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Certificate # 2861.01

GRGTEST®

TEST REPORT

Verified Code: 736927

Report No.:	E20200904990101-3-G2	Application No.:	E20200904990101
Client:	OnePlus Technology (Shenzhen) Co., Ltd.		
Address:	18C02,18C03,18C04 and 18C05, Shum Yip Terra Building, Binhe Avenue North, Futian District, Shenzhen, Guangdong, China		
Sample Description:	Watch		
Model:	W301GB		
Test Specification:	CFR47 FCC Part 15 Subpart C 15.247 RADIO FREQUENCY DEVICES Subpart C—Intentional Radiators		
Receipt Date:	2020-09-08		
Test Date:	2020-09-15 to 2020-09-22		
Issue Date:	2021-03-31		
Test Result:	Pass		
Prepared By: Test Engineer Xie Fang	Reviewed By: Technical Manager Wu Haoting	Approved By: Manager John Lee	
Other Aspects:			
Note: This report instead the report E20200904990101-3-G1, and from the date of issuance of this report, the report which being replaced become invalid.			
Abbreviations: ok / P = passed; fail / F = failed; n.a. / N = not applicable;			
The test result in this test report refers exclusively to the presented test sample. This report shall not be reproduced except in full, without the written approval of GRGT.			



DIRECTIONS OF TEST

- 1. This station carries out test task according to the national regulation of verifications which can be traced to National Primary Standards and BIPM.**
- 2. The test report merely corresponds to the test sample. It is not permitted to copy extracts of these test result without the written permission of the test laboratory.**
- 3. If there is any objection concerning the test, the client should inform the laboratory within 15 days from the date of receiving the test report.**

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1. TEST RESULT SUMMARY

CFR47 FCC Part 15 Subpart C 15.247			
Standard	Item	Limit / Severity	Result
CFR47 FCC Part 15 Subpart C (15.247)	Antenna Requirement	Section 15.247 (b)(1)	PASS
	20dB Bandwidth	Section 15.247(a)(1)	PASS
	Carrier Frequencies Separated	Section 15.247(a)(1)	PASS
	Hopping Channel Number	Section 15.247(a)(1)(ii)	PASS
	Dwell Time	Section 15.247(a)(1)(iii)	PASS
	Maximum Peak Output Power	Section 15.247(b)(1)	PASS
	Conducted Emission	Section 15.207	PASS
	Conducted band edges and Spurious Emission (30MHz to 25GHz)	Section 15.209 &15.247(d)	PASS
	Radiated Spurious Emission (30MHz to 25GHz)	Section 15.209 &15.247(d)	PASS
	Restricted bands of operation	Section 15.247 (d) &15.205	PASS

The EUT antenna is internal antenna. Max Antenna gain is 1dBi .which accordance 15.203.is considered sufficient to comply with the provisions of this section

2. GENERAL DESCRIPTION OF EUT

2.1. APPLICANT

Name: OnePlus Technology (Shenzhen) Co., Ltd.
Address: 18C02,18C03,18C04 and 18C05, Shum Yip Terra Building, Binhe Avenue North, Futian Distict, Shenzhen,Guangdong, China

2.2. MANUFACTURER

Name: OnePlus Technology (Shenzhen) Co., Ltd.
Address: 18C02,18C03,18C04 and 18C05, Shum Yip Terra Building, Binhe Avenue North, Futian Distict, Shenzhen,Guangdong, China

2.3. FACTORY

Factory
Name : Longcheer Electronic (HuiZhou) Co., Ltd.
Address : Building 1, No.28 (west) Hechang Six Road, Zhongkai High-Tech Zone, Huizhou, Guangdong,China.

2.4. BASIC DESCRIPTION OF EQUIPMENT UNDER TEST

Equipment: Watch
Model No.: W301GB
Adding Model: W501GB

Models discrepancy: The difference between Model: W301GB and Model: W501GB are the screen TP and the material of the middle frame, and the two watches are the same software, but in order to distinguish, the software version numbers of the two watches are named differently.:
For W301GB, the screen TP is aluminosilicate glass and the middle frame is stainless steel. And the software version number is W301GB_11_A.01.
For W501GB, the screen TP is sapphire glass and the middle frame is cobalt alloy. And the software version number is W501GB_11_A.01.
Except for the above, all others is the same.

Trade Name: ONEPLUS
FCC ID: 2ABZ2-W301GB
Power supply: DC3.87V power supplied by battery
DC5V power supplied by adapter
Rechargeable Li-ion Battery/XE202
Battery specification: Limited Charge Voltage:4.45Vdc
Rated Capacity: 402mAh/1.56Wh
Nominal Voltage:3.87Vdc

	Typical Capacity: 410mAh/1.59Wh
Frequency Range:	2402MHz~2480MHz
Transmit Power:	GFSK: 12.130dBm $\pi/4$ -DQPSK: 9.112dBm 8DPSK: 9.412dBm
Type of Modulation:	FHSS (GFSK for 1Mbps, $\pi/4$ -DQPSK for 2Mbps, 8DPSK for 3Mbps)
Antenna Specification:	Internal antenna with 1dBi gain (Max)
Temperature Range:	0°C~35°C
Hardware Version:	W301GB: LTAM281 W501GB: LTAM281
Software Version:	W301GB: W301GB_11_A.01 W501GB: W501GB_11_A.01
Sample No:	E20200904990101-0010
Note:	/

2.5. TEST OPERATION MODE

Test Item	Mode No.	Description of the modes
Conducted Emission	1	Continuously Transmitting (CH0) with adapter
	2	Continuously Transmitting (CH0) with notebook
Radiated Emission	1	Continuously Transmitting (CH0, CH39, CH79)

2.6. LOCAL SUPPORTIVE

Name of Equipment	Manufacturer	Model	Serial Number	Note
Notebook	HP	/	/	/
Cable				
/	/	/	/	/

Test software:

Software version	Test level
/	10

3. LABORATORY AND ACCREDITATIONS

3.1. LABORATORY

The tests & measurements refer to this report were performed by Shenzhen EMC Laboratory of Guangzhou GRG Metrology & Test Co., Ltd.

Add : Address: No.1301 Guanguang Road Xinlan Community, Guanlan Street,
Longhua District Shenzhen, 518110, People's Republic of China

P.C. : 518000

Tel : 0755-61180008

Fax : 0755-61180008

3.2. ACCREDITATIONS

Our laboratories are accredited and approved by the following approval agencies according to GB/T 27025(ISO/IEC 17025:2017)

USA A2LA(Certificate #:2861.01)
China CNAS(L0446)

The measuring facility of laboratories has been authorized or registered by the following approval agencies.

Canada Industry Canada
USA FCC

Copies of granted accreditation certificates are available for downloading from our web site, <http://www.grgtest.com>

3.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Measurement		Frequency	Uncertainty
Radiated Emission	Horizontal	30MHz~1000MHz	4.3dB
		1GHz~18GHz	5.6dB
	Vertical	30MHz~1000MHz	4.3dB
		1GHz~18GHz	5.6dB
Conduction Emission		9 kHz ~ 150 kHz	2.8 dB
		150 kHz ~ 10 MHz	2.8 dB
		10 MHz ~ 30 MHz	2.2 dB

This uncertainty represents an expanded uncertainty factor of $k=2$.

4. LIST OF USED TEST EQUIPMENT AT GRGT

Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Conducted Emissions				
EMI TEST RECEIVER	R&S	ESCI	100783	2020/11/27
LISN(EUT)	R&S	ENV216	101543	2021/03/24
Test S/W	EZ	CCS-3A1-CE		
Hopping Channel Number				
Spectrum Analyzer	Agilent	N9010A	MY52221469	2020/11/18
Dwell Time				
Spectrum Analyzer	Agilent	N9010A	MY52221469	2020/11/18
Radiated Spurious Emission& Restricted bands of operation				
EMI TEST RECEIVER	R&S	ESPI	100529	2020/12/08
Spectrum Analyzer	Agilent	N9010A	MY52221469	2020/11/18
Bilog Antenna	Schwarzbeck	VULB 9163	01279	2021/03/14
Horn Antenna	Schwarzbeck	BBHA 9120D(1201)	02143	2020/12/28
Board-Band Horn Antenna	Schwarzbeck	BBHA 9170	BBHA 9170-497	2020/11/30
Amplifier	Tonscend	TAP9E6343	AP20E806065	2021/06/28
Amplifier	Tonscend	TAP01018048	AP20E8060075	2021/06/28
Amplifier	Tonscend	TAP184050	AP20E806071	2021/06/05
Test S/W	Tonscend	JS36-RE/2.5.1.5		
20 dB Bandwidth				
Spectrum Analyzer	Agilent	N9010A	MY52221469	2020/11/18
Maximum Peak Output Power				
Spectrum Analyzer	Agilent	N9010A	MY52221469	2020/11/18
Conducted band edges and Spurious Emission				
Spectrum Analyzer	Agilent	N9010A	MY52221469	2020/11/18
Carrier Frequencies Separated				
Spectrum Analyzer	Agilent	N9010A	MY52221469	2020/11/18

5. TEST RESULTS

5.1. E.U.T. TEST CONDITIONS

Type of antenna: Internal

Test frequencies: According to the 15.31(m) Measurements on intentional radiators or receivers, other than TV broadcast receivers, shall be performed and, if required, reported for each band in which the device can be operated with the device operating at the number of frequencies in each band specified in the following table:

Frequency range over which device operates	Number of frequencies	Location in the range of operation
1 MHz or less	1	Middle
1 to 10 MHz	2	1 near top and 1 near bottom
More than 10 MHz	3	1 near top, 1 near middle and 1 near bottom

EUT channels and frequencies list:

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
0	2402	14	2416	28	2430
1	2403	15	2417	29	2431
2	2404	16	2418	30	2432
3	2405	17	2419	31	2433
4	2406	18	2420	32	2434
5	2407	19	2421	33	2435
6	2408	20	2422	34	2436
7	2409	21	2423	35	2437
8	2410	22	2424	36	2438
9	2411	23	2425	37	2439
10	2412	24	2426	38	2440
11	2413	25	2427	39	2441
12	2414	26	2428	40	2442
13	2415	27	2429	41	2443
42	2444	55	2457	68	2470
43	2445	56	2458	69	2471
44	2446	57	2459	70	2472
45	2447	58	2460	71	2473
46	2448	59	2461	72	2474
47	2449	60	2462	73	2475
48	2450	61	2463	74	2476

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
49	2451	62	2464	75	2477
50	2452	63	2465	76	2478
51	2453	64	2466	77	2479
52	2454	65	2467	78	2480
53	2455	66	2468		
54	2456	67	2469		

Test frequency is the lowest channel: 0 channel(2402MHz), middle channel: 39 channel(2441MHz) and highest channel: 78 channel(2480MHz)

5.2. 20dB BANDWIDTH

5.2.1. LIMITS

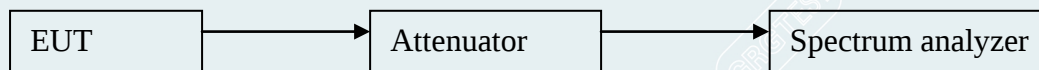
Frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW.

5.2.2. TEST PROCEDURES

- 1) Remove the antenna from the EUT, and then connect a low loss RF cable from antenna port to the spectrum analyzer.
- 2) Set the spectrum analyzer as RBW=30 kHz, VBW=100 kHz, Span=3MHz, Sweep = auto. Allow the trace to stabilize, record 20dB bandwidth value
- 3) Repeat until all the test channels are investigated.

Remark: /

5.2.3. TEST SETUP



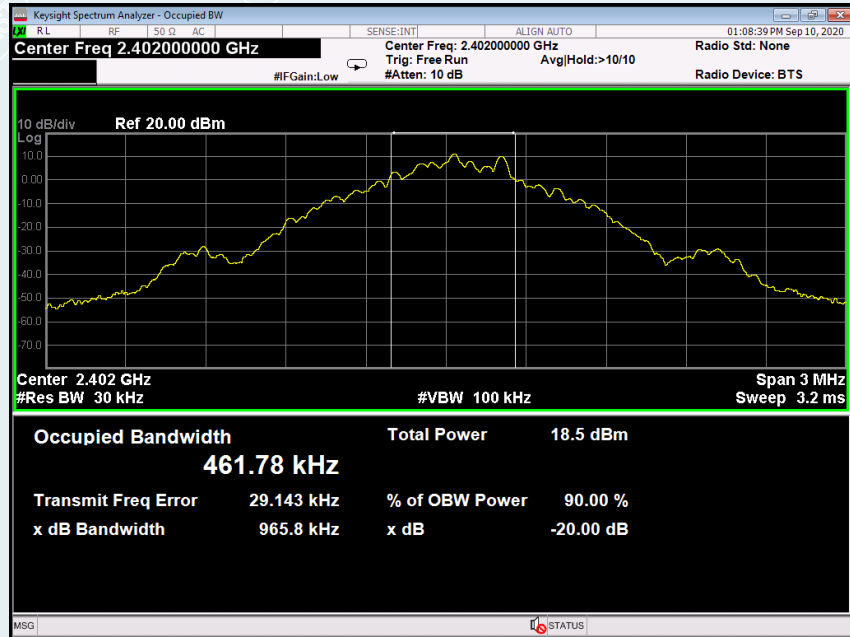
5.2.4. TEST RESULTS

Test mode	Channel	Frequency (MHz)	20 dB Bandwidth (kHz)
DH5	Low	2402	965.8
	Mid	2441	972.3
	High	2480	974.1
Test mode	Channel	Frequency (MHz)	20 dB Bandwidth (kHz)
2DH5	Low	2402	1306
	Mid	2441	1327
	High	2480	1306
Test mode	Channel	Frequency (MHz)	20 dB Bandwidth (kHz)
3DH5	Low	2402	1306
	Mid	2441	1329
	High	2480	1308

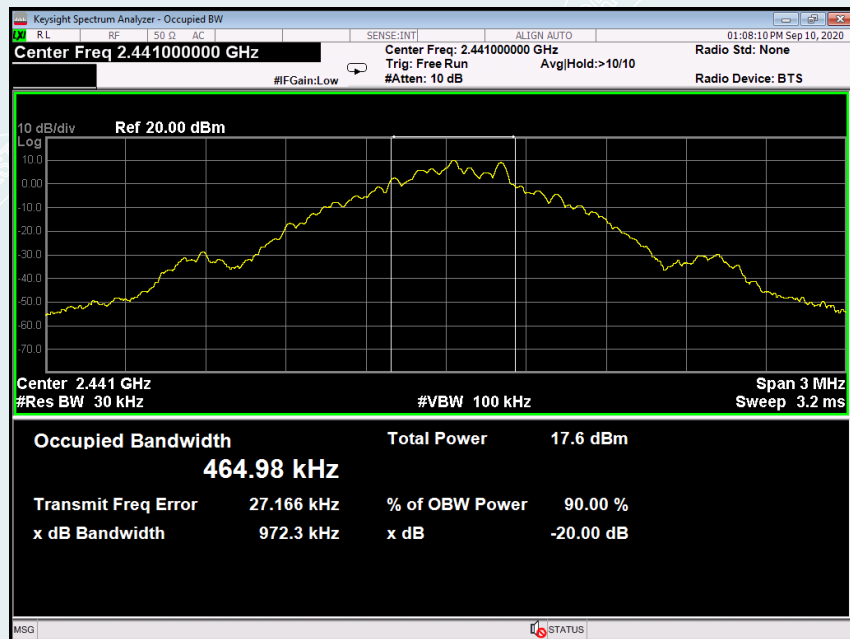
Result plot as follows:

DH5

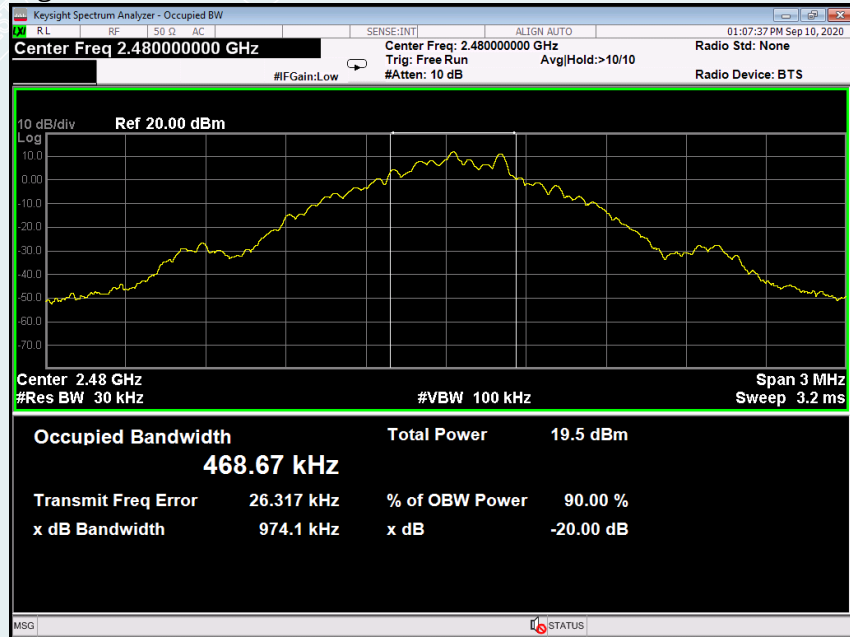
Low Channel



Mid Channel

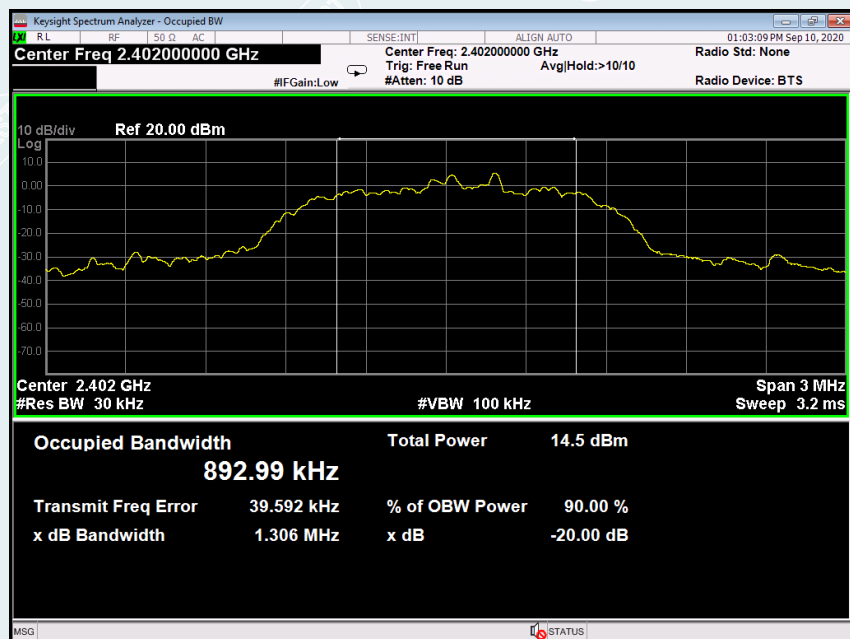


High Channel

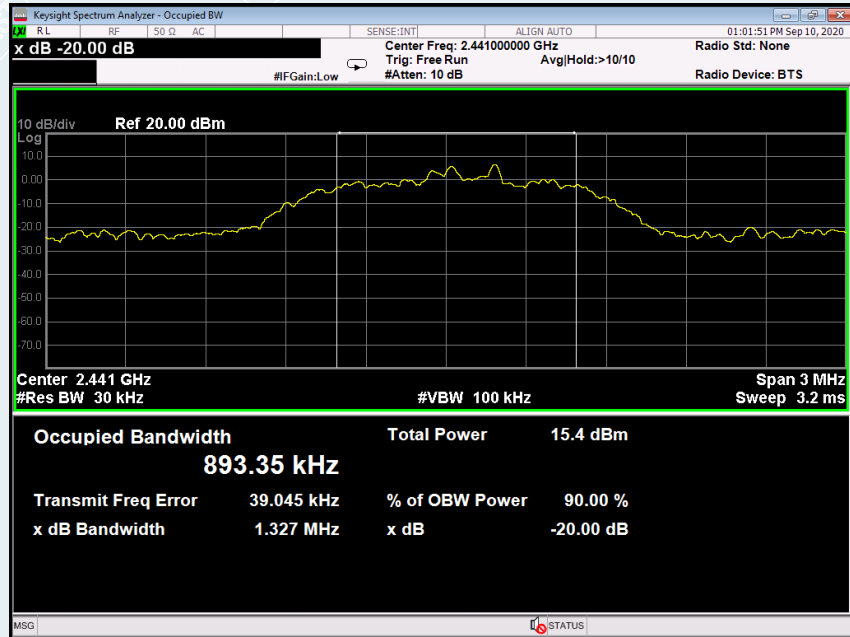


2DH5

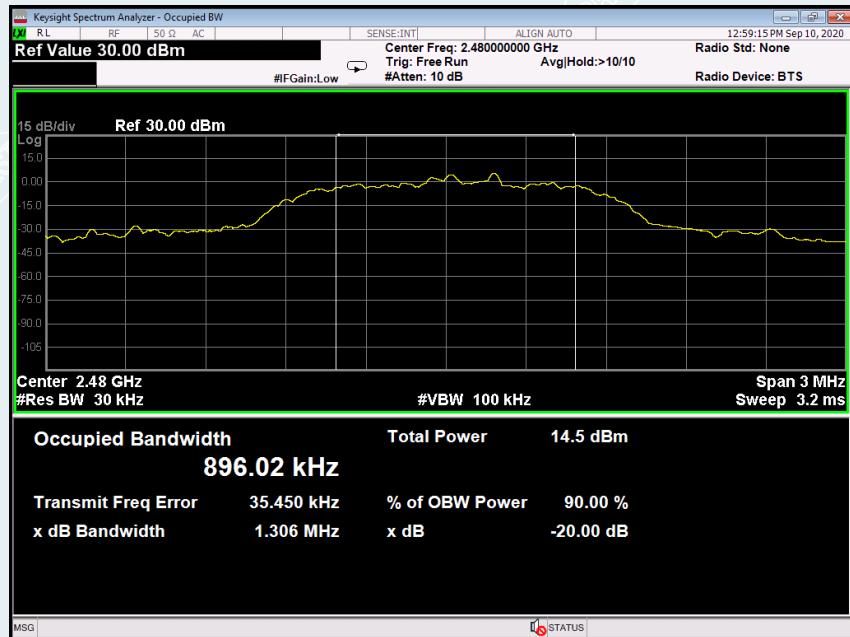
Low Channel



Mid Channel

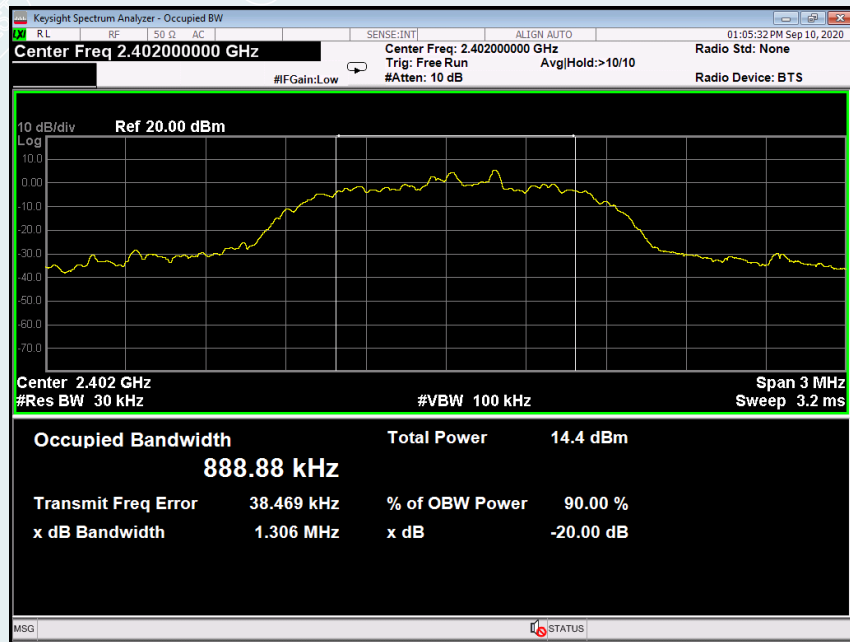


High Channel

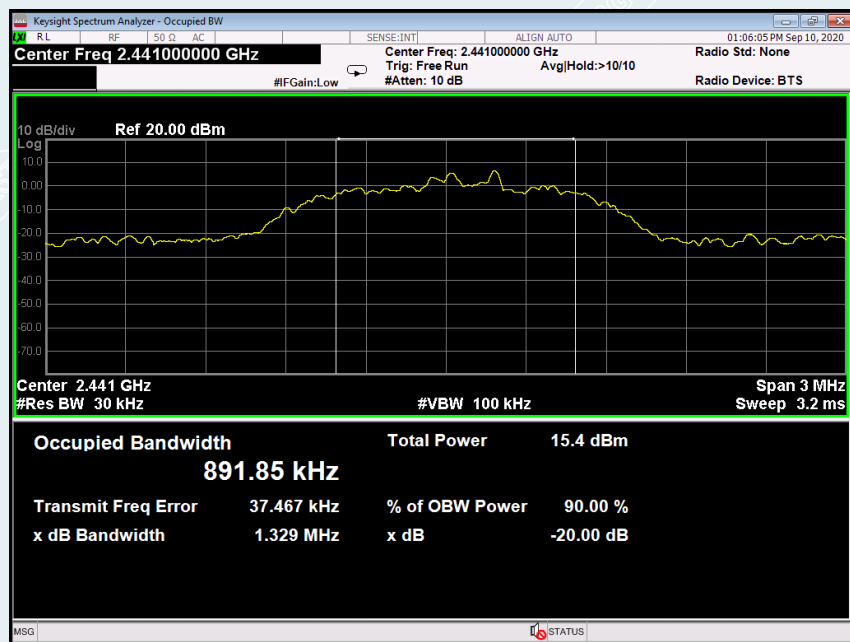


3DH5

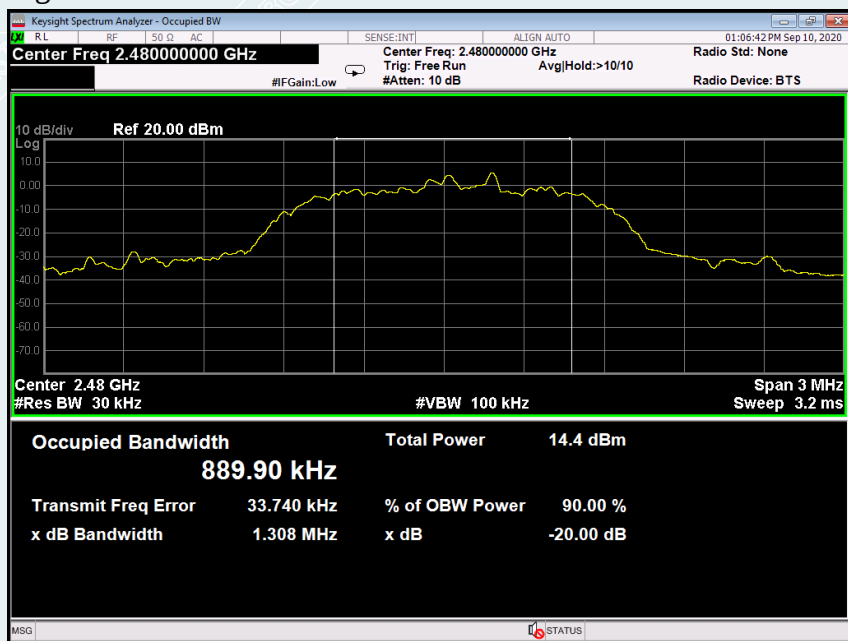
Low Channel



Mid Channel



High Channel



5.3. CARRIER FREQUENCIES SEPARATED

5.3.1. LIMITS

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 output power no greater than 125 mW.

5.3.2. TEST PROCEDURES

- 1) Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
- 2) Set center frequency of spectrum analyzer = middle of hopping channel.
- 3) Set the spectrum analyzer as RBW=30kHz, VBW=30kHz, Adjust Span to 3 MHz, Sweep = auto
- 4) Max hold. Mark 3 Peaks of hopping channel and record the 3 peaks frequency.

Remark : /

5.3.3. TEST SETUP



5.3.4. TEST RESULTS

DH5

Channel Separation (MHz)	Two-thirds of the 20 dB Bandwidth (kHz)	Channel Separation Limit	Result
1.000	649.400	> Two-thirds of the 20 dB Bandwidth	Pass

2DH5

Channel Separation (MHz)	Two-thirds of the 20 dB Bandwidth (kHz)	Channel Separation Limit	Result
1.000	884.667	> Two-thirds of the 20 dB Bandwidth	Pass

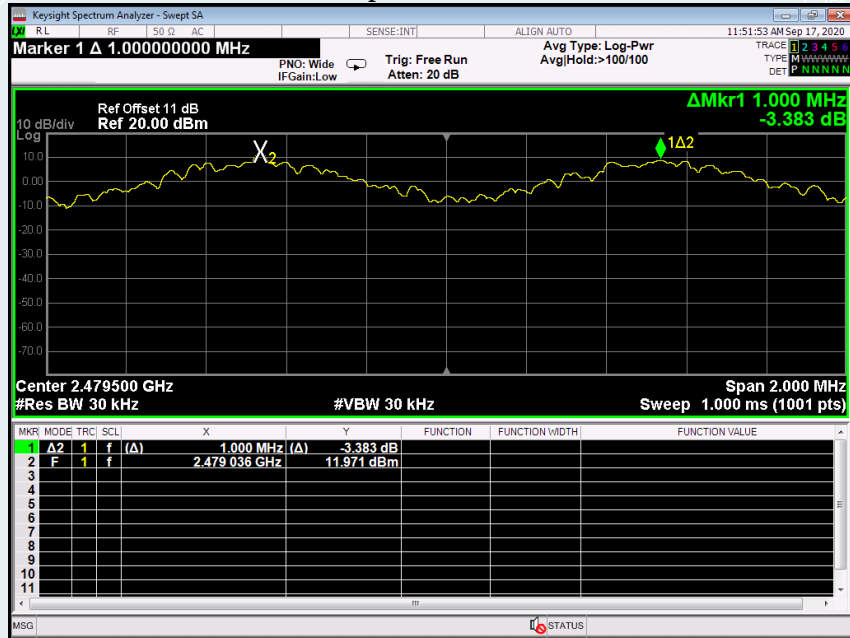
3DH5

Channel Separation (MHz)	Two-thirds of the 20 dB Bandwidth (kHz)	Channel Separation Limit	Result
1.000	886.000	> Two-thirds of the 20 dB Bandwidth	Pass

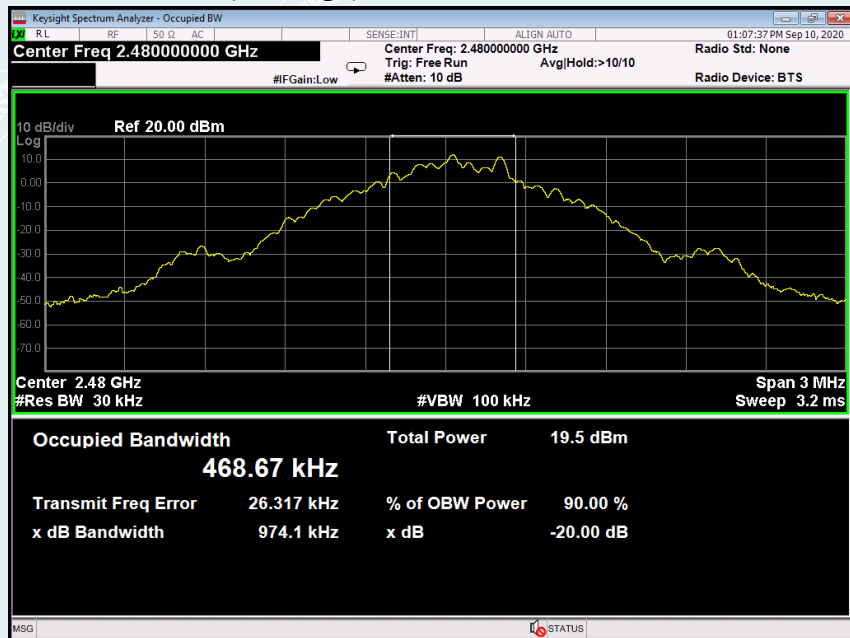
Result plot as follows:

DH5

Measurement of Channel Separation

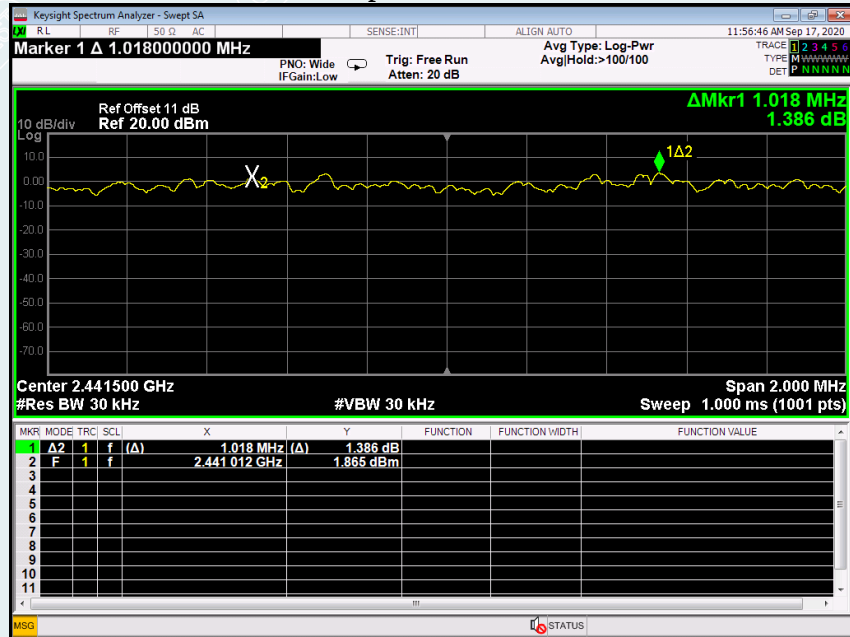


20 dB bandwidth(CH High)

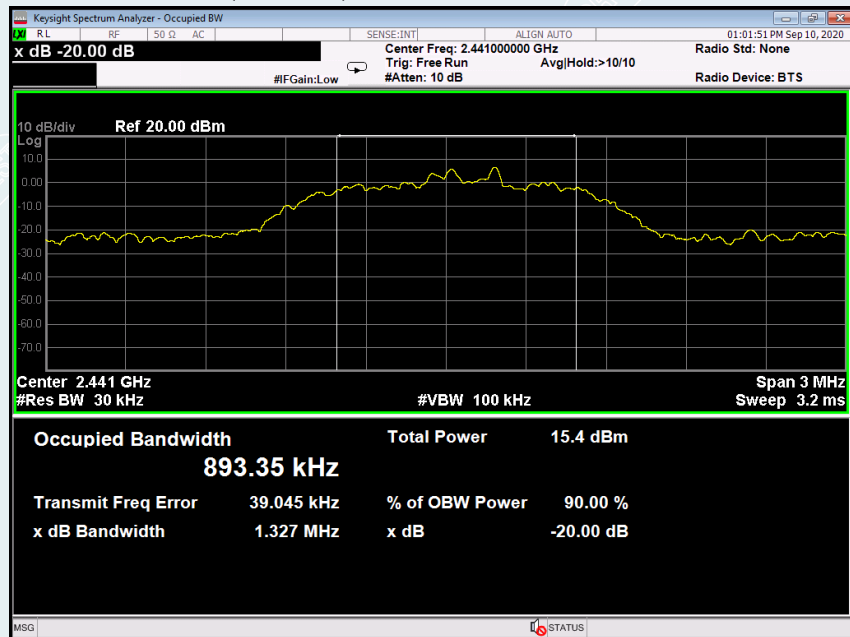


2DH5

Measurement of Channel Separation

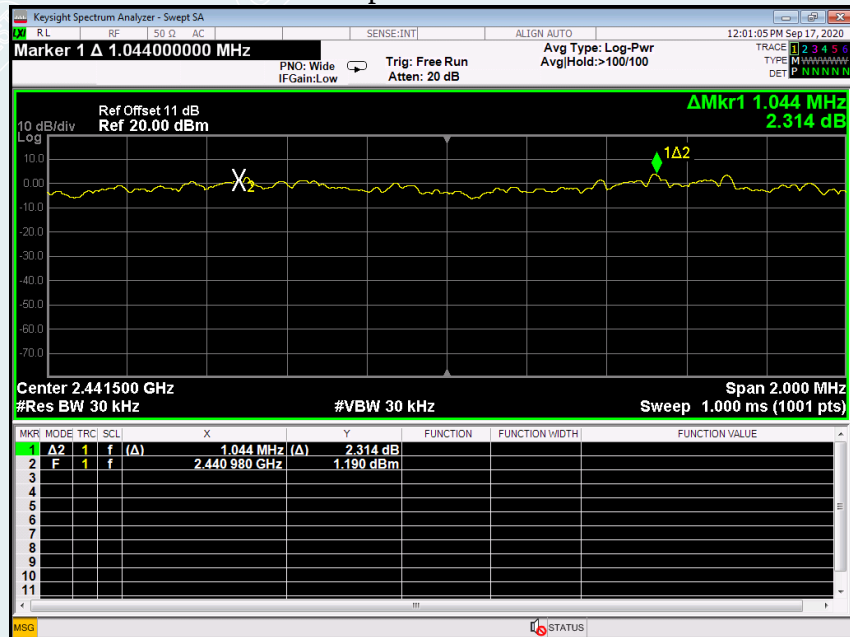


20 dB bandwidth(CH Mid)

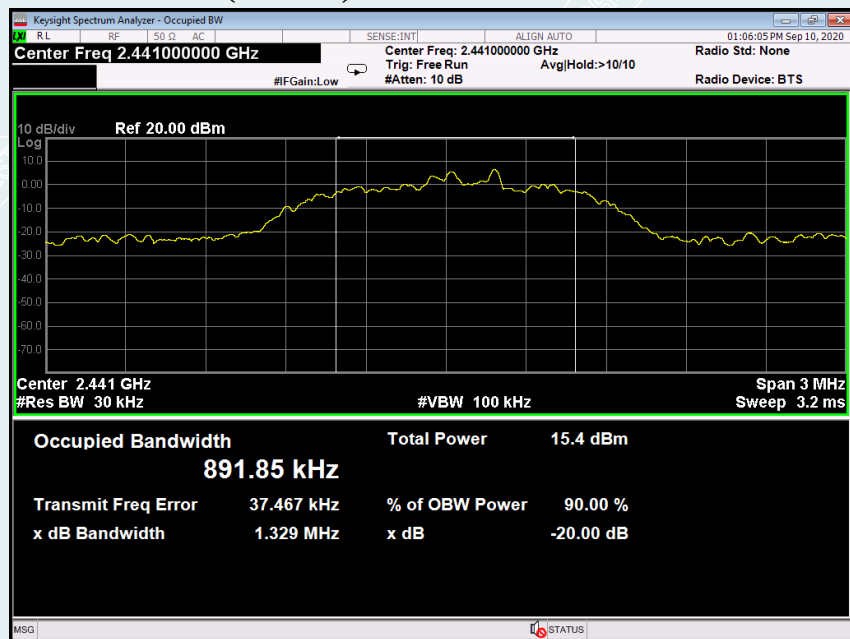


3DH5

Measurement of Channel Separation



20 dB bandwidth(CH Mid)



Test result: The unit does meet the FCC requirements.

5.4. HOPPING CHANNEL NUMBER

5.4.1. LIMITS

Regulation 15.247 (a) (1)(iii) Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels.

5.4.2. TEST PROCEDURES

- 1) Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
- 2) Set the spectrum analyzer as RBW, VBW=300kHz,
- 3) Set the spectrum analyzer: start frequency = 2400MHz. stop frequency = 2483.5MHz. Submit the test result graph.

5.4.3. TEST SETUP

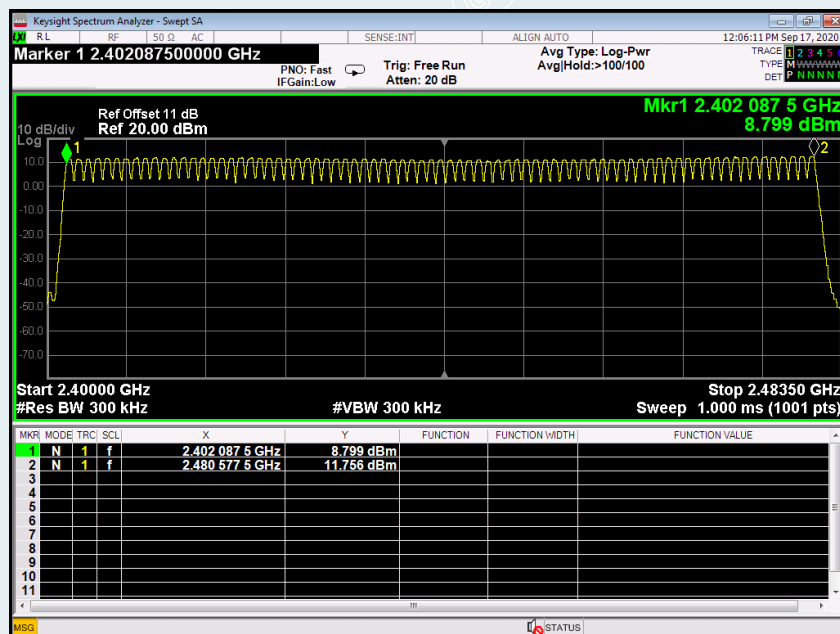


5.4.4. TEST RESULTS

Result (No. of CH)	Limit (No. of CH)	Result
79	>15	PASS

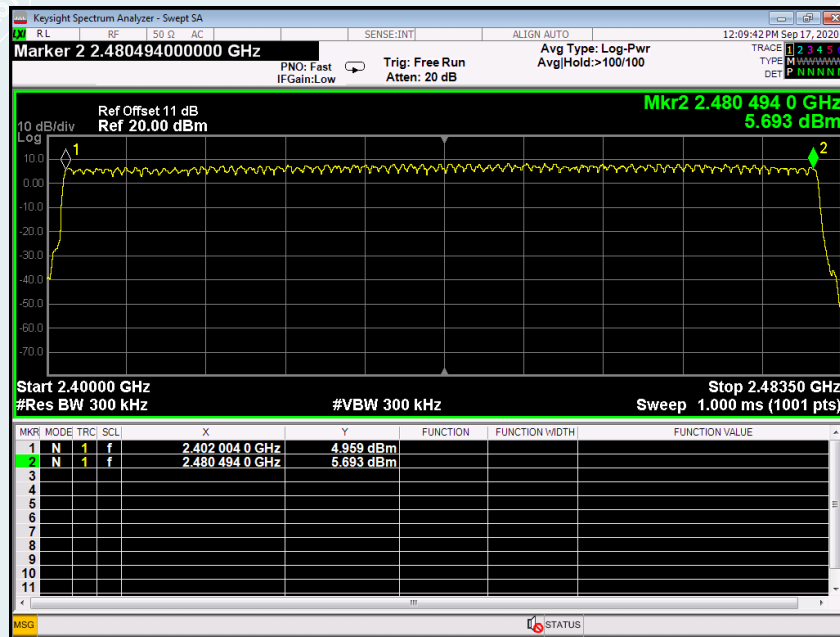
GFSK

2.400 GHz – 2.4835 GHz



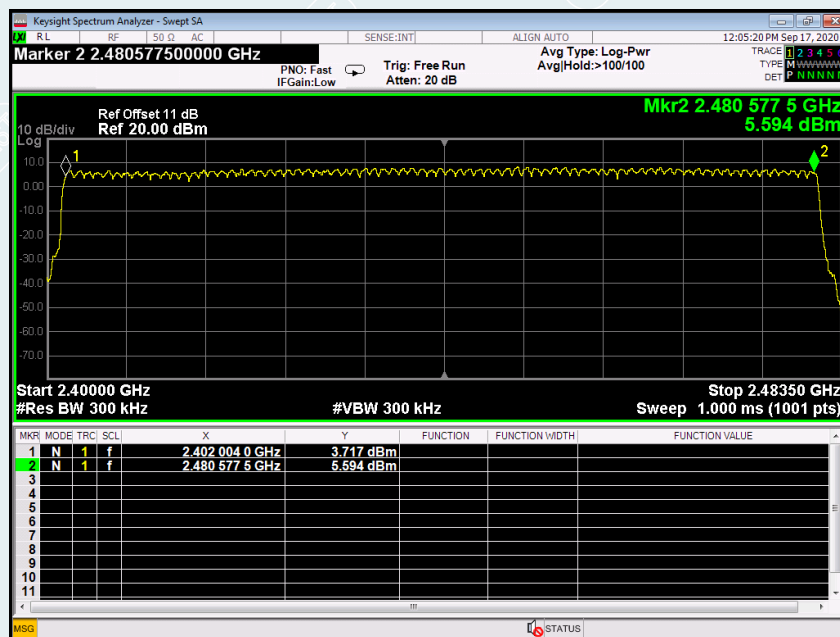
$\pi/4$ -DQPSK

2.400 GHz – 2.4835 GHz



8DPSK

2.400 GHz – 2.4835 GHz



Test result: The unit does meet the FCC requirements.

5.5. DWELL TIME

5.5.1. LIMITS

Regulation 15.247(a)(1)(iii) 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.

5.5.2. TEST PROCEDURES

- 1) Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum.
- 2) Set spectrum analyzer span = 0. centered on a hopping channel;
- 3) Set RBW = 1MHz and VBW = 3MHz. Sweep = as necessary to capture the entire dwell time per hopping channel. Detector Function = Peak. Trace = Max hold;
- 4) Use the marker-delta function to determine the dwell time. If this value varies with different modes of operation (e.g., data rate, modulation format, etc.). Repeat this test for each variation. The limit is specified in one of the subparagraphs of this Section. Submit this plot(s). An oscilloscope may be used instead of a spectrum analyzer.

5.5.3. TEST SETUP



5.5.4. TEST RESULTS

The test period: $T = 0.4 \text{ Second/Channel} \times 79 \text{ Channel} = 31.6 \text{ s}$

GFSK: Mid Channel (2.441GHz)

DH1	time slot=	0.440	(ms)*	$(1600/(2*79))$	*	31.6	=	140.800	ms
DH3	time slot=	1.700	(ms)*	$(1600/(4*79))$	*	31.6	=	272.000	ms
DH5	time slot=	2.940	(ms)*	$(1600/(6*79))$	*	31.6	=	313.600	ms

$\pi/4$ -DQPSK: Mid Channel (2.441GHz)

2DH1	time slot=	0.380	(ms)*	$(1600/(2*79))$	*	31.6	=	121.600	ms
2DH3	time slot=	1.200	(ms)*	$(1600/(4*79))$	*	31.6	=	192.000	ms
2DH5	time slot=	2.050	(ms)*	$(1600/(6*79))$	*	31.6	=	218.667	ms

8DPSK: Mid Channel (2.441GHz)

3DH1	time slot=	0.440	(ms)*	$(1600/(2*79))$	*	31.6	=	140.800	ms
3DH3	time slot=	1.710	(ms)*	$(1600/(4*79))$	*	31.6	=	273.600	ms
3DH5	time slot=	2.950	(ms)*	$(1600/(6*79))$	*	31.6	=	314.667	ms

The results are not greater than 0.4 seconds.

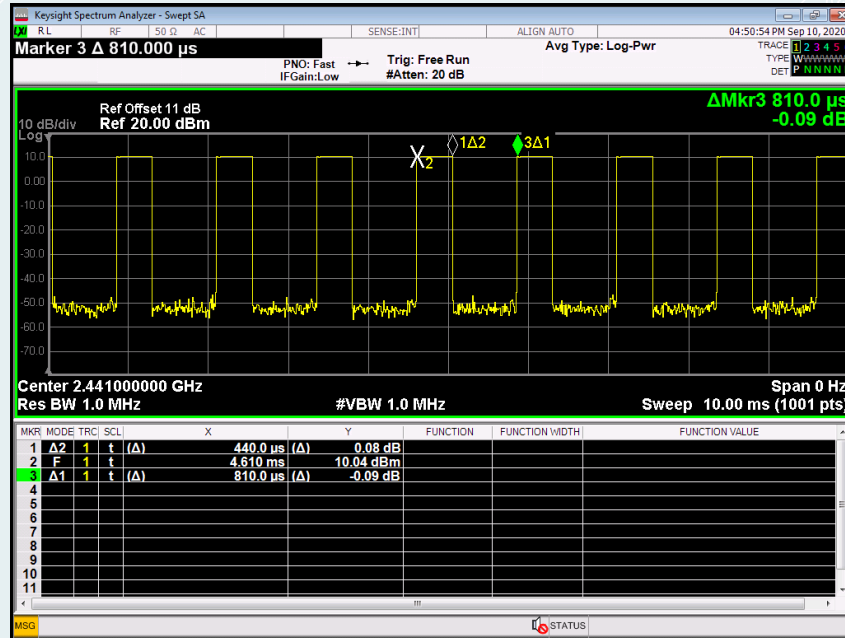
The unit does meet the requirements.

Please refer the graph as below:

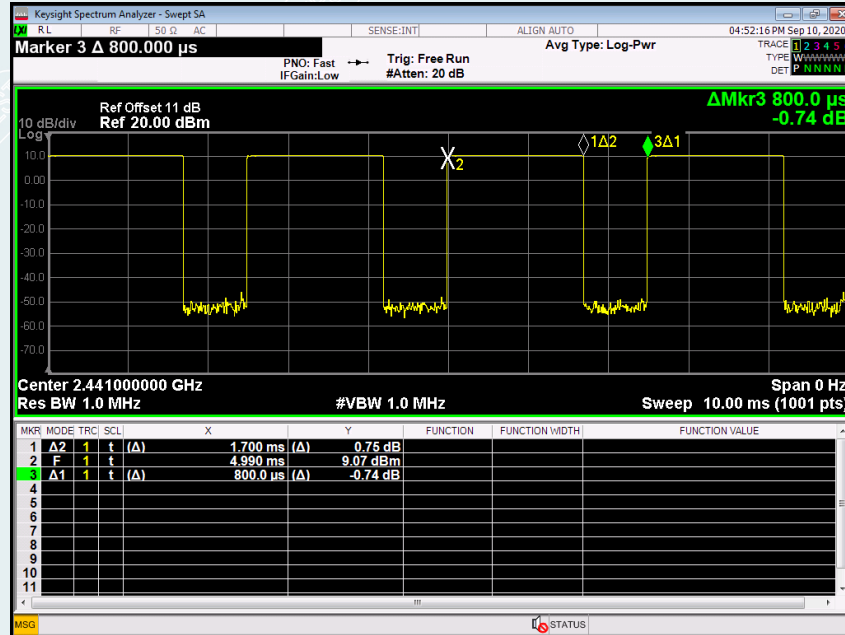
GFSK

Mid Channel (2.441GHz)

DH1



DH3

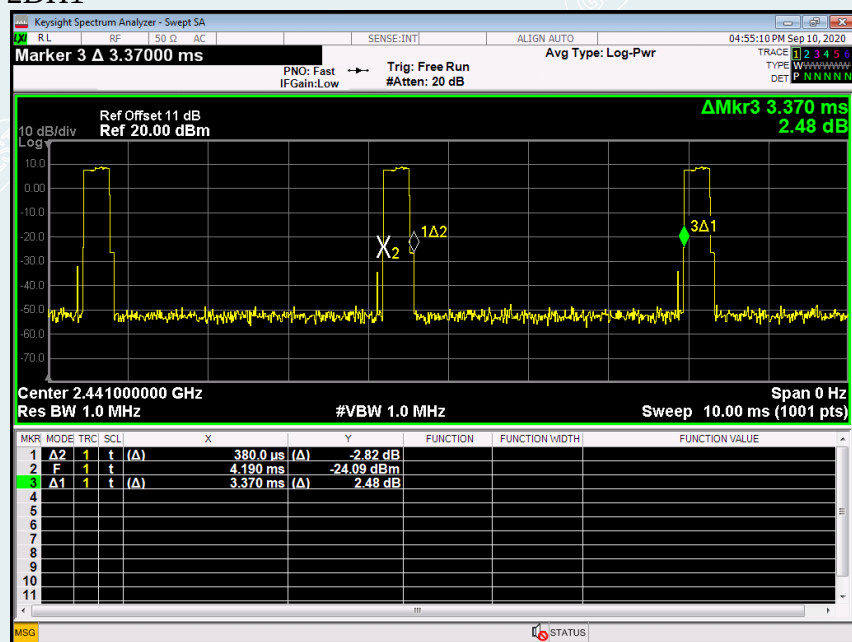


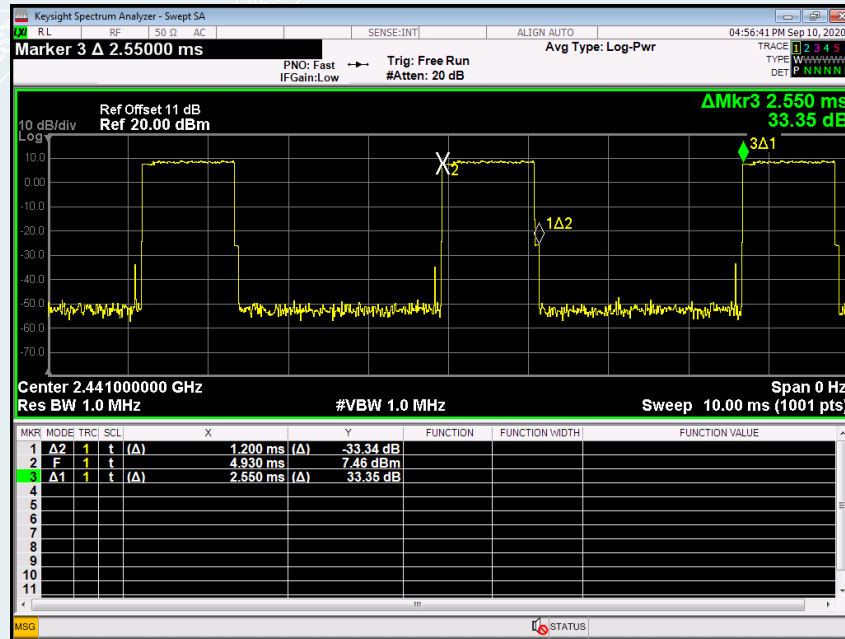
DH5

 $\pi/4$ -DQPSK

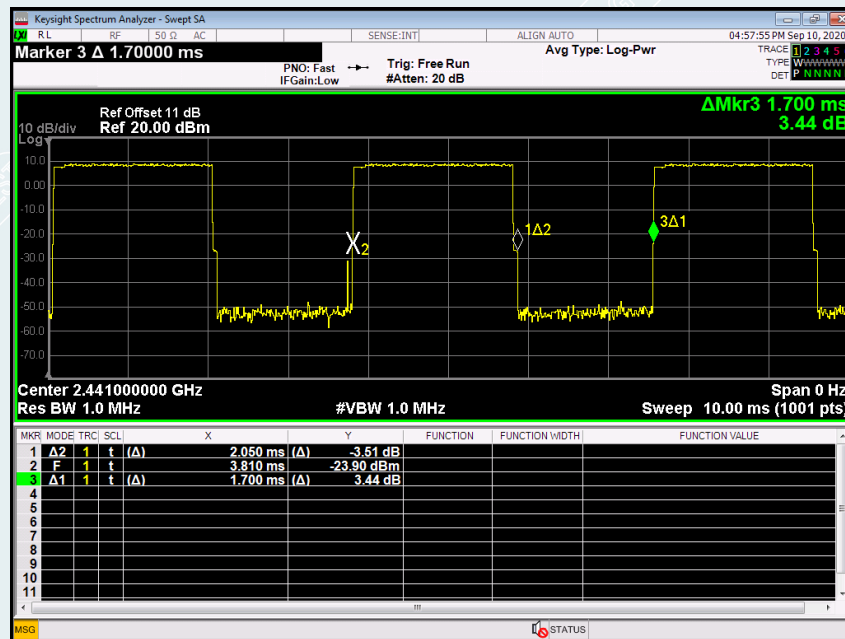
Mid Channel (2.441GHz)

2DH1



Mid Channel (2.441GHz)
2DH3

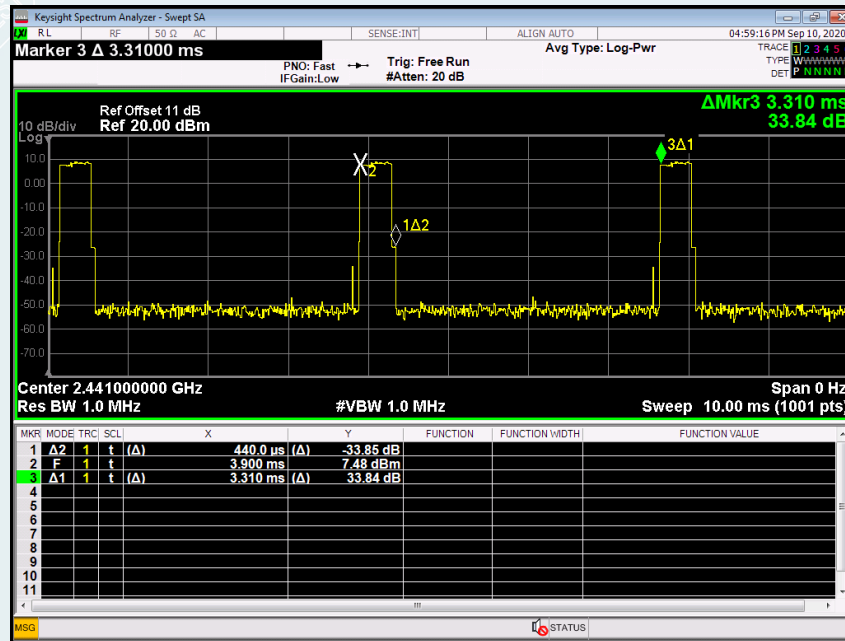
2DH5



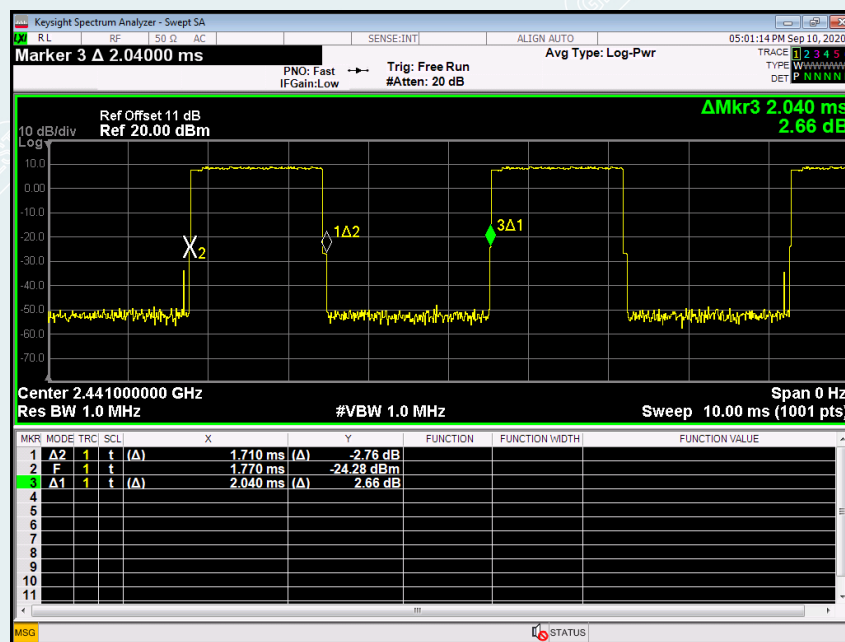
8DPSK

Mid Channel (2.441GHz)

3DH1



3DH3



[illegible]

5.6. CONDUCTED EMISSION MEASUREMENT

5.6.1. LIMITS

Frequency range	Limits (dB μ V)	
	Quasi-peak	Average
150kHz ~ 0.5MHz	66~56	56~46
0.5 MHz ~ 5 MHz	56	46
5 MHz ~ 30 MHz	60	50

5.6.2. TEST PROCEDURES

Procedure of Preliminary Test

For measurement of the disturbance voltage the equipment under test (EUT) is connected to the power supply mains and any other extended network via one or more artificial network(s). An EUT, whether intended to be grounded or not, and which is to be used on a table is configured as follows:

- Either the bottom or the rear of the EUT shall be at a controlled distance of 40 cm from a reference ground plane. This ground plane is normally the wall or floor of a shielded room. It may also be a grounded metal plane of at least 2 m by 2 m. This is physically accomplished as follows:
 - 1) Place the EUT on a table of non-conducting material which is at least 80 cm high. Place the EUT so that it is 40 cm from the wall of the shielded room, or
 - 2) place the EUT on a table of non-conducting material which is 40 cm high so that the bottom of the EUT is 40 cm above the ground plane;
- All other conductive surfaces of the EUT shall be at least 80 cm from the reference ground plane;
- The EUT are placed on the floor that one side of the housings is 40 cm from the vertical reference ground plane and other metallic parts;
- Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth forming a bundle 30 cm to 40 cm long, hanging approximately in the middle between the ground plane and the table.
- I/O cables that are connected to a peripheral shall be bundled in the centre. The end of the cable may be terminated if required using correct terminating impedance. The total length shall not exceed 1 m.

The test mode(s) described in Item 2.4 were scanned during the preliminary test. After the preliminary scan, we found the test mode described in Item 2.4 producing the highest emission level. The EUT configuration and cable configuration of the above highest emission levels were recorded for reference of the final test.

Procedure of Final Test

EUT and support equipment were set up on the test bench as per the configuration with highest emission level in the preliminary test. A scan was taken on both power lines, recording at least the six highest emissions. Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit. The test data of the worst-case condition(s) was recorded.

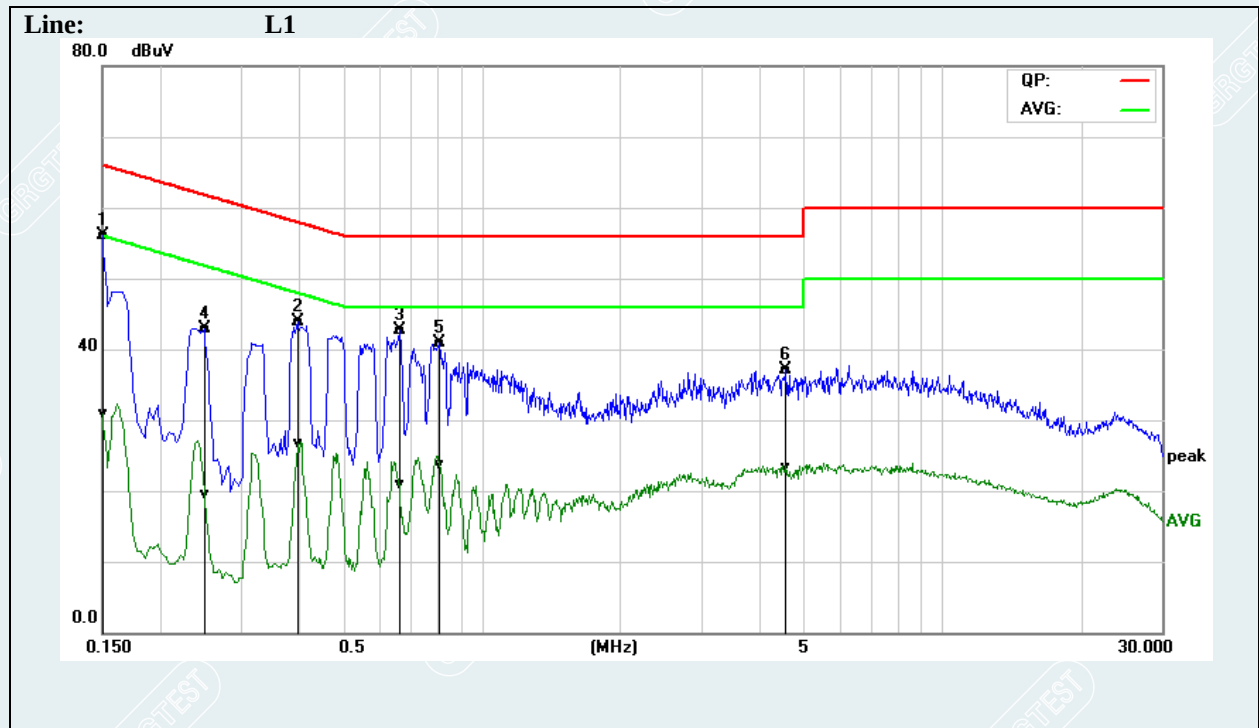
The diagram illustrates the experimental setup for EMI testing. It consists of two tables, one for the transmitting antenna (EUT) and one for the receiver. The transmitting table is labeled G.R.P. and has a height of 0.8m. The receiving table has a height of 0.4m. The distance between the two tables is 0.8m. A LISN (Line Impedance Stabilization Network) is connected between the two tables. The receiver is connected to a computer system.

Frequency (MHz)	QuasiPeak Reading (dBuV)	Average Reading (dBuV)	Correction Factor (dB)	QuasiPeak Result (dBuV)	Average Result (dBuV)	QuasiPeak Limit (dBuV)	Average Limit (dBuV)	QuasiPeak Margin (dB)	Average Margin (dB)	Remark (Pass/Fail)
X.XXXXX	32.69	25.65	11.52	44.21	37.17	65.78	55.79	-21.57	-18.62	Pass

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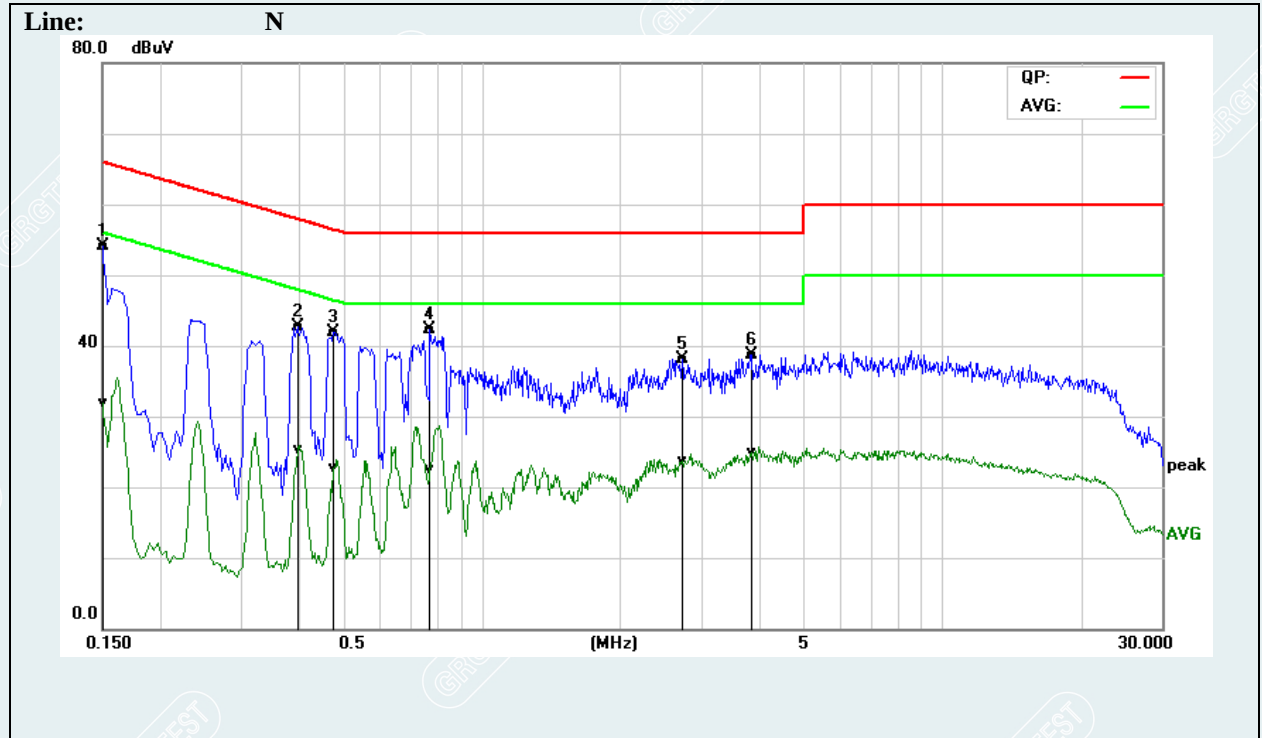
5.6.5. TEST RESULTS

EUT Name	Watch	Model	W301GB
Environmental Conditions	24°C/46%RH/100kPa	Test Mode	Mode 1
Power supply	AC120V/60Hz	Tested By	LingYuMei
Test Date	2020/09/16	Sample No.	E20200904990101-0010



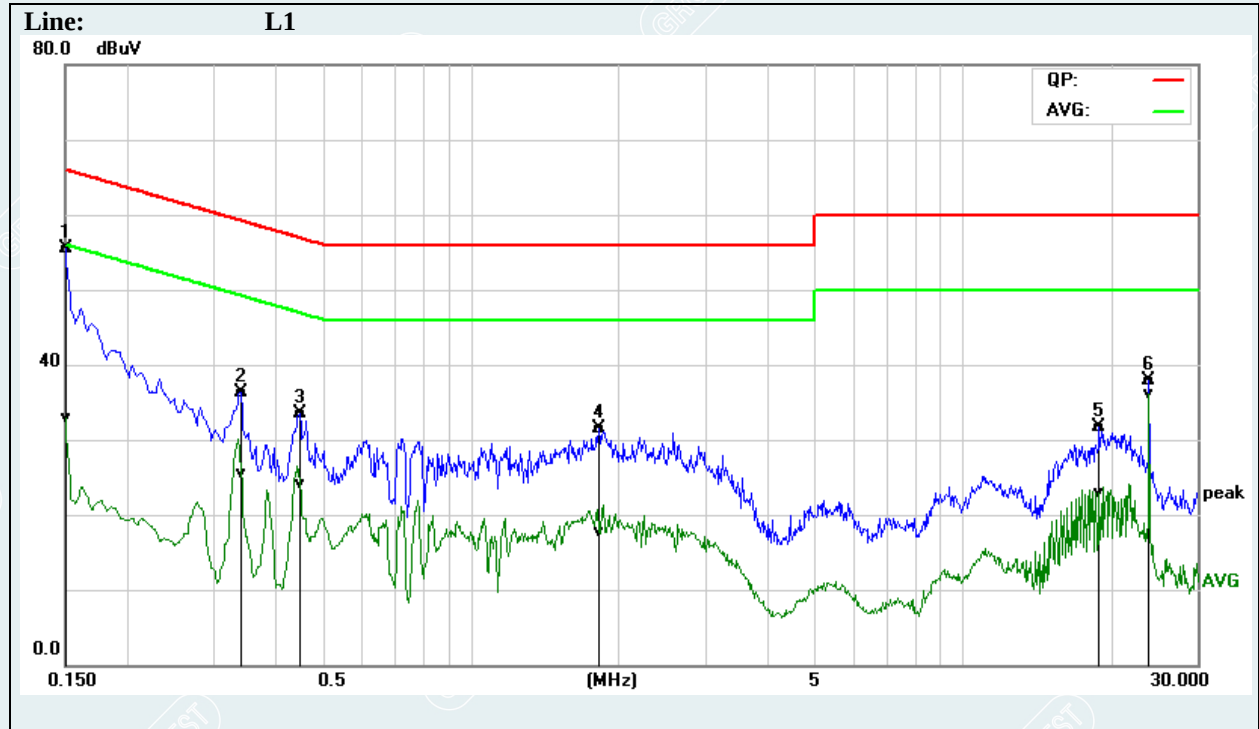
No.	Frequency	QuasiPeak reading	Average reading	Correction factor	QuasiPeak result	Average result	QuasiPeak limit	Average limit	QuasiPeak margin	Average margin	Remark
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	
1*	0.1500	46.39	21.30	9.67	56.06	30.97	65.99	56.00	-9.93	-25.03	Pass
2	0.3980	34.16	17.00	9.67	43.83	26.67	57.89	47.90	-14.06	-21.23	Pass
3	0.6620	33.00	11.29	9.68	42.68	20.97	56.00	46.00	-13.32	-25.03	Pass
4	0.2500	33.23	9.88	9.68	42.91	19.56	61.75	51.76	-18.84	-32.20	Pass
5	0.8100	31.26	13.93	9.69	40.95	23.62	56.00	46.00	-15.05	-22.38	Pass
6	4.5900	27.23	13.61	9.79	37.02	23.40	56.00	46.00	-18.98	-22.60	Pass

EUT Name	Watch	Model	W301GB
Environmental Conditions	24°C/46%RH/100kPa	Test Mode	Mode 1
Power supply	AC120V/60Hz	Tested By	LingYuMei
Test Date	2020/09/16	Sample No.	E20200904990101-0010



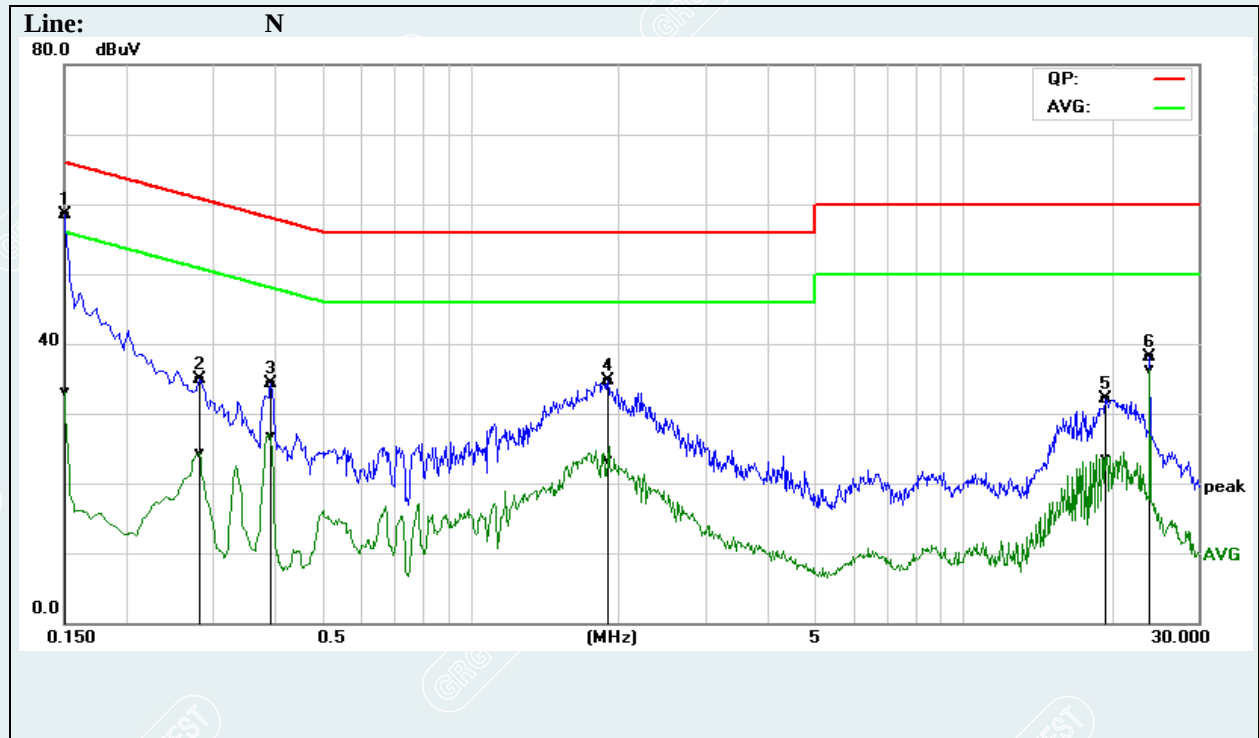
No.	Frequency	QuasiPeak reading	Average reading	Correction factor	QuasiPeak result	Average result	QuasiPeak limit	Average limit	QuasiPeak margin	Average margin	Remark
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	
1*	0.1500	44.49	22.15	9.67	54.16	31.82	65.99	56.00	-11.83	-24.18	Pass
2	0.3980	33.12	15.70	9.67	42.79	25.37	57.89	47.90	-15.10	-22.53	Pass
3	0.4780	32.22	13.12	9.67	41.89	22.79	56.37	46.37	-14.48	-23.58	Pass
4	0.7740	32.62	12.74	9.68	42.30	22.42	56.00	46.00	-13.70	-23.58	Pass
5	2.7260	28.33	13.91	9.75	38.08	23.66	56.00	46.00	-17.92	-22.34	Pass
6	3.8420	29.01	15.22	9.77	38.78	24.99	56.00	46.00	-17.22	-21.01	Pass

EUT Name	Watch	Model	W301GB
Environmental Conditions	24°C/46%RH/100kPa	Test Mode	Mode 1
Power supply	DC5V	Tested By	LingYuMei
Test Date	2020/09/16	Sample No.	E20200904990101-0010



No.	Frequency	QuasiPeak reading	Average reading	Correction factor	QuasiPeak result	Average result	QuasiPeak limit	Average limit	QuasiPeak margin	Average margin	Remark
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	
1*	0.1500	45.85	23.29	9.67	55.52	32.96	65.99	56.00	-10.47	-23.04	Pass
2	0.3420	26.61	15.90	9.68	36.29	25.58	59.15	49.15	-22.86	-23.57	Pass
3	0.4500	23.77	14.34	9.67	33.44	24.01	56.87	46.88	-23.43	-22.87	Pass
4	1.8260	21.70	7.93	9.73	31.43	17.66	56.00	46.00	-24.57	-28.34	Pass
5	18.9980	21.73	12.91	9.97	31.70	22.88	60.00	50.00	-28.30	-27.12	Pass
6	23.9980	27.73	26.06	10.10	37.83	36.16	60.00	50.00	-22.17	-13.84	Pass

EUT Name	Watch	Model	W301GB
Environmental Conditions	24°C/46%RH/100kPa	Test Mode	Mode 1
Power supply	DC5V	Tested By	LingYuMei
Test Date	2020/09/16	Sample No.	E20200904990101-0010



No.	Frequency	QuasiPeak reading	Average reading	Correction factor	QuasiPeak result	Average result	QuasiPeak limit	Average limit	QuasiPeak margin	Average margin	Remark
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	
1*	0.1500	48.89	23.37	9.67	58.56	33.04	65.99	56.00	-7.43	-22.96	Pass
2	0.2819	25.15	14.70	9.68	34.83	24.38	60.76	50.76	-25.93	-26.38	Pass
3	0.3940	24.64	16.94	9.67	34.31	26.61	57.98	47.98	-23.67	-21.37	Pass
4	1.9060	24.90	13.50	9.73	34.63	23.23	56.00	46.00	-21.37	-22.77	Pass
5	19.4300	22.20	13.61	9.98	32.18	23.59	60.00	50.00	-27.82	-26.41	Pass
6	23.9980	28.06	26.15	10.10	38.16	36.25	60.00	50.00	-21.84	-13.75	Pass

5.7. MAXIMUM PEAK OUTPUT POWER

5.7.1. LIMITS

Regulation 15.247 (b)(1) 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.

5.7.2. TEST PROCEDURES

- 1) Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum.
- 2) Set the spectrum analyzer: RBW = 3 MHz. VBW = 3 MHz. Sweep = auto; Detector Function = Peak.
- 3) Keep the EUT in transmitting at lowest, medium and highest channel individually. Record the max value.

Remark: /

5.7.3. TEST SETUP



5.7.4. TEST RESULTS**DH5**

Test Channel	Fundamental Frequency (GHz)	Max Output Power(dBm)	Limit (dBm)	Peak/Average	Pass/Fail
Lowest	2.402	11.078	20.97	Peak	Pass
Middle	2.441	10.713			Pass
Highest	2.480	12.130			Pass

2DH5

Test Channel	Fundamental Frequency (GHz)	Max Output Power(dBm)	Limit (dBm)	Peak/Average	Pass/Fail
Lowest	2.402	8.673	20.97	Peak	Pass
Middle	2.441	9.112			Pass
Highest	2.480	8.914			Pass

3DH5

Test Channel	Fundamental Frequency (GHz)	Max Output Power(dBm)	Limit (dBm)	Peak/Average	Pass/Fail
Lowest	2.402	9.050	20.97	Peak	Pass
Middle	2.441	9.412			Pass
Highest	2.480	9.333			Pass

Test result: The unit does meet the FCC requirements.

5.8. CONDUCTED BAND EDGES AND SPURIOUS EMISSIONS

5.8.1. LIMITS

(d) In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated 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 either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.

5.8.2. TEST PROCEDURES

- 1) Remove the antenna from the EUT and then connect a low attenuation cable from the antenna port to the spectrum.
- 2) Set the spectrum analyzer: RBW =100KHz; VBW =300KHz, Span = 30MHz to 26GHz; Sweep = auto; Detector Function = Peak. Trace = Max, hold.
- 3) Measure and record the results in the test report.
- 4) The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

5.8.3. TEST SETUP



5.8.4. TEST RESULTS

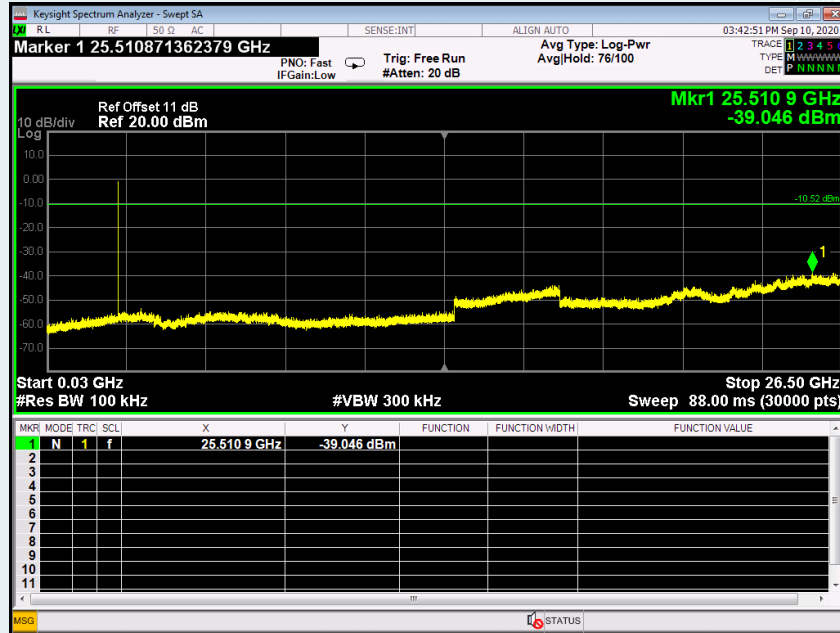
The unit does meet the FCC requirements.

Test result plot as follows:

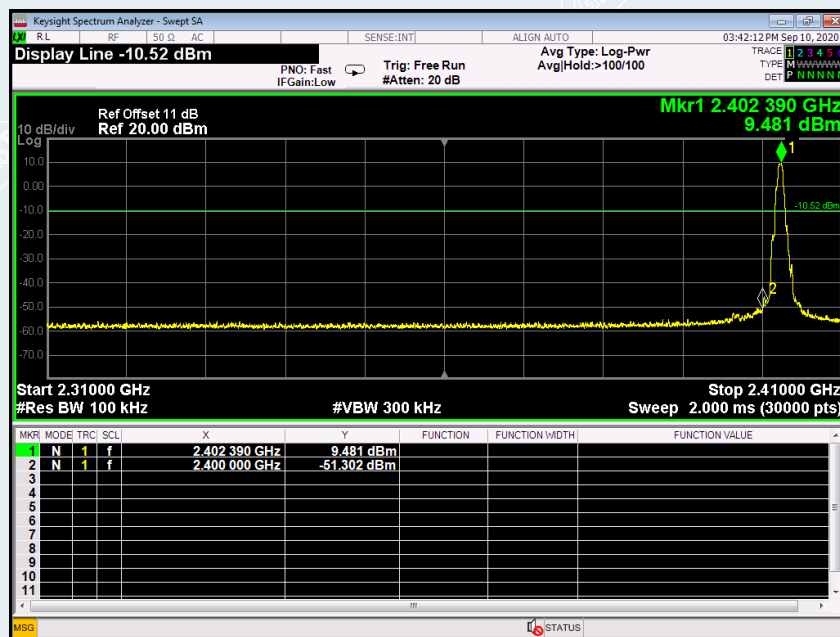
Hopping Off

DH5

CH Low (30MHz ~26.5GHz)



CH Low (2.31GHz ~2.41GHz)



CH Mid (30MHz ~26.5GHz)

