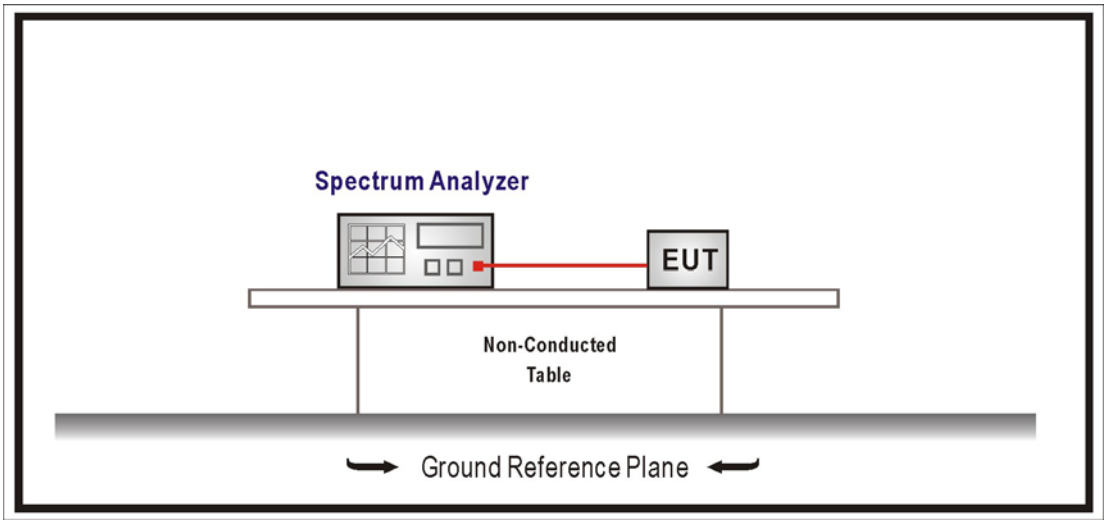
The following test equipment is used during the test:

DTS Bandwidth /SR10-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Signal & Spectrum Analyzer	R&S	FSV40	101049	2017/01/23	2018/01/22
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2017/03/13	2018/03/12

Note: All equipment 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 V04 D01 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

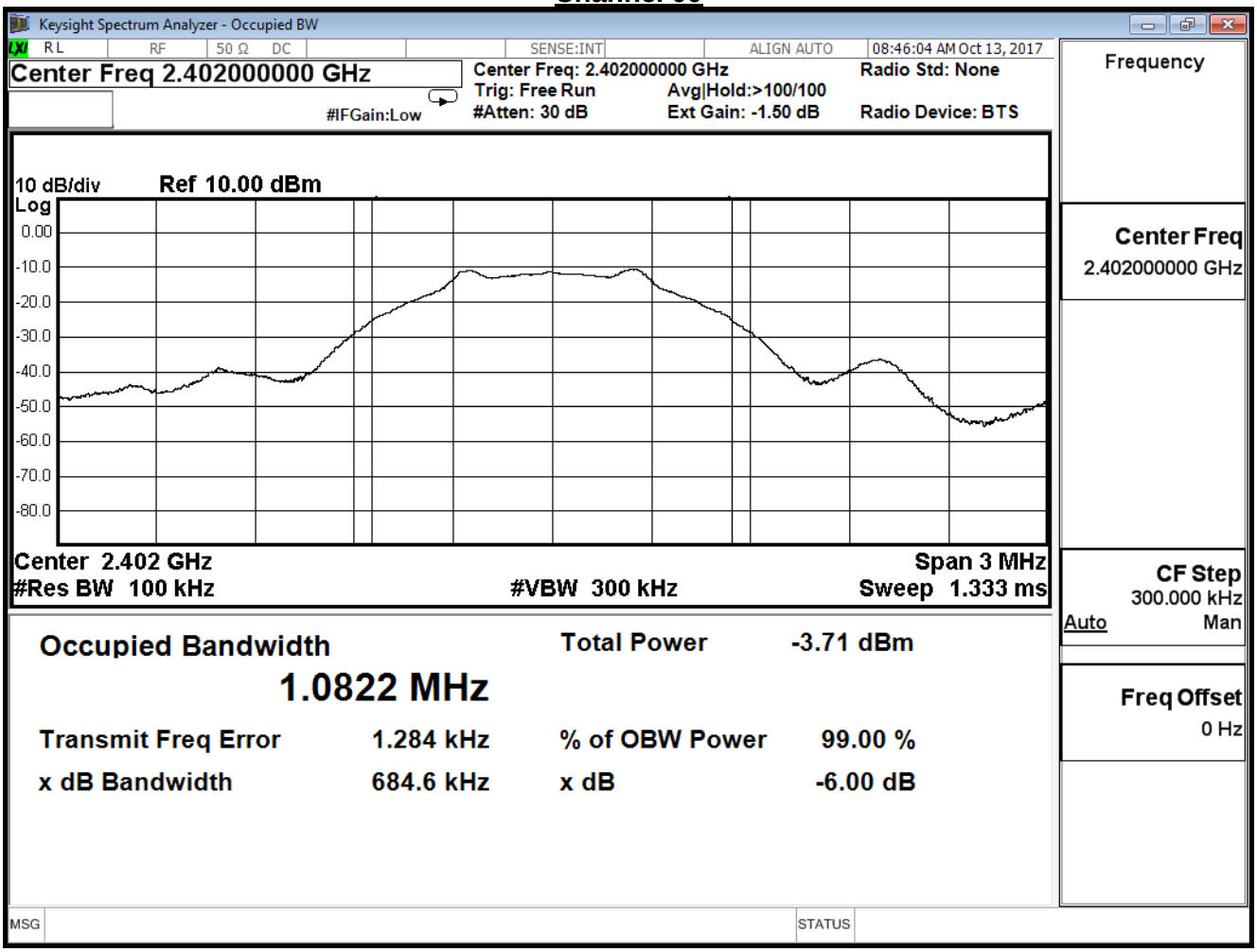
7.6. Test Result

Product	Serafim Keybo		
Test Item	DTS Bandwidth		
Test Mode	Mode 1: Transmit-Power by PC		
Date of Test	2017/10/13	Test Site	SR10-H

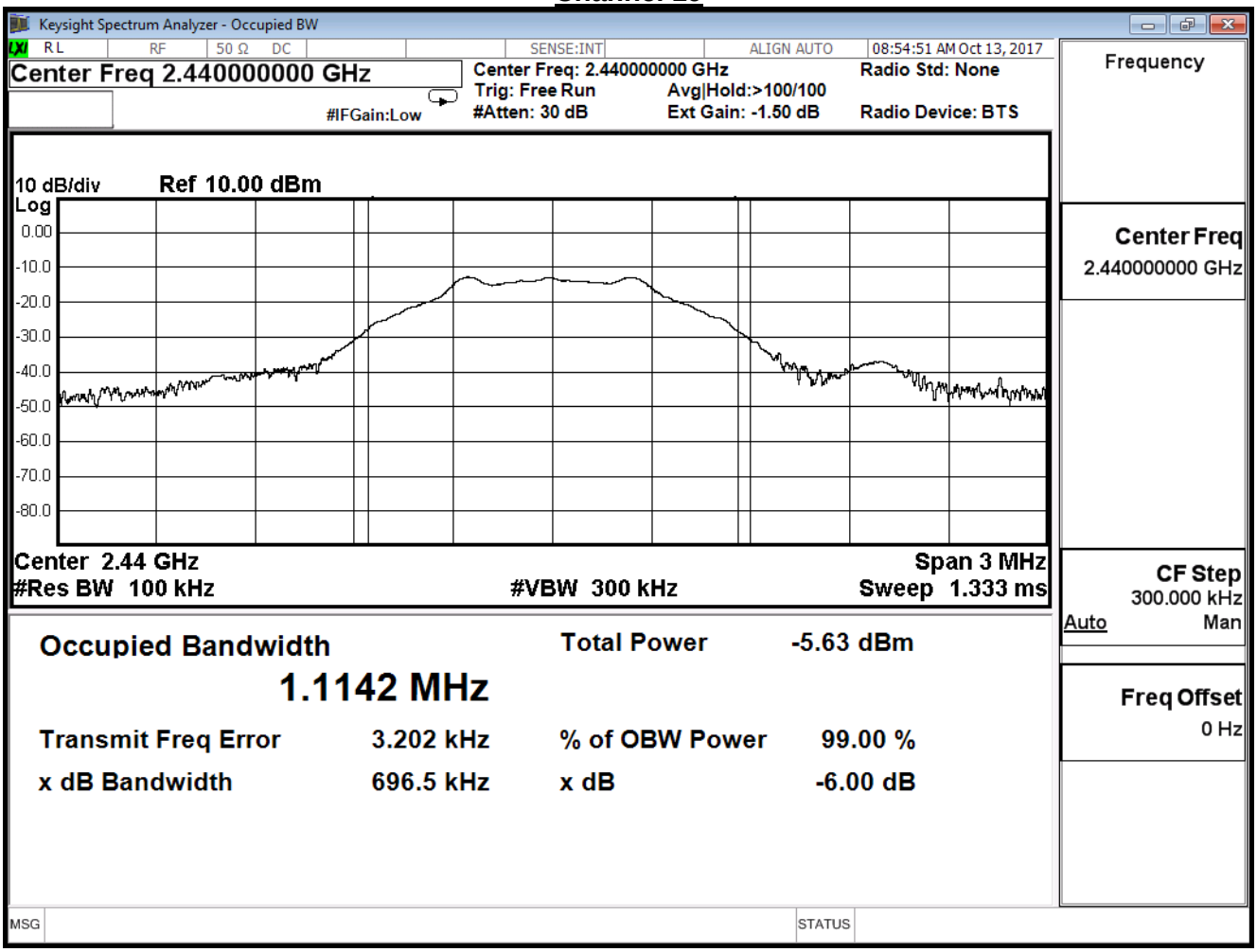
GFSK

Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)	Result
00	2402	0.685	≧0.5	Pass
19	2440	0.697	≧0.5	Pass
39	2480	0.671	≧0.5	Pass

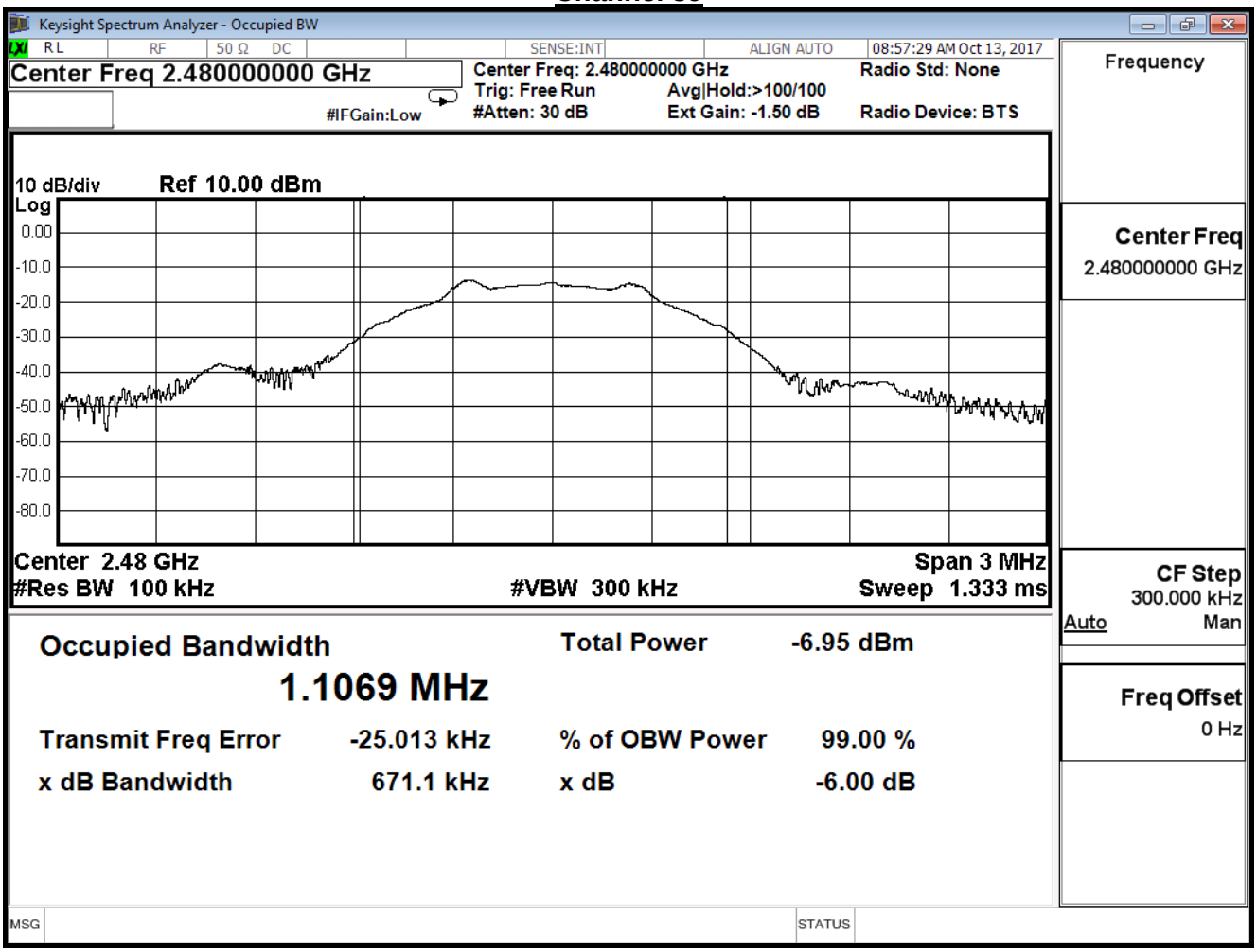
Channel 00



Channel 19


Keysight Spectrum Analyzer - Occupied BW
RL
RF
50 Ω DC
SENSE:INT
ALIGN AUTO
08:54:51 AM Oct 13, 2017
Center Freq 2.440000000 GHz
Center Freq: 2.440000000 GHz
Trig: Free Run
Avg|Hold:>100/100
#IFGain:Low
#Atten: 30 dB
Ext Gain: -1.50 dB
Radio Std: None
Radio Device: BTS
Frequency
10 dB/div
Ref 10.00 dBm
Log
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
-80.0
Center Freq
2.440000000 GHz
Center 2.44 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 3 MHz
Sweep 1.333 ms
CF Step
300.000 kHz
Auto
Man
Occupied Bandwidth
1.1142 MHz
Total Power
-5.63 dBm
Transmit Freq Error
3.202 kHz
% of OBW Power
99.00 %
x dB Bandwidth
696.5 kHz
x dB
-6.00 dB
Freq Offset
0 Hz
MSG
STATUS

Channel 39


Keysight Spectrum Analyzer - Occupied BW
RL
RF
50 Ω DC
SENSE:INT
ALIGN AUTO
08:57:29 AM Oct 13, 2017
Center Freq 2.480000000 GHz
Center Freq: 2.480000000 GHz
Trig: Free Run
Avg|Hold:>100/100
#IFGain:Low
#Atten: 30 dB
Ext Gain: -1.50 dB
Radio Std: None
Radio Device: BTS
Frequency
10 dB/div
Ref 10.00 dBm
Log
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
-80.0
Center Freq
2.480000000 GHz
Center 2.48 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 3 MHz
Sweep 1.333 ms
CF Step
300.000 kHz
Auto
Man
Occupied Bandwidth
1.1069 MHz
Total Power
-6.95 dBm
Transmit Freq Error
-25.013 kHz
% of OBW Power
99.00 %
x dB Bandwidth
671.1 kHz
x dB
-6.00 dB
Freq Offset
0 Hz
MSG
STATUS

8. Power Density

8.1. Test Equipment

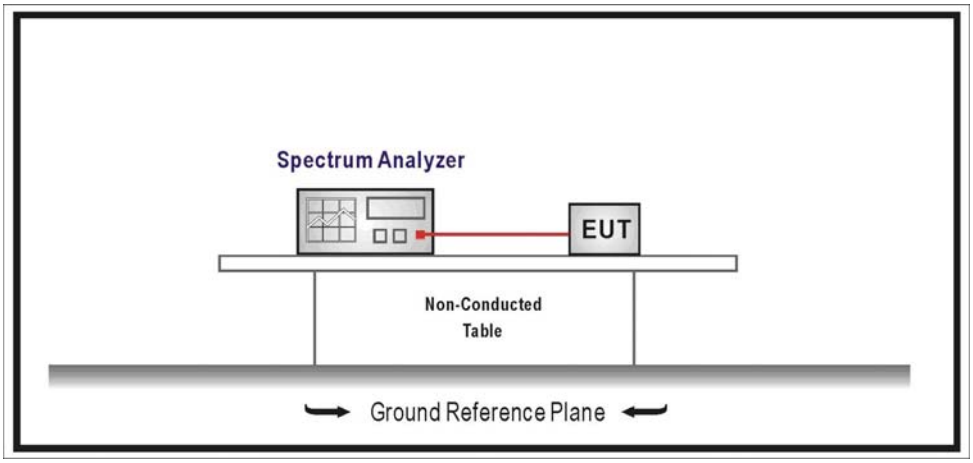
The following test equipment is used during the test:

Power Density /SR10-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Signal & Spectrum Analyzer	R&S	FSV40	101049	2017/01/23	2018/01/22
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2017/03/13	2018/03/12

Note: All equipment 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 V04 D01 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

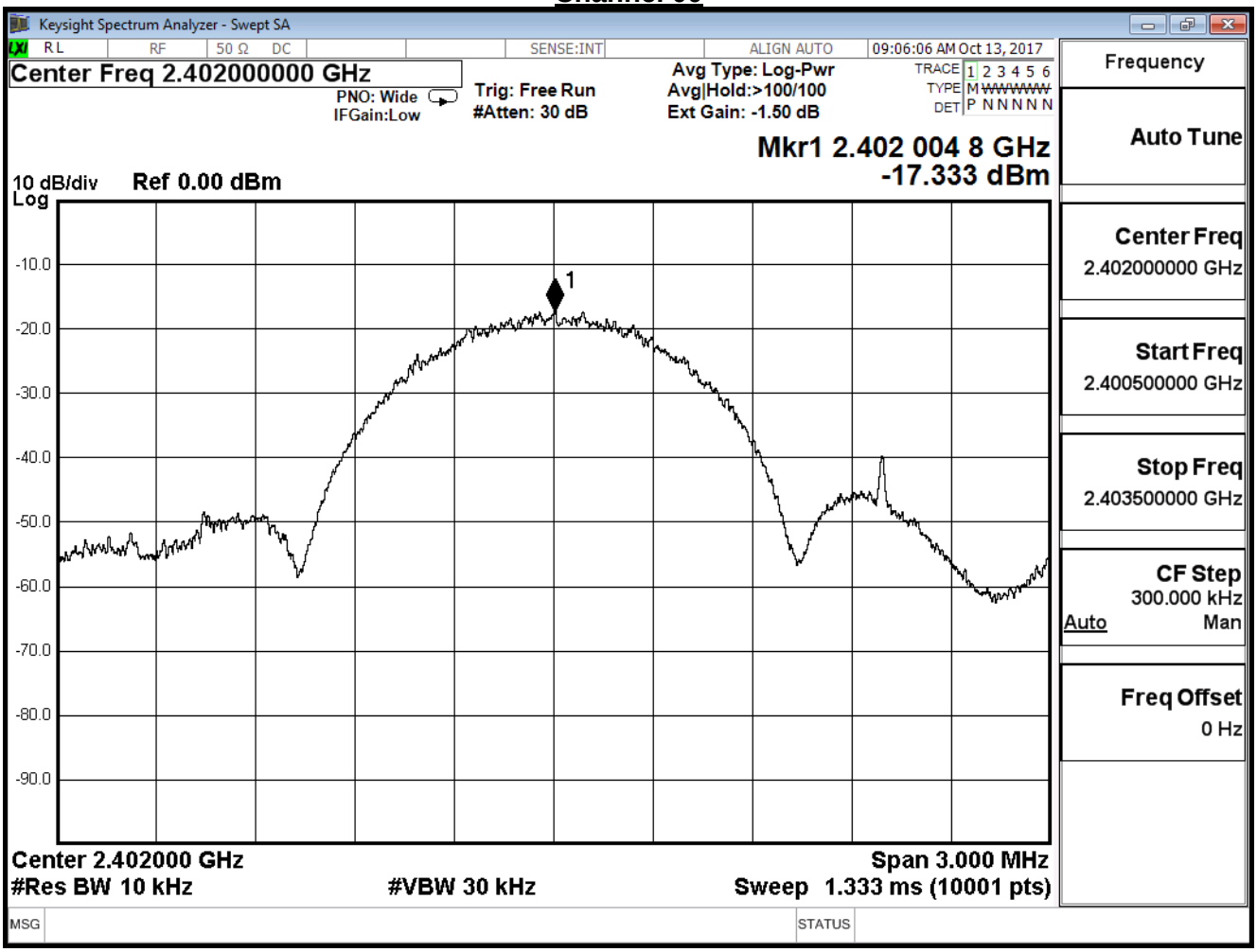
The measurement uncertainty is defined as ±1.27dB.

8.7. Test Result

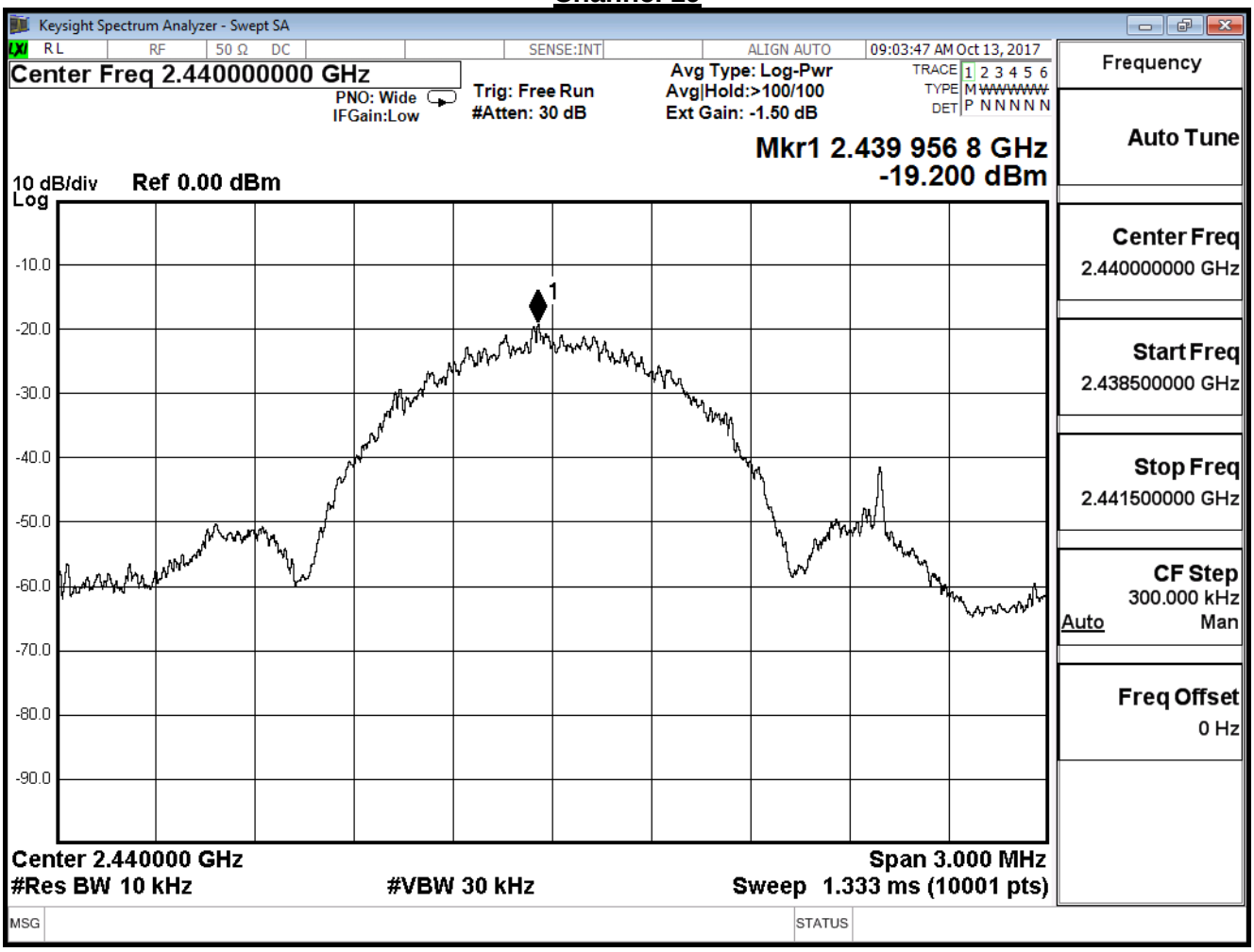
Product	Serafim Keybo		
Test Item	Power Density		
Test Mode	Mode 1: Transmit-Power by PC		
Date of Test	2017/10/13	Test Site	SR10-H

Channel No.	Frequency (MHz)	Measure Level (dBm/3KHz)	Limit (dBm/3KHz)	Result
00	2402	-17.333	≦8.000	Pass
19	2440	-19.200	≦8.000	Pass
39	2480	-21.128	≦8.000	Pass

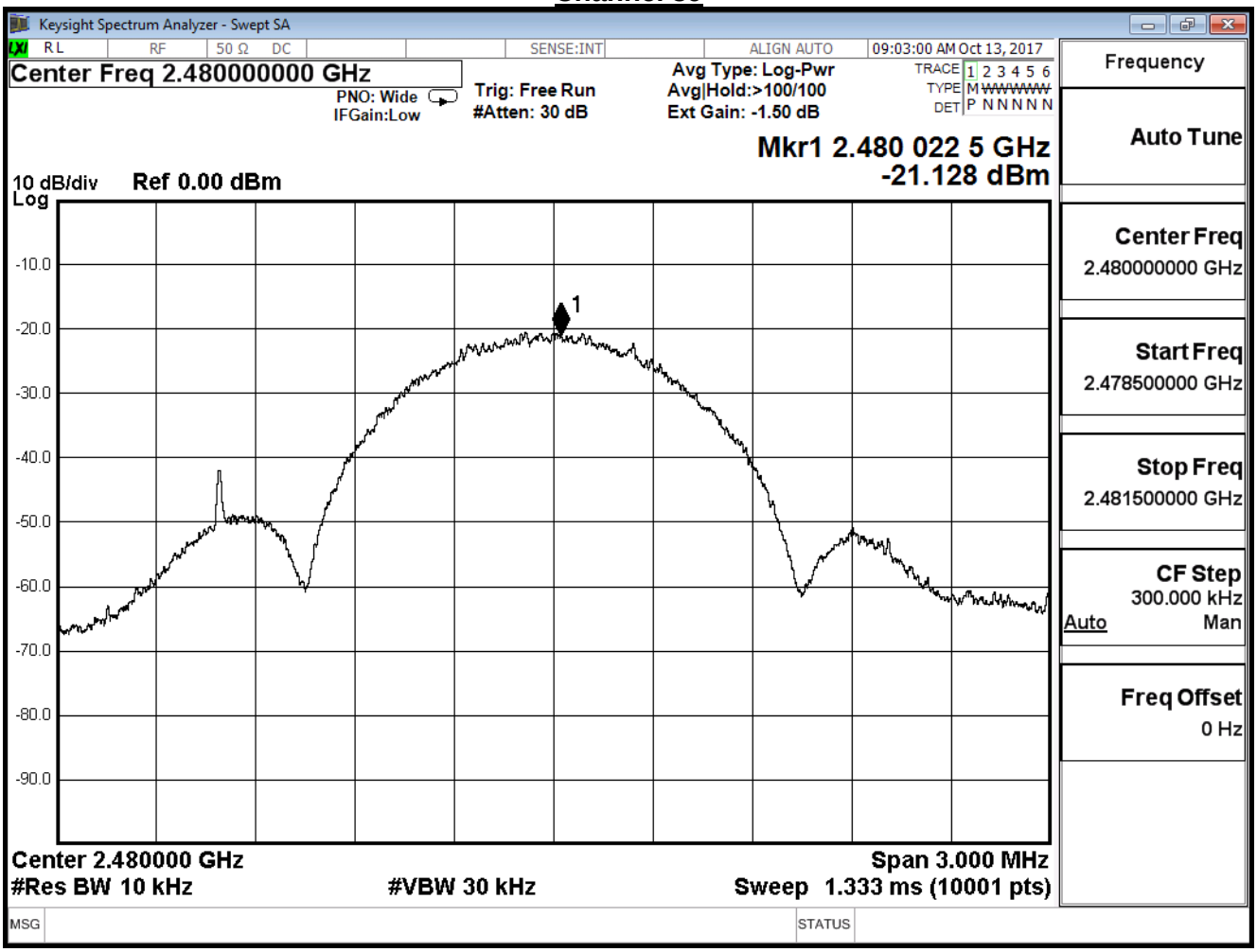
Channel 00



Channel 19


Keysight Spectrum Analyzer - Swept SA
RL
RF
50 Ω DC
SENSE:INT
ALIGN AUTO
09:03:47 AM Oct 13, 2017
Center Freq 2.440000000 GHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
Ext Gain: -1.50 dB
TRACE 1 2 3 4 5 6
TYPE M WWWWW
DET P N N N N N
Mkr1 2.439 956 8 GHz
-19.200 dBm
10 dB/div
Log
Ref 0.00 dBm
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
-80.0
-90.0
1
Center 2.440000 GHz
#Res BW 10 kHz
#VBW 30 kHz
Span 3.000 MHz
Sweep 1.333 ms (10001 pts)
MSG
STATUS
Frequency
Auto Tune
Center Freq
2.440000000 GHz
Start Freq
2.438500000 GHz
Stop Freq
2.441500000 GHz
CF Step
300.000 kHz
Auto
Man
Freq Offset
0 Hz

Channel 39


Keysight Spectrum Analyzer - Swept SA
RL
RF
50 Ω DC
SENSE:INT
ALIGN AUTO
09:03:00 AM Oct 13, 2017
Center Freq 2.480000000 GHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
Ext Gain: -1.50 dB
TRACE 1 2 3 4 5 6
TYPE M WWWWW
DET P N N N N N
Mkr1 2.480 022 5 GHz
-21.128 dBm
10 dB/div
Log
Ref 0.00 dBm
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
-80.0
-90.0
1
Center 2.480000 GHz
#Res BW 10 kHz
#VBW 30 kHz
Span 3.000 MHz
Sweep 1.333 ms (10001 pts)
MSG
STATUS
Frequency
Auto Tune
Center Freq
2.480000000 GHz
Start Freq
2.478500000 GHz
Stop Freq
2.481500000 GHz
CF Step
300.000 kHz
Auto
Man
Freq Offset
0 Hz