## FCC Test Report

Product Name	Notebook Computers
Model No.	14T90P, 14TD90P, 14TG90P, 14TB90P
FCC ID.	BEJNT-14T90P

Applicant	LG Electronics USA
Address	111 Sylvan Avenue North Bulding
	Englewood Cliffs New Jerssy United States

Date of Receipt	Nov. 03, 2020
Issued Date	Dec. 08, 2020
Report No.	20B0091R-E3032110108
Report Version	V1.0



The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standard through the calibration report of the equipment and evaluated measurement uncertainty herein.

This report must not be used to claim product endorsement by TAF or any agency of the government.

The test report shall not be reproduced without the written approval of DEKRA Testing and Certification Co., Ltd.

Measurement uncertainties evaluated for each testing system and associated connections are given here to provide the system information for reference. Compliance determinations do not take into account measurement uncertainties for each testing system, but are based on the results of the compliance measurement.



## Test Report

Issued Date: Dec. 08, 2020 Report No.: 20B0091R-E3032110108

# **DEKRA**

Notebook Computers				
LG Electronics USA				
111 Sylvan Avenue North Bulding Englewood Cliffs New Jerssy United States				
LG Electronics Inc.				
14T90P, 14TD90P, 14TG90P, 14TB90P				
BEJNT-14T90P				
AC 100-240V / 50-60Hz				
AC 120V / 60Hz				
LG				
FCC CFR Title 47 Part 15 Subpart C				
NSI C63.4: 2014, ANSI C63.10: 2013				
Complied				
Ida Tung				
( Adm. Specialist / Ida Tung )				
Bill Lin				
( Senior Engineer / Bill Lin )				
Hund				
( Director / Vincent Lin )				



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## DEKRA

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## **Revision History**

Report No.	Version	Description	Issued Date
20B0091R-E3032110108 V1.0		Initial issue of report.	Dec. 08, 2020



#### 1. GENERAL INFORMATION

#### **1.1. EUT Description**

Product Name	Notebook Computers
Trade Name	LG
Model No.	14T90P, 14TD90P, 14TG90P, 14TB90P
FCC ID.	BEJNT-14T90P
Frequency Range	2402-2480MHz
Channel Number	79
Type of Modulation	FHSS: GFSK(1Mbps) / $\pi$ /4DQPSK(2Mbps) / 8DPSK(3Mbps)
Antenna Type	PIFA Antenna
Channel Control	Auto
Antenna Gain	Refer to the table "Antenna List"
Power Adapter	MFR: HONOR, M/N: ADT-65DSU-D03-2
	Input: AC 100-240V~1.6A, 50-60Hz
	Output: DC 20V, 3.25A, MAX 65.0W, DC 5.0V/9.0V/15.0V, 3.0A
	Cable IN: Non-shielded, 1.5m
	Cable Out: Non-shielded, 1.5m
Contain Module	Intel / AX201D2W

#### Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	Hong-Bo	260-23806 (Main) (Aux)	PIFA Antenna	0.24dBi for 2.4 GHz
2	Yageo	DQ601419200 (ANTA0ZQ1419224551)	PIFA Antenna	1.16dBi for 2.4 GHz
		(Main) (Aux)		

Note: The antenna of EUT is conforming to FCC 15.203.

Center 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:

- The EUT is a Notebook Computers with built-in WLAN (802.11a/b/g/n/ac/ax) with Bluetooth V5.0 
   V2.1+EDR transceiver, this report for Bluetooth V2.1+EDR.
- 2. These tests were conducted on a sample for the purpose of demonstrating compliance of Bluetooth transmitter with Part 15 Subpart C Paragraph 15.247 for spread spectrum devices.
- 3. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test.
- 4. It's declared by manufacture about all models are electrically identical, different model names for marketing purpose. The identification of test sample is 14T90P.

Test Mode	Mode 1: Transmit - 1Mbps
	Mode 2: Transmit - 2Mbps
	Mode 3: Transmit - 3Mbps

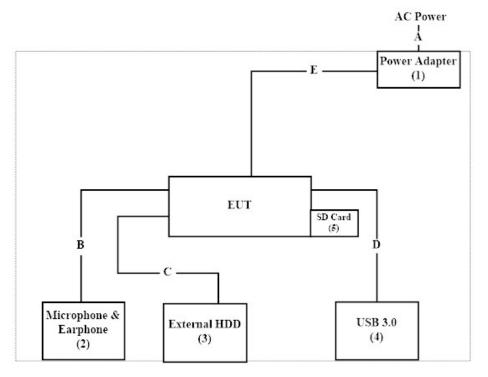
#### **1.2.** Tested System Details

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

Proc	luct	Manufacturer	Model No.	Serial No.	Power Cord
1	Power Adapter	HONOR	ADT-65DSU-D03-2	N/A	N/A
2	Microphone & Earphone	Verbatim	N/A	N/A	N/A
3	External HDD	Transcend	TS1TSJ25H3B	F21786-0019	N/A
4	USB 3.0	Transcend	TS1TSJ25M3	D468623809	N/A
5	SD Card	Apacer	64GB R85	N/A	N/A

Sig	nal Cable Type	Signal cable Description
А	Power Cable	Non-shielded, 1.5m
В	Microphone & Earphone Cable	Non-shielded, 1.2m
С	USB Cable	Shielded, 0.5m
D	USB Cable	Shielded, 0.4m
E	Power Cable	Non-shielded, 1.5m

#### **1.3.** Configuration of Tested System



#### **1.4. EUT Exercise Software**

- 1. Setup the EUT as shown in Section 1.3.
- 2. Execute software "DRTU Ver. 11.1941.0-10270" on the EUT.
- 3. Configure the test mode, the test channel, and the data rate.
- 4. Press "OK" to start the continuous Transmit.
- 5. Verify that the EUT works properly.

#### 1.5. Test Facility

Ambient conditions in the laboratory:

Performed Item	Items	Required	Actual
Cardanta I Daviasian	Temperature (°C)	10~40 °C	21.2 °C
Conducted Emission	Humidity (%RH)	10~90 %	65.1 %
	Temperature (°C)	10~40 °C	25.0 °C
Radiated Emission	Humidity (%RH)	10~90 %	51.9 %
Can tant'an	Temperature (°C)	10~40 °C	24.2 °C
Conductive	Humidity (%RH)	10~90 %	57.3 %

USA	:	FCC Registration Number: TW0023
Canada	:	IC Registration Number: 25880

Site Description	:	Accredited by TAF
		Accredited Number: 3023
Test Laboratory	:	DEKRA Testing and Certification Co., Ltd
Address	:	No.159, Sec. 2, Wenhua 1st Rd., Linkou Dist.,
		New Taipei City 24457, Taiwan, R.O.C.
Phone number	:	886-2-2602-7968
Fax number	:	866-2-2602-3286
Email address	:	info.tw@dekra.com
Website	:	http://www.dekra.com.tw

#### **1.6.** List of Test Equipment

#### For Conduction measurements /ASR1

	Equipment	Manufacturer	Model No.	Serial No.	Cali. Data	Due. Data
Х	EMI Test Receiver	R&S	ESR7	101601	2020.05.28	2021.05.27
Х	Two-Line V-Network	R&S	ENV216	101306	2020.03.25	2021.03.24
Х	Two-Line V-Network	R&S	ENV216	101307	2020.04.17	2021.04.16
Х	Coaxial Cable	Quietek	RG400_BNC	RF001	2020.05.24	2021.05.23

Note:

- 1. All equipments are calibrated every one year.
- 2. The test instruments marked with "X" are used to measure the final test results.
- 3. Test Software version : DEKRA Testing System V2.0.

#### For Conducted measurements /ASR2

	Equipment	Manufacturer	Model No.	Serial No.	Cali. Data	Due. Data
Х	Spectrum Analyzer	R&S	FSV30	103466	2019.12.16	2020.12.15
Х	Peak Power Analyzer	KEYSIGHT	8900B	MY51000539	2020.05.13	2021.05.12
Х	Power Sensor	KEYSIGHT	N1923A	MY59240002	2020.05.22	2021.05.21
Х	Power Sensor	KEYSIGHT	N1923A	MY59240003	2020.05.22	2021.05.21
Χ	Spectrum Analyzer	Agilent	N9010A	MY55150401	2020.09.15	2021.09.14

Note:

1. All equipments are calibrated every one year.

2. The test instruments marked with "X" are used to measure the final test results.

3. Test Software version : DEKRA Conduction Test System V9.0.5.

#### For Radiated measurements /ACB1

	Equipment	Manufacturer	Model No.	Serial No.	Cali. Data	Due. Data
Х	Loop Antenna	AMETEK	HLA6121	49611	2020.03.16	2021.03.15
Х	Bi-Log Antenna	SCHWARZBECK	VULB9168	9168-953	2020.01.03	2021.01.02
Х	Horn Antenna	ETS-Lindgren	3117	00203800	2019.12.12	2020.12.11
Х	Horn Antenna	Com-Power	AH-840	101087	2020.06.08	2021.06.07
Χ	Pre-Amplifier	EMCI	EMC001330	980316	2020.06.23	2021.06.22
Х	Pre-Amplifier	EMCI	EMC051835SE	980311	2020.06.23	2021.06.22
Х	Pre-Amplifier	EMCI	EMC05820SE	980310	2020.06.24	2021.06.23
Х	Pre-Amplifier	EMCI	EMC184045SE	980314	2020.06.10	2021.06.09
Х	Filter	MICRO TRONICS	BRM50702	G251	2020.09.17	2021.09.16
	Filter	MICRO TRONICS	BRM50716	G188	2020.09.17	2021.09.16
Х	EMI Test Receiver	R&S	ESR7	101602	2019.12.16	2020.12.15
Х	Spectrum Analyzer	R&S	FSV40	101148	2020.03.16	2021.03.15
Х	Coaxial Cable	SUHNER	SUCOFLEX 106	RF002	2020.07.03	2021.07.02
Х	Mircoflex Cable	HUBER SUHNER	SUCOFLEX 102	MY3381/2	2020.06.10	2021.06.09

Note:

1. All equipments are calibrated every one year.

2. The test instruments marked with "X" are used to measure the final test results.

3. Test Software version : DEKRA Testing System V2.0.

#### 1.7. Uncertainty

Uncertainties have been calculated according to the DEKRA internal document, and is described in each test chapter of this report.

The reported expanded uncertainties are based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95%.

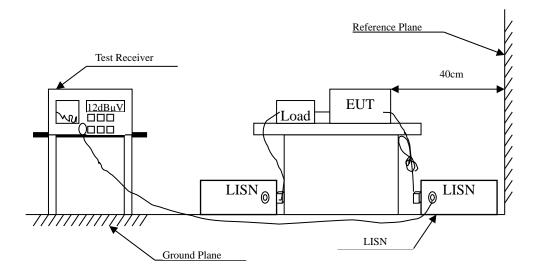
Measurement uncertainties evaluated for each testing system and associated connections are given here to provide the system information for reference. Compliance determinations do not take into account measurement uncertainties for each testing system, but are based on the results of the compliance measurement.

Test item	Uncer	tainty	
Conducted Emission	±3.4	2 dB	
Peak Power Output	±0.9	1 dB	
	Under 1GHz	Above 1GHz	
Radiated Emission	±4.06 dB	±3.73 dB	
RF Antenna Conducted Test	±2.53 dB		
	Under 1GHz	Above 1GHz	
Band Edge	±4.06 dB	±3.73 dB	
Channel Number	N/A		
Channel Separation	±682.83 Hz		
Dwell Time	±2.31 ms		
Occupied Bandwidth	±682.83 Hz		
Duty Cycle	±2.31 ms		



#### 2. Conducted Emission

#### 2.1. Test Setup



#### 2.2. Limits

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

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

#### 2.3. Test Procedure

The EUT and Peripherals 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 the interface cables must be changed according to ANSI C63.4: 2014 on conducted measurement.

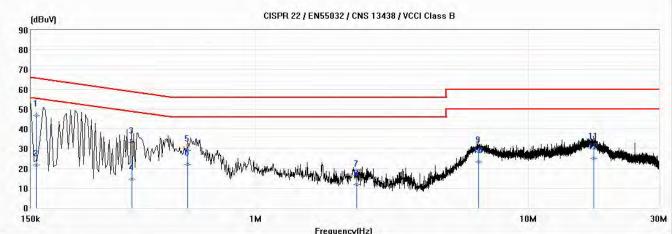
Conducted emissions were invested over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

The EUT setup and the test procedure are according to ANSI C63.4, 2014 to comply with the requirements of FCC 47CFR Subpart C.



#### 2.4. Test Result of Conducted Emission

Product	:	Notebook Computers
Test Item	:	Conducted Emission Test
Power Line	:	L1
Test Mode	:	Mode 3: Transmit - 3Mbps (2441MHz)
Test Date	:	2020/12/09



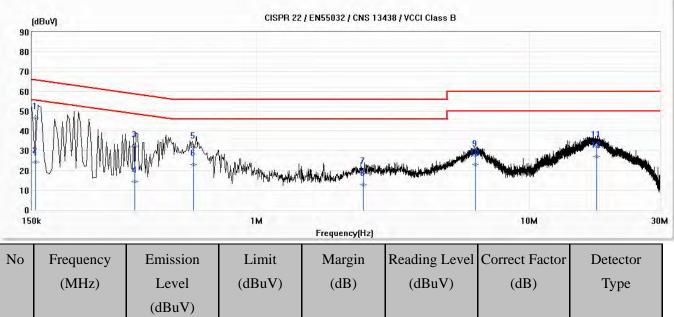
_				Frequency[Hz]			
No	Frequency (MHz)	Emission Level (dBuV)	Limit (dBuV)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
*1	0.157		(5.(2)	10.05	27.10	0.66	OP
*1	0.157	46.78	65.63	-18.85	37.12	9.66	QP
2	0.157	21.87	55.63	-33.76	12.21	9.66	AV
3	0.351	33.14	58.93	-25.79	23.49	9.66	QP
4	0.351	14.53	48.93	-34.40	4.88	9.66	AV
5	0.563	29.12	56.00	-26.88	19.46	9.66	QP
6	0.563	22.07	46.00	-23.93	12.41	9.66	AV
7	2.343	16.44	56.00	-39.56	6.72	9.73	QP
8	2.343	11.69	46.00	-34.31	1.96	9.73	AV
9	6.557	28.55	60.00	-31.45	18.73	9.83	QP
10	6.557	23.31	50.00	-26.69	13.49	9.83	AV
11	17.310	30.40	60.00	-29.60	20.45	9.95	QP
12	17.310	25.23	50.00	-24.77	15.27	9.95	AV

Note:

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



Product	:	Notebook Computers
Test Item	:	Conducted Emission Test
Power Line	:	Ν
Test Mode	:	Mode 3: Transmit - 3Mbps (2441MHz)
Test Date	:	2020/12/09



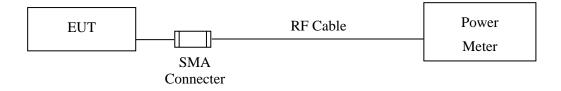
	(MHz)	Level	(dBuV)	(dB)	(dBuV)	(dB)	Туре
		(dBuV)					
*1	0.155	46.48	65.75	-19.27	36.80	9.67	QP
2	0.155	24.22	55.75	-31.53	14.55	9.67	AV
3	0.357	32.19	58.80	-26.61	22.52	9.67	QP
4	0.357	14.27	48.80	-34.52	4.61	9.67	AV
5	0.588	31.53	56.00	-24.47	21.86	9.67	QP
6	0.588	23.05	46.00	-22.95	13.38	9.67	AV
7	2.456	18.80	56.00	-37.20	9.06	9.74	QP
8	2.456	12.69	46.00	-33.31	2.94	9.74	AV
9	6.338	27.64	60.00	-32.36	17.80	9.83	QP
10	6.338	23.05	50.00	-26.95	13.22	9.83	AV
11	17.630	32.40	60.00	-27.60	22.37	10.03	QP
12	17.630	26.90	50.00	-23.10	16.88	10.03	AV

Note:

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

#### 3. Peak Power Output

#### 3.1. Test Setup



#### 3.2. Limit

The maximum peak power shall be less 1Watt.

#### **3.3.** Test Procedure

Tested according to FHSS test procedure of KDB 558074 section 9 (b for compliance to FCC 47CFR 15.247 requirements.



#### **3.4.** Test Result of Peak Power Output

Product	:	Notebook Computers
Test Item	:	Peak Power Output
Test Mode	:	Mode 1: Transmit - 1Mbps
Test Date	:	2020/11/30

Channel No.	Frequency	Measurement	Required Limit	Result
	(MHz)	(dBm)		
Channel 00	2402.00	8.06	1 Watt= 30 dBm	Pass
Channel 39	2441.00	8.69	1 Watt= 30 dBm	Pass
Channel 78	2480.00	9.29	1 Watt= 30 dBm	Pass



Product	:	Notebook Computers
Test Item	:	Peak Power Output
Test Mode	:	Mode 2: Transmit - 2Mbps
Test Date	:	2020/11/30

Channel No.	Frequency	Measurement	Required Limit	Result
	(MHz)	(dBm)		
Channel 00	2402.00	6.59	1 Watt= 30 dBm	Pass
Channel 39	2441.00	7.17	1 Watt= 30 dBm	Pass
Channel 78	2480.00	7.53	1 Watt= 30 dBm	Pass



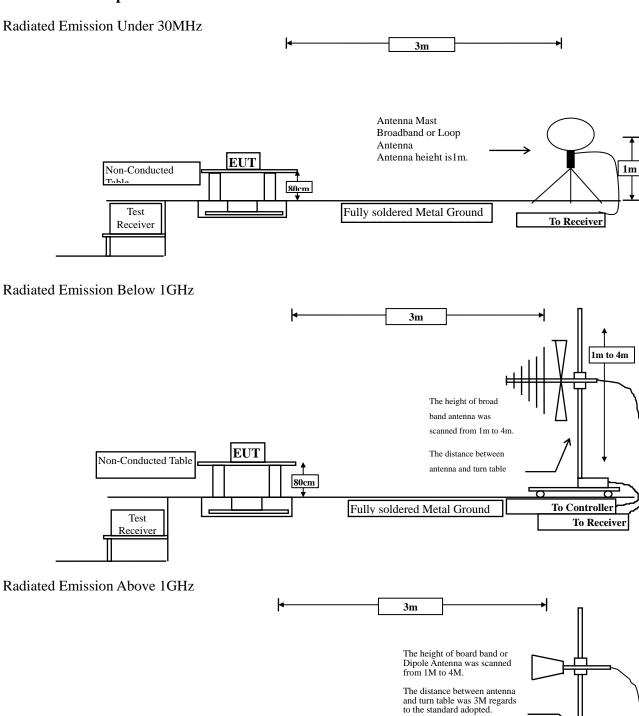
Product	:	Notebook Computers
Test Item	:	Peak Power Output
Test Mode	:	Mode 3: Transmit - 3Mbps
Test Date	:	2020/11/30

Channel No.	Frequency	Measurement	Required Limit	Result
	(MHz)	(dBm)		
Channel 00	2402.00	6.60	1 Watt= 30 dBm	Pass
Channel 39	2441.00	7.18	1 Watt= 30 dBm	Pass
Channel 78	2480.00	7.53	1 Watt= 30 dBm	Pass



#### 4. Radiated Emission

#### 4.1. Test Setup



150cm

EUT

RF absorber material on the ground plane.

To Receiver

Pre-

Amplifie



#### 4.2. Limits

#### **>** General Radiated Emission 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	Field strength	Measurement distance (meter)				
	(microvolts/meter)	(meter)				
0.009-0.490	2400/F(kHz)	300				
0.490-1.705	24000/F(kHz)	30				
1.705-30	30	30				
30-88	100	3				
88-216	150	3				
216-960	200	3				
Above 960	500	3				

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 compliance to FCC 47CFR 15.247 requirements.

Measuring the frequency range below 1GHz, the EUT is placed on a turn table which is 0.8 meter above ground, when measuring the frequency range above 1GHz, the EUT is placed on a turn table which is 1.5 meter above ground.

The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna is scanned between 1 meter and 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10: 2013 on radiated measurement.

The resolution bandwidth below 30MHz setting on the field strength meter is 9kHz and 30MHz~1GHz is 120kHz and above 1GHz is 1MHz.

Radiated emission measurements below 30MHz are made using Loop Antenna and 30MHz~1GHz are made using broadband Bilog antenna and above 1GHz are made using Horn Antennas.

The measurement is divided into the Preliminary Measurement and the Final Measurement.

The suspected frequencies are searched for in Preliminary Measurement with the measurement antenna kept pointed at the source of the emission both in azimuth and elevation, with the polarization of the antenna oriented for maximum response. The antenna is pointed at an angle towards the source of the emission, and the EUT is rotated in both height and polarization to maximize the measured emission. The emission is kept within the illumination area of the 3 dB bandwidth of the antenna. The measurement frequency range form 9kHz - 10th Harmonic of fundamental was investigated.

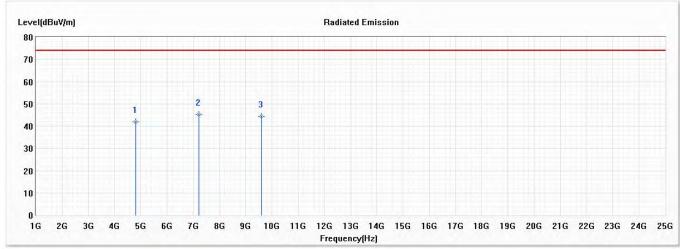
D 00 000



#### 4.4. Test Result of Radiated Emission

Product	:	Notebook Computers
Test Item	:	Harmonic Radiated Emission
Test Mode	:	Mode 1: Transmit - 1Mbps (2402MHz)
Test Date	:	2020/12/04

#### Horizontal



No	Frequency	Emission	Limit	Margin	Reading Level	Correct Factor	Detector
	(MHz)	Level	(dBuV/m)	(dB)	(dBuV)	(dB)	Туре
		(dBuV/m)					
1	4804.000	41.85	74.00	-32.15	54.89	-13.04	РК
* 2	7206.000	45.15	74.00	-28.85	57.02	-11.87	РК
3	9608.000	44.38	74.00	-29.62	55.56	-11.18	РК

Note:

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Measurement Level = Reading Level + Correct Factor.
- 4. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 5. The average measurement was not performed when the peak measured data under the limit of average detection.
- 6. The emission levels of other frequencies are very lower than the limit and not show in test report.

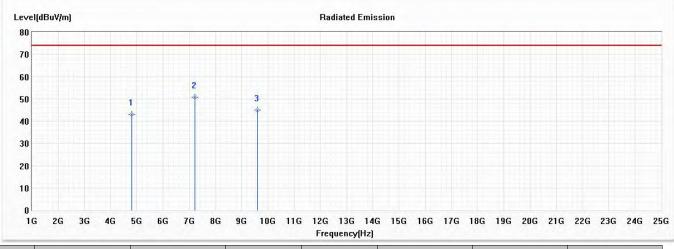
Frequency	Peak	Duty Cycle	Average	Margin	Peak	Average
	Measurement	Factor	Measurement		Limit	Limit
MHz	$dB\mu V/m$	dB	dBµV/m	dB	$dB\mu V/m$	dBµV/m
<b>Average Detector:</b>						
					74.000	54.000

Note:

- 1. AVG Measurement=Peak Measurement + Duty Cycle Correct Factor
- 2. The Duty Cycle is refer to section 11.



- Product : Notebook Computers
- Test Item : Harmonic Radiated Emission
- Test Mode : Mode 1: Transmit 1Mbps(2402MHz)
- Test Date : 2020/12/04



No	Frequency	Emission	Limit	Margin	Reading Level	Correct Factor	Detector
	(MHz)	Level	(dBuV/m)	(dB)	(dBuV)	(dB)	Туре
		(dBuV/m)					
1	4804.000	42.98	74.00	-31.02	56.02	-13.04	РК
* 2	7206.000	50.71	74.00	-23.29	62.58	-11.87	РК
3	9608.000	44.85	74.00	-29.15	56.03	-11.18	РК

Note:

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Measurement Level = Reading Level + Correct Factor.
- 4. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 5. The average measurement was not performed when the peak measured data under the limit of average detection.
- 6. The emission levels of other frequencies are very lower than the limit and not show in test report.

Frequency	Peak	Duty Cycle	Average	Margin	Peak	Average
	Measurement	Factor	Measurement		Limit	Limit
MHz	dBµV/m	dB	dBµV/m	dB	dBµV/m	dBµV/m
<b>Average Detector:</b>						
					74.000	54.000

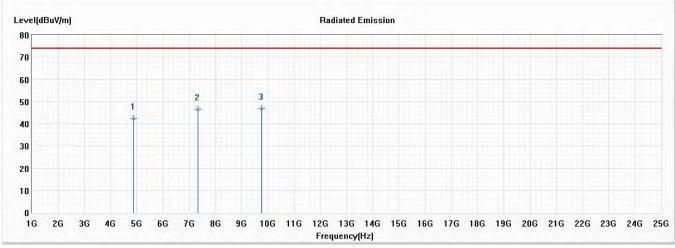
Note:

1. AVG Measurement=Peak Measurement + Duty Cycle Correct Factor



- Product : Notebook Computers
- Test Item : Harmonic Radiated Emission
- Test Mode : Mode 1: Transmit 1Mbps(2441MHz)
- Test Date : 2020/12/04

#### Horizontal



No	Frequency	Emission	Limit	Margin	Reading Level	Correct Factor	Detector
	(MHz)	Level	(dBuV/m)	(dB)	(dBuV)	(dB)	Туре
		(dBuV/m)					
1	4882.000	42.39	74.00	-31.61	55.30	-12.91	РК
2	7323.000	46.52	74.00	-27.48	58.48	-11.96	РК
* 3	9764.000	46.82	74.00	-27.18	57.80	-10.98	РК

Note:

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Measurement Level = Reading Level + Correct Factor.
- 4. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 5. The average measurement was not performed when the peak measured data under the limit of average detection.
- 6. The emission levels of other frequencies are very lower than the limit and not show in test report.

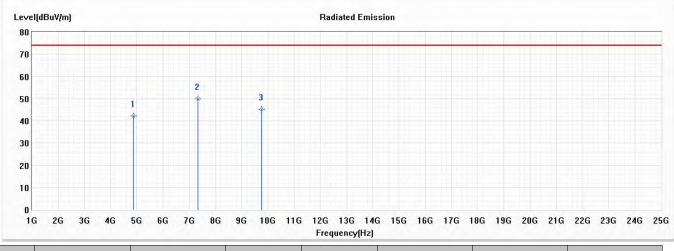
Frequency	Peak	Duty Cycle	Average	Margin	Peak	Average
	Measurement	Factor	Measurement		Limit	Limit
MHz	$dB\mu V/m$	dB	dBµV/m	dB	$dB\mu V/m$	dBµV/m
<b>Average Detector:</b>						
					74.000	54.000

Note:

- 1. AVG Measurement=Peak Measurement + Duty Cycle Correct Factor
- 2. The Duty Cycle is refer to section 11



- Product : Notebook Computers
- Test Item : Harmonic Radiated Emission
- Test Mode : Mode 1: Transmit 1Mbps(2441MHz)
- Test Date : 2020/12/04



No	Frequency	Emission	Limit	Margin	Reading Level	Correct Factor	Detector
	(MHz)	Level	(dBuV/m)	(dB)	(dBuV)	(dB)	Туре
		(dBuV/m)					
1	4882.000	42.15	74.00	-31.85	55.06	-12.91	РК
* 2	7323.000	49.85	74.00	-24.15	61.81	-11.96	РК
3	9764.000	45.33	74.00	-28.67	56.31	-10.98	РК

Note:

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Measurement Level = Reading Level + Correct Factor.
- 4. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 5. The average measurement was not performed when the peak measured data under the limit of average detection.
- 6. The emission levels of other frequencies are very lower than the limit and not show in test report.

Frequency	Peak	Duty Cycle	Average	Margin	Peak	Average
	Measurement	Factor	Measurement		Limit	Limit
MHz	dBµV/m	dB	dBµV/m	dB	dBµV/m	dBµV/m
<b>Average Detector:</b>						
					74.000	54.000

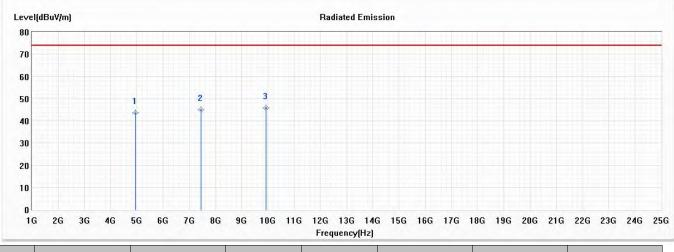
Note:

1. AVG Measurement=Peak Measurement + Duty Cycle Correct Factor



- Product : Notebook Computers
- Test Item : Harmonic Radiated Emission
- Test Mode : Mode 1: Transmit 1Mbps(2480MHz)
- Test Date : 2020/12/04

#### Horizontal



No	Frequency	Emission	Limit	Margin	Reading Level	Correct Factor	Detector
	(MHz)	Level	(dBuV/m)	(dB)	(dBuV)	(dB)	Туре
		(dBuV/m)					
1	4960.000	43.52	74.00	-30.48	56.29	-12.77	РК
2	7440.000	44.85	74.00	-29.15	56.87	-12.02	РК
* 3	9920.000	45.86	74.00	-28.14	56.61	-10.75	РК

Note:

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Measurement Level = Reading Level + Correct Factor.
- 4. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 5. The average measurement was not performed when the peak measured data under the limit of average detection.
- 6. The emission levels of other frequencies are very lower than the limit and not show in test report.

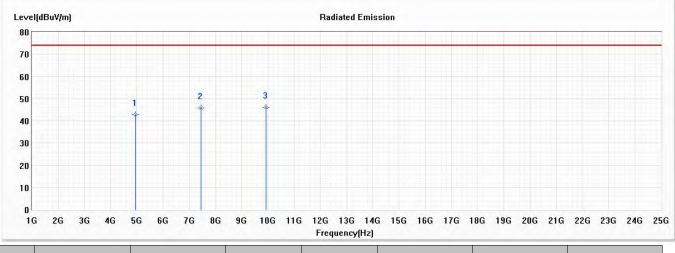
Frequency	Peak	Duty Cycle	Average	Margin	Peak	Average
	Measurement	Factor	Measurement		Limit	Limit
MHz	dBµV/m	dB	dBµV/m	dB	dBµV/m	dBµV/m
<b>Average Detector:</b>						
					74.000	54.000

Note:

1. AVG Measurement=Peak Measurement + Duty Cycle Correct Factor



- Product
- : Notebook Computers
- Test Item : Harmonic Radiated Emission
- Test Mode : Mode 1: Transmit 1Mbps(2480MHz)
- Test Date : 2020/12/04



No	Frequency	Emission	Limit	Margin	Reading Level	Correct Factor	Detector
	(MHz)	Level	(dBuV/m)	(dB)	(dBuV)	(dB)	Туре
		(dBuV/m)					
1	4960.000	42.88	74.00	-31.12	55.65	-12.77	РК
2	7440.000	45.71	74.00	-28.29	57.73	-12.02	РК
* 3	9920.000	46.20	74.00	-27.80	56.95	-10.75	РК

Note:

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Measurement Level = Reading Level + Correct Factor.
- 4. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 5. The average measurement was not performed when the peak measured data under the limit of average detection.
- 6. The emission levels of other frequencies are very lower than the limit and not show in test report.

Frequency	Peak	Duty Cycle	Average	Margin	Peak	Average
	Measurement	Factor	Measurement		Limit	Limit
MHz	dBµV/m	dB	dBµV/m	dB	$dB\mu V/m$	dBµV/m
<b>Average Detector:</b>						
					74.000	54.000

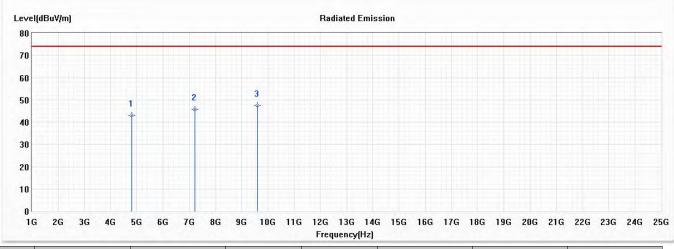
Note:

1. AVG Measurement=Peak Measurement + Duty Cycle Correct Factor



- Product Notebook Computers :
- Test Item Harmonic Radiated Emission :
- Test Mode Mode 2: Transmit - 2Mbps(2402MHz) :
- Test Date :
  - 2020/12/04

#### Horizontal



No	Frequency	Emission	Limit	Margin	Reading Level	Correct Factor	Detector
	(MHz)	Level	(dBuV/m)	(dB)	(dBuV)	(dB)	Туре
		(dBuV/m)					
1	4804.000	42.94	74.00	-31.06	55.98	-13.04	РК
2	7206.000	45.67	74.00	-28.33	57.54	-11.87	РК
* 3	9608.000	47.58	74.00	-26.42	58.76	-11.18	РК

#### Note:

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Measurement Level = Reading Level + Correct Factor.
- 4. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- The average measurement was not performed when the peak measured data under the limit of average 5. detection.
- The emission levels of other frequencies are very lower than the limit and not show in test report. 6.

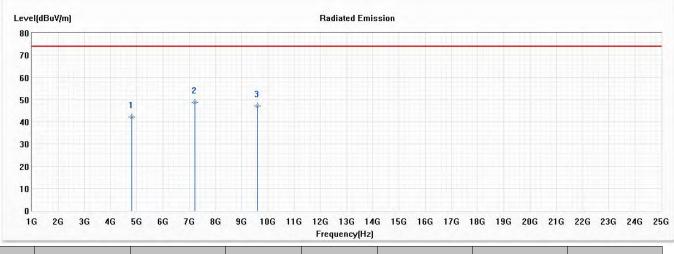
Frequency	Peak	Duty Cycle	Average	Margin	Peak	Average
	Measurement	Factor	Measurement		Limit	Limit
MHz	$dB\mu V/m$	dB	dBµV/m	dB	$dB\mu V/m$	dBµV/m
<b>Average Detector:</b>						
					74.000	54.000

Note:

1. AVG Measurement=Peak Measurement + Duty Cycle Correct Factor



- Product :
- : Notebook Computers
- Test Item : Harmonic Radiated Emission
- Test Mode : Mode 2: Transmit 2Mbps(2402MHz)
- Test Date : 2020/12/04



No	Frequency	Emission	Limit	Margin	Reading Level	Correct Factor	Detector
	(MHz)	Level	(dBuV/m)	(dB)	(dBuV)	(dB)	Туре
		(dBuV/m)					
1	4804.000	42.21	74.00	-31.79	55.25	-13.04	РК
* 2	7206.000	48.76	74.00	-25.24	60.63	-11.87	РК
3	9608.000	47.23	74.00	-26.77	58.41	-11.18	РК

#### Note:

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Measurement Level = Reading Level + Correct Factor.
- 4. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 5. The average measurement was not performed when the peak measured data under the limit of average detection.
- 6. The emission levels of other frequencies are very lower than the limit and not show in test report.

Frequency	Peak	Duty Cycle	Average	Margin	Peak	Average
	Measurement	Factor	Measurement		Limit	Limit
MHz	dBµV/m	dB	dBµV/m	dB	$dB\mu V/m$	dBµV/m
<b>Average Detector:</b>						
					74.000	54.000

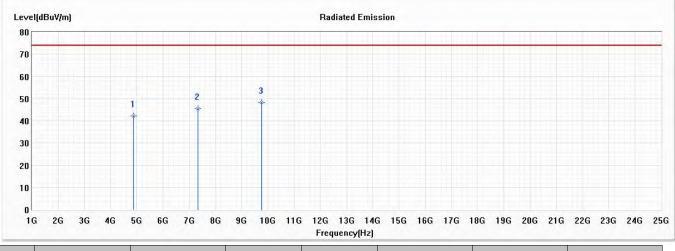
#### Note:

1. AVG Measurement=Peak Measurement + Duty Cycle Correct Factor



- Product : Notebook Computers
- Test Item : Harmonic Radiated Emission
- Test Mode : Mode 2: Transmit 2Mbps (2441MHz)
- Test Date : 2020/12/04

#### Horizontal



N	No	Frequency	Emission	Limit	Margin	Reading Level	Correct Factor	Detector
		(MHz)	Level	(dBuV/m)	(dB)	(dBuV)	(dB)	Туре
			(dBuV/m)					
	1	4882.000	42.34	74.00	-31.66	55.25	-12.91	РК
	2	7323.000	45.60	74.00	-28.40	57.56	-11.96	РК
*	3	9764.000	48.31	74.00	-25.69	59.29	-10.98	РК

Note:

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Measurement Level = Reading Level + Correct Factor.
- 4. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 5. The average measurement was not performed when the peak measured data under the limit of average detection.
- 6. The emission levels of other frequencies are very lower than the limit and not show in test report.

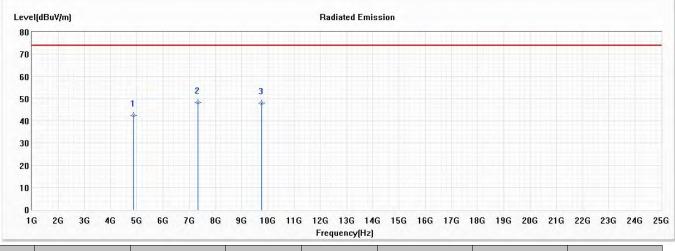
Frequency	Peak	Duty Cycle	Average	Margin	Peak	Average
	Measurement	Factor	Measurement		Limit	Limit
MHz	dBµV/m	dB	dBµV/m	dB	dBµV/m	dBµV/m
<b>Average Detector:</b>						
					74.000	54.000

Note:

1. AVG Measurement=Peak Measurement + Duty Cycle Correct Factor



- Product : Notebook Computers
- Test Item : Harmonic Radiated Emission
- Test Mode : Mode 2: Transmit 2Mbps (2441MHz)
- Test Date : 2020/12/04



No	Frequency	Emission	Limit	Margin	Reading Level	Correct Factor	Detector
	(MHz)	Level	(dBuV/m)	(dB)	(dBuV)	(dB)	Туре
		(dBuV/m)					
1	4882.000	42.36	74.00	-31.64	55.27	-12.91	РК
* 2	7323.000	48.31	74.00	-25.69	60.27	-11.96	РК
3	9764.000	48.13	74.00	-25.87	59.11	-10.98	РК

Note:

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Measurement Level = Reading Level + Correct Factor.
- 4. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 5. The average measurement was not performed when the peak measured data under the limit of average detection.
- 6. The emission levels of other frequencies are very lower than the limit and not show in test report.

Frequency	Peak	Duty Cycle	Average	Margin	Peak	Average
	Measurement	Factor	Measurement		Limit	Limit
MHz	dBµV/m	dB	dBµV/m	dB	dBµV/m	dBµV/m
<b>Average Detector:</b>						
					74.000	54.000

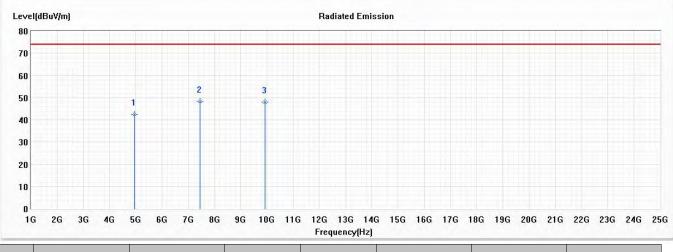
Note:

1. AVG Measurement=Peak Measurement + Duty Cycle Correct Factor



- Product : Notebook Computers
- Test Item : Harmonic Radiated Emission
- Test Mode : Mode 2: Transmit 2Mbps (2480MHz)
- Test Date : 2020/12/04

#### Horizontal



No	Frequency	Emission	Limit	Margin	Reading Level	Correct Factor	Detector
	(MHz)	Level	(dBuV/m)	(dB)	(dBuV)	(dB)	Туре
		(dBuV/m)					
1	4960.000	42.47	74.00	-31.53	55.24	-12.77	РК
* 2	7440.000	48.38	74.00	-25.62	60.40	-12.02	РК
3	9920.000	48.02	74.00	-25.98	58.77	-10.75	РК

Note:

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Measurement Level = Reading Level + Correct Factor.
- 4. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 5. The average measurement was not performed when the peak measured data under the limit of average detection.
- 6. The emission levels of other frequencies are very lower than the limit and not show in test report.

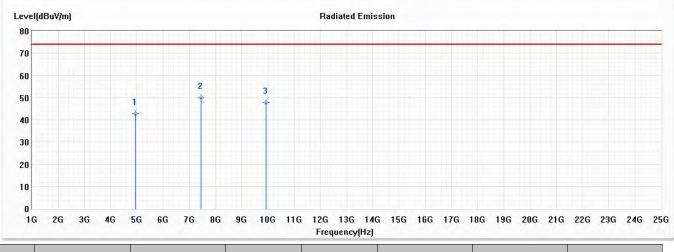
Frequency	Peak	Duty Cycle	Average	Margin	Peak	Average
	Measurement	Factor	Measurement		Limit	Limit
MHz	dBµV/m	dB	dBµV/m	dB	dBµV/m	dBµV/m
<b>Average Detector:</b>						
					74.000	54.000

Note:

1. AVG Measurement=Peak Measurement + Duty Cycle Correct Factor



- Product :
- Notebook Computers Harmonic Radiated Emission :
- Test Item
- Test Mode Mode 2: Transmit - 2Mbps (2480MHz) : 2020/12/04
- Test Date :



No	Frequency	Emission	Limit	Margin	Reading Level	Correct Factor	Detector
	(MHz)	Level	(dBuV/m)	(dB)	(dBuV)	(dB)	Туре
		(dBuV/m)					
1	4960.000	42.87	74.00	-31.13	55.64	-12.77	РК
* 2	7440.000	49.87	74.00	-24.13	61.89	-12.02	РК
3	9920.000	47.63	74.00	-26.37	58.38	-10.75	РК

Note:

- All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average 1. measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Measurement Level = Reading Level + Correct Factor.
- 4. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 5. The average measurement was not performed when the peak measured data under the limit of average detection.
- The emission levels of other frequencies are very lower than the limit and not show in test report. 6.

Frequency	Peak	Duty Cycle	Average	Margin	Peak	Average
	Measurement	Factor	Measurement		Limit	Limit
MHz	dBµV/m	dB	dBµV/m	dB	dBµV/m	dBµV/m
<b>Average Detector:</b>						
					74.000	54.000

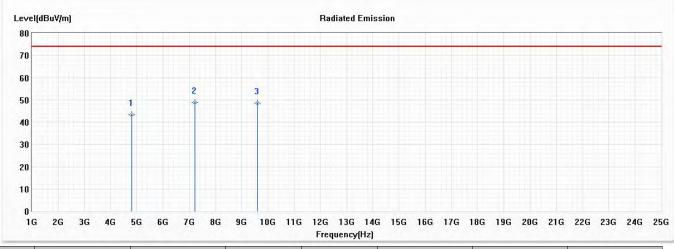
Note:

1. AVG Measurement=Peak Measurement + Duty Cycle Correct Factor



- Product Notebook Computers :
- Test Item Harmonic Radiated Emission :
- Test Mode Mode 3: Transmit - 3Mbps(2402MHz) :
- Test Date :
  - 2020/12/04

#### Horizontal



No	Frequency	Emission	Limit	Margin	Reading Level	Correct Factor	Detector
	(MHz)	Level	(dBuV/m)	(dB)	(dBuV)	(dB)	Туре
		(dBuV/m)					
1	4804.000	43.39	74.00	-30.61	56.43	-13.04	РК
* 2	7206.000	48.70	74.00	-25.30	60.57	-11.87	РК
3	9608.000	48.66	74.00	-25.34	59.84	-11.18	РК

Note:

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Measurement Level = Reading Level + Correct Factor.
- 4. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- The average measurement was not performed when the peak measured data under the limit of average 5. detection.
- The emission levels of other frequencies are very lower than the limit and not show in test report. 6.

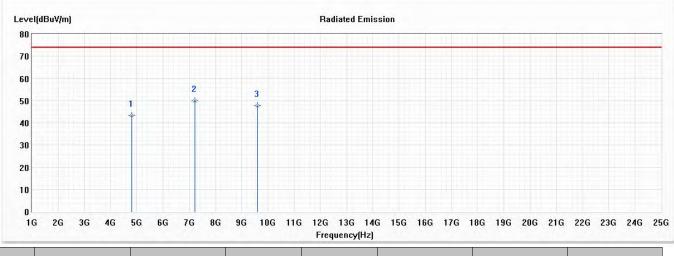
Frequency	Peak	Duty Cycle	Average	Margin	Peak	Average
	Measurement	Factor	Measurement		Limit	Limit
MHz	$dB\mu V/m$	dB	dBµV/m	dB	$dB\mu V/m$	dBµV/m
<b>Average Detector:</b>						
					74.000	54.000

Note:

1. AVG Measurement=Peak Measurement + Duty Cycle Correct Factor



- Product :
- : Notebook Computers
- Test Item : Harmonic Radiated Emission
- Test Mode : Mode 3: Transmit 3Mbps (2402MHz)
- Test Date : 2020/12/04



No	Frequency	Emission	Limit	Margin	Reading Level	Correct Factor	Detector
	(MHz)	Level	(dBuV/m)	(dB)	(dBuV)	(dB)	Туре
		(dBuV/m)					
1	4804.000	43.33	74.00	-30.67	56.37	-13.04	РК
* 2	7206.000	49.93	74.00	-24.07	61.80	-11.87	РК
3	9608.000	47.71	74.00	-26.29	58.89	-11.18	РК

#### Note:

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Measurement Level = Reading Level + Correct Factor.
- 4. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 5. The average measurement was not performed when the peak measured data under the limit of average detection.
- 6. The emission levels of other frequencies are very lower than the limit and not show in test report.

Frequency	Peak	Duty Cycle	Average	Margin	Peak	Average
	Measurement	Factor	Measurement		Limit	Limit
MHz	dBµV/m	dB	dBµV/m	dB	$dB\mu V/m$	dBµV/m
<b>Average Detector:</b>						
					74.000	54.000

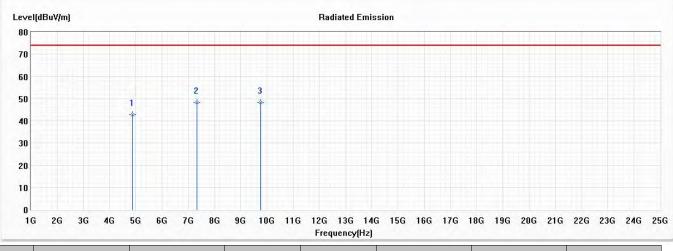
#### Note:

1. AVG Measurement=Peak Measurement + Duty Cycle Correct Factor



- Product : Notebook Computers
- Test Item : Harmonic Radiated Emission
- Test Mode : Mode 3: Transmit 3Mbps (2441MHz)
- Test Date : 2020/12/04

#### Horizontal



No	Frequency	Emission	Limit	Margin	Reading Level	Correct Factor	Detector
	(MHz)	Level	(dBuV/m)	(dB)	(dBuV)	(dB)	Туре
		(dBuV/m)					
1	4882.000	42.75	74.00	-31.25	55.66	-12.91	РК
2	7323.000	48.33	74.00	-25.67	60.29	-11.96	РК
* 3	9764.000	48.39	74.00	-25.61	59.37	-10.98	РК

Note:

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Measurement Level = Reading Level + Correct Factor.
- 4. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 5. The average measurement was not performed when the peak measured data under the limit of average detection.
- 6. The emission levels of other frequencies are very lower than the limit and not show in test report.

Frequency	Peak	Duty Cycle	Average	Margin	Peak	Average
	Measurement	Factor	Measurement		Limit	Limit
MHz	$dB\mu V/m$	dB	dBµV/m	dB	dBµV/m	dBµV/m
Average Detector:						
					74.000	54.000

Note:

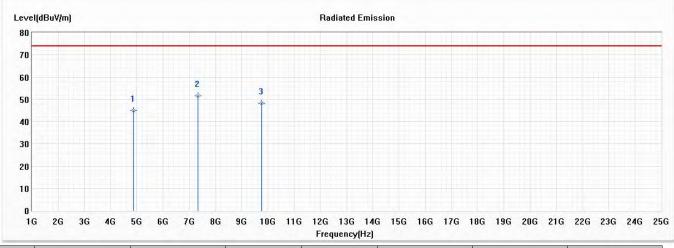
1. AVG Measurement=Peak Measurement + Duty Cycle Correct Factor

2. The Duty Cycle is refer to section 11



- Product : Notebook Computers
- Test Item : Harmonic Radiated Emission
- Test Mode : Mode 3: Transmit 3Mbps (2441MHz)
- Test Date
- : 2020/12/04

### Vertical



No	Frequency	Emission	Limit	Margin	Reading Level	Correct Factor	Detector
	(MHz)	Level	(dBuV/m)	(dB)	(dBuV)	(dB)	Туре
		(dBuV/m)					
1	4882.000	44.88	74.00	-29.12	57.79	-12.91	РК
* 2	7323.000	51.64	74.00	-22.36	63.60	-11.96	РК
3	9764.000	48.32	74.00	-25.68	59.30	-10.98	РК

Note:

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Measurement Level = Reading Level + Correct Factor.
- 4. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 5. The average measurement was not performed when the peak measured data under the limit of average detection.
- 6. The emission levels of other frequencies are very lower than the limit and not show in test report.

Frequency	Peak	Duty Cycle	Average	Margin	Peak	Average
	Measurement	Factor	Measurement		Limit	Limit
MHz	dBµV/m	dB	dBµV/m	dB	$dB\mu V/m$	dBµV/m
Average Detector:						
					74.000	54.000

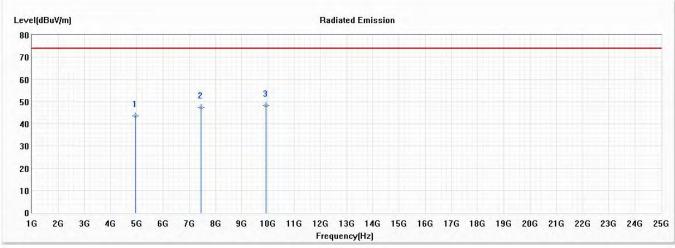
Note:

- 1. AVG Measurement=Peak Measurement + Duty Cycle Correct Factor
- 2. The Duty Cycle is refer to section 11



- Product : Notebook Computers
- Test Item : Harmonic Radiated Emission
- Test Mode : Mode 3: Transmit 3Mbps (2480MHz)
- Test Date : 2020/12/04

#### Horizontal



No	Frequency	Emission	Limit	Margin	Reading Level	Correct Factor	Detector
	(MHz)	Level	(dBuV/m)	(dB)	(dBuV)	(dB)	Туре
		(dBuV/m)					
1	4960.000	43.55	74.00	-30.45	56.32	-12.77	РК
2	7440.000	47.46	74.00	-26.54	59.48	-12.02	РК
* 3	9920.000	48.30	74.00	-25.70	59.05	-10.75	РК

Note:

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Measurement Level = Reading Level + Correct Factor.
- 4. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 5. The average measurement was not performed when the peak measured data under the limit of average detection.
- 6. The emission levels of other frequencies are very lower than the limit and not show in test report.

Frequency	Frequency Peak D		Average	Margin	Peak	Average
	Measurement	Factor	Measurement		Limit	Limit
MHz	$dB\mu V/m$	dB	dBµV/m	dB	$dB\mu V/m$	dBµV/m
Average Detector:						
					74.000	54.000

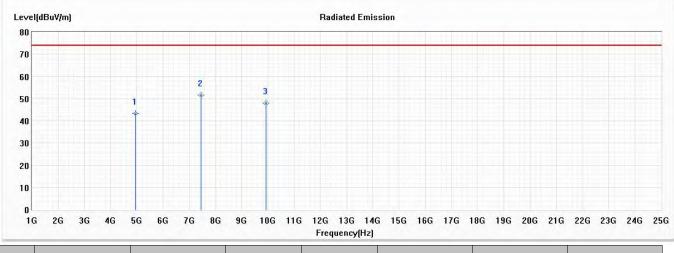
Note:

- 1. AVG Measurement=Peak Measurement + Duty Cycle Correct Factor
- 2. The Duty Cycle is refer to section 11.



- Product : Notebook Computers
- Test Item : Harmonic Radiated Emission
- Test Mode : Mode 3: Transmit 3Mbps (2480MHz)
- Test Date : 2020/12/04

#### Vertical



No	Frequency	Emission	Limit	Margin	Reading Level	Correct Factor	Detector
	(MHz)	Level	(dBuV/m)	(dB)	(dBuV)	(dB)	Туре
		(dBuV/m)					
1	4960.000	43.21	74.00	-30.79	55.98	-12.77	РК
* 2	7440.000	51.46	74.00	-22.54	63.48	-12.02	РК
3	9920.000	48.13	74.00	-25.87	58.88	-10.75	РК

Note:

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Measurement Level = Reading Level + Correct Factor.
- 4. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 5. The average measurement was not performed when the peak measured data under the limit of average detection.
- 6. The emission levels of other frequencies are very lower than the limit and not show in test report.

Frequency	Peak	Duty Cycle	Average	Margin	Peak	Average
	Measurement	Factor	Measurement		Limit	Limit
MHz	$dB\mu V/m$	dB	dBµV/m	dB	$dB\mu V/m$	dBµV/m
Average Detector:						
					74.000	54.000

Note:

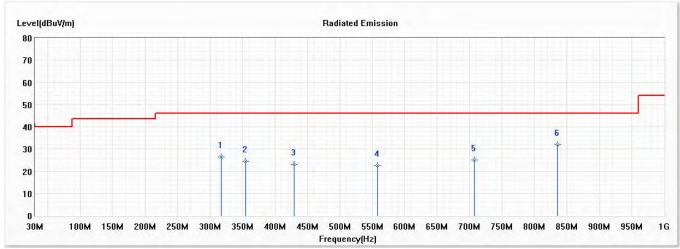
1. AVG Measurement=Peak Measurement + Duty Cycle Correct Factor

2. The Duty Cycle is refer to section 11.



- Product : Notebook Computers
- Test Item : General Radiated Emission
- Test Mode : Mode 3: Transmit 3Mbps (2441MHz)
- Test Date : 2020/12/07

### Horizontal



No	Frequency	Emission	Limit	Margin	Reading Level	Correct Factor	Detector
	(MHz)	Level	(dBuV/m)	(dB)	(dBuV)	(dB)	Туре
		(dBuV/m)					
1	317.120	26.51	46.00	-19.49	35.45	-8.94	QP
2	354.950	24.59	46.00	-21.41	32.79	-8.20	QP
3	429.640	23.05	46.00	-22.95	29.53	-6.48	QP
4	557.680	22.55	46.00	-23.45	26.64	-4.09	QP
5	707.060	25.17	46.00	-20.83	26.85	-1.68	QP
* 6	836.070	32.11	46.00	-13.89	32.07	0.04	QP

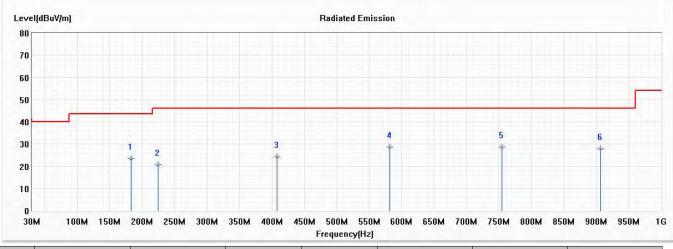
Note:

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Measurement Level = Reading Level + Correct Factor.
- 3. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 4. The emission levels of other frequencies are very lower than the limit and not show in test report.
- 5. No emission found between lowest internal used/generated frequency to 30MHz.



- Product
- : Notebook Computers
- Test Item : General Radiated Emission
- Test Mode : Mode 3: Transmit 3Mbps (2441MHz)
- Test Date : 2020/12/07

### Vertical



No	Frequency	Emission	Limit	Margin	Reading Level	Correct Factor	Detector
	(MHz)	Level	(dBuV/m)	(dB)	(dBuV)	(dB)	Туре
		(dBuV/m)					
1	183.260	23.45	43.50	-20.05	35.39	-11.94	QP
2	224.970	20.68	46.00	-25.32	33.05	-12.37	QP
3	407.330	24.34	46.00	-21.66	31.42	-7.08	QP
* 4	581.930	28.72	46.00	-17.28	32.22	-3.50	QP
5	754.590	28.72	46.00	-17.28	29.40	-0.68	QP
6	906.880	27.92	46.00	-18.08	26.88	1.04	QP

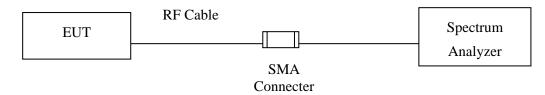
Note:

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Measurement Level = Reading Level + Correct Factor.
- 3. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 4. The emission levels of other frequencies are very lower than the limit and not show in test report.
- 5. No emission found between lowest internal used/generated frequency to 30MHz.



### 5. **RF Antenna Conducted Test**

### 5.1. Test Setup



### 5.2. Limits

According to FCC Section 15.247(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 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, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.

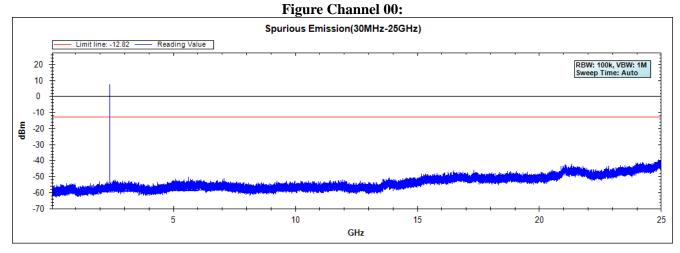
#### 5.3. Test Procedure

Tested according to FHSS test procedure of KDB558074 section 9 b) for compliance to FCC 47CFR 15.247 requirements.

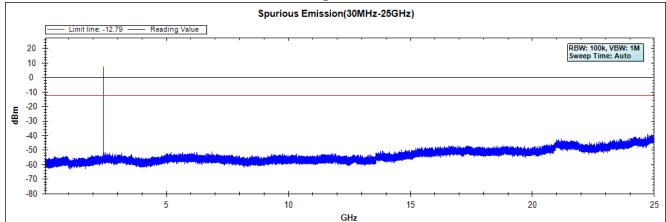


### 5.4. Test Result of RF Antenna Conducted Test

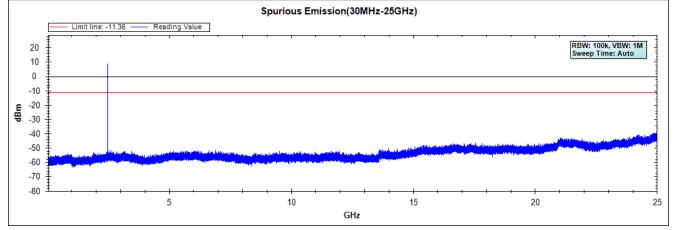
Product	:	Notebook Computers
Test Item	:	RF Antenna Conducted Test
Test Mode	:	Mode 1: Transmit - 1Mbps
Test Date	:	2020/11/30



#### **Figure Channel 39:**



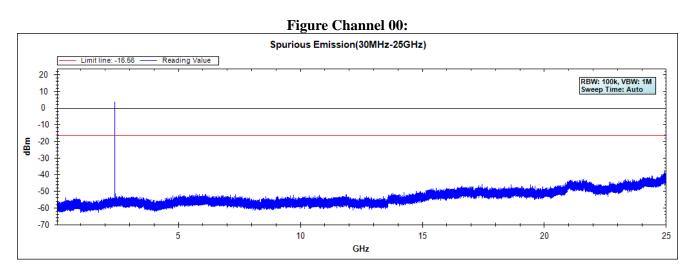
#### **Figure Channel 78:**



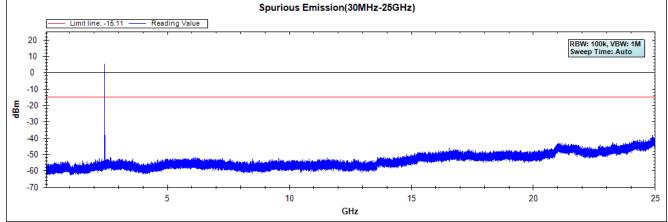
Note: The above test pattern is synthesized by multiple of the frequency range.



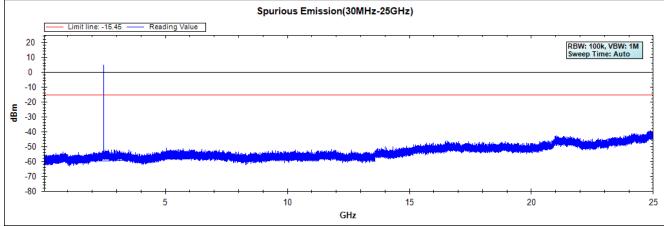
- Product : Notebook Computers
  - : RF Antenna Conducted Test
- Test Item : RI Test Mode : M
- Test Date
- : Mode 2: Transmit 2Mbps : 2020/11/30







#### **Figure Channel 78:**

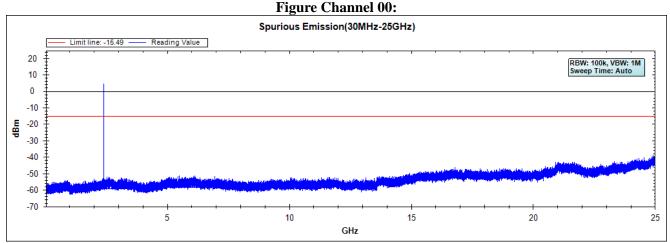


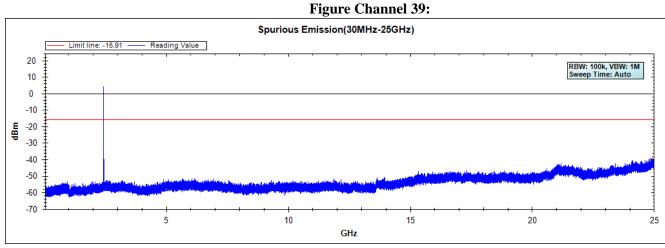
Note: The above test pattern is synthesized by multiple of the frequency range.



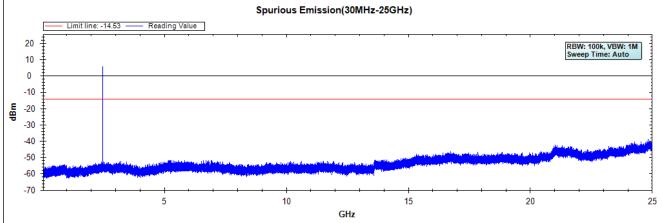
- Product Notebook Computers :
- Test Item RF Antenna Conducted Test :
- Test Mode
- Mode 3: Transmit 3Mbps : Test Date 2020/11/30 :







#### **Figure Channel 78:**



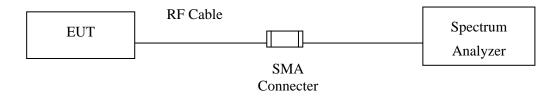
Note: The above test pattern is synthesized by multiple of the frequency range.



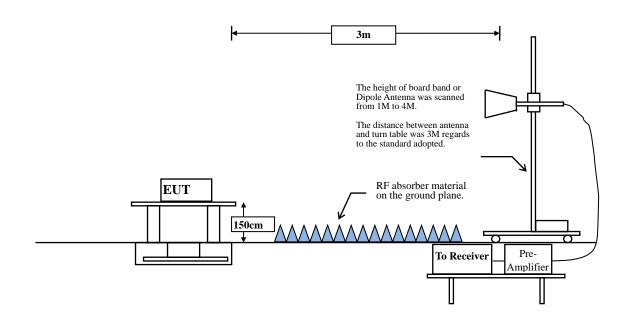
## 6. Band Edge

## 6.1. Test Setup

### **RF** Conducted Measurement



### **RF Radiated Measurement:**



### 6.2. Limit

According to FCC Section 15.247(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 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, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. 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)).

### 6.3. Test Procedure

The EUT is placed on a turn table which is 1.5 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

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

The bandwidth setting below 1GHz and above 1GHz on the field strength meter is 120 kHz and 1MHz, respectively.



## 6.4. Test Result of Band Edge

Product	:	Notebook Computers
Test Item	:	Band Edge
Test Mode	:	Mode 1: Transmit - 1Mbps (2402MHz)
Test Date	:	2020/11/13

#### Peak

Spectri	um	Constitute		Spanning ?	3 I I	CE UDOR	n I 🛞		
1. S. A. M. C.	vel 22,50	Definition of March 4.	Contraction of the second second	RBW 1 MHz	1.7.1	19.09.00.0			
Att		O dB SWT	15.1 µs 🖷	VBW 3 MHz	Mode Auto	FFT			
	t Check	1	1	ASS	M4[	11			-47.24 dBn
Line	PK-1	-		PASS		11			375960 GH 9.72 dBn
10 dBm-						7		2,	401870 GH
0 dBm-	-	_	-			1-	-	1	
-10 dBm-		_	-			+	-	-	-
-20. dBm-	_		_		ME	1		-	-
9K-1					1				
-30 dBm-					1	1			
-40 dBm-					1	6			
mm			M4	мз	~~	V	M		
-50 dBm-	mm	<u></u>	pun.					m	
-60 dBm-	_								
-70 dBm-									
CF 2.39	GHz			691 pt	s			Span	100.0 MHz
Marker									
	Ref Trc			Y-value	Functio	on 📔	Fu	nction Resul	lt
M1 M2	1		187 GHz 2.4 GHz	9.72 dBm -25.53 dBm					
M2 M3	1		2.4 GHZ .39 GHZ	-25.53 dBm					
M4	1		596 GHz	-47.24 dBm					

Date: 13.NOV.2020 08:33:00

Channel No.	Frequency (MHz)	Peak Measurement (dBµV/m)	Duty Cycle Factor (dB)	Average Measurement (dBµV/m)	Margin (dB)	Average Limit (dBµV/m)	Result
00 (Average)	2401.870	9.720	-30.755	-21.035			Pass
00 (Average)	2400.000	-25.530	-30.755	-56.285			Pass
00 (Average)	2390.000	-50.250	-30.755	-81.005	-39.775	-41.230	Pass
00 (Average)	2375.960	-47.240	-30.755	-77.995	-36.765	-41.230	Pass

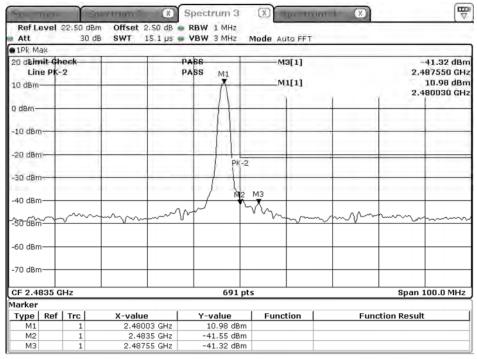
Note:

- 1. Average Measurement=Peak Measurement + Duty Cycle Factor
- 2. The Duty Cycle is refer to section 11.



- Product : Notebook Computers
- Test Item : Band Edge
- Test Mode :
- Test Date
- : Mode 1: Transmit 1Mbps (2480MHz) : 2020/11/13

#### Peak



Date: 13.NOV.2020 08:29:35

Channel No.	Frequency (MHz)	Peak Measurement (dBµV/m)	Duty Cycle Factor (dB)	Average Measurement (dBµV/m)	Margin (dB)	Average Limit (dBµV/m)	Result
78 (Average)	2480.030	10.980	-30.755	-19.775			Pass
78 (Average)	2483.500	-41.550	-30.755	-72.305	-31.075	-41.230	Pass
78 (Average)	2487.550	-41.320	-30.755	-72.075	-30.845	-41.230	Pass

Note:

1. Average Measurement=Peak Measurement + Duty Cycle Factor

2. The Duty Cycle is refer to section 11.



Notebook Computers : Band Edge

2020/11/13

Test Item : Mode 2: Transmit - 2Mbps (2402MHz)

Test Mode :

Test Date

:

### Peak

Ref Le	vel 22	2,50 dBr	Offset 2	.50 dB 🖷	RBW 1 MHz				-		
Att	10	30 d	B SWT	5.1 µs 🖷	VBW 3 MHz	Mode Au	to FFT				
1Pk Ma					10.0						
	it Che				ASS	M	+[1]				15.58 dBn
Line	PK-1			1	PASS		MI			2.38	35080 GH
10 dBm-	-		-		-	M					8.85 dBn
	- 1				-		1	1		2,40	02160 GH:
0 dBm-	_		-				11				
				1.0			11			1	
-10 dBm						M	6			-	
10 000											
-20 dBm	_					1		-			
K-1	- 1		1			1	1				
-30 dBm				-		1	1	_		-	_
-50 5010						1	1 1	6			
-40 dBm											
-40 0011					M4			5			
-^ -50 dBm	nh	~~~~	mon	m	many	and.		m	m	m	
-20 aBm			, v								
-60 dBm											
-70 dBm											
CF 2.39					691	nts				Snan 1	00.0 MHz
larker	GITE				0,71	P13				opun x	JOID MILE
	Ref	Trol	X-value		Y-value	Funct	ion		Eunctio	on Result	
M1	NO1	1		16 GHz	8.85 dB				rancti	ministric	
M2		1		.4 GHz	-13.17 dB						
M3		1		39 GHz	-48.90 dB						
M4		1		08 GHz	-45.58 dB						

Date: 13.NOV.2020 08:41:28

Channel No.	Frequency (MHz)	Peak Measurement (dBµV/m)	Duty Cycle Factor (dB)	Average Measurement (dBµV/m)	Margin (dB)	Average Limit (dBµV/m)	Result
00 (Average)	2402.160	8.850	-30.755	-21.905			Pass
00 (Average)	2400.000	-13.170	-30.755	-43.925			Pass
00 (Average)	2390.000	-48.900	-30.755	-79.655	-38.425	-41.230	Pass
00 (Average)	2385.080	-45.580	-30.755	-76.335	-35.105	-41.230	Pass

Note:

1. Average Measurement=Peak Measurement + Duty Cycle Factor

The Duty Cycle is refer to section 11. 2.



: Notebook Computers

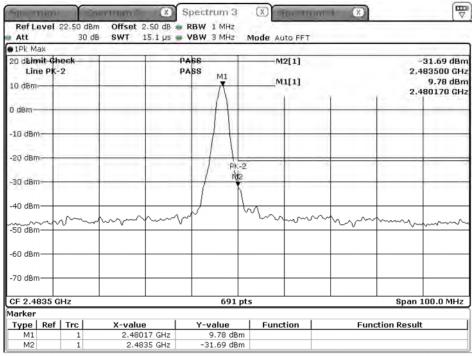
2020/11/13

Test Item : Band Edge

Test Mode : Mode 2: Transmit - 2Mbps (2480MHz)

Test Date :

#### Peak



Date: 13.NOV.2020 08:47:11

Channel No.	Frequency (MHz)	Peak Measurement (dBµV/m)	Duty Cycle Factor (dB)	Average Measurement (dBµV/m)	Margin (dB)	Average Limit (dBµV/m)	Result
78 (Average)	2480.170	9.780	-30.755	-20.975			Pass
78 (Average)	2483.500	-31.690	-30.755	-62.445	-21.215	-41.230	Pass

Note:

- 1. Average Measurement=Peak Measurement + Duty Cycle Factor
- 2. The Duty Cycle is refer to section 11.



: Notebook Computers n : Band Edge

Test Item : Ban

Test Mode

Test Date

: Mode 3: Transmit - 3Mbps (2402MHz) : 2020/11/13

### Peak

PIPk Max		iB SWT 15.1 μs 🖷	VBW 3 MHz N	Node Auto FFT		
Limit C	hock	1 1 1	ASS	-M4[1]		-44.11 dBm
Line PK 10 dBm			ASS	M1		2.385660 GHz 9.01 dBm 2.402010 GHz
0 dBm		-				
-10 dBm				me l	-	
-20. dBm					_	
K-1						
-30 dBm				-/>		
-40 dBm			M4	~	hand	
m	$\sim$	man man	m the second		1.1.1	mon
-50 dBm						
-60 dBm					_	
-70 dBm						
CF 2.39 GH	z		691 pts	5		Span 100.0 MHz
larker						
	Trc	X-value	Y-value	Function	Funct	tion Result
M1 M2	1	2.40201 GHz	9.01 dBm -12.82 dBm			
M2 M3	1	2.4 GHz 2.39 GHz	-12.82 dBm -47.27 dBm			
M4	1	2.38566 GHz	-44.11 dBm			

Date: 13.NOV.2020 10:18:00

Channel No.	Frequency (MHz)	Peak Measurement (dBµV/m)	Duty Cycle Factor (dB)	Average Measurement (dBµV/m)	Margin (dB)	Average Limit (dBµV/m)	Result
00 (Average)	2402.010	9.010	-30.755	-21.745			Pass
00 (Average)	2400.000	-12.820	-30.755	-43.575			Pass
00 (Average)	2390.000	-47.270	-30.755	-78.025	-36.795	-41.230	Pass
00 (Average)	2385.660	-44.110	-30.755	-74.865	-33.635	-41.230	Pass

Note:

1. Average Measurement=Peak Measurement + Duty Cycle Factor

2. The Duty Cycle is refer to section 11.



: Notebook Computers

2020/11/13

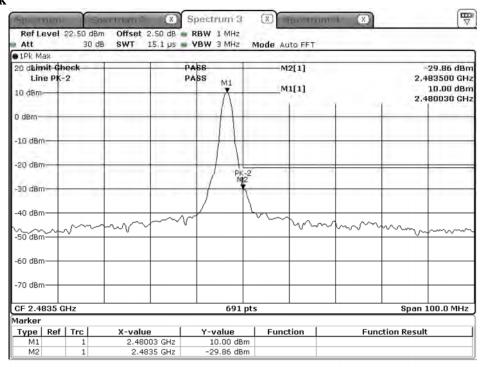
Mode 3: Transmit - 3Mbps (2480MHz)

Test Item : Band Edge

Test Mode :

Test Date :

Peak



Date: 13.NOV.2020 10:21:13

Channel No.	Frequency (MHz)	Peak Measurement (dBµV/m)	Duty Cycle Factor (dB)	Average Measurement (dBµV/m)	Margin (dB)	Average Limit (dBµV/m)	Result
78 (Average)	2480.030	10.000	-30.755	-20.755			Pass
78 (Average)	2483.500	-29.860	-30.755	-60.615	-19.385	-41.230	Pass

Note:

- 1. Average Measurement=Peak Measurement + Duty Cycle Factor
- 2. The Duty Cycle is refer to section 11.



Product	:	Notebook Computers
Test Item	:	Band Edge
Test Mode	:	Mode 1: Transmit - 1Mbps (Hopping off)
Test Date	:	2020/11/20

Measurement Level	Result
$\Delta$ (dB)	
> 20	PASS

### **Figure Channel 00:**

inalyzer - Swept SA				
2.397000000 GHz		Avg Type: Log-Pwr	TRACE 1 2 3 4 5 6	Frequency
IFGain:Low	#Atten: 30 dB	Mkr3 2.3	99 983 05 GHz	Auto Tune
			Å	Center Free 2.397000000 GH
		\$ <sup>3</sup>		Start Fre 2.390000000 GH
and a subsection of the second se	www.	particular failt		Stop Fre 2.404000000 GH
kHz #V		Sweep (#Swp) 2.6	67 ms (40001 pts)	CF Ste 1.400000 MH Auto Ma
2.402 150 60 GHz 2.400 000 00 GHz 2.399 983 05 GHz	7.68 dBm -37.26 dBm -36.91 dBm			Freq Offse 0 H
	-			Scale Typ
	2.397000000 GHz 2.397000000 GHz PNO: Fast IFGainLow Offset 0.5 dB 2.0.50 dBm 	2.397000000 GHz PNO: Fest C Trig: Free Run #Atten: 30 dB Offset 0.5 dB 20.50 dBm Offset 0.5 dB 20.50 dBm Offset 0.5 dB 2.397000000 GHz 2.402 150 60 GHz 2.402 150 60 GHz 2.402 150 60 GHz 2.402 250 60 GHz 3.7.88 dBm	1993         Act         Augustanto           2.397000000 GHz PNO: Fast (FGainLow         Trig: Free Run #Atten: 30 dB         Avg Type: Log-Pwr           Offset 0.5 dB         Mkr3 2.3           20.50 dBm         Mkr3 2.3           Offset 0.5 dB         Mkr3 2.3           20.50 dBm         3           0 Gfset 0.5 dB         Mkr3 2.3           20.50 dBm         3           0 Gfset 0.5 dB         Mkr3 2.3           2.402 Hz         WBW 300 kHz           10 GHz         X88 dBm           2.402 150 60 GHz         -7.88 dBm           2.402 150 60 GHz         -7.88 dBm	19:3         Action         State         State <th< td=""></th<>

## Figure Channel 78:

	02:08:45 AM Nov 20, 2020	ALIGN AUTO		SENSERIA			Speitiwn		2
Frequency	TRACE 1 2 3 4 5 6 TYPE MWWWWW DET P N N N N N	Type: Log-Pwr	A	Trig: Free Run	000000 GHz PNO: Fast			ter	
Auto Tun	87 500 70 GHz -44.13 dBm	Mkr3 2.4		#Atten: 30 dB	IFGain:Low	Offset 0,		B/div	0 d
Center Fre 2.489000000 GH						1	A		.og 10.5 1500
Start Fre 2.478000000 GH	DLL.10.83.dBn			▲3		t.	1	A	9.50 19.5 29.5 39.5
Stop Fre 2.500000000 GH	University of the second s	hand the section of t	Municipality	mpulionen su	Walking 2			M"	49.5 59.5 69.5
						GH7	17800	124	tai
2.200000 MH	Stop 2.50000 GHz 67 ms (40001 pts)	p (#Swp) 2.6		SW 300 kHz	#VE	kHz	N 100	s BV	Re
2.200000 MH Ma	67 ms (40001 pts)			9.17 dBm -51.84 dBm -44.13 dBm		kHz	N 100	s BV	Re 1 2 3 4 5
CF Step 2.20000 MH Ma Freq Offse 0 H Scale Typ	67 ms (40001 pts) FUNCTION VALUE	p (#Swp) 2.6		9.17 dBm -51.84 dBm	X 2.480 157 10 GHz 2.483 500 00 GHz	kHz		S BV	



Product	:	Notebook Computers
Test Item	:	Band Edge
Test Mode	:	Mode 2: Transmit - 2Mbps (Hopping off)
Test Date	:	2020/11/20

Measurement Level	Result
$\Delta$ (dB)	
> 20	PASS

## Figure Channel 00:

Frequency	M Nov 20, 2020	TRAC	Ligh Miro	Ave Tv	SENSETIN		0000 GH		100 2	or Er	'ent		
	T P NNNNN	Tri Di			ig: Free Run	D: Fast	PM	.3970	ey z.	GI FI	en		
Auto Tur		Ref Offset 0.5 dB Mkr3 2.399 957 50 GH o dB/div Ref 20.50 dB -37.46 dBn -37.46 dBn											
Center Fre		An.									10.5		
	1.1180 000	$\square$	-		-				+	-	9.50		
Start Fre 2.390000000 GH	N		3				<u> </u>		-		29.5		
Stop Fre	_			Jan 1	-	wyanyo kango ka	muluna		m	mung	49.5 59.5		
2.404000000 GH			_		-			-			9.5		
CF Ste 1.400000 MF Auto Ma	4000 GHz 0001 pts)			Sweep	0 kHz	#VBW				2.390 BW 1			
	DN VALUE 🔺	FUNCTI	TION WOTH	UNCTION	6.40 dBm	GHz	2.401 838 40		SOU	ODE TRO			
Freq Offse 0 H	,				0,49 dBm 7.46 dBm	GHz	2.400 000 00 2.399 957 50	1	1	N 1 N 1	3 4 5		
Scale Typ								_			6 7 8 9		
Log L				-		-		-		-	10 11		
			STARIS		24				-		90 S		

### Figure Channel 78:

							h/uilyzen -	pection /	right 5		
Frequency	02:36:05 AM Nov 20, 2020 TRACE 1 2 3 4 5 6	g Type: Log-Pwr		Trig: Free Rut		00000 GI		Freq 2	ter F	en	
Auto Tune	FGainLow #Atten: 30 dB DET/P NNNN Ref Offeet 0.5 dB Mkr3 2.483 511 00 GHz										
Center Fred	-40.36 dBm					dBm	f 20.50	Ref	B/div	10 di	
2.489000000 GH	511-12 48 (But		_		-		1	A		9.50	
Start Free 2.478000000 GH	ACT VIZAB ODM		_			→ <sup>3</sup>	m		$\sim$	-195 295 395	
Stop Fre 2.50000000 GH	ersteres and the set	raladorala farmanda anya site a	*****	und harrisone	Manaral .	and an				49.5 59.5 69.5	
CF Ste 2.200000 MH Auto Ma	Stop 2.50000 GHz 67 ms (40001 pts)	ep (#Swp) 2.6		/ 300 kHz	#VB		kHz	7800	s BV	#Re	
Freq Offse 0 H		FUNCTION WIDTH	FUNC	7.51 dBm -40.65 dBm -40.36 dBm	00 GHz	2.479 988 8 2.483 500 0 2.483 511 0			N N N	1 2 3 4 5	
Scale Type			_		-					6 7 8 9	
Log <u>Lin</u>								1.	1	11	
		STATUS							-	50	



Product	:	Notebook Computers
Test Item	:	Band Edge
Test Mode	:	Mode 3: Transmit - 3Mbps (Hopping off)
Test Date	:	2020/11/20

Measurement Level	Result
$\Delta$ (dB)	
> 20	PASS

### **Figure Channel 00:**

	02:47:09 AM Nov 20, 2020	ALIGN NUTO		SENSER	1	Juer - Swept SA	25	an share	XU .				
Frequency	TRACE 1 3 3 4 5 6	ype: Log-Pwr	A	and a start	0 GHz	397000000 0	q 2.3	er Fre	Cen				
a second	DET P NNNN	PRO: Fast Field 2:337 000000 GHZ Trig: Free Run Ture MWWWW IFGain:Low #Atten: 30 dB DET P NNNN											
Auto Tun	99 408 70 GHz -37.79 dBm												
Contor Fre	A1 .								10.5				
Center Fre 2.397000000 GH	mb							127	1500				
2.38100000.01	$\langle \chi \rangle$					1			9.50				
	A1-1382.0PH						-	-	195				
Start Fre	M	3						1.					
2.39000000 GH		° 07	-						29.5				
		nu l	man						-39.5				
Stop Fre			and the second		washing and a second	mantering	-		49.5				
2.40400000 GH									-59.5				
							-		-69.5				
CF Ste	top 2.404000 GHz		1	1100				2.390					
1.400000 MH	67 ms (40001 pts)	(#Swp) 2.6	Swe	300 kHz	#VB	IZ	00 kH	BW 1	#Re				
Auto Ma	FUNCTION VALUE	FUNCTION WOTH	FUNCTION	Y		x		ODE TRC					
1 100 A 100 7			_	6.38 dBm -40.20 dBm	150 60 GHz 000 00 GHz		1	NI	1				
Freq Offse				-37.79 dBm	408 70 GHz	2.399 408	1	N 1	3				
0 H	1		_	-					4				
									6				
Scale Typ									8				
Log LI				-				-	9				
		-						-	11				
	-	STARUS							190				

## Figure Channel 78:

						vialyzes - Sv		hight Sp				
Frequency	03:01:23 AM Nov 20, 2020 TRACE 1 2 3 4 5 6	Type: Log-Pwr	Ava	Trig: Free Run	00000 GHz		Freq 2	ter F	v Cen			
Auto Tune	Ref Offset 0.5 dB         Mkr2 2.483 500 00 GHz         Mkr2 2.483 500 00 GHz           Bridly         Ref 20.50 dB         -40.35 dB											
Center Free 2.489000000 GH	40.00 0.011					20.50	A	5/div	10.5			
Start Free 2.478000000 GH	15,1 ×12 42 404				m ∳ <sup>2</sup>	h		$^{\sim}$	-9.50 -19.5 29.5 -39.5			
Stop Fre 2.500000000 GH	uterna and a more	wasan ang ang ang ang ang ang ang ang ang a	muniante	undranium	and hours				49.5			
CF Ste 2.200000 MH Auto Ma	Stop 2.50000 GHz 57 ms (40001 pts)			W 300 kHz	#VE	kHz	7800 C	s BW	#Re			
Freq Offse 0 H				7.58 dBm -40.35 dBm	2.479 836 45 GHz 2.483 500 00 GHz		1 {	N	345			
Scale Type									6 7 8 9 10			
	- X [	STATUS							, 190			



Product	:	Notebook Computers
Test Item	:	Band Edge
Test Mode	:	Mode 1: Transmit - 1Mbps (Hopping on)
Test Date	:	2020/11/20

Measurement Level	Result
$\Delta$ (dB)	
> 20	PASS

## Figure Channel Hopping:

Reylight Spectrum Anal		-			
Center Freq 2.3	397000000 GHz PNO: Fast C	Trig: Free Run	Avg Type: Log-Pwr	01:59:05 AM Nov 20, 2020 TRACE 1 2 3 4 5 6 TVPE MWWWWW DET P N N N N N	Frequency
Ref Of 10 dB/div Ref 2	Auto Tun				
10.5 10.5 0.500				N	Center Fre 2.397000000 GH
19.5 29.5 39.5			¢ <sup>3</sup> ,∧		Start Fre 2.390000000 GH
49 5 58 5 <b>Honduide<sup>9</sup>twine</b> 69.5	with a sublice interaction a		manus and south		Stop Fre 2.404000000 GH
Start 2.390000 G Res BW 100 kH	lz #VB	W 300 kHz	Sweep (#Swp) 2.6	top 2.404000 GHz 67 ms (40001 pts)	CF Ste 1.400000 MH Auto Ma
MARY MODEL (FEG SOL) 1 N 1 f 2 N 1 f 3 N 1 f 4 5 6	2.402 955 50 GHz 2.400 000 00 GHz 2.399 984 45 GHz	7.10 dBm -39.92 dBm -38.10 dBm	FORCION FORCION WIDTH		Freq Offs 0 F
6 7 8 9 10 11					Scale Typ
150			SIARIS	E X	

### **Figure Channel Hopping:**

Keylight Spectrum Ana					111-2	
Center Freq 2.4	30 R 4C 489000000 GHz PNO: Fast 0	Trig: Free Run	Avg Type: Lo		2 AM Nov 20, 2020 RACE 1 2 3 4 5 6 TVPE MWWWWW DET P NNNNN	Frequency
	IFGain:Low ffset 0.5 dB 20.50 dBm	#Atten: 30 dB	Mk	r3 2.486 48 -4	10.1	Auto Tune
						Center Free 2.489000000 GH
-9.50 V V	η	3			D 1.11 (B) (B)	Start Free 2.478000000 GH
-59.5 -69.5	When the find meters	hunn	renerver	war war haven	and the street	Stop Fre 2.500000000 GH
Start 2.47800 G #Res BW 100 k)		W 300 kHz	Sweep (#Sw	(p) 2.667 ms	.50000 GHz (40001 pts)	CF Ste 2.200000 MH Auto Ma
1 N 1 f 2 N 1 f 3 N 1 f 4 5	2.479 988 80 GHz 2.483 500 00 GHz 2.486 482 10 GHz	8.91 dBm -55,51 dBm -44.32 dBm				Freq Offse 0 H
6 7 8 9 10 11						Scale Type
wsg				STATUS	X	



Product	:	Notebook Computers
Test Item	:	Band Edge
Test Mode	:	Mode 2: Transmit - 2Mbps (Hopping on)
Test Date	:	2020/11/20

Measurement Level	Result
$\Delta$ (dB)	
> 20	PASS

## Figure Channel Hopping:

75	Allyzer - Swept SA	SENSEON	ALIGN NUTO	Insulate a s	M Nov 20, 2020	
	.397000000 GHz PNO: Fast	Trig: Free Run	Avg Type: Log-Pwr	TRA TV	CE 1 2 3 4 5 6 PE MWWWWW ET P NNNN	Frequency
	IFGain:Low Offset 0.5 dB 20.50 dBm	#Atten: 30 dB	Mkr3 2	399 916	0.1. 	Auto Tun
10.5 0.500	20.00 000			m	Amor	Center Fre 2.397000000 GH
195 295 395			3	1	0(1-1382/088)	Start Fre 2.390000000 GF
49.5 50.5	. and the many construction of the second	aline to an anna an a	1 million and a second			Stop Fre 2.404000000 GH
Start 2.390000 Res BW 100 I		BW 300 kHz	Sweep (#Swp) 2		0001 pts)	CF Ste 1.400000 Mi Auto Mi
	2.402 840 10 GHz 2.400 000 00 GHz	6.37 dBm -41.95 dBm				
1 N 1 f 2 N 1 f 3 N 1 f 4 5 6	2.399 916 20 GHz	-37.90 dBm			r	Freq Offs 0 H

# Figure Channel Hopping:

						nalyzes - Svie	pettion A	yights	- 1.e
Frequency	2:39:13 AM Nov 20, 2020 TRACE 1 2 3 4 5 6	ALIGN MUTO	Avg	SENSERIN	00000 GHz	30 R	Freq 2	ter	u Cer
Auto Tune	205 65 GHz -43.12 dBm	Mkr3 2.4	-	Trig: Free Run #Atten: 30 dB		Offset 0.6		B/div	10.4
Center Free 2.489000000 GH						1	n A	~	10.5 1500
Start Free 2.478000000 GH	85,1-1272-000					M			9.50 19.5 29.5 39.5
Stop Fre 2.50000000 GH	Marina and mar	am mark	Andreinger de Generaliste	Armedizeessa	When have been	11		-	49.5 59.5 69.5
CF Ste 2.200000 MH Auto Ma	pp 2.50000 GHz ms (40001 pts)			W 300 kHz	#VB		7800 C	s BV	Re
Freq Offse 0 H				7.28 dBm -43.31 dBm -43.12 dBm	2.479 845 80 GHz 2.483 500 00 GHz 2.484 205 55 GHz			N N N	12345
Scale Typ									6 7 8 9 10
-	E 2 1	STARUS					-		90



Product	:	Notebook Computers
Test Item	:	Band Edge
Test Mode	:	Mode 3: Transmit - 3Mbps (Hopping on)
Test Date	:	2020/11/20

Measurement Level	Result
$\Delta$ (dB)	
> 20	PASS

## Figure Channel Hopping:

20 75	Analyzer - Swept SA	SENSERN	ALIGN NUTO	02:49:41 AM Nov 20, 2020	
	2.397000000 GHz PNO: Fast	Trig: Free Run	Avg Type: Log-Pwr	TRACE 1 2 3 4 5 6 TIPE MWWWWW DET P NNNNN	Frequency
10 dB/div Re	(FGain:Low Offset 0.5 dB f 20.50 dBm	#Atten: 30 dB	Mkr3 2.3	399 520 35 GHz -38.90 dBm	Auto Tun
10.5 (500)				perconnection and	Center Fre 2.397000000 GH
195 295 395			↓ <sup>3</sup> 7	0,1-14.02 (66)	Start Fre 2.390000000 GF
495 505 <b>~~~~~~~</b>	ala affan a fan i ar an	cananterment KNUS	Programme and a second		Stop Fre 2.404000000 GF
Start 2.39000 #Res BW 100	kHz #VI	BW 300 kHz		Stop 2.404000 GHz 667 ms (40001 pts) FUNCTION VALUE	CF Ste 1.400000 Mi Auto Ma
1 N 1 f 2 N 1 f 3 N 1 f	2,403 995 45 GHz 2,400 000 00 GHz 2,399 520 35 GHz	5.98 dBm -41,85 dBm -38.90 dBm			Freq Offs 0 F
4 5 6					

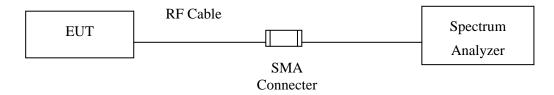
# Figure Channel Hopping:

Reylight Spectrum Analyzer - Sviept					
Center Freq 2.489000	000 GHz	Trig: Free Run	Avg Type: Log-Pwr	103:04:54 AM Nov 20, 2020 TRACE 1 2 3 4 5 6 TVPE MWWWWW	Frequency
Ref Offset 0.5 d		#Atten: 30 dB	Mkr2 2.4	061 P NNNNN 83 500 00 GHz -41.01 dBm	Auto Tun
0 dB/div Ref 20.50 dE					Center Fre 2.489000000 GH
950 195 295 395	▲ <sup>2</sup>			D11180	Start Fre 2.478000000 GH
49.5 58.5 68.5	monthal	natorany to share on grant	***	water	Stop Fre 2.500000000 GH
Start 2.47800 GHz Res BW 100 kHz	#VBW	300 kHz	Sweep (#Swp) 2.6	Stop 2.50000 GHz 67 ms (40001 pts)	CF Ste 2.200000 MH Auto Ma
	479 830 40 GHz 483 500 00 GHz	8.01 dBm -41.01 dBm			Freq Offs 0 F
0 7 8 9 10 11					Scale Typ
50 SO			STARS	× .	



## 7. Channel Number

## 7.1. Test Setup



## 7.2. Limit

Frequency hopping systems operating in the 2400-2483.5 MHz bands shall use at least 75 hopping frequencies.

### 7.3. Test Procedure

Tested according to FHSS test procedure of KDB558074 section 9 (b for compliance to FCC 47CFR 15.247 requirements.



### 7.4. Test Result of Channel Number

Product	:	Notebook Computers
Test Item	:	Channel Number
Test Mode	:	Mode 1: Transmit - 1Mbps
Test Date	:	2020/11/20

Frequency Range	Measurement	Required Limit	Result
(MHz)	(Hopping Channel)	(Hopping Channel)	Result
2402 ~ 2480	79	>75	Pass

#### 2402-2421MHz

#### 2422-2441MHz

Security Co	terror instant (South			1000						104	10		nin ini				1.5						184
Center F	req 2.411000	0000 GHz	Fast C	Trig: Free	Run	Ave Typ	e: Log-Pwr	107/15/1	AM NEV20, 2020 ACR 1 2 3 4 5 1 700 1 2 3 4 5 1	Frequency	Cen	ter Fr	eq 2.4	3150	0000 GH	Z NO: Fast G	Trig Fre		Ave Ty	rpe: Log-Pw	16 78	AM Nev 20, 2020 ACI 1 2 3 4 5 9 TYON NUMBER OF NUMBER	Frequency
10 dB/div	Ref Offset 0.5 Ref 20.50 dl	15 Gain	Low	#Atten: 30	) dB		Mkr2	2 2.421	000 GHz 73 dBm	Auto Tune	10 dE	3/div	Ref Of Ref 2	fset 0.5 0.50 d	dB	GainLow	#Atten: 1	0 dB		M	Kr2 2.44	1 00 GHz 7.99 dBm	Auto Tune
10.5 0.500 9.90	Ŷw	Wh	M	W	W	W	W	W	W	Center Freq 2.411000000 GHz		Â	V	M	M	N	M	W	W	W	VV	W	Center Fred 2.431500000 GH:
-111.5 294.5 -94.6										Start Freq 2.400500000 GHz	-185 (295 -186		+	_									Start Free 2.421500000 GH
-495.¥ -696 -696			-							Stop Freq 2.421500000 GHz										-			Stop Free 2.441500000 GH
	0050 GHz / 100 kHz		#VBW 1	00 kHz	1 100	Sweep		2.533 ms	42150 GHz (1001 pts)	CF Step 2 100000 MHz Auto Man	#Re:	t 2.421 s BW 1	00 KH	łz tz	x		W 100 kHz			o (#Swp)	2.467 ms	44150 GHz (1001 pts)	
		2.402 000 G 2.421 000 G	Hz Hz	7.11 dB 7.73 dB	3m 3m					Freq Offset 0 Hz	1		1		2,422.0	0 GHz 0 GHz	7.21 d 7.99 d	Bm Bm					Freq Offse 0H
5 7 8 9 10 11										Scale Type	5 7 9 10			_									Scale Type
NG)			-	ad .	-	-	TATU		Y		NIST.							-	-	ALE	nes	)	

### 2442-2461MHz

#### 2462-2480MHz

manufact Sale	entre lance (\$	10 m			wid out		4.18.4/2	F7/14.25	Alt New 20, 2020			and the second	-	14.5				rist art		4,718.147	177.145	C ANA NEW 20, SITES	
enter F	req 2.4515		NO: Fast G	Trig: Fre	e Run	Avg Typ	H: Log-Pwr	T	123455 123455	Frequency	Cen	nter Fr	eq 2.	47150	0000 G	NO: Fast G	Trig. Fre	e Run	Ave Typ	W: Log-Pwr		TVM NMMN	Frequency
0 dB/div	Ref Offset 0 Ref 20.50	0.5 dB	GainLow	#Atten:	30 dB	0	Mkr	2 2.461	00 GHz .22 dBm	Alida Trime		Bidiv	Ref 0	offset 0.5 20.50 d	dB	GainLow	#Atten: 1	10 dB		Mk		0 00 GHz 8.05 dBm	Auto Tu
	ww	W	M	M	ίv	W	M	M	W	Center Freq 2.451500000 GHz	10.5 0.500 0.500	Ň	V	M	M	M	W	M	M	W	W	$\sqrt{2}$	Center Fr 2.471500000 G
15										Start Freq 2.441500000 GHz	-19.5 -39.5 -39.6		+									4	Start Fr 2.451500000 G
16										Stop Freq 2.461500000 GHz	49.5 49.5 49.5	_									-	-	Stop Fr 2.481500000 G
	150 GHz 100 kHz	×		V 100 kHz	1			.467 ms	46150 GHz (1001 pts)	CF Step 2.000000 MHz Auto Man	#Re	rt 2.461	00 KI	Hz Hz	*		V 100 kHz	1 10	Sweep	A	2.467 m	.48150 GHz s (1001 pts)	
	1	2,442	00 GHz 00 GHz	7.86 d 8.22 d	IBm IBm					Freq Offset 0 Hz		N	1		2,462 (	00 GHz 00 GHz	8.22 d 8.05 d	Bm Bm					Freq Offs 0
6 7 8 9 0 1							_			Scale Type	6 7 8 9 10												Scale Typ
5.							STATU	-			ANS.		-				-	-		TATE		) .	



Product	:	Notebook Computers
Test Item	:	Channel Number
Test Mode	:	Mode 2: Transmit - 2Mbps
Test Date	:	2020/11/20

Frequency Range (MHz)	Measurement (Hopping Channel)	Required Limit (Hopping Channel)	Result
2402 ~ 2480	79	>75	Pass

#### 2402-2421MHz

#### 2422-2441MHz

er Senan Hanne (Lagris) en 1915 action action (2014) The Article Actio	20, 2020 Fanational and	2 In Lists and Street S
PHO: Fart Control of the former to all the forme	Frequency	Center Freq 2,431500000 GHz PRO: Fat Trig: Free Run PRO: Fat Trig: Free Run PRO: Fat Trig: Free Run
If Gain Low #Atten: 30 dB		Is GAMELOW INVITED OF DE
Ref Offset 0.5 dB Mkr2 2.421 000 div Ref 20.50 dBm 3.95		Ref Offset 0.5 dB MKr2 2:441 00 GHz 10 dB/div Ref 20.50 dBm 6.38 dBm
Amaananananana	2.411000000 GH	
<u></u>	Start Free 2.400500000 GH	
	Stop Free 2.421500000 GH	
2.40050 GHz Stop 2.4215 BW 100 kHz #VBW 100 kHz Sweep (#Swp) 2.533 ms (100		Start 2.42150 CHz Stop 2.44150 CHz CF st #Res BW 100 kHz #VBW 100 kHz Sweep (#Swp) 2.467 ms (1001 pts) Auto
1 1 2.402.000 GHz 5.17 dBm	- Hute ma	1 N 7 2.422 00 GHz 5.87 dBm
7 2421000 GHz 3.04 Bbm 2 421 000 GHz 3.05 Bbm	Freq Offse 0H	t 3 N f 2,441 00 GHz 6,38 dBm Freq Offs
	Scale Type	5 7 6 7 7 6 7 7 7 6 7 7 7 6 7 7 7 7 7 7
	3	
anatus .		MAGE TATUE

## 2442-2461MHz

#### 2462-2480MHz

Sangt George Just				and the second s	1.04	and the superior is not								
Center Freq 2.4	51500000 GHz PNO Fast	Trig: Free Ru	Avg Type: Lo	og-Pwr Titaca 1/2 Tyter naw	Frequency	Center Fr		500000 GH	Z KD: Fast G	Trig: Free Run	Avg Ty	pe: Log-Pwr	107 4255 AM Nov29, 2020	Frequency
10 dB/div Ref 2	If GainLow fset 0.5 dB 0.50 dBm		1	Mkr2 2.461 00 4.69 c	Hz Auto Tune	10 dB/div	Ref Offse Ref 20.5	105 dB	and we	#Atten: 30 dB		Mkr	2 2.480 00 GHz 4.78 dBm	Auto Tun
105 A1	man	nomme	mann	man	Center Freq 2.451500000 GHz		ht	m	Mary	m	MAN	-	menty	Center Fre 2.471600000 GH
11.5 11.5 13.5					Start Freq 2.441500000 GHz	-18.5 -28.5 -39.5							- ba	Start Fre 2.451500000 GH
85 76 05					Stop Freq 2.461500000 GHz	49.5 49.6 49.6								Stop Fre 2.481500000 GH
tart 2.44150 GH Res BW 100 kH		/BW 100 kHz	Sweep (#S	Stop 2.46150 wp) 2.467 ms (1001	pts) 2.000000 MHz	Start 2.461 #Res BW	100 kHz	*	#VBW	100 kHz	Sweep	(#Swp) 2	Stop 2.48150 GHz .467 ms (1001 pts)	CF Ste 2.000000 Mi- Aute Ma
1 N 1 3 N 1 3 4	2,442 00 GHz 2,461 00 GHz	3.91 dBm 4.69 dBm			Freq Offset 0 Hz	1 N N 3 4 6	1	2,452 00 2,480 00	0 GHz 0 GHz	4.09 dBm 4.78 dBm				Freq Offs 01
9 10					Scale Type	7 \$ 9 10								Scale Typ
NG)		-		RUTATIO	2	AUST I				-	-	STATU	() ()	



Product	:	Notebook Computers
Test Item	:	Channel Number
Test Mode	:	Mode 3: Transmit - 3Mbps
Test Date	:	2020/11/20

Frequency Range	Measurement	Required Limit	Result		
(MHz)	(Hopping Channel)	(Hopping Channel)	Result		
2402 ~ 2480	79	>75	Pass		

#### 2402-2421MHz

#### 2422-2441MHz

Brought Stations institute rising t 62		and the second s	Status and the local		a transfer	Second Inte	Con Printer All			a sheer			
enter Freq 2.411000000	GHz INC East Con Trig. Free Ru	Avg Type: Log-Pw	78428 12 3 4 5 6 79428 12 3 4 5 6 7947 12 3 4 5 6	Frequency	Center	Freq 2.4	31500000 GH	2		Type: Log-Pwr	TRACE 1 2 3 4 5	Frequency	
Ref Offset0.5 dB 0 dB/div Ref 20.50 dBm	PNO: Fant Trig: Free R Is Gain:Low #Atten: 30 di	8	2 2.421 000 GHz 3.92 dBm	Auto Tune	Il GainLow #Atten: 30 dB								
		man	m	Center Freq 2.411000000 GHz	10.5 0.500	we w		man	m	mm	mit	Center Fre 2.431500000 GH	
15				Start Freq 2.400500000 GHz	-18.5 -29.5 -18.6							Start Fre 2.421500000 GH	
15				Stop Freq 2.421500000 GHz	49.5 49.6 99.6							Stop Fro 2.441500000 Gi	
art 2.40050 GHz tes BW 100 kHz	#VBW 100 kHz	Sweep (#Swp)	Stop 2.42150 GHz 2.533 ms (1001 pts)	2.100000 MHz	Start 2.4 #Res Bi	42150 GH N 100 KH	tz Iz	#VBW 100 kHz	Swi	ep (#Swp)	Stop 2.44150 GHz 2.467 ms (1001 pts)		
2 00 10 10 1 A 1 N f 2.40 0 N f 2.42 3 4 6	2 000 GHz 6.05 dBm 21 000 GHz 3.92 dBm		IN CONTRACTORY AND THE	Freq Offset 0 Hz	1 N 3 4 6		2,422 00 2,441 00	GHz 6.02 d GHz 5.04 d	Bm		n ( 1996, 169, 169, 169, 179)	Freq Offs	
6 6 9 9				Scale Type	6 7 8 9 10							Scale Typ	
	-				N			1		Internet			

## 2442-2461MHz

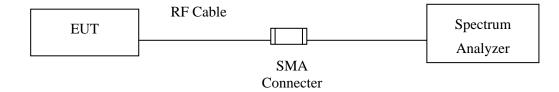
#### 2462-2480MHz

Stronget Gentrum Jose		_			and the second				Second St.	ADVA SHE			-					and the
Center Freq 2.4		Hz PND: Fast	Trig: Free R	AvgT	ype: Log-Pwr	Type:	123451	Frequency	Center P	req 2.4	7150000	0 GHz	Trig Free	Run	Avg Type: Lo	a-Pwr	11.00.000 00020, 2020 TRACE 1 2 3 4 5 1 T/00 0000000000000000000000000000000000	Frequency
	ffset 0.5 dB 20.50 dBm	GainLow	#Atten: 30 d	8	Mk	2 2.461 0	0 GHz 3 dBm	Auto Tune	10 dB/div		set 0.5 dB	If Gain Low	#Atten: 30	0 dB	-	Mkr2 2	480 00 GHz 7.37 dBm	Auto Tuni
10 dB/div Ref 2	20.50 dBm	mm	m	man	m	m	A.	Center Freq 2.451500000 GHz		A A		maria		m	mm	ma	mly	Center Free 2.471500000 GH
950 18.5 29.5								Start Freq 2.441500000 GHz	9.50									Start Fre 2.461500000 GH
49.5 00.6								Stop Freq 2.461500000 GHz	49.5 49.5 49.5	_	-	-						Stop Fre 2.481500000 GH
tart 2.44150 G Res BW 100 k		#VBW	V 100 kHz	T rotation 1	p (#Swp) 3	Stop 2.461 2.467 ms (10	001 pts)	CF Step 2.000000 MHz Aute Man	Start 2.4 #Res BW	100 KH	2	#VB	W 100 kHz	1 COMPANY	Sweep (#Sv	vp) 2.467	p 2.48150 GHz 'ms (1001 pts)	CF Ste 2.000000 MH Aute Ma
1 N 1 2 N 1 3 4	2,442 2,461	00 GHz	7.07 dBm 5.23 dBm					Freq Offset 0 Hz	1 N 3 4 6	1	2	462 00 GHz 480 00 GHz	7.15 de 7.37 de	3m 3m				Freq Offse
.6 7 .8 9 10 11								Scale Type	6 7 8 9 10 11									Scale Typ
Ri i					STATU		- 1		MIST.					-		STATUS		L



## 8. Channel Separation

## 8.1. Test Setup



## 8.2. Limit

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.

## 8.3. Test Procedure

Tested according to FHSS test procedure of KDB558074 section 9 (b for compliance to FCC 47CFR 15.247 requirements.



## 8.4. Test Result of Channel Separation

Product	:	Notebook Computers
Test Item	:	Channel Separation
Test Mode	:	Mode 1: Transmit - 1Mbps
Test Date	:	2020/11/20

	Eraguanau	Measurement	Limit	Limit of (2/3)*20dB		
Channel No.	Frequency (MHz)	Level	(kHz)	Bandwidth (kHz)	Result	
	(IVITIZ)	(kHz)	(KIIZ)	Balluwiulii (KHZ)		
00	2402	1000	>25 kHz	636.0	Pass	
39	2441	1000	>25 kHz	638.0	Pass	
78	2480	1000	>25 kHz	638.0	Pass	

NOTE: The 20dB Bandwidth is refer to section 10.

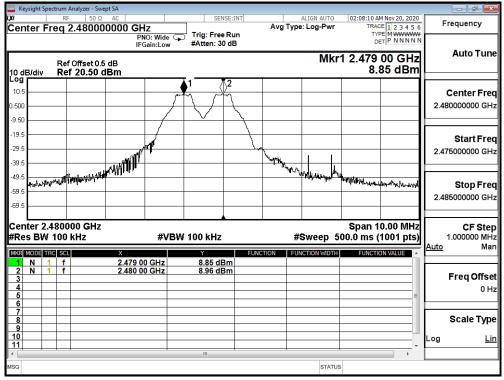
	ight Sp	pectrui	m Ana	lyzer - Sw	ept SA												
ເສ Cente	or F		RF	50 Ω 10200			17		SEN	ISE:INT	Ava		ALIGN AUTO		M Nov 20, 2020		Frequency
						PI	NO: Wid Gain:Lo	le 🖵 w	Trig: Free #Atten: 3			,,		TY	PE MWWWW ET P NNNN	Ň	Auto Tune
10 dB/	div			ffset 0.6 2 <b>0.50</b> (		1									57 dBm		
10.5 0.500 -9.50											2 ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~					2	Center Freq 2.402000000 GHz
-19.5 — -29.5 — -39.5 —												\ \_	¥m				Start Freq 397000000 GHz
-49.5 -59.5 -69.5	ردهم. ا	~***		┝┉ <sub>ୡଽୡ</sub> ୄୣୄ <mark>ଢ଼</mark> ୶୴	Leg'rogger <del>y</del> û	harrin a	V							alulunta (beda)			<b>Stop Freq</b> 2.407000000 GHz
Cente #Res	BW	10	0 kl			×	#\	vвw	100 kHz		NCTION		Sweep 5	00.0 ms (	0.00 MHz 1001 pts)		<b>CF Step</b> 1.000000 MHz to Man
	N	1	f		2	2.402 0 2.403 0			7.52 dE 7.57 dE	3m	NCTION			FUNCTI			<b>Freq Offset</b> 0 Hz
7 8 9																	Scale Type
10 11																Lo	g <u>Lin</u>
MSG													STATUS	5			

#### Channel 00 (2402MHz)

🔤 Keysight Spe	ctrum Analyz	er - Swept SA									
w Center Fr	<sup>RF</sup> eq 2.44	50 Ω AC 1000000 GH		]	E:INT		ALIGN AUTO E: Log-Pwr	TRAC	M Nov 20, 2020 E 1 2 3 4 5 6 E M WWWW	F	requency
10 dB/div		et 0.5 dB .50 dBm	Ю:Wide ⊂ Gain:Low	#Atten: 30			Mkr	DE 2 2.442	00 GHz 75 dBm		Auto Tune
10.5 0.500 -9.50						2					<b>Center Freq</b> 41000000 GHz
-19.5 -29.5 -39.5							Mar .			2.43	Start Freq 36000000 GHz
-49.5 -59.5 -69.5	n mart style 10	ward to an a start wall					Jun Marken Contraction of the second	wappflandslagh	witnessWallphotone	2.44	Stop Freq 46000000 GHz
Center 2.4 #Res BW	100 kHz		#VBW	/ 100 kHz	EUNC		Sweep 5	00.0 ms (	0.00 MHz 1001 pts)	<u>Auto</u>	<b>CF Step</b> 1.000000 MHz Man
1 N 1 2 N 1 3 4 5 6	f	2.441 0 2.442 0		8.37 dB 7.75 dB	m				E		Freq Offset 0 Hz
7 8 9 10										Log	Scale Type Lin
11 MSG				III			STATUS		* 4		

#### Channel 39 (2441MHz)

Channel 78 (2480MHz)





ps

Channel No.	Frequency	Measurement	Limit	Limit of (2/3)*20dB		
	Frequency (MHz)	Level	(kHz)	Bandwidth (kHz)	Result	
		(kHz)	· · · ·	· · ·		
00	2402	1000	>25 kHz	972.0	Pass	
39	2441	1000	>25 kHz	962.0	Pass	
78	2480	1000	>25 kHz	998.0	Pass	

NOTE: The 20dB Bandwidth is refer to section 10.

	um Analyzer - Swept SA								- <b>X</b> -
یں Center Fre	RF 50 Ω AC q 2.402000000		Trig: Free Ru	Avg Typ	ALIGN AUTO	TYPE	123456 MWWWW	Frequenc	У
10 dB/div	Ref Offset 0.5 dB Ref 20.50 dBm	PNO: Wide G	#Atten: 30 dB		Mkr	DET 2 2.403 0	PNNNNN	Auto	Гune
Log 10.5 0.500				2 				Center 2.402000000	•
-19.5 -29.5 -39.5					where the second		J Samerale	Start 2.397000000	
-49.5 -59.5 -69.5							<u></u>	<b>Stop</b> 2.407000000	
Center 2.40 #Res BW 10	00 kHz	#VBW	100 kHz		Sweep 5	Span 10. 00.0 ms (10	001 pts)	CF 1.000000 <u>Auto</u>	Step MHz Man
1 N 1 2 N 1 3 4 5 6		02 00 GHz 03 00 GHz	6.23 dBm 6.26 dBm				=	Freq O	f <b>fset</b> 0 Hz
7 8 9 10								Scale	
11								Log	Lin
MSG					STATUS	;			

## Channel 00 (2402MHz)



ໝ   RF   50 Ω AC   Center Freq 2.441000000 GHz	Avg Type	ALIGN AUTO 02:29:12 AM Nov 20, 2020 e: Log-Pwr TRACE 1 2 3 4 5 6 TYPE M WWWW	Frequency
IFGa Ref Offset 0.5 dB 10 dB/div Ref 20.50 dBm	:Wide Contraction of the interval of the inter	Mkr2 2.442 00 GHz 7.03 dBm	Auto Tune
Log 10.5 0.500 -9.50			Center Freq 2.441000000 GHz
-19.5 -29.5 -39.5			Start Freq 2.436000000 GHz
-49.5 -59.5 -69.5			<b>Stop Freq</b> 2.446000000 GHz
Center 2.441000 GHz #Res BW 100 kHz		Span 10.00 MHz Sweep 500.0 ms (1001 pts)	CF Step 1.000000 MHz <u>Auto</u> Man
1         N         1         f         2.44100           2         N         1         f         2.44200           3			Freq Offset 0 Hz
0         7           7			Scale Type
MSG	III.	STATUS	

### Channel 39 (2441MHz)

#### Channel 78 (2480MHz)

Keysight Spectrum Analyzer - Swept SJ				
ໝ RF 50 Ω A Center Freq 2.4800000		ALIGN AUTO Avg Type: Log-Pwr	02:35:32 AM Nov 20, 2020 TRACE 1 2 3 4 5 6 TYPE M WWWW	Frequency
Ref Offset 0.5 dE 10 dB/div Ref 20.50 dBr	IFGain:Low #Atten: 30 dB	Mkr	DET P NNNNN 1 2.479 00 GHz 4.93 dBm	Auto Tune
10.5 0.500		\		Center Freq 2.480000000 GHz
-19.5 -29.5 -39.5				Start Fred 2.475000000 GHz
-49.5			- Water mark - water	Stop Fred 2.485000000 GHz
Center 2.480000 GHz #Res BW 100 kHz	#VBW 100 kHz	#Sweep 50	Span 10.00 MHz 00.0 ms (1001 pts) FUNCTION VALUE	<b>CF Step</b> 1.000000 MH: <u>Auto</u> Mar
1         N         1         f           2         N         1         f           3         -         -         -           4         -         -         -           5         -         -         -           6         -         -         -         -	2.479 00 GHz 4.93 dBm 2.480 00 GHz 7.40 dBm			Freq Offse 0 H:
7 8 9				Scale Type
				Log <u>Lir</u>
MSG		STATUS		<u> </u>



Product	:	Notebook Computers
Test Item	:	Channel Separation
Test Mode	:	Mode 3: Transmit - 3Mbps
Test Date	:	2020/11/20

Channel No.	Frequency	Measurement	Limit	Limit of (2/3)*20dB	
	Frequency (MHz)	Level	(kHz)	Bandwidth (kHz)	Result
	(WITE)	(kHz)	(KIIZ)	Dandwiddii (KHZ)	
00	2402	1000	>25 kHz	988.0	Pass
39	2441	1000	>25 kHz	986.0	Pass
78	2480	1000	>25 kHz	986.0	Pass

NOTE: The 20dB Bandwidth is refer to section 10.

		Analyzer - Swep										
یں Center	Freq 3		AC   0000 GHz	2	1	E:INT	Avg Ty	ALIGN AUTO	TRA	M Nov 20, 2020 CE 1 2 3 4 5 6 PE M WWWWW		requency
10 dB/div		Offset 0.5 f 20.50 dl	IFGa dB	D: Wide 🕞 ain:Low	#Atten: 30			Mkr	¤ 2 2.403	00 GHz 27 dBm	4	Auto Tune
Log 10.5 0.500 -9.50						1 `````````	2 nul					<b>Center Freq</b> 02000000 GHz
-19.5 -29.5 -39.5				$\bigwedge$					un man		2.3	Start Freq 97000000 GHz
-49.5 -59.5 -69.5	*******										2.4	Stop Freq 07000000 GHz
Center 2 #Res B\	N 100	kHz	×	#VBW	100 kHz	EIM		#Sweep 5	00.0 ms (	0.00 MHz 1001 pts)		CF Step 1.000000 MHz Man
1 N 2 N 3 4 5	1 f 1 f		2.402 00 2.403 00		6.27 dB 6.27 dB	n			FUNCTI			Freq Offsel 0 Hz
6 7 8 9												Scale Type
10 11										-	Log	<u>Lin</u>
MSG	_				m			STATU	5	4		

## Channel 00 (2402MHz)



Keysight Spectrum Analyzer - Sw	/ept SA						
ເ≫/ RF 50 Ω Center Freq 2.44100	00000 GHz	SENSE:INT		align auto : Log-Pwr	TRAC	M Nov 20, 2020 CE 1 2 3 4 5 6 PE M WWWW	Frequency
Ref Offset 0. 10 dB/div Ref 20.50		#Atten: 30 dB		Mkr	DI 2 2.442	00 GHz 00 dBm	Auto Tune
10.5 0.500		1	2 ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~				Center Freq 2.441000000 GHz
-19.5					maria	~~~~~~~	<b>Start Freq</b> 2.436000000 GHz
-49.5							<b>Stop Freq</b> 2.446000000 GHz
Center 2.441000 GHz #Res BW 100 kHz		W 100 kHz		Sweep 5	00.0 ms (	0.00 MHz 1001 pts)	CF Step 1.000000 MHz <u>Auto</u> Man
1 N 1 f 2 N 1 f 3 4 5 6	2.441 00 GHz 2.442 00 GHz	7.11 dBm 7.00 dBm					Freq Offset 0 Hz
7 8 9 10							Scale Type
11				STATUS	6	•	

### Channel 39 (2441MHz)

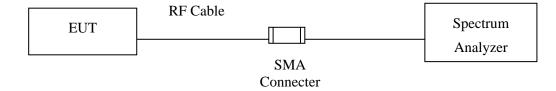
### Channel 78 (2480MHz)

🔤 Keysight Sp	ectrum Analyzer - Swe	ept SA								
w Center F	RF 50 Ω req 2.48000	AC 0000 GHz PNO: Wide	SENSI	1	Avg Type:	LIGN AUTO	TRAC	E 1 2 3 4 5 6 E M WWWW T P N N N N N		requency
10 dB/div	Ref Offset 0.5 Ref 20.50 c	IFGain:Lov				Mkr	1 2.479	00 GHz 21 dBm		Auto Tune
10.5 0.500				2 V~~~						Center Freq 0000000 GHz
-19.5 -29.5 -39.5						<u></u>	~~~		2.47	Start Fred 5000000 GHz
-49.5 -59.5 -69.5							· • • • • • • • • • • • • • • • • • • •		2.48	<b>Stop Fred</b> 5000000 GH:
Center 2. #Res BW		#V	/BW 100 kHz	FUNCTIO		weep 50	00.0 ms (	0.00 MHz 1001 pts)	Auto	CF Step 1.000000 MH Mar
1 N 1 2 N 1 3 4 5 6		2.479 00 GHz 2.480 00 GHz	7.21 dBr 7.41 dBr	n				=		Freq Offse 0 H
7 8 9										Scale Type
10 11			m						Log	Lir
MSG						STATUS				



## 9. Dwell Time

## 9.1. Test Setup



### **9.2.** Limit

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.

## **9.3.** Test Procedure

Tested according to FHSS test procedure of KDB558074 section 9 (b for compliance to FCC 47CFR 15.247 requirements.



# 9.4. Test Result of Dwell Time

Product	:	Notebook Computers
Test Item	:	Dwell Time
Test Mode	:	Mode 1: Transmit - 1Mbps (Channel 00, 39, 78)
Test Date	:	2020/11/30

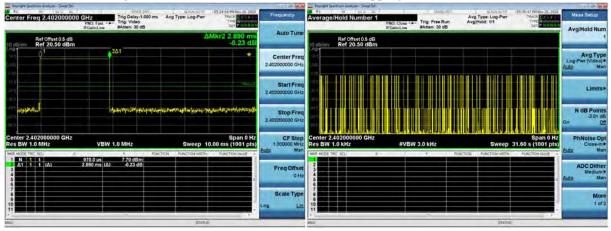
Frequency (MHz)	Time slot length (ms)	Hopping of Number	Sweep time (ms)	Dwell Time (ms)	Limit (ms)	Result
2402	2.890	86	31600	248.540	400	Pass
2441	2.880	85	31600	244.800	400	Pass
2480	2.880	88	31600	253.440	400	Pass

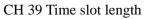
Dwell time = Time slot length(ms)\*Hopping of Number



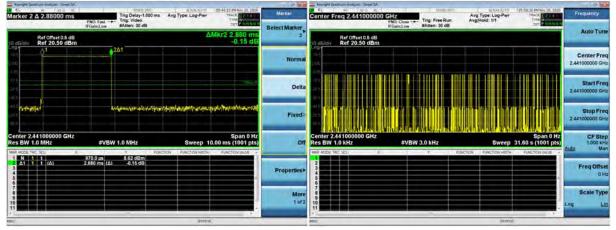
#### CH 00 Time slot length

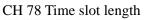
CH 00 Hopping of Number



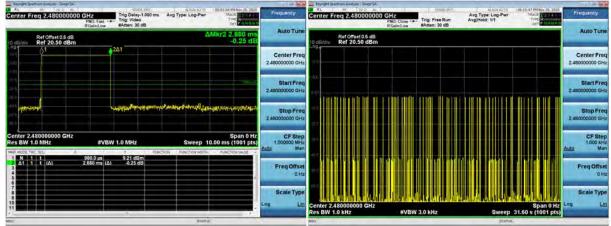


#### CH 39 Hopping of Number





# CH 78 Hopping of Number



Note:

The dwell times of the packet type of DH1, DH3, and DH5 are tested. Only the worst case is shown on the report.



Product	:	Notebook Computers
Test Item	:	Dwell Time
Test Mode	:	Mode 2: Transmit - 2Mbps (Channel 00, 39, 78)
Test Date	:	2020/11/30

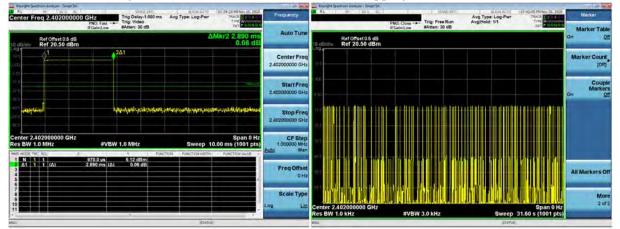
Frequency (MHz)	Time slot length (ms)	Hopping of Number	Sweep time (ms)	Dwell Time (ms)	Limit (ms)	Result
2402	2.890	95	31600	274.550	400	Pass
2441	2.880	90	31600	259.200	400	Pass
2480	2.880	84	31600	241.920	400	Pass

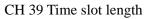
Dwell time = Time slot length(ms)\*Hopping of Number

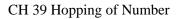


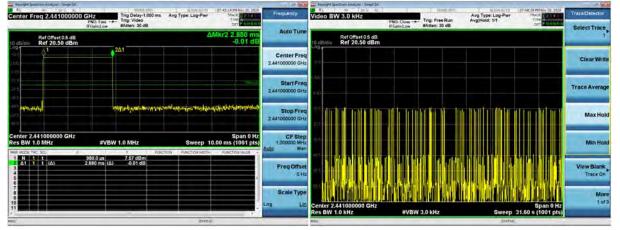
#### CH 00 Time slot length

CH 00 Hopping of Number



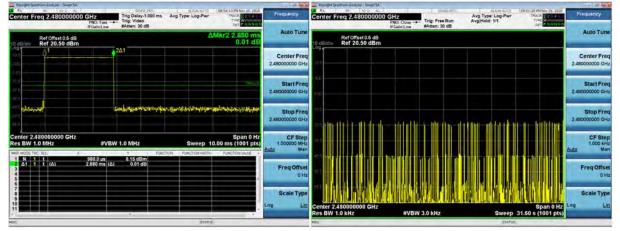






CH 78 Time slot length

CH 78 Hopping of Number



Note:

The dwell times of the packet type of DH1, DH3, and DH5 are tested. Only the worst case is shown on the report.



Product	:	Notebook Computers
Test Item	:	Dwell Time
Test Mode	:	Mode 3: Transmit - 3Mbps (Channel 00, 39, 78)
Test Date	:	2020/11/30

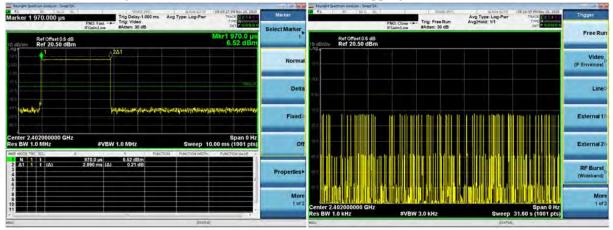
Frequency (MHz)	Time slot length (ms)	Hopping of Number	Sweep time (ms)	Dwell Time (ms)	Limit (ms)	Result
2402	2.890	88	31600	254.320	400	Pass
2441	2.890	91	31600	262.990	400	Pass
2480	2.890	76	31600	219.640	400	Pass

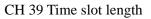
Dwell time = Time slot length(ms)\*Hopping of Number

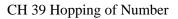


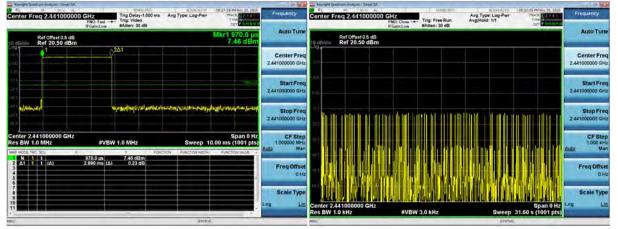
#### CH 00 Time slot length

CH 00 Hopping of Number



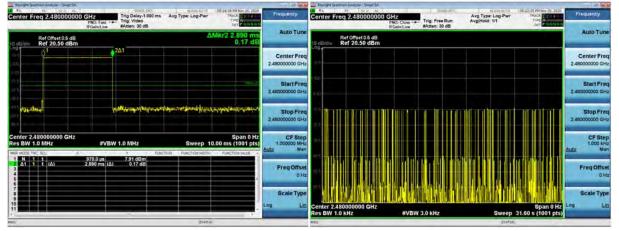






CH 78 Time slot length

CH 78 Hopping of Number



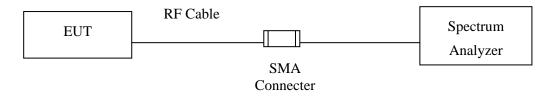
Note:

The dwell times of the packet type of DH1, DH3, and DH5 are tested. Only the worst case is shown on the report.



# 10. Occupied Bandwidth

# 10.1. Test Setup



### 10.2. Limits

N/A

# 10.3. Test Procedure

Tested according to FHSS test procedure of KDB558074 section 9 (b for compliance to FCC 47CFR 15.247 requirements.



#### 10.4. **Test Result of Occupied Bandwidth**

Product	:	Notebook Computers
Test Item	:	Occupied Bandwidth Data
Test Mode	:	Mode 1: Transmit - 1Mbps
Test Date	:	2020/11/20

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
00	2402	954		NA
39	2441	957		NA
78	2480	957		NA

# Figure Channel 00:

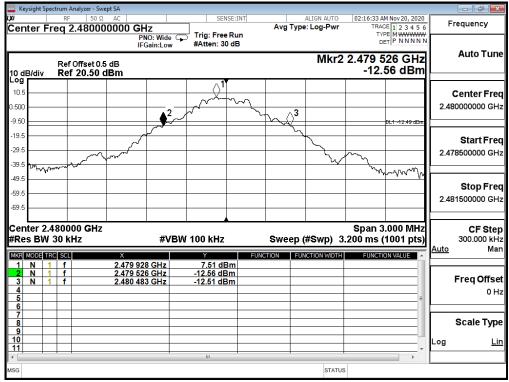
Keysight Spectrum Ar										
w RF	50 Ω AC .402000000 GH	7	SENSE	:INT		ALIGN AUTO		Nov 20, 2020	F	requency
	PN	O: Wide	Trig: Free R #Atten: 30 d			-	TYF De			Auto Tune
10 dB/div Ref	20.50 dBm						-13.9	96 dBm		
10.5				5						Center Free
-9.50		2~~~~	~	۲ مر	∽~{}3			DL1 -13.88 dBm	2.40	2000000 011
-19.5	~~~~					hora and a second se	~		2.40	Start Fre 0500000 GH
-39.5 -49.5						hr	, The second sec	And the second		Stop Fre
-59.5									2.40	3500000 GH
Center 2.40200 #Res BW 30 kH		#VBW 1	00 kHz		Sweep (	#Swp) 3.		.000 MHz 1001 pts)	Auto	<b>CF Ste</b> 300.000 k⊢ Ma
MKR MODE TRC SCL	× 2.401 928	GHz	Y 6.13 dBm	FUNCT	ION FUN	ICTION WIDTH	FUNCTION	DN VALUE	Auto	Ivia
2 N 1 f 3 N 1 f 4 5	2.401 529 2.402 483		- <u>13.96 dBm</u> -13.97 dBm							Freq Offse 0 H
6 7 8										Scale Typ
9 10 11									Log	Li
∢			III			STATUS	1	Þ		
33						STATUS				



🔤 Keysight Spectru	m Analyzer - Swept SA							
	RF 50 Ω AC		SENSE	Avg	ALIGN AUTO Type: Log-Pwr	TRAC	M Nov 20, 2020 E 1 2 3 4 5 6 E M WWWWW	Frequency
10 dB/div R	ef Offset 0.5 dB ef 20.50 dBm	PNO: Wide IFGain:Low	#Atten: 30 d		Mkr2	2.440 5		Auto Tune
10.5 0.500 -9.50		▲ <sup>2</sup>		Why a				Center Freq 2.441000000 GHz
-9.50 -19.5 -29.5 -39.5						- Marine Contraction of the second se	DL1 -13:11 dBm	Start Freq 2.439500000 GHz
-49.5 -59.5 -69.5							Marin	<b>Stop Freq</b> 2.442500000 GHz
Center 2.447 #Res BW 30	kHz		SW 100 kHz	Swe	ep (#Swp) 3	.200 ms (	.000 MHz 1001 pts)	CF Step 300.000 kHz <u>Auto</u> Mar
1 N 1 2 N 1 3 N 1 4 5	f 2.4 f 2.4	440 931 GHz 440 529 GHz 441 486 GHz	6.89 dBn -13.40 dBn -13.20 dBn	1				Freq Offset 0 Hz
6 7 8 9 10 11								Scale Type
۲ MSG	-		III	1	STATU	s	•	

#### **Figure Channel 39:**

#### Figure Channel 78:





Product	:	Notebook Computers
Test Item	:	Occupied Bandwidth Data
Test Mode	:	Mode 2: Transmit - 2Mbps
Test Date	:	2020/11/20

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
00	2402	1458		NA
39	2441	1443		NA
78	2480	1497		NA

# Figure Channel 00:

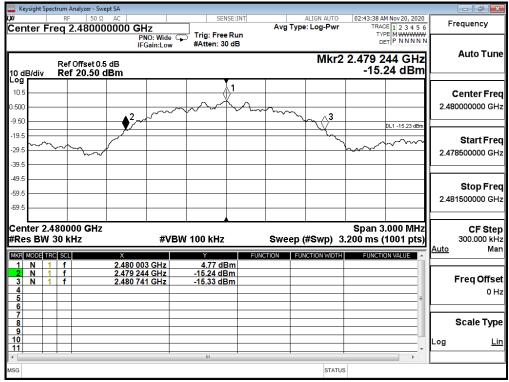
Keysig	ght Spectrur	n Analyzer - Swe	ept SA									
ıxı Cente		RF 50 Ω <b>2.40200</b>	AC 0000 GH	lz		SE:INT	Avg Typ	ALIGN AUTO e: Log-Pwr	TRAC	M Nov 20, 2020 CE 1 2 3 4 5 6 PE M WWWW	F	requency
10 dB/		ef Offset 0.5 ef 20.50 c	iF0	₩ide Gain:Low	#Atten: 30			Mkr2	2.401 2	47 GHz		Auto Tune
10.500 -			.2			1	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~					<b>Center Freq</b> 02000000 GHz
-9.50 -19.5 -29.5 -39.5	~~~~		<b>9</b> , ~~							DL1 -16.20 dBm	2.4	<b>Start Freq</b> 00500000 GHz
-49.5 — -59.5 — -69.5 —											2.40	<b>Stop Freq</b> 03500000 GHz
#Res	er 2.402 BW 30		X	#VBW	/ 100 kHz	FUN	<u> </u>	(#Swp) 3 NGTION WIDTH	.200 ms (	.000 MHz 1001 pts)	<u>Auto</u>	<b>CF Step</b> 300.000 kHz Man
1 N 2 N 3 N 4 5 6	1 1 1	F F F	2.402 00 2.401 24 2.402 70	7 GHz	3.80 dE -16.20 dB -16.44 dB	m				=		Freq Offset 0 Hz
7 8 9 10											Log	Scale Type
11 MSG					III			STATUS	3	• •		



🔤 Keys	sight Sp	ectrum	Analyzer - Swe	ept SA									
یر Cent	er F		F 50 Ω 2.44100	0000 GI			SENSE:INT	Avg	ALIGN AUTO Type: Log-Pw	<b>r</b> TR	AM Nov 20, 2020 ACE 1 2 3 4 5 6	F	requency
10 dB	Jdiv		f Offset 0.5	lF 5 dB	NO: Wide Gain:Low	#Atten	ree Run : 30 dB		Mkr	2 2.440	268 GHz		Auto Tune
Log 10.5 - 0.500 - -9.50 -				<u>2</u>	~~~~	~~~~			~∧3				<b>Center Freq</b> 41000000 GHz
-19.5 -29.5 -39.5	~~	$\sim$	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	×*						~~~	DL1 -15.47 dBm	2.4	Start Freq 39500000 GHz
-49.5 - -59.5 - -69.5 -												2.4	<b>Stop Freq</b> 42500000 GHz
Cent #Res	BW	30		×	#VE	3W 100 kH		Swe	ep (#Swp)	3.200 ms	3.000 MHz (1001 pts)	Auto	<b>CF Step</b> 300.000 kHz Man
1	N N N	1 f 1 f 1 f		2.441 00 2.440 26 2.441 71	68 GHz	4.53 -15.66 -15.47	dBm dBm				E		Freq Offset
6 7 8 9 10 11												Log	Scale Type
<ul> <li>▲</li> <li>MSG</li> </ul>						III			STA	TUS			

#### Figure Channel 39:

#### Figure Channel 78:





Product	:	Notebook Computers
Test Item	:	Occupied Bandwidth Data
Test Mode	:	Mode 3: Transmit - 3Mbps
Test Date	:	2020/11/20

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
00	2402	1482		NA
39	2441	1479		NA
78	2480	1479		NA

# Figure Channel 00:

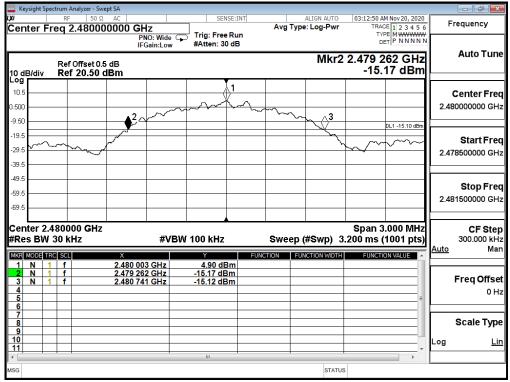
🔤 Keysight S	Spectrum Analyzer - Swe	ept SA							
ین Center	RF 50 Ω Freq 2.40200		SENSE	Avg Ty	ALIGN AUTO pe: Log-Pwr	TRACI	Nov 20, 2020	Freque	ncy
10 dB/div	Ref Offset 0.5 Ref 20.50 c		#Atten: 30 d		Mkr2	2.401 2	62 GHz	Aut	o Tune
10.5 0.500		2	1	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~			Cent 2.402000	<b>er Freq</b> 000 GHz
-19.5 -29.5	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~					~~~	0L1 -16.24 dBm	<b>St</b> a 2.400500	<b>irt Freq</b> 000 GHz
-49.5 -59.5 -69.5								<b>Sto</b> 2.403500	o <b>p Freq</b> 000 GHz
	2.402000 GHz V 30 kHz TRC SCL	#VE	SW 100 kHz		(#Swp) 3				F Step 000 kHz Mar
1 N 2 N 3 N 4 5 6	1 f 1 f 1 f	2.402 003 GHz 2.401 262 GHz 2.402 744 GHz	3.76 dBm -16.51 dBm -16.53 dBm	1				Frec	<b>Offse</b> 0 Hz
7 8 9								Sca	le Type
10 11								Log	Lin
MSG			III		STATUS	3	•		



👞 Key	sight S	Spectr	um A	nalyzer - Swe	ept SA														
IXI Cont	tor	Ero	RF	50 Ω 2.44100		20-		SE	NSE:INT	Г	Ava		GN AUTO	02:		4 Nov 20		F	requency
Ceni	lei	rie	y 2	.44100		PNO: W		Trig: Fre #Atten: 3				, jpc. L			TYP		AAAAAA		Auto Tuno
10 dE	3/div			Offset 0.5 20.50 c									Mkr2			65 G 48 d			Auto Tune
Log 10.5					•2		<u></u>	~~~	1	~~~~	~~~	~						2.4	<b>Center Freq</b> 41000000 GHz
-9.50					<b>S</b>	~~~							X_			DL1 -15.3	5 dBm		
-19.5 -29.5	~~~	~~	~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~									^/		$\sim$	$\sim$	$\sim$	2.4	Start Freq 39500000 GHz
-39.5 -49.5																			o
-59.5 -69.5																		2.4	<b>Stop Freq</b> 42500000 GHz
Cent #Res	s BV	N 3	) kl	00 GHz Hz		#	≠VBW	/ 100 kHz					Swp) (	3.200	ms (		pts)	Auto	CF Step 300.000 kHz Man
MKR M		TRC	SCL f		X 2 4 4 1 (	006 GH	7	¥ 4.65 d	Bm	FUNCT	ION	FUNCT	ION WIDTH		FUNCTIO	ON VALUE			
2	N N	1	f		2.440 2	265 GH 744 GH	z	- <u>15.48 dl</u> -15.43 dl	Bm										Freq Offset 0 Hz
7 8 9																			Scale Type
10 11			_				+							-				Log	<u>Lin</u>
•							-	III						1			+		
MSG													STATU	IS					

#### Figure Channel 39:

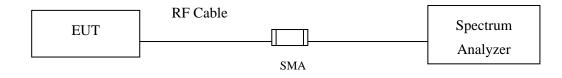
#### Figure Channel 78:





# 11. Duty Cycle

# 11.1. Test Setup



### **11.2.** Test Procedure

The EUT was setup according to ANSI C63.10 2013; tested according to ANSI C63.10 2013 for compliance to FCC 47CFR 15.247 requirements.



## **11.3.** Test Result of Duty Cycle

Product	:	Notebook Computers
Test Item	:	Duty Cycle Data
Test Mode	:	Mode 1: Transmit - 1Mbps

SIL	1001	Υ	Sourcemen	×	Spectrum 3	X	pr tro	ni i (X	ר	
Ref Le Att SGL TR		30	iBm IdB <b>= SWT</b> 1	00 ms 🖕	RBW 1 MHz VBW 1 MHz					
1Pk Cir	W		-75-	7 I			Sec			-
10 dBm-	MI	02 • 6.00	00 dBm				2[1] 1[1]			-0.14 dB 2.899 ms 7.25 dBm -145 µs
0 dBm-		-		-	-		-	+	-1	110 ps
-10 dBm	+	-	-	-				-		-
-20 dBm	+	-	-		-		-	_	-	-
-30 d8m	-	-	-		-	-	-	-	-	
-40 dBm	+	-						_	_	
-50 dBm -60 dBm		ingut.	mahalukiluko-al-ayur	humulul	May Manual Market	urun nyelangu	yh Many	nduburburud	nummun	nandruden
-70 dBm										
CF 2.40	12 GH	z			691 p	ts				10.0 ms/
Marker Type	Ref	Trol	X-valu	o	Y-value	Funct	ion 1		unction Re	cult l
M1	Rei	1		44.9 µs	7.25 dBm				unction Re:	suit
D2	M1	1		.899 ms	-0.14 dB					

Date: 13.NOV.2020 08:21:39

Time on of 100ms= 2.8990ms\*1= 2.89ms Duty Cycle=2.899ms / 100ms= 0.02899 Duty Cycle correction factor= 20 LOG 0.02899= -30.755 dB

Duty Cycle correction factor	-30.755	dB
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Product :	Notebook Computers
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Test Mode : Mode 2: Transmit - 2Mbps

SGL TR			iB 🖷 SWT 100 ms 👄	VBW 1 MHZ			
• 1Pk Cl					D2[1]		0.33 di 2.899 m
10 000		D2 \$ 5.000	dBm	-	M1[1]		5.41 dBr -290 µ
0 dBm-		-		-	- 1 -	+ +	1 2004
-10 dBm	+						-
-20 dBm	-	-		-	_	_	-
-30 d8n	+				_		
-40 dBm	+						
50 dBm	hur	Lowburd	Hawbright while	perconnection	Lynnorth Unound	the dependent of the state of t	Har deriver white
-60 dBm	-				· .		
-70 dBm	+			_			
CF 2.40	02 GH	Iz		691 pts			10.0 ms/
Marker							
Туре	Ref		X-value	Y-value	Function	Function R	esult
M1		1	-289.9 µs	5.41 dBm			

Date: 13.NOV.2020 08:38:50

Time on of 100ms= 2.8990ms\*1= 2.89ms Duty Cycle=2.899ms / 100ms= 0.02899 Duty Cycle correction factor= 20 LOG 0.02899= -30.755 dB

Duty Cycle correction factor	-30.755	dB
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Product :	Notebook Computers
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Test Item	:	Duty Cycle Data
rest nem	•	Duly Cycle Dule

Test Mode : Mode 3: Transmit - 3Mbps

D1Pk Cl	W							
10 dBm	MI	D2 10 5.000	dBm		D2[1] M1[1]		0.49 di 2.899 m 5.88 dBn -145 p	
0 dBm-	- 10	1		-	- 1	1 1	1 10 0	
-10 dBm	-						_	
-20 dBm	-	_			_	-		
-30 d8n	-	-			_			
-40 dBm	-							
-50 d8m						day		
59,999 -60 dBn		lulipur vigi	a phala the gradured when the	munited	Same Contraction	h-hander with a hereber	my how the fighter	
-70 dBn	+							
CF 2.4	02 GH	z		691 pts			10.0 ms/	
1arker Type	Ref	Tre	X-value	Y-value	Function	Function R	ecult	
M1	Nor	1	-144.9 µs	5.88 dBm	, unction	Function	osult	
	M1	1	2.899 ms	0.49 dB				

Date: 13.NOV.2020 10:13:05

Time on of 100ms= 2.8990ms\*1= 2.89ms Duty Cycle=2.899ms / 100ms= 0.02899 Duty Cycle correction factor= 20 LOG 0.02899= -30.755 dB



# 12. EMI Reduction Method During Compliance Testing

No modification was made during testing.