

MEASUREMENT REPORT

FCC PART 15.247 Bluetooth

FCC ID: XMR202111EG915ULA
Applicant: Quectel Wireless Solutions Company Limited
Application Type: Certification
Product: LTE Module
Model No.: EG915U-LA
Brand Name: Quectel
FCC Classification: FCC Part 15 Spread Spectrum Transmitter (DSS)
FCC Rule Part(s): Part15 Subpart C (Section 15.247)
Test Procedure(s): ANSI C63.10-2013
Test Date: October 26 ~ November 04, 2021

Reviewed By:

Sunny Sun

Approved By:

Robin Wu



The test results relate only to the samples tested.

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C63.10-2013. Test results reported herein relate only to the item(s) tested.

The test report shall not be reproduced except in full without the written approval of MRT Technology (Suzhou) Co., Ltd.

Revision History

Report No.	Version	Description	Issue Date	Note
2110RSU013-U3	Rev. 01	Initial Report	11-17-2021	Valid

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1. General Information

1.1. Applicant

Quectel Wireless Solutions Company Limited
 Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District,
 Shanghai, China 200233

1.2. Manufacturer

Quectel Wireless Solutions Company Limited
 Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District,
 Shanghai, China 200233

1.3. Testing Facility

<input checked="" type="checkbox"/>	Test Site – MRT Suzhou Laboratory
Laboratory Location (Suzhou - Wuzhong)	
D8 Building, No.2 Tian’edang Rd., Wuzhong Economic Development Zone, Suzhou, China	
Laboratory Location (Suzhou - SIP)	
4b Building, Liando U Valley, No.200 Xingpu Rd., Shengpu Town, Suzhou Industrial Park, China	
Laboratory Accreditations	
A2LA: 3628.01 CNAS: L10551	
FCC: CN1166 ISED: CN0001	
VCCI: <input type="checkbox"/> R-20025 <input type="checkbox"/> G-20034 <input type="checkbox"/> C-20020 <input type="checkbox"/> T-20020 <input type="checkbox"/> R-20141 <input type="checkbox"/> G-20134 <input type="checkbox"/> C-20103 <input type="checkbox"/> T-20104	
<input type="checkbox"/>	Test Site – MRT Shenzhen Laboratory
Laboratory Location (Shenzhen)	
1G, Building A, Junxiangda Building, Zhongshanyuan Road West, Nanshan District, Shenzhen, China	
Laboratory Accreditations	
A2LA: 3628.02 CNAS: L10551	
FCC: CN1284 ISED: CN0105	
<input type="checkbox"/>	Test Site – MRT Taiwan Laboratory
Laboratory Location (Taiwan)	
No. 38, Fuxing 2nd Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)	
Laboratory Accreditations	
TAF: L3261-190725	
FCC: 291082, TW3261 ISED: TW3261	

1.4. Product Information

Product Name	LTE Module
Model No.	EG915U-LA
Brand Name	Quectel
Bluetooth Specification	V4.2 single mode for BR/EDR
Wi-Fi Specification	Scan function only
GSM Band	GSM 850, PCS 1900
E-UTRA Band	Band 2, 4, 5, 7, 66
Operating Temperature	-35 ~ 75 °C
Power Type	3.3 ~ 4.3Vdc, typical 3.8Vdc
Remark:	
1. The information of EUT was provided by the manufacturer, and the accuracy of the information shall be the responsibility of the manufacturer.	

1.5. Radio Specification under Test

Bluetooth Specification	
Operating Frequency	2402~2480MHz
Channel Number	79
Type of modulation	GFSK, Pi/4 DQPSK, 8DPSK
Data Rate	1Mbps, 2Mbps, 3Mbps
Antenna Information	Dipole Antenna, 5.38dBi

- 15.247(g): In accordance with the Bluetooth Industry Standard, the system is designed to comply with all of the regulations in Section 15.247 when the transmitter is presented with a continuous data (or information) system.
- 15.247(h): In accordance with the Bluetooth Industry Standard, the system does not coordinate its channels selection/ hopping sequence with other frequency hopping systems for the express purpose of avoiding the simultaneous occupancy of individual hopping frequencies by multiple transmitters.
- 15.247(h): The EUT employs Adaptive Frequency Hopping (AFH) which identifies sources of interference namely devices operating in 802.11 WLAN and excludes them from the list of available channels. The process of re-mapping reduces the number of test channels from 79 channels to a minimum number of 20 channels.

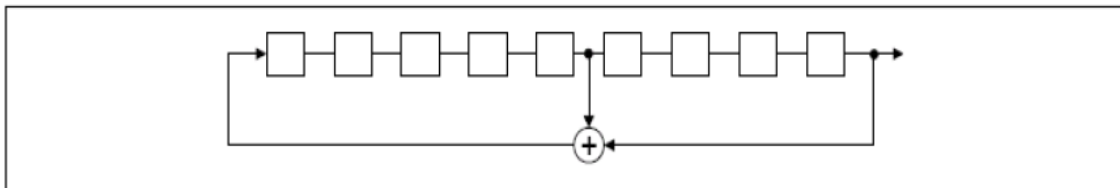
1.6. Operation Frequency / Channel List

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

1.7. Pseudorandom Frequency Hopping Sequence

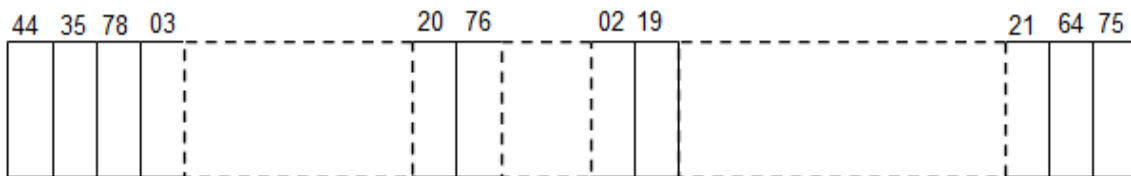
The pseudorandom sequence may be generated in a nine-stage shift register whose 5th and 9th stage outputs are added in a modulo-two addition stage. And the result is fed back to the input of the first stage. The sequence begins with the first ONE of 9 consecutive ONES; i.e. the shift register is initialized with nine ones.

- Number of shift register stages: 9
- Length of pseudo-random sequence: $2^9 - 1 = 511$ bits
- Longest sequence of zeros: 8 (non-inverted signal)



Linear Feedback Shift Register for Generation of the PRBS sequence

An example of Pseudorandom Frequency Hopping Sequence as follow:



Each frequency used equally on the average by each transmitter.

The system receivers have input bandwidths that match the hopping channel bandwidths of their Corresponding transmitters and shift frequencies in synchronization with the transmitted signals.

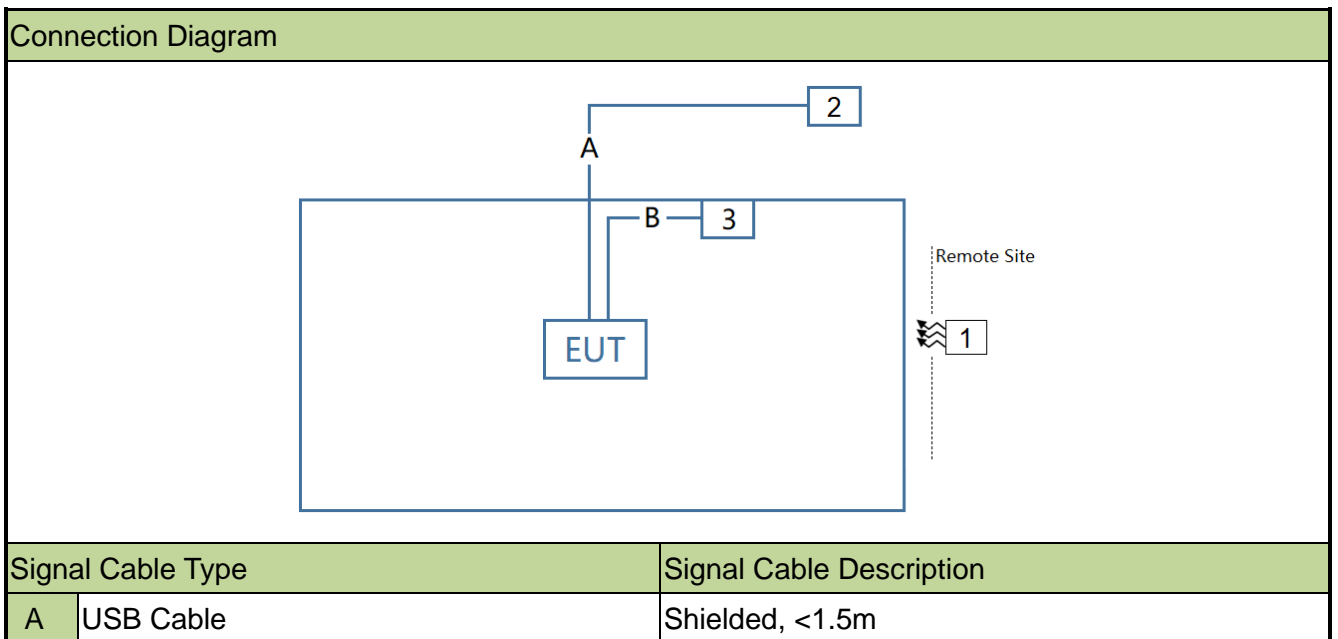
2. Test Configuration

2.1. Test Mode

Mode 1: Transmit by DH5
Mode 2: Transmit by 2DH5
Mode 3: Transmit by 3DH5

2.2. Test System Connection Diagram

The device was tested per the guidance ANSI C63.10: 2013 was used to reference the appropriate EUT setup for radiated emissions testing and AC line conducted testing.



2.3. Test System Details

Product	Manufacturer	Model No.
1	Bluetooth Test Set	Anritsu
2	Notebook	DELL
3	DC Adapter	STH
		P12F050200

2.4. Test Software

After entering command, the product is in DUT mode, then connected with the Bluetooth Test Set, the device can be transmitted continuously.

2.5. Duty Cycle

The maximum achievable duty cycles for all modes were determined based on measurements performed on a spectrum analyzer in zero-span mode with RBW = 8MHz, VBW = 50MHz. The RBW and VBW were both greater than 50/T, where T is the minimum transmission duration, and the number of sweep points across T was greater than 100. The duty cycles are as follows:

Test Mode	Duty Cycle
DH5	77.29%
2DH5	77.29%
3DH5	77.29%

Duty Cycle (T = Transmission Duration)	
DH5 (T = 2.900ms)	2DH5 (T = 2.900ms)

2.6. Test Environment Condition

Ambient Temperature	15 ~ 35°C
Relative Humidity	20% ~ 75%RH

3. Antenna Requirement

Excerpt from §15.203 of the FCC Rules/Regulations:

“An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.”

- The antenna of the device is **connected via an IPEX connector.**

Conclusion:

The unit complies with the requirement of §15.203.

4. TEST EQUIPMENT CALIBRATION DATE

Instrument	Manufacturer	Model No.	Asset No.	Last Cali. Date	Cali. Due Date	Test Site
Two-Line V-Network	R&S	ENV216	MRTSUE06002	1 year	2022/6/8	WZ-SR2
Signal Analyzer	Agilent	N9020A	MRTSUE06106	1 year	2022/4/13	WZ-SR5
Preamplifier	Schwarzbeck	BBV 9721	MRTSUE06121	1 year	2022/6/9	SIP-AC3
EMI Test Receiver	R&S	ESR3	MRTSUE06185	1 year	2022/1/12	SIP-AC1/SIP-AC2/ SIP-AC3
Shielding Room	MIX-BEP	WZ-SR2	MRTSUE06215	/	/	WZ-SR2
Bluetooth Test Set	Anritsu	MT8852B	MRTSUE06389	1 year	2022/6/8	WZ-SR5
Thermohygrometer	testo	608-H1	MRTSUE06402	1 year	2022/6/28	WZ-SR5
Thermohygrometer	testo	608-H1	MRTSUE06404	1 year	2022/6/28	WZ-SR2
Shielding Room	HUAMING	WZ-SR5	MRTSUE06442	/	/	WZ-SR5
Signal Analyzer	Keysight	N9010B	MRTSUE06457	1 year	2022/6/24	WZ-SR5
Anechoic Chamber	RIKEN	SIP-AC1	MRTSUE06554	1 year	2021/12/24	SIP-AC1
Signal Analyzer	Keysight	N9010B	MRTSUE06559	1 year	2022/6/24	SIP-AC1/SIP-AC2/ SIP-AC3/SIP-SR1
Horn Antenna	Schwarzbeck	BBHA 9170	MRTSUE06598	1 year	2021/11/26	SIP-AC3
Preamplifier	EMCI	EMC051845SE	MRTSUE06600	1 year	2021/11/9	SIP-AC1
Signal Analyzer	Keysight	N9020B	MRTSUE06604	1 year	2022/9/7	SIP-AC1/SIP-AC2/ SIP-AC3/SIP-SR1
Horn Antenna	R&S	HF907	MRTSUE06610	1 year	2022/8/5	SIP-AC1
Horn Antenna	R&S	HF907	MRTSUE06611	1 year	2022/9/12	SIP-AC3
Thermohygrometer	testo	608-H1	MRTSUE06616	1 year	2021/11/25	SIP-AC1
Thermohygrometer	testo	608-H1	MRTSUE06619	1 year	2021/11/25	SIP-AC3
Thermohygrometer	testo	608-H1	MRTSUE06620	1 year	2021/12/3	SIP-AC1
Thermohygrometer	testo	608-H1	MRTSUE06622	1 year	2021/12/3	SIP-AC3
Preamplifier	EMCI	EMC012645SE	MRTSUE06642	1 year	2022/1/14	SIP-AC3
Preamplifier	EMCI	EMC001330	MRTSUE06643	1 year	2022/1/14	SIP-AC1/SIP-AC2/ SIP-AC3
TRILOG Antenna	Schwarzbeck	VULB 9168	MRTSUE06645	1 year	2022/8/26	SIP-AC1
TRILOG Antenna	Schwarzbeck	VULB 9168	MRTSUE06646	1 year	2022/8/26	SIP-AC3
Anechoic Chamber	RIKEN	SIP-AC3	MRTSUE06782	1 year	2021/12/24	SIP-AC3
EMI Test Receiver	R&S	ESR3	MRTSUE06909	1 year	2021/11/22	WZ-SR2
Loop Antenna	Schwarzbeck	FMZB 1519 B	MRTSUE06937	1 year	2022/3/9	SIP-AC1/SIP-AC2/ SIP-AC3

Software	Version	Function
EMI Software	V3	EMI Test Software

5. Measurement Uncertainty

Where relevant, the following test uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k = 2$.

AC Conducted Emission Measurement
Measurement Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 9kHz~150kHz: 3.74dB 150kHz~30MHz: 3.44dB
Radiated Disturbance
Measurement Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): Horizontal: 30MHz~300MHz: 5.04dB 300MHz~1GHz: 4.95dB 1GHz~40GHz: 6.40dB Vertical: 30MHz~300MHz: 5.24dB 300MHz~1GHz: 6.03dB 1GHz~40GHz: 6.40dB
Spurious Emissions, Conducted
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 0.78dB
Output Power
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 1.13dB
Occupied Bandwidth
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 0.28%

6. TEST RESULT

6.1. Summary

FCC Section(s)	Test Description	Test Condition	Verdict
15.247(a)(1)	20dB Bandwidth	Conducted	Pass
15.247(b)(1)	Peak Transmitter Output Power		Pass
15.247(a)(1)	Channel Separation		Pass
15.247(a)(1)(iii)	Number of Channels		Pass
15.247(a)(1)(iii)	Time of Occupancy		Pass
15.247(d)	Band Edge / Out- of-Band Emissions		Pass
15.205, 15.209	General Field Strength (Restricted Bands and Radiated Emission)	Radiated	Pass
15.207	AC Conducted Emissions 150kHz - 30MHz	Line Conducted	Pass

Remark:

1. The analyzer plots shown in this section were all taken with a correction table loaded into the analyzer. The correction table was used to account for the losses of the cables and attenuators used as part of the system to connect the EUT to the analyzer at all frequencies of interest.
2. For radiated emission test, every axis (X, Y, Z) was also verified. The test results shown in the following sections represent the worst-case emissions.

6.2. 20dB Bandwidth Measurement

6.2.1. Test Limit

N/A

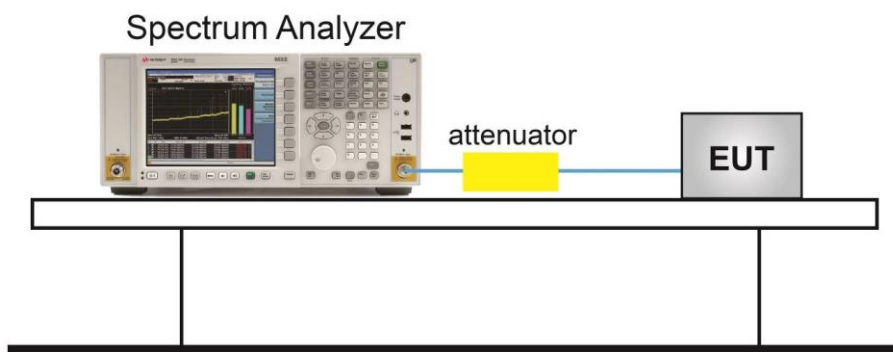
6.2.2. Test Procedure used

ANSI C63.10-2013 - Section 6.9.2 (20dB Bandwidth)

6.2.3. Test Setting

1. Set RBW \geq 1% to 5% of the 20dB bandwidth
2. VBW = approximately three times RBW
3. Span = approximately 2 to 5 times the 20dB bandwidth, centered on a hopping channel
4. Detector = Peak
5. Trace mode = max hold
6. Sweep = auto couple
7. Allow the trace to stabilize
8. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 20 dB relative to the maximum level measured in the fundamental emission.

6.2.4. Test Setup



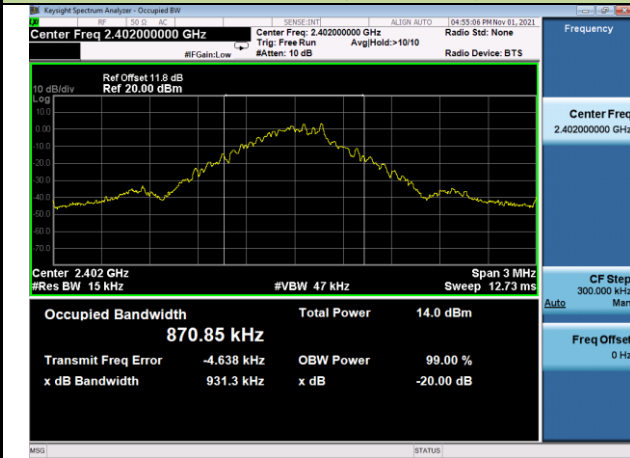
6.2.5. Test Result

Test Site	WZ-SR5	Test Engineer	Liz Yuan
Test Date	2021/11/01		

Test Mode	Channel No.	Frequency (MHz)	20dB Bandwidth (kHz)	Result
DH5	00	2402	931.3	Pass
DH5	39	2441	933.4	Pass
DH5	78	2480	931.6	Pass
2DH5	00	2402	1317.0	Pass
2DH5	39	2441	1315.0	Pass
2DH5	78	2480	1315.0	Pass
3DH5	00	2402	1315.0	Pass
3DH5	39	2441	1267.0	Pass
3DH5	78	2480	1267.0	Pass

DH5 20dB Bandwidth

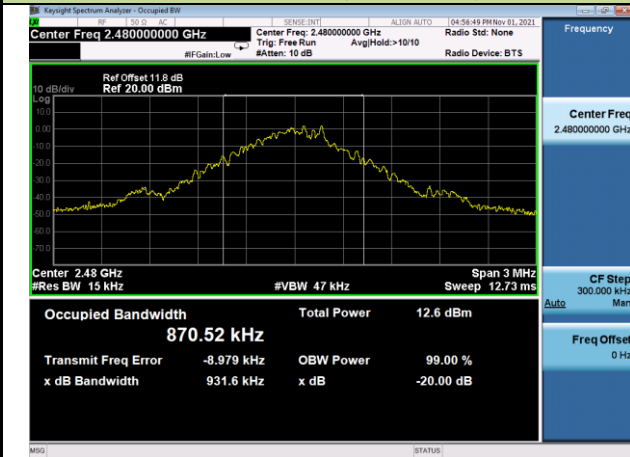
Channel 00 (2402MHz)



Channel 39 (2441MHz)

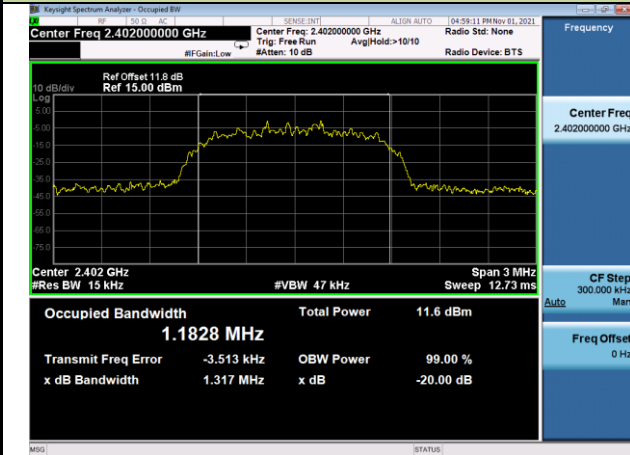


Channel 78 (2480MHz)

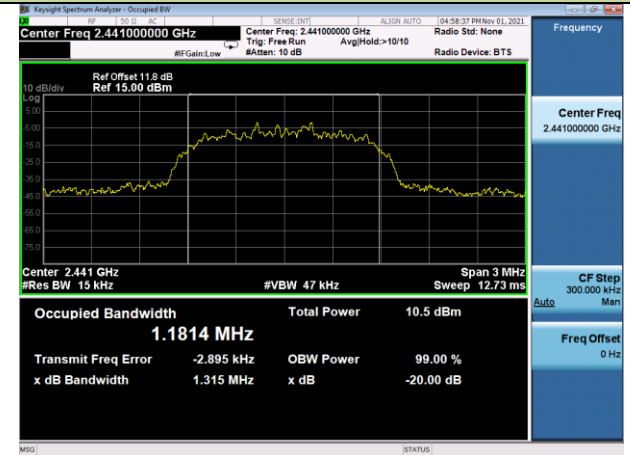


2DH5 20dB Bandwidth

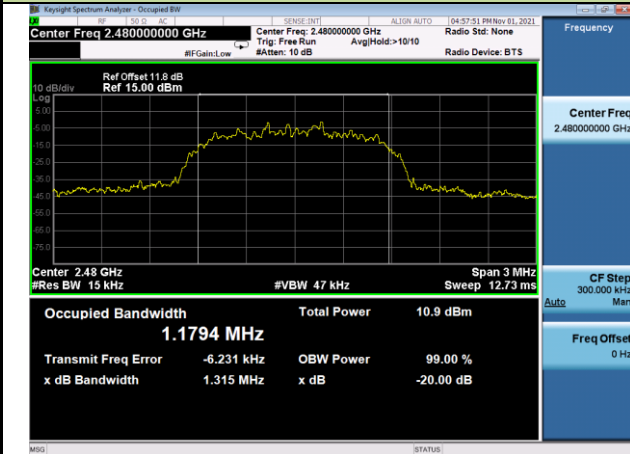
Channel 00 (2402MHz)



Channel 39 (2441MHz)

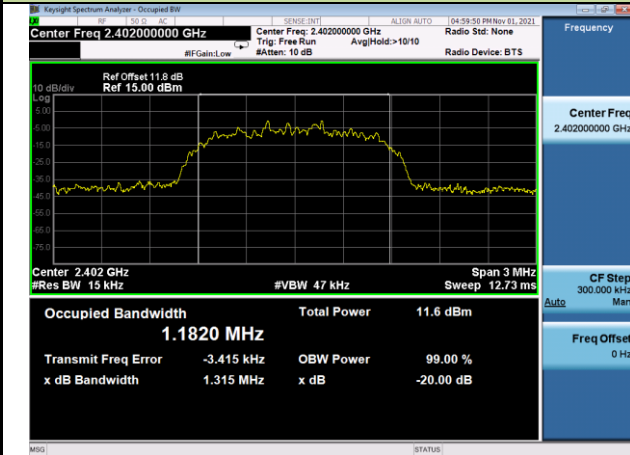


Channel 78 (2480MHz)

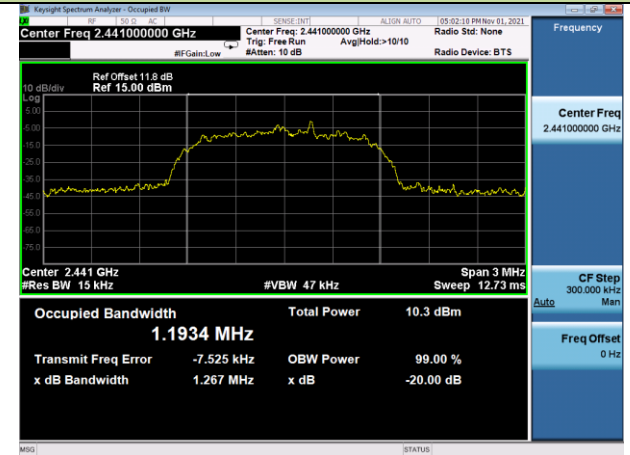


3DH5 20dB Bandwidth

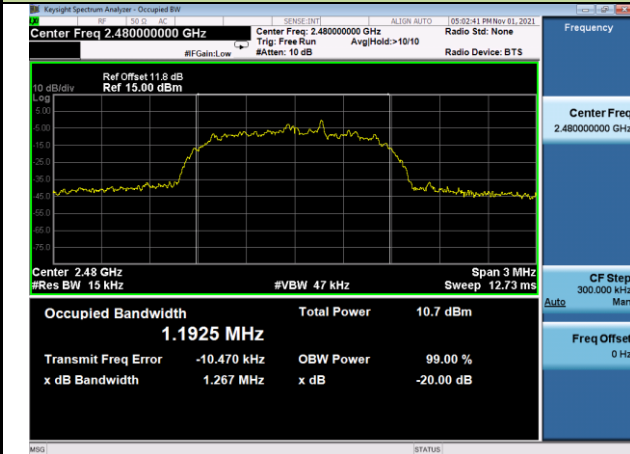
Channel 00 (2402MHz)



Channel 39 (2441MHz)



Channel 78 (2480MHz)



6.3. Output Power Measurement

6.3.1. Test Limit

For frequency hopping systems operating in the 2400 ~ 2483.5MHz band employing at least 75 non-overlapping hopping channels: 1 watt (30dBm). For all other frequency hopping systems in the 2400 ~ 2483.5MHz band: 0.125 watt (21dBm).

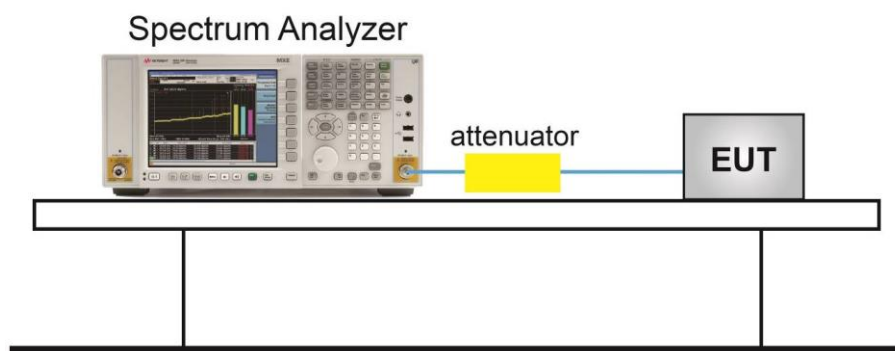
6.3.2. Test Procedure Used

ANSI C63.10-2013 - Section 7.8.5

6.3.3. Test Setting

1. Set RBW \geq the 20 dB bandwidth of the emission being measured.
2. VBW \geq RBW
3. Span = approximately five times the 20dB bandwidth, centered on a hopping channel
4. Detector = Peak
5. Trace mode = max hold
6. Sweep = auto couple
7. Allow the trace to stabilize, Use the marker-to-peak function to set the marker to the peak of the emission. The indicated level is the peak output power (don't forget added the external attenuation and cable loss)

6.3.4. Test Setup



6.3.5. Test Result

Test Site	WZ-SR5	Test Engineer	Liz Yuan
Test Date	2021/11/01		

Test Mode	Channel No.	Frequency (MHz)	Peak Power (dBm)	Peak Power Limit (dBm)
DH5	00	2402	7.41	≤ 30
DH5	39	2441	5.89	≤ 30
DH5	78	2480	6.25	≤ 30
2DH5	00	2402	6.83	≤ 30
2DH5	39	2441	5.78	≤ 30
2DH5	78	2480	6.14	≤ 30
3DH5	00	2402	7.20	≤ 30
3DH5	39	2441	6.14	≤ 30
3DH5	78	2480	6.43	≤ 30

6.4. Carrier Frequency Separation Measurement

6.4.1. Test Limit

The minimum permissible channel separation for this system is $\frac{2}{3}$ the value of the 20dB BW.

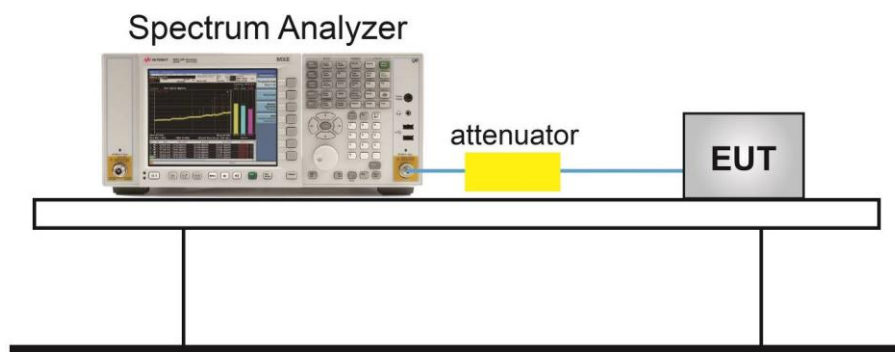
6.4.2. Test Procedure Used

ANSI C63.10-2013 - Section 7.8.2.

6.4.3. Test Setting

1. Span = wide enough to capture the peaks of two adjacent channels.
2. Start with the RBW set to approximately 30% of the channel spacing; adjust as necessary to best identify the center of each individual channel.
3. VBW \geq RBW
4. Sweep time = Auto couple
5. Detector = Peak
6. Trace mode = Max hold
7. Allowed the trace to stabilize
8. Use the marker-delta function to determine the separation between the peaks of the adjacent channels.

6.4.4. Test Setup



6.4.5. Test Result

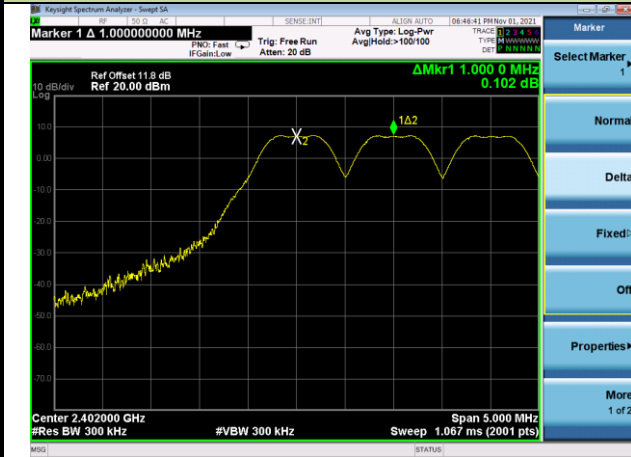
Test Site	WZ-SR5	Test Engineer	Liz Yuan
Test Date	2021/11/01		

Test Mode	Channel No.	Frequency (MHz)	Limit (kHz)	Result
DH5	00	2402	≥ 638.7	Pass
DH5	39	2441	≥ 661.7	Pass
DH5	78	2480	≥ 654.4	Pass
2DH5	00	2402	≥ 902.0	Pass
2DH5	39	2441	≥ 903.3	Pass
2DH5	78	2480	≥ 879.3	Pass
3DH5	00	2402	≥ 903.3	Pass
3DH5	39	2441	≥ 903.3	Pass
3DH5	78	2480	≥ 898.7	Pass

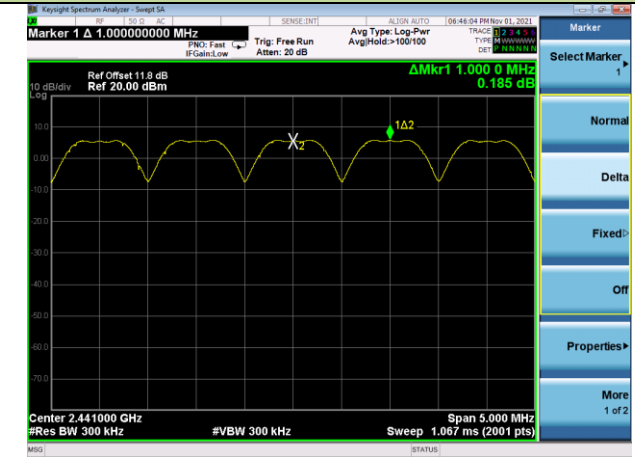
Note: The Limit is 2/3 the value of the 20dB BW.

DH5 Carrier Frequency Separation

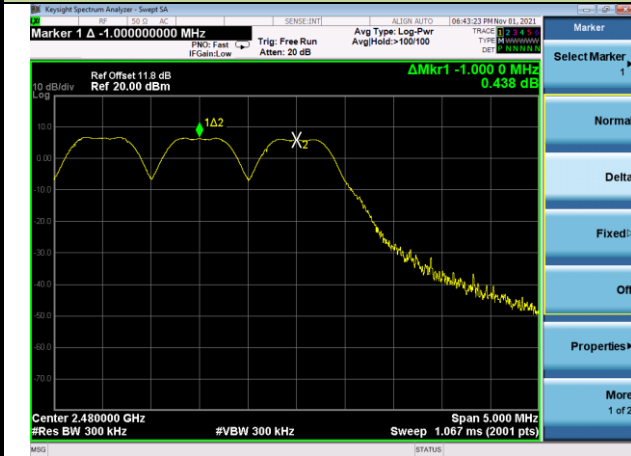
Channel 00 (2402MHz)



Channel 39 (2441MHz)

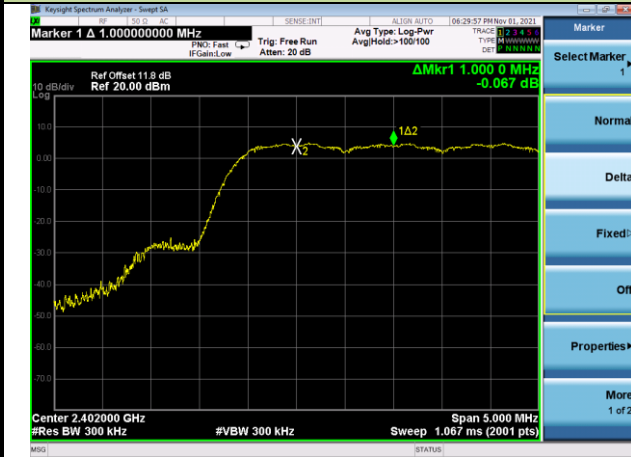


Channel 78 (2480MHz)



2DH5 Carrier Frequency Separation

Channel 00 (2402MHz)



Channel 39 (2441MHz)



Channel 78 (2480MHz)

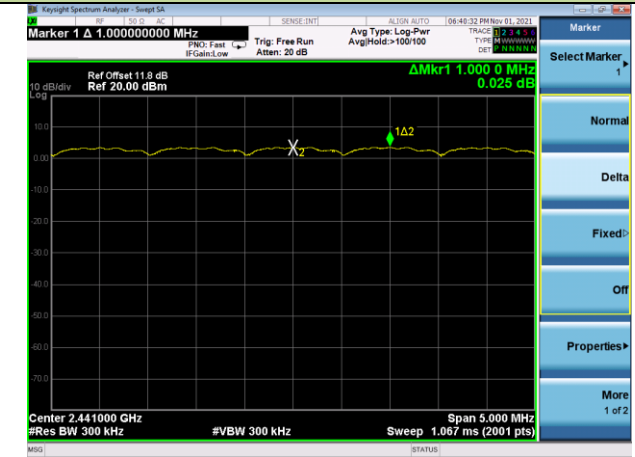


3DH5 Carrier Frequency Separation

Channel 00 (2402MHz)



Channel 39 (2441MHz)



Channel 78 (2480MHz)



6.5. Number of Hopping Channels Measurement

6.5.1. Test Limit

This frequency hopping system must employ a minimum of 15 hopping channels.

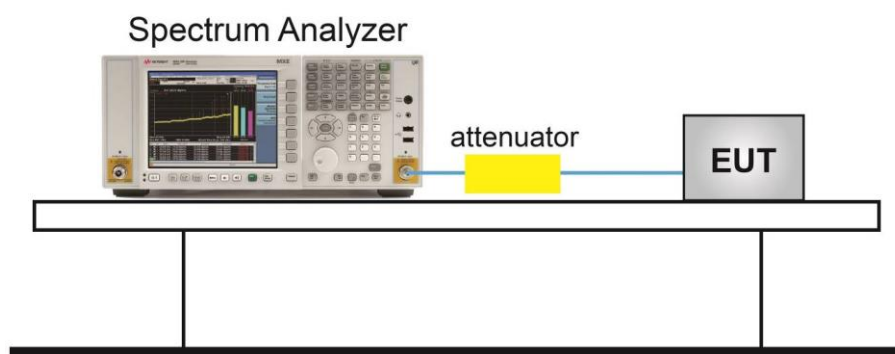
6.5.2. Test Procedure Used

ANSI C63.10-2013 - Section 7.8.3.

6.5.3. Test Setting

1. Span = the frequency band of operation. Depending on the number of channels the device supports, it may be necessary to divide the frequency range of operation across multiple spans, to allow the individual channels to be clearly seen.
2. To identify clearly the individual channels, set the RBW to less than 30% of the channel spacing or the 20 dB bandwidth, whichever is smaller.
3. VBW \geq RBW
4. Sweep time = Auto couple
5. Detector = Peak
6. Trace mode = Max hold
7. Allow the trace to stabilize

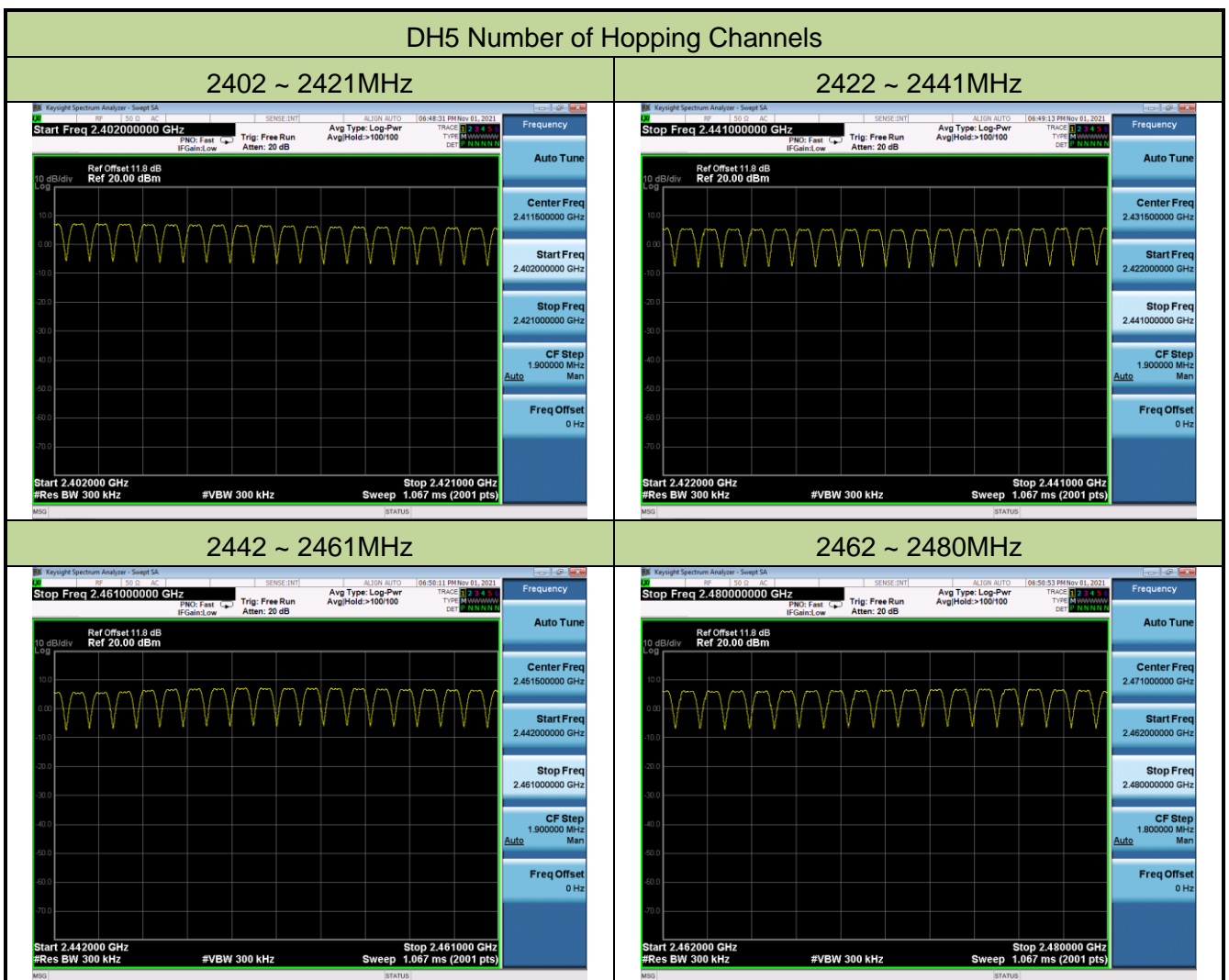
6.5.4. Test Setup



6.5.5. Test Result

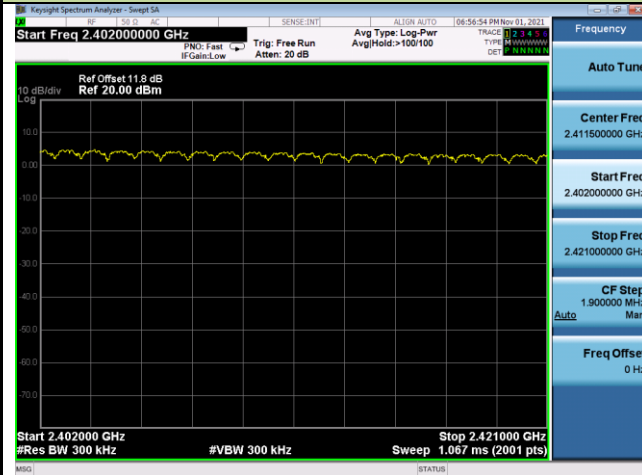
Test Site	WZ-SR5	Test Engineer	Liz Yuan
Test Date	2021/11/01		

Test Mode (Hopping)	Channel Numbers	Frequency (MHz)	Limit (Hopping Channels)	Result
DH5	79	2402 ~ 2480	≥ 15	Pass
2DH5	79	2402 ~ 2480	≥ 15	Pass
3DH5	79	2402 ~ 2480	≥ 15	Pass

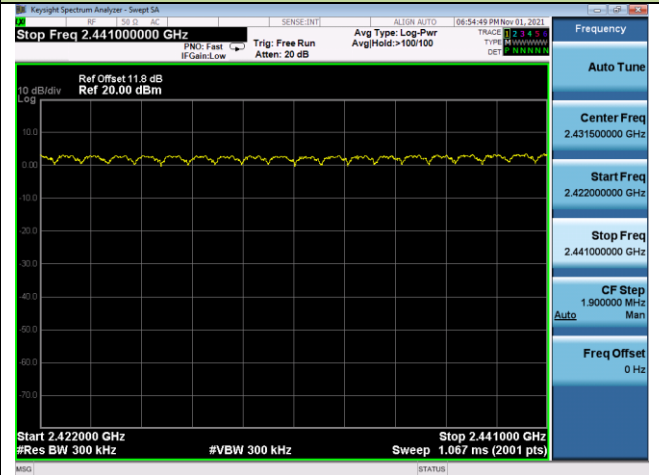


2DH5 Number of Hopping Channels

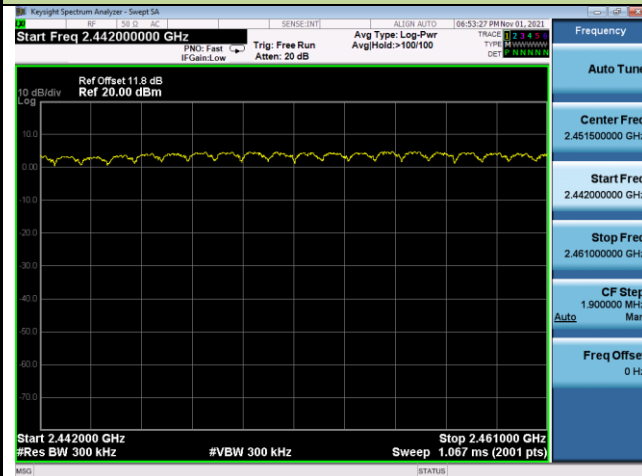
2402 ~ 2421MHz



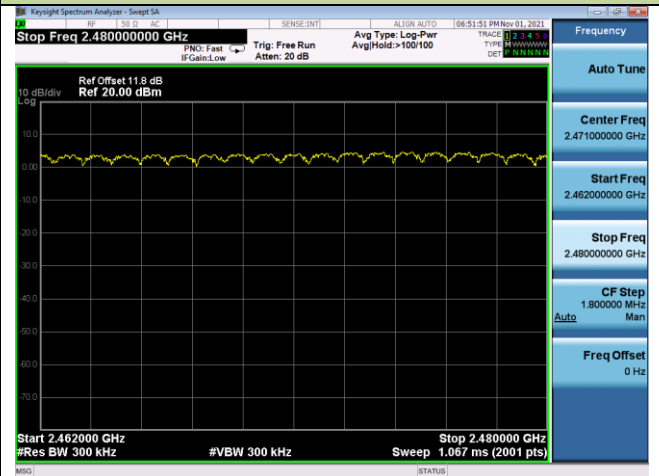
2422 ~ 2441MHz



2442 ~ 2461MHz

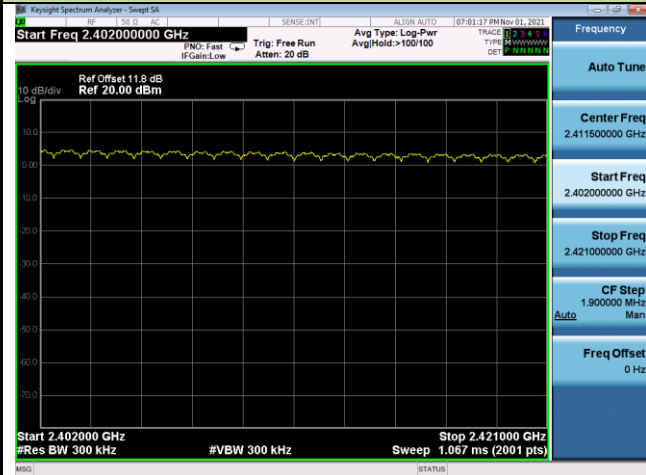


2462 ~ 2480MHz

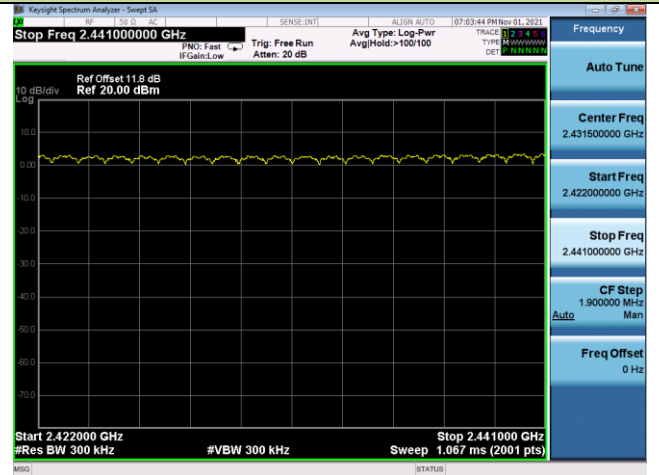


3DH5 Number of Hopping Channels

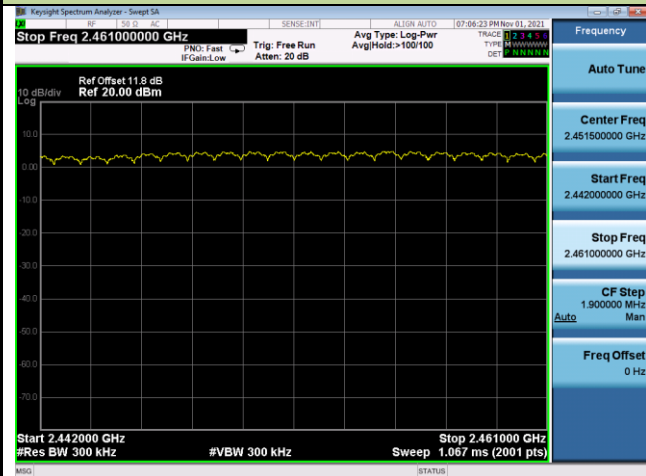
2402 ~ 2421MHz



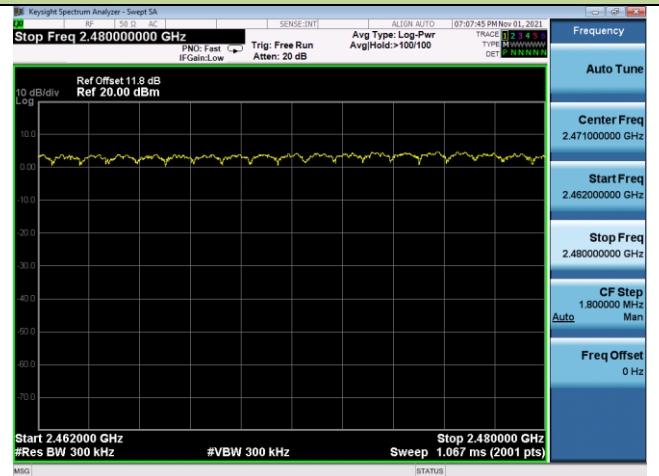
2422 ~ 2441MHz



2442 ~ 2461MHz



2462 ~ 2480MHz



6.6. Time of Occupancy Measurement Measurement

6.6.1. Test Limit

The maximum permissible time of occupancy is 400ms within a period of 400ms multiplied by the number of hopping channels employed.

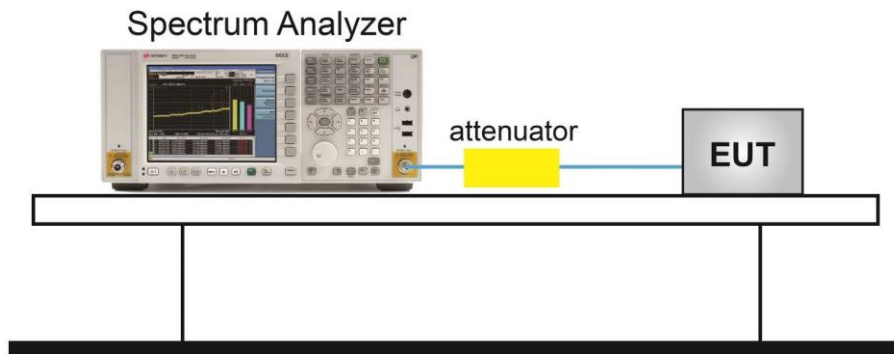
6.6.2. Test Procedure Used

ANSI C63.10-2013 - Section 7.8.4.

6.6.3. Test Setting

1. Span = zero span, centered on a hopping channel.
2. RBW shall be \leq channel spacing and where possible RBW should be set $\gg 1 / T$, where T is the expected dwell time per channel.
3. VBW \geq RBW
4. Sweep time = as necessary to capture the entire dwell time per hopping channel
5. Detector = Peak
6. Trace mode = max hold
7. Use the marker-delta function to determine the transmit time per hop. If this value varies with different modes of operation (data rate, modulation format, number of hopping channels, etc.), then repeat this test for each variation in transmit time. An oscilloscope may be used instead of a spectrum analyzer. The EUT shall show compliance with the appropriate regulatory limit for the number of hopping channels. A plot of the data shall be included in the test report.

6.6.4. Test Setup

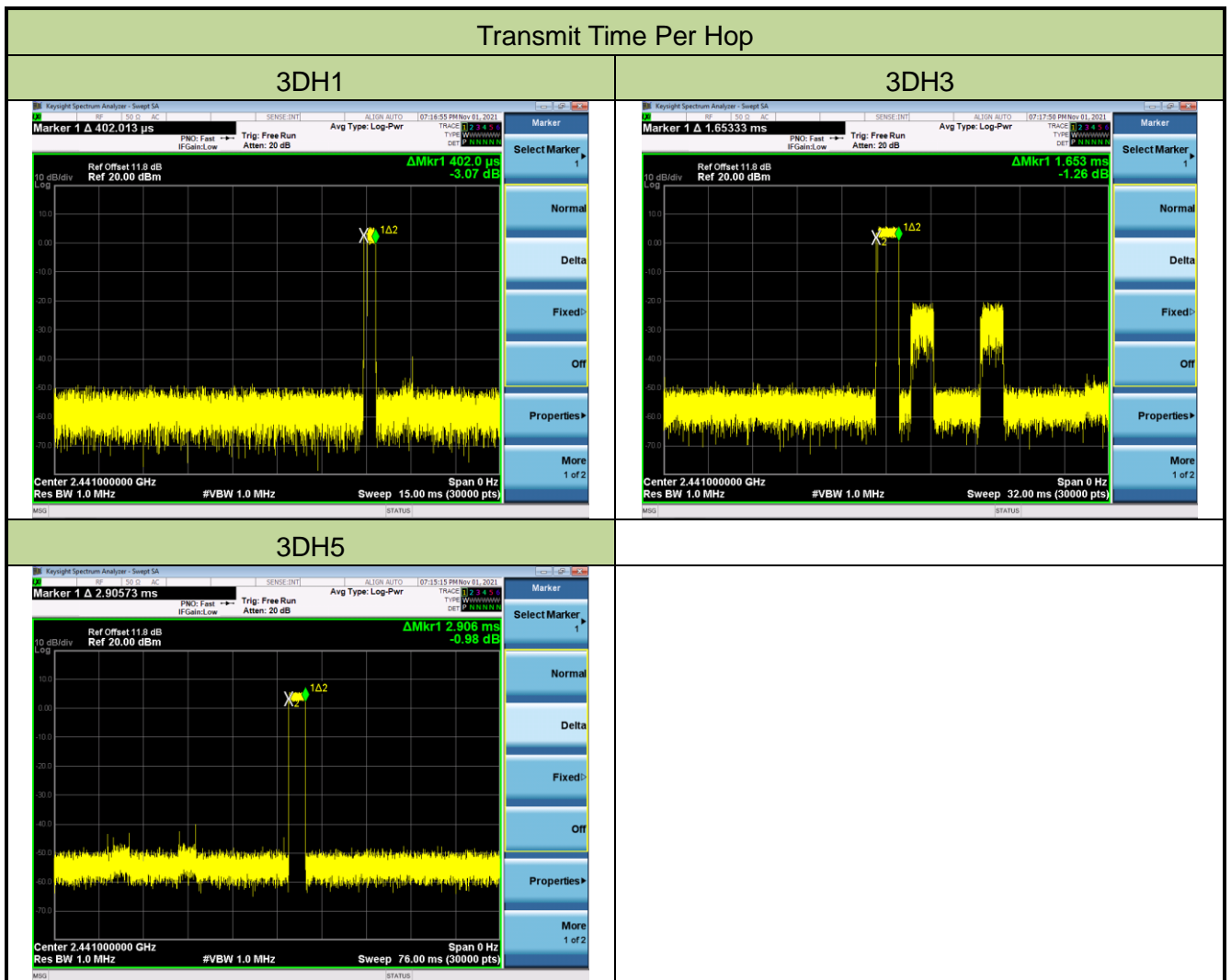


6.6.5. Test Result

Test Site	WZ-SR5	Test Engineer	Liz Yuan
Test Date	2021/11/01		

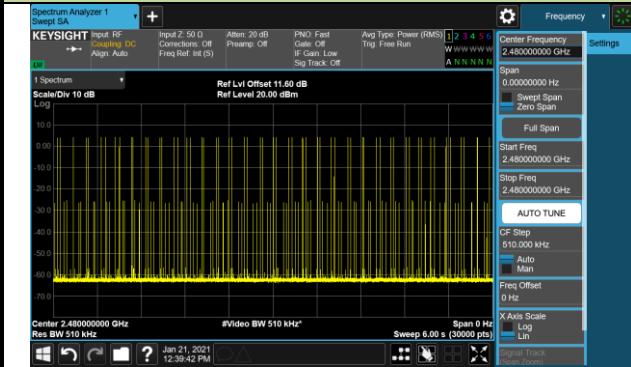
Test Mode	Channel No.	Frequency (MHz)	Transmit Time Per Hop (ms)	Observation Period (s)	Number of Hops in Sweep Time	Number of Hops in Observation Period	Time of Occupancy (ms)	Limit (ms)	Result
3DH1	00~78	2402~2480	0.402	31.6	59	311	125.0	≤ 400	Pass
3DH3	00~78	2402~2480	1.653	31.6	33	174	287.6	≤ 400	Pass
3DH5	00~78	2402~2480	2.906	31.6	15	79	229.6	≤ 400	Pass

Note: Number of Hops in Observation Period = Number of Hops in Sweep Time * (Observation Period / Sweep Time), Sweep Time = 6s.

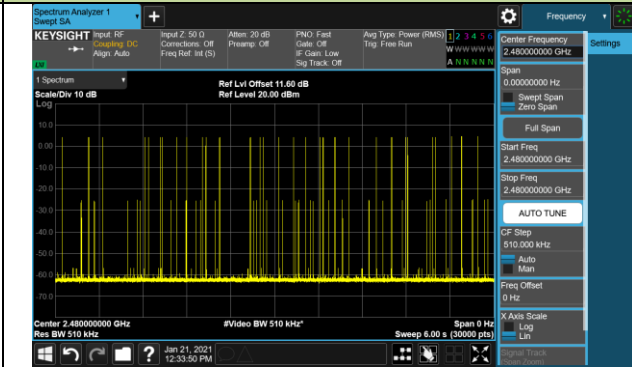


Number of Hops in Sweep Time

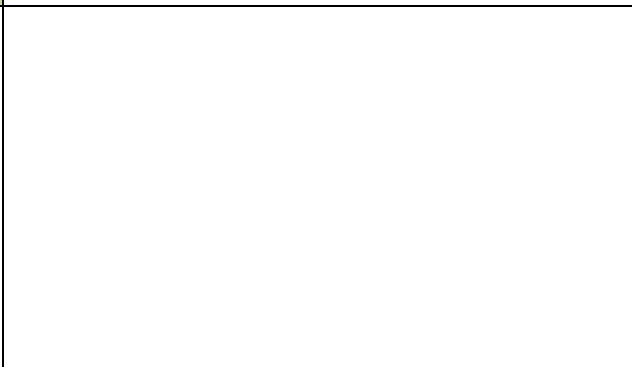
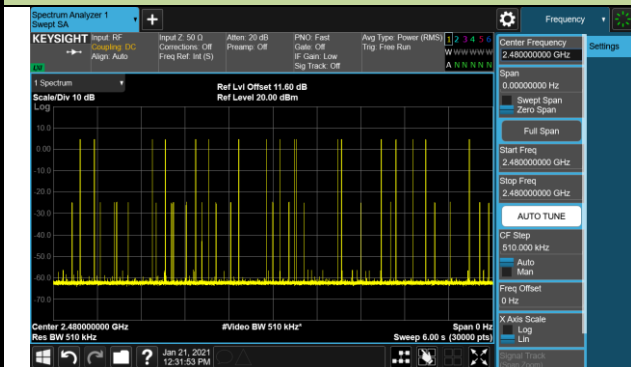
3DH1



3DH3



3DH5



6.7. Band-edge Compliance Measurement

6.7.1. Test Limit

The maximum permissible emission level is 20dBc. Any emissions were lying outside of the emission bandwidth and in authorized band edges to a field strength limit specified in Section 15.209 of the Title 47 CFR.

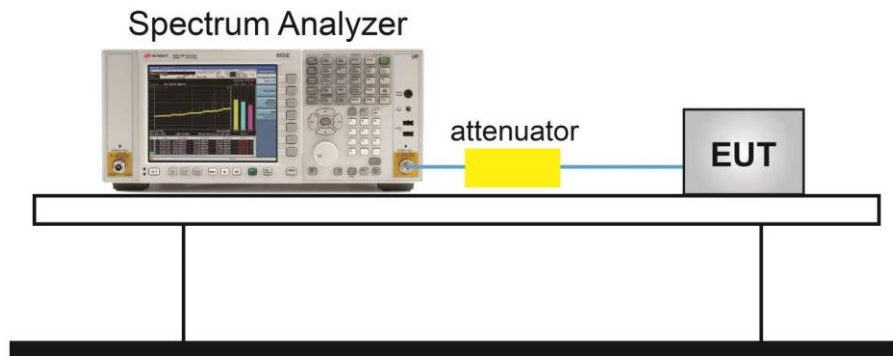
6.7.2. Test Procedure Used

ANSI C63.10-2013 - Section 6.10.4.

6.7.3. Test Setting

1. Span = wide enough to capture the peak level of the emission operating on the channel closest to the band edge, as well as any modulation products which fall outside of the authorized band of operation.
2. RBW = 100kHz
3. VBW = 300kHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize
8. Allow the trace to stabilize. Set the marker on the emission at the band edge, or on the highest modulation product outside of the band, if this level is greater than that at the band edge. Enable the marker-delta function, then use the marker-to-peak function to move the marker to the peak of the in-band emission.

6.7.4. Test Setup



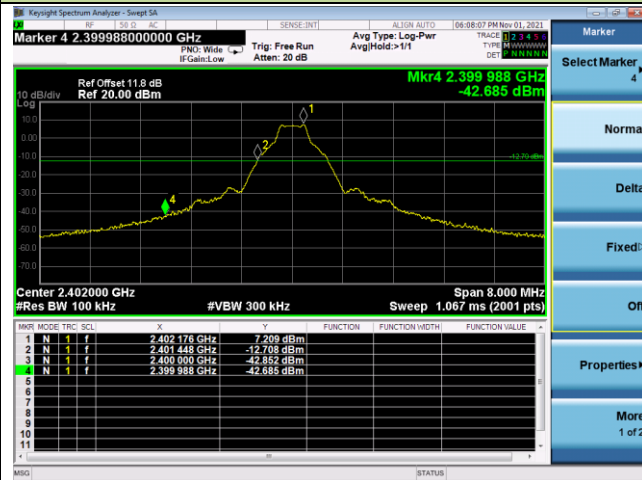
6.7.5. Test Result

Test Site	WZ-SR5	Test Engineer	Liz Yuan
Test Date	2021/11/01		

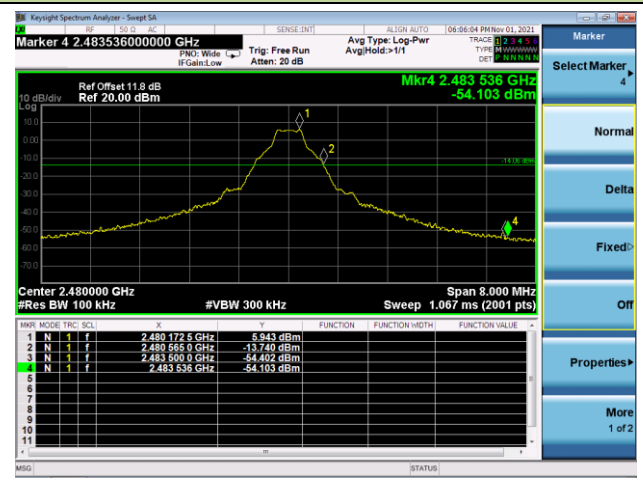
Test Mode	Channel No.	Frequency (MHz)	Limit	Result
DH5	00	2402	20dBc	Pass
DH5	78	2480	20dBc	Pass
2DH5	00	2402	20dBc	Pass
2DH5	78	2480	20dBc	Pass
3DH5	00	2402	20dBc	Pass
3DH5	78	2480	20dBc	Pass

Band-edge Compliance

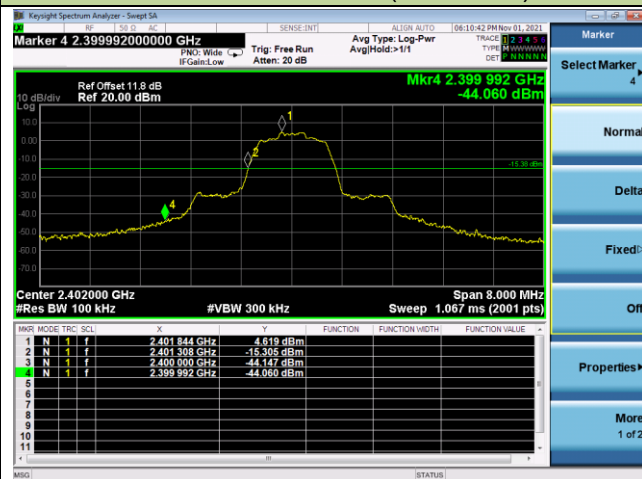
DH5 - Channel 00 (2402MHz)



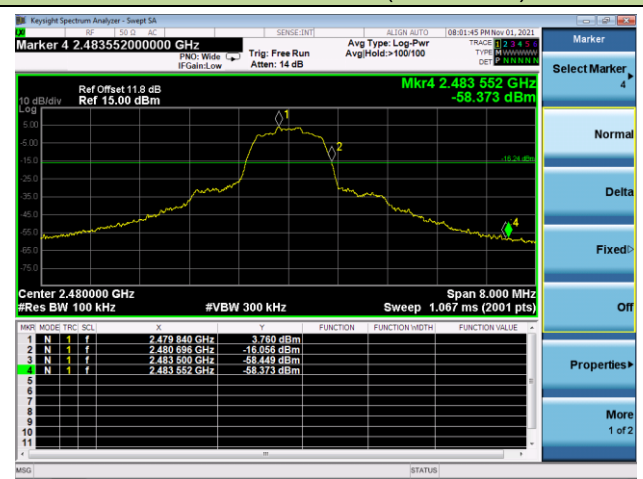
DH5 - Channel 78 (2480MHz)



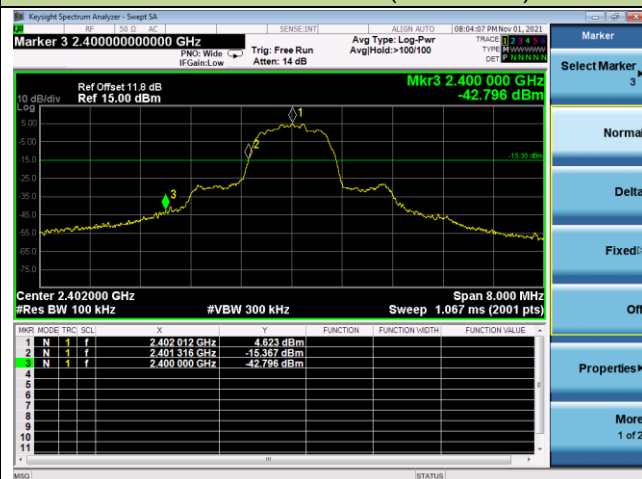
2DH5 - Channel 00 (2402MHz)



2DH5 - Channel 78 (2480MHz)



3DH5 - Channel 00 (2402MHz)



3DH5 - Channel 78 (2480MHz)

