

ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT



Applicant: Qualcomm Technologies, Inc.
5775 Morehouse Drive, San Diego, CA 92121-1714, United States

Manufacturer: Qualcomm Technologies, Inc.
5775 Morehouse Drive, San Diego, CA 92121-1714, United States

Product Name: Micro-Power Wi-Fi LGA Module for IoT applications

Brand Name: Qualcomm

Model No.: QCC730M-0P

Report Number: TERF2501000158ER

FCC ID J9C-QCC730M0P

Date of EUT Received: January 9, 2025

Date of Test: January 10, 2025~April 29, 2025

Issue Date: May 14, 2025

Blue Yang
Approved By _____

Blue Yang

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 C63.10:2020 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
TERF2501000158ER	00	Original	May 14, 2025	Susan Lin	

Note:

- 1、The remark "*" indicates modification of the report upon requests from certification body.
- 2、Variant information of HW SKU is provided by the applicant, test results of this report are applicable to the sample EUT(s) received.
And are assessed as electrically identical in RF characteristics, therefore, no further assessment required for the variant(s).

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1 GENERAL INFORMATION

1.1 Product Description

Product Name:	Micro-Power Wi-Fi LGA Module for IoT applications
Brand Name:	Qualcomm
Model No.:	QCC730M-0P
HW SKU:	QCC730M-0PB, QCC730M-0PU
Hardware Version:	N/A
Firmware Version:	N/A
EUT Series No.:	02B221949D00OW
Power Supply:	3.3Vdc
Test Software (Name/Version):	QSPR / version 6.00.00169.2

1.2 RF Specification

WLAN 2.4GHz

Mode	Frequency Range	Channels	Rated Power (dBm)		Modulation Technology
			Peak	Avg.	
802.11b	2412~2472	13	16.44	12.94	DSSS
802.11g	2412~2472	13	17.03	12.94	OFDM
802.11n_HT20	2412~2472	13	17.04	12.82	OFDM
Modulation type:		CCK, DQPSK, DBPSK for DSSS in 802.11b			
		64QAM, 16QAM, QPSK, BPSK for OFDM in 802.11g,11n			
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 72.2Mbps			

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1.3 HW SKU Difference Table

HW SKU	QCC730M-0PU	QCC730M-0PB
Antenna type	3 types: PIFA, Monopole, Dipole	1 type: PCB
RF	C33=0.6nH C35=0R C44=NC	C33=0R C35=1nH C39=NC
ANT	No antenna matching	L5=0.3nH C40=9.1pF L4=0.2pF L6=0R L7=NC

1.4 Antenna Designation

Antenna Type	Antenna Part No.	Freq.	Peak Antenna Gain (dBi)
PCB Antenna	RFIQM0730010IB001	2.4GHz	1.49
PIFA Antenna	RPCA303510EMMB101		3.33
Dipole Antenna	RPCA331010EMMB101		3.11
Monopole Antenna	RPCA501010EMMB101		3.27

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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1.5 Test Methodology of Applied Standards

FCC Part 15, Subpart C §15.247

FCC KDB 558074 D01 15.247 Meas Guidance v05r02

ANSI C63.10:2013

1.6 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 SAC 2 SAC 3 Conduction 1 Conducted 1 Conducted 2 Conducted 3 Conducted 4 Conducted 5 Conducted 6	TW0027	TW3702
	No.2, Keji 1st Rd., Guishan District, Taoyuan City, Taiwan 333	Conduction C SAC C SAC D SAC G Conducted A Conducted B Conducted C Conducted D Conducted E Conducted F Conducted G	TW0028	

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.

1.7 Special Accessories

There are no special accessories used while test was conducted.

1.8 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

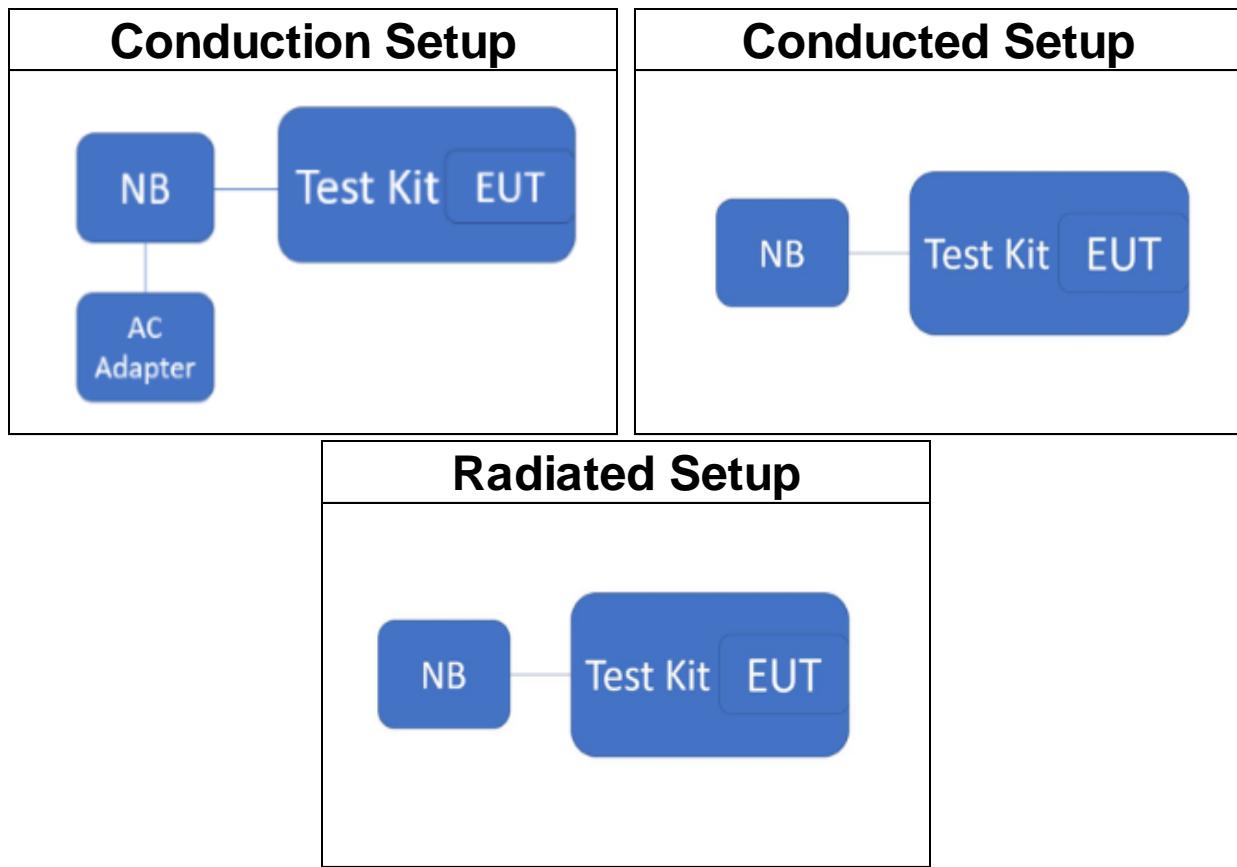
Radiated emission below 30MHz is measured in a 9m*6m*6m semi-anechoic chamber, the measurements correspond to those obtained at an open-field test site.

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 1					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL. (mm/dd/yyyy)	CAL DUE. (mm/dd/yyyy)
QCC73X Module Development Kit Board	Walsin	QCC730-DVK	N/A	N/A	N/A
Type-C to USB Cable	Xiaomi	SJX10ZM	N/A	N/A	N/A
Notebook	HP	HSN-Q35C-4	5CD2428X3N	N/A	N/A
AC Adapter	HP	TPN-LA16	N/A	N/A	N/A

Conducted Emission Test Site: Conducted 2					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL. (mm/dd/yyyy)	CAL DUE. (mm/dd/yyyy)
QCC73X Module Development Kit Board	Walsin	QCC730-DVK	N/A	N/A	N/A
Type-C to USB Cable	Xiaomi	SJX10ZM	N/A	N/A	N/A
Notebook	Lenovo	L480	PF-1S9NT5 19/07	N/A	N/A

Radiated Emission Test Site: SAC 3					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL. (mm/dd/yyyy)	CAL DUE. (mm/dd/yyyy)
QCC73X Module Development Kit Board	Walsin	QCC730-DVK	N/A	N/A	N/A
Type-C to USB Cable	Xiaomi	SJX10ZM	N/A	N/A	N/A
Notebook	HP	HSN-Q35C-4	5CD2428X3N	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 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
12	2467
13	2472

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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.

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

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 13	1,6,11,12,13	DSSS	1	Ch0
802.11g	1 to 13	1,6,11,12,13	OFDM	6	Ch0
802.11n_HT20	1 to 13	1,6,11,12,13	OFDM	MCS0	Ch0

TRANSMIT RADIATED EMISSION TEST (BELOW 1 GHz)					
MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION	DATA RATE (Mbps)	ANTENNA PORT
802.11g	1 to 13	6	OFDM	6	ch0

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TRANSMIT RADIATED EMISSION TEST (ABOVE 1 GHz)					
MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION	DATA RATE (Mbps)	ANTENNA PORT
802.11b	1 to 13	1,6,11,12,13	DSSS	1	ch0
802.11g	1 to 13	1,6,11,12,13	OFDM	6	ch0
802.11n_HT20	1 to 13	1,6,11,12,13	OFDM	MCS0	ch0

Note:

1. 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.
2. Radiated test was done with 50ohm terminator on antenna port.

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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			
Polarization: Vertical	+/- 1.89 dB	9kHz~30MHz	
	+/- 4.15 dB	30MHz - 1000MHz	
	+/- 3.43 dB	1GHz - 18GHz	
	+/- 3.86 dB	18GHz - 40GHz	
Polarization: Horizontal	+/- 1.89 dB	9kHz~30MHz	
	+/- 4.02 dB	30MHz - 1000MHz	
	+/- 3.43 dB	1GHz - 18GHz	
	+/- 3.86 dB	18GHz - 40GHz	
Radiated Spurious Emission	+/- 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 1					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL. (mm/dd/yyyy)	CAL DUE. (mm/dd/yyyy)
Coaxial Cables	EMC Instruments Corp.	EMCCFD300-BM-BM-3000	161207	06/22/2024	06/21/2025
EMI Test Receiver	R&S	ESCI 7	100759	08/28/2024	08/27/2025
LISN	SCHWARZBECK	NSLK 8127	1040	09/07/2024	09/06/2025
Pulse Limiter	SCHWARZBECK	VTSD 9561F-N	793	06/22/2024	06/21/2025
SMA Termination	RF Microwave WOKEN	WTER-18S2	N/A	N/A	N/A
Test Software	Audix	e3	Ver. 9.210616	N.C.R	N.C.R

6.2 Conducted Measurement

Conducted Emission Test Site: Conducted 2					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL. (mm/dd/yyyy)	CAL DUE. (mm/dd/yyyy)
Attenuator	Mini-Circuits	BW-S10W2+	6	12/11/2024	12/10/2025
DC Block	Mini-Circuits	BLK-18-S+	31129	12/11/2024	12/10/2025
EXA Spectrum Analyzer	KEYSIGHT	N9010B	MY59071541	07/08/2024	07/07/2025
Power Meter	Anritsu	ML2496A	2138003	10/09/2024	10/08/2025
Power Sensor	Anritsu	MA2411B	1911393	10/09/2024	10/08/2025
Power Sensor	Anritsu	MA2411B	1911394	10/09/2024	10/08/2025
Test Software	SGS	Radio Test Software	Ver. 21	N.C.R	N.C.R

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6.3 Radiated Measurement

Radiated Emission Test Site: SAC 3					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL. (mm/dd/yyyy)	CAL DUE. (mm/dd/yyyy)
4G High Pass Filter	WI	WHKX4.0	22	12/11/2024	12/10/2025
Attenuator	Mini-Circuits	BW-S10W2+	16	12/11/2024	12/10/2025
Band Reject Filter 2400-2483.5	EWT	EWT-14-0166	M3	12/11/2024	12/10/2025
Bi-log Antenna	SCHWARZBECK	VULB9168	378	08/09/2024	08/08/2025
Coaxial Cables	EMCI+Huber Suhner	EMC107-SM-SM-1000 +SUCAFLEX 104PEA +EMC107-SM-SM-1500 +SUCAFLEX 106	RX Cable 9K-18G (221110+MY4251/4PEA+221106+760 96/6)	08/30/2024	08/29/2025
Coaxial Cables	Huber Suhner	SUCAFLEX 102	RX Cable 18G-40G MY2630/2+805062 /2	08/30/2024	08/29/2025
EMI Test Receiver	R&S	ESCI 7	100759	08/28/2024	08/27/2025
EXA Spectrum Analyzer	KEYSIGHT	N9010B	MY59071541	07/08/2024	07/07/2025
Horn Antenna	RF SPIN	DRH0844	LE2D05A0844	07/10/2024	07/09/2025
Horn Antenna	SCHWARZBECK	BBHA9120D	1441	09/23/2024	09/22/2025
Loop Antenna	COM-POWER	AL-130R	10160104	12/19/2024	12/18/2025
Pre-Amplifier	EMCI	EMC118A45SEE	980868	08/30/2024	08/29/2025
Pre-Amplifier	EMCI	EMC184045SEE	9080939	08/30/2024	08/29/2025
Pre-Amplifier	HP	8447D	2944A07676	08/30/2024	08/29/2025
Site Cal	SGS	SAC 3	N/A	08/30/2024	08/29/2025
SMA Termination	RF Microwave WOKEN	WTER-18S2	N/A	N/A	N/A
Test Software	Audix	e3	Ver. 9.210616	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

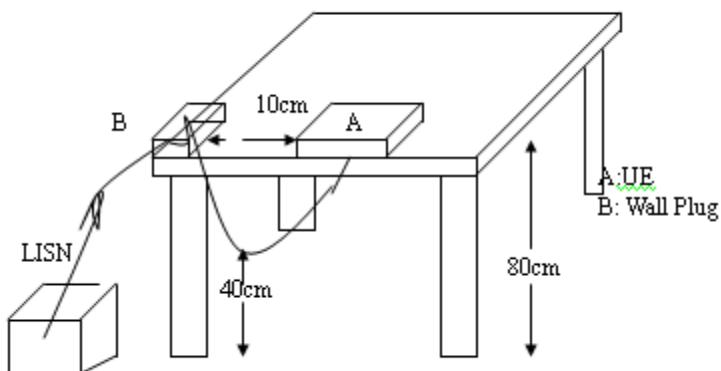
Note

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 C63.10:2020.
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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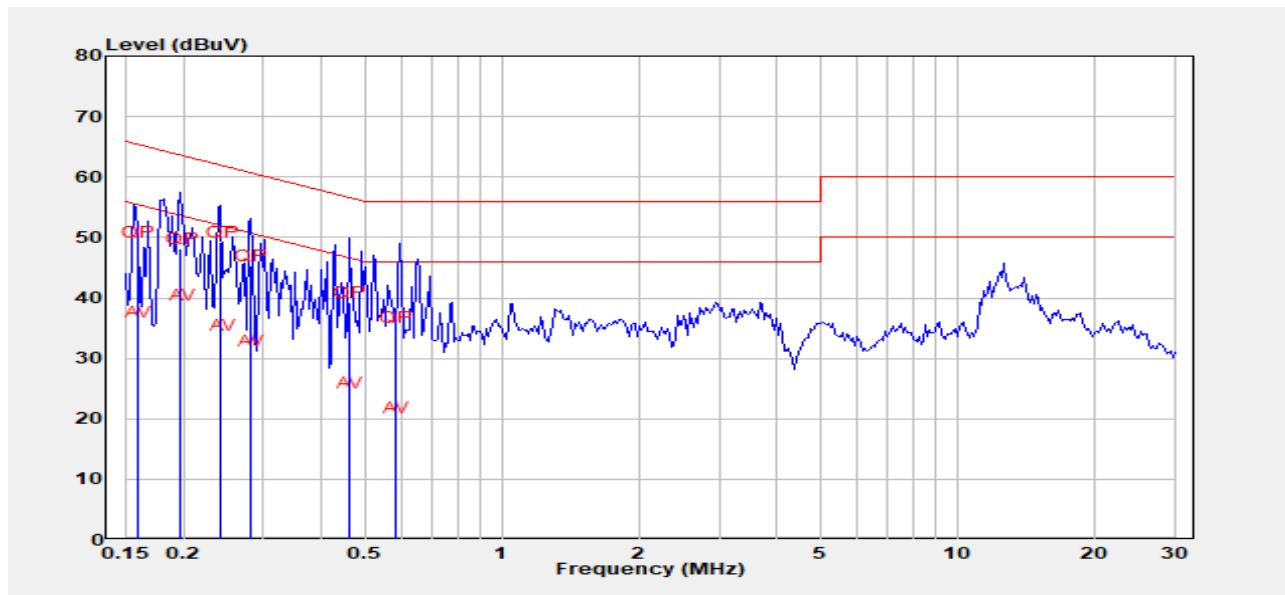
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AC POWER LINE CONDUCTED EMISSION TEST DATA

Report Number :TERF2501000158ER Test Site :Conduction 1
 Operation Mode :WLAN 2.4G Test Date :2025-02-06
 Power :120V/60Hz Temp./Humi. :19.7°C/54%
 Probe :L Engineer :Nick Lin
 Note: :



Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dB μ V	Factor dB	Actual FS dB μ V	Limit dB μ V	Margin dB
0.158	Average	25.82	10.13	35.95	55.56	-19.61
0.158	QP	39.09	10.13	49.22	65.56	-16.34
0.198	Average	28.63	10.13	38.76	53.71	-14.95
0.198	QP	37.98	10.13	48.11	63.71	-15.60
0.242	Average	23.73	10.14	33.87	52.04	-18.17
0.242	QP	39.08	10.14	49.22	62.04	-12.82
0.280	Average	21.13	10.14	31.27	50.81	-19.54
0.280	QP	35.19	10.14	45.33	60.81	-15.48
0.461	Average	14.03	10.16	24.19	46.67	-22.48
0.461	QP	28.99	10.16	39.15	56.67	-17.52
0.582	Average	10.08	10.17	20.25	46.00	-25.75
0.582	QP	24.95	10.17	35.12	56.00	-20.88

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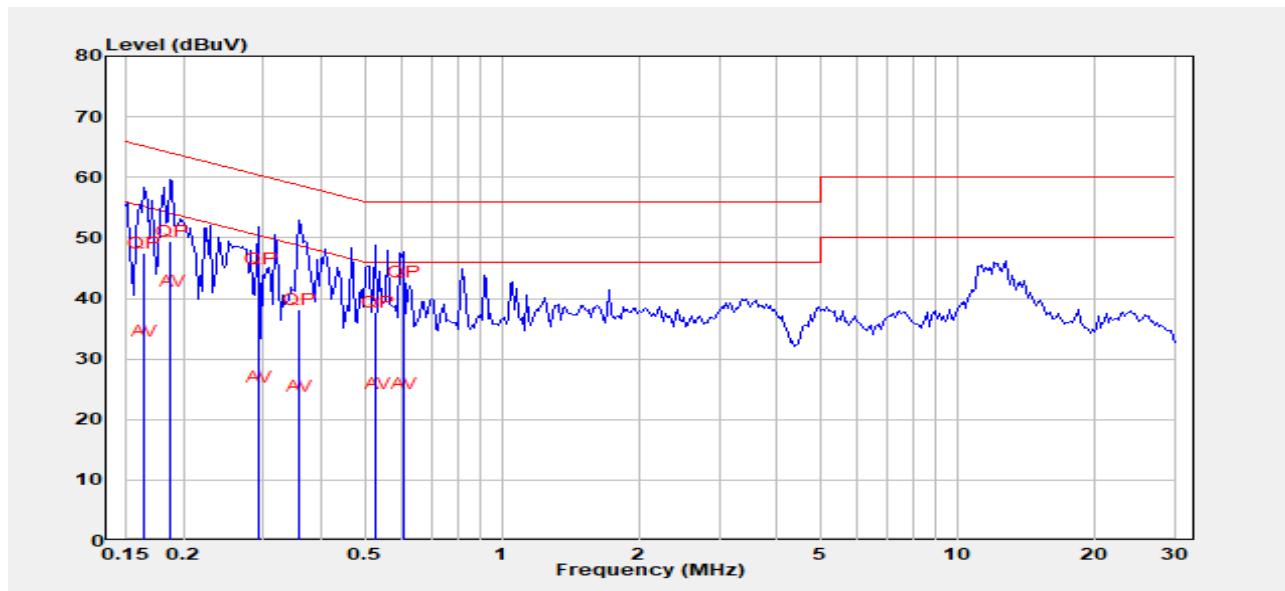
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Report Number :TERF2501000158ER
 Operation Mode :WLAN 2.4G
 Power :120V/60Hz
 Probe :N
 Note: :

Test Site :Conduction 1
 Test Date :2025-02-06
 Temp./Humi. :19.7°C/54%
 Engineer :Nick Lin



Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dB μ V	Factor dB	Actual FS dB μ V	Limit dB μ V	Margin dB
0.163	Average	22.91	10.12	33.03	55.30	-22.27
0.163	QP	37.43	10.12	47.55	65.30	-17.75
0.187	Average	31.11	10.12	41.23	54.15	-12.92
0.187	QP	39.27	10.12	49.39	64.15	-14.76
0.292	Average	15.33	10.14	25.47	50.46	-24.99
0.292	QP	34.67	10.14	44.81	60.46	-15.65
0.358	Average	13.72	10.15	23.87	48.78	-24.92
0.358	QP	28.06	10.15	38.21	58.78	-20.58
0.529	Average	14.22	10.16	24.38	46.00	-21.62
0.529	QP	27.58	10.16	37.74	56.00	-18.26
0.608	Average	14.01	10.17	24.18	46.00	-21.82
0.608	QP	32.47	10.17	42.64	56.00	-13.36

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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.

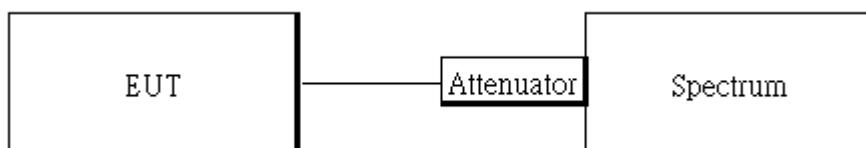
In case of point-to-point operation, the limit has to be reduced by 1dB for every 3dB that the directional gain of Antenna exceeds 6dBi.

Note:

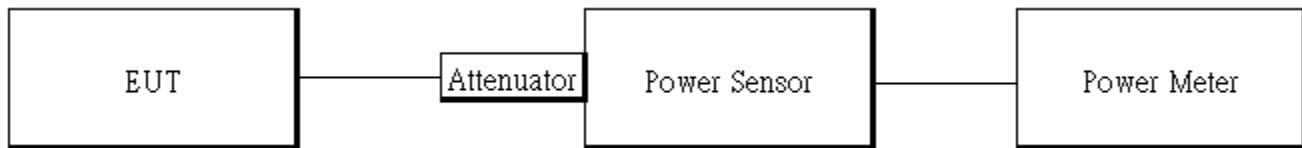
When the antenna gain is greater than 6 dBi, the power limit attenuated accordingly.

8.2 Test Setup

8.2.1 Duty Cycle



8.2.2 Output Power:



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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.

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

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	99.03	0.04	0.08	0.01
802.11g	99.03	0.04	0.49	0.01
802.11n_20	98.95	0.05	0.53	0.01

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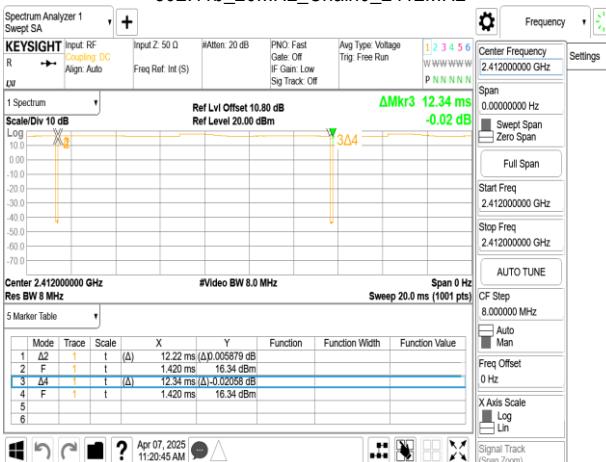
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8.4.2 Duty Cycle test plots

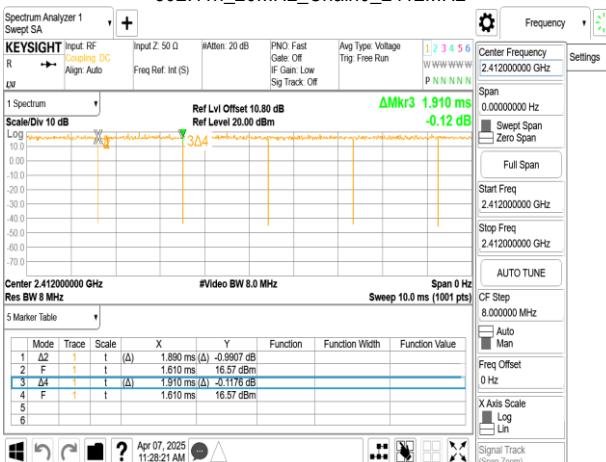
802.11b_20MHz_Chain0_2412MHz



802.11g_20MHz_Chain0_2412MHz



802.11n_20MHz_Chain0_2412MHz



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8.4.3 Output Power

802.11b Ch0

CH	Freq. (MHz)	Data Rate	Peak Output Power (mW)	Peak Output Power (dBm)	Limit (dBm)	RESULT
1	2412	1	44.06	16.44	30.00	PASS
6	2437	1	32.51	15.12	30.00	PASS
11	2462	1	43.05	16.34	30.00	PASS
12	2467	1	8.18	9.13	30.00	PASS
13	2472	1	15.35	11.86	30.00	PASS

802.11b Ch0

CH	Freq. (MHz)	Data Rate	Avg. Output Power (mW)	Avg. Output Power (dBm)	Limit (dBm)	RESULT
1	2412	1	19.55	12.91	30.00	PASS
6	2437	1	13.47	11.29	30.00	PASS
11	2462	1	19.69	12.94	30.00	PASS
12	2467	1	2.83	4.52	30.00	PASS
13	2472	1	3.86	5.86	30.00	PASS

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802.11g Ch0

CH	Freq. (MHz)	Data Rate	Peak Output Power (mW)	Peak Output Power (dBm)	Limit (dBm)	RESULT
1	2412	6	36.06	15.57	30.00	PASS
2	2417	6	43.45	16.38	30.00	PASS
6	2437	6	50.47	17.03	30.00	PASS
10	2457	6	42.76	16.31	30.00	PASS
11	2462	6	22.96	13.61	30.00	PASS
12	2467	6	10.84	10.35	30.00	PASS
13	2472	6	6.05	7.82	30.00	PASS

802.11g Ch0

CH	Freq. (MHz)	Data Rate	Avg. Output Power (mW)	Avg. Output Power (dBm)	Limit (dBm)	RESULT
1	2412	6	12.80	11.07	30.00	PASS
2	2417	6	16.84	12.26	30.00	PASS
6	2437	6	19.69	12.94	30.00	PASS
10	2457	6	16.04	12.05	30.00	PASS
11	2462	6	7.57	8.79	30.00	PASS
12	2467	6	3.46	5.39	30.00	PASS
13	2472	6	1.98	2.97	30.00	PASS

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802.11n_HT_20M Ch0

CH	Freq. (MHz)	Data Rate	Peak Output Power (mW)	Peak Output Power (dBm)	Limit (dBm)	RESULT
1	2412	MCS0	29.92	14.76	30.00	PASS
2	2417	MCS0	43.85	16.42	30.00	PASS
6	2437	MCS0	50.00	16.99	30.00	PASS
9	2452	MCS0	50.58	17.04	30.00	PASS
10	2457	MCS0	40.36	16.06	30.00	PASS
11	2462	MCS0	20.94	13.21	30.00	PASS
12	2467	MCS0	13.77	11.39	30.00	PASS
13	2472	MCS0	8.47	9.28	30.00	PASS

802.11n_HT_20M Ch0

CH	Freq. (MHz)	Data Rate	Avg. Output Power (mW)	Avg. Output Power (dBm)	Limit (dBm)	RESULT
1	2412	MCS0	9.67	9.86	30.00	PASS
2	2417	MCS0	16.43	12.16	30.00	PASS
6	2437	MCS0	19.12	12.82	30.00	PASS
9	2452	MCS0	18.43	12.66	30.00	PASS
10	2457	MCS0	13.79	11.40	30.00	PASS
11	2462	MCS0	6.35	8.03	30.00	PASS
12	2467	MCS0	3.46	5.39	30.00	PASS
13	2472	MCS0	2.23	3.48	30.00	PASS

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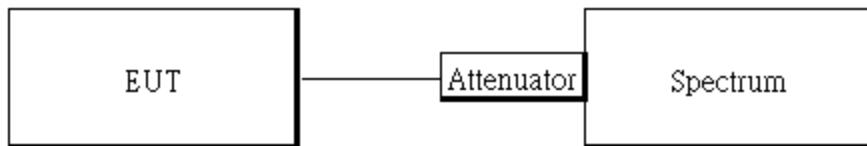
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9 EMISSION BANDWIDTH MEASUREMENT

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.

9.3.2 99% BW measurements

3. The testing follows the Measurement Procedure of the RSS-Gen section 6.7.
4. Set the spectrum analyzer as
RBW= 1 % to 5% of 99%,
VBW \geq 3 X RBW,
Span= large enough to capture all products of the modulation process
Sweep=auto, Detector = Peak, and Max hold.
5. Mark the upper and lower frequencies of 99%.
6. 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	10080	≥ 500	PASS
2437	10060	≥ 500	PASS
2462	10080	≥ 500	PASS
2467	10110	≥ 500	PASS
2472	10090	≥ 500	PASS

802.11g Ch0

Freq. (MHz)	6dB BW (kHz)	Limit (kHz)	Result
2412	15420	≥ 500	PASS
2437	15340	≥ 500	PASS
2462	15710	≥ 500	PASS
2467	15320	≥ 500	PASS
2472	15140	≥ 500	PASS

802.11n HT_20M Ch0

Freq. (MHz)	6dB BW (kHz)	Limit (kHz)	Result
2412	15330	≥ 500	PASS
2437	15720	≥ 500	PASS
2462	15740	≥ 500	PASS
2467	15710	≥ 500	PASS
2472	15350	≥ 500	PASS

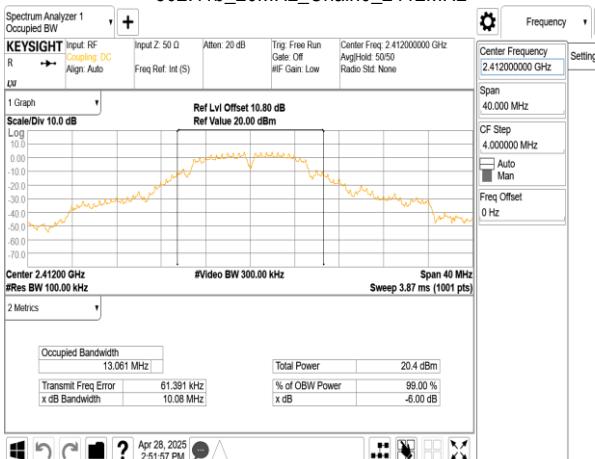
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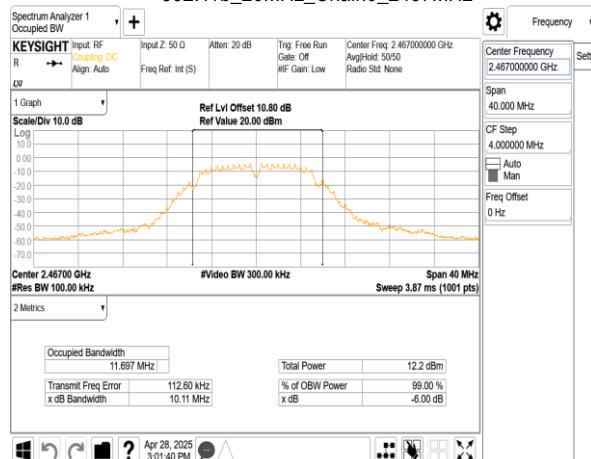
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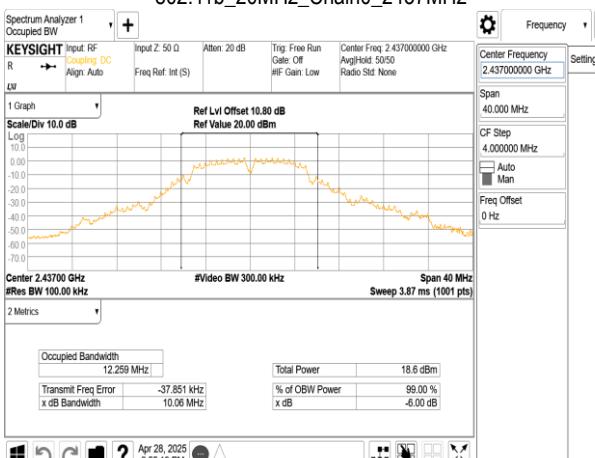
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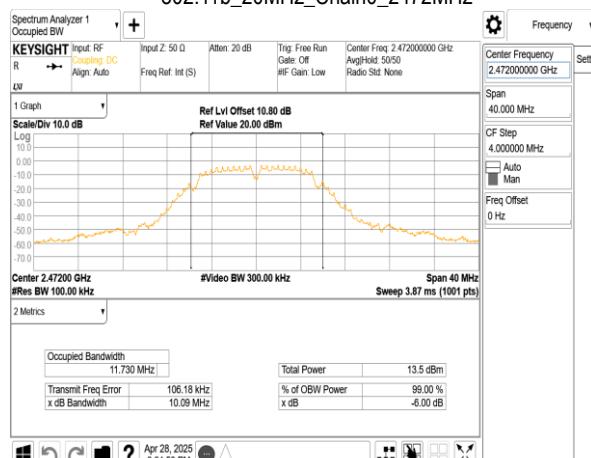
802.11b_20MHz_Chain0_2467MHz



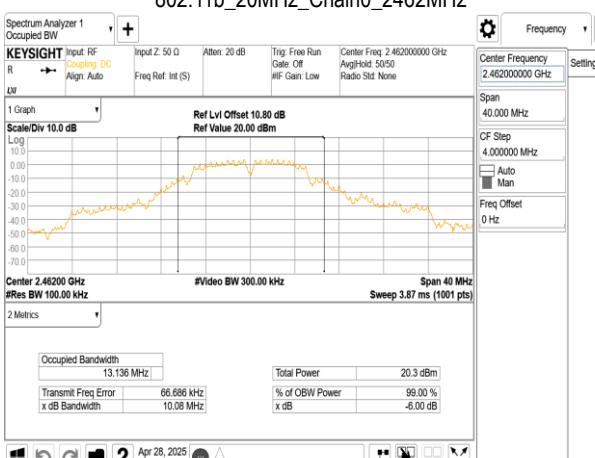
802.11b_20MHz_Chain0_2437MHz



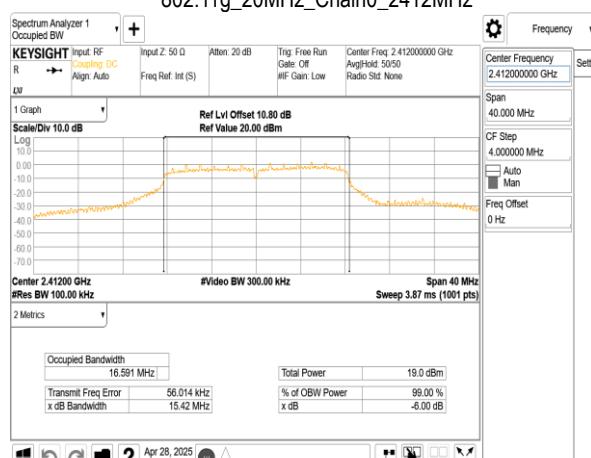
802.11b_20MHz_Chain0_2472MHz



802.11b_20MHz_Chain0_2462MHz



802.11g_20MHz_Chain0_2412MHz



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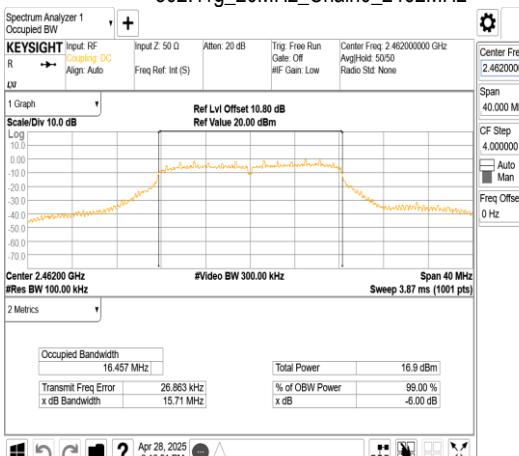
802.11g_20MHz_Chain0_2437MHz



802.11g_20MHz_Chain0_2472MHz



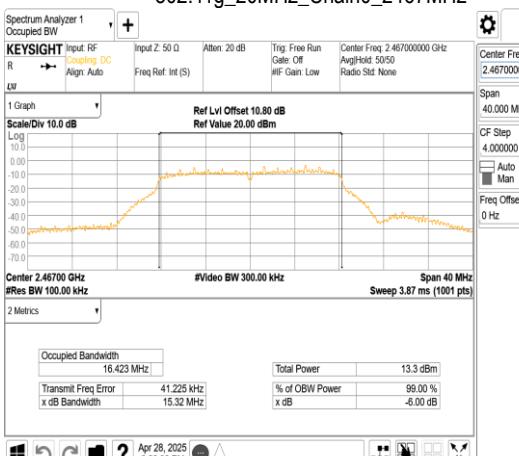
802.11g_20MHz_Chain0_2462MHz



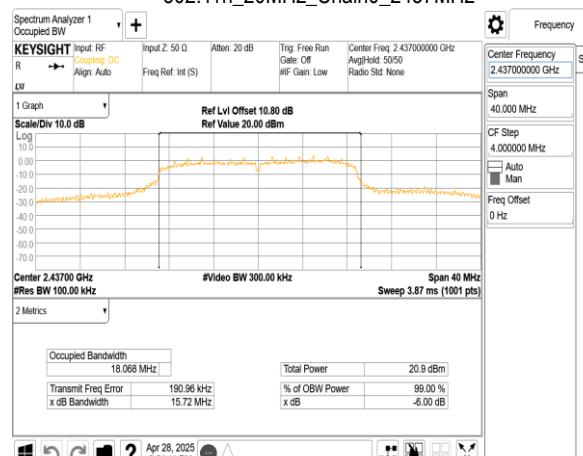
802.11n_20MHz_Chain0_2412MHz



802.11g_20MHz_Chain0_2467MHz



802.11n_20MHz_Chain0_2437MHz



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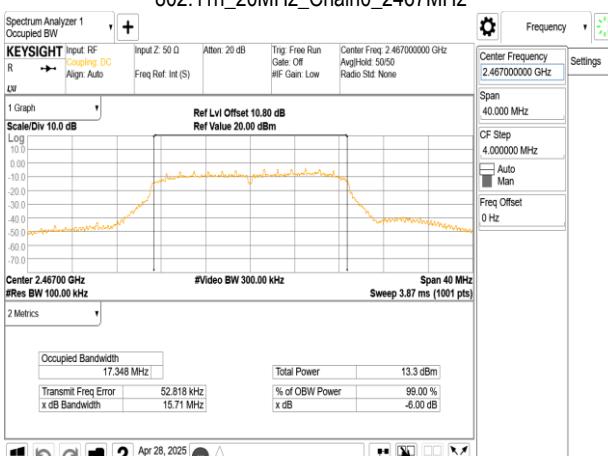
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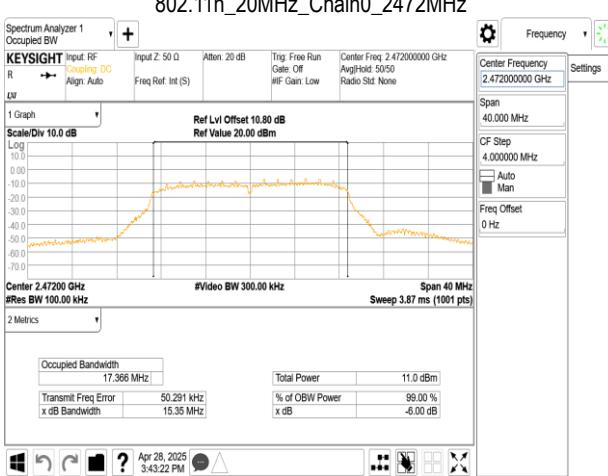
802.11n_20MHz_Chain0_2462MHz



802.11n_20MHz_Chain0_2467MHz



802.11n_20MHz_Chain0_2472MHz



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9.4.2 99% Bandwidth

802.11b Ch0

Freq. (MHz)	99% BW (MHz)
2412	13.193
2437	12.344
2462	13.239
2467	11.798
2472	11.829

802.11g Ch0

Freq. (MHz)	99% BW (MHz)
2412	16.855
2437	17.815
2462	16.663
2467	16.574
2472	16.585

802.11n HT20M Ch0

Freq. (MHz)	99% BW (MHz)
2412	17.613
2437	18.329
2462	17.508
2467	17.439
2472	17.407

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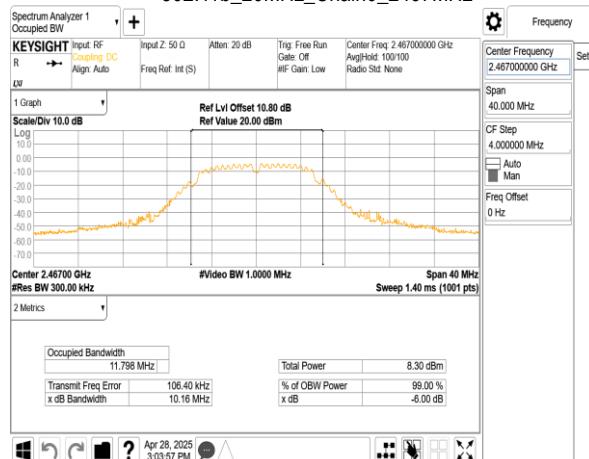
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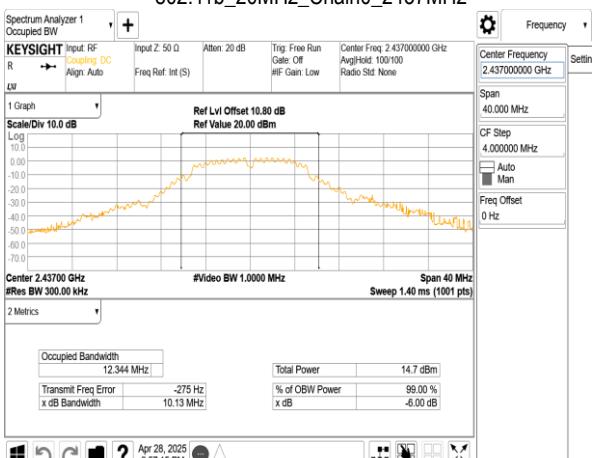
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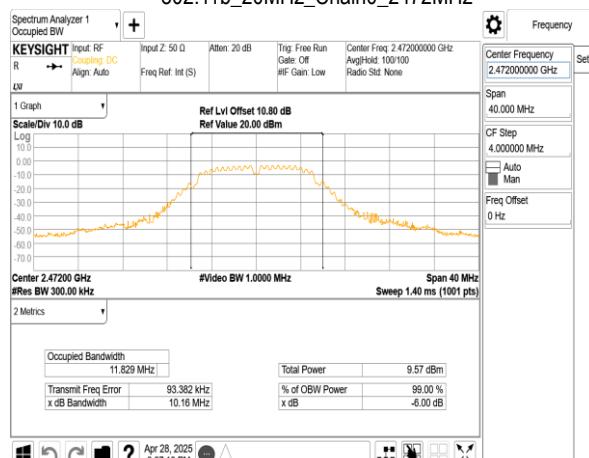
802.11b_20MHz_Chain0_2467MHz



802.11b_20MHz_Chain0_2437MHz



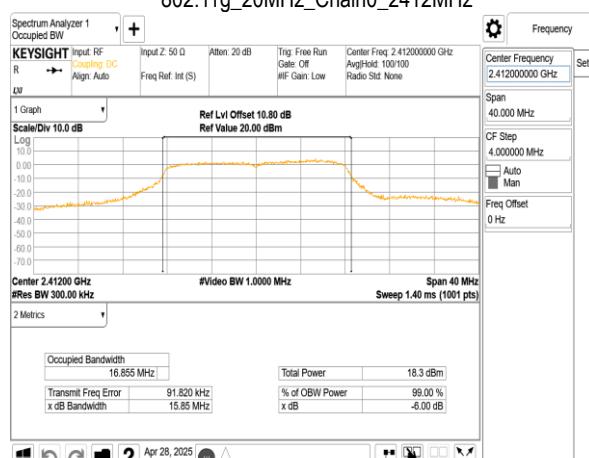
802.11b_20MHz_Chain0_2472MHz



802.11b_20MHz_Chain0_2462MHz



802.11g_20MHz_Chain0_2412MHz



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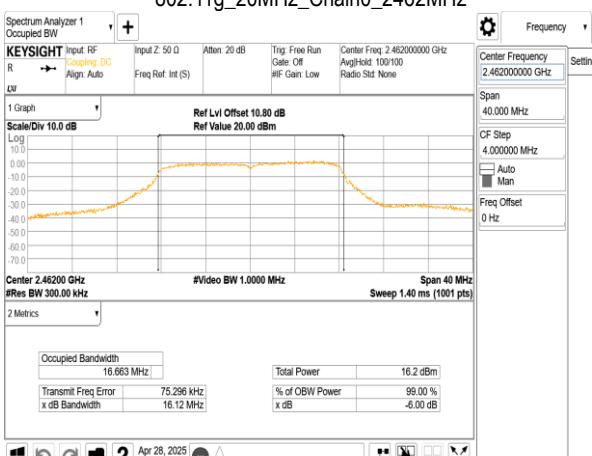
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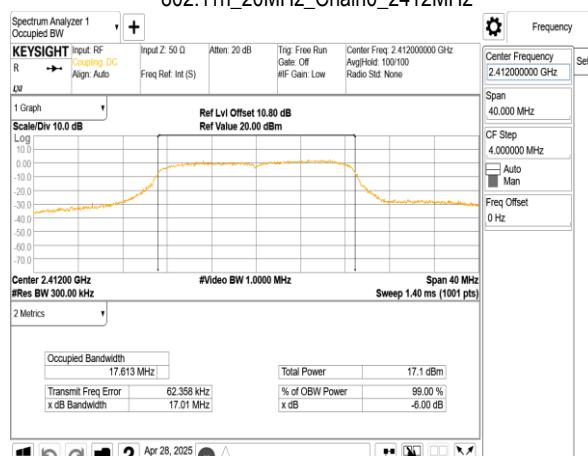
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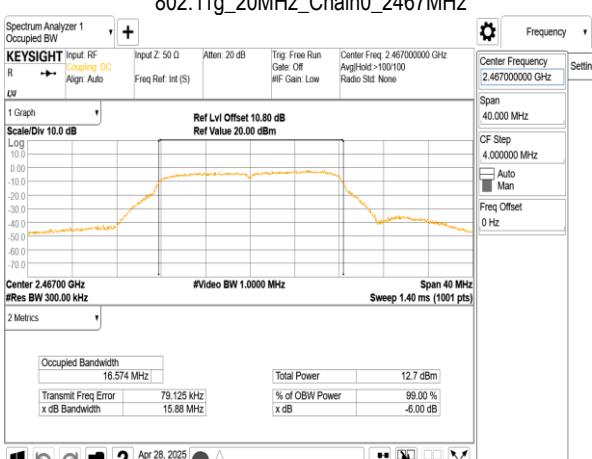
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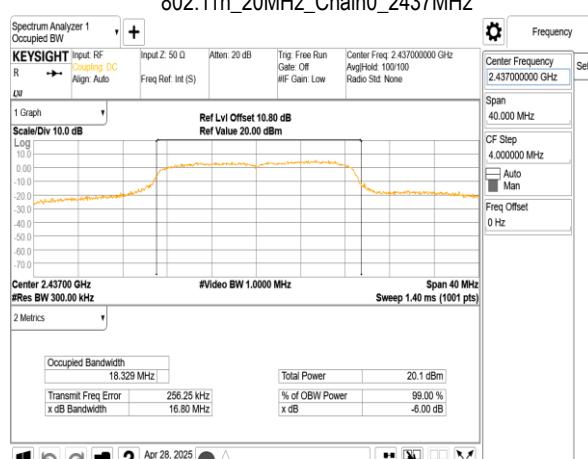
802.11n_20MHz_Chain0_2412MHz



802.11g_20MHz_Chain0_2467MHz



802.11n_20MHz_Chain0_2437MHz



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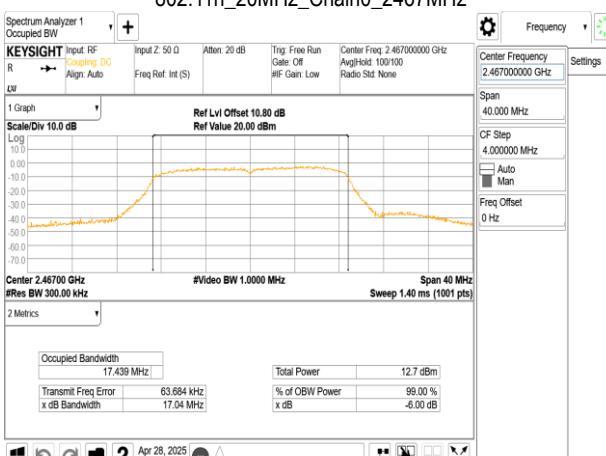
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802.11n_20MHz_Chain0_2462MHz



802.11n_20MHz_Chain0_2467MHz



802.11n_20MHz_Chain0_2472MHz



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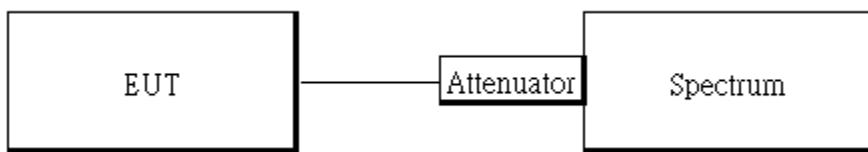
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10 CONDUCTED BAND EDGES AND SPURIOUS EMISSION MEASUREMENT

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.

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10.3.2 Conducted Band Edge:

In any 100 kHz bandwidth outside the frequency band

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 -20 dBm
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.

10.3.3 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.

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10.4 Measurement Result

802.11b Ch0

Reference Level of Limit		
Freq. (MHz)	PSD (dBm)	Reference Level of Limit (dBm)
2412	4.24	-15.76
2437	2.26	-17.74
2462	4.28	-15.72
2467	-4.50	-24.50
2472	-3.13	-23.13

802.11g Ch0

Reference Level of Limit		
Freq. (MHz)	PSD (dBm)	Reference Level of Limit (dBm)
2412	1.84	-18.16
2437	3.88	-16.12
2462	-0.13	-20.13
2467	-3.41	-23.41
2472	-5.92	-25.92

802.11n HT 20M Ch0

Reference Level of Limit		
Freq. (MHz)	PSD (dBm)	Reference Level of Limit (dBm)
2412	0.90	-19.10
2437	3.68	-16.32
2462	-1.11	-21.11
2467	-4.12	-24.12
2472	-6.38	-26.38

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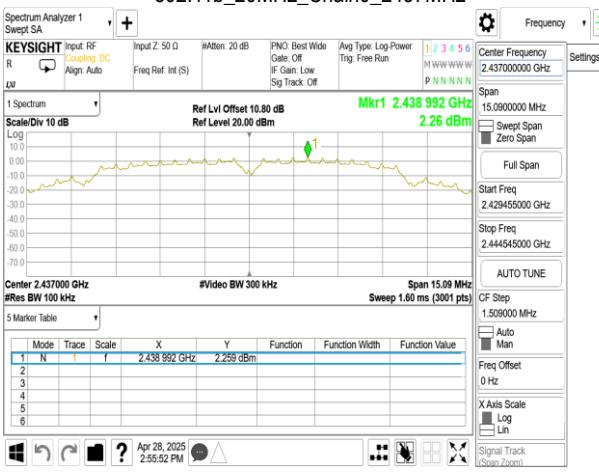
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802.11b_20MHz_Chain0_2412MHz



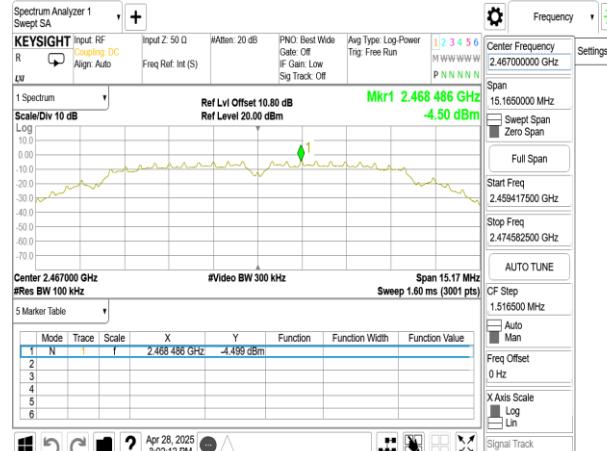
802.11b_20MHz_Chain0_2437MHz



802.11b_20MHz_Chain0_2462MHz



802.11b_20MHz_Chain0_2467MHz



802.11b_20MHz_Chain0_2472MHz



802.11g_20MHz_Chain0_2412MHz



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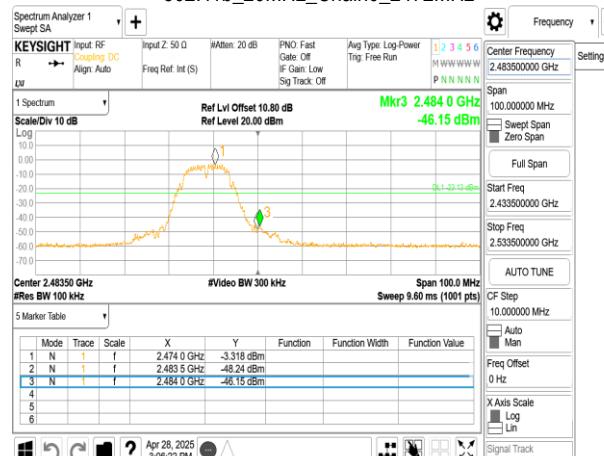
802.11b_20MHz_Chain0_2462MHz



802.11b_20MHz_Chain0_2467MHz



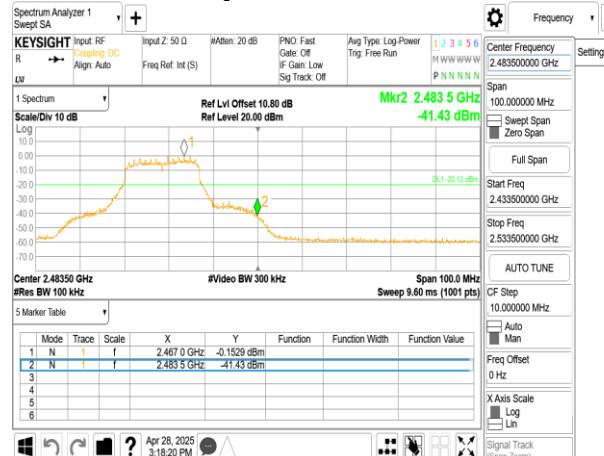
802.11b_20MHz_Chain0_2472MHz



802.11g_20MHz_Chain0_2412MHz



802.11g_20MHz_Chain0_2462MHz



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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802.11g_20MHz_Chain0_2467MHz



802.11g_20MHz_Chain0_2472MHz



802.11n_20MHz_Chain0_2412MHz



802.11n_20MHz_Chain0_2462MHz



802.11n_20MHz_Chain0_2467MHz



802.11n_20MHz_Chain0_2472MHz



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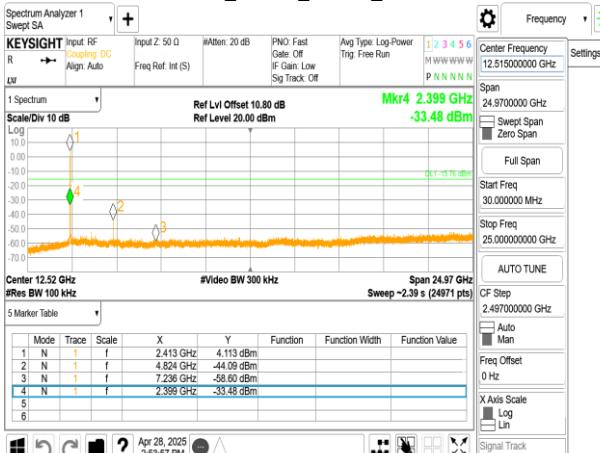
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802.11b_20MHz_Chain0_2412MHz



802.11b_20MHz_Chain0_2437MHz



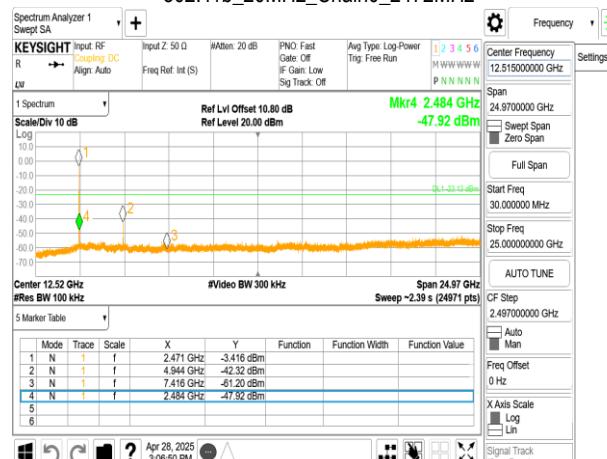
802.11b_20MHz_Chain0_2462MHz



802.11b_20MHz_Chain0_2467MHz



802.11b_20MHz_Chain0_2472MHz



802.11g_20MHz_Chain0_2412MHz



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