

## ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT



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**FCC Manufacturer:** Seiko Epson Corporation  
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**Product Name:** WLAN BT Module

**Brand Name:** EPSON

**Model No.:** NH7

**Model Difference:** N/A

**Report Number:** TERF2406001649E2

**FCC ID** BKMAE-NH7

**Date of EUT Received:** June 7, 2024

**Date of Test:** June 20, 2024 ~ July 13, 2024

**Issue Date:** August 7, 2024

*Aken Huang*  
**Approved By**

*Aken Huang*

**We hereby certify that:**

The above equipment was tested by SGS Taiwan Ltd. Central RF Lab. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10:2013 and the energy emitted by the sample EUT comply with FCC rule part §15.247.

The results of this report relate only to the sample identified in this report.

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## Revision History

Report Number	Revision	Description	Issue Date	Revised By	Remark
TERF2406001649E2	00	Original	August 7, 2024	Yuri Tsai	

**Note:**

- 1、The remark "\*" indicates modification of the report upon requests from certification body.

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## 1 GENERAL INFORMATION

### 1.1 Product Description

Product Name:	WLAN BT Module
Brand Name:	EPSON
Model No.:	NH7
Model Difference:	N/A
Hardware Version:	V1.0
Firmware Version:	V2.015
EUT Series No.:	ARTFBNH700101045E08YRC0.00RV0.00
Power Supply:	5Vdc
Test Software (Name/Version)	adb.exe_1.0.41

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## 1.2 RF Specification

### WLAN 2.4GHz

Wi-Fi	Frequency Range	Channels	Rated Power (dBm)		Modulation Technology
			Peak	Avg.	
802.11b	2412~2462	11	25.01	22.47	DSSS
802.11g	2412~2462	11	28.54	20.25	OFDM
802.11n_HT20	2412~2462	11	27.46	19.37	OFDM
802.11n_HT40	2422~2452	7	27.12	18.41	OFDM
802.11ac_VHT20	2412~2462	11	27.23	19.27	OFDM
802.11ac_VHT40	2422~2452	7	27.81	18.38	OFDM
802.11ax_HE20	2412~2462	11	27.84	17.49	OFDMA
802.11ax_HE40	2422~2452	7	26.06	16.44	OFDMA
Modulation type:	CCK, DQPSK, DBPSK for DSSS in 802.11b				
	64QAM, 16QAM, QPSK, BPSK for OFDM in 802.11g, 11n				
	256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDM in 802.11ac				
	1024QAM, 256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDMA in 802.11ax				
Data Rate:	802.11b: 1/2/5.5/11 Mbps				
	802.11g: 6/9/12/18/24/36/48/54 Mbps				
	802.11n_HT20: up to 144.4Mbps				
	802.11n_HT40: up to 300Mbps				
	802.11ac_VHT20: up to 173.4Mbps				
	802.11ac_VHT40: up to 400Mbps				
	802.11ax_HE20: up to 286.8Mbps				
	802.11ax_HE40: up to 573.6Mbps				

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### 1.3 Antenna Designation

Antenna Type	Antenna No.	Freq. (MHz)	Peak Antenna Gain (dBi)
PIFA	ANT0	2412-2462	-0.28
	ANT1	2412-2462	0.31

**Note:**

1. Pre-scanned was done on the above antennas, measurements were demonstrated by using the antenna with the highest gain as the worst case scenarios.
2. Antenna information is provided by the applicant.

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## 1.4 Test Methodology of Applied Standards

FCC Part 15, Subpart C §15.247

FCC KDB 558074 D01 15.247 Meas Guidance v05r02

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

ANSI C63.10:2013

## 1.5 Test Facility

Laboratory	Test Site Address	Test Site Name	FCC Designation number	IC CAB identifier
SGS Taiwan Ltd. Central RF Lab. (TAF code 3702)	No.134, Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan.	SAC 1	TW0027	TW3702
		SAC 2		
		SAC 3		
		Conduction 1		
		Conducted 1		
		Conducted 2		
		Conducted 3		
		Conducted 4		
		Conducted 5		
		Conducted 6		
		Conduction C		
		SAC C		
		SAC D		
		SAC G		
	No.2, Keji 1st Rd., Guishan District, Taoyuan City, Taiwan 333	Conducted A	TW0028	
		Conducted B		
		Conducted C		
		Conducted D		
		Conducted E		
		Conducted F		
		Conducted G		

**Note:** Test site name is remarked on the equipment list in each section of this report as an indication where measurements occurred in specific test site and address.

## 1.6 Special Accessories

There are no special accessories used while test was conducted.

## 1.7 Equipment Modifications

There was no modification incorporated into the EUT.

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## 2 SYSTEM TEST CONFIGURATION

### 2.1 EUT Configuration

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

### 2.2 EUT Exercise

An engineering test mode (software/firmware) that applicant provided was utilized to manipulate the EUT into transmit, selection of the test channel, and modulation scheme.

### 2.3 Test Procedure

#### 2.3.1 Conducted Emissions

The EUT is placed on a table which is 0.8 m above ground plane. Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz. The CISPR Quasi-Peak and Average detector mode is employed. The two LISNs provide 50uH/50 ohm of coupling impedance for the measuring instrument. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

#### 2.3.2 Conducted Test (RF)

The active antenna port of the unlicensed wireless device is connected to the spectrum analyzer with attenuator to protect the instrumentation. If a second antenna port is available, it is tested at one operating frequency, with other port(s) appropriately terminated, to verify it has similar output characteristics as the fully tested port.

#### 2.3.3 Radiated Emissions

The EUT is placed on a turn table. For emissions testing at or below 1 GHz, the table height shall be 0.8 m above the reference ground plane. For emission measurements above 1 GHz, the table height shall be 1.5 m. The turn table shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the max. emission, the relative positions of this transmitter (EUT) was rotated through three orthogonal axes and measurement procedures for electric field radiated emissions above 1 GHz the EUT measurement is to be made "while keeping the antenna in the 'cone of radiation' from that area and pointed at the area both in azimuth and elevation, with polarization oriented for maximum response." is still within the 3dB illumination BW of the measurement antenna.

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## 2.4 Measurement Results Explanation Example

### 2.4.1 Radiated Emission Test Sites For Measurements From 9 kHz To 30 MHz

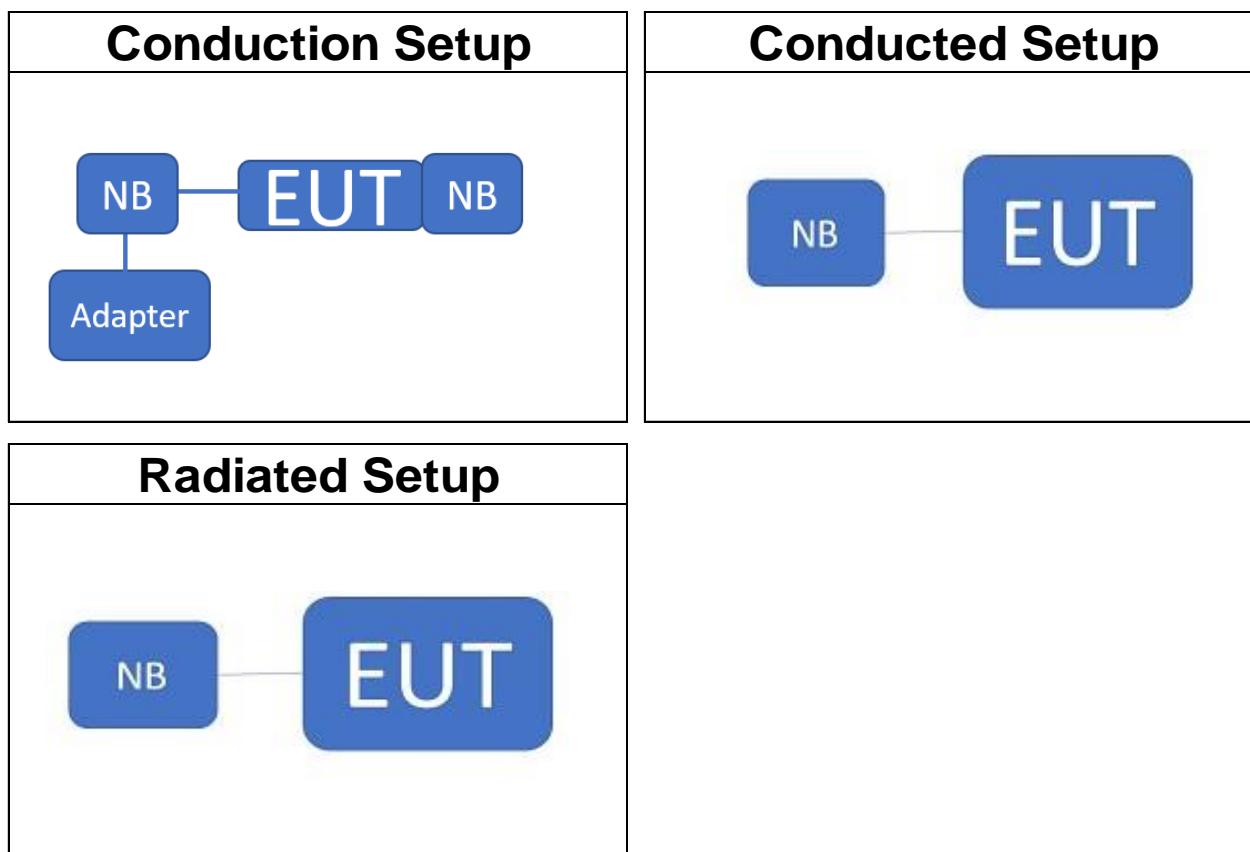
Radiated emission below 30MHz is measured in a 9m\*6m\*6m semi-anechoic chamber, the measurements correspond to those obtained at an open-field test site.

There is a comparison data of both open-field test site and semi-Anechoic chamber, and the result came out very similar.

### 2.4.2 For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuation factor between EUT conducted port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly EUT RF output level.

## 2.5 Test Configuration



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## 2.6 Control Unit(s)

AC Power-Line Conducted Emission Test Site: Conduction C					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
USB Cable	Quanta	NH7-01	N/A	N/A	N/A
NB Adapter	Lenovo	45N0119	11S45N0119Z1ZHXT 1CEAA2	N/A	N/A
Notebook	Lenovo	T440p	P0000665	N/A	N/A
Notebook	Lenovo	T470	P0001293	N/A	N/A
Conducted Emission Test Site: Conducted F					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Notebook	HP	HSN-Q35C-4	P0003858	N/A	N/A
USB Cable	Quanta	NH7-01	N/A	N/A	N/A
Radiated Emission Test Site: SAC D					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Notebook	Lenovo	L480	P0002332	N/A	N/A
USB cable	Quanta	NH7-01	N/A	N/A	N/A

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### 3 SUMMARY OF TEST RESULTS

FCC Rules	Description Of Test	Result
§15.207(a)	AC Power Line Conducted Emission	Compliant
§15.247(b) (3)	Peak Output Power	Compliant
§15.247(a)(2)	Emission Bandwidth	Compliant
§15.209 §15.247(d)	Conducted Band Edge and Spurious Emission	Compliant
§15.209 §15.247(d)	Radiated Band Edge and Spurious Emission	Compliant
§15.205	Restricted Bands	Compliant
§15.247(e)	Power Spectral Density	Compliant
§15.203	Antenna Requirement	Compliant

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## 4 DESCRIPTION OF TEST MODES

### 4.1 Operating Frequencies

2400~2483.5 MHz	
20MHz	
CH	Freq. (MHz)
1	2412
2	2417
3	2422
4	2427
5	2432
6	2437
7	2442
8	2447
9	2452
10	2457
11	2462

40MHz	
CH	Freq. (MHz)
3	2422
4	2427
5	2432
6	2437
7	2442
8	2447
9	2452

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## 4.2 The Worst Test Modes and Channel Details

1. The EUT has been tested under operating condition.
2. Test program used to control the EUT for staying in continuous transmitting and receiving mode is programmed.
3. Investigation has been done on all the possible configurations for searching the worst case.

The given UE is pre-scanned among below modes.

Modulation		Transmission Chain						Single Transmission Spatial		Multi Transmission Spatial	
V	802.11 b	V	Ch0	V	Ch1		Ch2		Ch3		1TX
V	802.11 g	V	Ch0	V	Ch1		Ch2		Ch3		1TX
V	802.11 n	V	Ch0	V	Ch1		Ch2		Ch3		1TX
V	802.11 ac	V	Ch0	V	Ch1		Ch2		Ch3		1TX
V	802.11 ax	V	Ch0	V	Ch1		Ch2		Ch3		1TX
											2TX
											2TX
											2TX
											2TX

4. Therefore, below summary is the modes of test configuration that yield the highest reading and generate the highest emission chosen to carry out the relevantly mandatory test items.

CONDUCTED TEST						
MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION	DATA RATE (Mbps)		ANTENNA PORT
802.11b	1 to 11	1,6,11	DSSS	1		2TX
802.11g	1 to 11	1,2,3,6,9,10,11	OFDM	6		2TX
802.11n_HT20	1 to 11	1,2,3,6,9,10,11	OFDM	MCS0		2TX
802.11n_HT40	3 to 9	3,4,5,6,7,8,9	OFDM	MCS0		2TX

CONDUCTED TEST						
MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION	RU CONFIGURATION	DATA RATE (Mbps)	ANTENNA PORT
802.11ax_HE20	1 to 11	1,2,3,6,11	OFDMA	FULL RU 26/0,26/8 52/37,52/40 106/53,106/54	MCS0	2TX
802.11ax_HE40	3 to 9	3,4,5,6,7,8,9	OFDMA	FULL RU 242/61,242/62	MCS0	2TX

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TRANSMIT RADIATED EMISSION TEST (BELOW 1 GHz)					
MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION	DATA RATE (Mbps)	ANTENNA PORT
802.11g	1 to 11	6	OFDM	6	2TX

TRANSMIT RADIATED EMISSION TEST (ABOVE 1 GHz)					
MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION	DATA RATE (Mbps)	ANTENNA PORT
802.11b	1 to 11	1,6,11	DSSS	1	2TX
802.11g	1 to 11	1,2,3,4,6,9,10,11	OFDM	6	2TX
802.11n_HT20	1 to 11	1,2,3,6,10,11	OFDM	MCS0	2TX
802.11n_HT40	3 to 9	3,4,5,6,7,8,9	OFDM	MCS0	2TX

TRANSMIT RADIATED EMISSION TEST (ABOVE 1 GHz)						
MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION	RU CONFIGURATION	DATA RATE (Mbps)	ANTENNA PORT
802.11ax_HE20	1 to 11	1,2,6,11	OFDMA	FULL RU 26/0,26/8 52/37,52/40 106/53,106/54	MCS0	2TX
802.11ax_HE40	3 to 9	3,4,6,9	OFDMA	FULL RU 242/61,242/62	MCS0	2TX

**Note:**

The field strength of radiated emission was measured as the EUT positioned in different orthogonal planes (E1/E2/H) based on actual usage of the EUT to pre-scan the emissions for determining the worst case scenario.

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## 5 MEASUREMENT UNCERTAINTY

Test Items	Uncertainty
AC Power Line Conducted Emission	+/- 1.54 dB
Output Power measurement	+/- 0.97 dB
Emission Bandwidth	+/- 1.38 Hz
Conducted emission measurement	+/- 0.77 dB
Peak Power Density	+/- 0.61 dB
Temperature	+/- 0.6 °C
Humidity	+/- 3 %
DC / AC Power Source	+/- 1 %

Radiated Spurious Emission Measurement Uncertainty			
<b>Polarization: Vertical</b>	+/- 1.89 dB	9kHz~30MHz	
	+/- 4.15 dB	30MHz - 1000MHz	
	+/- 3.43 dB	1GHz - 18GHz	
	+/- 3.86 dB	18GHz - 40GHz	
<b>Polarization: Horizontal</b>	+/- 1.89 dB	9kHz~30MHz	
	+/- 4.02 dB	30MHz - 1000MHz	
	+/- 3.43 dB	1GHz - 18GHz	
	+/- 3.86 dB	18GHz - 40GHz	
<b>Radiated Spurious Emission</b>	+/- 2 dB	33GHz-50GHz	
	+/- 1.59 dB	50GHz-60GHz	
	+/- 1.7 dB	60GHz-90GHz	
	+/- 1.64 dB	90GHz-140GHz	
	+/- 3.83 dB	140GHz-220GHz	

**Note:**

1. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.
2. The conformity assessment statement in this report is based solely on the test results, measurement uncertainty is excluded.

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## 6 MEASUREMENT EQUIPMENT USED

### 6.1 Emission from AC power line

AC Power-Line Conducted Emission Test Site: Conduction C					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Coaxial Cable	EC Lab	RF-HY-CAB-250	RF-HY-CAB-250-01	03/27/2024	03/26/2025
EMI Test Receiver	R&S	ESCI	101342	04/29/2024	04/28/2025
LISN	SCHWARZBECK Mess-Elektronik	NSLK8127	973	04/22/2024	04/21/2025
Pulse Limiter	EC Lab	VTSD 9561F-N	485	03/27/2024	03/26/2025
Test Software	audix	e3	E3 20923 SGS Ver.9 ( C )	N.C.R	N.C.R

### 6.2 Conducted Measurement

Conducted Emission Test Site: Conducted F					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Attenuator	Woken	WATT-218FS-10	RF16	11/15/2023	11/14/2024
Attenuator	Woken	WATT-218FS-10	RF25	11/15/2023	11/14/2024
Coaxial Cables	Woken	00100A1F1A185C	RF77	11/15/2023	11/14/2024
DC Block	PASTERNACK	PE8210	RF153	11/15/2023	11/14/2024
Power Meter	Anritsu	ML2496A	1326001	08/22/2023	08/21/2024
Power Sensor	Anritsu	MA2411B	1315048	08/22/2023	08/21/2024
Power Sensor	Anritsu	MA2411B	1315049	08/22/2023	08/21/2024
Spectrum Analyzer	KEYSIGHT	N9010B	MY60240506	06/17/2024	06/16/2025
Switch E-Channel	E-Channel	ETF-1801 RF Switch	EC2100326	11/15/2023	11/14/2024
Test Software	SGS Taiwan	Radio Test Software	Ver.21	N.C.R	N.C.R

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## 6.3 Radiated Measurement

Radiated Emission Test Site: SAC D					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
3m Site NSA	SGS	966 chamber D	N/A	04/30/2024	04/29/2025
Active Loop Antenna	COM-POWER	AL-130R	10160105	12/04/2023	12/03/2024
Attenuator	Marvelous	MVE2213-10	RF14	11/15/2023	11/14/2024
Band Reject Filter	WI	WRC JV2300/2700-2240/2760-40/12SS	RF203	11/15/2023	11/14/2024
Broadband Antenna	SCHWARZBECK	VULB 9168	9168-617	12/14/2023	12/13/2024
Coaxial Cable	Huber+Suhner	EMC106-SM-SM-7200	150703	11/15/2023	11/14/2024
Coaxial Cable	Huber+Suhner	RG 214/U	W21.01	11/15/2023	11/14/2024
Horn Antenna	Schwarzbeck	BBHA9120D	1341	05/30/2024	05/29/2025
Horn Antenna	SCHWARZBECK	BBHA9170	185	08/21/2023	08/20/2024
Pre-Amplifier	EMC Instruments	EMC12630SE	980273	11/15/2023	11/14/2024
Pre-Amplifier	EMC Instruments	EMC18405SEE	980881	11/15/2023	11/14/2024
Pre-Amplifier	EMC Instruments	EMC9135	980234	11/15/2023	11/14/2024
Spectrum Analyzer	KEYSIGHT	N9010A	MY57120200	04/03/2024	04/02/2025
Test Software	audix	e3	E3 20923 SGS Ver.9 (C)	N.C.R	N.C.R

**NOTE:** N.C.R refers to Not Calibrated Required.

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## 7 CONDUCTED EMISSION TEST

### 7.1 Standard Applicable

Frequency range within 150kHz to 30MHz shall not exceed the Limit table as below.

Frequency range MHz	Limits (dBuV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50

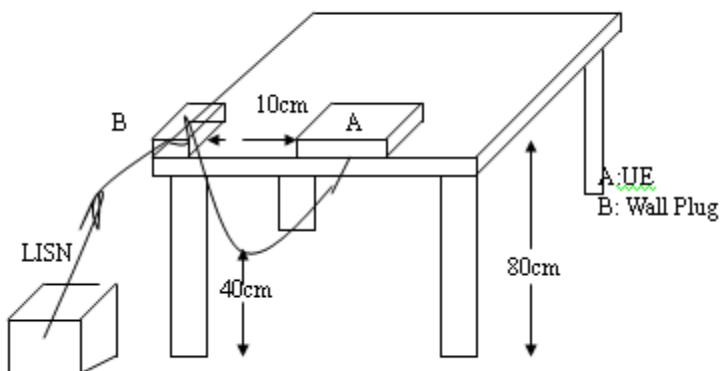
#### Note

1. The lower limit shall apply at the transition frequencies
2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.

### 7.2 EUT Setup:

1. The conducted emission tests were performed in the test site, using the setup in accordance with the ANSI C63.10:2013.
2. The AC/DC Power adaptor of EUT was plug-in LISN. The EUT was placed flushed with the rear of the table.
3. The LISN was connected with 120Vac/60Hz power source.

### 7.3 Test Setup



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## 7.4 Measurement Procedure

1. The EUT was placed on a table which is 0.8m above ground plane.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. Repeat above procedures until all phases of power being supplied by given UE are completed

## 7.5 Measurement Result

Note: Refer to next page for measurement data and plots.

Note2: The \* reveals the worst-case results that closest to the limit.

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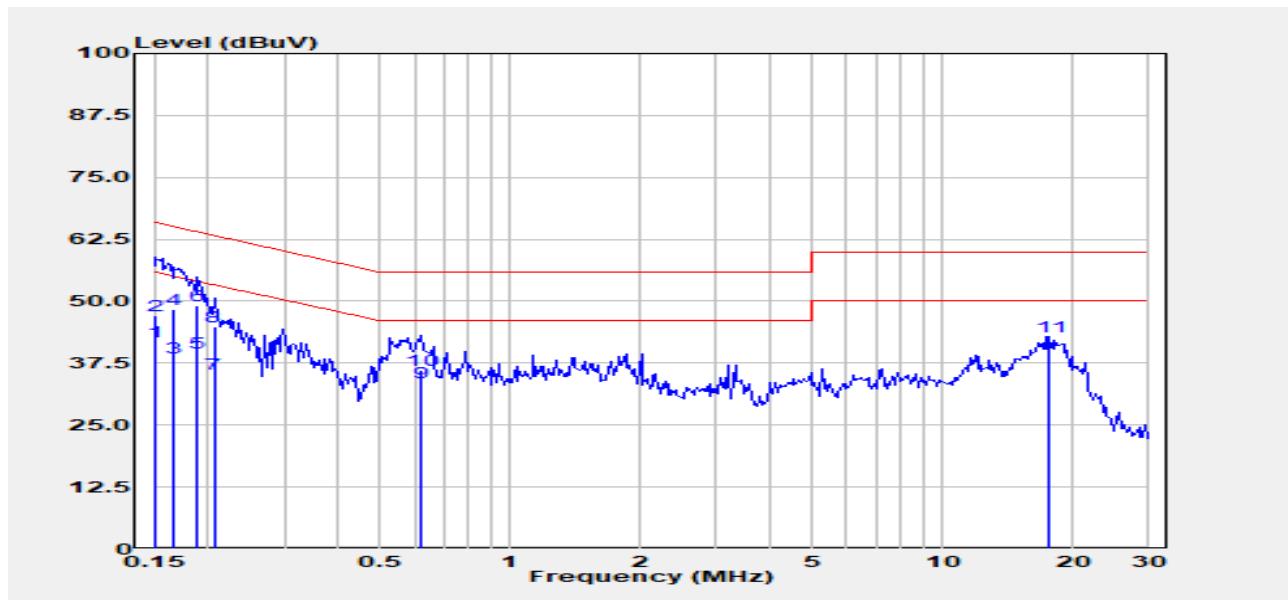
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## AC POWER LINE CONDUCTED EMISSION TEST DATA

Report Number :TERF2406001649E2 Test Site :Conduction C  
 Test Mode :2.4G Test Date :2024-06-25  
 Power :120V/60Hz Temp./Humi. :24.3°C/47%  
 Probe :L1 Engineer :Jacky Chen



Freq. MHz	Detector Mode	Spectrum Reading	Factor	Actual	Limit	Margin
				FS		
PK/QP/AV	dBμV	dB	dB	dBμV	dBμV	dB
0.152	Average	31.30	10.65	41.95	55.91	-13.96
0.152	QP	36.50	10.65	47.15	65.91	-18.76
0.167	Average	28.00	10.65	38.65	55.12	-16.47
0.167	QP	37.70	10.65	48.35	65.12	-16.77
0.189	Average	29.00	10.65	39.65	54.06	-14.41
0.189	QP	38.40	10.65	49.05	64.06	-15.01
0.206	Average	24.80	10.65	35.45	53.36	-17.91
0.206	QP	34.10	10.65	44.75	63.36	-18.61
0.621	Average	22.90	10.64	33.54	46.00	-12.46
0.621	QP	25.40	10.64	36.04	56.00	-19.96
17.661	Peak	31.78	11.12	42.90	60.00	-17.10

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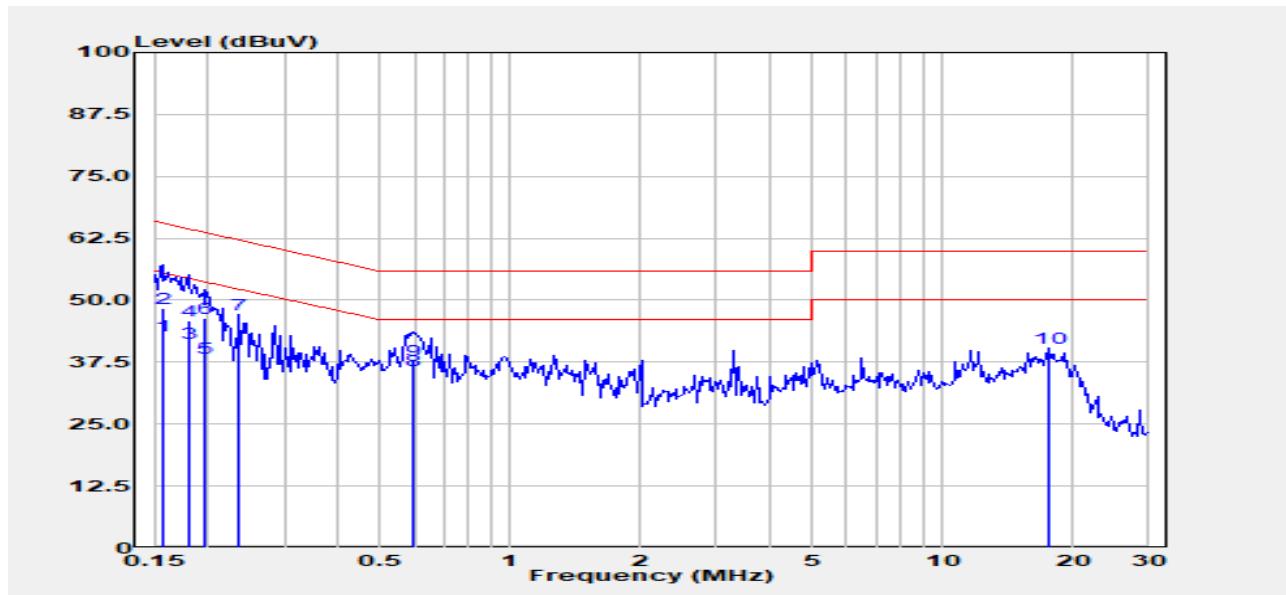
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Report Number :TERF2406001649E2  
Test Mode :2.4G  
Power :120V/60Hz  
Probe :N

Test Site :Conduction C  
Test Date :2024-06-25  
Temp./Humi. :24.3°C/47%  
Engineer :Jacky Chen



Freq. MHz	Detector Mode	Spectrum Reading	Factor dB	Actual		Margin dB
				PK/QP/AV	dB $\mu$ V	
0.156	Average	32.10	10.66	42.76	55.65	-12.89
0.156	QP	37.60	10.66	48.26	65.65	-17.39
0.180	Average	30.60	10.65	41.25	54.50	-13.25
0.180	QP	35.30	10.65	45.95	64.50	-18.55
0.195	Average	27.70	10.65	38.35	53.80	-15.45
0.195	QP	35.60	10.65	46.25	63.80	-17.55
0.237	Peak	36.60	10.64	47.24	62.22	-14.97
0.595	Average	25.10	10.62	35.72	46.00	-10.28
0.595	QP	27.10	10.62	37.72	56.00	-18.28
17.661	Peak	29.35	11.12	40.47	60.00	-19.53

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## 8 PEAK OUTPUT POWER MEASUREMENT

### 8.1 Standard Applicable

#### 8.1.1 Duty Cycle

Pre-analysis Check: While conducting average power measurement, duty cycle of each mode shall be checked to ensure its duty cycle in order to compensate for the loss due to insufficient ratio of duty cycle.

All duty cycle is pre-scanned, and result as obtained below shows only the most representative ones where duty cycle is conducted as the given transmission with given virtual operation that expresses the percentage.

#### 8.1.2 FCC

For systems using digital modulation in the 2400-2483.5 MHz bands, the limit for peak output power is 1Watt.

If the transmitting antenna of directional gain greater than 6dBi are used the peak output power from the intentional radiator shall be reduced below the above stated value by the amount in dB that the directional gain of the Antenna exceeds 6dBi.

In case of point-to-point operation, the limit has to be reduced by 1dB for every 3dB that the directional gain of Antenna exceeds 6dBi.

**Note:**

When the antenna gain is greater than 6 dBi, the power limit attenuated accordingly.

As per section F. 2). e). (ii) of FCC KDB 662911 D01

If antenna gains are not equal and each transmit antenna is driven by only one spatial stream, directional gain may be calculated by either of the following formulas.

$$\bullet \quad \text{DirectionalGain} = 10 \cdot \log \left[ \frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$$

where

Each antenna is driven by no more than one spatial stream;

NSS = the number of independent spatial streams of data;

NANT = the total number of antennas

$g_{j,k} = 10^{G_k/20}$  if the kth antenna is being fed by spatial stream j, or zero if it is not;

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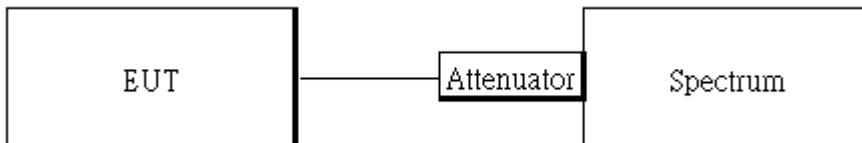
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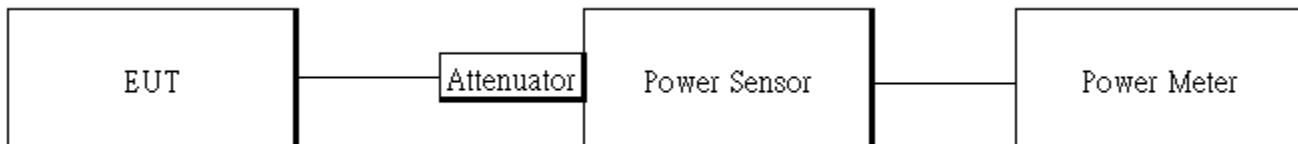
$G_k$  is the gain in dBi of the kth antenna.

## 8.2 Test Setup

### 8.2.1 Duty Cycle



### 8.2.2 Output Power:



## 8.3 Measurement Procedure

### 8.3.1 Duty Cycle:

1. Set span = Zero
2. RBW = 8MHz
3. VBW = 8MHz,
4. Detector = Peak

### 8.3.2 Output Power

1. Place the EUT on the table and set it in transmitting mode.
2. The testing follows the Measurement Procedure of FCC KDB 558074 D01 DTS Meas. Guidance .
3. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the power meter.

#### Power Meter:

It is used as the auxiliary test equipment to conduct the output power measurement.

4. Record the max. Reading as observed from Spectrum or Power Meter.
5. MIMO mode: offset is set with “measure and add 10 Log (N)” to measurement for MIMO mode. Offset = cable loss + 10 log (N), where N is number of transmitting antenna, cable loss is specified below.

**\* Note: The duty cycle factor and below is compensated to obtain the maximum value of measurement in average.**

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## 8.4 Measurement Result

### 8.4.1 Duty Cycle:

Mode		Duty Cycle (%) = Ton / (Ton+Toff)	Duty Factor (dB) =10*log ( 1/Duty Cycle )	1/T (kHz)	VBW setting (kHz)
802.11b		95.66	0.19	0.12	1.00
802.11g		78.64	1.04	0.72	1.00
802.11n_20		77.06	1.13	0.77	1.00
802.11n_40		97.38	0.12	0.77	1.00
802.11ac_20		76.76	1.15	0.76	1.00
802.11ac_40		62.78	2.02	1.54	2.00
Mode	RU Config	Duty Cycle (%) = Ton / (Ton+Toff)	Duty Factor (dB) =10*log ( 1/Duty Cycle )	1/T (kHz)	VBW setting (kHz)
802.11ax_20	Full	72.44	1.40	0.98	1.00
	26 RU	99.57	0.02	2.15	0.01
	52 RU	80.55	0.94	0.66	1.00
	106 RU	78.78	1.04	0.71	1.00
802.11ax_40	Full	58.75	2.31	1.86	2.00
	242 RU	75.00	1.25	0.83	1.00

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## 8.4.2 Duty Cycle test plots

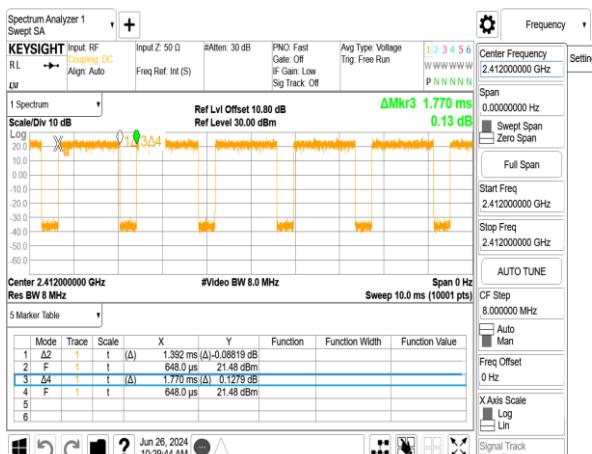
802.11b\_20MHz\_Chain0\_2412MHz



802.11n\_40MHz\_Chain0\_2422MHz



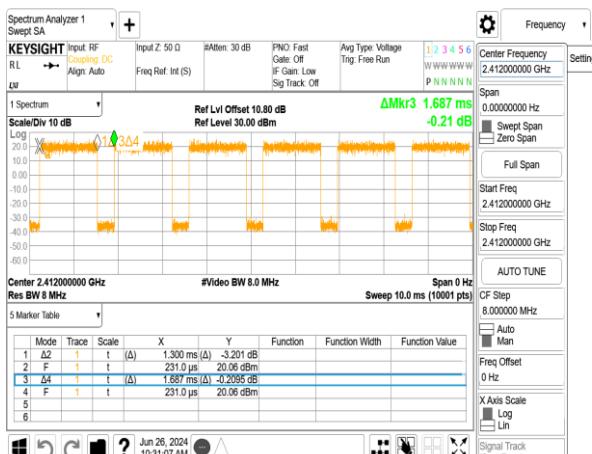
802.11g\_20MHz\_Chain0\_2412MHz



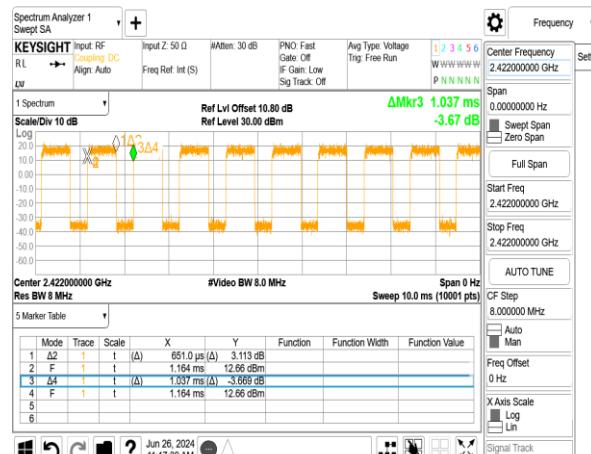
802.11ac\_20MHz\_Chain0\_2412MHz



802.11n\_20MHz\_Chain0\_2412MHz



802.11ac\_40MHz\_Chain0\_2422MHz



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802.11ax\_20MHz\_Chain0\_2412MHz



802.11ax\_20MHz\_Chain0\_2412MHz\_RU52\_37



802.11ax\_20MHz\_Chain0\_2412MHz\_RU106\_53



802.11ax\_20MHz\_Chain0\_2462MHz\_RU106\_54



802.11ax\_20MHz\_Chain0\_2412MHz\_RU26\_8



802.11ax\_20MHz\_Chain0\_2462MHz\_RU26\_8



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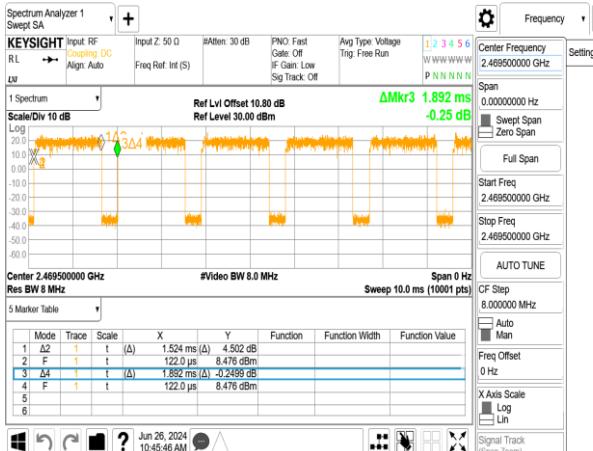
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802.11ax\_20MHz\_Chain0\_2462MHz\_RU52\_40



802.11ax\_40MHz\_Chain0\_2452MHz\_RU242\_62



802.11ax\_40MHz\_Chain0\_2422MHz



802.11ax\_40MHz\_Chain0\_2422MHz\_RU242\_61



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### 8.4.3 Output Power

#### 802.11b Ch0

CH	Freq. (MHz)	Data Rate	Power Setting	Peak Output Power (mW)	Peak Output Power (dBm)	Limit (dBm)	RESULT
1	2412	1	18.5	160.69	22.06	30.00	PASS
6	2437	1	18.5	148.94	21.73	30.00	PASS
11	2462	1	18.5	162.93	22.12	30.00	PASS

#### 802.11b Ch0

CH	Freq. (MHz)	Data Rate	Power Setting	Avg. Output Power (mW)	Avg. Output Power (dBm)	Limit (dBm)	RESULT
1	2412	1	18.5	86.75	19.38	30.00	PASS
6	2437	1	18.5	82.09	19.14	30.00	PASS
11	2462	1	18.5	87.15	19.40	30.00	PASS

#### 802.11b Ch1

CH	Freq. (MHz)	Data Rate	Power Setting	Peak Output Power (mW)	Peak Output Power (dBm)	Limit (dBm)	RESULT
1	2412	1	18.5	148.94	21.73	30.00	PASS
6	2437	1	18.5	141.91	21.52	30.00	PASS
11	2462	1	18.5	153.46	21.86	30.00	PASS

#### 802.11b Ch1

CH	Freq. (MHz)	Data Rate	Power Setting	Avg. Output Power (mW)	Avg. Output Power (dBm)	Limit (dBm)	RESULT
1	2412	1	18.5	84.39	19.26	30.00	PASS
6	2437	1	18.5	80.40	19.05	30.00	PASS
11	2462	1	18.5	86.35	19.36	30.00	PASS

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## 802.11b\_2TX

CH	Freq. (MHz)	Data Rate	Power Setting	Peak Output Power (dBm)		Total Peak Output Power (mW)	Total Peak Output Power (dBm)	Limit (dBm)	RESULT
				Ch0	Ch1				
1	2412	1	18.5	21.92	21.76	305.57	24.85	30.00	PASS
6	2437	1	18.5	21.91	21.64	301.12	24.79	30.00	PASS
11	2462	1	18.5	22.08	21.92	317.03	25.01	30.00	PASS

## 802.11b\_2TX

CH	Freq. (MHz)	Data Rate	Power Setting	Avg. Output Power (dBm)		Total Avg. Output Power (mW)	Total Avg. Output Power (dBm)	Limit (dBm)	RESULT
				Ch0	Ch1				
1	2412	1	18.5	19.47	19.34	174.52	22.42	30.00	PASS
6	2437	1	18.5	19.34	19.28	170.73	22.32	30.00	PASS
11	2462	1	18.5	19.51	19.40	176.54	22.47	30.00	PASS

## 802.11g Ch0

CH	Freq. (MHz)	Data Rate	Power Setting	Peak Output Power (mW)	Peak Output Power (dBm)	Limit (dBm)	RESULT
1	2412	6	13	264.24	24.22	30.00	PASS
2	2417	6	16.5	349.14	25.43	30.00	PASS
3	2422	6	16.5	372.39	25.71	30.00	PASS
6	2437	6	16.5	390.84	25.92	30.00	PASS
9	2452	6	16.5	331.89	25.21	30.00	PASS
10	2457	6	16.5	351.56	25.46	30.00	PASS
11	2462	6	13.5	155.60	21.92	30.00	PASS

## 802.11g Ch0

CH	Freq. (MHz)	Data Rate	Power Setting	Avg. Output Power (mW)	Avg. Output Power (dBm)	Limit (dBm)	RESULT
1	2412	6	13	25.73	14.10	30.00	PASS
2	2417	6	16.5	51.80	17.14	30.00	PASS
3	2422	6	16.5	52.40	17.19	30.00	PASS
6	2437	6	16.5	52.89	17.23	30.00	PASS
9	2452	6	16.5	52.04	17.16	30.00	PASS
10	2457	6	16.5	52.77	17.22	30.00	PASS
11	2462	6	13.5	27.95	14.46	30.00	PASS

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## 802.11g Ch1

CH	Freq. (MHz)	Data Rate	Power Setting	Peak Output Power (mW)	Peak Output Power (dBm)	Limit (dBm)	RESULT
1	2412	6	13	236.59	23.74	30.00	PASS
2	2417	6	16.5	318.42	25.03	30.00	PASS
3	2422	6	16.5	322.85	25.09	30.00	PASS
6	2437	6	16.5	327.34	25.15	30.00	PASS
9	2452	6	16.5	324.34	25.11	30.00	PASS
10	2457	6	16.5	306.90	24.87	30.00	PASS
11	2462	6	13.5	146.55	21.66	30.00	PASS

## 802.11g Ch1

CH	Freq. (MHz)	Data Rate	Power Setting	Avg. Output Power (mW)	Avg. Output Power (dBm)	Limit (dBm)	RESULT
1	2412	6	13	24.40	13.87	30.00	PASS
2	2417	6	16.5	49.36	16.93	30.00	PASS
3	2422	6	16.5	51.33	17.10	30.00	PASS
6	2437	6	16.5	51.92	17.15	30.00	PASS
9	2452	6	16.5	51.57	17.12	30.00	PASS
10	2457	6	16.5	50.74	17.05	30.00	PASS
11	2462	6	13.5	26.88	14.29	30.00	PASS

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## 802.11g\_2TX

CH	Freq. (MHz)	Data Rate	Power Setting	Peak Output Power (dBm)		Total Peak Output Power (mW)	Total Peak Output Power (dBm)	Limit (dBm)	RESULT
				Ch0	Ch1				
1	2412	6	13	24.34	23.89	516.55	27.13	30.00	PASS
2	2417	6	16.5	25.52	25.12	681.54	28.33	30.00	PASS
3	2422	6	16.5	25.78	25.26	714.18	28.54	30.00	PASS
6	2437	6	16.5	25.55	25.36	702.48	28.47	30.00	PASS
9	2452	6	16.5	25.34	25.24	676.17	28.30	30.00	PASS
10	2457	6	16.5	25.68	24.98	684.60	28.35	30.00	PASS
11	2462	6	13.5	22.07	21.73	310.00	24.91	30.00	PASS

## 802.11g\_2TX

CH	Freq. (MHz)	Data Rate	Power Setting	Avg. Output Power (dBm)		Total Avg. Output Power (mW)	Total Avg. Output Power (dBm)	Limit (dBm)	RESULT
				Ch0	Ch1				
1	2412	6	13	14.16	13.91	50.71	17.05	30.00	PASS
2	2417	6	16.5	17.16	17.01	102.32	20.10	30.00	PASS
3	2422	6	16.5	17.27	17.15	105.30	20.22	30.00	PASS
6	2437	6	16.5	17.25	17.22	105.90	20.25	30.00	PASS
9	2452	6	16.5	17.21	17.16	104.69	20.20	30.00	PASS
10	2457	6	16.5	17.28	17.12	105.07	20.21	30.00	PASS
11	2462	6	13.5	14.51	14.35	55.52	17.44	30.00	PASS

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## 802.11n\_HT\_20M Ch0

CH	Freq. (MHz)	Data Rate	Power Setting	Peak Output Power (mW)	Peak Output Power (dBm)	Limit (dBm)	RESULT
1	2412	MCS0	12.5	182.39	22.61	30.00	PASS
2	2417	MCS0	15.5	269.77	24.31	30.00	PASS
3	2422	MCS0	15.5	272.27	24.35	30.00	PASS
6	2437	MCS0	15.5	276.69	24.42	30.00	PASS
9	2452	MCS0	15.5	266.69	24.26	30.00	PASS
10	2457	MCS0	15.5	263.63	24.21	30.00	PASS
11	2462	MCS0	12.5	133.97	21.27	30.00	PASS

## 802.11n\_HT\_20M Ch0

CH	Freq. (MHz)	Data Rate	Power Setting	Avg. Output Power (mW)	Avg. Output Power (dBm)	Limit (dBm)	RESULT
1	2412	MCS0	12.5	22.45	13.51	30.00	PASS
2	2417	MCS0	15.5	42.67	16.30	30.00	PASS
3	2422	MCS0	15.5	42.77	16.31	30.00	PASS
6	2437	MCS0	15.5	42.77	16.31	30.00	PASS
9	2452	MCS0	15.5	42.58	16.29	30.00	PASS
10	2457	MCS0	15.5	42.28	16.26	30.00	PASS
11	2462	MCS0	12.5	23.51	13.71	30.00	PASS

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802.11n\_HT\_20M Ch1

CH	Freq. (MHz)	Data Rate	Power Setting	Peak Output Power (mW)	Peak Output Power (dBm)	Limit (dBm)	RESULT
1	2412	MCS0	12.5	169.04	22.28	30.00	PASS
2	2417	MCS0	15.5	269.77	24.31	30.00	PASS
3	2422	MCS0	15.5	252.93	24.03	30.00	PASS
6	2437	MCS0	15.5	265.46	24.24	30.00	PASS
9	2452	MCS0	15.5	255.86	24.08	30.00	PASS
10	2457	MCS0	15.5	252.93	24.03	30.00	PASS
11	2462	MCS0	12.5	125.03	20.97	30.00	PASS

802.11n\_HT\_20M Ch1

CH	Freq. (MHz)	Data Rate	Power Setting	Avg. Output Power (mW)	Avg. Output Power (dBm)	Limit (dBm)	RESULT
1	2412	MCS0	12.5	20.95	13.21	30.00	PASS
2	2417	MCS0	15.5	42.09	16.24	30.00	PASS
3	2422	MCS0	15.5	41.61	16.19	30.00	PASS
6	2437	MCS0	15.5	42.28	16.26	30.00	PASS
9	2452	MCS0	15.5	41.80	16.21	30.00	PASS
10	2457	MCS0	15.5	41.32	16.16	30.00	PASS
11	2462	MCS0	12.5	21.94	13.41	30.00	PASS

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## 802.11n\_HT20M\_2TX

CH	Freq. (MHz)	Data Rate	Power Setting	Peak Output Power (dBm)		Total Peak Output Power (mW)	Total Peak Output Power (dBm)	Limit (dBm)	RESULT
				Ch0	Ch1				
1	2412	MCS0	12.5	22.89	22.35	366.33	25.64	30.00	PASS
2	2417	MCS0	15.5	24.42	24.35	548.96	27.40	30.00	PASS
3	2422	MCS0	15.5	24.51	24.18	544.31	27.36	30.00	PASS
6	2437	MCS0	15.5	24.57	24.32	556.81	<b>27.46</b>	30.00	PASS
9	2452	MCS0	15.5	24.33	24.28	538.94	27.32	30.00	PASS
10	2457	MCS0	15.5	24.41	24.15	536.07	27.29	30.00	PASS
11	2462	MCS0	12.5	21.36	21.11	265.89	24.25	30.00	PASS

## 802.11n\_HT20M\_2TX

CH	Freq. (MHz)	Data Rate	Power Setting	Avg. Output Power (dBm)		Total Avg. Output Power (mW)	Total Avg. Output Power (dBm)	Limit (dBm)	RESULT
				Ch0	Ch1				
1	2412	MCS0	12.5	13.58	13.25	43.96	16.43	30.00	PASS
2	2417	MCS0	15.5	16.35	16.31	85.94	19.34	30.00	PASS
3	2422	MCS0	15.5	16.37	16.27	85.75	19.33	30.00	PASS
6	2437	MCS0	15.5	16.41	16.30	86.44	<b>19.37</b>	30.00	PASS
9	2452	MCS0	15.5	16.32	16.27	85.25	19.31	30.00	PASS
10	2457	MCS0	15.5	16.34	16.28	85.55	19.32	30.00	PASS
11	2462	MCS0	12.5	13.78	13.48	46.18	16.64	30.00	PASS

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## 802.11n\_HT\_40M Ch0

CH	Freq. (MHz)	Data Rate	Power Setting	Peak Output Power (mW)	Peak Output Power (dBm)	Limit (dBm)	RESULT
3	2422	MCS0	9.5	105.68	20.24	30.00	PASS
4	2427	MCS0	15.5	262.42	24.19	30.00	PASS
5	2432	MCS0	15.5	263.63	24.21	30.00	PASS
6	2437	MCS0	15.5	261.22	24.17	30.00	PASS
7	2442	MCS0	15.5	261.82	24.18	30.00	PASS
8	2447	MCS0	15.5	257.63	24.11	30.00	PASS
9	2452	MCS0	12	184.08	22.65	30.00	PASS

## 802.11n\_HT\_40M Ch0

CH	Freq. (MHz)	Data Rate	Power Setting	Avg. Output Power (mW)	Avg. Output Power (dBm)	Limit (dBm)	RESULT
3	2422	MCS0	9.5	6.57	8.18	30.00	PASS
4	2427	MCS0	15.5	34.08	15.33	30.00	PASS
5	2432	MCS0	15.5	33.85	15.30	30.00	PASS
6	2437	MCS0	15.5	34.16	15.34	30.00	PASS
7	2442	MCS0	15.5	34.16	15.34	30.00	PASS
8	2447	MCS0	15.5	33.85	15.30	30.00	PASS
9	2452	MCS0	12	13.44	11.29	30.00	PASS

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802.11n\_HT\_40M Ch1

CH	Freq. (MHz)	Data Rate	Power Setting	Peak Output Power (mW)	Peak Output Power (dBm)	Limit (dBm)	RESULT
3	2422	MCS0	9.5	98.40	19.93	30.00	PASS
4	2427	MCS0	15.5	246.60	23.92	30.00	PASS
5	2432	MCS0	15.5	244.91	23.89	30.00	PASS
6	2437	MCS0	15.5	252.93	24.03	30.00	PASS
7	2442	MCS0	15.5	243.78	23.87	30.00	PASS
8	2447	MCS0	15.5	242.66	23.85	30.00	PASS
9	2452	MCS0	12	169.04	22.28	30.00	PASS

802.11n\_HT\_40M Ch1

CH	Freq. (MHz)	Data Rate	Power Setting	Avg. Output Power (mW)	Avg. Output Power (dBm)	Limit (dBm)	RESULT
3	2422	MCS0	9.5	6.39	8.06	30.00	PASS
4	2427	MCS0	15.5	33.38	15.24	30.00	PASS
5	2432	MCS0	15.5	32.70	15.15	30.00	PASS
6	2437	MCS0	15.5	33.69	15.28	30.00	PASS
7	2442	MCS0	15.5	33.00	15.19	30.00	PASS
8	2447	MCS0	15.5	32.62	15.14	30.00	PASS
9	2452	MCS0	12	12.87	11.10	30.00	PASS

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## 802.11n\_HT40M\_2TX

CH	Freq. (MHz)	Data Rate	Power Setting	Peak Output Power (dBm)		Total Peak Output Power (mW)	Total Peak Output Power (dBm)	Limit (dBm)	RESULT
				Ch0	Ch1				
3	2422	MCS0	9.5	20.24	19.93	204.08	23.10	30.00	PASS
4	2427	MCS0	15.5	24.19	23.92	509.03	27.07	30.00	PASS
5	2432	MCS0	15.5	24.21	23.89	508.54	27.06	30.00	PASS
6	2437	MCS0	15.5	24.25	23.97	515.53	27.12	30.00	PASS
7	2442	MCS0	15.5	24.18	23.87	505.60	27.04	30.00	PASS
8	2447	MCS0	15.5	24.11	23.85	500.29	26.99	30.00	PASS
9	2452	MCS0	12	22.65	22.28	353.12	25.48	30.00	PASS

## 802.11n\_HT40M\_2TX

CH	Freq. (MHz)	Data Rate	Power Setting	Avg. Output Power (dBm)		Total Avg. Output Power (mW)	Total Avg. Output Power (dBm)	Limit (dBm)	RESULT
				Ch0	Ch1				
3	2422	MCS0	9.5	8.28	8.06	13.11	11.18	30.00	PASS
4	2427	MCS0	15.5	15.41	15.24	68.10	18.33	30.00	PASS
5	2432	MCS0	15.5	15.40	15.15	67.33	18.28	30.00	PASS
6	2437	MCS0	15.5	15.49	15.31	69.29	18.41	30.00	PASS
7	2442	MCS0	15.5	15.38	15.19	67.48	18.29	30.00	PASS
8	2447	MCS0	15.5	15.35	15.14	66.86	18.25	30.00	PASS
9	2452	MCS0	12	11.39	11.10	26.63	14.25	30.00	PASS

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## 802.11ac\_VHT\_20M Ch0

CH	Freq. (MHz)	Data Rate	Power Setting	Peak Output Power (mW)	Peak Output Power (dBm)	Limit (dBm)	RESULT
1	2412	MCS0	12.5	182.81	22.62	30.00	PASS
2	2417	MCS0	15.5	258.82	24.13	30.00	PASS
3	2422	MCS0	15.5	255.86	24.08	30.00	PASS
6	2437	MCS0	15.5	274.79	24.39	30.00	PASS
9	2452	MCS0	15.5	264.24	24.22	30.00	PASS
10	2457	MCS0	15.5	258.82	24.13	30.00	PASS
11	2462	MCS0	12.5	133.05	21.24	30.00	PASS

## 802.11ac\_VHT\_20M Ch0

CH	Freq. (MHz)	Data Rate	Power Setting	Avg. Output Power (mW)	Avg. Output Power (dBm)	Limit (dBm)	RESULT
1	2412	MCS0	12.5	22.28	13.48	30.00	PASS
2	2417	MCS0	15.5	41.67	16.20	30.00	PASS
3	2422	MCS0	15.5	42.25	16.26	30.00	PASS
6	2437	MCS0	15.5	42.55	16.29	30.00	PASS
9	2452	MCS0	15.5	41.48	16.18	30.00	PASS
10	2457	MCS0	15.5	41.29	16.16	30.00	PASS
11	2462	MCS0	12.5	22.95	13.61	30.00	PASS

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802.11ac\_VHT\_20M Ch1

CH	Freq. (MHz)	Data Rate	Power Setting	Peak Output Power (mW)	Peak Output Power (dBm)	Limit (dBm)	RESULT
1	2412	MCS0	12.5	157.76	21.98	30.00	PASS
2	2417	MCS0	15.5	233.88	23.69	30.00	PASS
3	2422	MCS0	15.5	248.31	23.95	30.00	PASS
6	2437	MCS0	15.5	264.24	24.22	30.00	PASS
9	2452	MCS0	15.5	243.22	23.86	30.00	PASS
10	2457	MCS0	15.5	249.46	23.97	30.00	PASS
11	2462	MCS0	12.5	122.74	20.89	30.00	PASS

802.11ac\_VHT\_20M Ch1

CH	Freq. (MHz)	Data Rate	Power Setting	Avg. Output Power (mW)	Avg. Output Power (dBm)	Limit (dBm)	RESULT
1	2412	MCS0	12.5	20.41	13.10	30.00	PASS
2	2417	MCS0	15.5	41.01	16.13	30.00	PASS
3	2422	MCS0	15.5	40.91	16.12	30.00	PASS
6	2437	MCS0	15.5	40.35	16.06	30.00	PASS
9	2452	MCS0	15.5	40.54	16.08	30.00	PASS
10	2457	MCS0	15.5	40.73	16.10	30.00	PASS
11	2462	MCS0	12.5	21.82	13.39	30.00	PASS

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## 802.11ac\_VHT20M\_2TX

CH	Freq. (MHz)	Data Rate	Power Setting	Peak Output Power (dBm)		Total Peak Output Power (mW)	Total Peak Output Power (dBm)	Limit (dBm)	RESULT
				Ch0	Ch1				
1	2412	MCS0	12.5	22.72	22.15	351.13	25.45	30.00	PASS
2	2417	MCS0	15.5	24.23	23.87	508.63	27.06	30.00	PASS
3	2422	MCS0	15.5	24.22	24.15	524.26	27.20	30.00	PASS
6	2437	MCS0	15.5	24.38	24.06	528.84	27.23	30.00	PASS
9	2452	MCS0	15.5	24.28	23.98	517.95	27.14	30.00	PASS
10	2457	MCS0	15.5	24.28	24.09	524.37	27.20	30.00	PASS
11	2462	MCS0	12.5	21.33	21.02	262.30	24.19	30.00	PASS

## 802.11ac\_VHT20M\_2TX

CH	Freq. (MHz)	Data Rate	Power Setting	Avg. Output Power (dBm)		Total Avg. Output Power (mW)	Total Avg. Output Power (dBm)	Limit (dBm)	RESULT
				Ch0	Ch1				
1	2412	MCS0	12.5	13.53	13.17	43.28	16.36	30.00	PASS
2	2417	MCS0	15.5	16.27	16.18	83.83	19.23	30.00	PASS
3	2422	MCS0	15.5	16.29	16.23	84.51	19.27	30.00	PASS
6	2437	MCS0	15.5	16.39	16.13	84.55	19.27	30.00	PASS
9	2452	MCS0	15.5	16.26	16.14	83.36	19.21	30.00	PASS
10	2457	MCS0	15.5	16.23	16.18	83.45	19.21	30.00	PASS
11	2462	MCS0	12.5	13.68	13.46	45.50	16.58	30.00	PASS

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**802.11ac\_VHT\_40M Ch0**

CH	Freq. (MHz)	Data Rate	Power Setting	Peak Output Power (mW)	Peak Output Power (dBm)	Limit (dBm)	RESULT
3	2422	MCS0	9.5	100.93	20.04	30.00	PASS
4	2427	MCS0	14.5	303.39	24.82	30.00	PASS
5	2432	MCS0	14.5	297.17	24.73	30.00	PASS
6	2437	MCS0	14.5	277.33	24.43	30.00	PASS
7	2442	MCS0	14.5	287.74	24.59	30.00	PASS
8	2447	MCS0	14.5	294.44	24.69	30.00	PASS
9	2452	MCS0	12	170.61	22.32	30.00	PASS

**802.11ac\_VHT\_40M Ch0**

CH	Freq. (MHz)	Data Rate	Power Setting	Avg. Output Power (mW)	Avg. Output Power (dBm)	Limit (dBm)	RESULT
3	2422	MCS0	9.5	6.37	8.04	30.00	PASS
4	2427	MCS0	14.5	34.53	15.38	30.00	PASS
5	2432	MCS0	14.5	34.21	15.34	30.00	PASS
6	2437	MCS0	14.5	33.74	15.28	30.00	PASS
7	2442	MCS0	14.5	33.43	15.24	30.00	PASS
8	2447	MCS0	14.5	34.37	15.36	30.00	PASS
9	2452	MCS0	12	13.19	11.20	30.00	PASS

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802.11ac\_VHT\_40M Ch1

CH	Freq. (MHz)	Data Rate	Power Setting	Peak Output Power (mW)	Peak Output Power (dBm)	Limit (dBm)	RESULT
3	2422	MCS0	9.5	92.68	19.67	30.00	PASS
4	2427	MCS0	14.5	263.63	24.21	30.00	PASS
5	2432	MCS0	14.5	272.27	24.35	30.00	PASS
6	2437	MCS0	14.5	254.68	24.06	30.00	PASS
7	2442	MCS0	14.5	271.64	24.34	30.00	PASS
8	2447	MCS0	14.5	271.02	24.33	30.00	PASS
9	2452	MCS0	12	155.60	21.92	30.00	PASS

802.11ac\_VHT\_40M Ch1

CH	Freq. (MHz)	Data Rate	Power Setting	Avg. Output Power (mW)	Avg. Output Power (dBm)	Limit (dBm)	RESULT
3	2422	MCS0	9.5	6.18	7.91	30.00	PASS
4	2427	MCS0	14.5	32.00	15.05	30.00	PASS
5	2432	MCS0	14.5	32.22	15.08	30.00	PASS
6	2437	MCS0	14.5	31.42	14.97	30.00	PASS
7	2442	MCS0	14.5	31.71	15.01	30.00	PASS
8	2447	MCS0	14.5	31.13	14.93	30.00	PASS
9	2452	MCS0	12	12.71	11.04	30.00	PASS

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## 802.11ac\_VHT40M\_2TX

CH	Freq. (MHz)	Data Rate	Power Setting	Peak Output Power (dBm)		Total Peak Output Power (mW)	Total Peak Output Power (dBm)	Limit (dBm)	RESULT
				Ch0	Ch1				
3	2422	MCS0	9.5	20.14	19.82	199.22	22.99	30.00	PASS
4	2427	MCS0	14.5	24.97	24.41	590.11	27.71	30.00	PASS
5	2432	MCS0	14.5	24.82	24.51	585.88	27.68	30.00	PASS
6	2437	MCS0	14.5	25.06	24.52	603.77	<b>27.81</b>	30.00	PASS
7	2442	MCS0	14.5	24.71	24.42	572.50	27.58	30.00	PASS
8	2447	MCS0	14.5	24.88	24.39	582.40	27.65	30.00	PASS
9	2452	MCS0	12	22.42	22.06	335.28	25.25	30.00	PASS

## 802.11ac\_VHT40M\_2TX

CH	Freq. (MHz)	Data Rate	Power Setting	Avg. Output Power (dBm)		Total Avg. Output Power (mW)	Total Avg. Output Power (dBm)	Limit (dBm)	RESULT
				Ch0	Ch1				
3	2422	MCS0	9.5	8.13	8.07	12.92	11.11	30.00	PASS
4	2427	MCS0	14.5	15.50	15.13	68.09	18.33	30.00	PASS
5	2432	MCS0	14.5	15.41	15.17	67.67	18.30	30.00	PASS
6	2437	MCS0	14.5	15.54	15.18	68.80	<b>18.38</b>	30.00	PASS
7	2442	MCS0	14.5	15.38	15.10	66.90	18.25	30.00	PASS
8	2447	MCS0	14.5	15.34	15.08	66.44	18.22	30.00	PASS
9	2452	MCS0	12	11.31	11.13	26.50	14.23	30.00	PASS

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## 802.11ax\_HE\_20M Ch0

CH	Freq. (MHz)	Data Rate	RU Config	Power Setting	Peak Output Power (mW)	Peak Output Power (dBm)	Limit (dBm)	RESULT
1	2412	MCS0	full	11.5	153.46	21.86	30.00	PASS
			26/0	14	319.89	25.05	30.00	PASS
			52/37	13.5	281.19	24.49	30.00	PASS
			106/53	13.5	279.25	24.46	30.00	PASS
2	2417	MCS0	full	13.5	175.79	22.45	30.00	PASS
3	2422	MCS0	full	13.5	179.06	22.53	30.00	PASS
6	2437	MCS0	full	13.5	160.69	22.06	30.00	PASS
11	2462	MCS0	full	13.5	176.20	22.46	30.00	PASS
			26/8	14	317.69	25.02	30.00	PASS
			52/40	13	299.23	24.76	30.00	PASS
			106/54	13	335.74	25.26	30.00	PASS

## 802.11ax\_HE\_20M Ch0

CH	Freq. (MHz)	Data Rate	RU Config	Power Setting	Avg. Output Power (mW)	Avg. Output Power (dBm)	Limit (dBm)	RESULT
1	2412	MCS0	full	11.5	18.45	12.66	30.00	PASS
			26/0	14	26.48	14.23	30.00	PASS
			52/37	13.5	27.54	14.40	30.00	PASS
			106/53	13.5	26.95	14.31	30.00	PASS
2	2417	MCS0	full	13.5	28.12	14.49	30.00	PASS
3	2422	MCS0	full	13.5	27.93	14.46	30.00	PASS
6	2437	MCS0	full	13.5	27.04	14.32	30.00	PASS
11	2462	MCS0	full	13.5	27.86	14.45	30.00	PASS
			26/8	14	26.78	14.28	30.00	PASS
			52/40	13	26.79	14.28	30.00	PASS
			106/54	13	27.26	14.36	30.00	PASS

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## 802.11ax\_HE\_20M Ch1

CH	Freq. (MHz)	Data Rate	RU Config	Power Setting	Peak Output Power (mW)	Peak Output Power (dBm)	Limit (dBm)	RESULT
1	2412	MCS0	full	11.5	126.47	21.02	30.00	PASS
			26/0	14	300.61	24.78	30.00	PASS
			52/37	13.5	266.07	24.25	30.00	PASS
			106/53	13.5	271.02	24.33	30.00	PASS
2	2417	MCS0	full	13.5	170.22	22.31	30.00	PASS
3	2422	MCS0	full	13.5	167.49	22.24	30.00	PASS
6	2437	MCS0	full	13.5	155.24	21.91	30.00	PASS
11	2462	MCS0	full	13.5	165.20	22.18	30.00	PASS
			26/8	14	311.17	24.93	30.00	PASS
			52/40	13	287.08	24.58	30.00	PASS
			106/54	13	318.42	25.03	30.00	PASS

## 802.11ax\_HE\_20M Ch1

CH	Freq. (MHz)	Data Rate	RU Config	Power Setting	Avg. Output Power (mW)	Avg. Output Power (dBm)	Limit (dBm)	RESULT
1	2412	MCS0	full	11.5	16.63	12.21	30.00	PASS
			26/0	14	25.87	14.13	30.00	PASS
			52/37	13.5	26.30	14.20	30.00	PASS
			106/53	13.5	26.70	14.27	30.00	PASS
2	2417	MCS0	full	13.5	25.82	14.12	30.00	PASS
3	2422	MCS0	full	13.5	25.53	14.07	30.00	PASS
6	2437	MCS0	full	13.5	26.06	14.16	30.00	PASS
11	2462	MCS0	full	13.5	26.55	14.24	30.00	PASS
			26/8	14	26.17	14.18	30.00	PASS
			52/40	13	26.06	14.16	30.00	PASS
			106/54	13	25.98	14.15	30.00	PASS

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## 802.11ax\_HE20M\_2TX

CH	Freq. (MHz)	Data Rate	RU Config	Power Setting	Peak Output Power (dBm)		Total Peak Output Power (mW)	Total Peak Output Power (dBm)	Limit (dBm)	RESULT
					Ch0	Ch1				
1	2412	MCS0	full	11.5	21.98	21.22	290.20	24.63	30.00	PASS
			26/0	14	24.57	24.29	554.95	27.44	30.00	PASS
			52/37	13.5	25.08	24.56	607.87	27.84	30.00	PASS
			106/53	13.5	24.73	24.44	575.14	27.60	30.00	PASS
2	2417	MCS0	full	13.5	22.53	22.44	354.45	25.50	30.00	PASS
3	2422	MCS0	full	13.5	22.61	22.36	354.58	25.50	30.00	PASS
6	2437	MCS0	full	13.5	22.62	22.45	358.60	25.55	30.00	PASS
11	2462	MCS0	full	13.5	22.72	22.68	372.42	25.71	30.00	PASS
			26/8	14	24.52	24.35	555.41	27.45	30.00	PASS
			52/40	13	24.82	24.51	585.88	27.68	30.00	PASS
			106/54	13	24.67	24.59	580.83	27.64	30.00	PASS

## 802.11ax\_HE20M\_2TX

CH	Freq. (MHz)	Data Rate	RU Config	Power Setting	Avg. Output Power (dBm)		Total Avg. Output Power (mW)	Total Avg. Output Power (dBm)	Limit (dBm)	RESULT
					Ch0	Ch1				
1	2412	MCS0	full	11.5	12.75	12.31	35.86	15.55	30.00	PASS
			26/0	14	14.39	14.17	53.58	17.29	30.00	PASS
			52/37	13.5	14.47	14.28	54.77	17.39	30.00	PASS
			106/53	13.5	14.46	14.33	54.97	17.40	30.00	PASS
2	2417	MCS0	full	13.5	14.51	14.22	54.68	17.38	30.00	PASS
3	2422	MCS0	full	13.5	14.55	14.12	54.34	17.35	30.00	PASS
6	2437	MCS0	full	13.5	14.57	14.22	55.07	17.41	30.00	PASS
11	2462	MCS0	full	13.5	14.57	14.38	56.06	17.49	30.00	PASS
			26/8	14	14.44	14.34	54.95	17.40	30.00	PASS
			52/40	13	14.48	14.24	54.59	17.37	30.00	PASS
			106/54	13	14.48	14.23	54.49	17.36	30.00	PASS

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## 802.11ax\_HE\_40M Ch0

CH	Freq. (MHz)	Data Rate	RU Config	Power Setting	Peak Output Power (mW)	Peak Output Power (dBm)	Limit (dBm)	RESULT
3	2422	MCS0	full	11.5	132.13	21.21	30.00	PASS
			242/61	9.5	115.35	20.62	30.00	PASS
4	2427	MCS0	full	12.5	184.93	22.67	30.00	PASS
5	2432	MCS0	full	12.5	188.80	22.76	30.00	PASS
6	2437	MCS0	full	12.5	190.99	22.81	30.00	PASS
7	2442	MCS0	full	12.5	185.78	22.69	30.00	PASS
8	2447	MCS0	full	12.5	187.50	22.73	30.00	PASS
9	2452	MCS0	full	12.5	198.61	22.98	30.00	PASS
			242/62	11.5	139.96	21.46	30.00	PASS

## 802.11ax\_HE\_40M Ch0

CH	Freq. (MHz)	Data Rate	RU Config	Power Setting	Avg. Output Power (mW)	Avg. Output Power (dBm)	Limit (dBm)	RESULT
3	2422	MCS0	full	11.5	15.85	12.00	30.00	PASS
			242/61	9.5	9.48	9.77	30.00	PASS
4	2427	MCS0	full	12.5	21.38	13.30	30.00	PASS
5	2432	MCS0	full	12.5	21.58	13.34	30.00	PASS
6	2437	MCS0	full	12.5	20.89	13.20	30.00	PASS
7	2442	MCS0	full	12.5	21.33	13.29	30.00	PASS
8	2447	MCS0	full	12.5	21.53	13.33	30.00	PASS
9	2452	MCS0	full	12.5	21.88	13.40	30.00	PASS
			242/62	11.5	16.29	12.12	30.00	PASS

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802.11ax\_HE\_40M Ch1

CH	Freq. (MHz)	Data Rate	RU Config	Power Setting	Peak Output Power (mW)	Peak Output Power (dBm)	Limit (dBm)	RESULT
3	2422	MCS0	full	11.5	128.23	21.08	30.00	PASS
			242/61	9.5	110.41	20.43	30.00	PASS
4	2427	MCS0	full	12.5	174.18	22.41	30.00	PASS
5	2432	MCS0	full	12.5	177.01	22.48	30.00	PASS
6	2437	MCS0	full	12.5	184.50	22.66	30.00	PASS
7	2442	MCS0	full	12.5	179.06	22.53	30.00	PASS
8	2447	MCS0	full	12.5	174.58	22.42	30.00	PASS
9	2452	MCS0	full	12.5	187.93	22.74	30.00	PASS
			242/62	11.5	135.83	21.33	30.00	PASS

802.11ax\_HE\_40M Ch1

CH	Freq. (MHz)	Data Rate	RU Config	Power Setting	Avg. Output Power (mW)	Avg. Output Power (dBm)	Limit (dBm)	RESULT
3	2422	MCS0	full	11.5	15.38	11.87	30.00	PASS
			242/61	9.5	9.25	9.66	30.00	PASS
4	2427	MCS0	full	12.5	19.63	12.93	30.00	PASS
5	2432	MCS0	full	12.5	19.32	12.86	30.00	PASS
6	2437	MCS0	full	12.5	20.14	13.04	30.00	PASS
7	2442	MCS0	full	12.5	19.63	12.93	30.00	PASS
8	2447	MCS0	full	12.5	19.45	12.89	30.00	PASS
9	2452	MCS0	full	12.5	20.89	13.20	30.00	PASS
			242/62	11.5	15.34	11.86	30.00	PASS

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## 802.11ax\_HE40M\_2TX

CH	Freq. (MHz)	Data Rate	RU Config	Power Setting	Peak Output Power (dBm)		Total Peak Output Power (mW)	Total Peak Output Power (dBm)	Limit (dBm)	RESULT
					Ch0	Ch1				
3	2422	MCS0	full	11.5	21.34	21.28	270.42	24.32	30.00	PASS
			242/61	9.5	20.81	20.58	234.79	23.71	30.00	PASS
4	2427	MCS0	full	12.5	22.81	22.69	376.77	25.76	30.00	PASS
5	2432	MCS0	full	12.5	22.92	22.57	376.60	25.76	30.00	PASS
6	2437	MCS0	full	12.5	22.89	22.76	383.34	25.84	30.00	PASS
7	2442	MCS0	full	12.5	22.86	22.72	380.27	25.80	30.00	PASS
8	2447	MCS0	full	12.5	22.88	22.68	379.44	25.79	30.00	PASS
9	2452	MCS0	full	12.5	23.08	23.01	403.22	26.06	30.00	PASS
			242/62	11.5	21.58	21.44	283.20	24.52	30.00	PASS

## 802.11ax\_HE40M\_2TX

CH	Freq. (MHz)	Data Rate	RU Config	Power Setting	Avg. Output Power (dBm)		Total Avg. Output Power (mW)	Total Avg. Output Power (dBm)	Limit (dBm)	RESULT
					Ch0	Ch1				
3	2422	MCS0	full	11.5	12.23	12.03	32.67	15.14	30.00	PASS
			242/61	9.5	9.88	9.80	19.27	12.85	30.00	PASS
4	2427	MCS0	full	12.5	13.39	13.02	41.87	16.22	30.00	PASS
5	2432	MCS0	full	12.5	13.43	12.96	41.80	16.21	30.00	PASS
6	2437	MCS0	full	12.5	13.42	13.09	42.35	16.27	30.00	PASS
7	2442	MCS0	full	12.5	13.40	13.08	42.20	16.25	30.00	PASS
8	2447	MCS0	full	12.5	13.42	13.06	42.21	16.25	30.00	PASS
9	2452	MCS0	full	12.5	13.52	13.34	44.07	16.44	30.00	PASS
			242/62	11.5	12.20	11.99	32.40	15.11	30.00	PASS

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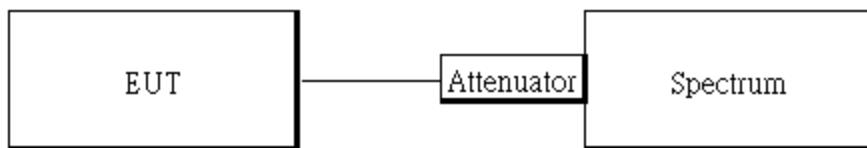
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## 9 EMISSION BANDWIDTH MEASUREMENT

### 9.1 Standard Applicable

The minimum 6 dB bandwidth shall be at least 500 kHz.

### 9.2 Test Setup



### 9.3 Measurement Procedure:

1. Place the EUT on the table and set it in transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.

#### 9.3.1 6dB BW measurements

1. The testing follows the Measurement Procedure of the KDB 558074 D01.
2. Set the spectrum analyzer as  
RBW= 100 kHz ,  
VBW = 3 X RBW,  
Span= 2 to 5 times of the OBW,  
Sweep=auto, Detector = Peak, and Max hold.
3. Mark the upper and lower frequencies of -6dB.
4. Repeat above procedures until all test default channel is completed.

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## 9.4 Measurement Result:

### 9.4.1 6dB BW measurements

#### 802.11b Ch0

Freq. (MHz)	6dB BW (kHz)	Limit (kHz)	Result
2412	<b>8107.00</b>	≥ 500	PASS
2437	7625.00	≥ 500	PASS
2462	8102.00	≥ 500	PASS

#### 802.11b Ch1

Freq. (MHz)	6dB BW (kHz)	Limit (kHz)	Result
2412	8060.00	≥ 500	PASS
2437	<b>8115.00</b>	≥ 500	PASS
2462	8112.00	≥ 500	PASS

#### 802.11g Ch0

Freq. (MHz)	6dB BW (kHz)	Limit (kHz)	Result
2412	15130.00	≥ 500	PASS
2437	15490.00	≥ 500	PASS
2462	<b>15740.00</b>	≥ 500	PASS

#### 802.11g Ch1

Freq. (MHz)	6dB BW (kHz)	Limit (kHz)	Result
2412	15150.00	≥ 500	PASS
2437	<b>15740.00</b>	≥ 500	PASS
2462	15170.00	≥ 500	PASS

#### 802.11n\_HT\_20M Ch0

Freq. (MHz)	6dB BW (kHz)	Limit (kHz)	Result
2412	15160.00	≥ 500	PASS
2437	<b>15480.00</b>	≥ 500	PASS
2462	13000.00	≥ 500	PASS

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## 802.11n\_HT\_20M Ch1

Freq. (MHz)	6dB BW (kHz)	Limit (kHz)	Result
2412	15750.00	≥ 500	PASS
2437	16580.00	≥ 500	PASS
2462	16600.00	≥ 500	PASS

## 802.11n\_HT\_40M Ch0

Freq. (MHz)	6dB BW (kHz)	Limit (kHz)	Result
2422	35160.00	≥ 500	PASS
2437	35130.00	≥ 500	PASS
2452	35120.00	≥ 500	PASS

## 802.11n\_HT\_40M Ch1

Freq. (MHz)	6dB BW (kHz)	Limit (kHz)	Result
2422	35170.00	≥ 500	PASS
2437	35160.00	≥ 500	PASS
2452	35160.00	≥ 500	PASS

## 802.11ax\_HE\_20M Ch0

Freq. (MHz)	RU Config	6dB BW (kHz)	Limit (kHz)	Result
2412	full	17130.00	≥ 500	PASS
2437	full	17990.00	≥ 500	PASS
2462	full	18460.00	≥ 500	PASS

## 802.11ax\_HE\_20M Ch1

Freq. (MHz)	RU Config	6dB BW (kHz)	Limit (kHz)	Result
2412	full	17680.00	≥ 500	PASS
2437	full	18680.00	≥ 500	PASS
2462	full	18660.00	≥ 500	PASS

## 802.11ax\_HE\_40M Ch0

Freq. (MHz)	RU Config	6dB BW (kHz)	Limit (kHz)	Result
2422	full	36480.00	≥ 500	PASS
2437	full	36570.00	≥ 500	PASS
2452	full	36530.00	≥ 500	PASS

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802.11ax\_HE\_40M Ch1

Freq. (MHz)	RU Config	6dB BW (kHz)	Limit (kHz)	Result
2422	full	36490.00	≥ 500	PASS
2437	full	<b>37300.00</b>	≥ 500	PASS
2452	full	37050.00	≥ 500	PASS

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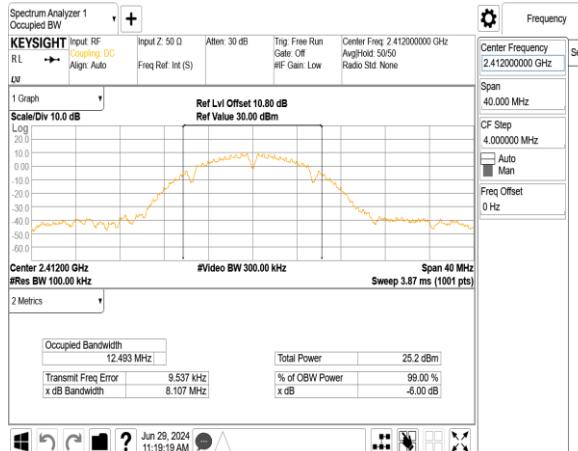
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f (886-2) 2298-0488

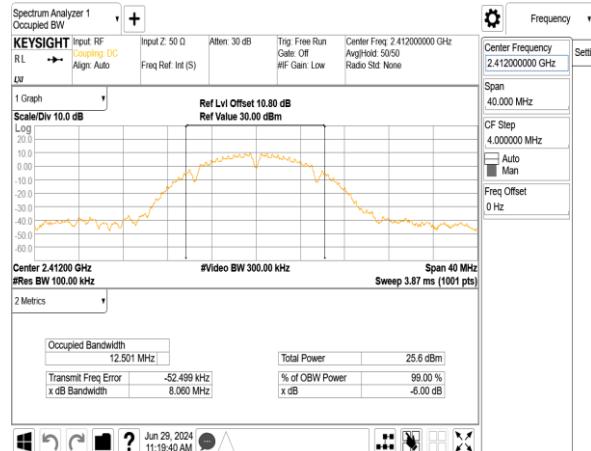
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## 802.11b\_20MHz\_Chain0\_2412MHz



## 802.11b\_20MHz\_Chain1\_2412MHz



802.11b 20MHz Chain0 2437MHz



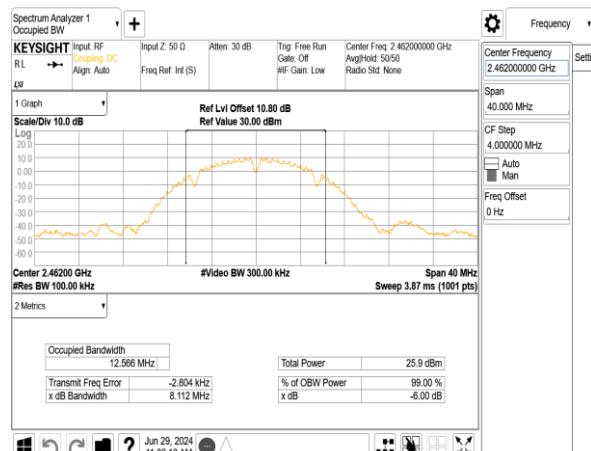
802.11b 20MHz Chain1 2437MHz



802.11b 20MHz Chain0 2462MHz



802.11b 20MHz Chain1 2462MHz



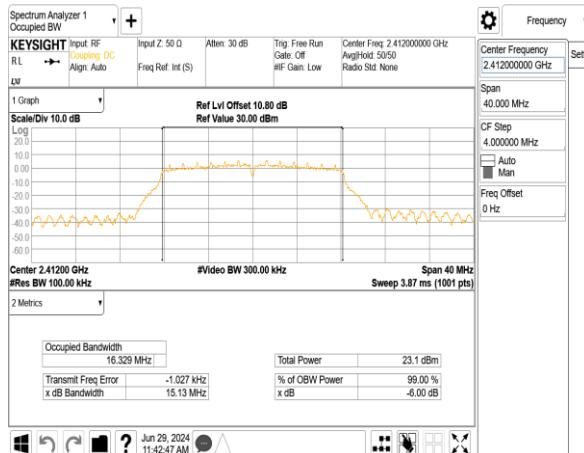
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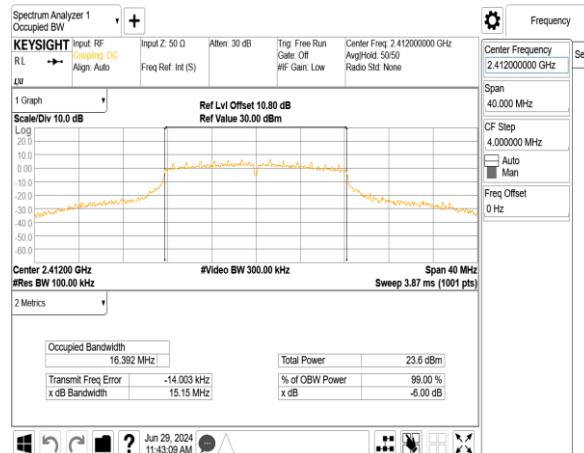
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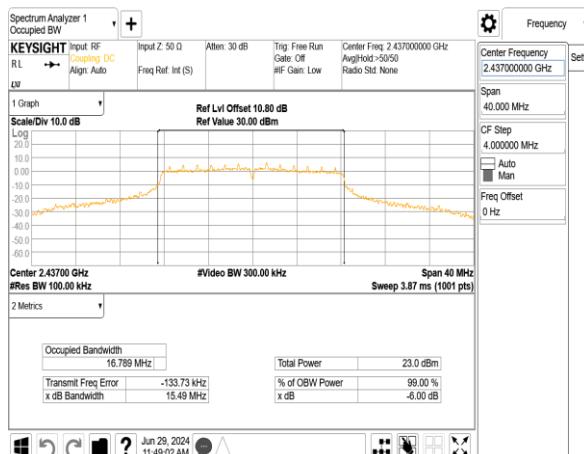
802.11g\_20MHz\_Chain0\_2412MHz



802.11g\_20MHz\_Chain1\_2412MHz



802.11g\_20MHz\_Chain0\_2437MHz



802.11g\_20MHz\_Chain1\_2437MHz



802.11g\_20MHz\_Chain0\_2462MHz



802.11g\_20MHz\_Chain1\_2462MHz



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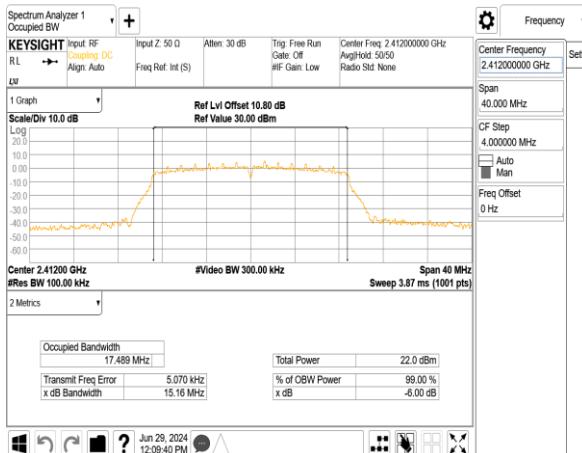
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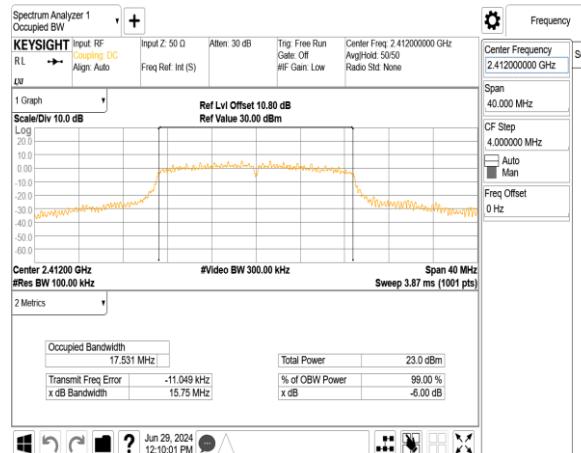
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802.11n\_20MHz\_Chain0\_2412MHz



802.11n\_20MHz\_Chain1\_2412MHz



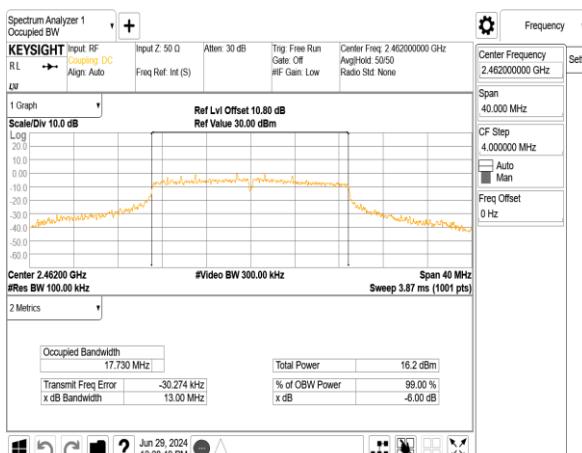
802.11n\_20MHz\_Chain0\_2437MHz



802.11n\_20MHz\_Chain1\_2437MHz



802.11n\_20MHz\_Chain0\_2462MHz



802.11n\_20MHz\_Chain1\_2462MHz



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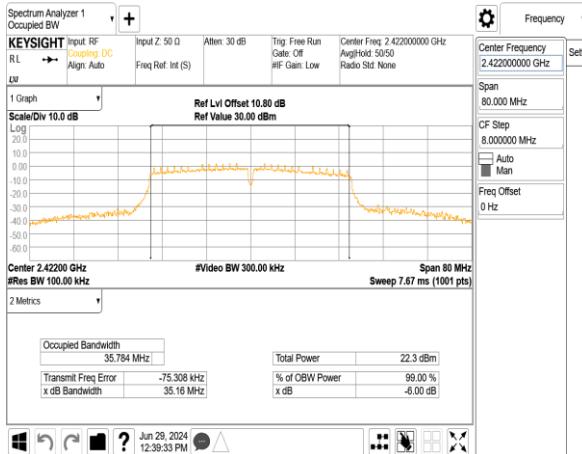
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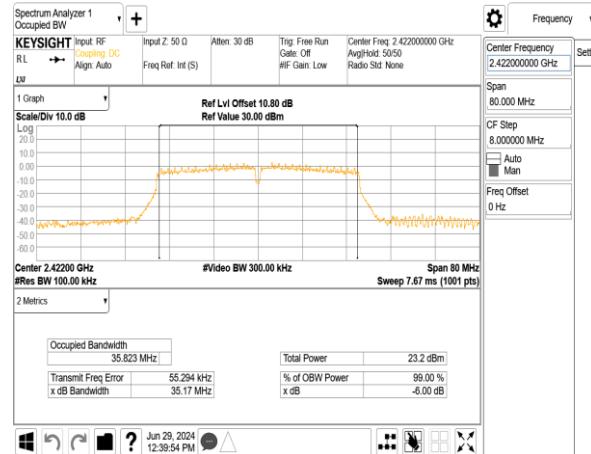
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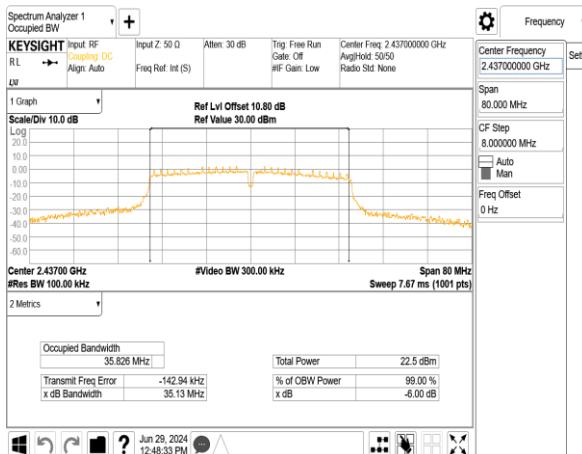
802.11n\_40MHz\_Chain0\_2422MHz



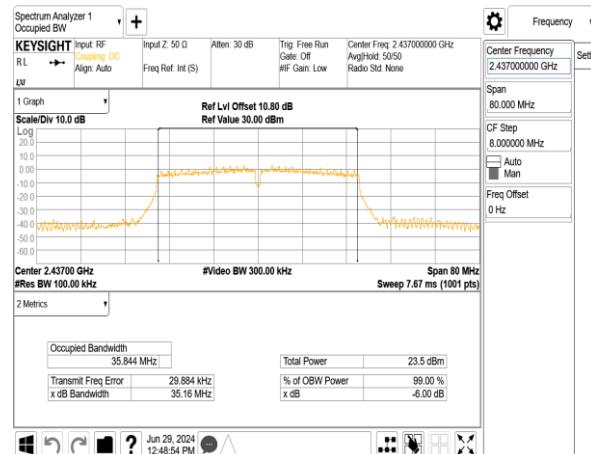
802.11n\_40MHz\_Chain1\_2422MHz



802.11n\_40MHz\_Chain0\_2437MHz



802.11n\_40MHz\_Chain1\_2437MHz



802.11n\_40MHz\_Chain0\_2452MHz



802.11n\_40MHz\_Chain1\_2452MHz



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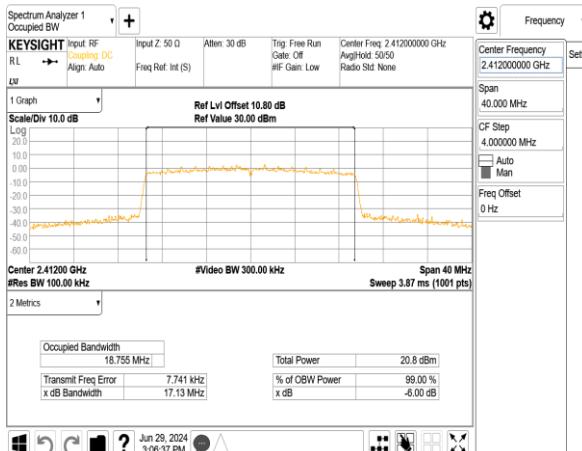
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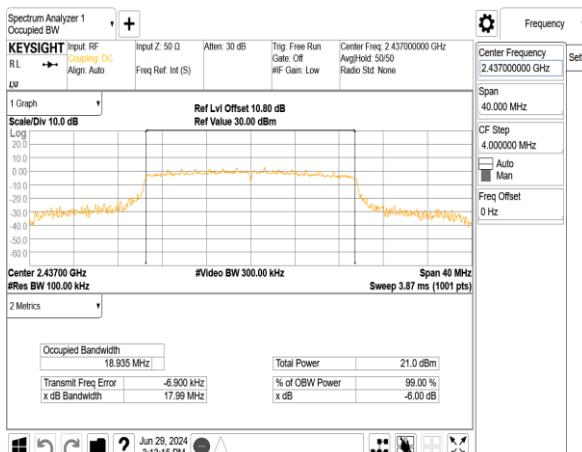
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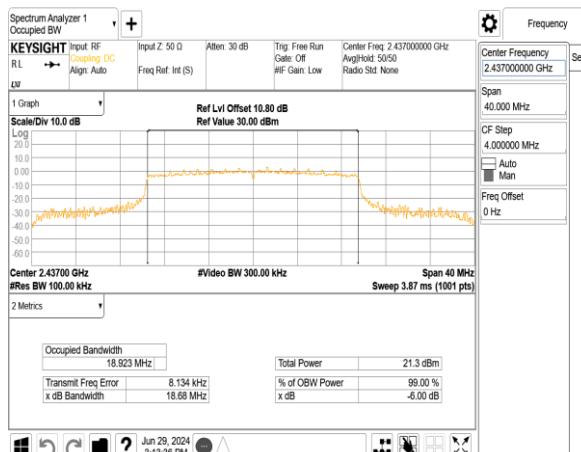
802.11ax\_20MHz\_Chain1\_2412MHz



802.11ax\_20MHz\_Chain0\_2437MHz



802.11ax\_20MHz\_Chain1\_2437MHz



802.11ax\_20MHz\_Chain0\_2462MHz



802.11ax\_20MHz\_Chain1\_2462MHz



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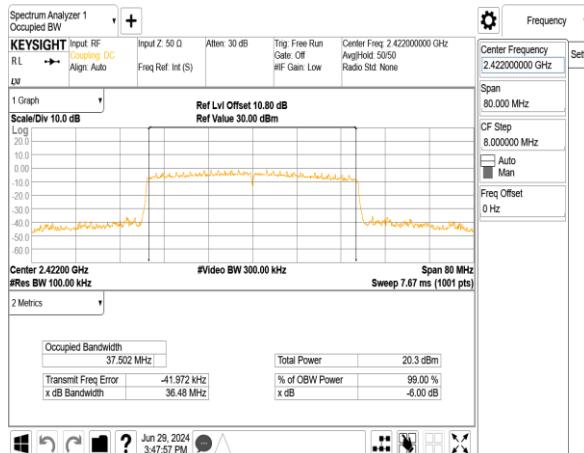
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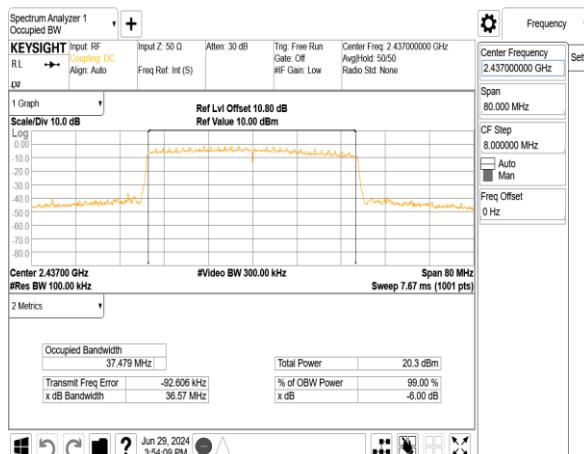
802.11ax\_40MHz\_Chain0\_2422MHz



802.11ax\_40MHz\_Chain1\_2422MHz



802.11ax\_40MHz\_Chain0\_2437MHz



802.11ax\_40MHz\_Chain1\_2437MHz



802.11ax\_40MHz\_Chain0\_2452MHz



802.11ax\_40MHz\_Chain1\_2452MHz



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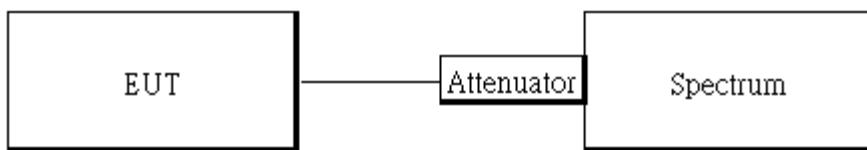
## 10 CONDUCTED BAND EDGES AND SPURIOUS EMISSION MEASUREMENT

### 10.1 Standard Applicable

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits.

In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a).

### 10.2 Test Setup



### 10.3 Measurement Procedure

#### 10.3.1 Reference Level of Emission Limit:

1. Set analyzer center frequency to DTS channel center frequency.
2. The testing follows the Measurement Procedure of FCC KDB 558074 D01 DTS Meas. Guidance .
3. Set the span to 1.5 times the DTS channel bandwidth.
4. Set the RBW = 100kHz & VBW = 300 kHz.
5. Detector = peak
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.
9. Use the peak marker function to determine the maximum amplitude level.
10. MIMO mode: offset is set following “measure and add 10 Log (N)” on spectrum to measure for MIMO mode. Offset = cable loss + 10 log (N), where N is number of transmitting antenna.

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### 10.3.2 Conducted Band Edge:

1. To connect Antenna Port of EUT to Spectrum.
2. The testing follows the Measurement Procedure of FCC KDB 558074 D01 DTS Meas. Guidance .
3. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
4. Set start to edge frequency, and stop frequency of spectrum analyzer so as to encompass the spectrum to be examined.
5. Set the spectrum analyzer as RBW=100 kHz, VBW=300 kHz, Detector = Peak, Sweep = auto
6. Mark the highest reading of the emission as the reference level measurement.
7. Set DL as the limit = reading on marker of reference level measurement -20dBm
8. Mark the highest readings of the emissions outside of 2400MHz~2483.5MHz.
9. Repeat above procedures until all default test channel (low, middle, and high) was complete.
10. MIMO mode: offset is set following “measure and add 10 Log (N)” on spectrum to measure for MIMO mode. Offset = cable loss + 10 log (N), where N is number of transmitting antenna.

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### Conducted Spurious Emission:

1. To connect Antenna Port of EUT to Spectrum
2. The testing follows the Measurement Procedure of FCC KDB 558074 D01 DTS Meas. Guidance .
3. Set RBW = 100 kHz & VBW= 300 kHz, Detector =Peak, Sweep = Auto.
4. Allow trace to fully stabilize.
5. Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.
6. Repeat above procedures until all default test channel measured were complete.
7. MIMO mode: offset is set following “measure and add 10 Log (N)” on spectrum to measure for MIMO mode. Offset = cable loss + 10 log (N), where N is number of transmitting antenna.

#### Note:

*For test of MIMO mode, the highest emission of worst case employing Measure and add 10 log (N) technical is reported on this report after the comparison between Main Antenna at single transmitting mode and Aux that yields the higher value. The MIMO transmitting mode produces higher value of outcome.*

#### 10.4 Measurement Result

##### 802.11b Ch0

Reference Level of Limit			Reference Level of Limit		
Freq. (MHz)	PSD (dBm)	Reference Level of Limit (dBm)	Freq. (MHz)	PSD (dBm)	Reference Level of Limit (dBm)
2412	9.22	-10.78	2412	9.44	-10.56
2437	9.16	-10.84	2437	9.62	-10.38
2462	9.38	-10.62	2462	9.81	-10.19

##### 802.11g Ch0

Reference Level of Limit			Reference Level of Limit		
Freq. (MHz)	PSD (dBm)	Reference Level of Limit (dBm)	Freq. (MHz)	PSD (dBm)	Reference Level of Limit (dBm)
2412	6.06	-13.94	2412	6.27	-13.73
2437	5.97	-14.03	2437	6.49	-13.51
2462	6.18	-13.82	2462	6.82	-13.18

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**802.11n HT 20M Ch0**

Reference Level of Limit			Reference Level of Limit		
Freq. (MHz)	PSD (dBm)	Reference Level of Limit (dBm)	Freq. (MHz)	PSD (dBm)	Reference Level of Limit (dBm)
2412	4.86	-15.14	2412	5.22	-14.78
2437	4.97	-15.03	2437	5.40	-14.60
2462	6.23	-13.77	2462	1.28	-18.72

**802.11n HT 40M Ch0**

Reference Level of Limit			Reference Level of Limit		
Freq. (MHz)	PSD (dBm)	Reference Level of Limit (dBm)	Freq. (MHz)	PSD (dBm)	Reference Level of Limit (dBm)
2422	2.18	-17.82	2422	2.5	-17.50
2437	2.25	-17.75	2437	2.76	-17.24
2452	2.38	-17.62	2452	2.96	-17.04

**802.11ax HE 20M Ch0**

Reference Level of Limit			Reference Level of Limit		
Freq. (MHz)	PSD (dBm)	Reference Level of Limit (dBm)	Freq. (MHz)	PSD (dBm)	Reference Level of Limit (dBm)
2412	2.58	-17.42	2412	3.03	-16.97
2437	2.52	-17.48	2437	2.89	-17.11
2462	2.41	-17.59	2462	3.21	-16.79

**802.11ax HE 40M Ch0**

Reference Level of Limit			Reference Level of Limit		
Freq. (MHz)	PSD (dBm)	Reference Level of Limit (dBm)	Freq. (MHz)	PSD (dBm)	Reference Level of Limit (dBm)
2422	-1.22	-21.22	2422	-0.72	-20.72
2437	-1.37	-21.37	2437	-1.06	-21.06
2452	-1.08	-21.08	2452	-0.55	-20.55

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.  
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802.11b\_20MHz\_Chain0\_2412MHz



802.11b\_20MHz\_Chain1\_2412MHz



802.11b\_20MHz\_Chain0\_2437MHz



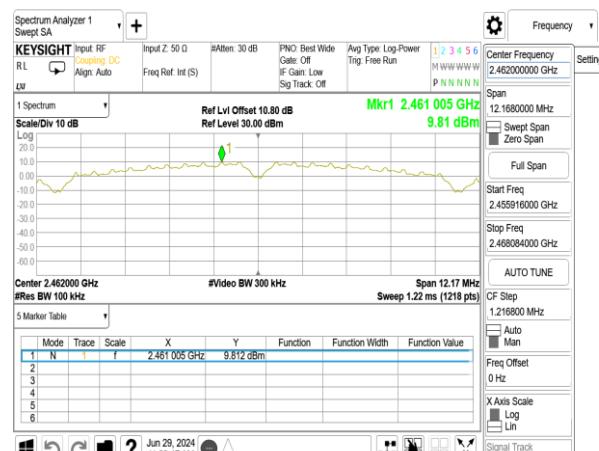
802.11b\_20MHz\_Chain1\_2437MHz



802.11b\_20MHz\_Chain0\_2462MHz



802.11b\_20MHz\_Chain1\_2462MHz



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802.11g\_20MHz\_Chain0\_2412MHz



802.11g\_20MHz\_Chain1\_2412MHz



802.11g\_20MHz\_Chain0\_2437MHz



802.11g\_20MHz\_Chain1\_2437MHz



802.11g\_20MHz\_Chain0\_2462MHz



802.11g\_20MHz\_Chain1\_2462MHz



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