

FCC Test Report

Product Name : Bluetooth Headset

Trade Name : BIKECOMM

Model No. : BK-S2

FCC ID : WTU-28658913-A5

Applicant : Open Road Solutions, Inc.

Address : No.88-13, Shuili Rd., East Dist., Hsinchu City 300,
Taiwan (R.O.C.)

Date of Receipt : Sep. 30, 2020

Issued Date : Feb. 20, 2021

Report No. : 2110220R-E3032110108

Report Version : V1.0



The test results relate only to the samples tested.

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Test Report Certification

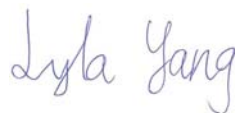
Issued Date : Feb. 20, 2021

Report No. : 2110220R-E3032110108



Product Name : Bluetooth Headset
Applicant : Open Road Solutions, Inc.
Address : No.88-13, Shuili Rd., East Dist., Hsinchu City 300, Taiwan (R.O.C.)
Manufacturer : Open Road Solutions, Inc.
Address : No.88-13, Shuili Rd., East Dist., Hsinchu City 300, Taiwan (R.O.C.)
Trade name : BIKECOMM
Model No. : BK-S2
FCC ID : WTU-28658913-A5
EUT Voltage : DC 3.7V
Testing Voltage : DC 3.7V (Power by Charge)
Applicable Standard : FCC CFR Title 47 Part 15 Subpart C Section 15.247: 2019 ANSI C63.10: 2013
Laboratory Name : Hsin Chu Laboratory
Address : 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
Test Result : Complied

Documented By :



(Lyla Yang / Engineering Adm. Specialist)

Tested By :



(Elwin Lin / Senior Engineer)

Approved By :



(Louis Hsu / Deputy Manager)

Revision History

Version	Description	Issued Date
V1.0	Initial issue of report	Feb. 20, 2021

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1. General Information

1.1. EUT Description

Product Name	Bluetooth Headset
Trade Name	BIKECOMM
Model No.	BK-S2
Frequency Range/Channel Number	2402~2480MHz / 79 Channels
Type of Modulation	GFSK, $\pi/4$ -DQPSK, 8-DPSK

Antenna Information	
Brand / Model No.	BIKECOMM / BK-S2
Antenna Type	PCB antenna
Antenna Gain	2.7dBi

Accessories Information	
USB Type C Charging Cable	1 PCS, Shielded, 0.75m
USB Type C Speaker Cable	1 PCS, Non-Shielded, 0.47m
Half Mask Microphone	1 PCS
Speaker	1 PCS
BK-S2 Velcro	1 PCS
BK-S2 Holder	1 PCS

Working Frequency of Each Channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 00	2402 MHz	Channel 20	2422 MHz	Channel 40	2442 MHz	Channel 60	2462 MHz
Channel 01	2403 MHz	Channel 21	2423 MHz	Channel 41	2443 MHz	Channel 61	2463 MHz
Channel 02	2404 MHz	Channel 22	2424 MHz	Channel 42	2444 MHz	Channel 62	2464 MHz
Channel 03	2405 MHz	Channel 23	2425 MHz	Channel 43	2445 MHz	Channel 63	2465 MHz
Channel 04	2406 MHz	Channel 24	2426 MHz	Channel 44	2446 MHz	Channel 64	2466 MHz
Channel 05	2407 MHz	Channel 25	2427 MHz	Channel 45	2447 MHz	Channel 65	2467 MHz
Channel 06	2408 MHz	Channel 26	2428 MHz	Channel 46	2448 MHz	Channel 66	2468 MHz
Channel 07	2409 MHz	Channel 27	2429 MHz	Channel 47	2449 MHz	Channel 67	2469 MHz
Channel 08	2410 MHz	Channel 28	2430 MHz	Channel 48	2450 MHz	Channel 68	2470 MHz
Channel 09	2411 MHz	Channel 29	2431 MHz	Channel 49	2451 MHz	Channel 69	2471 MHz
Channel 10	2412 MHz	Channel 30	2432 MHz	Channel 50	2452 MHz	Channel 70	2472 MHz
Channel 11	2413 MHz	Channel 31	2433 MHz	Channel 51	2453 MHz	Channel 71	2473 MHz
Channel 12	2414 MHz	Channel 32	2434 MHz	Channel 52	2454 MHz	Channel 72	2474 MHz
Channel 13	2415 MHz	Channel 33	2435 MHz	Channel 53	2455 MHz	Channel 73	2475 MHz
Channel 14	2416 MHz	Channel 34	2436 MHz	Channel 54	2456 MHz	Channel 74	2476 MHz
Channel 15	2417 MHz	Channel 35	2437 MHz	Channel 55	2457 MHz	Channel 75	2477 MHz
Channel 16	2418 MHz	Channel 36	2438 MHz	Channel 56	2458 MHz	Channel 76	2478 MHz
Channel 17	2419 MHz	Channel 37	2439 MHz	Channel 57	2459 MHz	Channel 77	2479 MHz
Channel 18	2420 MHz	Channel 38	2440 MHz	Channel 58	2460 MHz	Channel 78	2480 MHz
Channel 19	2421 MHz	Channel 39	2441 MHz	Channel 59	2461 MHz		

Note:

1. This device is a Bluetooth Headset including Bluetooth transmitting and receiver 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.
3. The spurious emission was measured in three position (X, Y & Z axis), and the worst case (Z axis) was recorded in the report.
4. The EUT description is from the customer declaration.

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 mode
-----------	-----------------------

Test Items	Modulation	Channel	Result
Conducted Emission	8-DPSK	78	Complies
Maximum peak conducted output power	GFSK/8-DPSK	00/39/78	Complies
Radiated Emission	GFSK/8-DPSK	00/39/78	Complies
RF antenna conducted test	GFSK/8-DPSK	00/39/78	Complies
Bandedge	GFSK/8-DPSK	00/39/78	Complies
Number of hopping Frequency	GFSK/8-DPSK	00/39/78	Complies
Carrier Frequency Separation	GFSK/8-DPSK	00/39/78	Complies
-20dB Bandwidth	GFSK/8-DPSK	00/39/78	Complies
Dwell Time	GFSK/8-DPSK	00/39/78	Complies

Note:

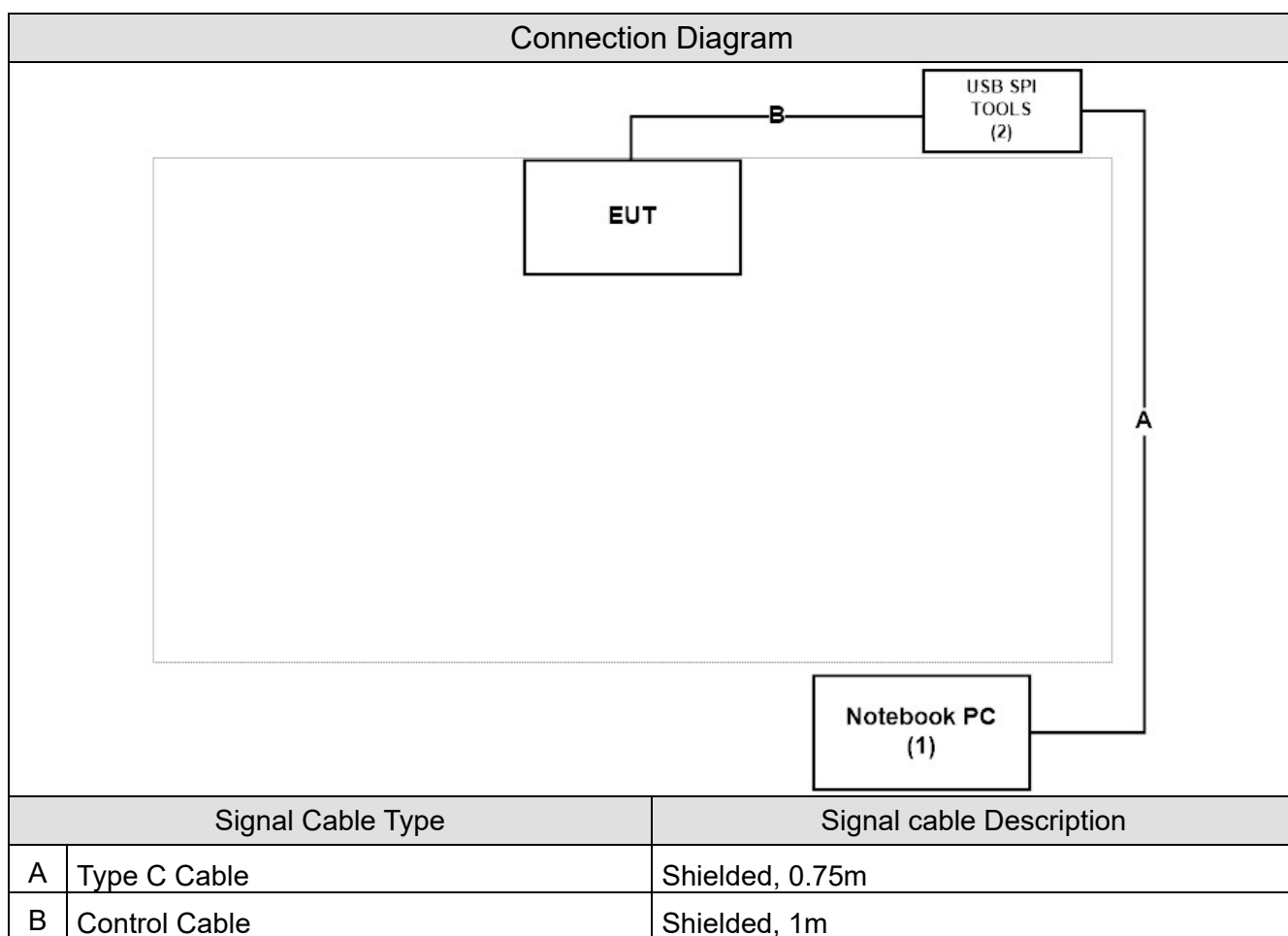
1. Determining compliance shall be based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
2. Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

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	Lenove	80SJ	MP16Z7TB	DoC	Non-Shielded, 1.8m
2 USB SPI TOOLS	CSR	CSR USB-SPI	--	DoC	Non-Shielded, 0.25m

1.4. Configuration of tested System



1.5. EUT Exercise Software

1	Set the EUT as shown.
2	Execute the Command on the laptop.
3	Configure test mode, test channel and data rate.
4	Let the EUT start sending or receiving continuously.
5	Verify that the device is working properly.

1.6. Comments and Remarks

The product specification and testing instructions for the EUT declared in the report are provided by the manufacturer who will take all responsibilities for the accuracy.

1.7. Test Facility

Ambient conditions in the laboratory:

Items	Test Item	Required	Test Site
Temperature (°C)	FCC PART 15 C 15.207 Conducted Emission	15 - 35	2
Humidity (%RH)		25 - 75	
Temperature (°C)	FCC PART 15 C 15.247 Maximum peak conducted output power	15 - 35	1
Humidity (%RH)		25 - 75	
Temperature (°C)	FCC PART 15 C 15.247 Radiated Emission	15 - 35	1
Humidity (%RH)		25 - 75	
Temperature (°C)	FCC PART 15 C 15.247 RF antenna conducted test	15 - 35	1
Humidity (%RH)		25 - 75	
Temperature (°C)	FCC PART 15 C 15.247 Bandedge	15 - 35	1
Humidity (%RH)		25 - 75	
Temperature (°C)	FCC PART 15 C 15.247 Number of hopping Frequency	15 - 35	1
Humidity (%RH)		25 - 75	
Temperature (°C)	FCC PART 15 C 15.247 Carrier Frequency Separation	15 - 35	1
Humidity (%RH)		25 - 75	
Temperature (°C)	FCC PART 15 C 15.247 -20dB Bandwidth	15 - 35	1
Humidity (%RH)		25 - 75	
Temperature (°C)	FCC PART 15 C 15.247 Dwell Time	15 - 35	1
Humidity (%RH)		25 - 75	

Note: Test site information refers to Laboratory Information.

Laboratory Information

USA	:	FCC Registration Number: TW3024
Canada	:	IC Registration Number: 22397-1 / 22397-2 / 22397-3

The address and introduction of DEKRA Testing and Certification Co., Ltd. laboratories can be founded in our Web site: <http://www.dekra.com.tw>

If you have any comments, please don't hesitate to contact us. Our test sites as below:

Test Laboratory	DEKRA Testing and Certification Co., Ltd.
Address	1. No.372, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County 31061, Taiwan, R.O.C. 2. No.372-2, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County 31061, Taiwan, R.O.C.
Phone number	1. +886-3-582-8001 2. +886-3-582-8001
Fax number	1. +886-3-582-8958 2. +886-3-582-8958
Email address	info.tw@dekra.com
Website	http://www.dekra.com.tw

1.8. List of Test Equipment

Conducted Emission / SR2-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Artificial Mains Network	R&S	ENV4200	848411/010	2020/01/08	2021/01/07
Test Receiver	R&S	ESCS 30	836858/022	2020/02/25	2021/02/24
LISN	R&S	ENV216	100092	2020/06/22	2021/06/21

Maximum peak conducted output power / SR12-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
High Speed Peak Power Meter Dual Input	Anritsu	ML2496A	1602004	2019/12/02	2020/12/01
Pulse Power Sensor	Anritsu	MA2411B	1531043	2019/12/02	2020/12/01
Pulse Power Sensor	Anritsu	MA2411B	1531044	2019/12/02	2020/12/01
Power Meter	Keysight	8990B	MY51000248	2020/05/20	2021/05/19
Power Sensor	Keysight	N1923A	MY57240005	2020/05/20	2021/05/19

Radiated Emission / CB2-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Signal Analyzer	R&S	FSVA40	101455	2019/10/21	2020/10/20
Signal & Spectrum Analyzer	R&S	FSV40	101049	2020/03/30	2021/03/29
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2020/02/21	2021/02/20
Bilog Antenna	Teseq	CBL6112D	23191	2020/06/12	2021/06/11
Horn Antenna	Schwarzbeck	BBHA 9120D	639	2020/06/04	2021/06/03
Horn Antenna	Schwarzbeck	BBHA 9170	202	2019/12/27	2020/12/26
Pre-Amplifier	DEKRA	AP-025C	12183122	2020/09/03	2021/09/02
Pre-Amplifier	EMCI	EMC11830I	980366	2019/12/03	2020/12/02
Pre-Amplifier	DEKRA	AP-400C	201801231	2019/12/03	2020/12/02
Horn Antenna	Schwarzbeck	BBHA 9120D	01656	2019/10/25	2020/10/24
Signal Analyzer	R&S	FSV40	101435	2020/06/24	2021/06/23
Band Reject Filter	Micro-Tronics	BRM50702	G192	2020/03/09	2021/03/08
Coaxial Cable(13m)	Huber+Suhner	SF104	CB2-H	2020/07/25	2021/07/24
EMI system	DEKRA	Version 1.0	CB2-H	NA	NA

RF antenna conducted test / SR12-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A	US47140172	2020/06/18	2021/06/17
Signal & Spectrum Analyzer	R&S	FSV40	101049	2020/03/30	2021/03/29
Spectrum Analyzer	Keysight	N9030B	MY57140404	2020/06/03	2021/06/02
Spectrum Analyzer	Keysight	N9010B	MY57110159	2020/04/15	2021/04/14

Bandedge / CB2-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Signal Analyzer	R&S	FSVA40	101455	2019/10/21	2020/10/20
Signal & Spectrum Analyzer	R&S	FSV40	101049	2020/03/30	2021/03/29
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2020/02/21	2021/02/20
Bilog Antenna	Teseq	CBL6112D	23191	2020/06/12	2021/06/11
Horn Antenna	Schwarzbeck	BBHA 9120D	639	2020/06/04	2021/06/03
Horn Antenna	Schwarzbeck	BBHA 9170	202	2019/12/27	2020/12/26
Pre-Amplifier	DEKRA	AP-025C	12183122	2020/09/03	2021/09/02
Pre-Amplifier	EMCI	EMC11830I	980366	2019/12/03	2020/12/02
Pre-Amplifier	DEKRA	AP-400C	201801231	2019/12/03	2020/12/02
Horn Antenna	Schwarzbeck	BBHA 9120D	01656	2019/10/25	2020/10/24
Signal Analyzer	R&S	FSV40	101435	2020/06/24	2021/06/23
Band Reject Filter	Micro-Tronics	BRM50702	G192	2020/03/09	2021/03/08
Coaxial Cable(13m)	Huber+Suhner	SF104	CB2-H	2020/07/25	2021/07/24
EMI system	DEKRA	Version 1.0	CB2-H	NA	NA

Number of hopping frequency / SR12-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A	US47140172	2020/06/18	2021/06/17
Signal & Spectrum Analyzer	R&S	FSV40	101049	2020/03/30	2021/03/29
Spectrum Analyzer	Keysight	N9030B	MY57140404	2020/06/03	2021/06/02
Spectrum Analyzer	Keysight	N9010B	MY57110159	2020/04/15	2021/04/14

Carrier Frequency Separation / SR12-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A	US47140172	2020/06/18	2021/06/17
Signal & Spectrum Analyzer	R&S	FSV40	101049	2020/03/30	2021/03/29
Spectrum Analyzer	Keysight	N9030B	MY57140404	2020/06/03	2021/06/02
Spectrum Analyzer	Keysight	N9010B	MY57110159	2020/04/15	2021/04/14

-20dB Bandwidth / SR12-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A	US47140172	2020/06/18	2021/06/17
Signal & Spectrum Analyzer	R&S	FSV40	101049	2020/03/30	2021/03/29
Spectrum Analyzer	Keysight	N9030B	MY57140404	2020/06/03	2021/06/02
Spectrum Analyzer	Keysight	N9010B	MY57110159	2020/04/15	2021/04/14

Dwell Time / SR12-H

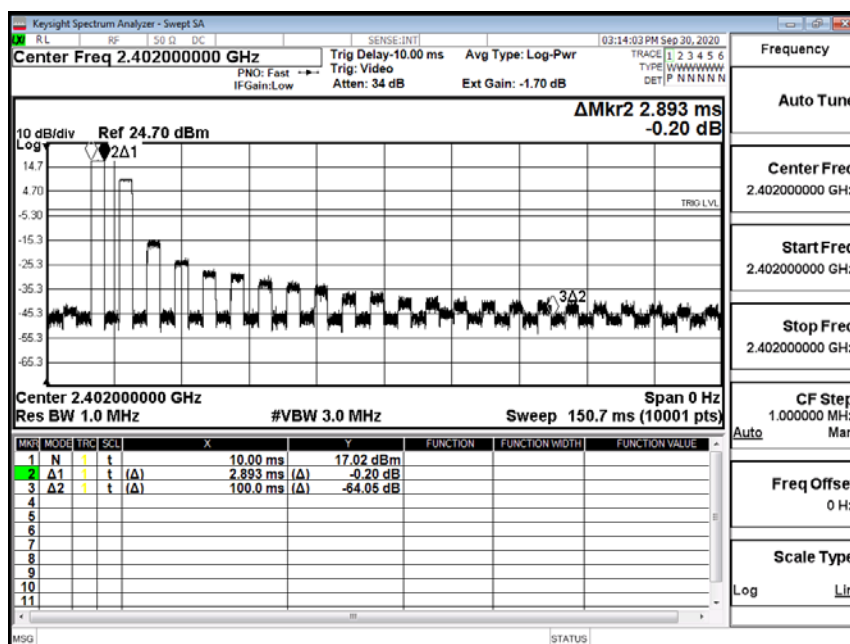
Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Spectrum Analyzer	Agilent	N9010A	US47140172	2020/06/18	2021/06/17
Signal & Spectrum Analyzer	R&S	FSV40	101049	2020/03/30	2021/03/29
Spectrum Analyzer	Keysight	N9030B	MY57140404	2020/06/03	2021/06/02
Spectrum Analyzer	Keysight	N9010B	MY57110159	2020/04/15	2021/04/14

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

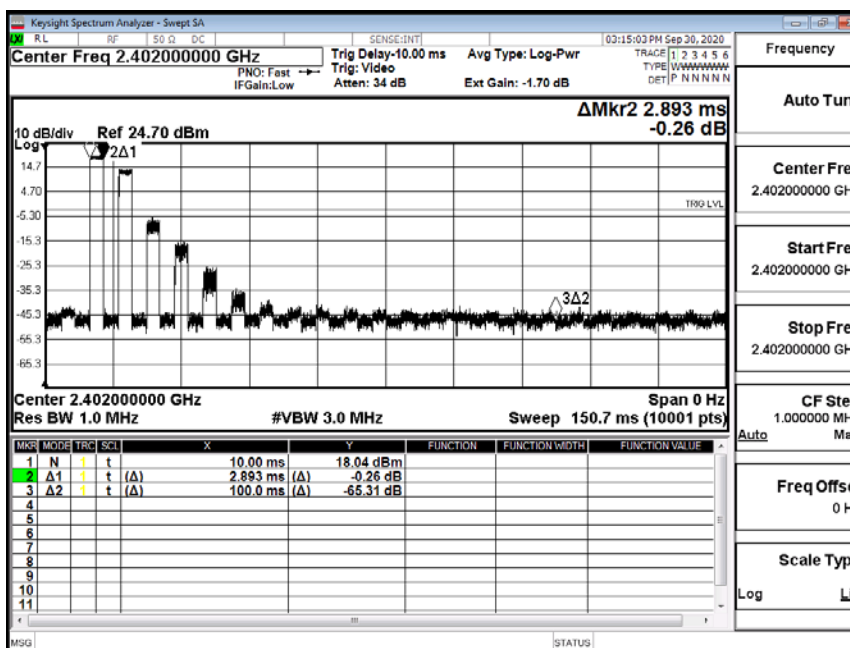
1.9. Duty Cycle

Mode	On Time (ms)	On+Off Time (ms)	Duty Cycle (%)	Duty Factor (dB) linear voltage
DH5	2.893	100.000	2.89%	-30.773031
3DH5	2.893	100.000	2.89%	-30.773031

DH5



3DH5

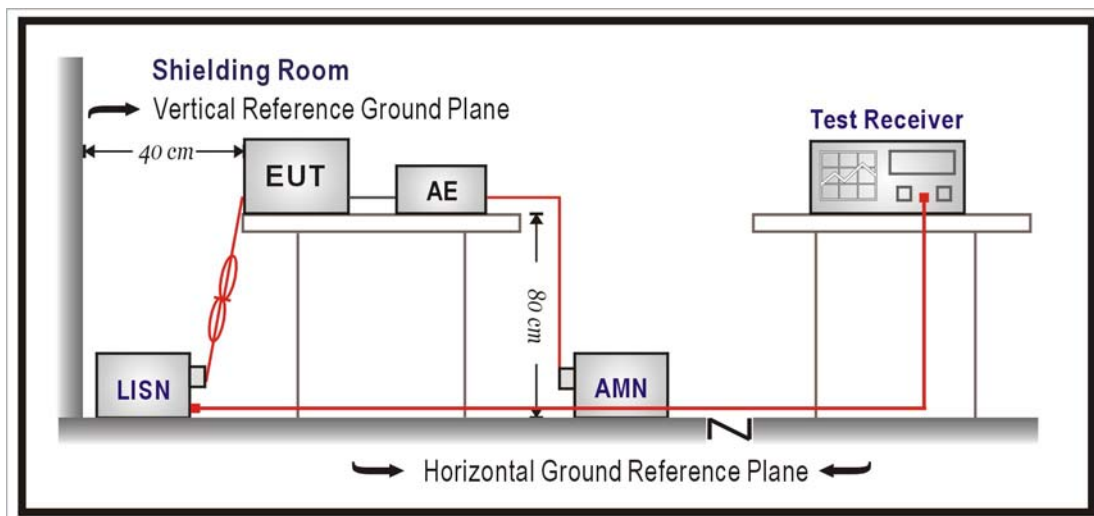


1.10. Uncertainty

Test item	Uncertainty
Conducted Emission	± 2.26 dB
Maximum peak conducted output power	± 1.27 dB
Radiated Emission	30MHz~1GHz as ± 3.43 dB 1GHz~26.5Ghz as ± 3.65 dB
RF antenna conducted test	± 1.27 dB
Bandedge	± 1.27 dB
Number of hopping frequency	± 1.27 dB
Carrier Frequency Separation	± 50 Hz
-20dB Bandwidth	± 50 Hz
Dwell Time	± 25 msec

2. Conducted Emission

2.1. Test Setup



2.2. Limits

FCC Part 15 Subpart C Paragraph 15.207 Limits (dBuV)		
Frequency	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.

2.3. Test Procedure

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm /50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs.)

Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10: 2013 on conducted measurement.

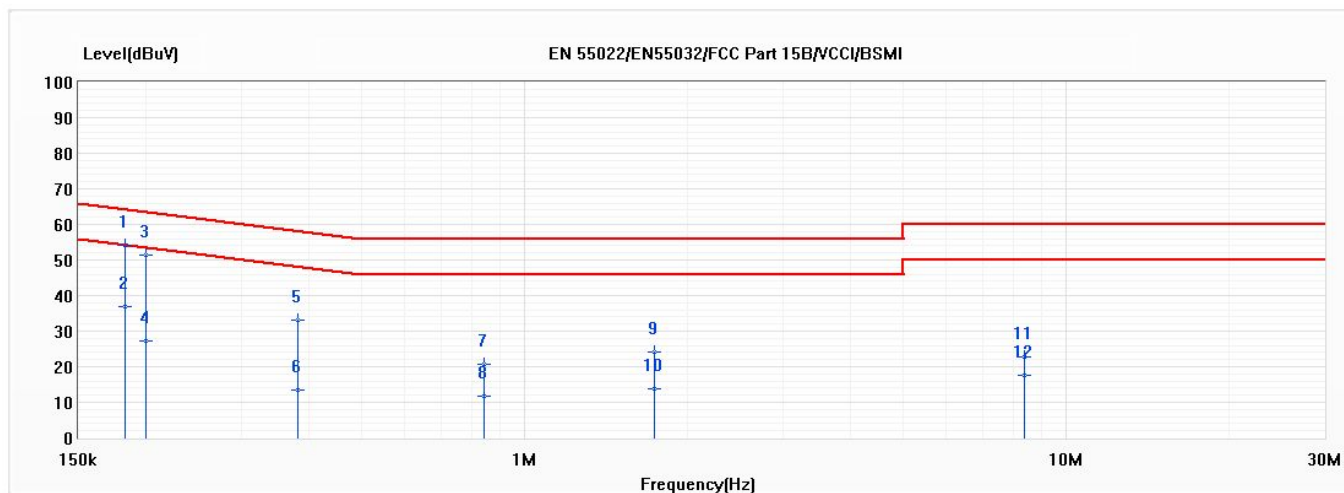
Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz.

2.4. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.207: 2019

2.5. Test Result

Model No	BK-S2	Site	SR2-H
Test Voltage	DC 3.7V (Power by Charge)	Test Date	2020/10/8
Test Mode	Mode 1: Transmit Mode	Engineer	Elwin Lin
Phase	L	Temperature (°C)	24
Test Condition	3DH5_2480MHz	Humidity (%RH)	58

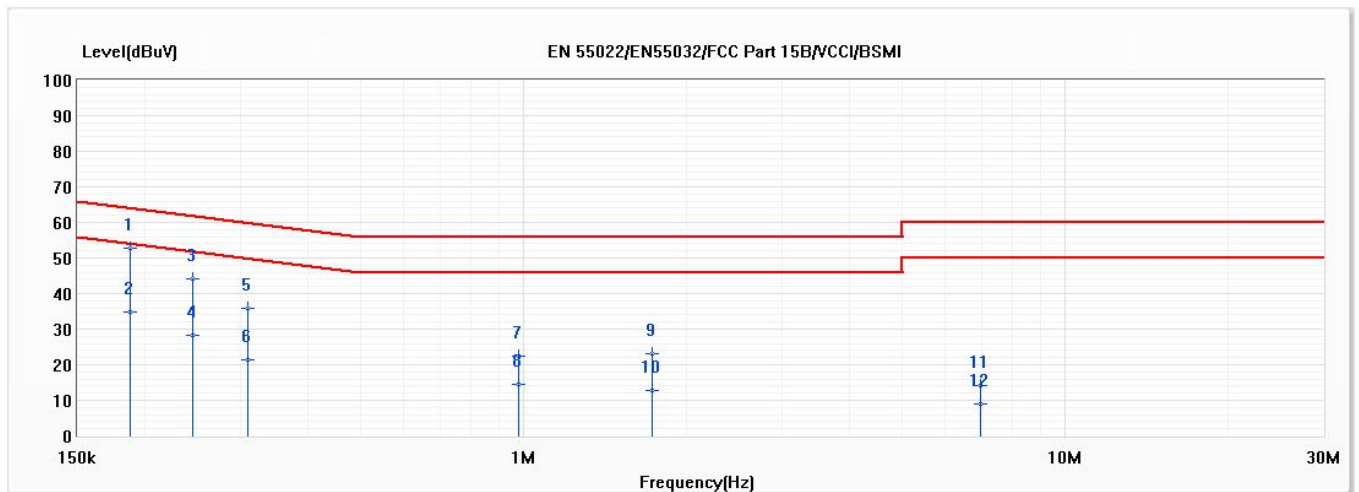


No	Frequency (MHz)	Emission Level (dBuV)	Limit (dBuV)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
*1	0.183	54.07	64.34	-10.27	44.42	9.64	QP
2	0.183	36.93	54.34	-17.41	27.28	9.64	AV
3	0.2	51.31	63.62	-12.31	41.66	9.65	QP
4	0.2	27.34	53.62	-26.28	17.69	9.65	AV
5	0.382	33.26	58.24	-24.98	23.58	9.68	QP
6	0.382	13.40	48.24	-34.84	3.73	9.68	AV
7	0.843	20.52	56.00	-35.48	10.79	9.73	QP
8	0.843	11.87	46.00	-34.13	2.15	9.73	AV
9	1.736	24.16	56.00	-31.84	14.39	9.78	QP
10	1.736	13.91	46.00	-32.09	4.14	9.78	AV
11	8.388	22.91	60.00	-37.09	12.85	10.06	QP
12	8.388	17.67	50.00	-32.33	7.61	10.06	AV

Remark:

1. "*" means this data is the worst emission level.
2. Emission Level = Reading Level + Correct Factor (Correct Factor = LISN Insertion Loss + Cable Loss).
3. Margin = Emission Level - Limit.

Model No	BK-S2	Site	SR2-H
Test Voltage	DC 3.7V (Power by Charge)	Test Date	2020/10/8
Test Mode	Mode 1: Transmit Mode	Engineer	Elwin Lin
Phase	N	Temperature (°C)	24
Test Condition	3DH5_2480MHz	Humidity (%RH)	58



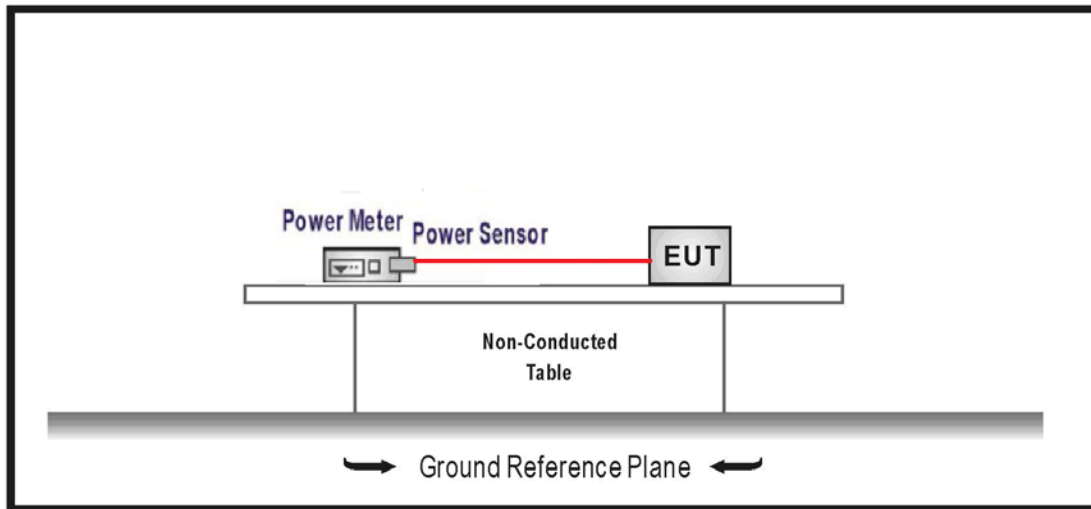
No	Frequency (MHz)	Emission Level (dBuV)	Limit (dBuV)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
*1	0.188	52.68	64.12	-11.44	43.05	9.63	QP
2	0.188	34.69	54.12	-19.43	25.05	9.63	AV
3	0.245	44.06	61.92	-17.86	34.41	9.64	QP
4	0.245	28.43	51.92	-23.49	18.78	9.64	AV
5	0.31	35.80	59.98	-24.18	26.15	9.66	QP
6	0.31	21.47	49.98	-28.51	11.82	9.66	AV
7	0.98	22.30	56.00	-33.70	12.58	9.72	QP
8	0.98	14.37	46.00	-31.63	4.65	9.72	AV
9	1.728	22.95	56.00	-33.05	13.19	9.77	QP
10	1.728	12.82	46.00	-33.18	3.06	9.77	AV
11	6.99	13.99	60.00	-46.01	3.97	10.02	QP
12	6.99	9.11	50.00	-40.89	-0.91	10.02	AV

Remark:

1. "*" means this data is the worst emission level.
2. Emission Level = Reading Level + Correct Factor (Correct Factor = LISN Insertion Loss + Cable Loss).
3. Margin = Emission Level - Limit

3. Maximum peak conducted output power

3.1. Test Setup



3.2. Test procedures

The EUT was setup according to ANSI C63.10: 2013 and tested according to FHSS test procedure of FCC KDB 558074 D01 v05r02 for compliance to FCC 47CFR 15.247 requirements

3.3. Limits

For frequency hopping systems operating in the 902-928 MHz band: 1 Watt for systems employing at least 50 hopping channels; and, 0.25 Watts for systems employing less than 50 hopping channels.

For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts.

3.4. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2019.

3.5. Test Result

Product	Bluetooth Headset		
Test Item	Maximum peak conducted output power		
Test Mode	Mode 1: Transmit mode		
Date of Test	2020/10/06	Test Site	SR12-H
Temperature(°C)	25.0	Humidity (%RH)	60.0

GFSK

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)
00	2402	16.400	≤ 30.000
39	2441	16.900	≤ 30.000
78	2480	17.160	≤ 30.000

8-DPSK

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)
00	2402	12.900	≤ 30.000
39	2441	13.930	≤ 30.000
78	2480	14.200	≤ 30.000

4.2. 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.

4.3. Test Procedure

The EUT was setup according to ANSI C63.10: 2013 and tested according to FHSS test procedure of FCC KDB 558074 D01 v05r02 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 from 9KHz (include The the lowest oscillator frequency generated within the device up to the 10th harmonic) 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.

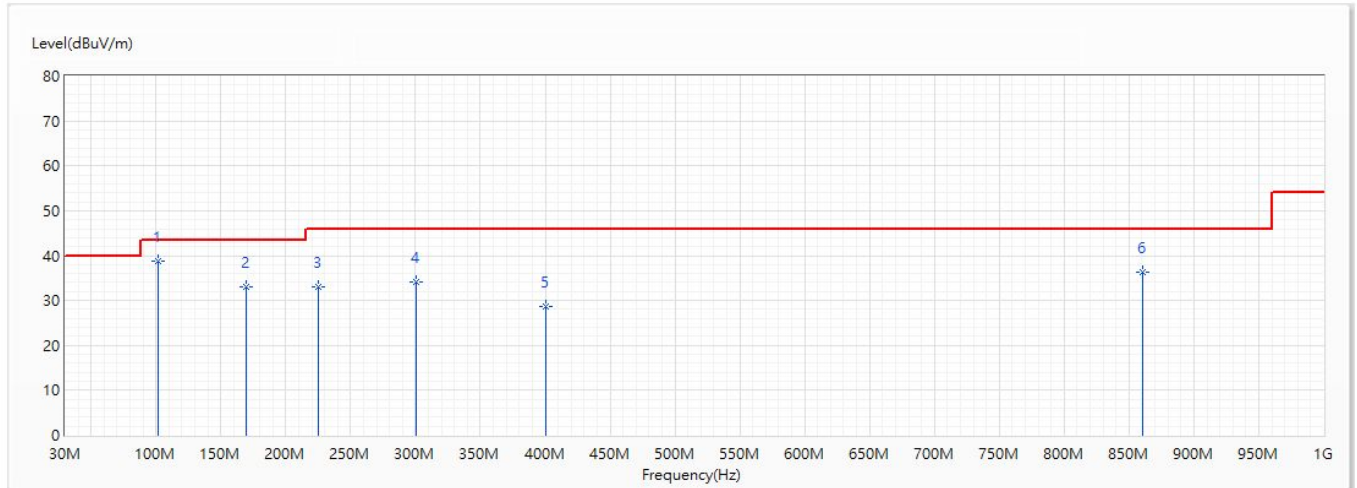
4.4. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2019

4.5. Test Result

30MHz-1GHz Spurious

Model No	BK-S2	Site	CB2-H
Test Voltage	DC 3.7V (Power by Charge)	Test Date	2020/9/30
Test Mode	Mode 1: Transmit Mode	Engineer	Scott
Polarity	Horizontal	Temperature (°C)	22.0
Test Condition	3DH5_Ch78_2.48G	Humidity (%RH)	55.0

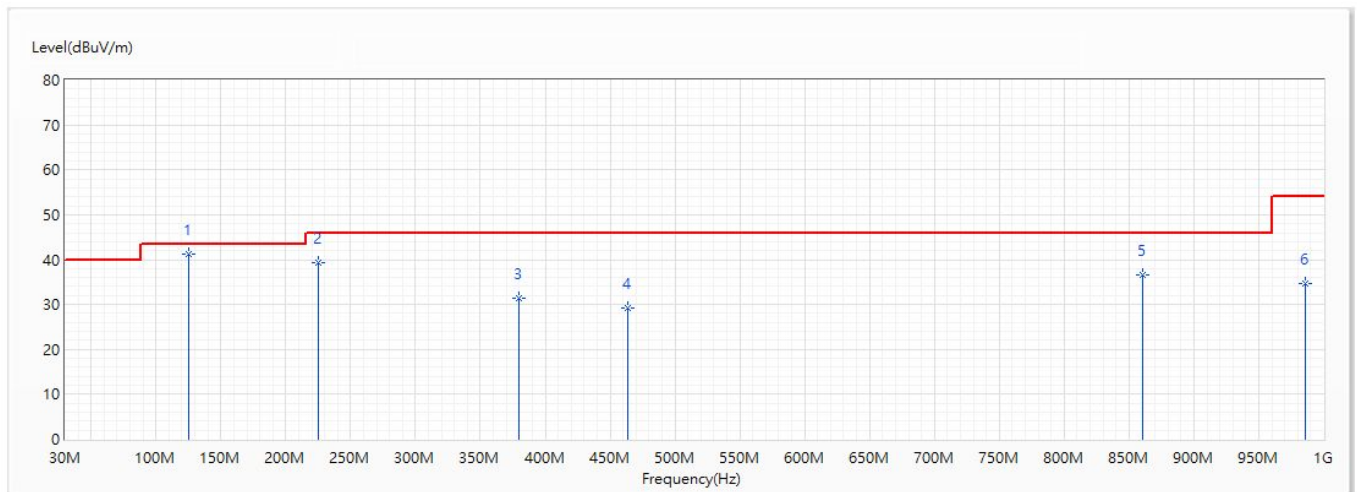


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
* 1	101.295	38.69	43.50	-4.81	42.98	-4.29	QP
2	169.68	33.03	43.50	-10.47	37.83	-4.80	QP
3	224.97	33.17	46.00	-12.83	36.61	-3.44	QP
4	300.145	34.07	46.00	-11.93	35.27	-1.20	QP
5	400.055	28.56	46.00	-17.44	26.54	2.02	QP
6	860.32	36.29	46.00	-9.71	28.20	8.09	QP

Note:

1. All reading levels is Quasi-Peak value.
2. " * ", means this data is the worst value.
3. Emission Level = Reading Level + Correct Factor
4. The emission under 30MHz were not included is because their levels are lower than 20dB from limit.

Model No	BK-S2	Site	CB2-H
Test Voltage	DC 3.7V (Power by Charge)	Test Date	2020/9/30
Test Mode	Mode 1: Transmit Mode	Engineer	Scott
Polarity	Vertical	Temperature (°C)	22.0
Test Condition	3DH5_Ch78_2.48G	Humidity (%RH)	55.0



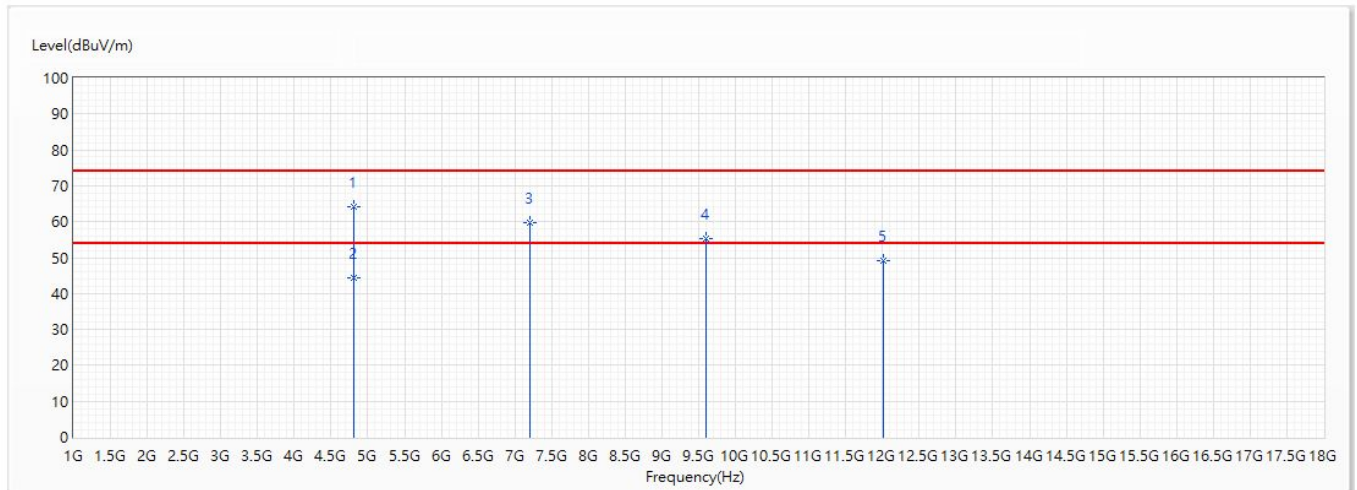
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
* 1	125.06	41.29	43.50	-2.21	43.79	-2.50	QP
2	224.97	39.27	46.00	-6.73	42.71	-3.44	QP
3	380.17	31.28	46.00	-14.72	29.89	1.39	QP
4	464.075	29.35	46.00	-16.65	26.17	3.18	QP
5	860.805	36.64	46.00	-9.36	28.54	8.10	QP
6	985.935	34.68	54.00	-19.32	24.71	9.97	QP

Note:

1. All reading levels is Quasi-Peak value.
2. “ * ”, means this data is the worst value.
3. Emission Level = Reading Level + Correct Factor
4. The emission under 30MHz were not included is because their levels are lower than 20dB from limit.

Harmonic & Spurious:

Model No	BK-S2	Site	CB2-H
Test Voltage	DC 3.7V (Power by Charge)	Test Date	2020/10/7
Test Mode	Mode 1: Transmit Mode	Engineer	Elwin
Polarity	Horizontal	Temperature (°C)	22.0
Test Condition	DH5_Ch00_2.402G	Humidity (%RH)	55.0

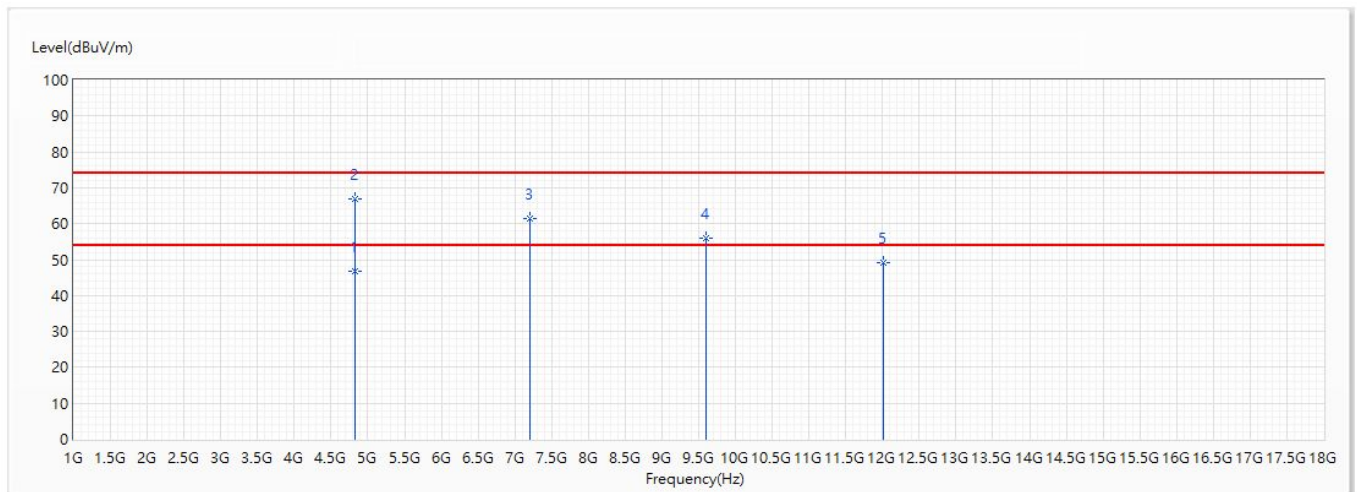


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
* 1	4804	64.32	74.00	-9.68	76.35	-12.03	PK
2	4804	44.32	54.00	-9.68	56.35	-12.03	AV
3	7206	59.73	74.00	-14.27	64.41	-4.68	PK
4	9608	55.45	74.00	-18.55	56.78	-1.33	PK
5	12010	49.04	74.00	-24.96	46.23	2.81	PK

Note:

- 1.All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst value.
- 3.Emission Level = Reading Level + Correct Factor.
- 4.The average measurement was not performed when the peak measured data under the limit of average detection.
- 5.The emission above 13GHz were not included is because their levels are lower than 20dB form limit.

Model No	BK-S2	Site	CB2-H
Test Voltage	DC 3.7V (Power by Charge)	Test Date	2020/10/7
Test Mode	Mode 1: Transmit Mode	Engineer	Elwin
Polarity	Vertical	Temperature (°C)	22.0
Test Condition	DH5_Ch00_2.402G	Humidity (%RH)	55.0

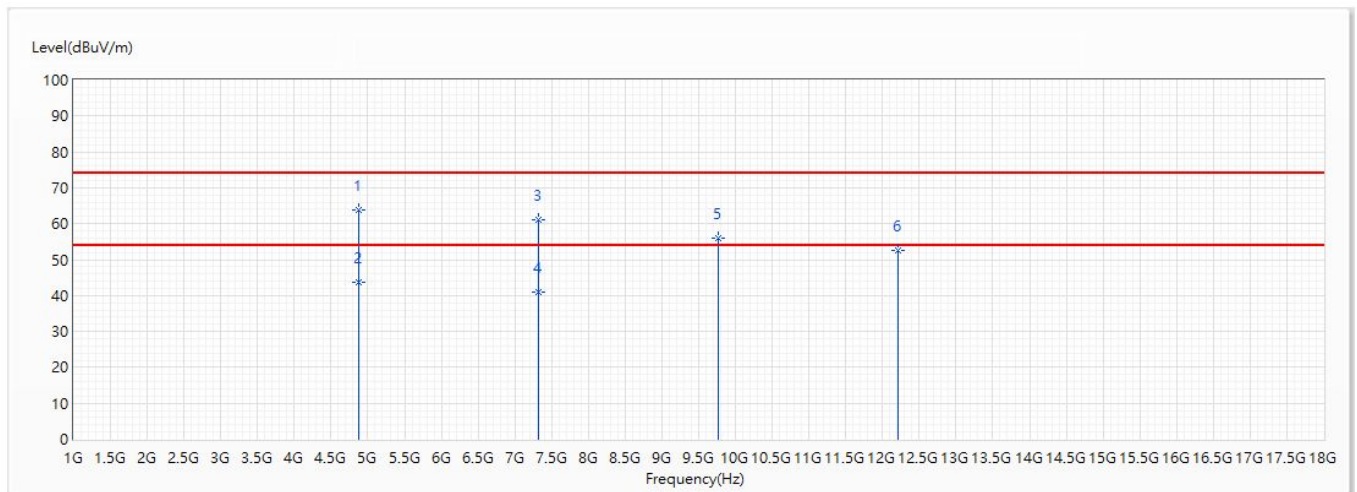


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
* 1	4824	46.83	54.00	-7.17	58.81	-11.98	AV
2	4824	66.83	74.00	-7.17	78.81	-11.98	PK
3	7206	61.44	74.00	-12.56	66.12	-4.68	PK
4	9608	56.01	74.00	-17.99	57.34	-1.33	PK
5	12010	48.99	74.00	-25.01	46.18	2.81	PK

Note:

- 1.All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst value.
- 3.Emission Level = Reading Level + Correct Factor.
- 4.The average measurement was not performed when the peak measured data under the limit of average detection.
- 5.The emission above 13GHz were not included is because their levels are lower than 20dB form limit.

Model No	BK-S2	Site	CB2-H
Test Voltage	DC 3.7V (Power by Charge)	Test Date	2020/10/7
Test Mode	Mode 1: Transmit Mode	Engineer	Elwin
Polarity	Horizontal	Temperature (°C)	22.0
Test Condition	DH5_Ch39_2.441G	Humidity (%RH)	55.0

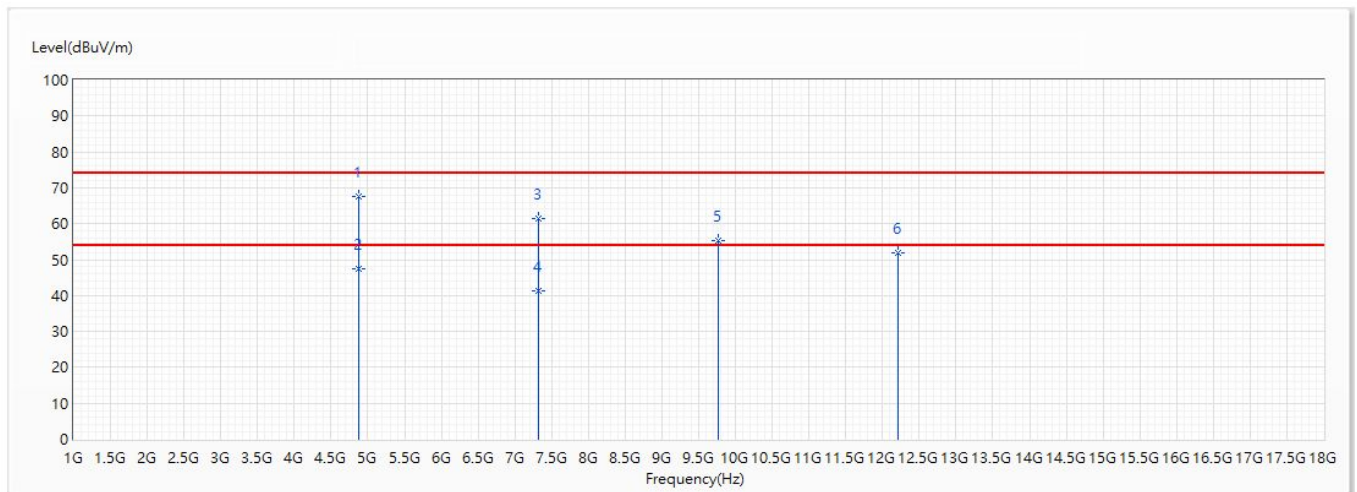


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
* 1	4882	63.74	74.00	-10.26	75.56	-11.82	PK
2	4882	43.74	54.00	-10.26	55.56	-11.82	AV
3	7323	61.03	74.00	-12.97	65.37	-4.34	PK
4	7323	41.03	54.00	-12.97	45.37	-4.34	AV
5	9764	55.89	74.00	-18.11	57.16	-1.27	PK
6	12205	52.49	74.00	-21.51	49.92	2.57	PK

Note:

- 1.All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst value.
- 3.Emission Level = Reading Level + Correct Factor.
- 4.The average measurement was not performed when the peak measured data under the limit of average detection.
- 5.The emission above 13GHz were not included is because their levels are lower than 20dB form limit.

Model No	BK-S2	Site	CB2-H
Test Voltage	DC 3.7V (Power by Charge)	Test Date	2020/10/7
Test Mode	Mode 1: Transmit Mode	Engineer	Elwin
Polarity	Vertical	Temperature (°C)	22.0
Test Condition	DH5_Ch39_2.441G	Humidity (%RH)	55.0

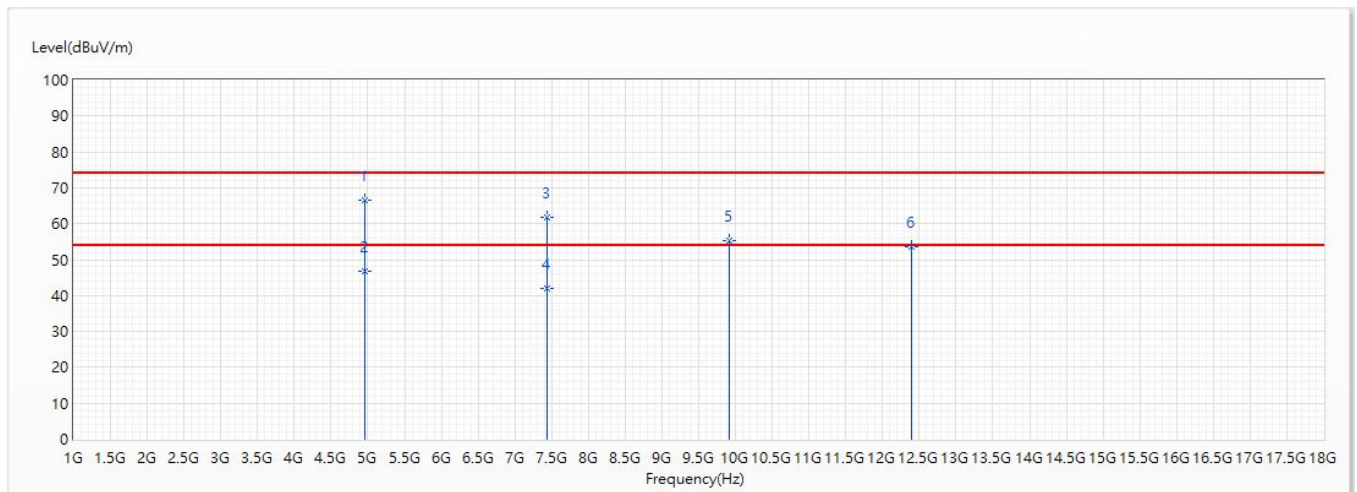


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
* 1	4882	67.46	74.00	-6.54	79.28	-11.82	PK
2	4882	47.46	54.00	-6.54	59.28	-11.82	AV
3	7323	61.45	74.00	-12.55	65.79	-4.34	PK
4	7323	41.45	54.00	-12.55	45.79	-4.34	AV
5	9764	55.29	74.00	-18.71	56.56	-1.27	PK
6	12205	51.96	74.00	-22.04	49.39	2.57	PK

Note:

- 1.All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst value.
- 3.Emission Level = Reading Level + Correct Factor.
- 4.The average measurement was not performed when the peak measured data under the limit of average detection.
- 5.The emission above 13GHz were not included is because their levels are lower than 20dB form limit.

Model No	BK-S2	Site	CB2-H
Test Voltage	DC 3.7V (Power by Charge)	Test Date	2020/10/7
Test Mode	Mode 1: Transmit Mode	Engineer	Elwin
Polarity	Horizontal	Temperature (°C)	22.0
Test Condition	DH5_Ch78_2.48G	Humidity (%RH)	55.0

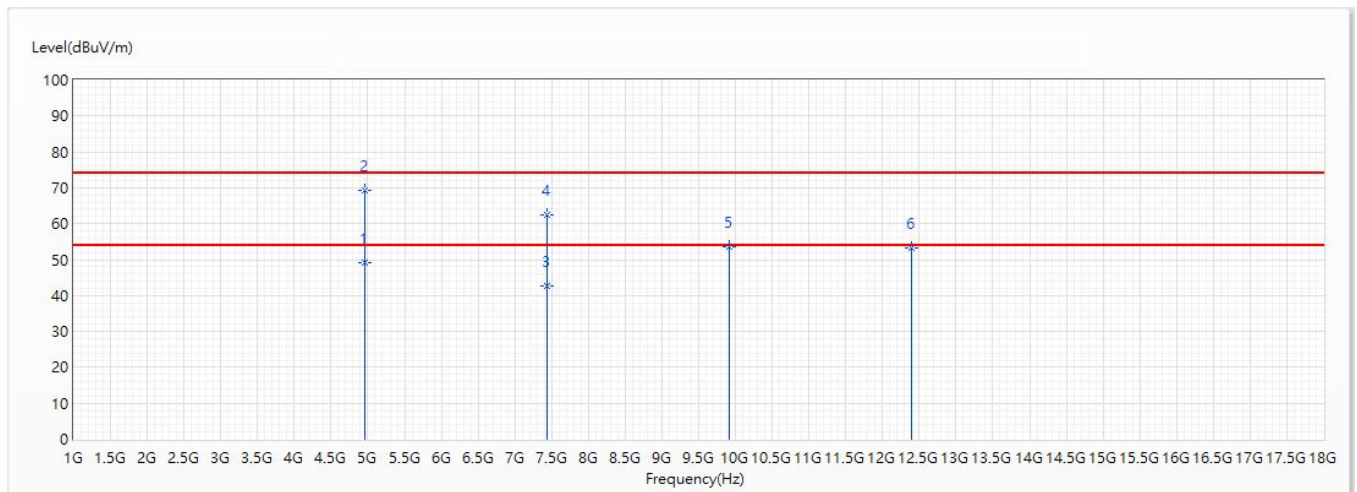


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
* 1	4960	66.64	74.00	-7.36	78.24	-11.60	PK
2	4960	46.64	54.00	-7.36	58.24	-11.60	AV
3	7440	61.86	74.00	-12.14	65.87	-4.01	PK
4	7440	41.86	54.00	-12.14	45.87	-4.01	AV
5	9920	55.37	74.00	-18.63	56.56	-1.19	PK
6	12400	53.58	74.00	-20.42	51.24	2.34	PK

Note:

- 1.All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst value.
- 3.Emission Level = Reading Level + Correct Factor.
- 4.The average measurement was not performed when the peak measured data under the limit of average detection.
- 5.The emission above 13GHz were not included is because their levels are lower than 20dB form limit.

Model No	BK-S2	Site	CB2-H
Test Voltage	DC 3.7V (Power by Charge)	Test Date	2020/10/7
Test Mode	Mode 1: Transmit Mode	Engineer	Elwin
Polarity	Vertical	Temperature (°C)	22.0
Test Condition	DH5_Ch78_2.48G	Humidity (%RH)	55.0

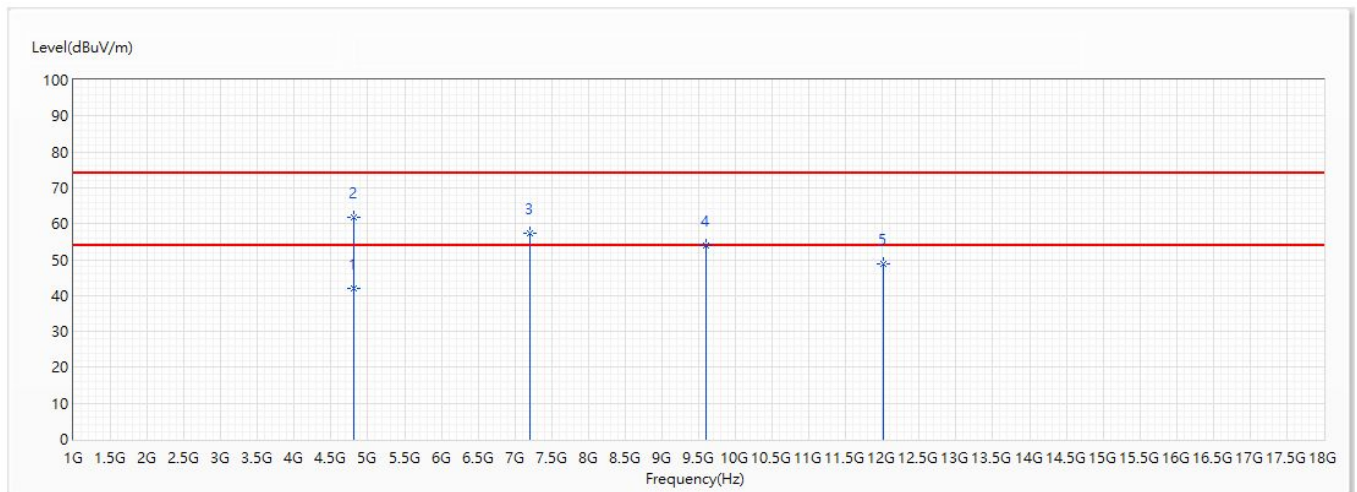


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
* 1	4960	49.29	54.00	-4.71	60.89	-11.60	AV
2	4960	69.29	74.00	-4.71	80.89	-11.60	PK
3	7440	42.55	54.00	-11.45	46.56	-4.01	AV
4	7440	62.55	74.00	-11.45	66.56	-4.01	PK
5	9920	53.52	74.00	-20.48	54.71	-1.19	PK
6	12400	53.12	74.00	-20.88	50.78	2.34	PK

Note:

- 1.All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst value.
- 3.Emission Level = Reading Level + Correct Factor.
- 4.The average measurement was not performed when the peak measured data under the limit of average detection.
- 5.The emission above 13GHz were not included is because their levels are lower than 20dB form limit.

Model No	BK-S2	Site	CB2-H
Test Voltage	DC 3.7V (Power by Charge)	Test Date	2020/10/7
Test Mode	Mode 1: Transmit Mode	Engineer	Elwin
Polarity	Horizontal	Temperature (°C)	22.0
Test Condition	3DH5_Ch00_2.402G	Humidity (%RH)	55.0

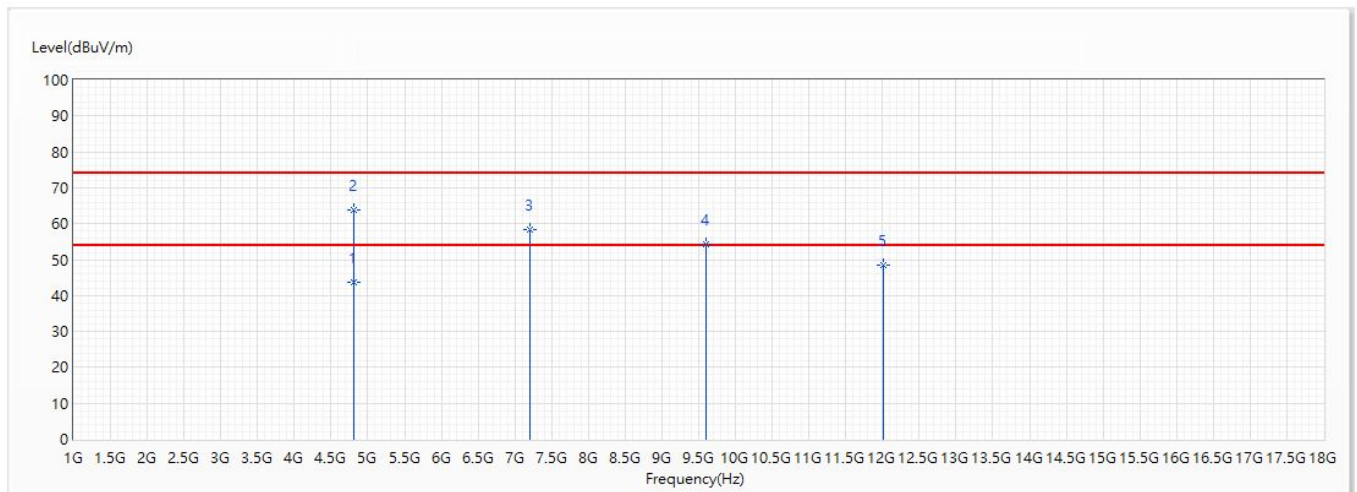


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
* 1	4804	41.90	54.00	-12.10	53.93	-12.03	AV
2	4804	61.90	74.00	-12.10	73.93	-12.03	PK
3	7206	57.36	74.00	-16.64	62.04	-4.68	PK
4	9608	53.96	74.00	-20.04	55.29	-1.33	PK
5	12010	48.80	74.00	-25.20	45.99	2.81	PK

Note:

- 1.All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst value.
- 3.Emission Level = Reading Level + Correct Factor.
- 4.The average measurement was not performed when the peak measured data under the limit of average detection.
- 5.The emission above 13GHz were not included is because their levels are lower than 20dB form limit.

Model No	BK-S2	Site	CB2-H
Test Voltage	DC 3.7V (Power by Charge)	Test Date	2020/10/7
Test Mode	Mode 1: Transmit Mode	Engineer	Elwin
Polarity	Vertical	Temperature (°C)	22.0
Test Condition	3DH5_Ch00_2.402G	Humidity (%RH)	55.0

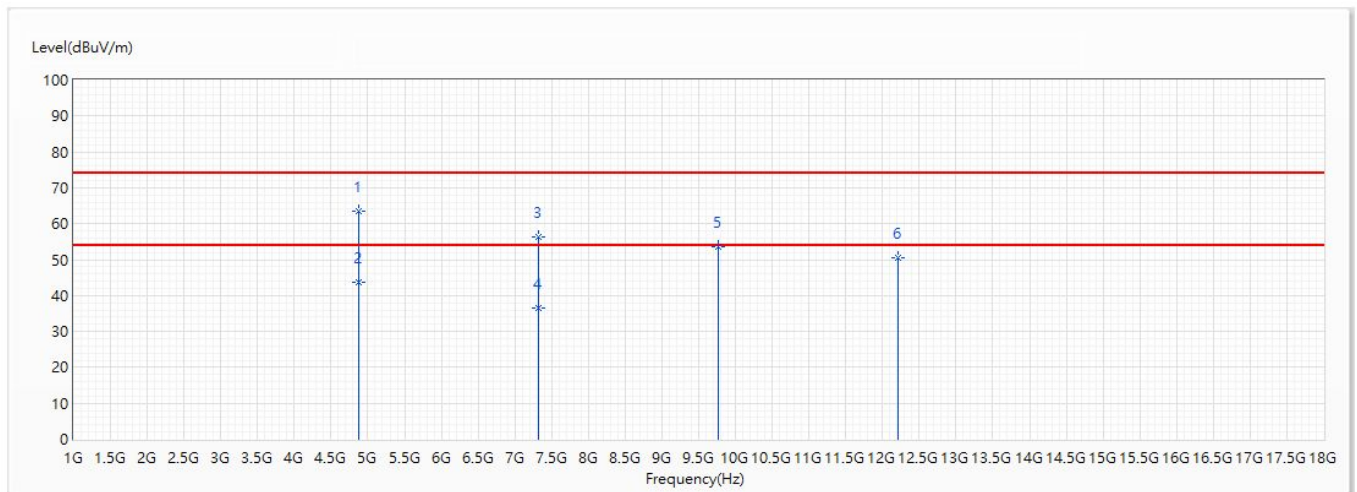


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
* 1	4804	43.80	54.00	-10.20	55.83	-12.03	AV
2	4804	63.80	74.00	-10.20	75.83	-12.03	PK
3	7206	58.23	74.00	-15.77	62.91	-4.68	PK
4	9608	54.17	74.00	-19.83	55.50	-1.33	PK
5	12010	48.49	74.00	-25.51	45.68	2.81	PK

Note:

- 1.All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst value.
- 3.Emission Level = Reading Level + Correct Factor.
- 4.The average measurement was not performed when the peak measured data under the limit of average detection.
- 5.The emission above 13GHz were not included is because their levels are lower than 20dB form limit.

Model No	BK-S2	Site	CB2-H
Test Voltage	DC 3.7V (Power by Charge)	Test Date	2020/10/7
Test Mode	Mode 1: Transmit Mode	Engineer	Elwin
Polarity	Horizontal	Temperature (°C)	22.0
Test Condition	3DH5_Ch39_2.441G	Humidity (%RH)	55.0

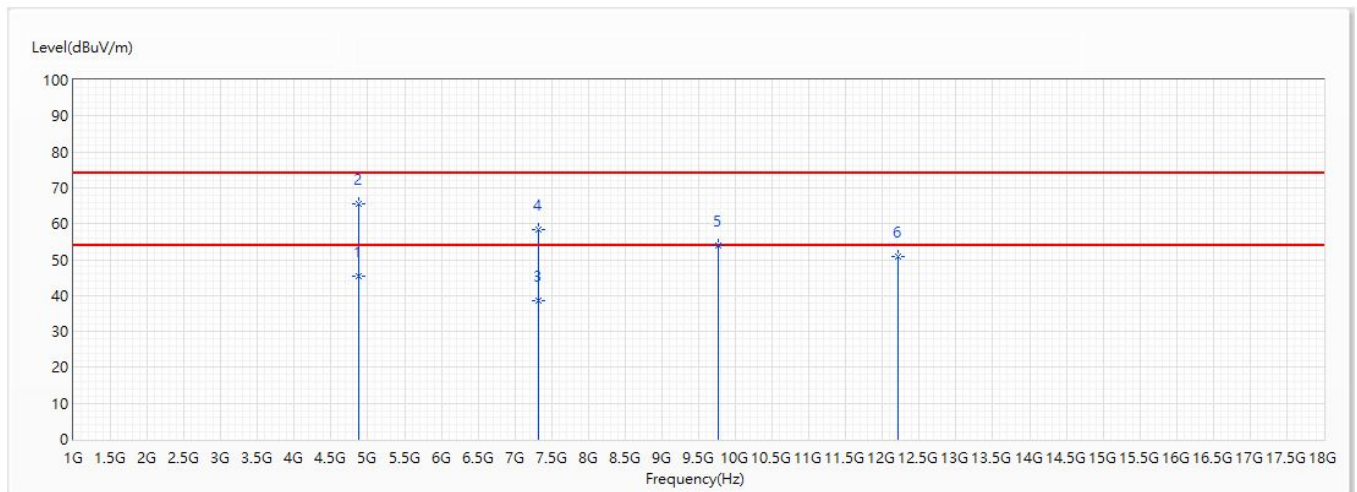


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
* 1	4882	63.63	74.00	-10.37	75.45	-11.82	PK
2	4882	43.63	54.00	-10.37	55.45	-11.82	AV
3	7323	56.46	74.00	-17.54	60.80	-4.34	PK
4	7323	36.46	54.00	-17.54	40.80	-4.34	AV
5	9764	53.44	74.00	-20.56	54.71	-1.27	PK
6	12205	50.49	74.00	-23.51	47.92	2.57	PK

Note:

- 1.All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst value.
- 3.Emission Level = Reading Level + Correct Factor.
- 4.The average measurement was not performed when the peak measured data under the limit of average detection.
- 5.The emission above 13GHz were not included is because their levels are lower than 20dB form limit.

Model No	BK-S2	Site	CB2-H
Test Voltage	DC 3.7V (Power by Charge)	Test Date	2020/10/7
Test Mode	Mode 1: Transmit Mode	Engineer	Elwin
Polarity	Vertical	Temperature (°C)	22.0
Test Condition	3DH5_Ch39_2.441G	Humidity (%RH)	55.0

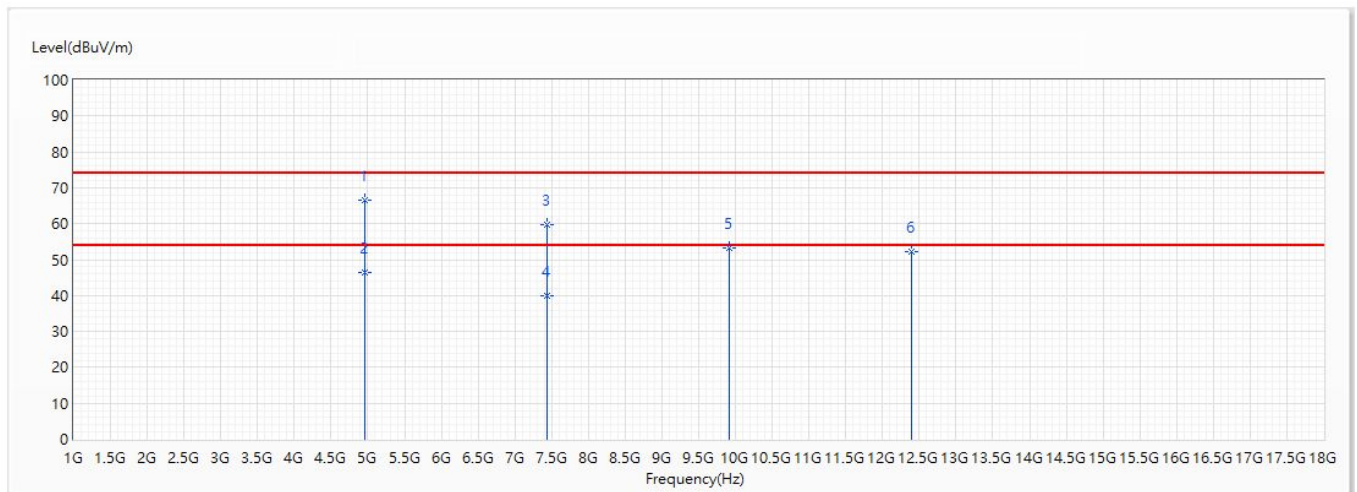


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
* 1	4882	45.55	54.00	-8.45	57.37	-11.82	AV
2	4882	65.55	74.00	-8.45	77.37	-11.82	PK
3	7323	38.51	54.00	-15.49	42.85	-4.34	AV
4	7323	58.51	74.00	-15.49	62.85	-4.34	PK
5	9764	53.92	74.00	-20.08	55.19	-1.27	PK
6	12205	50.92	74.00	-23.08	48.35	2.57	PK

Note:

- 1.All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst value.
- 3.Emission Level = Reading Level + Correct Factor.
- 4.The average measurement was not performed when the peak measured data under the limit of average detection.
- 5.The emission above 13GHz were not included is because their levels are lower than 20dB form limit.

Model No	BK-S2	Site	CB2-H
Test Voltage	DC 3.7V (Power by Charge)	Test Date	2020/10/7
Test Mode	Mode 1: Transmit Mode	Engineer	Elwin
Polarity	Horizontal	Temperature (°C)	22.0
Test Condition	3DH5_Ch78_2.48G	Humidity (%RH)	55.0

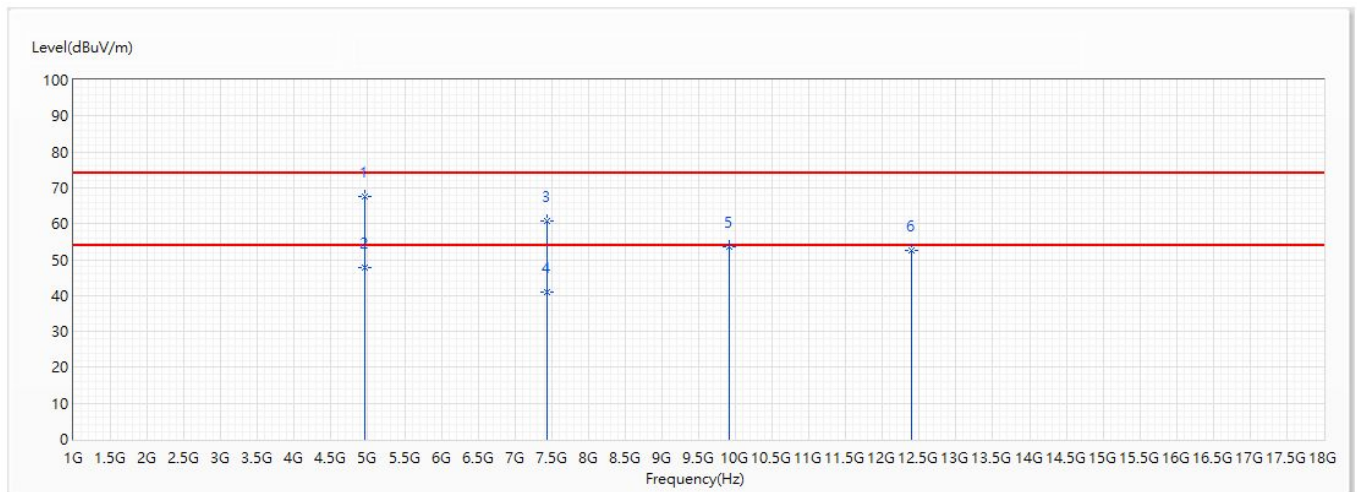


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
* 1	4960	66.41	74.00	-7.59	78.01	-11.60	PK
2	4960	46.41	54.00	-7.59	58.01	-11.60	AV
3	7440	59.86	74.00	-14.14	63.87	-4.01	PK
4	7440	39.86	54.00	-14.14	43.87	-4.01	AV
5	9920	53.40	74.00	-20.60	54.59	-1.19	PK
6	12400	52.27	74.00	-21.73	49.93	2.34	PK

Note:

- 1.All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst value.
- 3.Emission Level = Reading Level + Correct Factor.
- 4.The average measurement was not performed when the peak measured data under the limit of average detection.
- 5.The emission above 13GHz were not included is because their levels are lower than 20dB form limit.

Model No	BK-S2	Site	CB2-H
Test Voltage	DC 3.7V (Power by Charge)	Test Date	2020/10/7
Test Mode	Mode 1: Transmit Mode	Engineer	Elwin
Polarity	Vertical	Temperature (°C)	22.0
Test Condition	3DH5_Ch78_2.48G	Humidity (%RH)	55.0



No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
* 1	4960	67.63	74.00	-6.37	79.23	-11.60	PK
2	4960	47.63	54.00	-6.37	59.23	-11.60	AV
3	7440	60.91	74.00	-13.09	64.92	-4.01	PK
4	7440	40.91	54.00	-13.09	44.92	-4.01	AV
5	9920	53.68	74.00	-20.32	54.87	-1.19	PK
6	12400	52.65	74.00	-21.35	50.31	2.34	PK

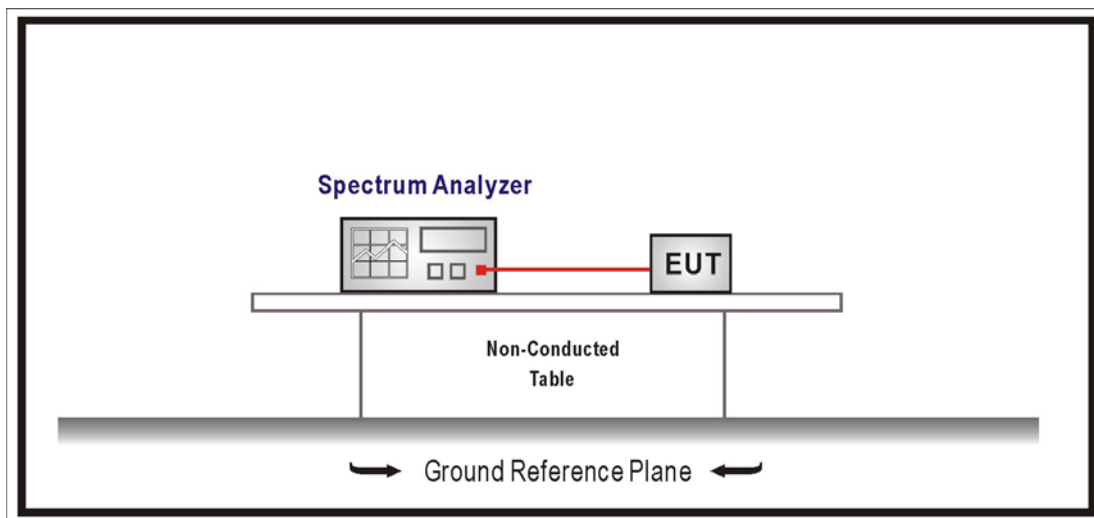
Note:

- 1.All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst value.
- 3.Emission Level = Reading Level + Correct Factor.
- 4.The average measurement was not performed when the peak measured data under the limit of average detection.
- 5.The emission above 13GHz were not included is because their levels are lower than 20dB form limit.

5. RF antenna conducted test

5.1. Test Setup

RF Conducted Measurement:



5.2. 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)).

5.3. Test Procedure

The EUT was setup according to ANSI C63.10: 2013 and tested according to FHSS test procedure of FCC KDB 558074 D01 v05r02 for compliance to FCC 47CFR 15.247

5.4. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2019

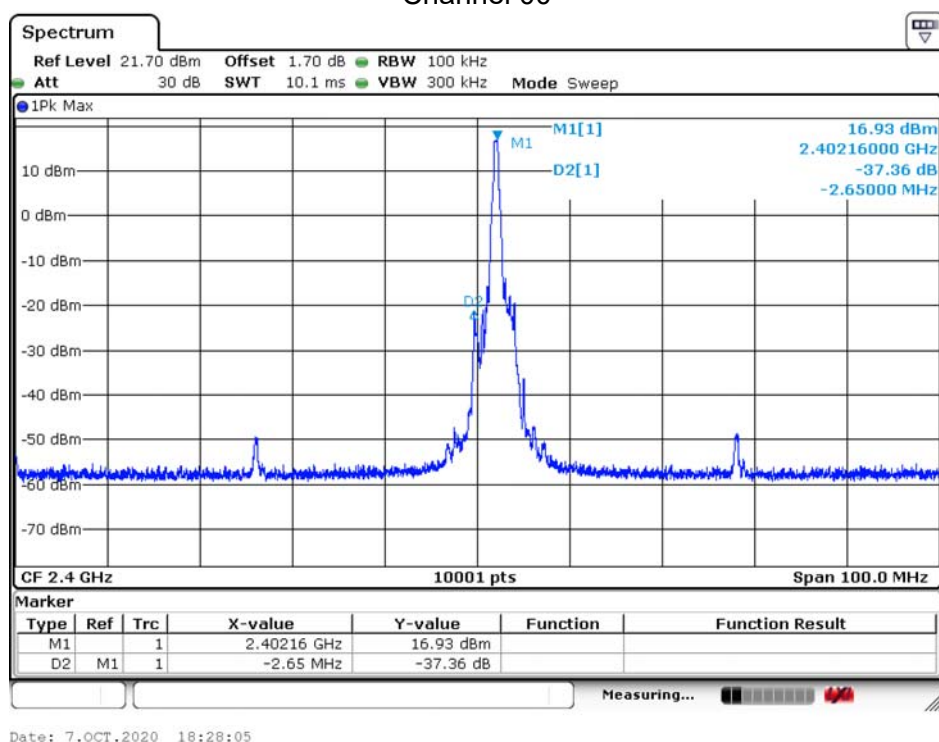
5.5. Test Result

Product	Bluetooth Headset		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit mode		
Date of Test	2020/10/07	Test Site	SR12-H
Temperature(°C)	22.0	Humidity (%RH)	55.0

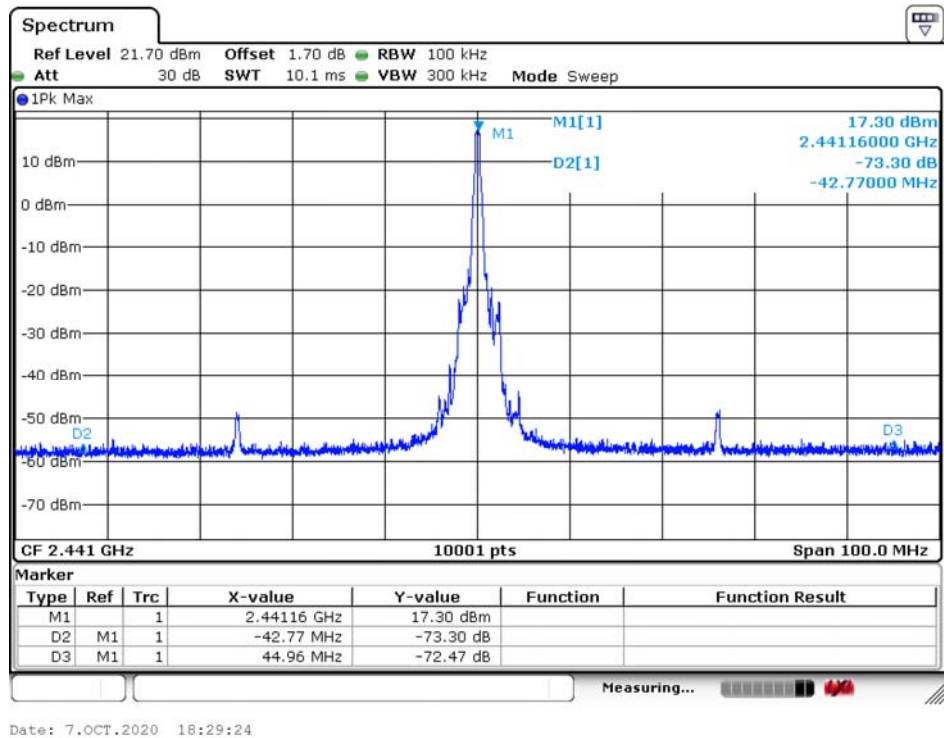
GFSK

Channel	Frequency (MHz)	Measure Level (dBc)	Limit (dBc)
00	2402	37.360	≥ 20.000
39	2441	54.648	≥ 20.000
78	2480	52.498	≥ 20.000

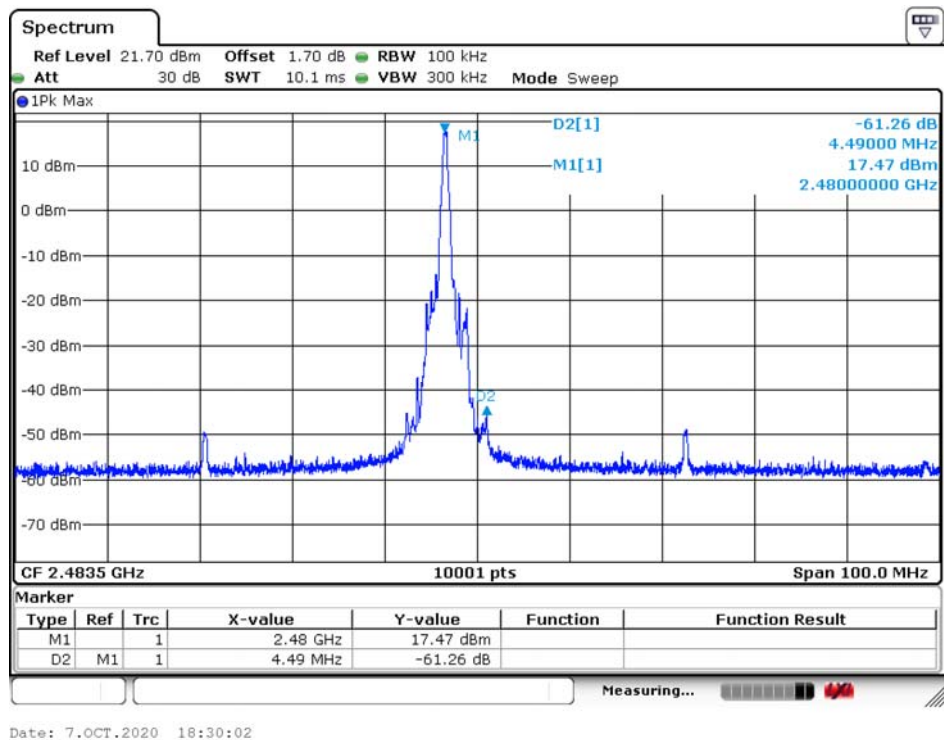
Channel 00



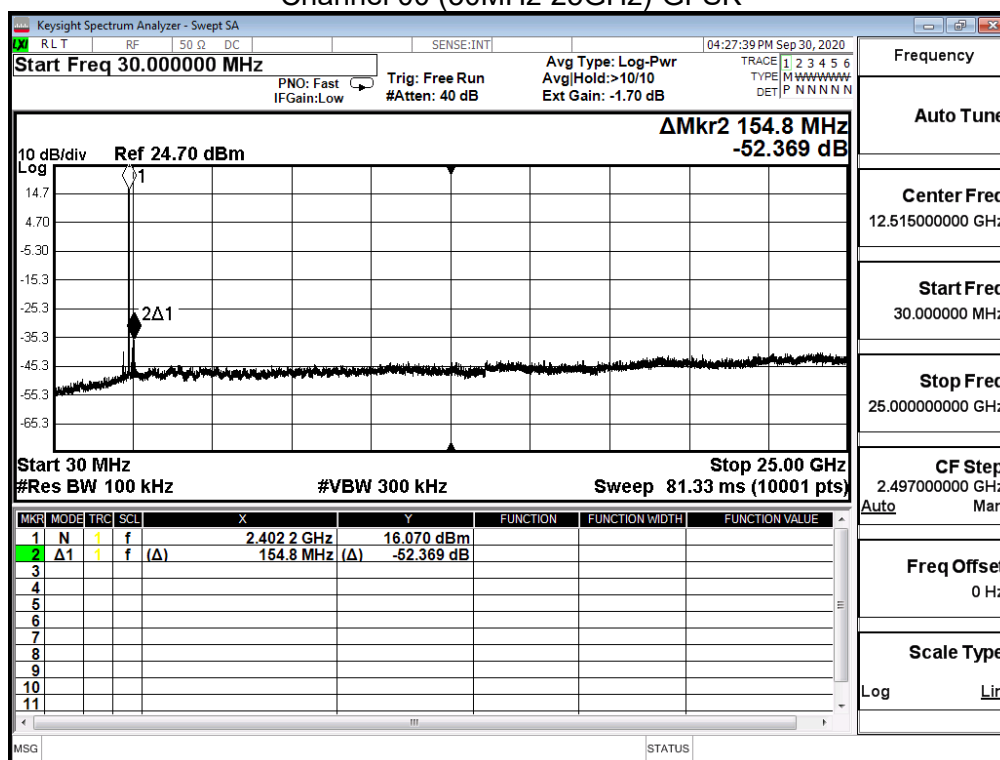
Channel 39



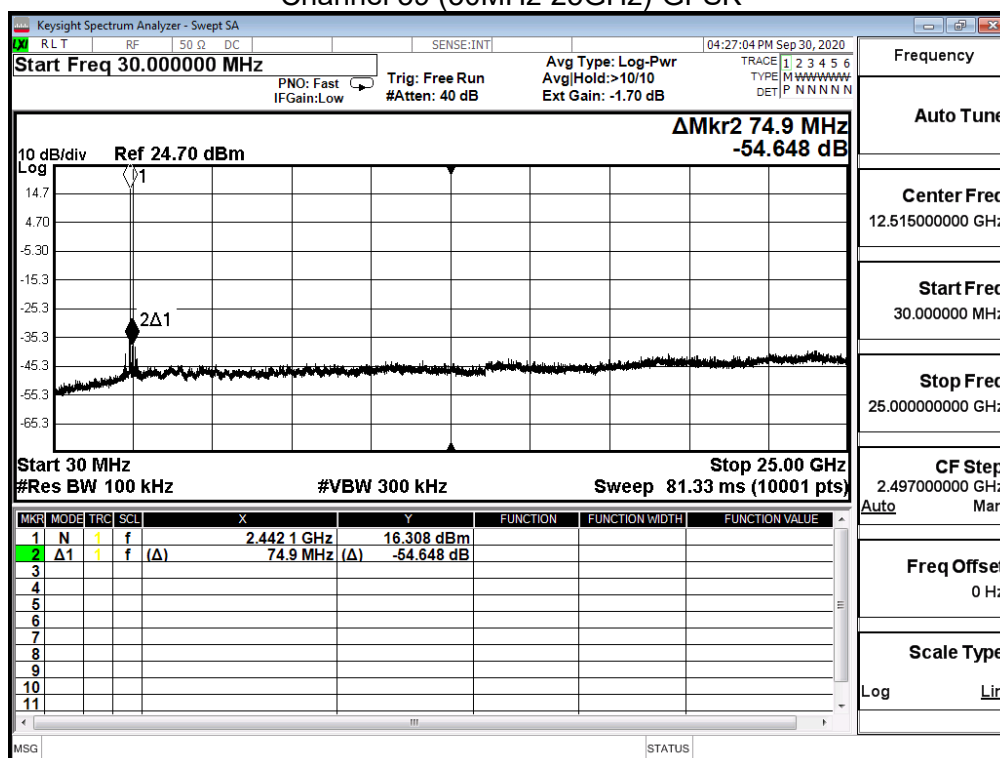
Channel 78



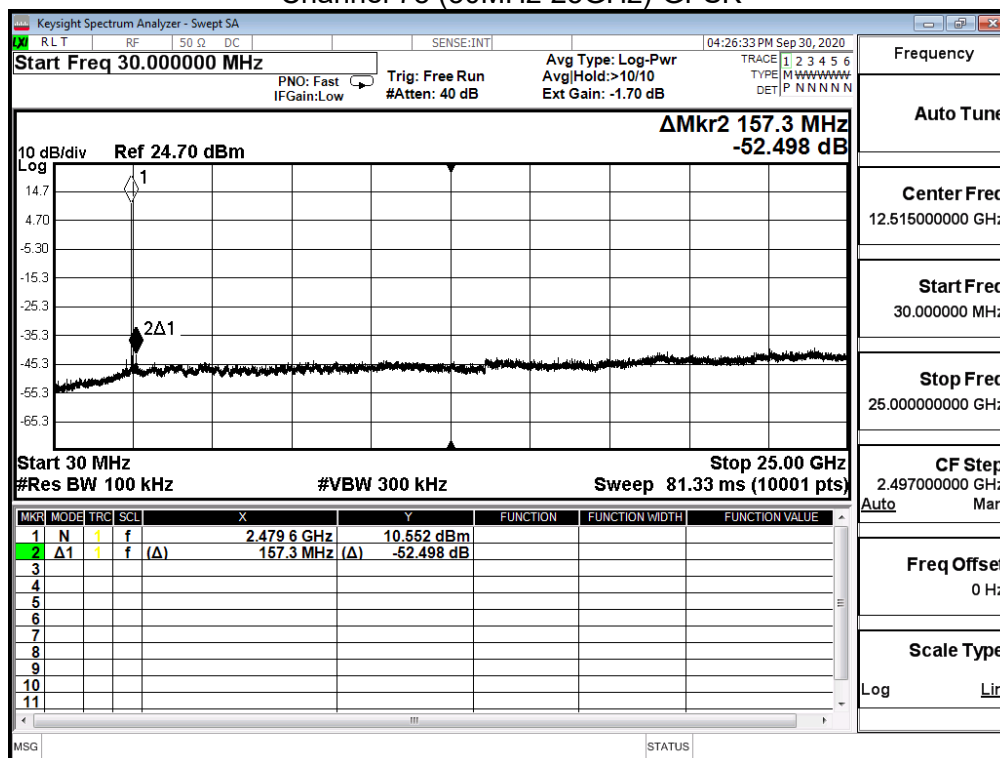
Channel 00 (30MHz-25GHz)-GFSK



Channel 39 (30MHz-25GHz)-GFSK



Channel 78 (30MHz-25GHz)-GFSK

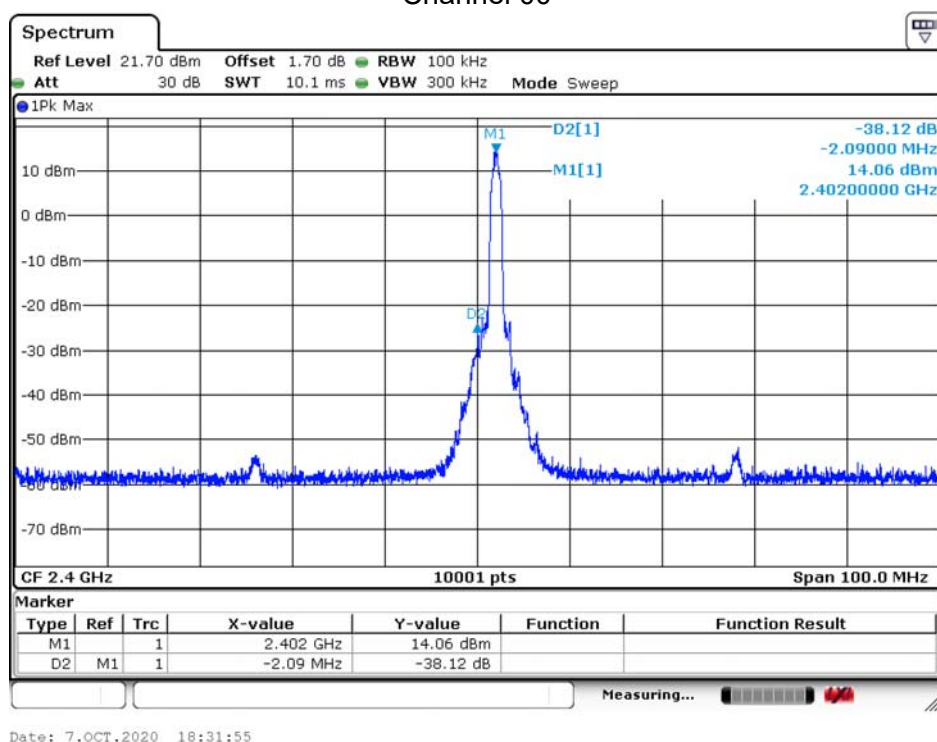


Product	Bluetooth Headset		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit mode		
Date of Test	2020/10/07	Test Site	SR12-H
Temperature(°C)	22.0	Humidity (%RH)	55.0

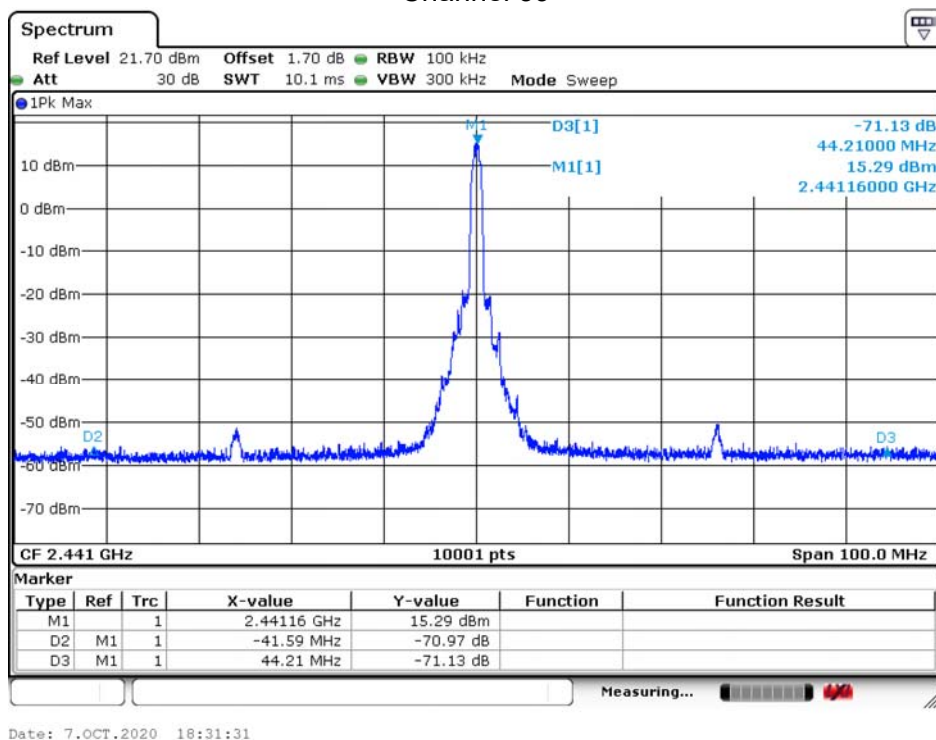
8-DPSK

Channel	Frequency (MHz)	Measure Level (dBc)	Limit (dBc)
00	2402	38.120	≥ 20.000
39	2441	53.603	≥ 20.000
78	2480	55.003	≥ 20.000

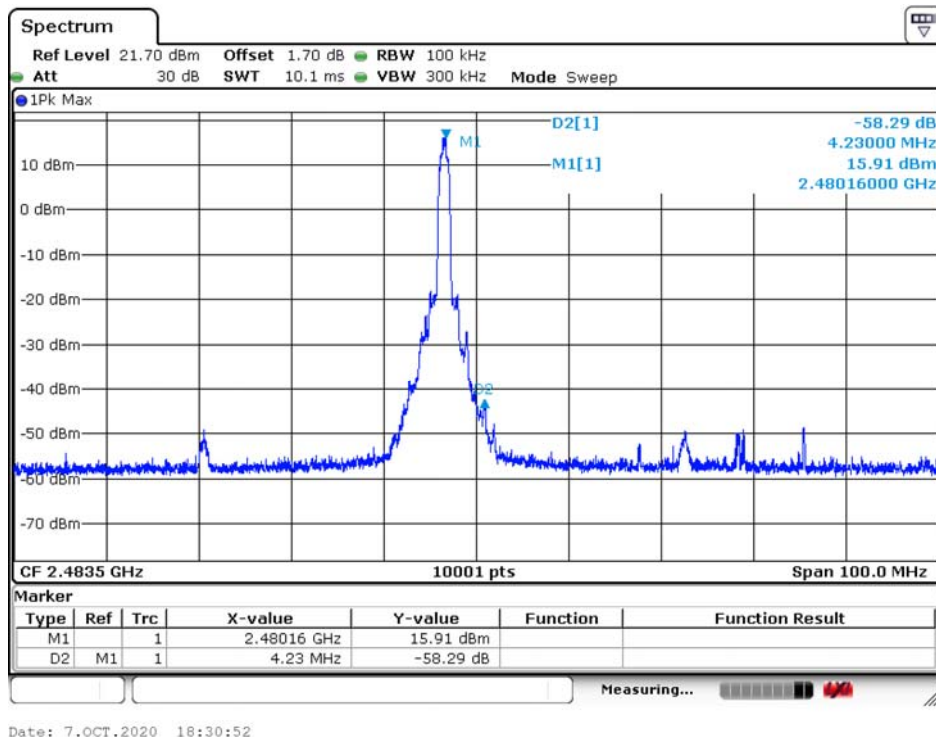
Channel 00



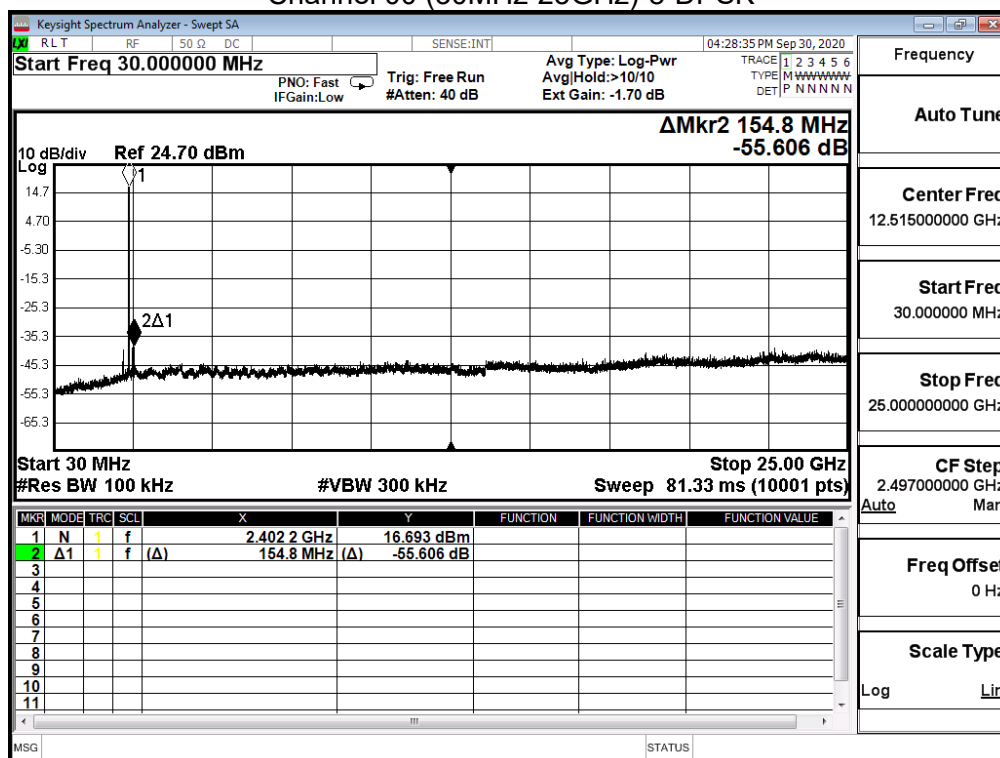
Channel 39



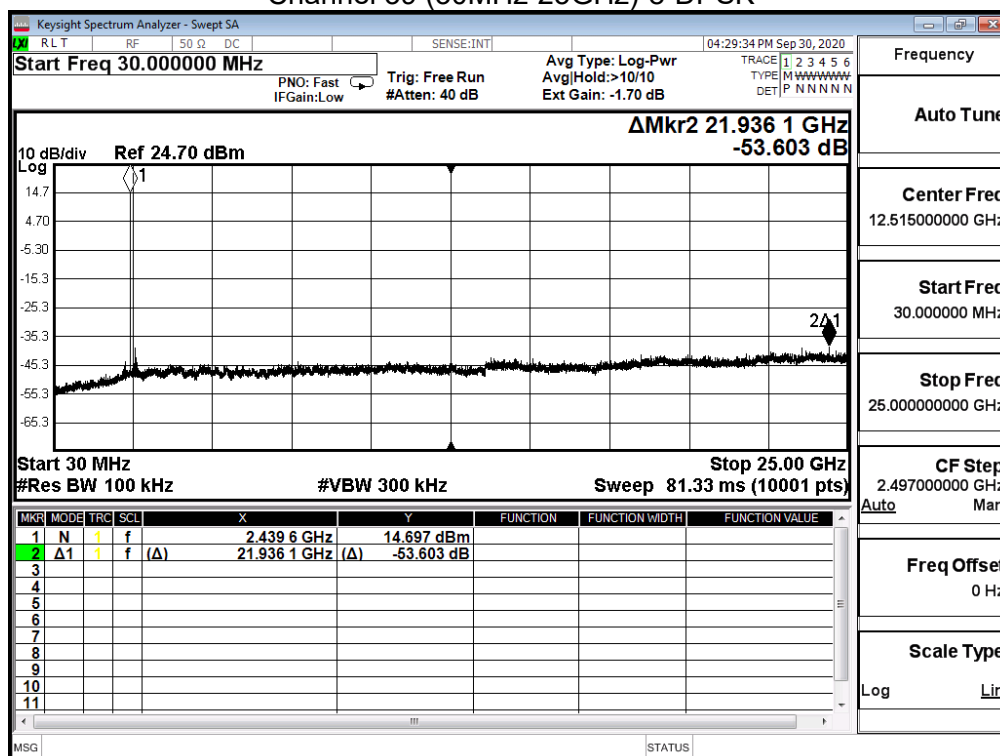
Channel 78



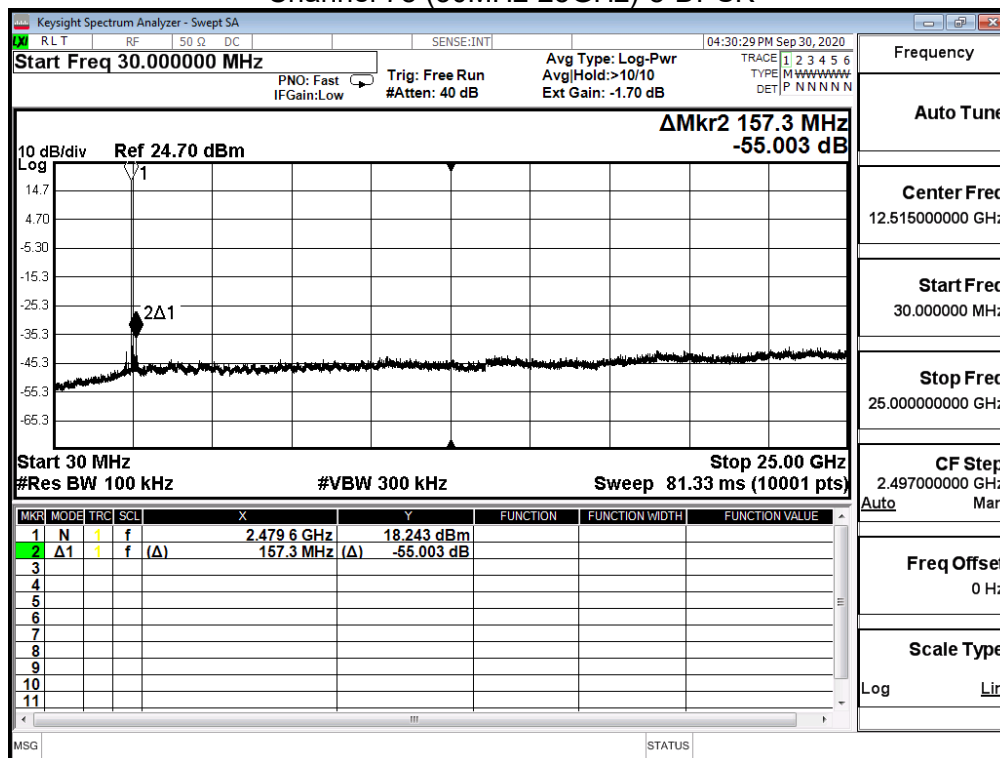
Channel 00 (30MHz-25GHz)-8-DPSK



Channel 39 (30MHz-25GHz)-8-DPSK

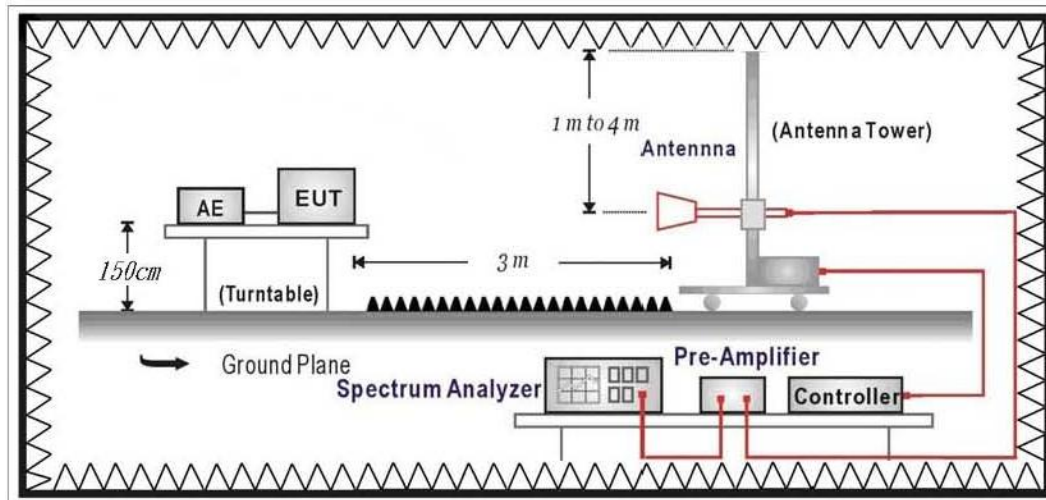


Channel 78 (30MHz-25GHz)-8-DPSK



6. Bandedge

6.1. Test Setup



6.2. 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.

6.3. Test Procedure

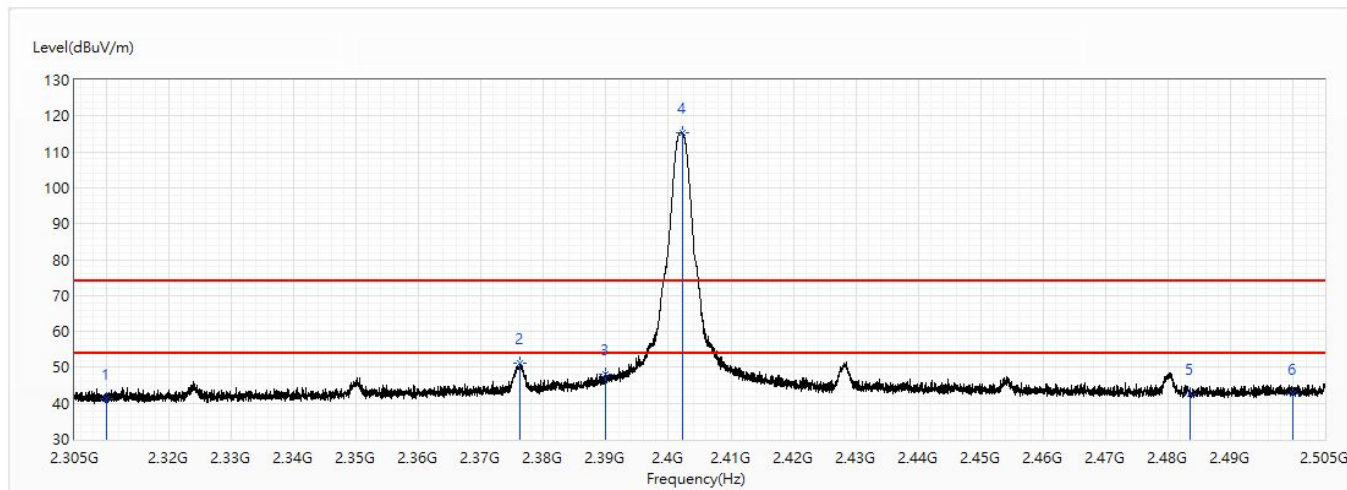
The EUT was setup according to ANSI C63.10: 2013 and tested according to FHSS test procedure of FCC KDB 558074 D01 v05r02 for compliance to FCC 47CFR 15.247 requirements

6.4. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2019

6.5. Test Result

Model No	BK-S2	Site	CB2-H
Test Voltage	DC 3.7V (Power by Charge)	Test Date	2020/10/12
Test Mode	Mode 1: Transmit Mode	Engineer	Elwin
Polarity	Horizontal	Temperature (°C)	22.0
Test Condition	DH5_Ch00_2.402G	Humidity (%RH)	55.0

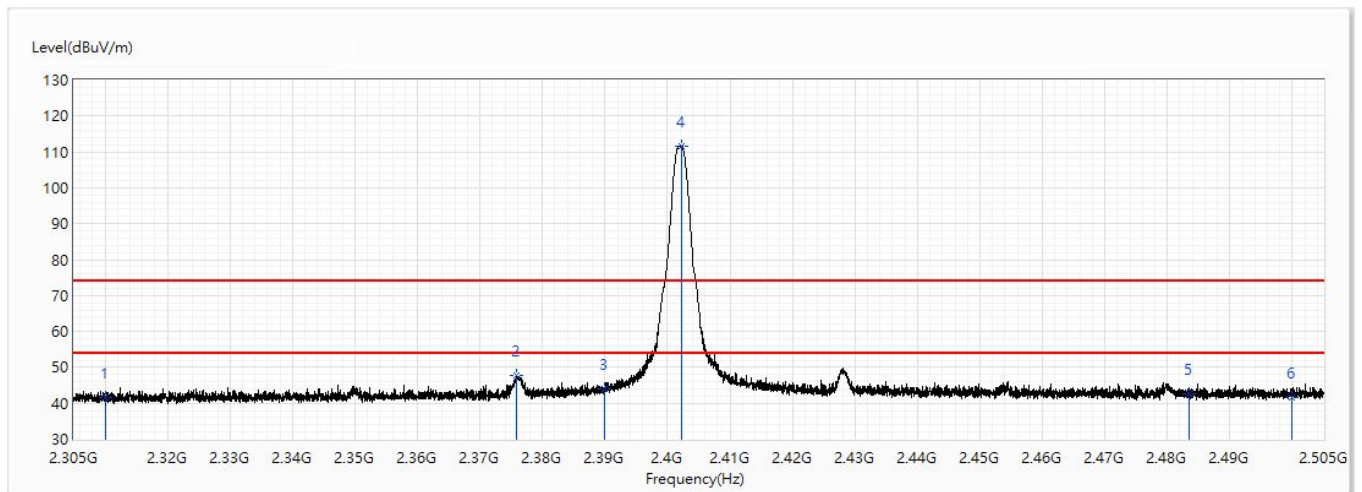


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	2310	41.13	74.00	-32.87	28.15	12.98	PK
2	2376.25	51.01	74.00	-22.99	37.58	13.43	PK
3	2390	48.07	74.00	-25.93	34.55	13.52	PK
! 4	2402.2	115.39	74.00	41.39	101.78	13.61	PK
5	2483.5	42.58	74.00	-31.42	28.37	14.21	PK
6	2500	42.67	74.00	-31.33	28.34	14.33	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. 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.
4. The fundamental for reference only, it's not restricted by unwanted emission limit.

Model No	BK-S2	Site	CB2-H
Test Voltage	DC 3.7V (Power by Charge)	Test Date	2020/10/12
Test Mode	Mode 1: Transmit Mode	Engineer	Elwin
Polarity	Vertical	Temperature (°C)	22.0
Test Condition	DH5_Ch00_2.402G	Humidity (%RH)	55.0

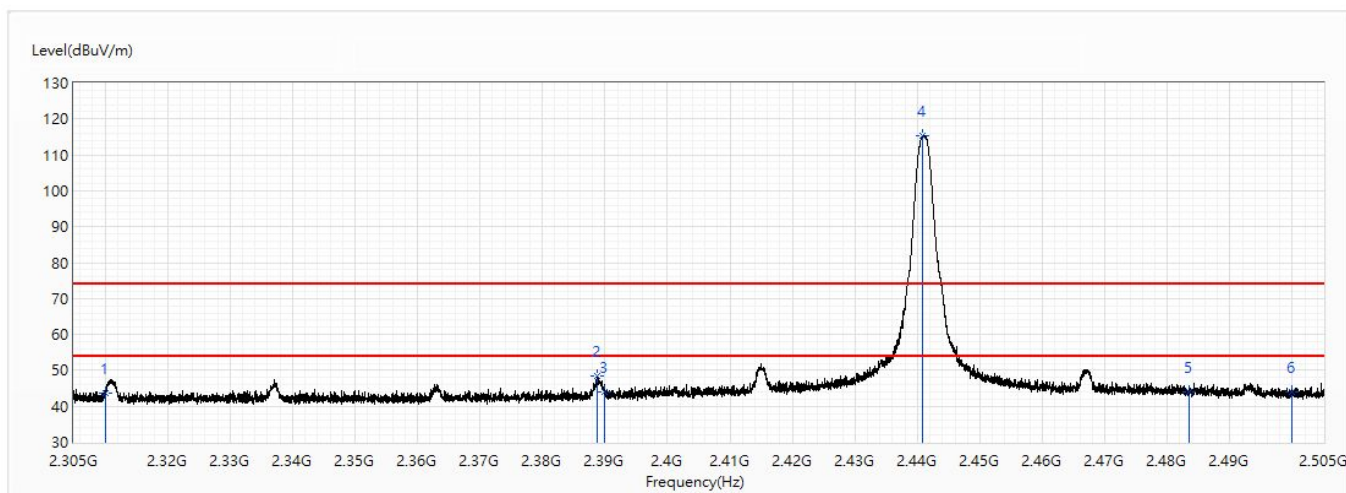


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	2310	41.53	74.00	-32.47	28.55	12.98	PK
2	2375.925	47.80	74.00	-26.20	34.37	13.43	PK
3	2390	43.88	74.00	-30.12	30.36	13.52	PK
! 4	2402.2	111.72	74.00	37.72	98.11	13.61	PK
5	2483.5	42.70	74.00	-31.30	28.49	14.21	PK
6	2500	41.63	74.00	-32.37	27.30	14.33	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. 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.
4. The fundamental for reference only, it's not restricted by unwanted emission limit.

Model No	BK-S2	Site	CB2-H
Test Voltage	DC 3.7V (Power by Charge)	Test Date	2020/10/12
Test Mode	Mode 1: Transmit Mode	Engineer	Elwin
Polarity	Horizontal	Temperature (°C)	22.0
Test Condition	DH5_Ch39_2.441G	Humidity (%RH)	55.0

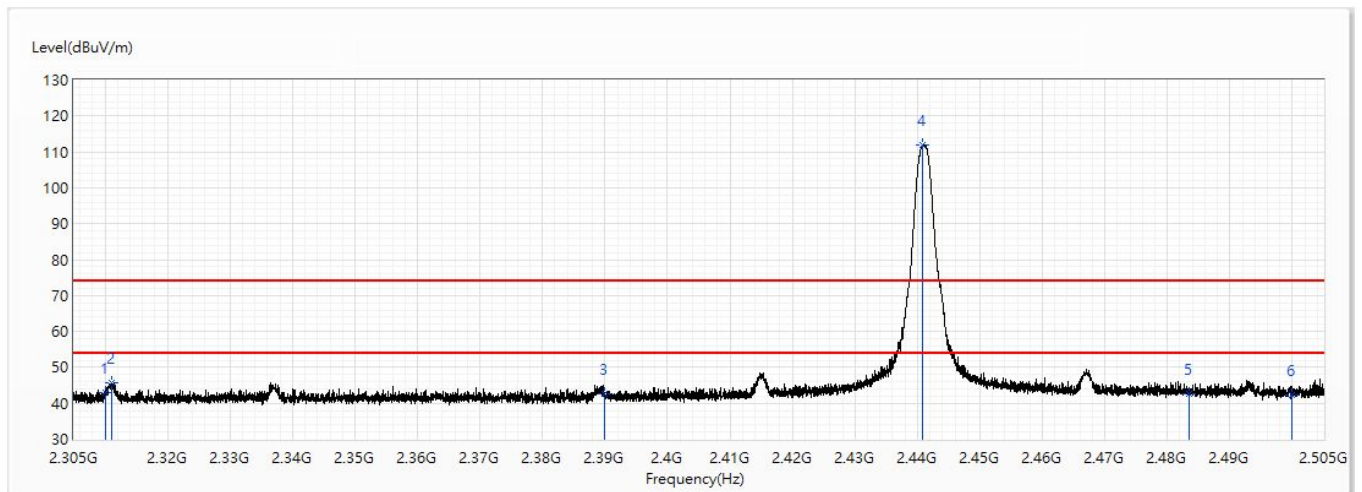


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	2310	43.66	74.00	-30.34	30.68	12.98	PK
2	2388.8	48.56	74.00	-25.44	35.04	13.52	PK
3	2390	44.14	74.00	-29.86	30.62	13.52	PK
! 4	2440.825	115.27	74.00	41.27	101.37	13.90	PK
5	2483.5	44.07	74.00	-29.93	29.86	14.21	PK
6	2500	43.83	74.00	-30.17	29.50	14.33	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. 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.
4. The fundamental for reference only, it's not restricted by unwanted emission limit.

Model No	BK-S2	Site	CB2-H
Test Voltage	DC 3.7V (Power by Charge)	Test Date	2020/10/12
Test Mode	Mode 1: Transmit Mode	Engineer	Elwin
Polarity	Vertical	Temperature (°C)	22.0
Test Condition	DH5_Ch39_2.441G	Humidity (%RH)	55.0

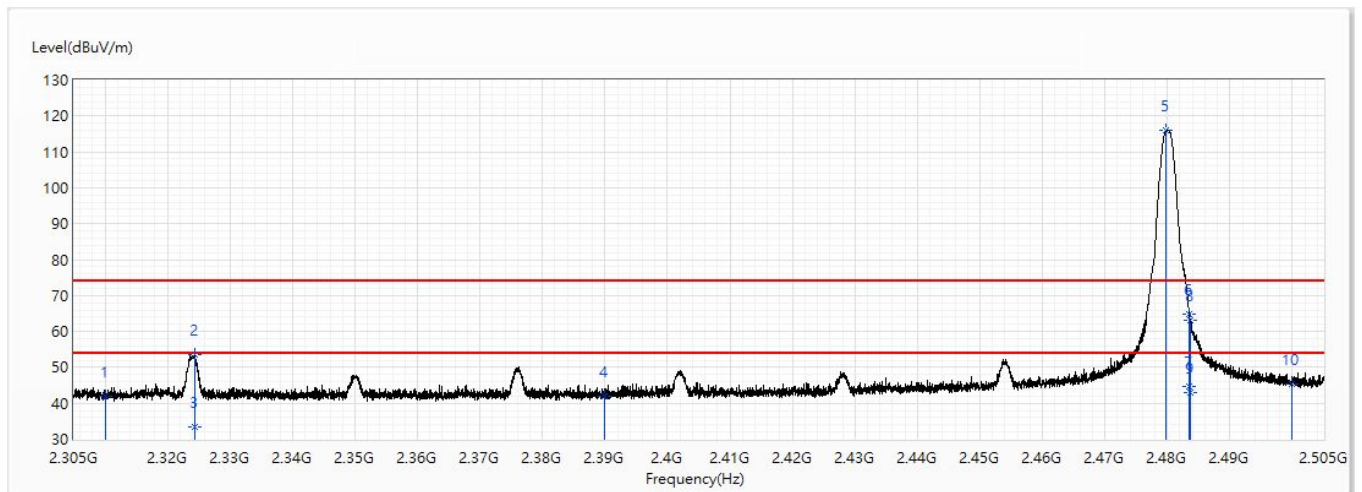


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	2310	42.94	74.00	-31.06	29.96	12.98	PK
2	2311	45.65	74.00	-28.35	32.67	12.98	PK
3	2390	42.74	74.00	-31.26	29.22	13.52	PK
! 4	2440.875	111.92	74.00	37.92	98.02	13.90	PK
5	2483.5	42.76	74.00	-31.24	28.55	14.21	PK
6	2500	42.32	74.00	-31.68	27.99	14.33	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. 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.
4. The fundamental for reference only, it's not restricted by unwanted emission limit.

Model No	BK-S2	Site	CB2-H
Test Voltage	DC 3.7V (Power by Charge)	Test Date	2020/10/12
Test Mode	Mode 1: Transmit Mode	Engineer	Elwin
Polarity	Horizontal	Temperature (°C)	22.0
Test Condition	DH5_Ch78_2.48G	Humidity (%RH)	55.0

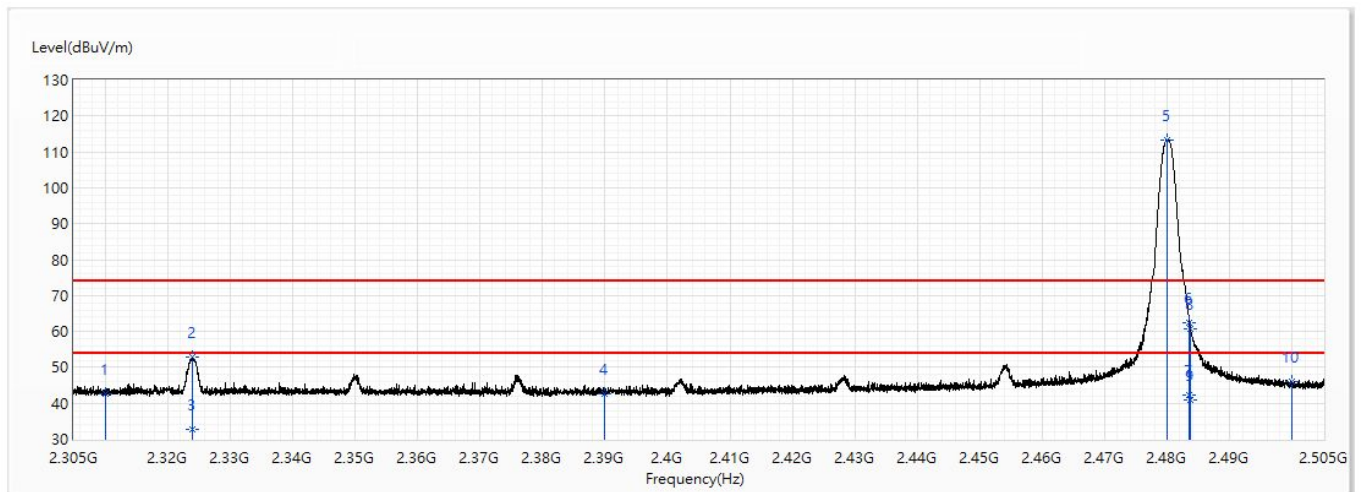


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	2310	42.05	74.00	-31.95	29.07	12.98	PK
2	2324.3	53.58	74.00	-20.42	40.51	13.07	PK
3	2324.3	33.58	54.00	-20.42	20.51	13.07	AV
4	2390	41.83	74.00	-32.17	28.31	13.52	PK
! 5	2479.85	116.06	74.00	42.06	101.88	14.18	PK
6	2483.5	64.74	74.00	-9.26	50.53	14.21	PK
7	2483.5	44.74	54.00	-9.26	30.53	14.21	AV
8	2483.625	63.04	74.00	-10.96	48.83	14.21	PK
9	2483.625	43.04	54.00	-10.96	28.83	14.21	AV
10	2500	45.44	74.00	-28.56	31.11	14.33	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. 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.
4. The fundamental for reference only, it's not restricted by unwanted emission limit.

Model No	BK-S2	Site	CB2-H
Test Voltage	DC 3.7V (Power by Charge)	Test Date	2020/10/12
Test Mode	Mode 1: Transmit Mode	Engineer	Elwin
Polarity	Vertical	Temperature (°C)	22.0
Test Condition	DH5_Ch78_2.48G	Humidity (%RH)	55.0

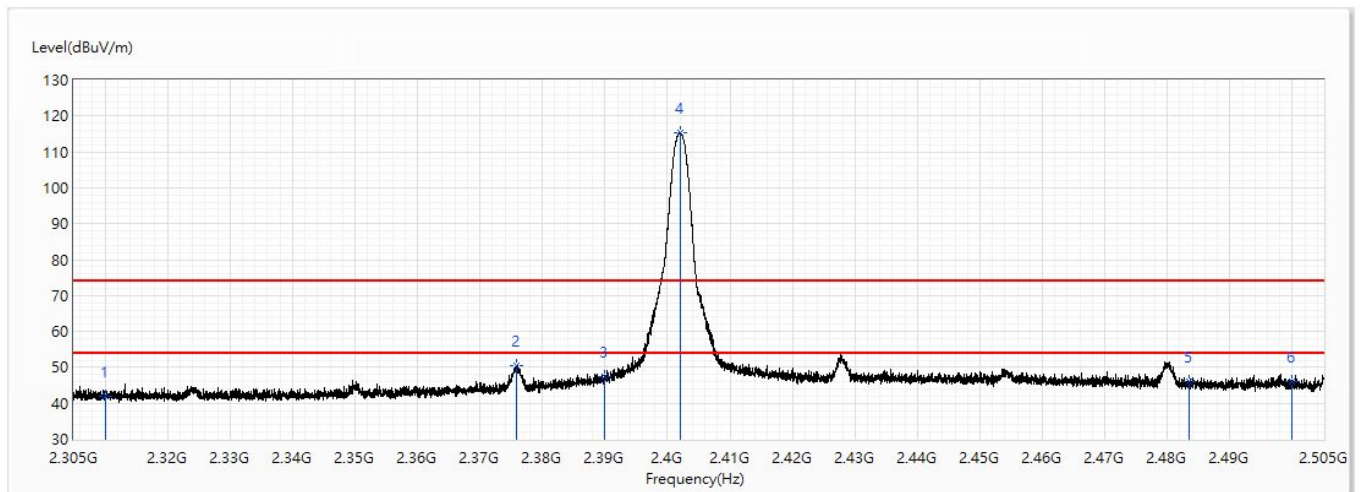


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	2310	42.67	74.00	-31.33	29.69	12.98	PK
2	2323.9	52.76	74.00	-21.24	39.69	13.07	PK
3	2323.9	32.76	54.00	-21.24	19.69	13.07	AV
4	2390	42.62	74.00	-31.38	29.10	13.52	PK
! 5	2479.875	113.27	74.00	39.27	99.09	14.18	PK
6	2483.5	62.32	74.00	-11.68	48.11	14.21	PK
7	2483.5	42.32	54.00	-11.68	28.11	14.21	AV
8	2483.625	60.82	74.00	-13.18	46.61	14.21	PK
9	2483.625	40.82	54.00	-13.18	26.61	14.21	AV
10	2500	46.08	74.00	-27.92	31.75	14.33	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. 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.
4. The fundamental for reference only, it's not restricted by unwanted emission limit.

Model No	BK-S2	Site	CB2-H
Test Voltage	DC 3.7V (Power by Charge)	Test Date	2020/10/12
Test Mode	Mode 1: Transmit Mode	Engineer	Elwin
Polarity	Horizontal	Temperature (°C)	22.0
Test Condition	3DH5_Ch00_2.402G	Humidity (%RH)	55.0

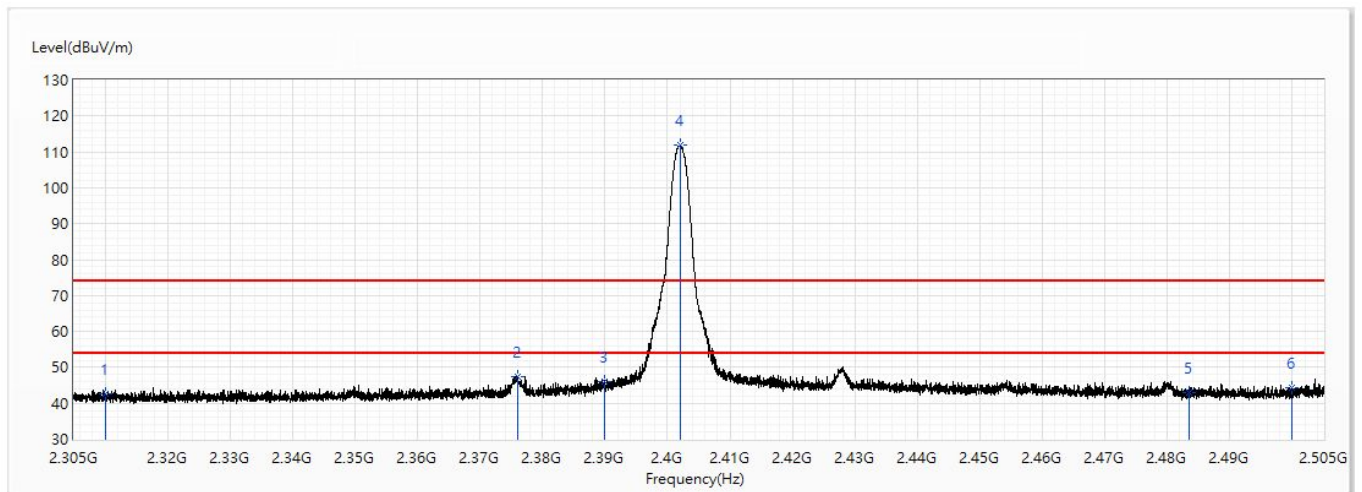


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	2310	42.00	74.00	-32.00	29.02	12.98	PK
2	2375.75	50.52	74.00	-23.48	37.09	13.43	PK
3	2390	47.43	74.00	-26.57	33.91	13.52	PK
! 4	2402	115.29	74.00	41.29	101.68	13.61	PK
5	2483.5	46.00	74.00	-28.00	31.79	14.21	PK
6	2500	46.07	74.00	-27.93	31.74	14.33	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. 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.
4. The fundamental for reference only, it's not restricted by unwanted emission limit.

Model No	BK-S2	Site	CB2-H
Test Voltage	DC 3.7V (Power by Charge)	Test Date	2020/10/12
Test Mode	Mode 1: Transmit Mode	Engineer	Elwin
Polarity	Vertical	Temperature (°C)	22.0
Test Condition	3DH5_Ch00_2.402G	Humidity (%RH)	55.0

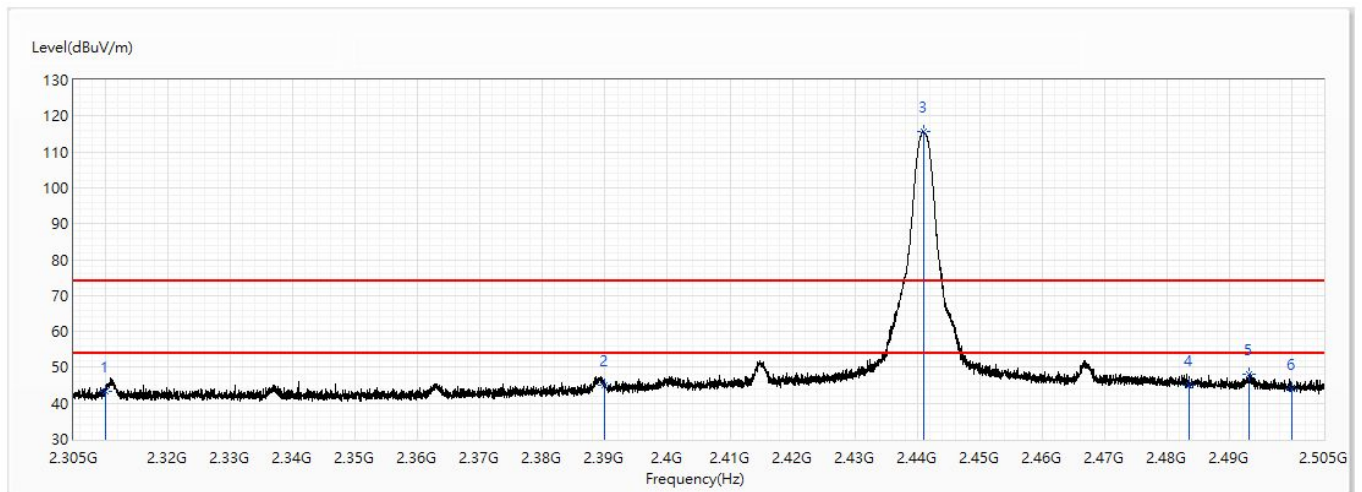


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	2310	42.53	74.00	-31.47	29.55	12.98	PK
2	2375.95	47.36	74.00	-26.64	33.93	13.43	PK
3	2390	45.91	74.00	-28.09	32.39	13.52	PK
! 4	2402.025	111.75	74.00	37.75	98.14	13.61	PK
5	2483.5	42.93	74.00	-31.07	28.72	14.21	PK
6	2500	44.46	74.00	-29.54	30.13	14.33	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. 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.
4. The fundamental for reference only, it's not restricted by unwanted emission limit.

Model No	BK-S2	Site	CB2-H
Test Voltage	DC 3.7V (Power by Charge)	Test Date	2020/10/12
Test Mode	Mode 1: Transmit Mode	Engineer	Elwin
Polarity	Horizontal	Temperature (°C)	22.0
Test Condition	3DH5_Ch39_2.441G	Humidity (%RH)	55.0

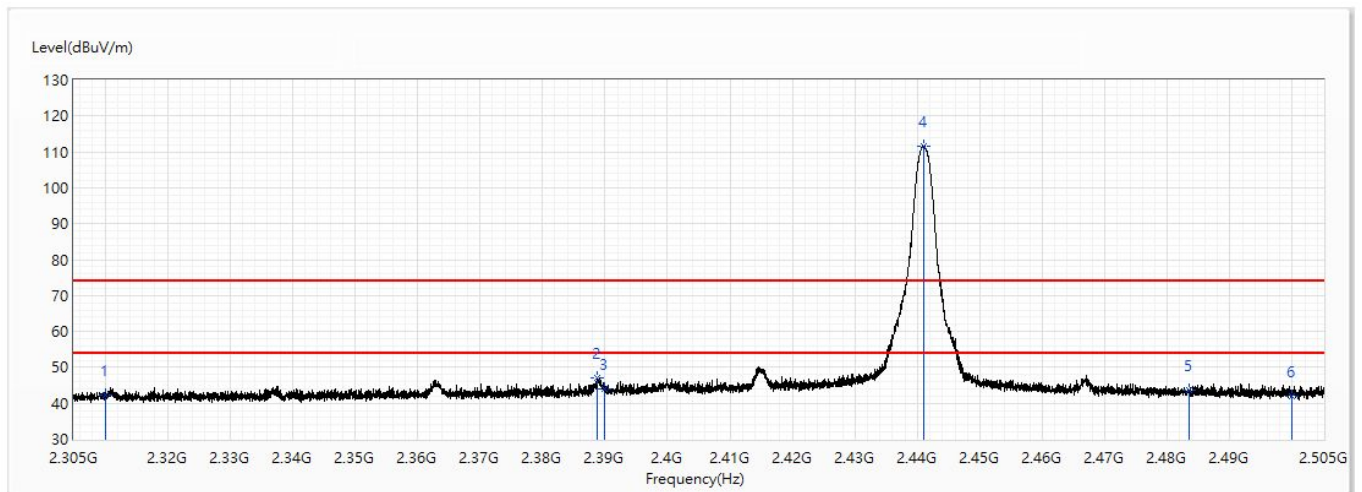


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	2310	43.37	74.00	-30.63	30.39	12.98	PK
2	2390	44.93	74.00	-29.07	31.41	13.52	PK
! 3	2440.95	115.61	74.00	41.61	101.71	13.90	PK
4	2483.5	44.93	74.00	-29.07	30.72	14.21	PK
5	2493.025	48.03	74.00	-25.97	33.75	14.28	PK
6	2500	44.07	74.00	-29.93	29.74	14.33	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. 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.
4. The fundamental for reference only, it's not restricted by unwanted emission limit.

Model No	BK-S2	Site	CB2-H
Test Voltage	DC 3.7V (Power by Charge)	Test Date	2020/10/12
Test Mode	Mode 1: Transmit Mode	Engineer	Elwin
Polarity	Vertical	Temperature (°C)	22.0
Test Condition	3DH5_Ch39_2.441G	Humidity (%RH)	55.0

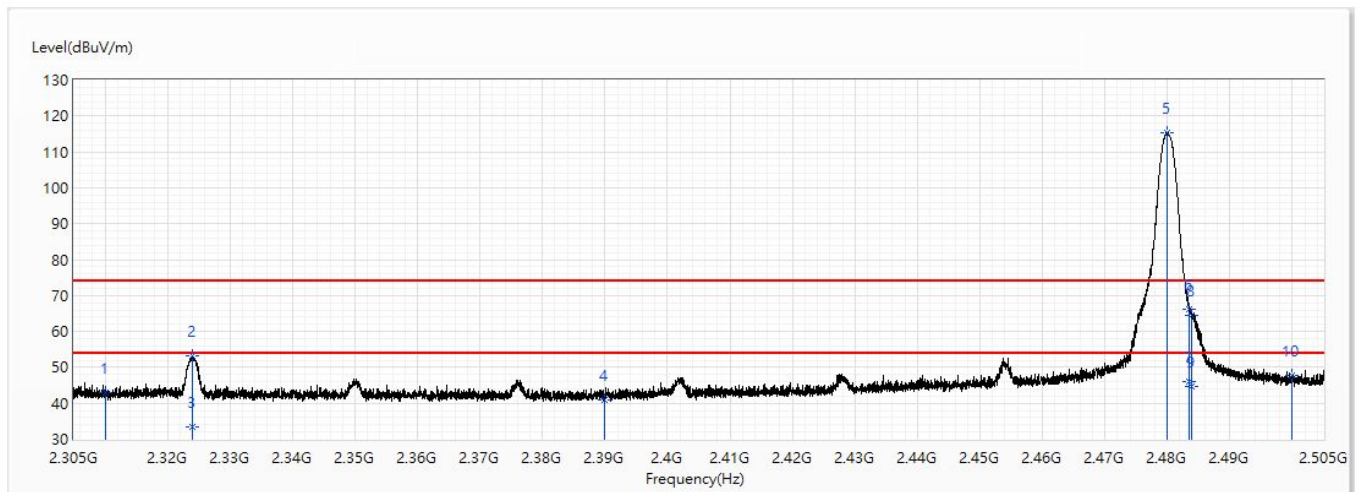


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	2310	42.35	74.00	-31.65	29.37	12.98	PK
2	2388.7	47.18	74.00	-26.82	33.66	13.52	PK
3	2390	44.12	74.00	-29.88	30.60	13.52	PK
! 4	2440.95	111.60	74.00	37.60	97.70	13.90	PK
5	2483.5	43.65	74.00	-30.35	29.44	14.21	PK
6	2500	42.11	74.00	-31.89	27.78	14.33	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. 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.
4. The fundamental for reference only, it's not restricted by unwanted emission limit.

Model No	BK-S2	Site	CB2-H
Test Voltage	DC 3.7V (Power by Charge)	Test Date	2020/10/12
Test Mode	Mode 1: Transmit Mode	Engineer	Elwin
Polarity	Horizontal	Temperature (°C)	22.0
Test Condition	3DH5_Ch78_2.48G	Humidity (%RH)	55.0

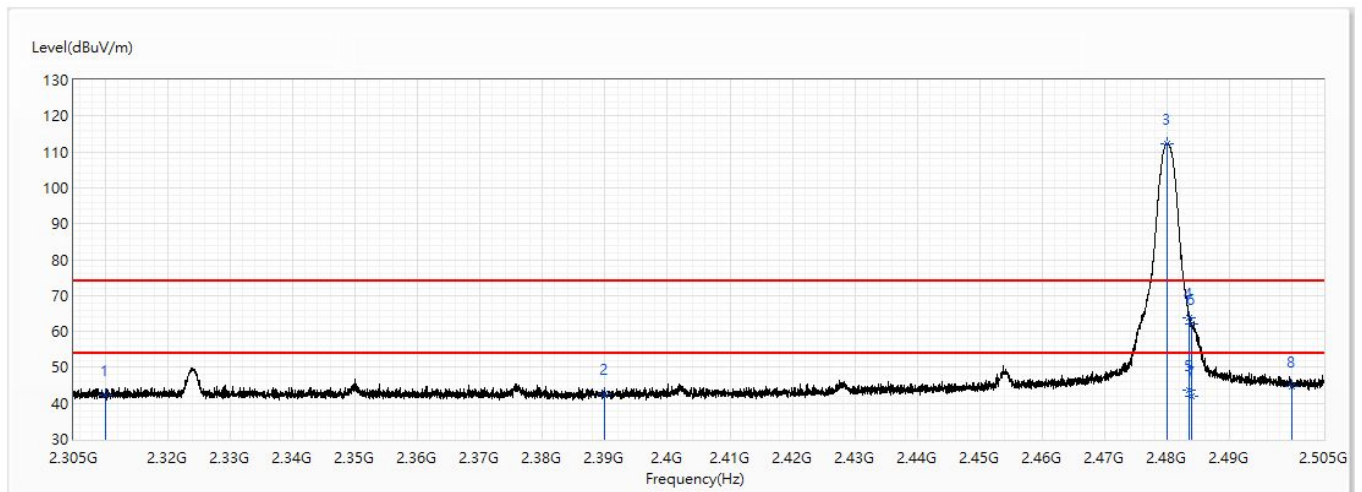


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	2310	43.03	74.00	-30.97	30.05	12.98	PK
2	2323.975	53.35	74.00	-20.65	40.28	13.07	PK
3	2323.975	33.35	54.00	-20.65	20.28	13.07	AV
4	2390	41.06	74.00	-32.94	27.54	13.52	PK
! 5	2479.95	115.26	74.00	41.26	101.08	14.18	PK
6	2483.5	66.17	74.00	-7.83	51.96	14.21	PK
7	2483.5	46.17	54.00	-7.83	31.96	14.21	AV
8	2483.925	64.55	74.00	-9.45	50.34	14.21	PK
9	2483.925	44.55	54.00	-9.45	30.34	14.21	AV
10	2500	47.82	74.00	-26.18	33.49	14.33	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. 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.
4. The fundamental for reference only, it's not restricted by unwanted emission limit.

Model No	BK-S2	Site	CB2-H
Test Voltage	DC 3.7V (Power by Charge)	Test Date	2020/10/12
Test Mode	Mode 1: Transmit Mode	Engineer	Elwin
Polarity	Vertical	Temperature (°C)	22.0
Test Condition	3DH5_Ch78_2.48G	Humidity (%RH)	55.0

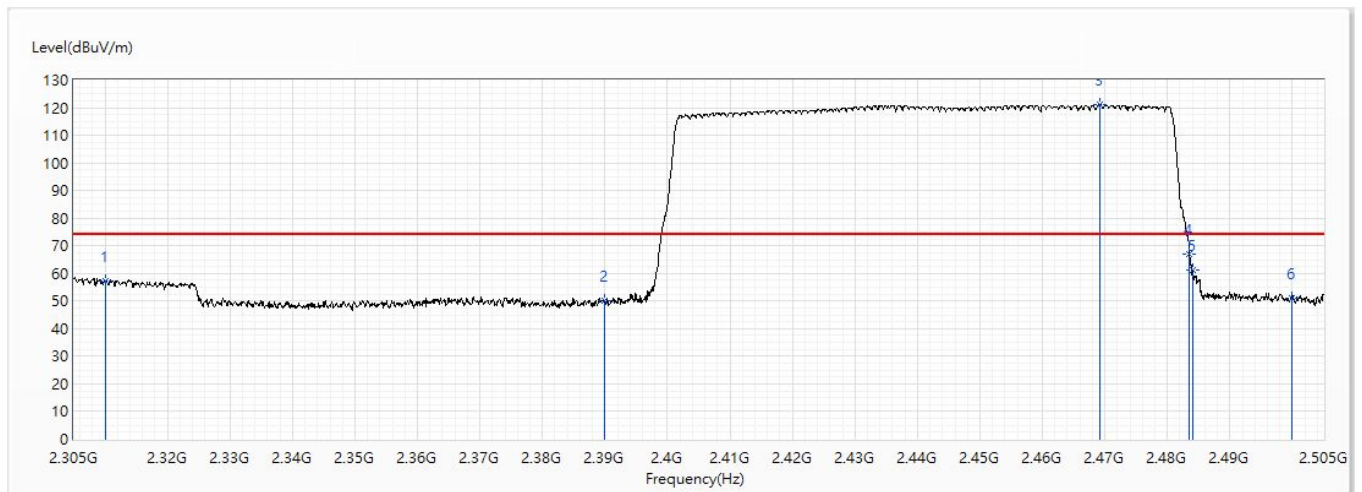


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	2310	42.19	74.00	-31.81	29.21	12.98	PK
2	2390	42.72	74.00	-31.28	29.20	13.52	PK
! 3	2479.975	112.32	74.00	38.32	98.14	14.18	PK
4	2483.5	63.66	74.00	-10.34	49.45	14.21	PK
5	2483.5	43.66	54.00	-10.34	29.45	14.21	AV
6	2483.825	62.06	74.00	-11.94	47.85	14.21	PK
7	2483.825	42.06	54.00	-11.94	27.85	14.21	AV
8	2500	44.73	74.00	-29.27	30.40	14.33	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. 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.
4. The fundamental for reference only, it's not restricted by unwanted emission limit.

Model No	BK-S2	Site	CB2-H
Test Voltage	DC 3.7V (Power by Charge)	Test Date	2020/9/29
Test Mode	Mode 1: Transmit Mode	Engineer	Elwin
Polarity	Horizontal	Temperature (°C)	22.0
Test Condition	DH5_2.48G_Hopping	Humidity (%RH)	55.0

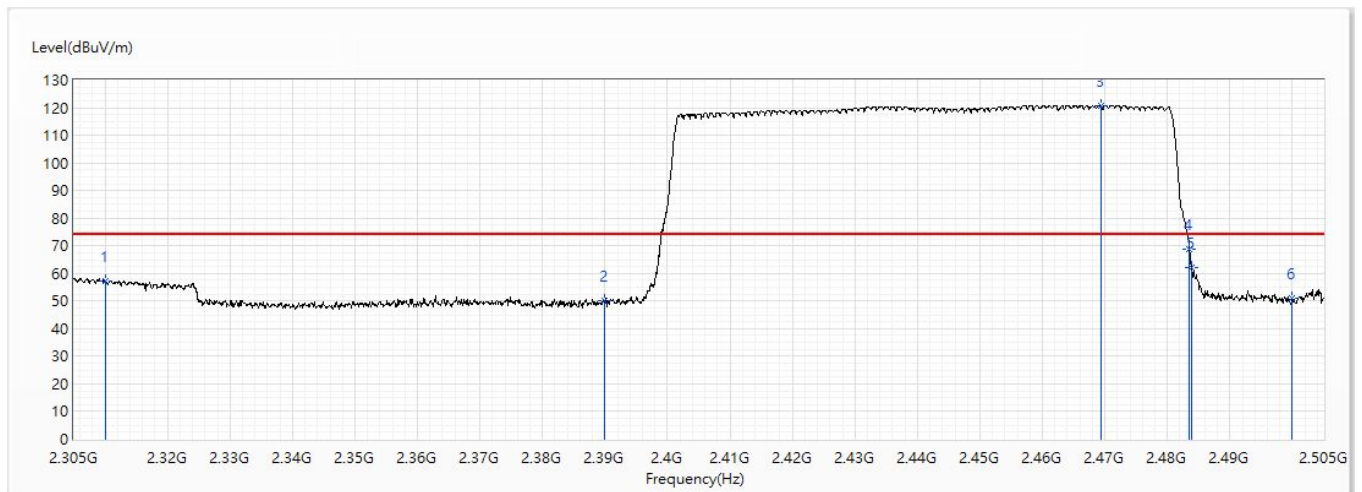


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	2310	57.08	74.00	-16.92	43.93	13.15	PK
2	2390	50.27	74.00	-23.73	36.57	13.70	PK
! 3	2469.1	121.09	74.00	47.09	106.83	14.26	PK
4	2483.5	67.03	74.00	-6.97	52.67	14.36	PK
5	2484	61.41	74.00	-12.59	47.05	14.36	PK
6	2500	50.91	74.00	-23.09	36.43	14.48	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. 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.
4. The fundamental for reference only, it's not restricted by unwanted emission limit.

Model No	BK-S2	Site	CB2-H
Test Voltage	DC 3.7V (Power by Charge)	Test Date	2020/9/29
Test Mode	Mode 1: Transmit Mode	Engineer	Elwin
Polarity	Vertical	Temperature (°C)	22.0
Test Condition	DH5_2.48G_Hopping	Humidity (%RH)	55.0

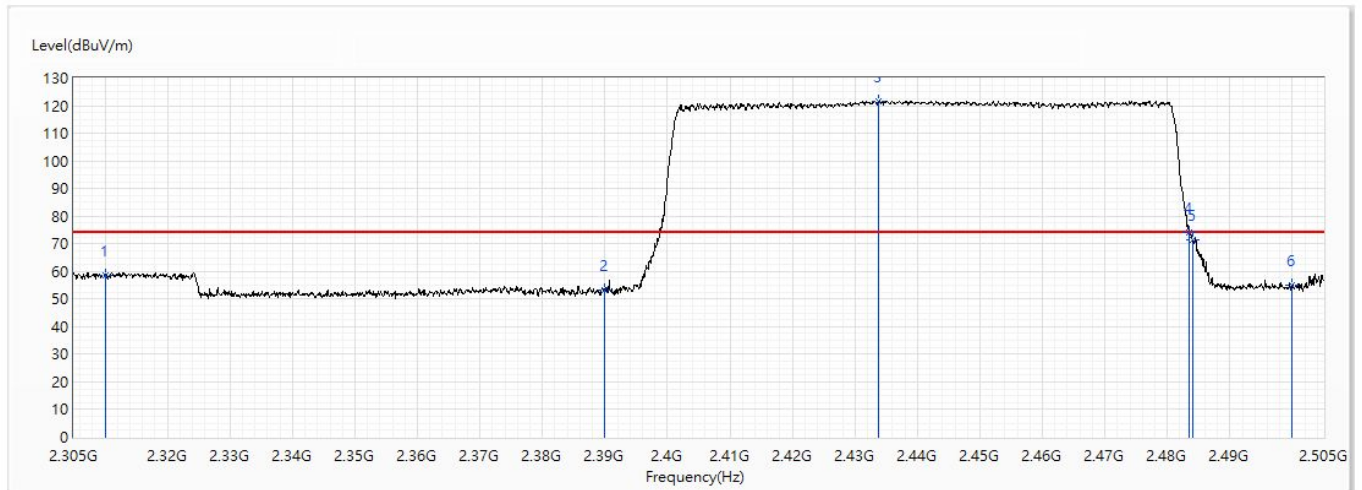


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	2310	57.13	74.00	-16.87	43.98	13.15	PK
2	2390	50.15	74.00	-23.85	36.45	13.70	PK
! 3	2469.3	120.76	74.00	46.76	106.50	14.26	PK
4	2483.5	68.58	74.00	-5.42	54.22	14.36	PK
5	2483.9	61.93	74.00	-12.07	47.57	14.36	PK
6	2500	51.15	74.00	-22.85	36.67	14.48	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. 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.
4. The fundamental for reference only, it's not restricted by unwanted emission limit.

Model No	BK-S2	Site	CB2-H
Test Voltage	DC 3.7V (Power by Charge)	Test Date	2020/9/29
Test Mode	Mode 1: Transmit Mode	Engineer	Elwin
Polarity	Horizontal	Temperature (°C)	22.0
Test Condition	3DH5_2.48G_Hopping	Humidity (%RH)	55.0

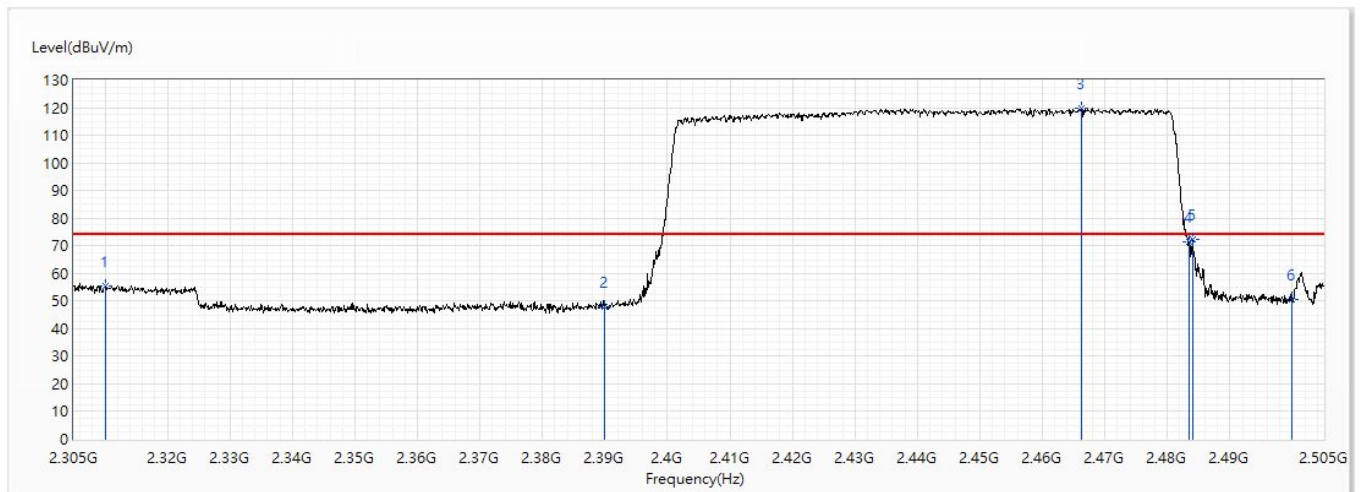


No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	2310	58.63	74.00	-15.37	45.48	13.15	PK
2	2390	53.22	74.00	-20.78	39.52	13.70	PK
! 3	2433.8	121.77	74.00	47.77	107.76	14.01	PK
4	2483.5	73.92	74.00	-0.08	59.56	14.36	PK
5	2484	71.40	74.00	-2.60	57.04	14.36	PK
6	2500	55.21	74.00	-18.79	40.73	14.48	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. 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.
4. The fundamental for reference only, it's not restricted by unwanted emission limit.

Model No	BK-S2	Site	CB2-H
Test Voltage	DC 3.7V (Power by Charge)	Test Date	2020/9/29
Test Mode	Mode 1: Transmit Mode	Engineer	Elwin
Polarity	Vertical	Temperature (°C)	22.0
Test Condition	3DH5_2.48G_Hopping	Humidity (%RH)	55.0



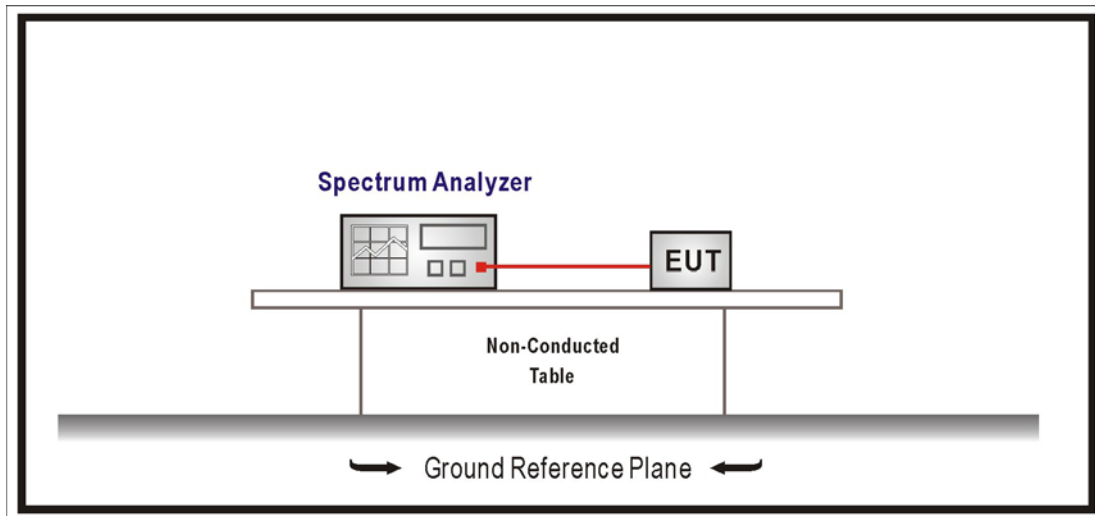
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB/m)	Detector Type
1	2310	55.34	74.00	-18.66	42.19	13.15	PK
2	2390	47.99	74.00	-26.01	34.29	13.70	PK
! 3	2466.3	119.74	74.00	45.74	105.50	14.24	PK
4	2483.5	71.52	74.00	-2.48	57.16	14.36	PK
5	2484	72.31	74.00	-1.69	57.95	14.36	PK
6	2500	50.71	74.00	-23.29	36.23	14.48	PK

Note:

1. All reading above 1GHz is performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Correct Factor.
3. 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.
4. The fundamental for reference only, it's not restricted by unwanted emission limit.

7. Number of hopping frequency

7.1. Test Setup



7.2. Limits

For frequency hopping systems operating in the 902-928 MHz band: if the 20 dB bandwidth of the hopping channel is less than 250 kHz, the system shall use at least 50 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 20 second period; if the 20 dB bandwidth of the hopping channel is 250 kHz or greater, the system shall use at least 25 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 10 second period. The maximum allowed 20 dB bandwidth of the hopping channel is 500 kHz.

Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used.

Frequency hopping systems operating in the 5725-5850 MHz band shall use at least 75 hopping frequencies. The maximum 20 dB bandwidth of the hopping channel is 1 MHz. The average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 30 second period.

7.3. Test Procedures

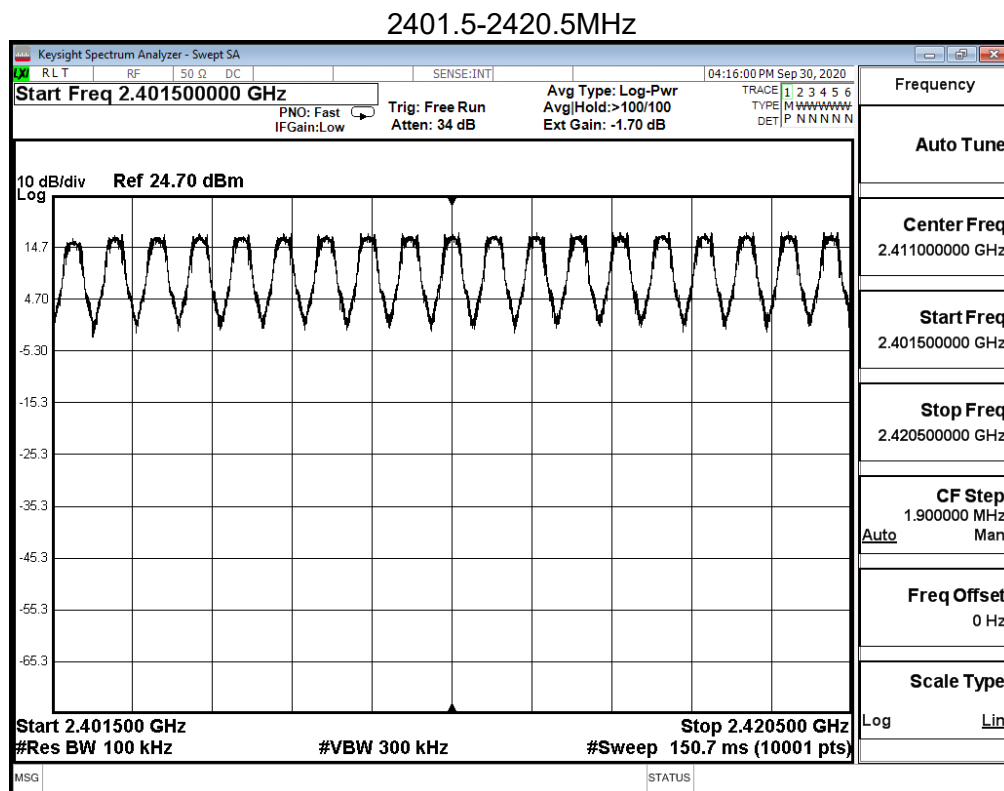
The EUT was setup according to ANSI C63.10: 2013 and tested according to FHSS test procedure of FCC KDB 558074 D01 v05r02 for compliance to FCC 47CFR 15.247 requirements.

7.4. Test Specification

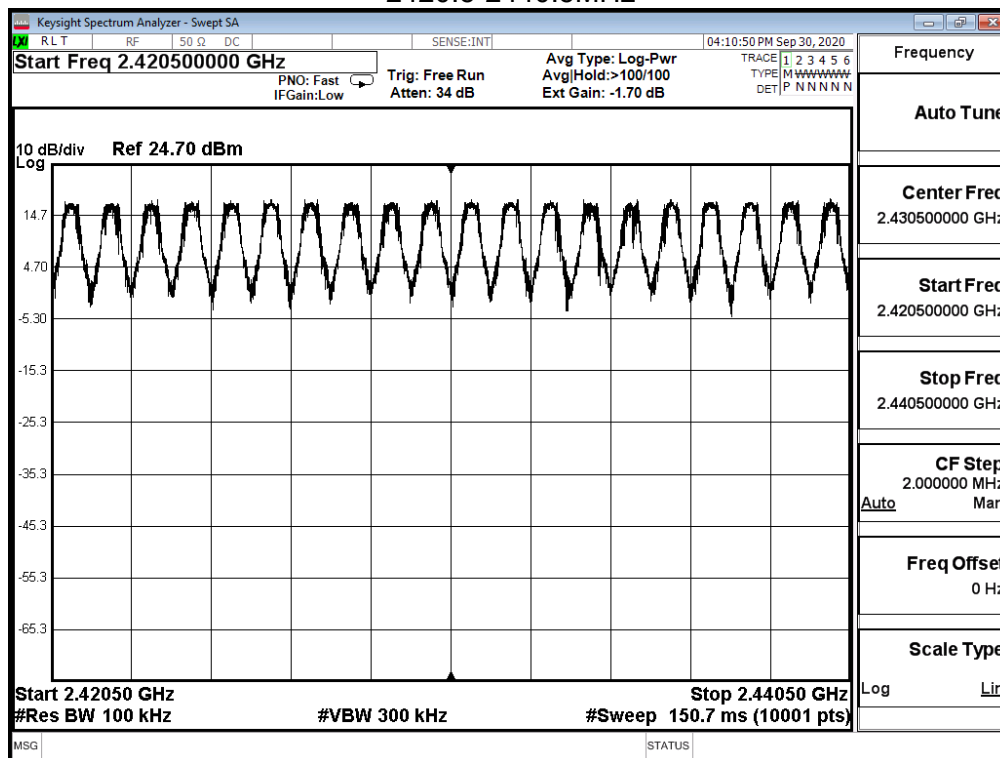
According to FCC Part 15 Subpart C Paragraph 15.247: 2019

Product	Bluetooth Headset		
Test Item	Number of hopping frequency		
Test Mode	Mode 1: Transmit mode		
Date of Test	2020/09/30	Test Site	SR12-H
Temperature(°C)	24.0	Humidity (%RH)	64.0

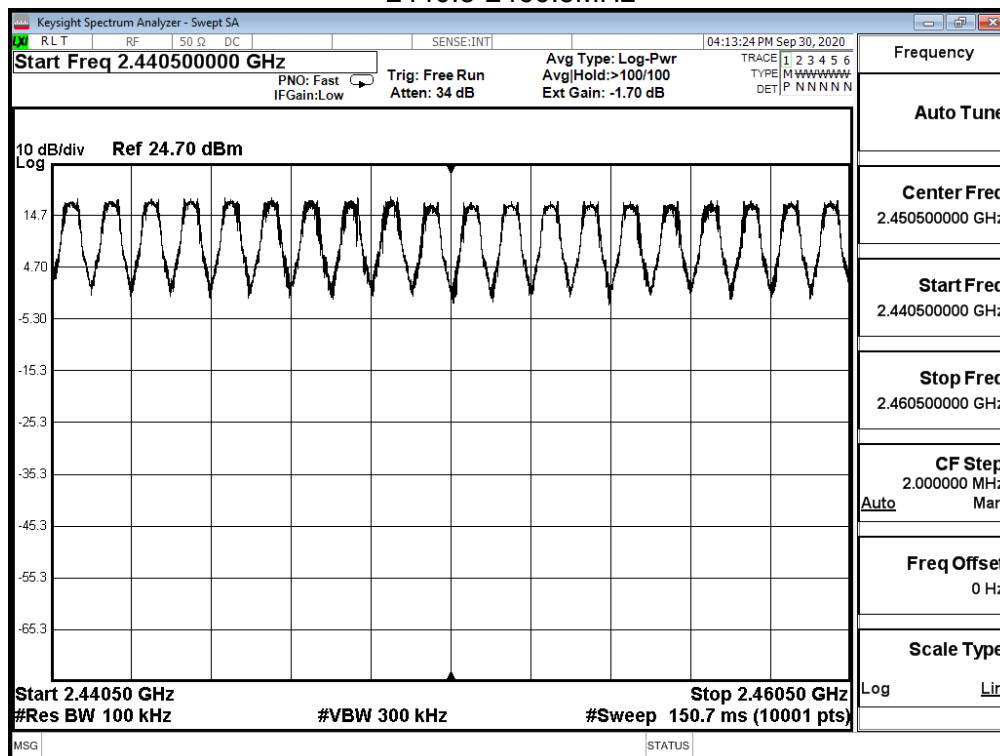
Frequency Range (MHz)	Measure Level (Channels)	Limit (Channels)
2402 - 2480	79	≥ 75



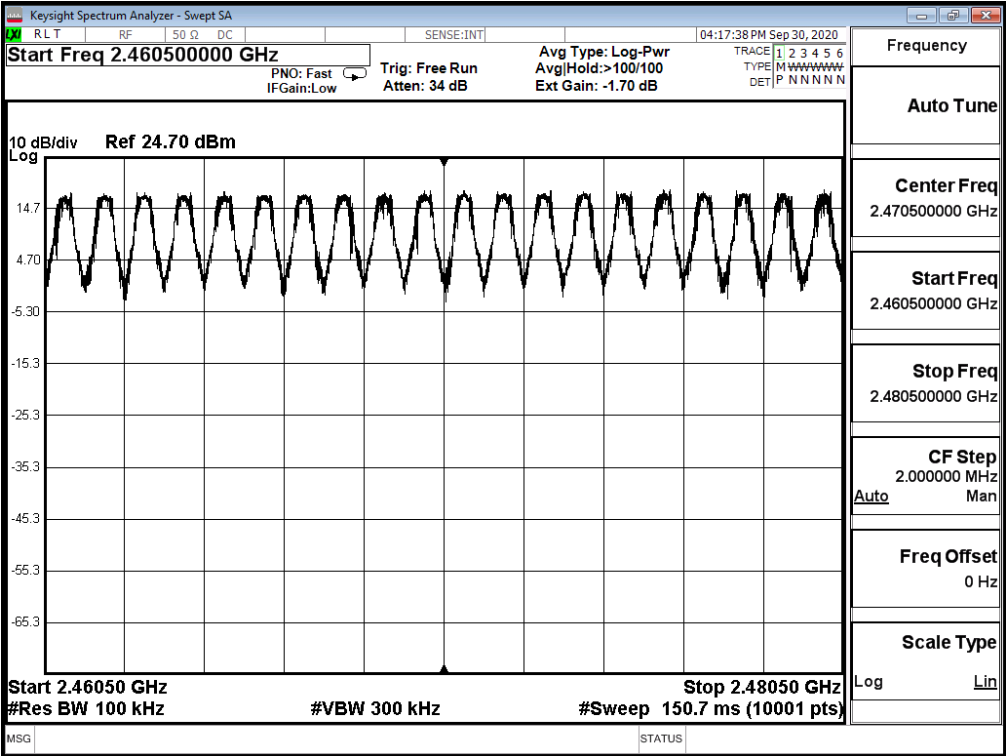
2420.5-2440.5MHz



2440.5-2460.5MHz

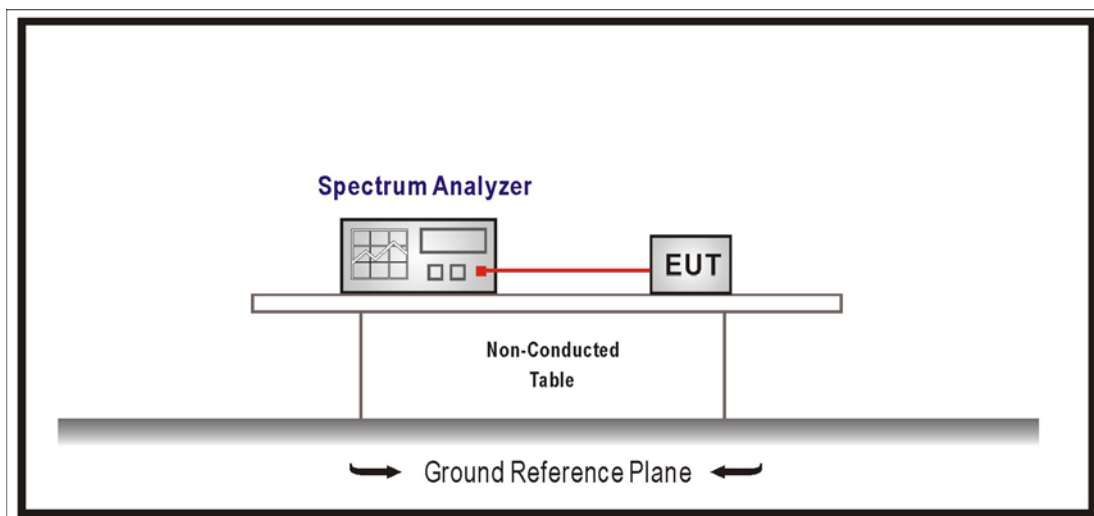


2460.5-2480.5MHz



8. Carrier Frequency Separation

8.1. Test Setup



8.2. Limits

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an Maximum peak conducted output power no greater than 125 mW. The system shall hop to channel frequencies that are selected at the system hopping rate from a pseudo randomly ordered list of hopping frequencies. Each frequency must be used equally on the average by each transmitter. The system receivers shall have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shall shift frequencies in synchronization with the transmitted signals.

8.3. Test Procedures

The EUT was setup according to ANSI C63.10: 2013 and tested according to FHSS test procedure of FCC KDB 558074 D01 v05r02 for compliance to FCC 47CFR 15.247 requirements

8.4. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2019

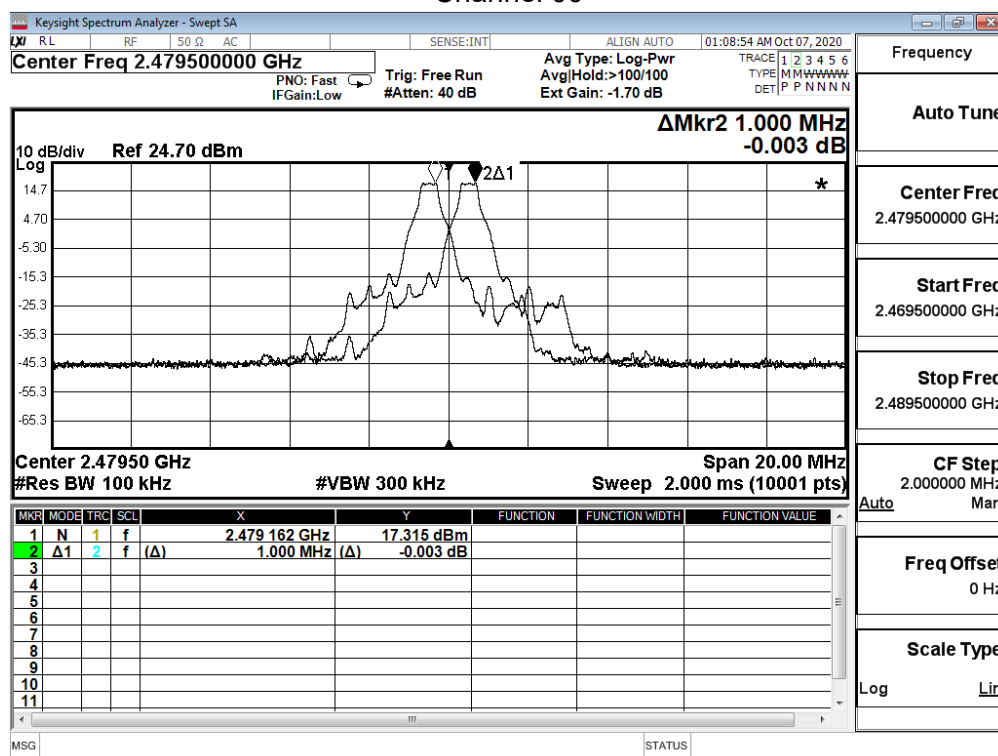
8.5. Test Result

Product	Bluetooth Headset		
Test Item	Carrier Frequency Separation		
Test Mode	Mode 1: Transmit mode		
Date of Test	2020/10/06 - 2020/10/07	Test Site	SR12-H
Temperature(°C)	25.0 & 22.0	Humidity (%RH)	60.0 & 55.0

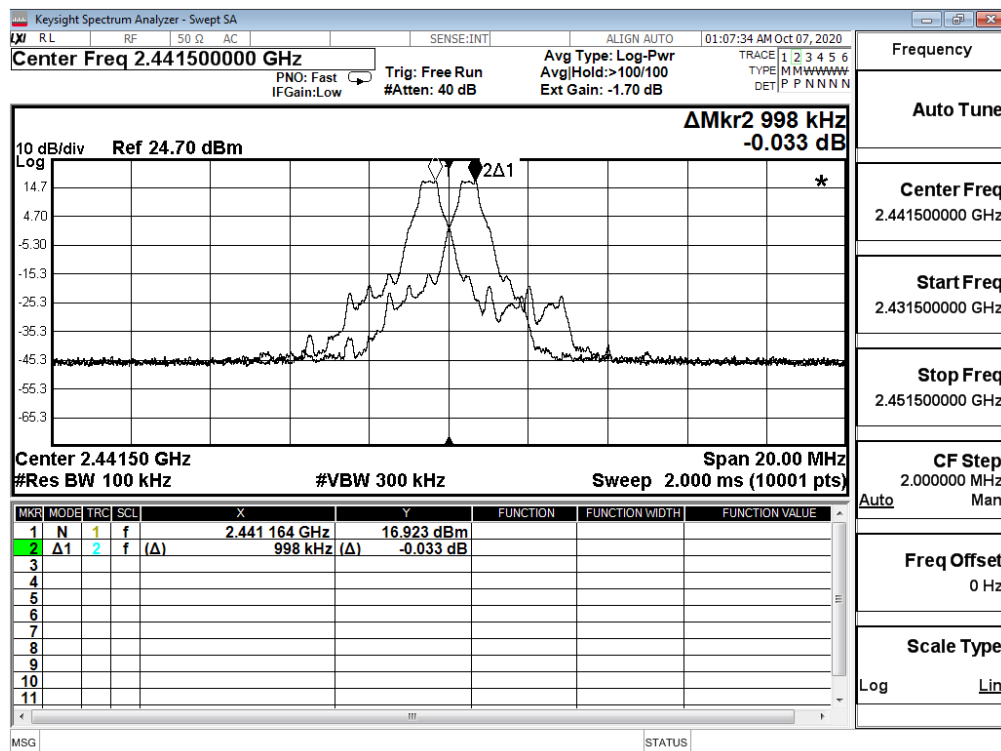
GFSK

Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)
00	2402	1.000	≥ 0.614
39	2441	0.998	≥ 0.614
78	2480	0.996	≥ 0.614

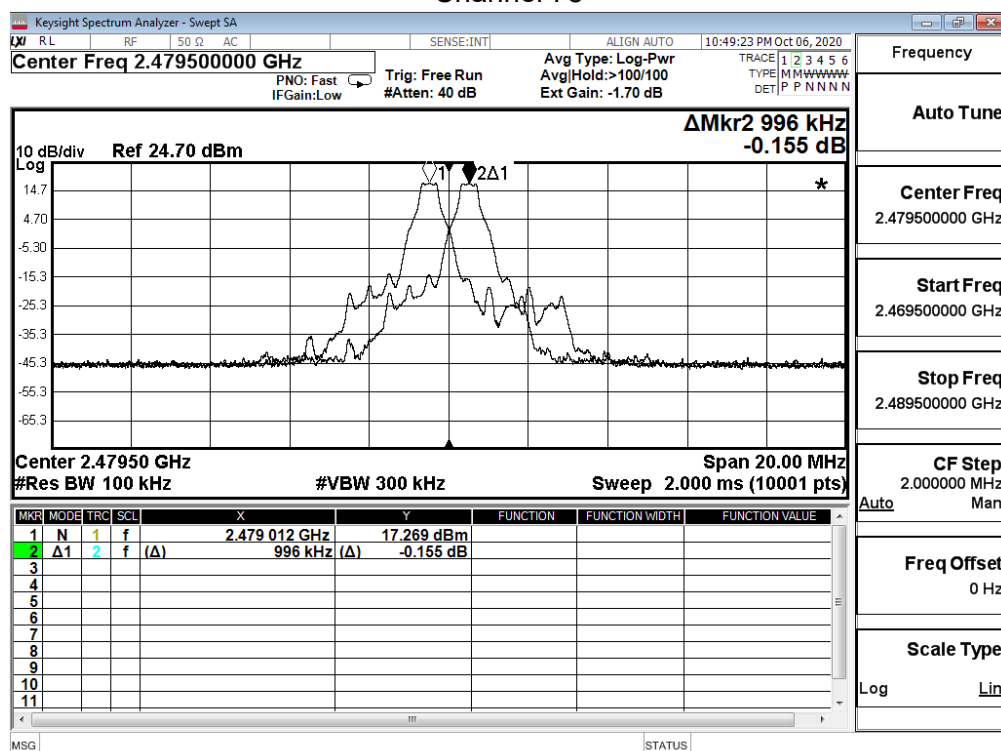
Channel 00



Channel 39



Channel 78

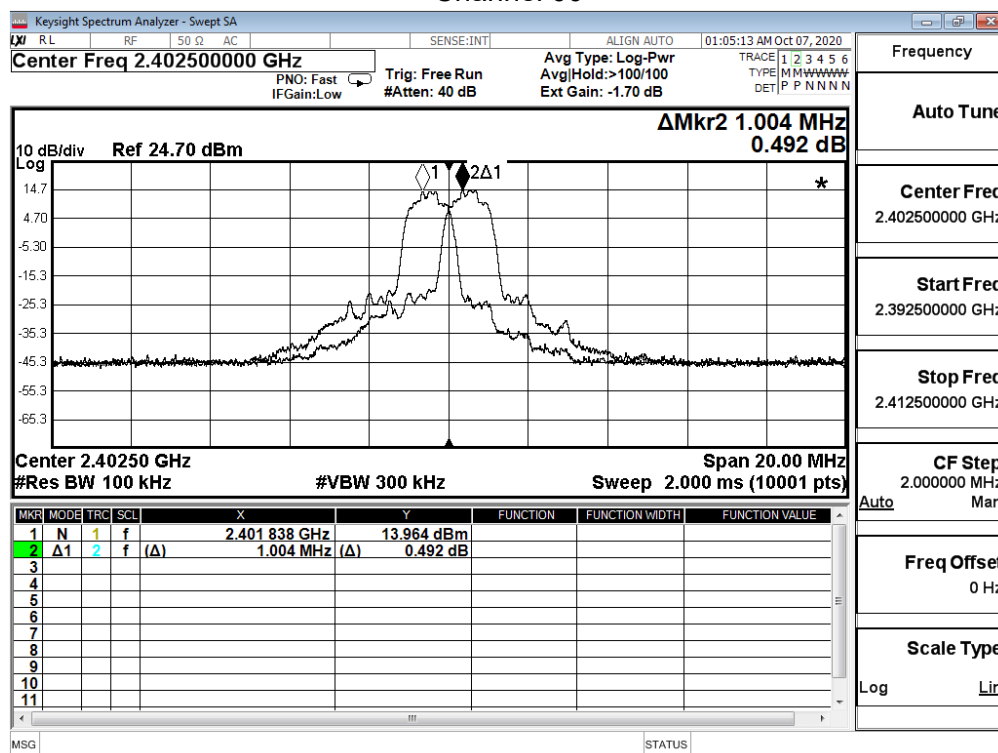


Product	Bluetooth Headset		
Test Item	Carrier Frequency Separation		
Test Mode	Mode 1: Transmit mode		
Date of Test	2020/10/06 - 2020/10/07	Test Site	SR12-H
Temperature(°C)	25.0 & 22.0	Humidity (%RH)	60.0 & 55.0

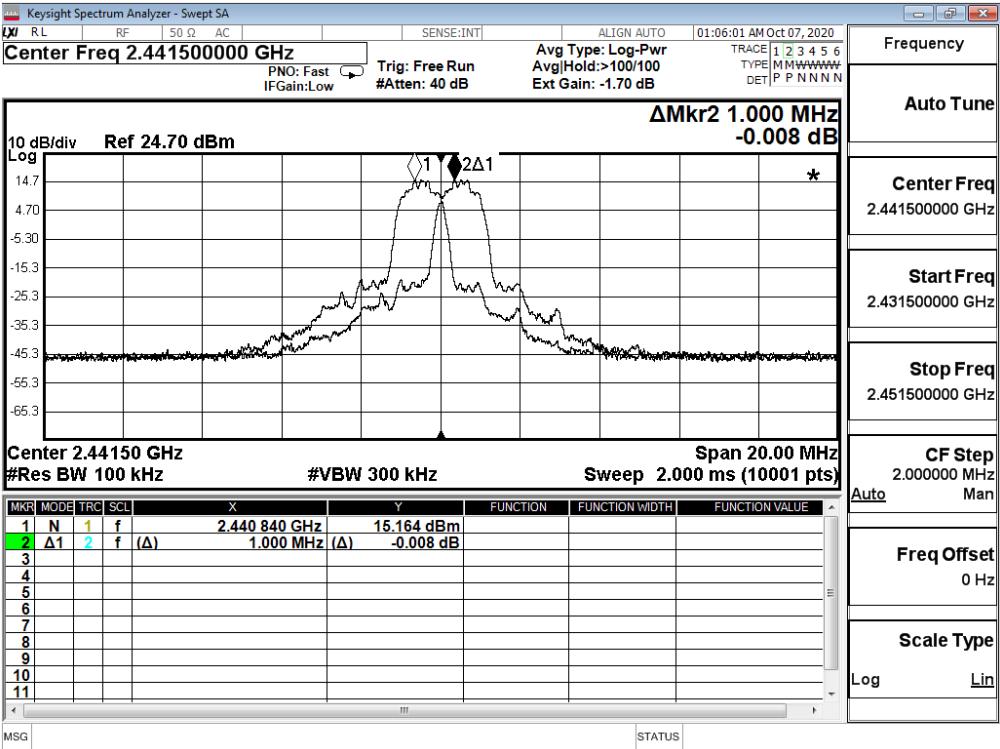
8-DPSK

Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)
00	2402	1.040	≥ 0.839
39	2441	1.000	≥ 0.841
78	2480	1.000	≥ 0.842

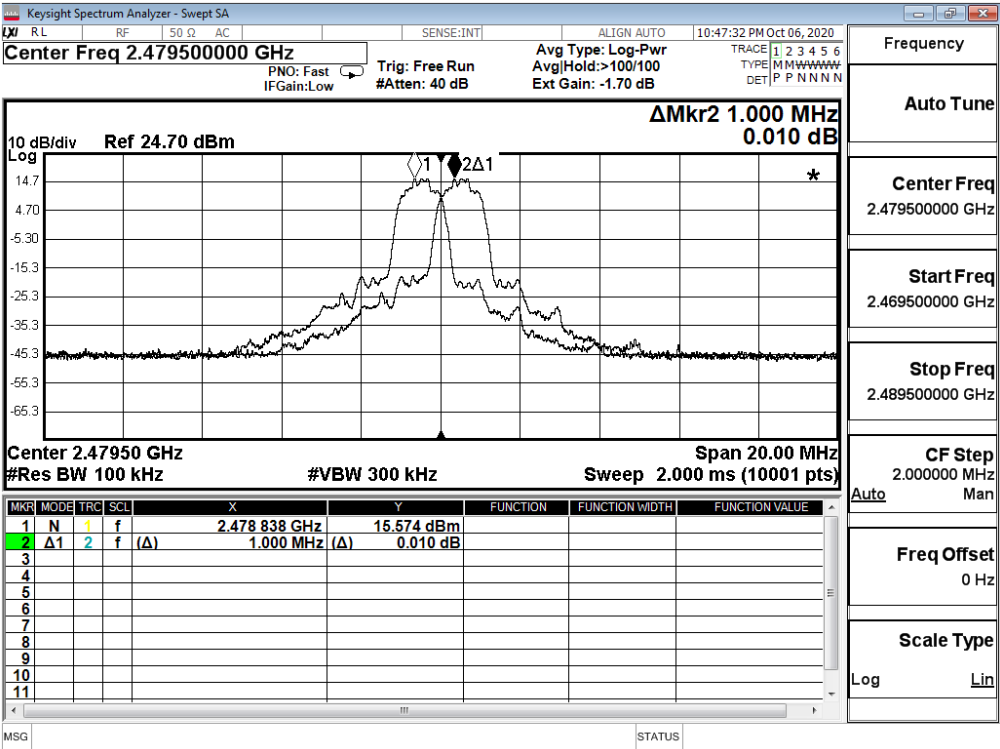
Channel 00



Channel 39

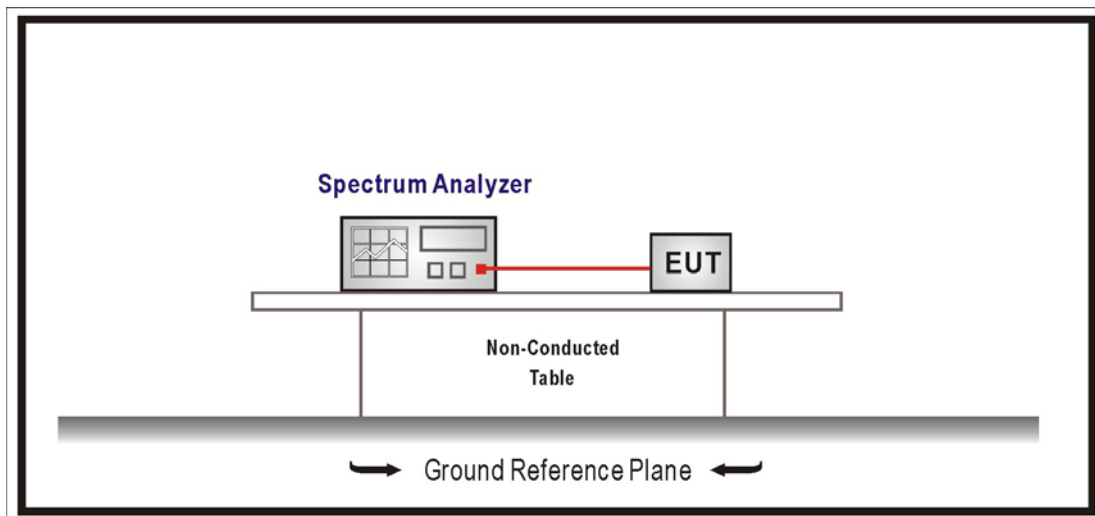


Channel 78



9. -20dB Bandwidth

9.1. Test Setup



9.2. Limits

N/A

9.3. Test Procedures

The EUT was setup according to ANSI C63.10: 2013 and tested according to FHSS test procedure of FCC KDB 558074 D01 v05r02 for compliance to FCC 47CFR 15.247 requirements

Use the following spectrum analyzer settings:

Span = approximately 2 to 3 times the 20 dB bandwidth, centered on a hopping channel
RBW $\geq$ 1% of the 20 dB bandwidth, VBW $\geq$ RBW, Sweep = auto, Detector function = peak, Trace = max hold, The EUT should be transmitting at its maximum data rate.

9.4. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2019.

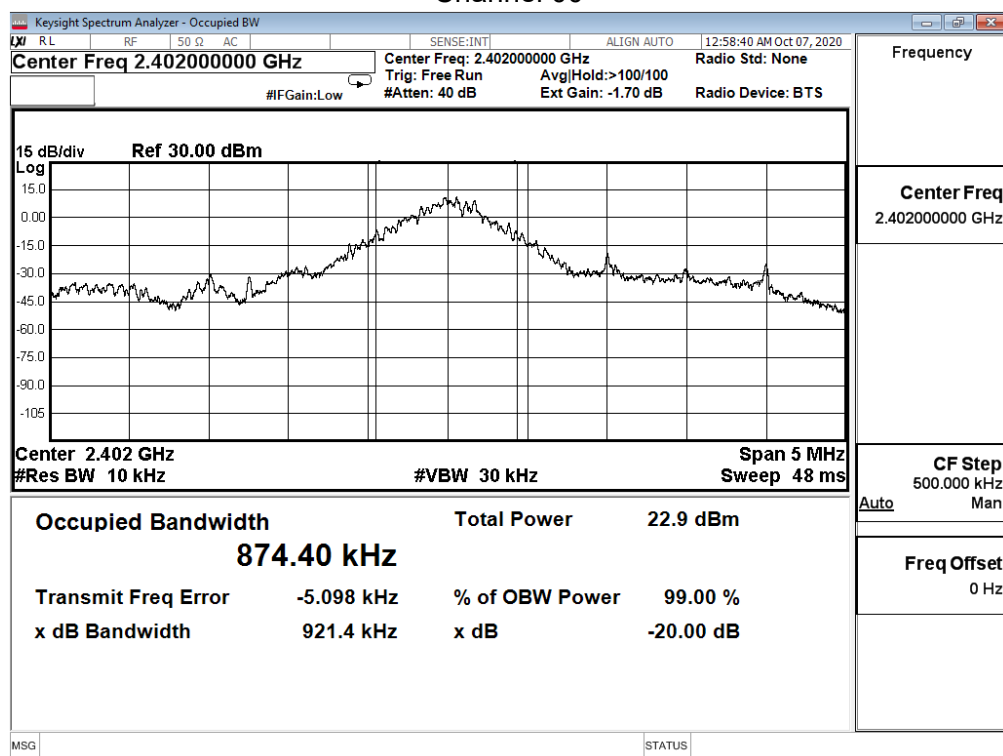
9.5. Test Result

Product	Bluetooth Headset		
Test Item	-20dB Bandwidth		
Test Mode	Mode 1: Transmit mode		
Date of Test	2020/10/07	Test Site	SR12-H
Temperature(°C)	22.0	Humidity (%RH)	55.0

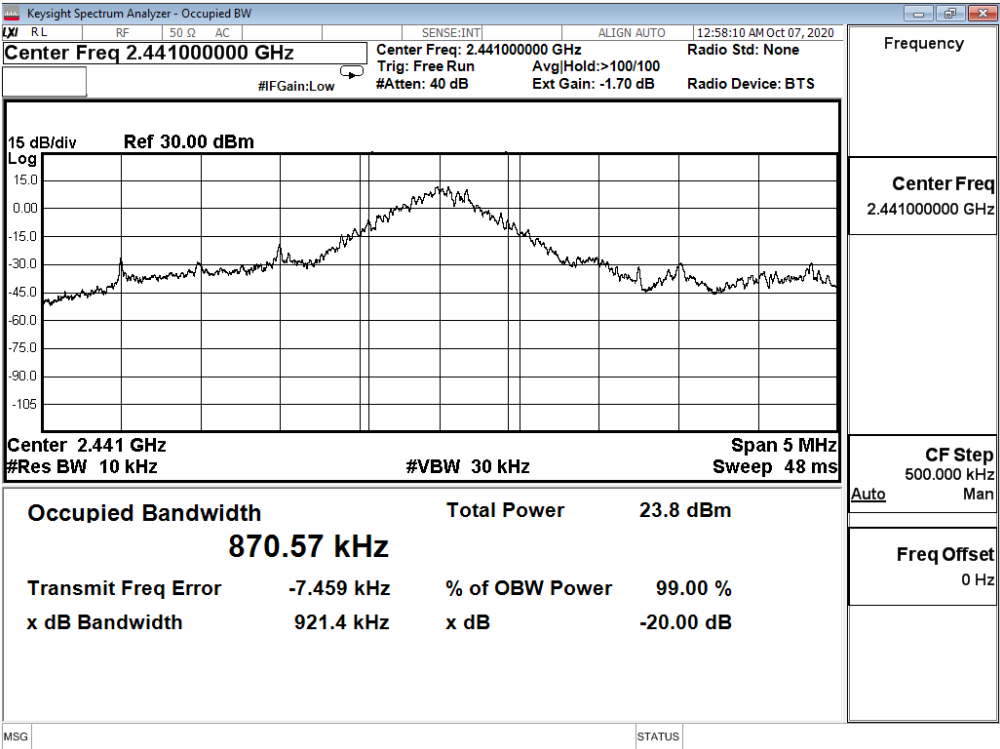
GFSK

Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)
00	2402	0.921	---
39	2441	0.921	---
78	2480	0.921	---

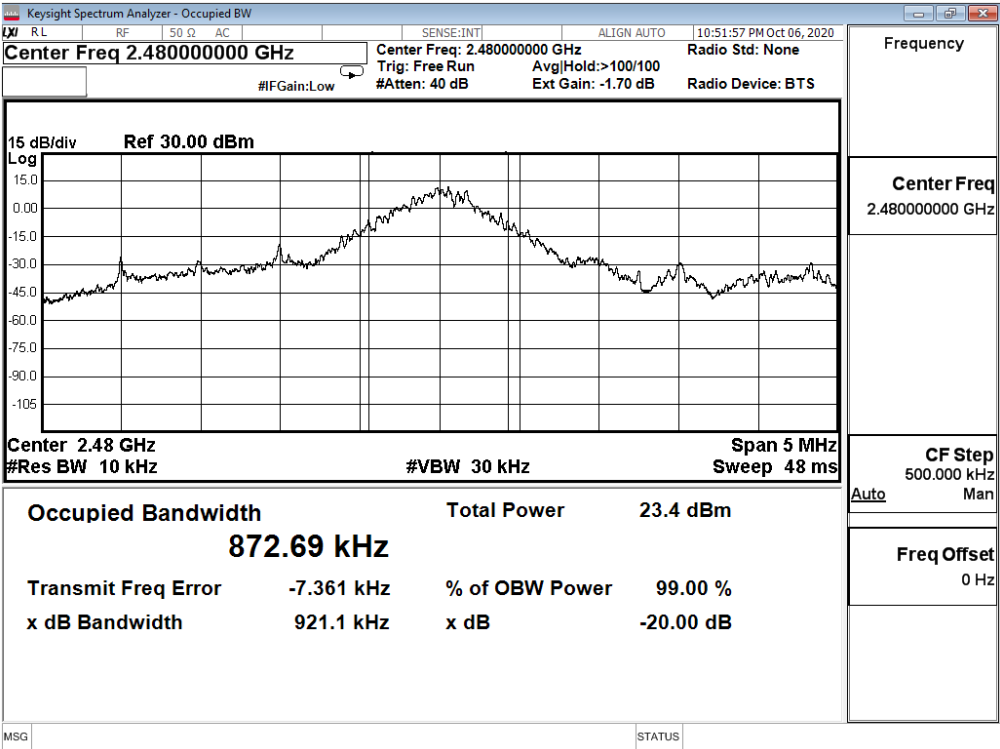
Channel 00



Channel 39



Channel 78

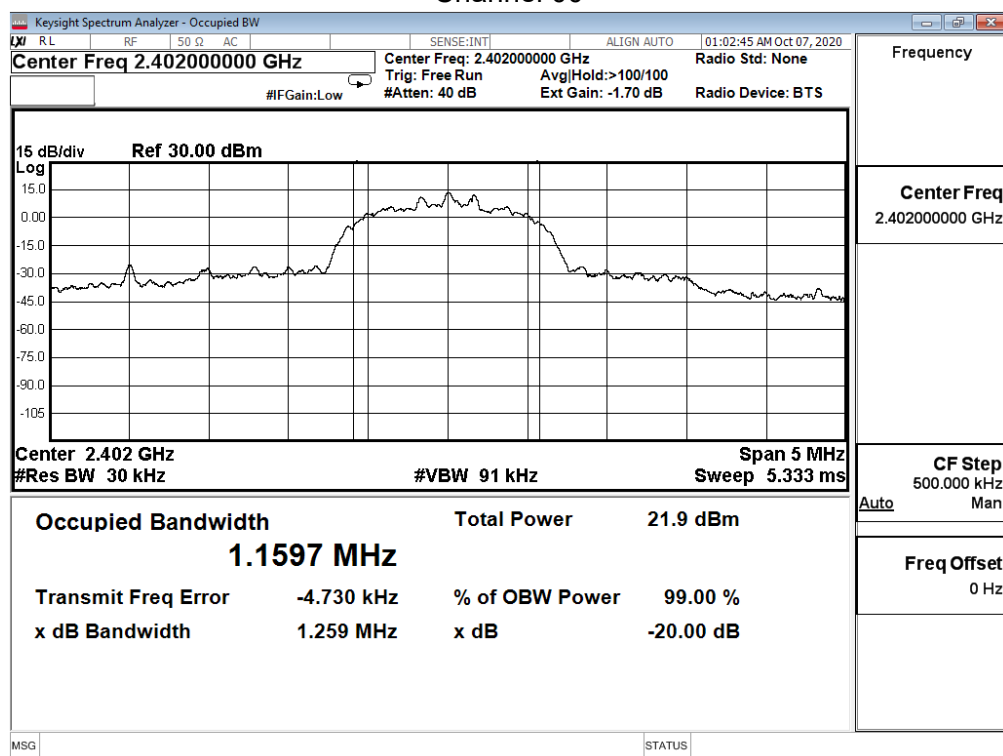


Product	Bluetooth Headset		
Test Item	-20dB Bandwidth		
Test Mode	Mode 1: Transmit mode		
Date of Test	2020/10/07	Test Site	SR12-H
Temperature(°C)	22.0	Humidity (%RH)	55.0

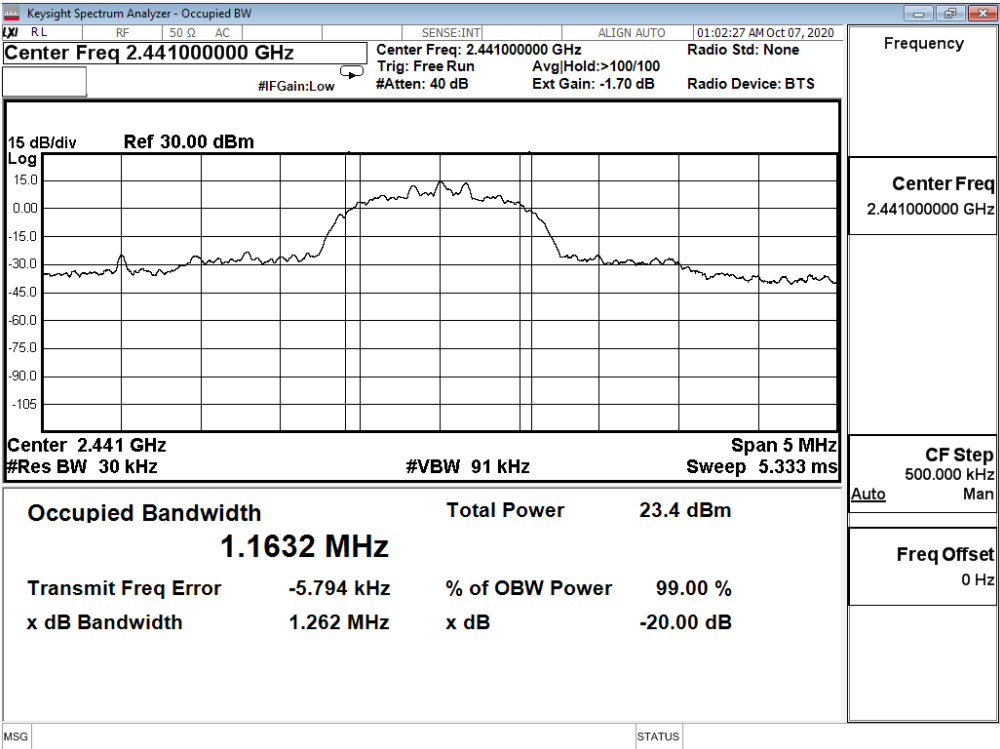
8-DPSK

Channel No.	Frequency (MHz)	Measure Level (MHz)	Limit (MHz)
00	2402	1.259	---
39	2441	1.262	---
78	2480	1.263	---

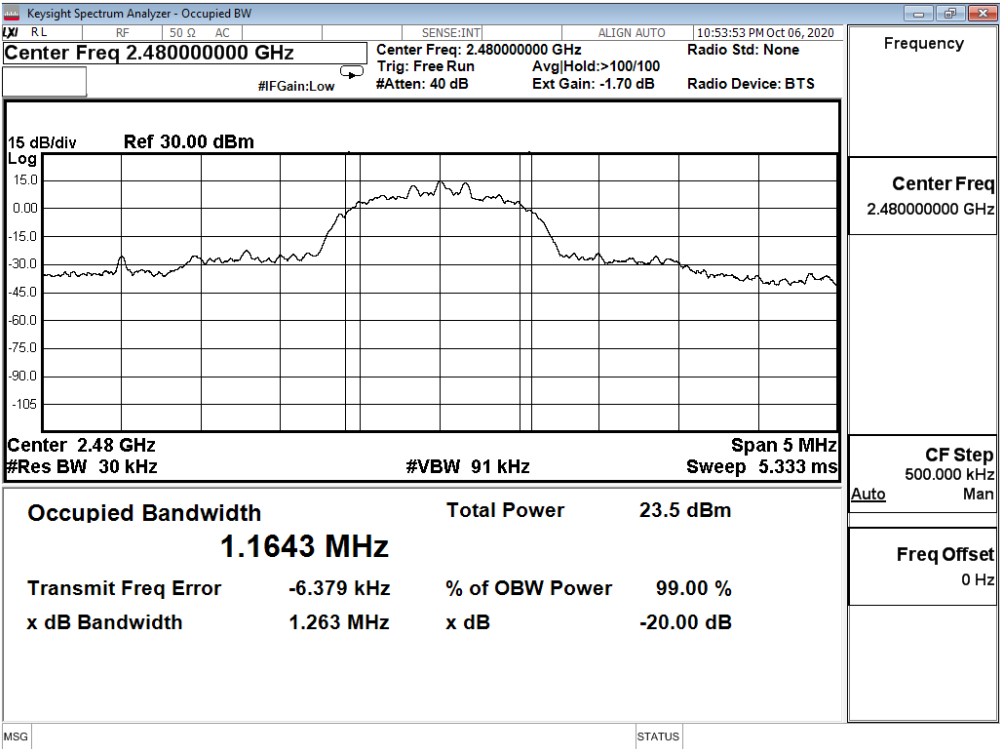
Channel 00



Channel 39

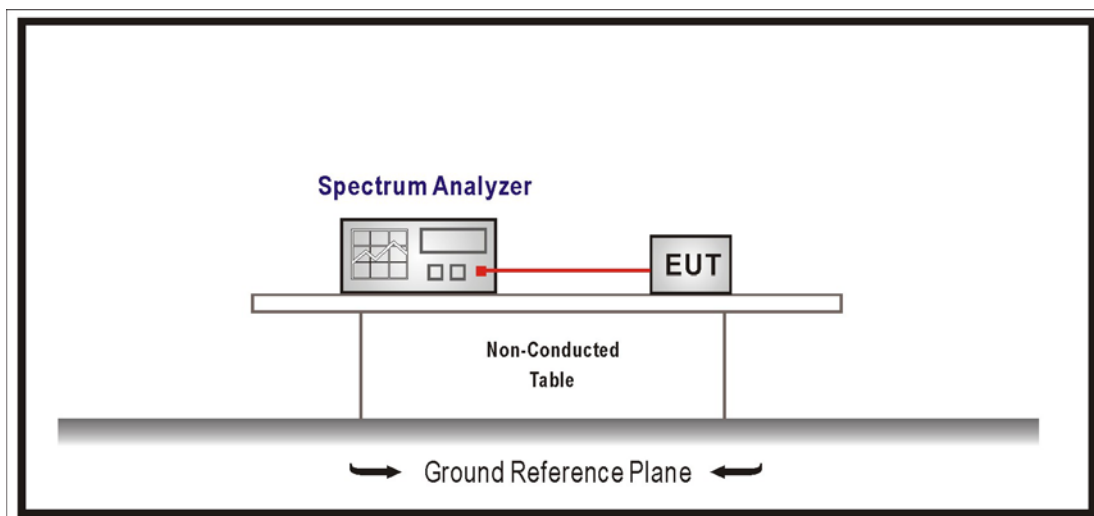


Channel 78



10. Dwell Time

10.1. Test Setup



10.2. Limits

For frequency hopping systems operating in the 902-928 MHz band: if the 20 dB bandwidth of the hopping channel is less than 250 kHz, the system shall use at least 50 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 20 second period; if the 20 dB bandwidth of the hopping channel is 250 kHz or greater, the system shall use at least 25 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 10 second period.

For frequency hopping systems operating in the 2400-2483.5 MHz bands. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

For frequency hopping systems operating in the 5725-5850 MHz bands. The average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 30 second period.

10.3. Test Procedures

The EUT was setup according to ANSI C63.10: 2013 and tested according to FHSS test procedure of FCC KDB 558074 D01 v05r02 for compliance to FCC 47CFR 15.247 requirements

Span = zero span, centered on a hopping channel, RBW = 1 MHz, VBW $\geq$ RBW,
Sweep = as necessary to capture the entire dwell time per hopping channel,
Detector function = peak, Trace = max hold.

10.4. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2019

10.5. Test Result

Product	Bluetooth Headset		
Test Item	Dwell Time		
Test Mode	Mode 1: Transmit mode		
Date of Test	2020/09/30	Test Site	SR12-H
Temperature(°C)	24.0	Humidity (%RH)	64.0

GFSK

Occupancy Time of Frequency Hopping System

A) 2402MHz Test Time Period: $0.4 \times 79 = 31.60 \text{ sec}$, Time slot length : 2.892 ms = 0.002892 sec

Dwell Time : 0.002892 $\times (266.67/79) \times 31.60 = 0.3085$ sec ◦

B) 2441MHz Test Time Period: $0.4 \times 79 = 31.60 \text{ sec}$, Time slot length : 2.897 ms = 0.002897 sec

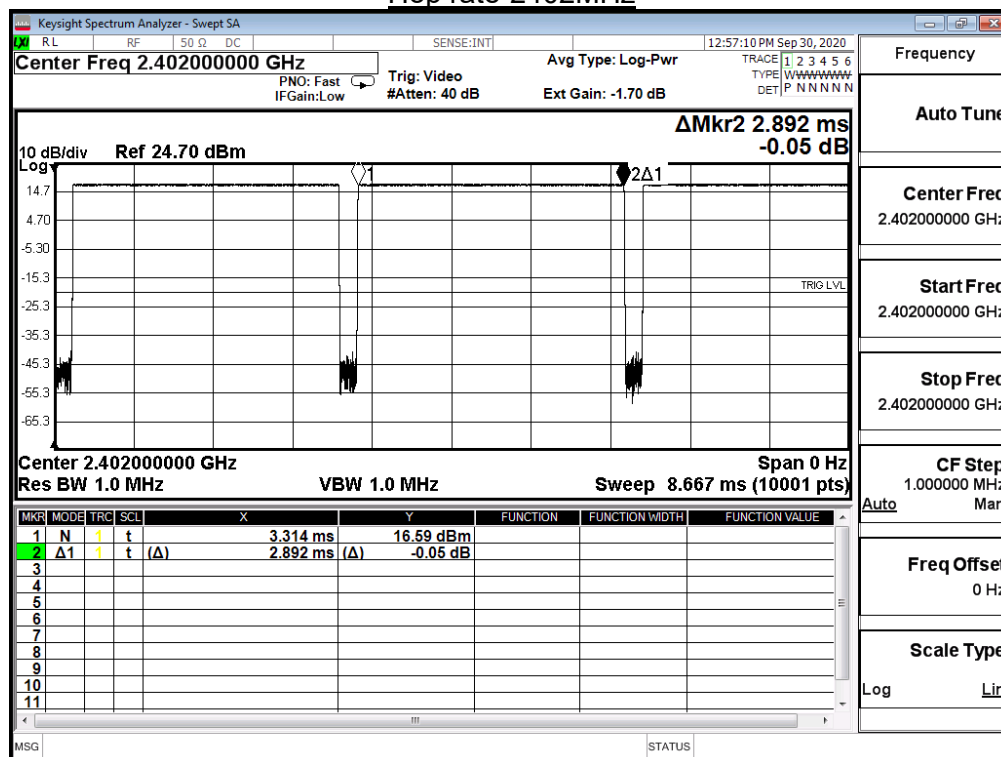
Dwell Time : 0.002897 $\times (266.67/79) \times 31.60 = 0.3090$ sec ◦

C) 2480MHz Test Time Period: $0.4 \times 79 = 31.60 \text{ sec}$, Time slot length : 2.891 ms = 0.002891 sec

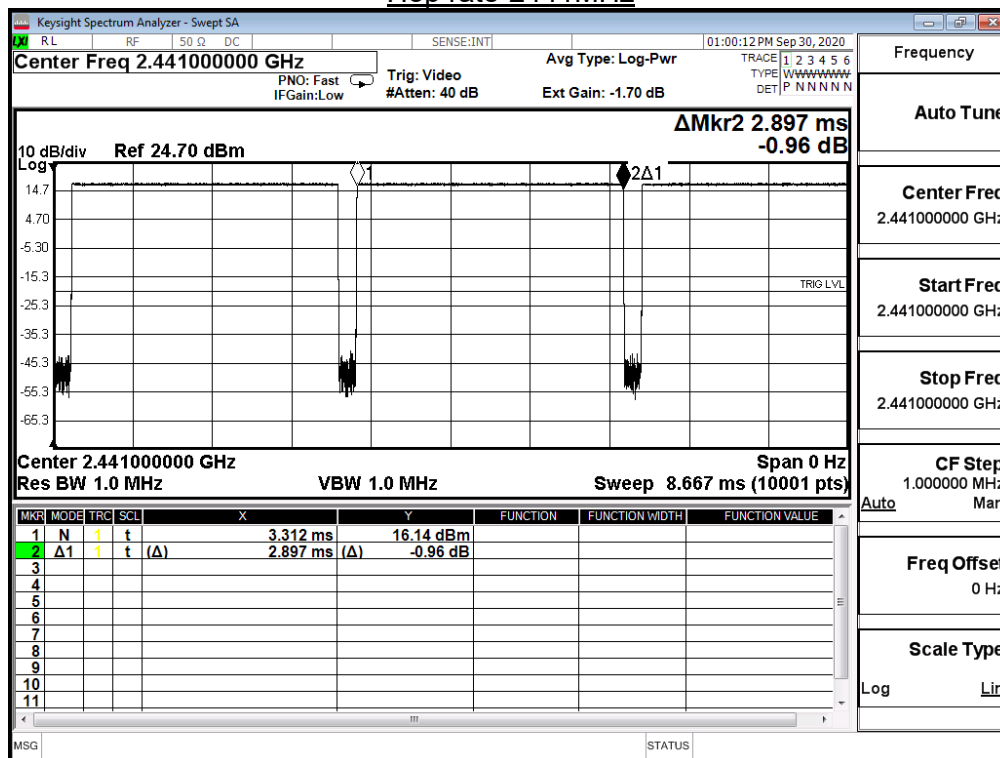
Dwell Time : 0.002891 $\times (266.67/79) \times 31.60 = 0.3084$ sec ◦

Test Result: The Average Occupancy Time of Each Highest , Middle and Lowest Channel Is Less Than 0.4sec , And Corresponds to The Standard ◦

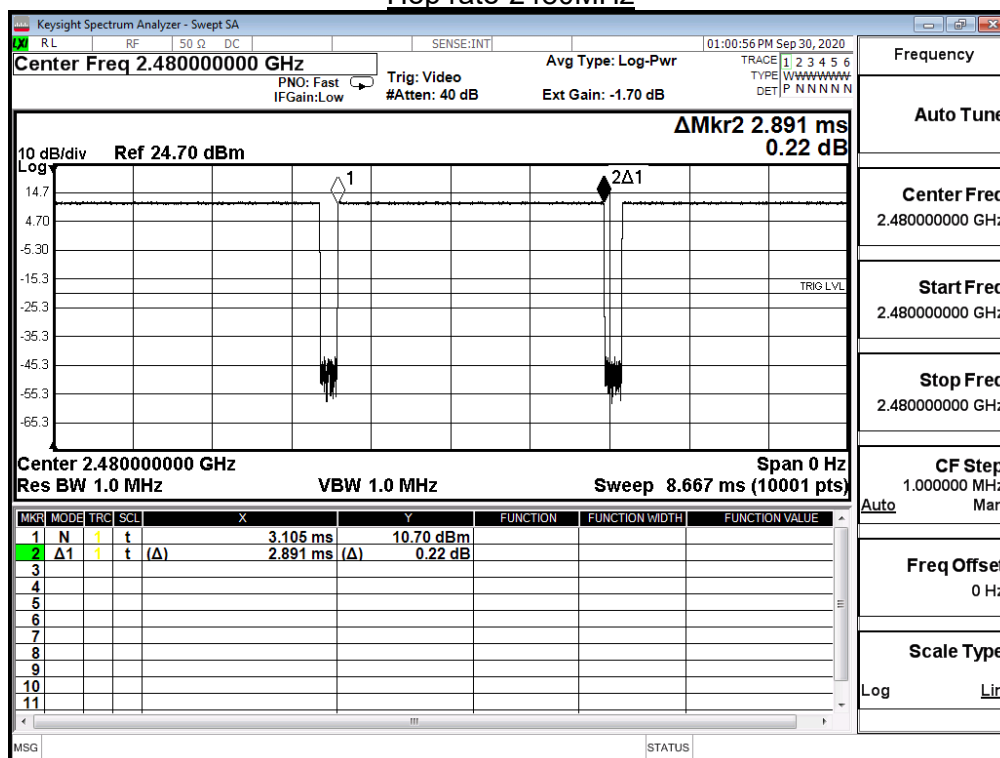
Hop rate-2402MHz



Hop rate-2441MHz



Hop rate-2480MHz



Note: Dwell time = time slot length * hop rate / number of hopping channels * period

Product	Bluetooth Headset		
Test Item	Dwell Time		
Test Mode	Mode 1: Transmit mode		
Date of Test	2020/09/30	Test Site	SR12-H
Temperature(°C)	24.0	Humidity (%RH)	64.0

8-DPSK

Occupancy Time of Frequency Hopping System

A) 2402MHz Test Time Period: $0.4 \times 79 = 31.60\text{sec}$, Time slot length : 2.902 ms = 0.002902 sec

Dwell Time : 0.002902 * (266.67/79) * 31.60 = 0.3096 sec ◦

B) 2441MHz Test Time Period: $0.4 \times 79 = 31.60\text{sec}$, Time slot length : 2.902 ms = 0.002902 sec

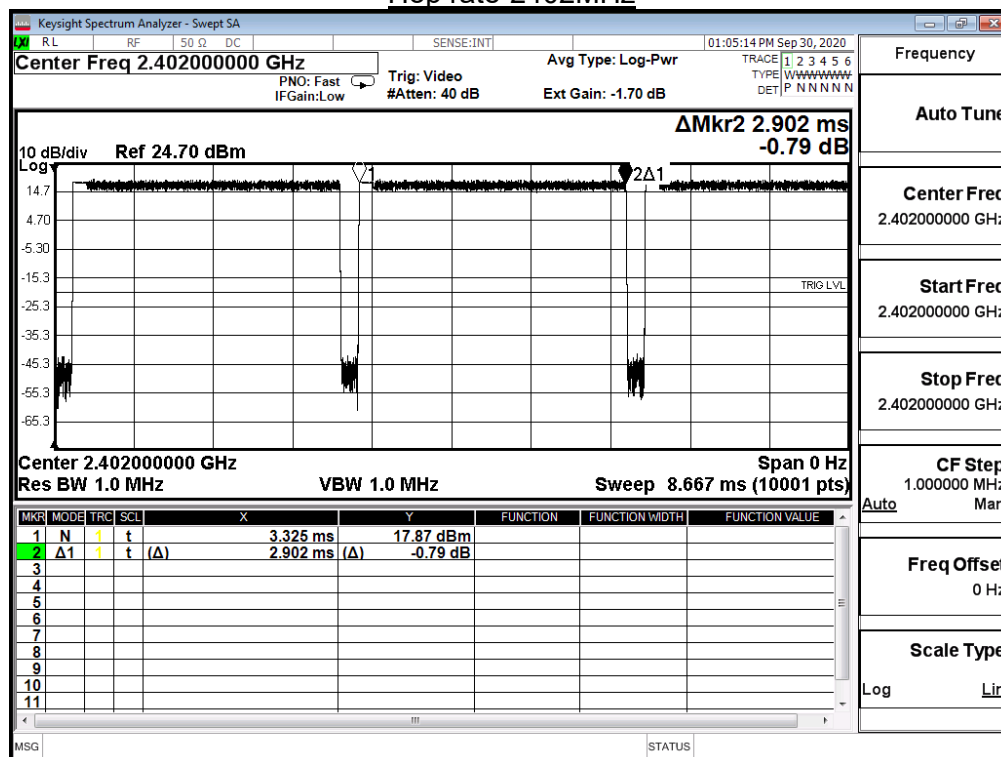
Dwell Time : 0.002902 * (266.67/79) * 31.60 = 0.3096 sec ◦

C) 2480MHz Test Time Period: $0.4 \times 79 = 31.60\text{sec}$, Time slot length : 2.901 ms = 0.002901 sec

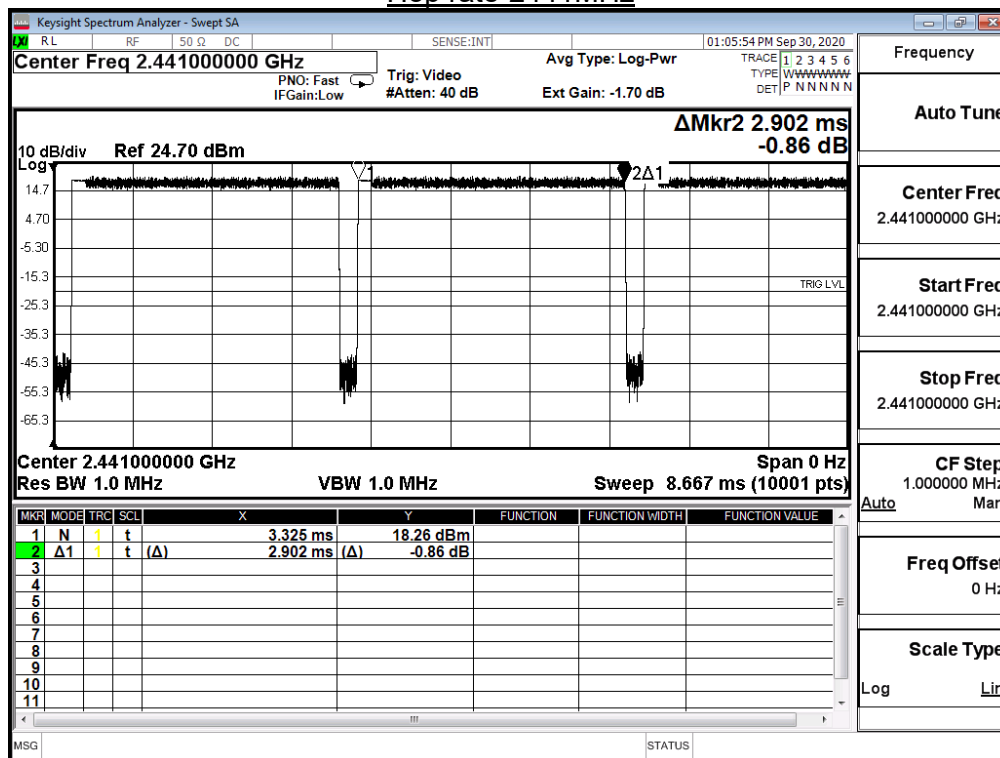
Dwell Time : 0.002901 * (266.67/79) * 31.60 = 0.3094 sec ◦

Test Result: The Average Occupancy Time of Each Highest , Middle and Lowest Channel Is Less Than 0.4sec , And Corresponds to The Standard ◦

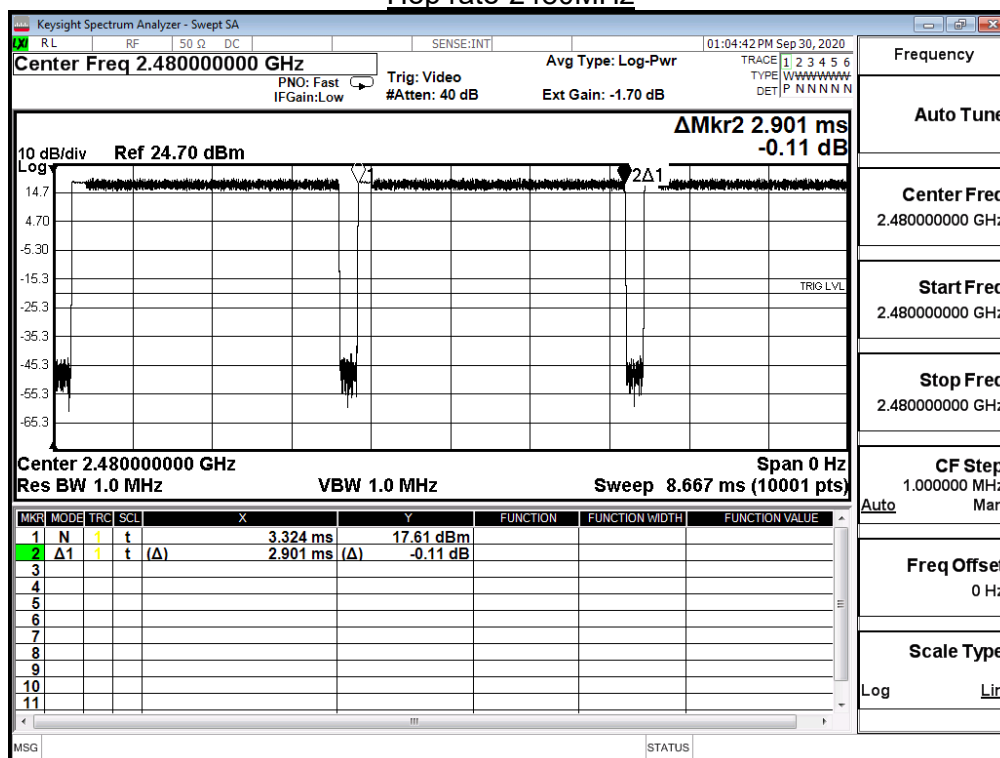
Hop rate-2402MHz



Hop rate-2441MHz



Hop rate-2480MHz



Note: Dwell time = time slot length * hop rate / number of hopping channels * period