

TEST REPORT

**CTK Co., Ltd.**

(Ho-dong), 113, Yejik-ro, Cheoin-gu, Yongin-si,
Gyeonggi-do, 17142, Korea
Tel: +82-31-339-9970
Fax: +82-31-624-9501

Report No.:
CTK-2025-02083
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1. Applicant

- Name : Pittasoft Co.,Ltd.
- Address : A 4th floor, ABN Tower, 331, Pangyo-ro, Bundang-gu, Seongnam-si,
Gyeonggi-do, Republic of Korea
- Date of Receipt : 2025-04-07

2. Manufacturer

- Name : Pittasoft Co.,Ltd.
- Address : A 4th floor, ABN Tower, 331, Pangyo-ro, Bundang-gu, Seongnam-si,
Gyeonggi-do, Republic of Korea

3. Use of Report : For FCC & ISED Certification

4. Test Sample / Model: Car Dashcam / ELITE8-2CH

5. Date of Test : 2025-05-28 to 2025-06-24

6. Test Standard(method) used : FCC 47 CFR part 15 subpart C 15.247

ANSI C63.10-2013, RSS-247 & RSS-Gen

7. Testing Environment: refer to 8 page

8. Test Results : Compliance

9. Location of Test : ☒ Permanent Testing Lab ☐ On Site Testing

(Address : (Unhak-Dong) 5, Dongbu-ro 221beon-gil, Cheoin-gu, Yong-in-si,
Gyeonggi-do, Korea)

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This report cannot be reproduced or copied without the written consent of CTK.

Approval	Tested by	Technical Manager
	Gwanyong Kim: (Signature) 	Young-taek Lee: (Signature) 

2025-08-07

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REPORT REVISION HISTORY

Date	Revision	Page No
2025-08-07	Issued (CTK-2025-02083)	all

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1. General Product Description

1.1 Applicant Information

Company	Pittasoft Co.,Ltd.
Contact Point	A 4th floor, ABN Tower, 331, Pangyo-ro, Bundang-gu, Seongnam-si, Gyeonggi-do, Republic of Korea
Contact Person	Name : Minho Shin E-mail : shinmh@pittasoft.com Tel : +82-31-8039-7789 Fax : -

1.2 Product Information

FCC ID	YCK-ELITE8		
ISED	23402-ELITE8		
Product Description	Car Dashcam		
Basic model (HVIN)	ELITE8-2CH		
Variant Model name	ELITE8-1CH, ELITE8-2CH IR, ELITE8-2CH Truck, ELITE8-2CH Pro, ELITE8-1CH Pro, ELITE8-1CH Plus, ELITE8-2CH Plus, DR800 GOLD PRO-1CH, DR800 GOLD PRO-2CH (There are no technical differences. it's simply a derivative model name based on the seller. The difference between 1CH and 2CH of the variant model is the difference in the number of cameras.)		
Operating Frequency	2 412 MHz - 2 462 MHz (20 MHz_BW) 2 422 MHz - 2 452 MHz (40 MHz_BW)		
RF Output Power	802.11b : 15.15 dBm (32.73 mW) 802.11g : 16.23 dBm (41.98 mW) 802.11n_HT20 : 14.32 dBm (27.04 mW) 802.11n_HT40 : 14.47 dBm (27.99 mW)		
Antenna Specification	Antenna type : Chip Antenna Peak Gain : 0.02 dBi		
Number of channels	802.11b/g/n_HT20 : 11 802.11n_HT40 : 9		
Type of Modulation	802.11b : DSSS 802.11g/n : OFDM		
Power Source	DC 12 V, DC 24 V (A voltage regulator circuit is designed to supply 3.3 V to the RF section)		
Hardware Rev	1.0		
Software Rev(FVIN)	V1.000		
SW provided bt the client	RTLBTAPP V 5.2.1.21		
Test Power Setting	802.11b	2 412 MHz	initial value
		2 462 MHz	33
	802.11g	2 412 MHz - 2 462 MHz	initial value
	802.11n_HT20	2 412 MHz - 2 462 MHz	
	802.11n_HT40	2 422 MHz - 2 452 MHz	

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1.3 Peripheral Devices

Device	Manufacturer	Model No.	Serial No.
Note Computer	Samsung	NT350XCR	48JW9FFRA00628D
AC Adapter	Samsung	PA-1400-96	AD-4019A
Note Computer	HP	15-bs563TU	CND7253R6N
AC/DC Adapter	HP	HSTNN-CA40	-
Note Computer	HP	HP ProBook 440 G3	5CD6133422
AC Adapter	HP	HSTNN-LA40	-

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2. Accreditations

2.1 Laboratory Accreditations and Listings

Country	Agency	Registration Number
USA	FCC	805871
CANADA	ISED	CN : 8737A CAB ID : KR0025
KOREA	NRRA	KR0025

2.2 Calibration Details of Equipment Used for Measurement

Test equipment and test accessories are calibrated on regular basis. The maximum time between calibrations is one year or what is recommended by the manufacturer, whichever is less. All test equipment calibrations are traceable to the Korea Research Institute of Standards and Science (KRISS), therefore, all test data recorded in this report is traceable to KRISS.

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3. Test Specifications

3.1 Standards

FCC Part Section(s)	Requirement(s)	Status (Note 1)	Test Condition
15.247(a)	6 dB Bandwidth	C	Conducted
15.247(b)	Maximum Output Power	C	
15.247(d)	Conducted Spurious emission	C	
15.247(d)	Unwanted Emission(Conducted)	C	
15.247(e)	Transmitter Power Spectral Density	C	
15.209	Radiated Emissions	C	Radiated
15.207	AC Conducted Emissions	C	Line Conducted
Note 1: C=Complies NC=Not Complies NT=Not Tested NA=Not Applicable			
Note 2: The data in this test report are traceable to the national or international standards.			
Note 3: The sample was tested according to the following specification: FCC Part 15.247			
Note 4: The tests were performed according to the method of measurements prescribed in KDB No.558074, ANSI C63.10-2013			

ISED Part Section(s)	Requirement(s)	Status (Note 1)	Test Condition
RSS-247 5.2(a)	6 dB Bandwidth	C	Conducted
RSS-247 5.4(d)	Maximum Output Power	C	
RSS-247 5.5	Conducted Spurious emission	C	
RSS-247 5.5	Unwanted Emission(Conducted)	C	
RSS-247 5.2(b)	Transmitter Power Spectral Density	C	
RSS-Gen 6.13	Radiated Emissions	C	Radiated
RSS-Gen 8.8	AC Conducted Emissions	C	Line Conducted
Note 1: C=Complies NC=Not Complies NT=Not Tested NA=Not Applicable			
Note 2: The data in this test report are traceable to the national or international standards.			
Note 3: The sample was tested according to the following specification: RSS-247 Issue 3, RSS-GEN Issue 5			
Note 4: The tests were performed according to the method of measurements prescribed in ANSI C63.10-2013			

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3.2 Testing Environment

Test Item		Test Date	Temperature (°C)	Relative Humidity (%)
6 dB Bandwidth & 99 % Bandwidth OUTPUT POWER Transmitter Power Spectral Density Conducted Spurious emission		2025-05-28, 2025-06-02, 2025-06-24	22±1, 23±1	48±3, 46±3
Transmitter emission (Radiated)	1) 9 kHz to 30 MHz	2025-06-03	24±1	53±3
	2) 30 MHz to 1 GHz			
	3) 1 GHz to 18 GHz	2025-06-02, 2025-06-03	23±1	45±3
	4) 18 GHz to 25 GHz			
	5) Restricted Frequency Bands			
AC Conducted Emission		2025-05-30	23±1	49±3

3.3 Mode of operation during the test

The EUT is operated in a manner representative of the typical of the equipments.
During at testing, system components were manipulated within the confines of typical usage to maximize each emission. All modulation modes were tests.
The results are attached only for the DC 12 V power source, considering it the worst case.

Test Frequency & Bandwidth

Bandwidth	Lowest channel	Middle channel	Highest channel
20 MHz	2 412 MHz	2 437 MHz	2 462 MHz
40 MHz	2 422 MHz	2 437 MHz	2 452 MHz

Test mode & Worst case

Test mode	Modulation	Data rate (Worst case)	Duty Cycle	Duty Cycle Factor
802.11b	DSSS	1 Mbps	89.13 %	0.50 dB
802.11g	OFDM	6 Mbps	57.17 %	2.43 dB
802.11n_HT20	OFDM	MCS 0	55.96 %	2.52 dB
802.11n_HT40	OFDM	MCS 0	38.84 %	4.11 dB

10 LOG(1/x), where x is the duty cycle

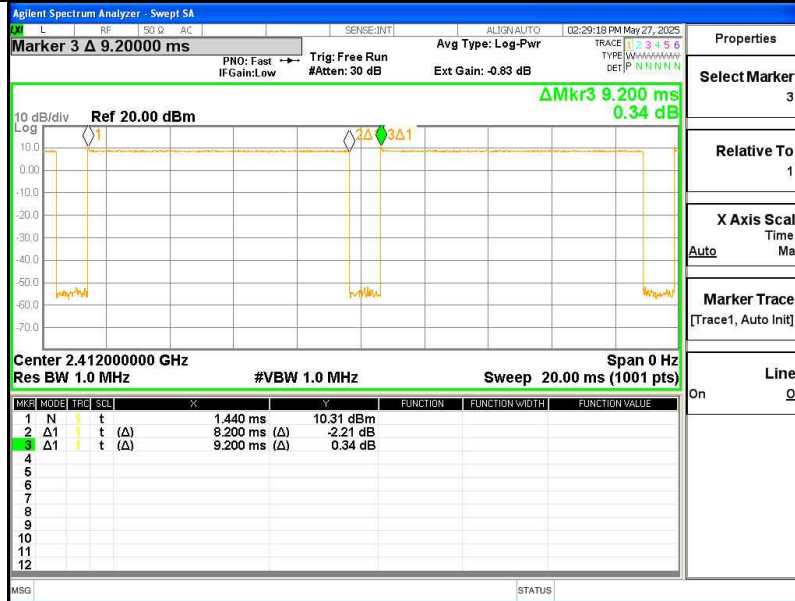


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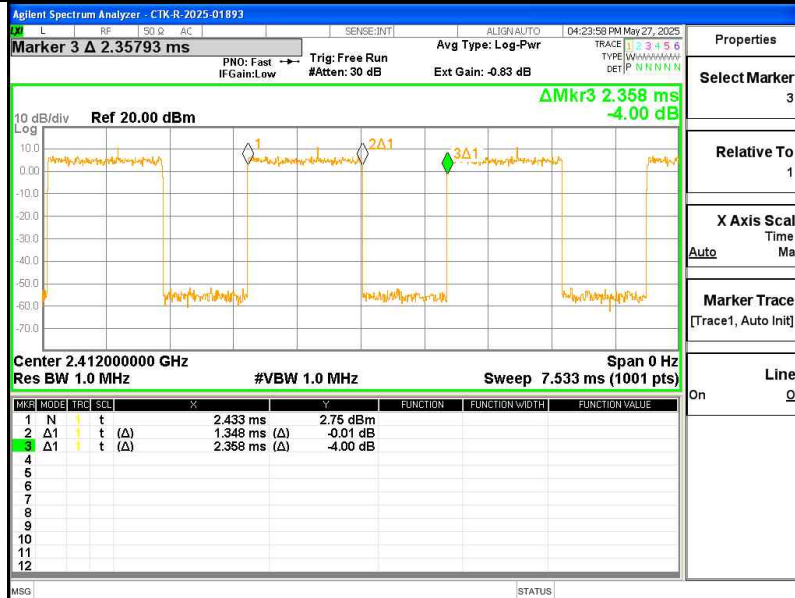
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802.11b



802.11g



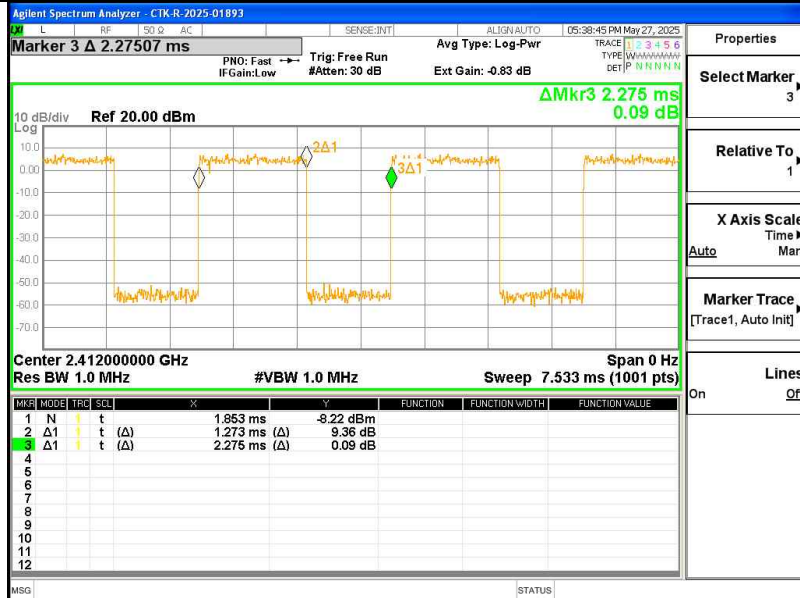


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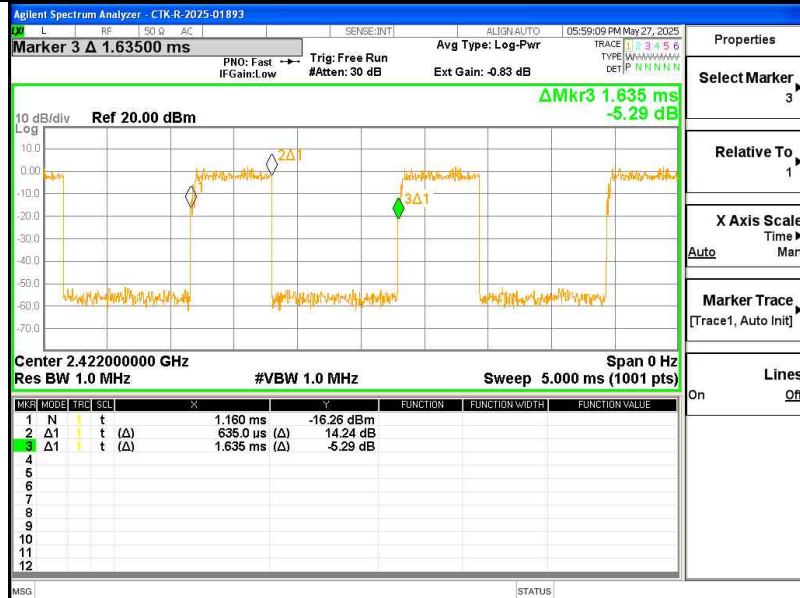
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802.11n_HT20



802.11n_HT40



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3.5 Measurement Uncertainty

The value of the measurement uncertainty for the measurement of each parameter.
Coverage factor $k = 2$, Confidence levels of 95 %

Description	Uncertainty
Conducted RF Output Power	1.5 dB (C.L.: Approx. 95 %, $k = 2$)
Power Spectral Density	1.5 dB (C.L.: Approx. 95 %, $k = 2$)
Occupied Bandwidth	0.1 MHz (C.L.: Approx. 95 %, $k = 2$)
Unwanted Emission(conducted)	3.0 dB (C.L.: Approx. 95 %, $k = 2$)
Radiated Emissions ($f \leq 1$ GHz)	4.11 dB (C.L.: Approx. 95 %, $k = 2$)
Radiated Emissions ($f > 1$ GHz)	4.48 dB (C.L.: Approx. 95 %, $k = 2$)
Line Conducted Emission	2.06 dB (C.L.: Approx. 95 %, $k = 2$)

3.6 Test Software

Automation program

Conducted Test	Ics Pro Ver. 6.0.3
Radiated Test	EP5RE Ver. 6.0.10, ES10 Ver. 2022.04.000
Line Conducted Test	EMC32 Ver. 10.50.00

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4. Technical Characteristic Test

Test Procedures

KDB 558074 - Section 8.2
ANSI C63.10-2013 - Section 11.8.2
RSS-Gen - Section 6.7

Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

Test Procedures

ANSI C63.10-2013 - Section 6.9.3
RSS-Gen - Section 6.7

The occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers are each equal to 0.5 % of the total mean power of the given emission.

Use the 99 % power bandwidth function of the instrument and report the measured bandwidth.

Test Settings :

Center frequency = the highest, middle and the lowest channels

- a) RBW = 100 kHz(6dB Bandwidth), 1 % to 5 % of the OBW(99 % Bandwidth)
- b) VBW $\geq 3 \times$ RBW
- c) Detector = peak
- d) Trace mode = Max hold
- e) Sweep = auto couple
- f) Allow trace to fully stabilize
- g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

Limit : 6 dB Bandwidth

6 dB Bandwidth > 500kHz

Limit : 99 % Bandwidth

N/A

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Test Data :

Mode	Channel	Frequency [MHz]	6 dB Bandwidth [MHz]	99 % Bandwidth [MHz]	Result
802.11b	Low	2 412	10.15	15.03	Complies
	Middle	2 437	10.13	15.01	
	High	2 462	10.14	15.04	
802.11g	Low	2 412	16.37	16.56	
	Middle	2 437	16.37	16.55	
	High	2 462	16.37	16.57	
802.11n_HT20	Low	2 412	17.16	17.63	
	Middle	2 437	17.10	17.65	
	High	2 462	17.13	17.65	
802.11n_HT40	Low	2 422	35.68	36.37	
	Middle	2 437	35.51	36.32	
	High	2 452	35.67	36.25	

See next pages for actual measured spectrum plots.



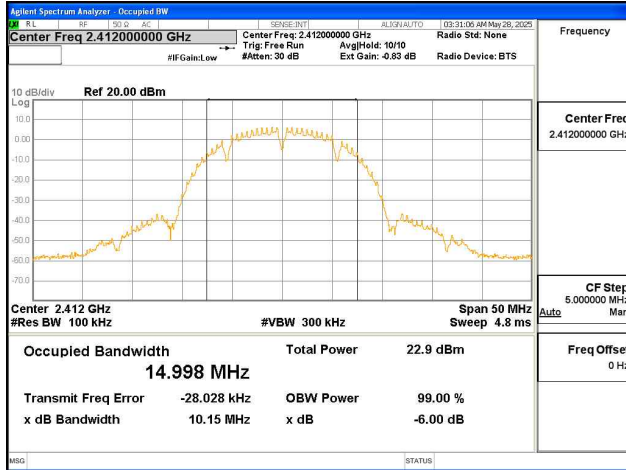
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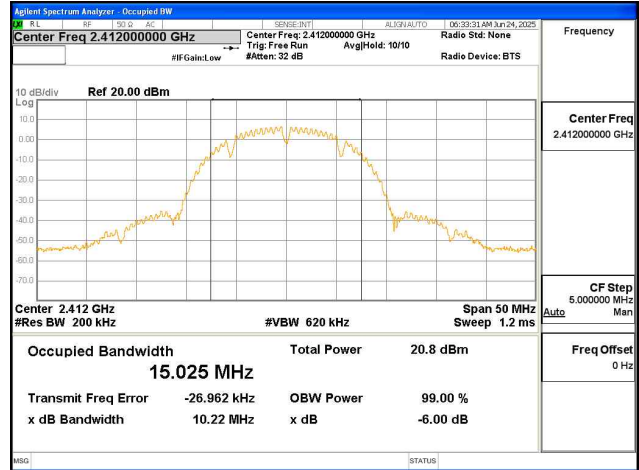
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802.11b Lowest channel

6 dB Bandwidth

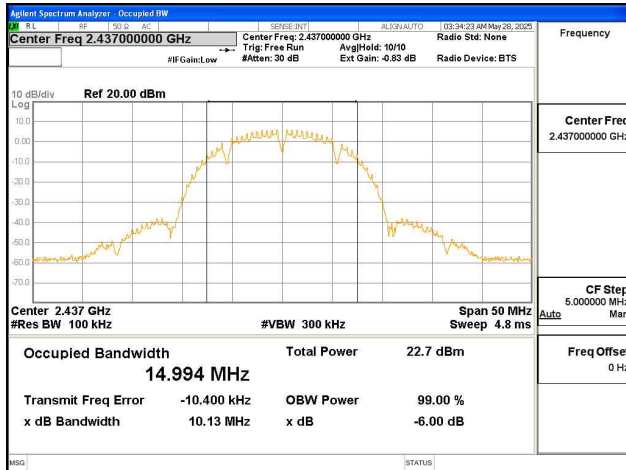


99 % Bandwidth

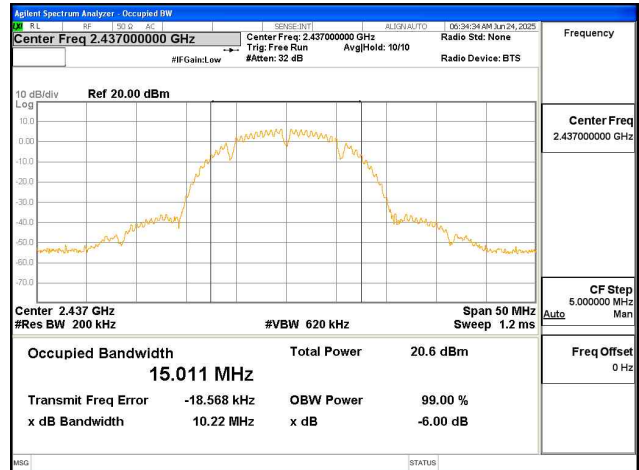


Middle channel

6 dB Bandwidth

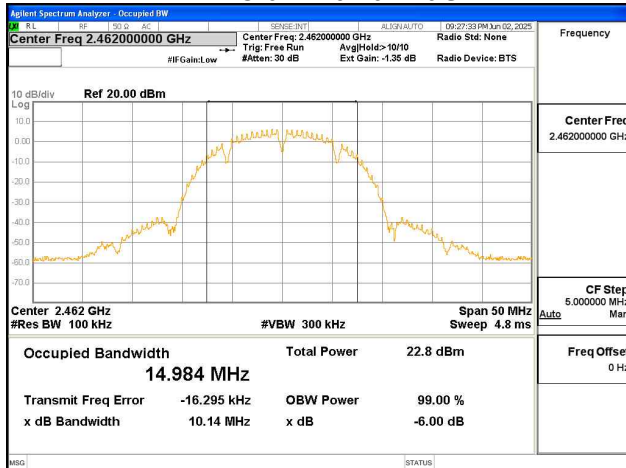


99 % Bandwidth

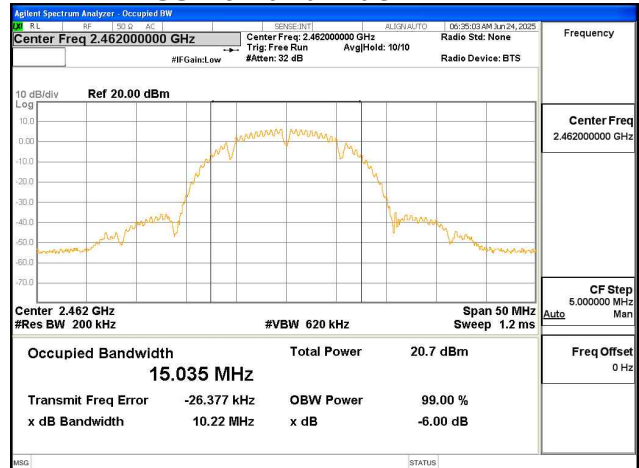


Highest channel

6 dB Bandwidth



99 % Bandwidth





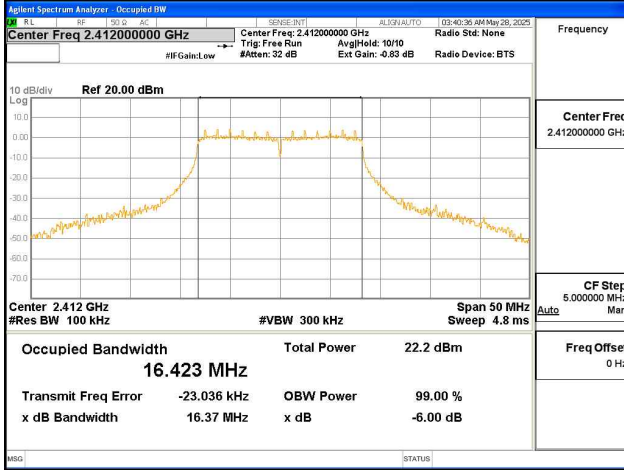
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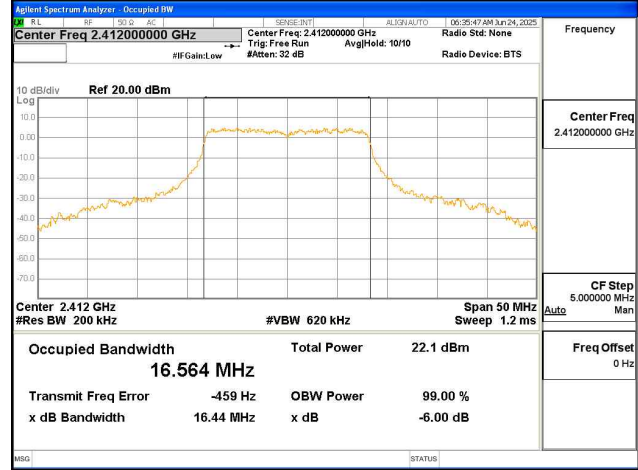
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802.11g Lowest channel

6 dB Bandwidth

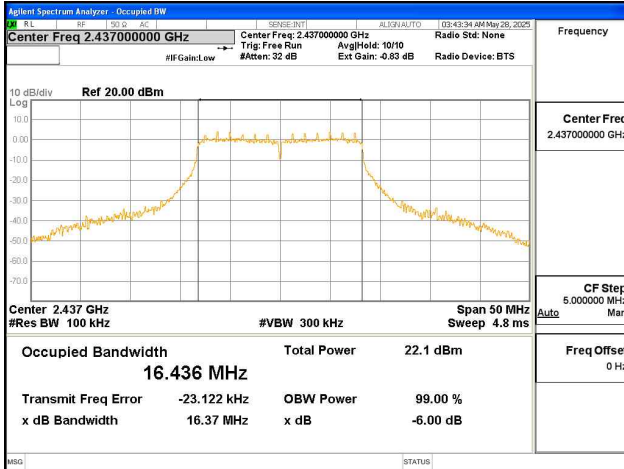


99 % Bandwidth

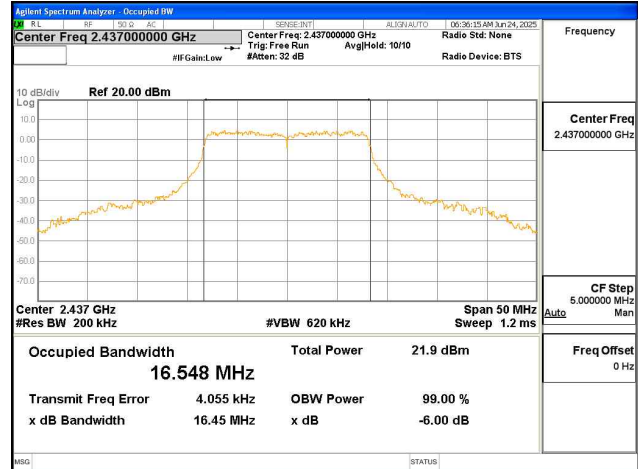


Middle channel

6 dB Bandwidth

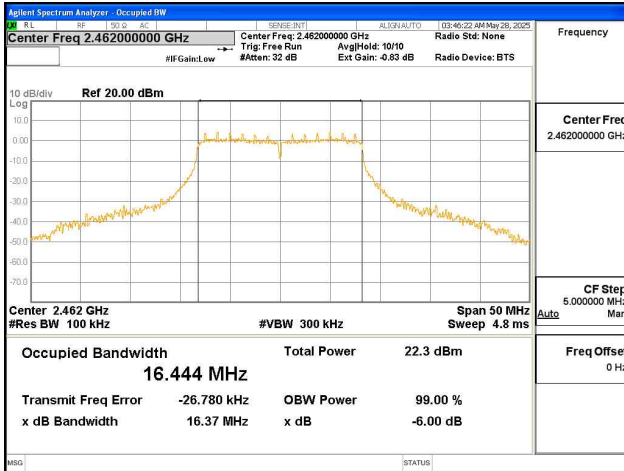


99 % Bandwidth

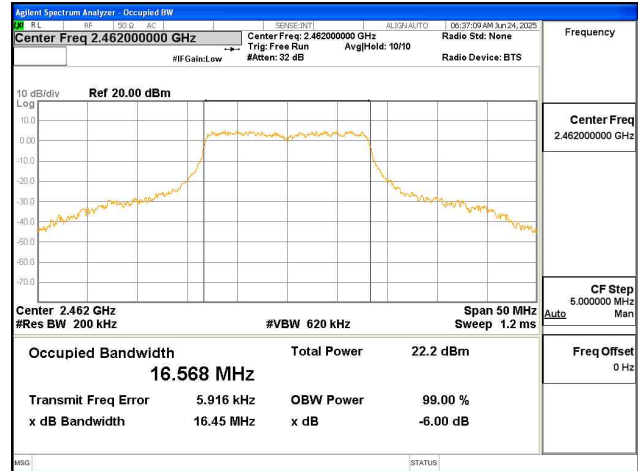


Highest channel

6 dB Bandwidth



99 % Bandwidth





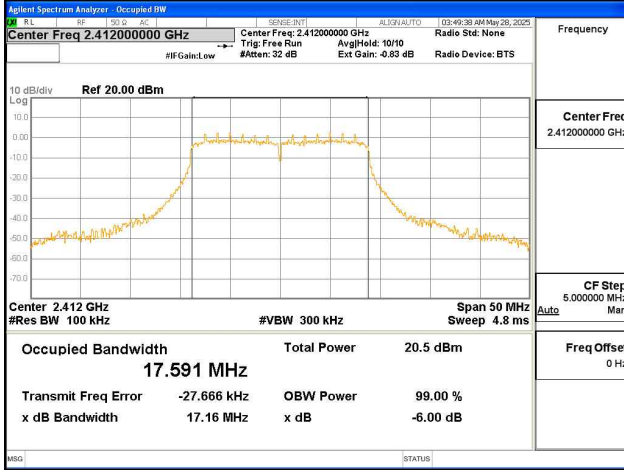
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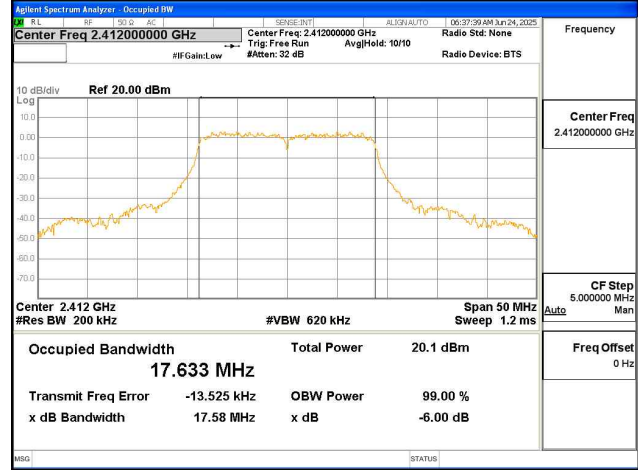
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802.11n_HT20 Lowest channel

6 dB Bandwidth

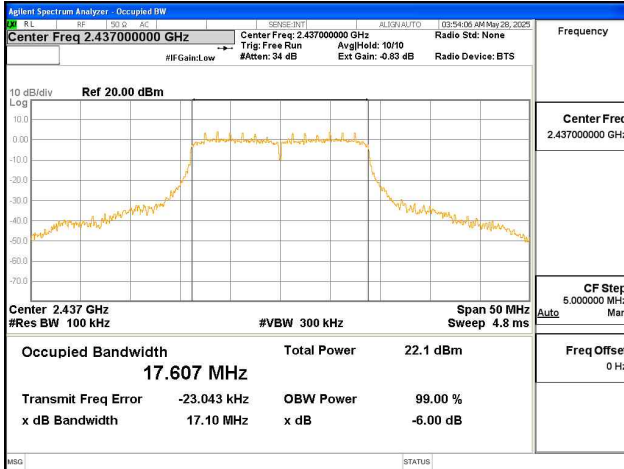


99 % Bandwidth

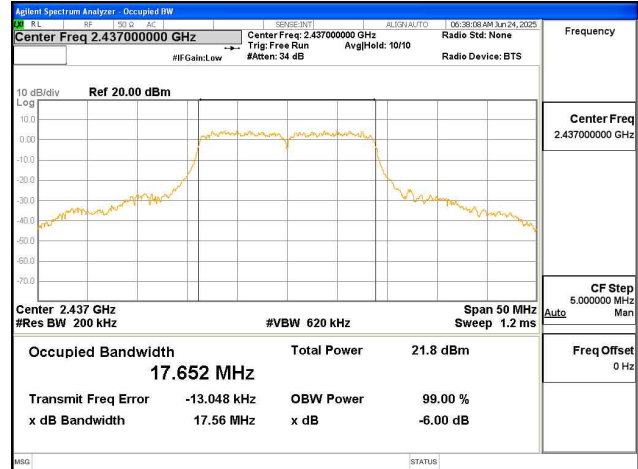


Middle channel

6 dB Bandwidth

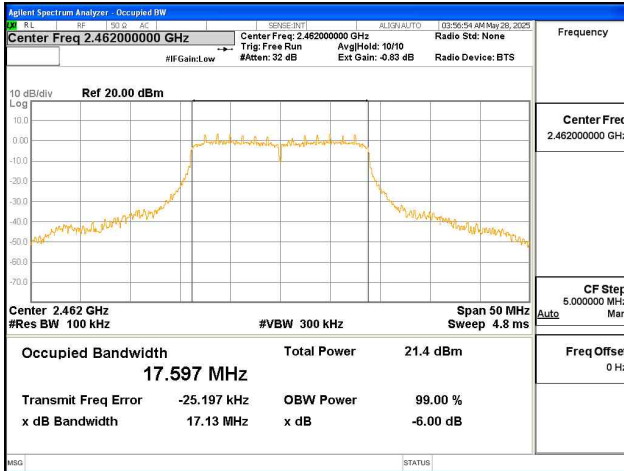


99 % Bandwidth

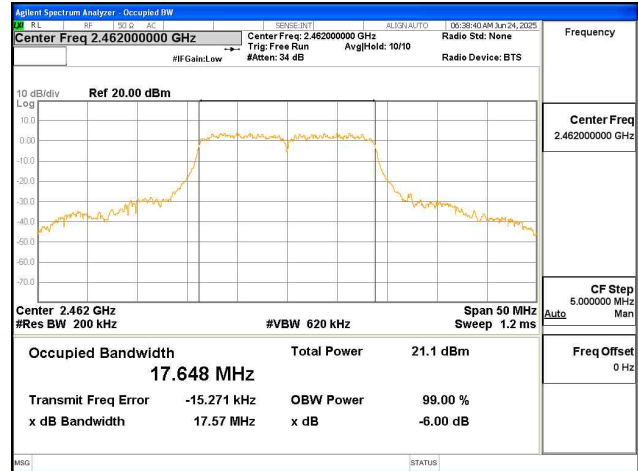


Highest channel

6 dB Bandwidth



99 % Bandwidth





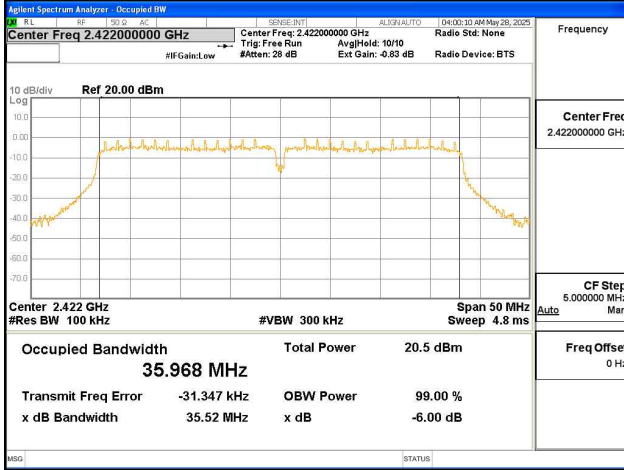
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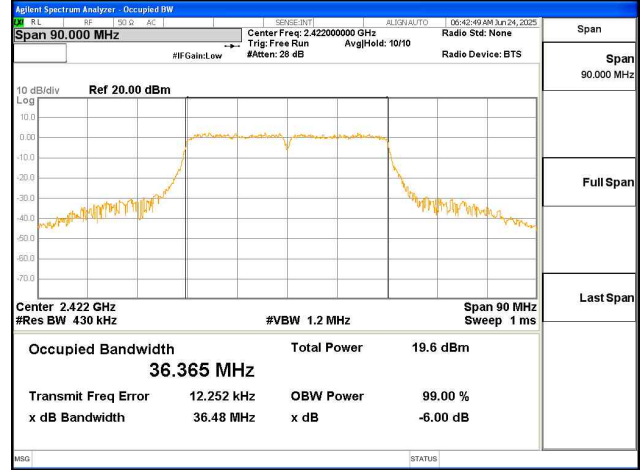
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802.11n_HT40 Lowest channel

6 dB Bandwidth

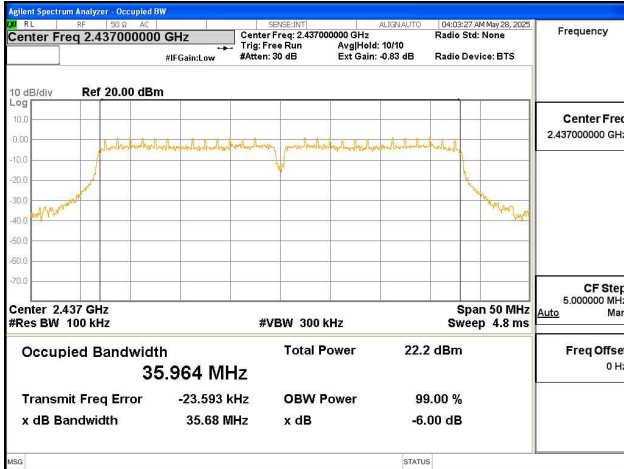


99 % Bandwidth

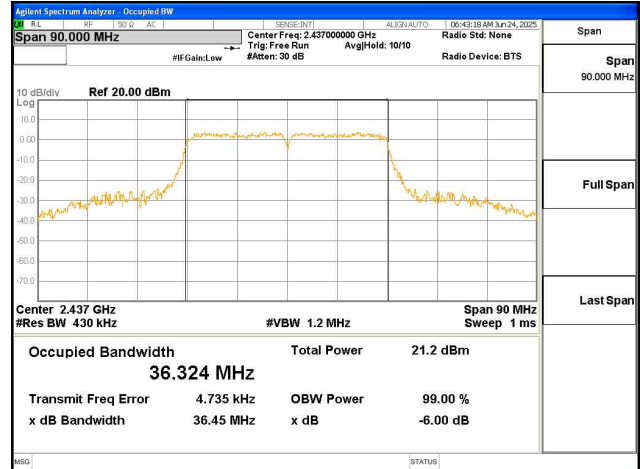


Middle channel

6 dB Bandwidth

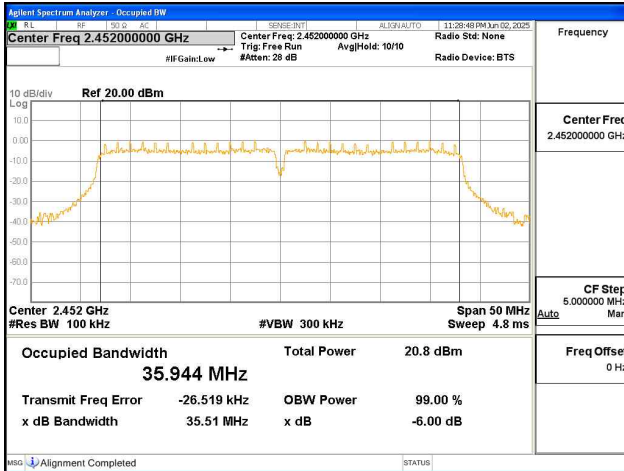


99 % Bandwidth

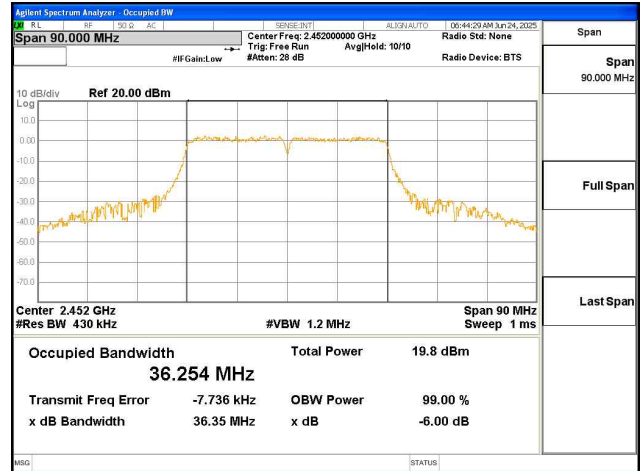


Highest channel

6 dB Bandwidth



99 % Bandwidth



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4.2 OUTPUT POWER

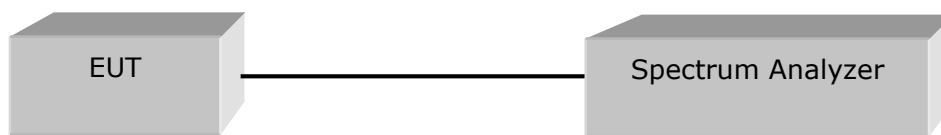
Test Procedures

KDB 558074 - Section 8.3.2.2 (Average Power)

ANSI C63.10-2013 - Section 11.9.2.2

RSS-Gen – Section 6.12

The transmitter output is connected to a spectrum analyzer and the analyzer's internal channel power integration function is used to integrate the power over a bandwidth greater than or equal to the 99 % bandwidth.



Test Settings:

Center frequency = the highest, middle and the lowest channels

a) span $\geq 1.5 \times \text{OBW}$

b) RBW = 1 MHz

c) VBW $\geq 3 \times \text{RBW}$

d) Sweep time = auto

e) Detector = RMS

f) average at least 100

g) Duty cycle factor = $10\log(1/x)$

Test mode	Duty Cycle Factor (dB)
802.11b	0.50 dB
802.11g	2.43 dB
802.11n_HT20	2.52 dB
802.11n_HT40	4.11 dB

Limit :

Maximum Output Power < 1 W (30 dBm)

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Test Data :

Mode	Channel	Frequency [MHz]	Measurement data [dBm]	Duty cycle Factor [dB]	Result Output Power [dBm]	Limit [dBm]	Result
802.11b	Low	2 412	14.65	0.50	15.15	30	Complies
	Middle	2 437	14.61	0.50	15.11		
	High	2 462	13.79	0.50	14.29		
802.11g	Low	2 412	10.78	2.43	13.21		
	Middle	2 437	12.29	2.43	14.72		
	High	2 462	13.80	2.43	16.23		
802.11n_HT20	Low	2 412	10.83	2.52	13.35		
	Middle	2 437	11.80	2.52	14.32		
	High	2 462	11.72	2.52	14.24		
802.11n_HT40	Low	2 422	9.14	4.11	13.25		
	Middle	2 437	10.36	4.11	14.47		
	High	2 452	9.25	4.11	13.36		

See next pages for actual measured spectrum plots.



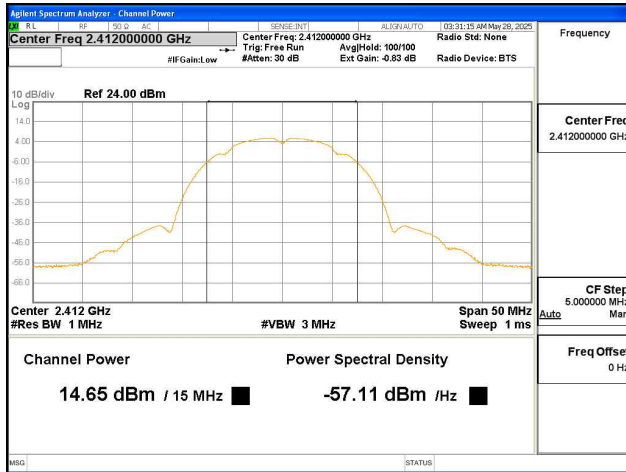
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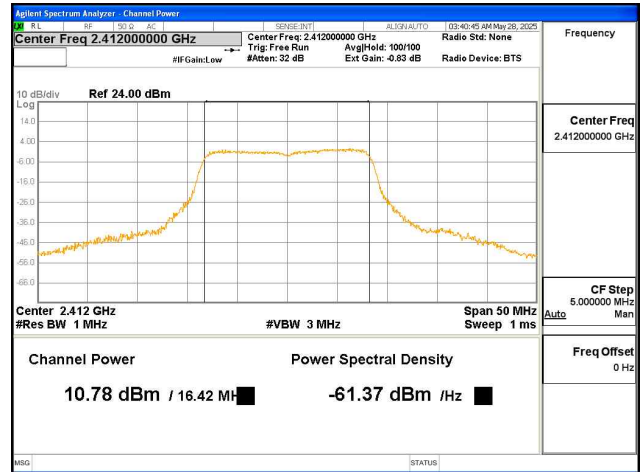
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Output Power

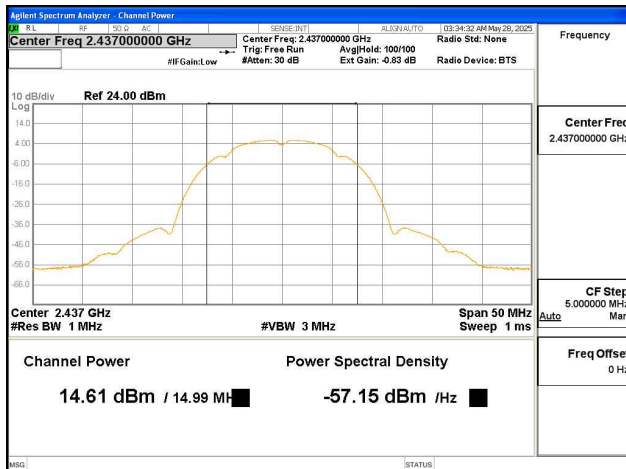
Test Mode : 802.11b Lowest channel



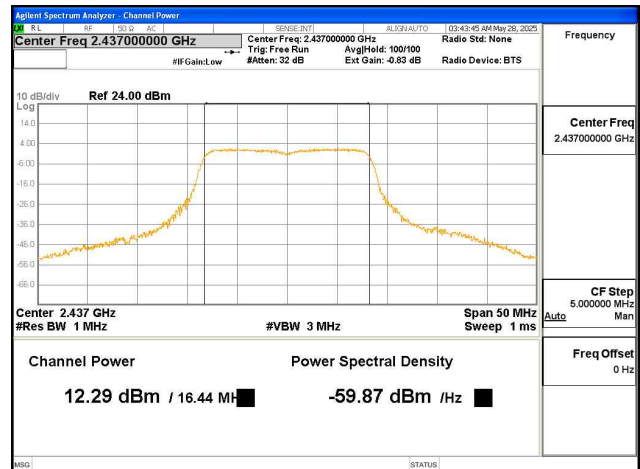
Test Mode : 802.11g Lowest channel



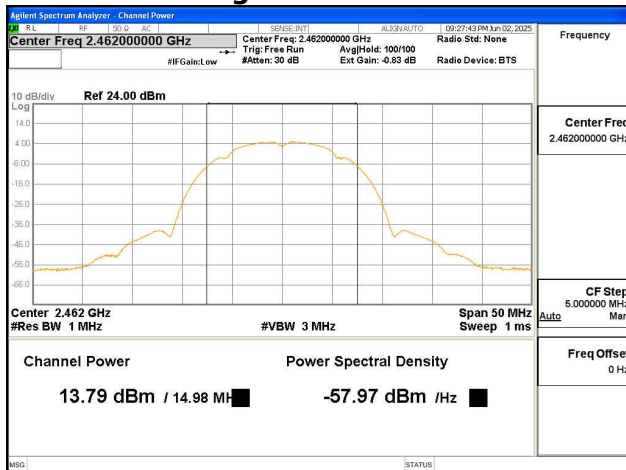
Middle channel



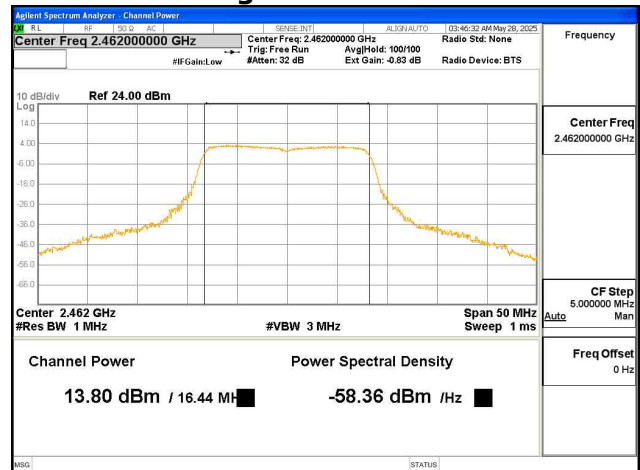
Middle channel



Highest channel



Highest channel



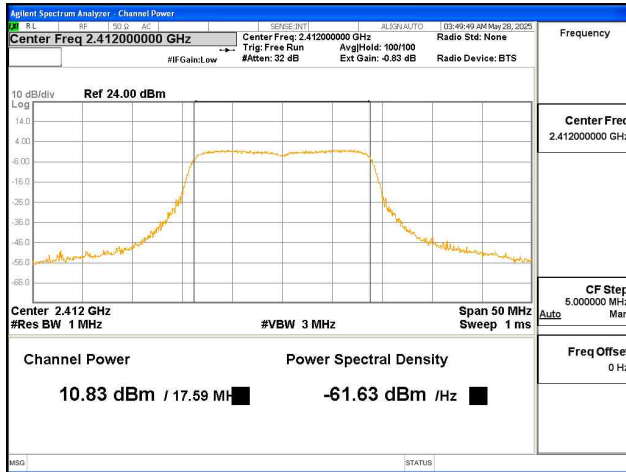


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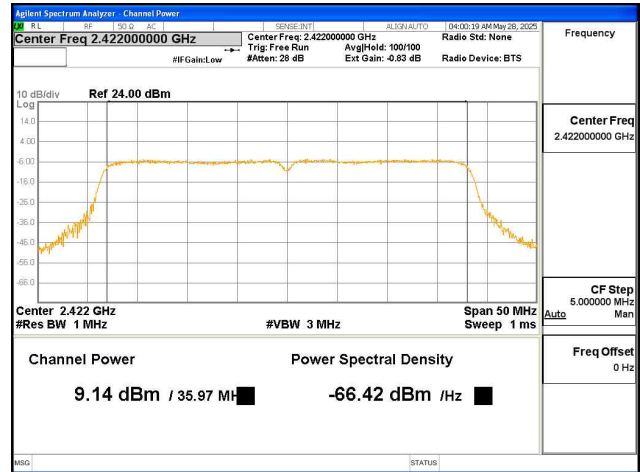
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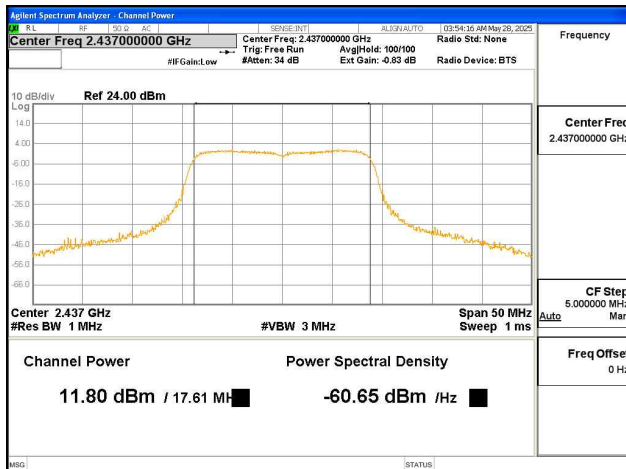
Test Mode : 802.11n_HT20 Lowest channel



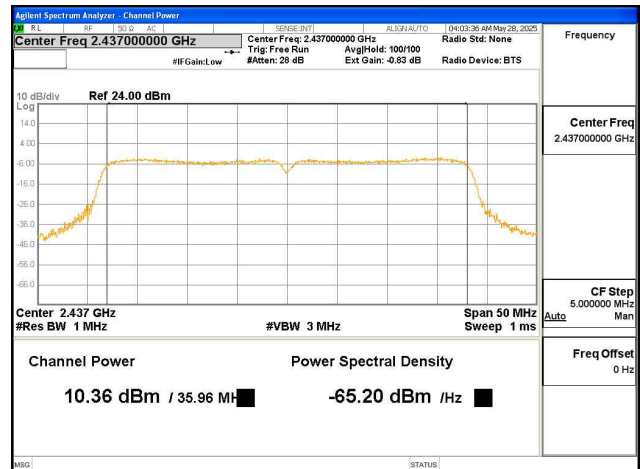
Test Mode : 802.11n_HT40 Lowest channel



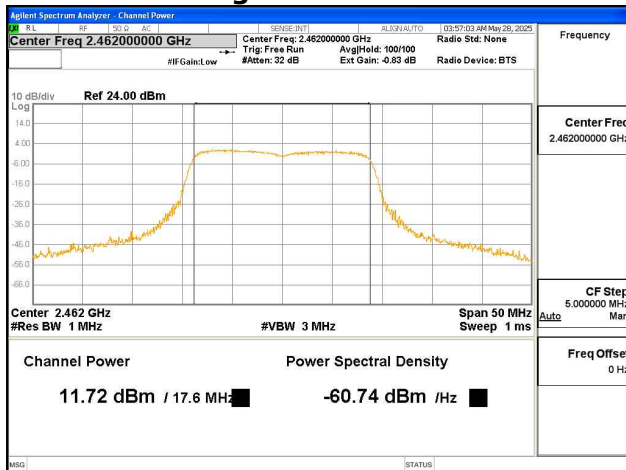
Middle channel



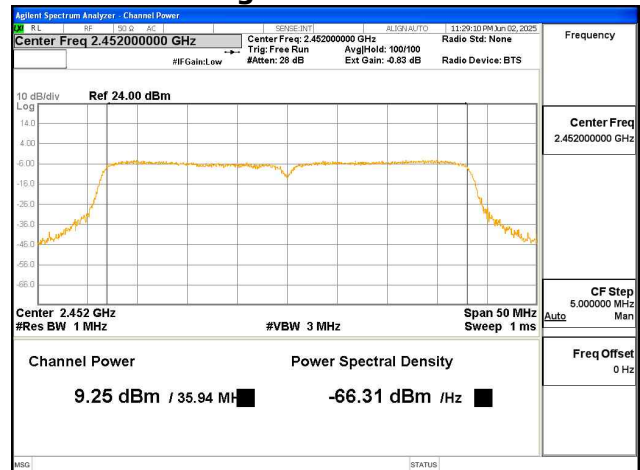
Middle channel



Highest channel



Highest channel



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4.3 Transmitter Power Spectral Density

Test Procedures

KDB 558074 - Section 8.4

ANSI C63.10-2013 - Section 11.10.2

This procedure shall be used if maximum peak conducted output power was used to demonstrate compliance.

Test Settings:

Center frequency = the highest, middle and the lowest channels

a) RBW : $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$

b) VBW $\geq 3 \times \text{RBW}$

c) span $\geq 1.5 \times \text{DTS bandwidth}$

d) Sweep time = auto couple

e) Detector = peak

f) Trace mode = max hold

g) Allow trace to fully stabilize

h) Use the peak marker function to determine the maximum amplitude level within the RBW.

Limit :

Power Spectral Density < 8 dBm @ 3 kHz BW

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Test Data

Mode	Channel	Frequency [MHz]	Measurement data [dBm]	Limit [dBm]	Result
802.11b	Low	2 412	-8.77	8	Complies
	Middle	2 437	-8.38		
	High	2 462	-9.13		
802.11g	Low	2 412	-10.13		
	Middle	2 437	-10.07		
	High	2 462	-10.06		
802.11n_HT20	Low	2 412	-12.26		
	Middle	2 437	-10.91		
	High	2 462	-11.42		
802.11n_HT40	Low	2 422	-15.01		
	Middle	2 437	-13.30		
	High	2 452	-14.08		

See next pages for actual measured spectrum plots.



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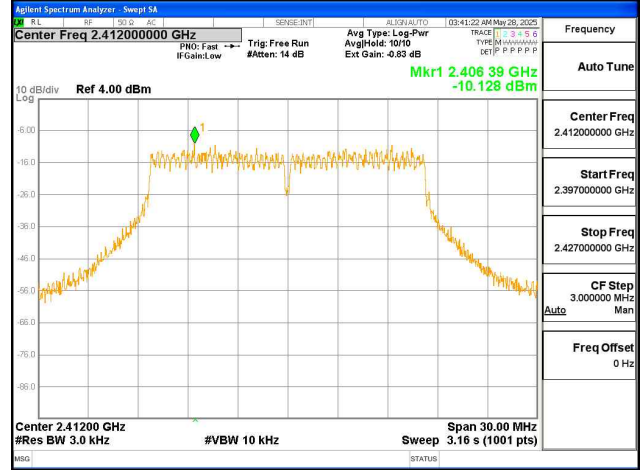
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Power Spectral Density

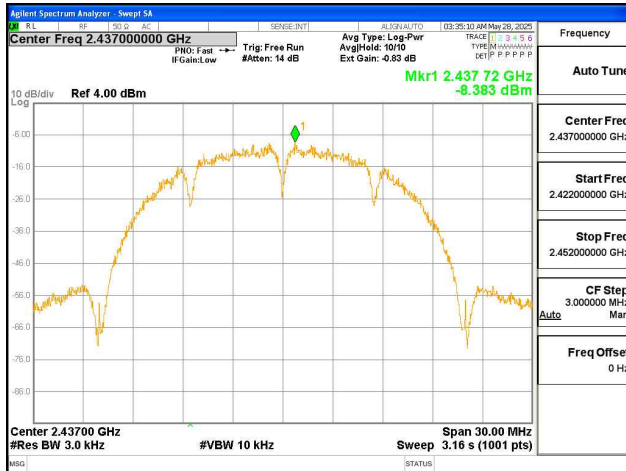
Test Mode : 802.11b
Lowest channel



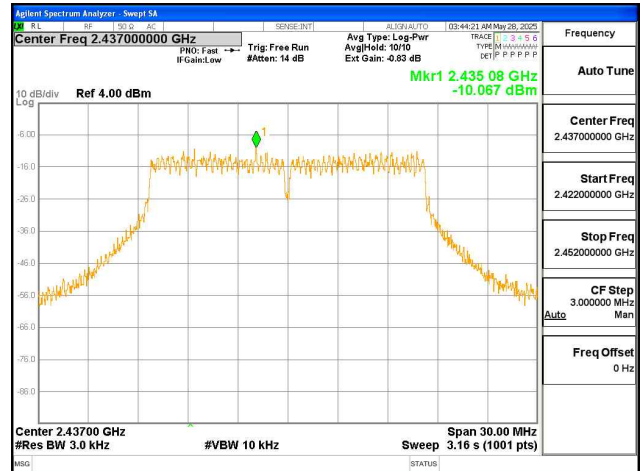
Test Mode : 802.11g
Lowest channel



Middle channel



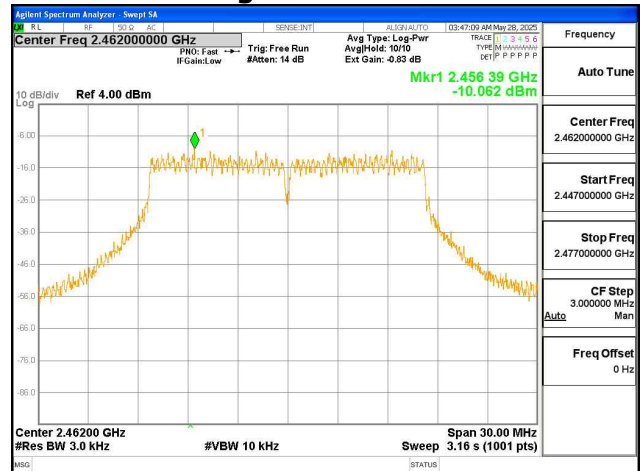
Middle channel



Highest channel



Highest channel



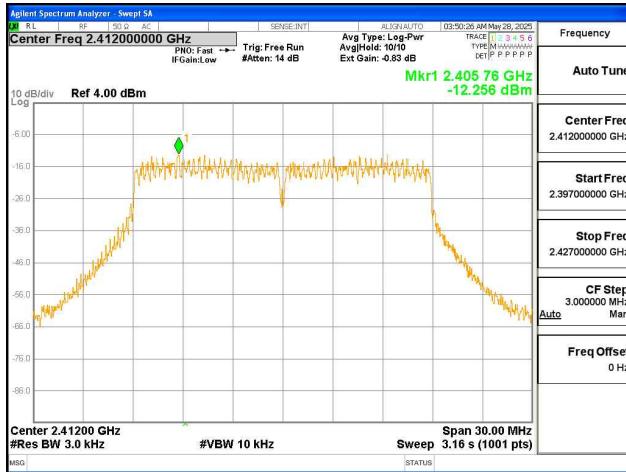


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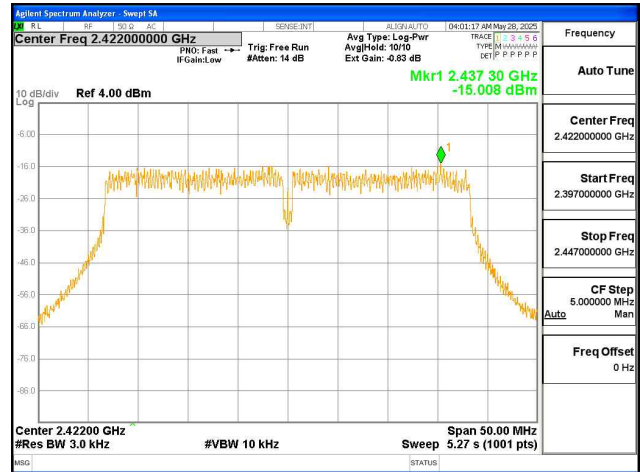
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Test Mode : 802.11n_HT20 Lowest channel



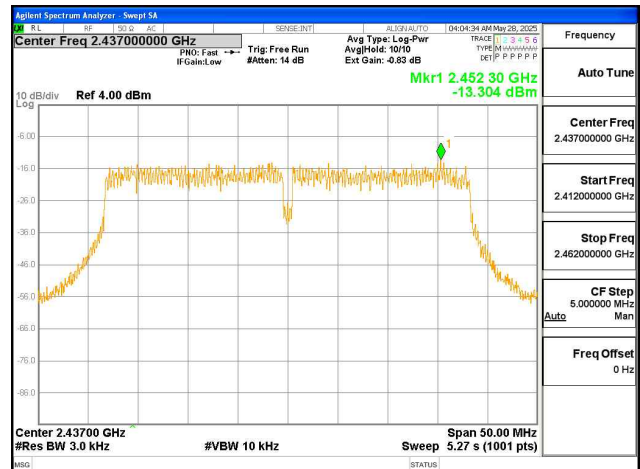
Test Mode : 802.11n_HT40 Lowest channel



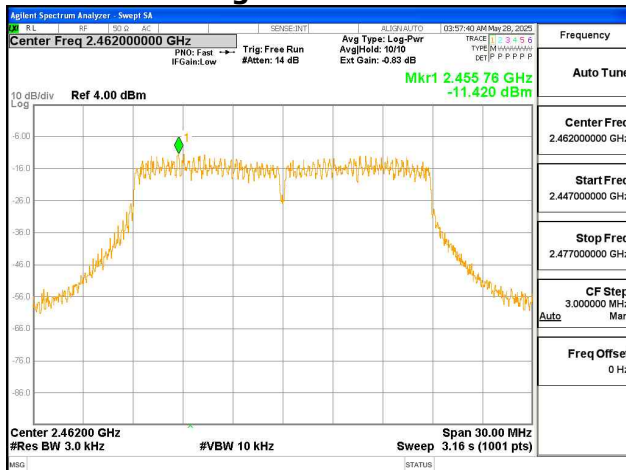
Middle channel



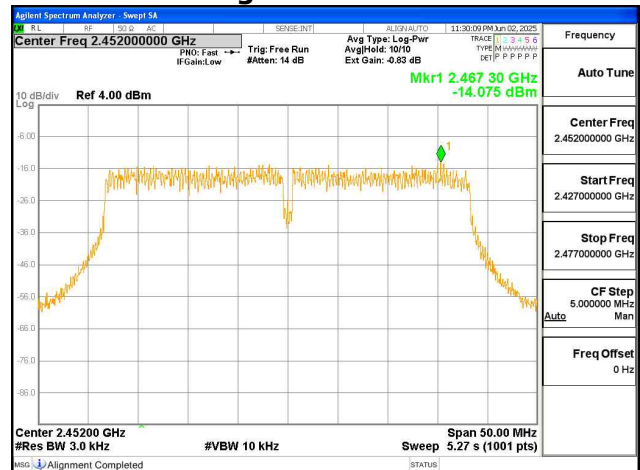
Middle channel



Highest channel



Highest channel



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4.4 Conducted Spurious emission

Test Procedures

KDB 558074 – Section 8.5
ANSI C63.10-2013 – Section 11.11.3
RSS-Gen – Section 6.13

The Unwanted emission from the EUT were measured according to the dictates PKPSD measurement procedure in section 11.11 of ANSI C63.10-2013.

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the RF power that is produced 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 that the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of root-mean-square averaging over a time interval, as permitted under Section 5.4(d), the attenuation required shall be 30 dB instead of 20 dB. Attenuation below the general field strength limits specified in RSS-Gen is not required.

Test Settings :

Center frequency = the highest, middle and the lowest channels

- a) RBW = 100 kHz
- b) VBW $\geq 3 \times$ RBW
- c) Detector = peak
- d) Sweep time = auto couple
- e) Trace mode = max hold
- f) Allow trace to fully stabilize
- g) Use the peak marker function to determine the maximum amplitude level.

Limit :

Emission level < 30 dBc

Test results : Complies

- All conducted emission in any 100 kHz bandwidth outside of the spread spectrum band was at least 30 dB lower than the highest in-band spectral density. Therefore the applying equipment meets the requirement.

See next pages for actual measured spectrum plots.

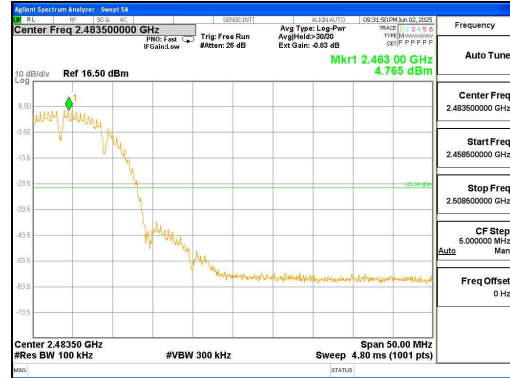
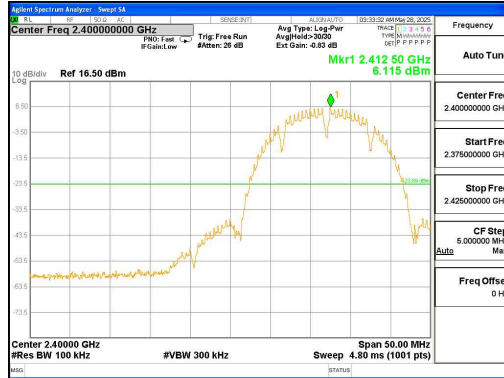


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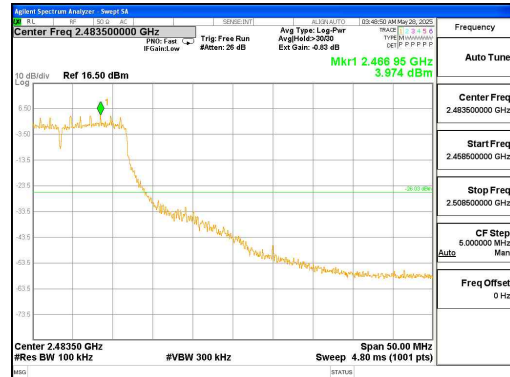
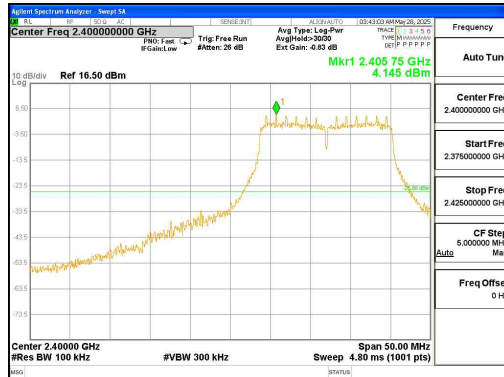
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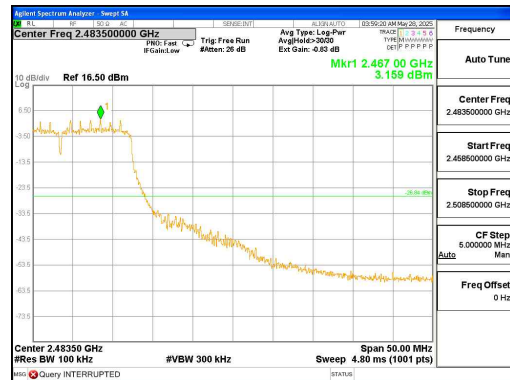
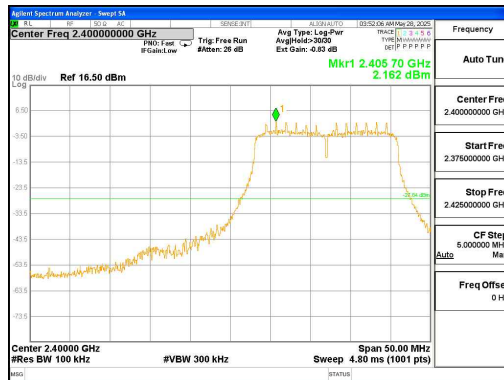
Band-edge Test Mode : 802.11b



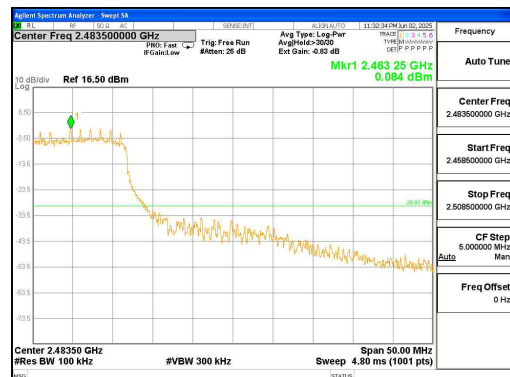
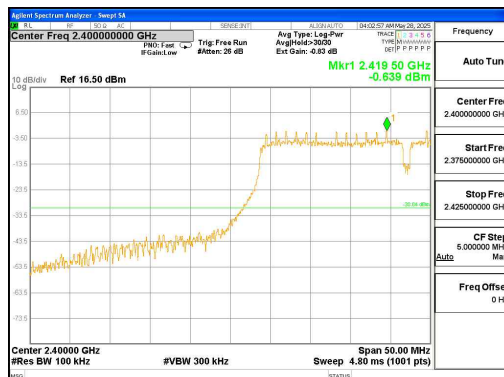
Test Mode : 802.11g



Test Mode : 802.11n_HT20



Test Mode : 802.11n_HT40





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Spurious

Test Mode : 802.11b Lowest channel



Test Mode : 802.11g Lowest channel



Middle channel



Middle channel



Highest channel



Highest channel





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Test Mode : 802.11n_HT20 Lowest channel



Middle channel



Highest channel



Test Mode : 802.11n_HT40 Lowest channel



Middle channel



Highest channel

