

TEST REPORT

**CTK Co., Ltd.**

(Ho-dong), 113, Yejik-ro, Cheoin-gu, Yongin-si,
Gyeonggi-do, 17142, Korea
Tel: +82-1551-9871
Fax: +82-31-624-9501

REPORT No.:
CTK-2026-02453
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1. Applicant

- Name : SOLUM CO.,LTD.
- Address : 7F, 2354, Yonggu-daero, Giheung-gu, Yongin-si, Gyeonggi-do, Republic of Korea
- Date of Receipt : 2026-04-03

2. Manufacturer

- Name : SOLUM CO.,LTD.

3. Use of Report : For FCC Certification & ISED Certification**4. Test sample / Model** : Newton E-Paper 32" / EL315TVW6S**5. Date(s) of test** : 2026-04-17 to 2026-05-13**6. Test Standard (Method) used** : FCC 47 CFR part 15 subpart E 15.407

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

7. Testing Environment : refer to 10 page**8. Test Results** : Compliance**9. Location of Test** : ☒ Permanent Testing Lab ☐ On Site Testing

(Address : 5, Dongbu-ro 221beon-gil, Cheoin-gu, Yongin-si, Gyeonggi-do, 17141 Korea)

The results shown in this test report refer only to the sample(s) tested unless otherwise stated.
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Approval	Tested by:	Technical Manager:
	 Seong-uk Park (Signature)	 Young-taek Lee (Signature)

2026-09-02

CTK Co., Ltd.



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REPORT REVISION HISTORY

Date	Revision	Page No
2026-09-02	Issued (CTK-2026-02453)	all

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1. General Product Description

1.1 Applicant Information

Company	SOLUM CO.,LTD.
Contact Point	7F, 2354, Yonggu-daero, Giheung-gu, Yongin-si, Gyeonggi-do, Republic of Korea
Contact Person	Name : Ki Dong Lee E-mail : kdlee007@solu-m.com Tel : +82-31-8006-7677

1.2 Manufacturer Information

Manufacturer	SOLUM CO.,LTD.
Address	7F, 2354, Yonggu-daero, Giheung-gu, Yongin-si, Gyeonggi-do, Republic of Korea
Factory #1	SOLUM VINA CO., LTD
Factory #1 Address	Plot B3, Ba Thien II Industrial Park, Thien Ke Ward, Binh Xuyen District, Vinh Phuc Province, VIETNAM

1.3 Product Information

FCC ID	2AFWN-EL315TVW6S	
IC	22800-EL315TVW6S	
Product Description	Newton E-Paper 32"	
Model name	EL315TVW6S	
Variant Model name	EL315TVW6S/WWW (For the EL315TVW6S/WWW variants, the RF specification has been changed from the base model's 2.4GHz SRD to Bluetooth LE due to software modifications. There are no changes to the WLAN, nor are there any other hardware changes.) EL315HVW6S/WWW (For the variant models EL315HVW6S/WWW, has no technical differences with each model except for the model name for marketing purposes.)	
Operating Frequency	UNII 1	5 180 MHz – 5 240 MHz(20 MHz_BW)
	UNII 2A	5 260 MHz – 5 320 MHz(20 MHz_BW)
	UNII 2C	5 500 MHz – 5 720 MHz(20 MHz_BW)
	UNII 3	5 745 MHz – 5 825 MHz(20 MHz_BW)
RF Output Power	802.11a : 12.30 dBm(16.982 mW)	
	802.11n_HT20 : 14.36 dBm(27.290 mW)	
Antenna Specification	Antenna type : PCB Patch Antenna	
	UNII 1	Peak Gain : 5.22 dBi
	UNII 2A	Peak Gain : 5.62 dBi
	UNII 2C	Peak Gain : 5.74 dBi
	UNII 3	Peak Gain : 5.71 dBi
Antenna Configurations	802.11a : SISO 802.11n_HT20 : SISO	
Type of Modulation	802.11a/n : OFDM	
Data Rate	802.11a : 54 / 48 / 36 / 24 / 18 / 12 / 9 / 6 Mbps 802.11n : up to 300 Mbps	
Power Source	DC 3.7 V(Battery)	

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FVIN	V049(EL315TVW6S, EL315HVVW6S/WWW), V008(EL315TVW6S/WWW)
Dynamic Frequency Selection	-

1.4 Peripheral Devices

Device	Manufacturer	Model No.	Serial No.
Notebook	Samsung Electronics Co., Ltd	550XDA	KQFJ99YRA002J0
AC Adapter	Samsung Electronics Co., Ltd	PA-1400-96	CN60BA4400295AD2VHNCHF042

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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)	ISED Part Section(s)	Requirement(s)	Limit	Status (Note 1)	Test Condition
15.407 (e)	RSS-Gen 6.7	6 dB Bandwidth	> 500 kHz (5 725 – 5 850 MHz)	C	Conducted
15.407 (a)	RSS-Gen 6.7	26 dB Bandwidth and 99% Bandwidth	NA	C	
15.407 (a)(1),(2),(3)	RSS-247 7.3.1.2, 7.3.2.2, 7.3.3.2, 7.3.4.3	Conducted Output Power	< 250 mW (5 150 – 5 250 MHz) < 250 mW (5 250 – 5 350 MHz, 5 470 – 5 725 MHz) < 1 W (5 725 – 5 850 MHz)	C	
15.407 (a)(1),(2),(3)	RSS-247 7.3.1.2, 7.3.2.2, 7.3.3.2, 7.3.4.3	Power Spectral Density	< 11 dBm/MHz (5 150 – 5 250 MHz) < 11 dBm/MHz (5 250 – 5 350 MHz, 5 470 – 5 725 MHz) < 1 W (5 725 – 5 850 MHz)	C	
15.407 (g)	RSS-Gen 6.11	Frequency Stability	NA	C	
15.407 (b)	RSS-247 7.3.1.3, 7.3.2.3, 7.3.3.3, 7.3.4.4	Undesirable emission	< -27 dBm/MHz EIRP (5 150 – 5 250 MHz, 5 250 – 5 350 MHz, 5 470 – 5 725 MHz) < -27 dBm/MHz EIRP < 10 dBm/MHz EIRP < 15.6 dBm/MHz EIRP < 27 dBm/MHz EIRP (5 725 – 5 850 MHz)	C	Radiated
15.205, 15.407 (b)(9),(10)	RSS-Gen 7.3, 8.9, 8.10	Radiated Spurious Emission	15.209(a)	C	
15.407 (b)(9)	RSS-Gen 8.8	AC Conducted Emissions	15.207(a)	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 15.407, RSS-247 Issue 4, RSS-Gen Issue 5

Note 4: The tests were performed according to the method of measurements prescribed in ANSI C63.10-2020+Cor 1-2023+C63.10a-2024+Errata to C63.10a-2024

Note 5: This equipment has been tested in a 100% duty cycle transmission situation using applicant supplied software.

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3.2 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.

For WLAN function, the engineering test program was provided and enabled to make EUT continuous transmit.

All modulation modes were tests. The results are only attached worst cases.

Test Frequency & Bandwidth

- 802.11a, 802.11n HT20

	Lowest channel	Middle channel	Highest channel
UNII 1	5 180 MHz	5 200 MHz	5 240 MHz
UNII 2A	5 260 MHz	5 300 MHz	5 320 MHz
UNII 2C	5 500 MHz	5 600 MHz	5 700 MHz, 5 720 MHz
UNII 3	5 745 MHz	5 785 MHz	5 825 MHz

3.3 Maximum 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	0.46 dB (C.L.: Approx. 95 %, $k = 2$)
Power Spectral Density	0.46 dB (C.L.: Approx. 95 %, $k = 2$)
Occupied Bandwidth	0.10 MHz (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)	4.34 dB (C.L.: Approx. 95 %, $k = 2$)
Line Conducted Emission	2.06 dB (C.L.: Approx. 95 %, $k = 2$)

3.4 Test Software

Conducted Test	Ics Pro Ver. 6.0.3
Radiated Test	EP5RE Ver. 6.0.10, ES10 Ver. 10.001
Line Conducted Test	EMC32 Ver. 10.50.00

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3.5 Testing Environment

Test Item	Test Date	Temperature (°C)	Relative Humidity (%)
6 dB Bandwidth	2026-04-17, 2026-05-13	(22 ~ 25) ±1	(31 ~ 32) ±3
Maximum Output Power			
Conducted Spurious emission			
Unwanted Emission(Conducted)			
Transmitter Power Spectral Density			
Frequency Stability	2026-05-11	24 ±1	33 ±3
Radiated Emissions (f ≤ 1 GHz)	2026-04-20, 2026-04-24	20 ±1, 20 ±1	34 ±3, 24 ±3
Radiated Emissions (f > 1 GHz)	2026-04-27 ~ 2026-05-13	(22 ~ 25) ±1	(31 ~ 32) ±3
AC Conducted Emissions	2026-04-29	19 ±1	42 ±3

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4. Technical Characteristic Test

4.1 6 dB Bandwidth

Test Procedures

KDB 789033 – Section C.2
ANSI C63.10-2020 - Section 12.5.1

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 Settings :

Center frequency = the highest, middle and the lowest channels

- a) RBW = 100 kHz
- b) VBW $\geq 3 \times$ RBW
- c) Detector = peak
- d) Trace mode = max hold
- e) Sweep time = auto couple
- f) Allow the trace to 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.

Minimum Standard :

6 dB Bandwidth > 500 kHz

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Test Data :

	6 dB Bandwidth [MHz]	
Test Mode	802.11a	802.11n_HT20
Frequency [MHz]		
5 745	16.48	17.65
5 785	16.48	17.65
5 825	16.47	17.66

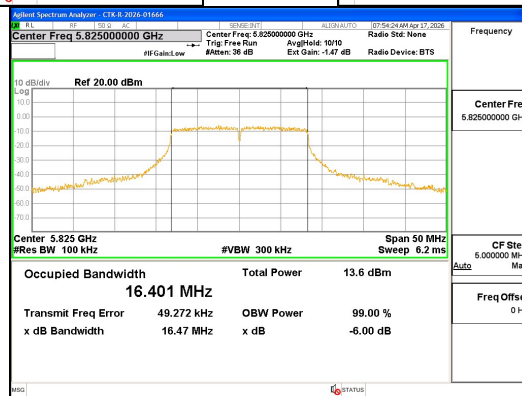
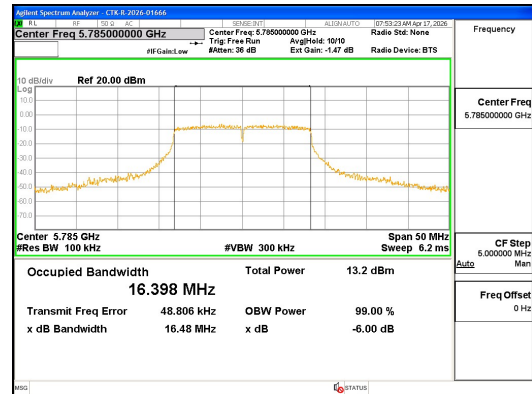
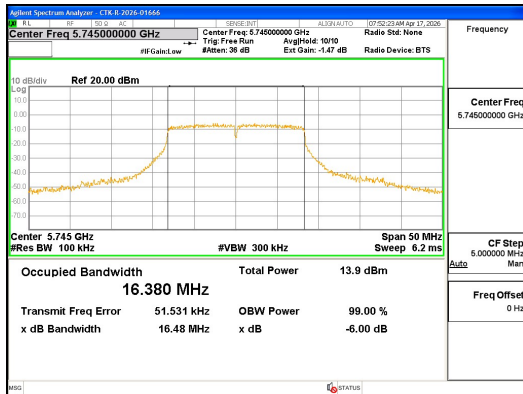
See next pages for actual measured spectrum plots.



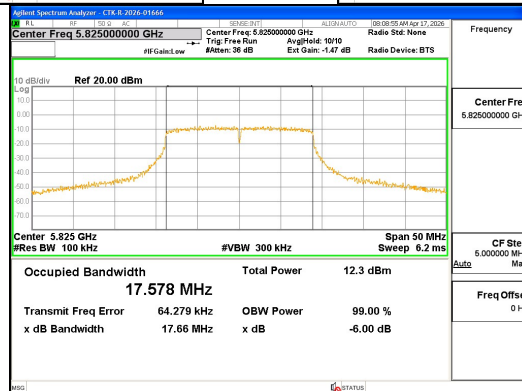
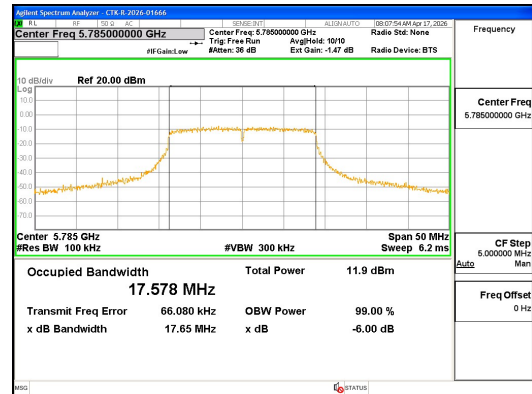
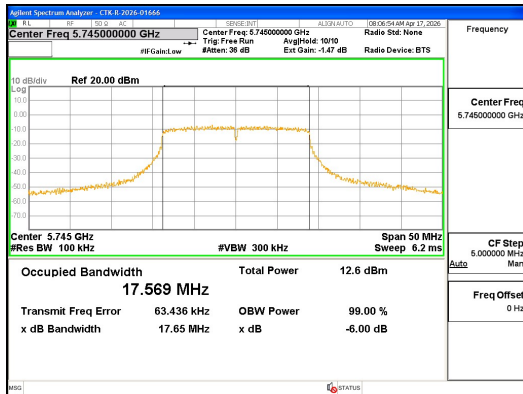
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802.11a_UNI1 3



802.11n_HT20

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4.1 26 dB Bandwidth and 99% Bandwidth

Test Procedures

KDB 789033 – Section C.1
ANSI C63.10-2020 - Section 12.5.2

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 26 dB relative to the maximum level measured in the fundamental emission.

Test Settings :

Center frequency = the highest, middle and the lowest channels

- a) RBW = approximately 1 % to 5 % of the emission bandwidth
- b) VBW > RBW
- c) Detector = peak
- d) Trace mode = Max hold
- e) Measure the maximum width of the emission that is 26 dB down from the maximum of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1 %.

Test Procedures

KDB 789033 – Section D
ANSI C63.10-2020 - Section 6.9.3

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) Span = 1.5 times to 5.0 times the OBW.
- b) RBW = 1 % to 5 % of the OBW
- c) VBW $\geq 3 \times$ RBW
- d) Video averaging is not permitted.
Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.
- e) Use the 99 % power bandwidth function of the instrument (if available).
- f) If the instrument does not have a 99 % power bandwidth function, the trace data points are recovered and directly summed in power units.
The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5 % of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5 % of the total is reached; that frequency is recorded as the upper frequency. The 99 % occupied bandwidth is the difference between these two frequencies.

Minimum Standard :

NA

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Test Data:

	26 dB Bandwidth and 99 % Bandwidth (MHz)			
Mode	802.11a		802.11n_HT20	
Frequency	26 dB	99 %	26 dB	99 %
5 180 MHz	20.08	16.51	24.87	16.60
5 200 MHz	20.30	16.52	25.60	16.63
5 240 MHz	20.26	16.51	26.08	16.65
5 260 MHz	20.34	16.54	20.41	16.51
5 300 MHz	22.89	16.57	20.32	16.54
5 320 MHz	25.76	16.64	25.47	16.60
5 500 MHz	30.10	16.82	28.75	17.84
5 600 MHz	20.13	16.48	21.31	17.61
5 700 MHz	19.97	16.49	20.88	17.60
5 720 MHz	20.28	16.49	20.85	17.61
5 745 MHz	20.11	16.50	20.92	17.60
5 785 MHz	20.08	16.51	21.08	17.63
5 825 MHz	20.42	16.52	21.27	17.62

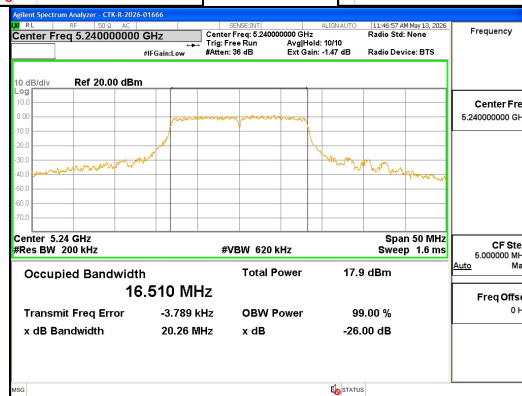
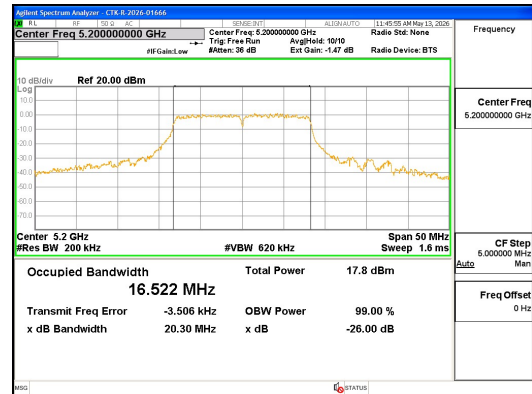
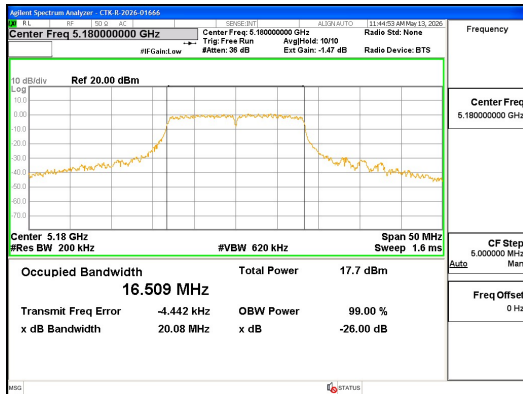
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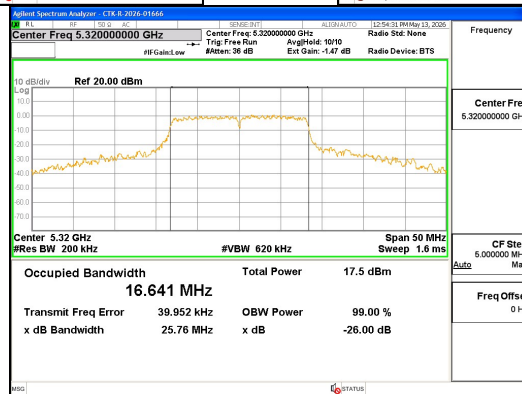
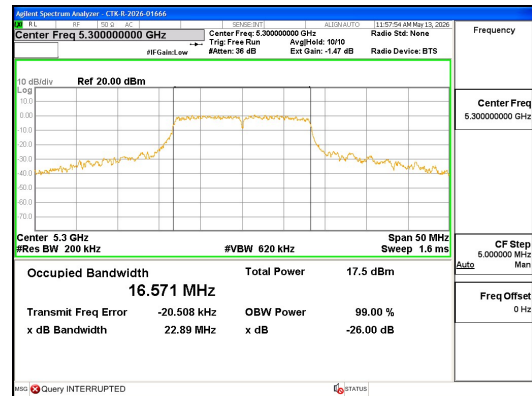
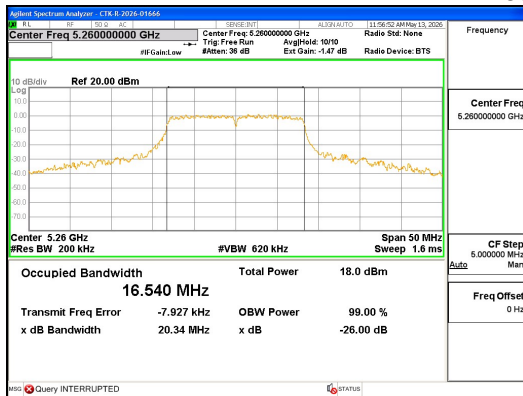
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802.11a_UNII 1



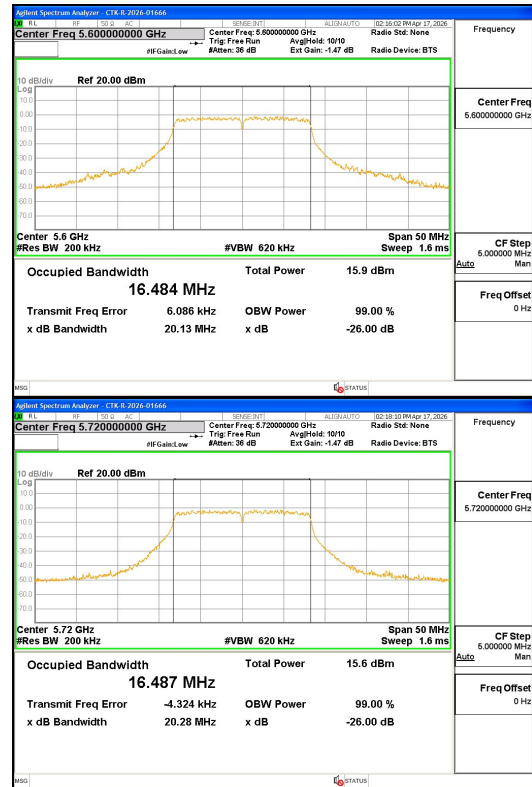
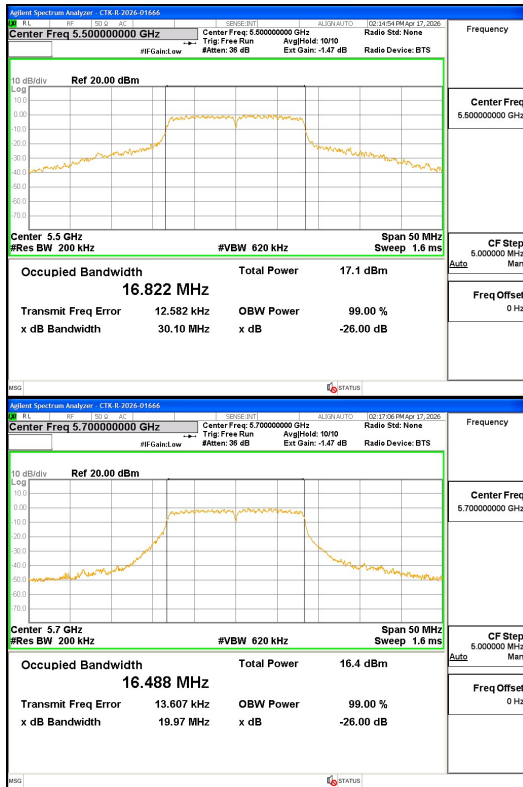
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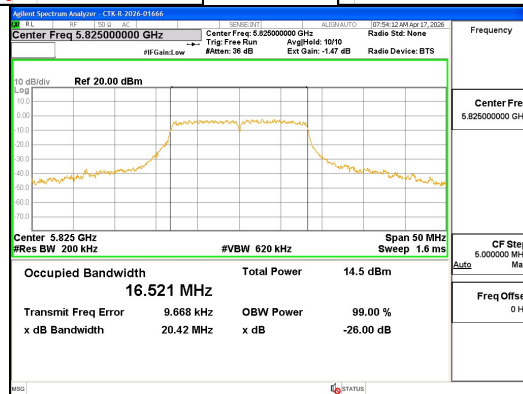
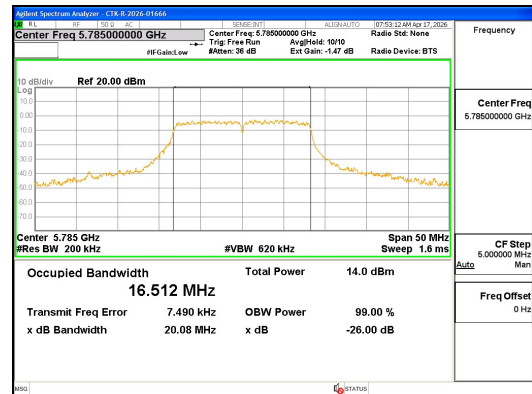
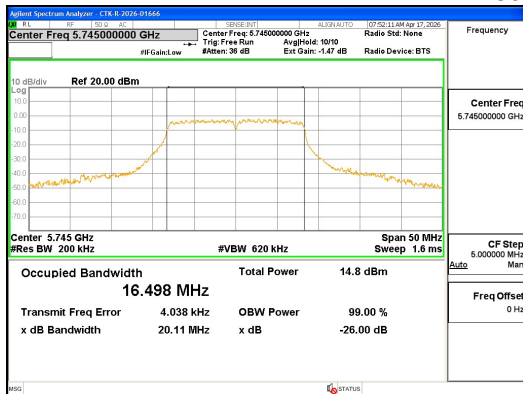
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802.11a_UNII 2C



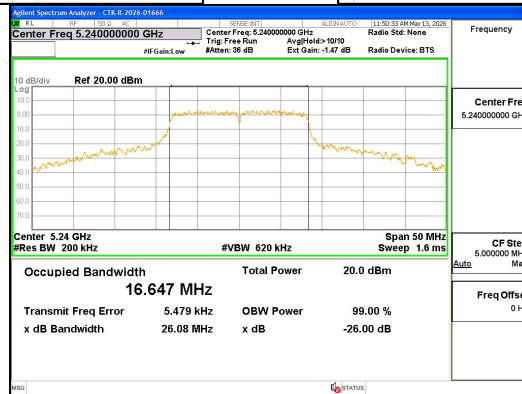
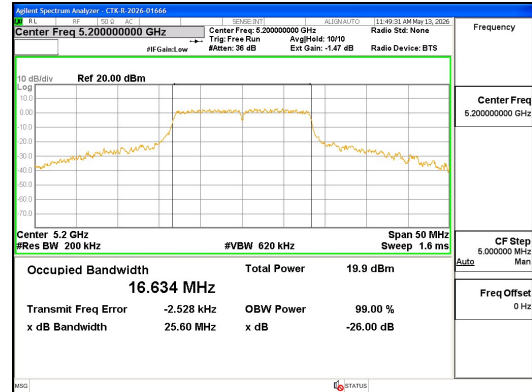
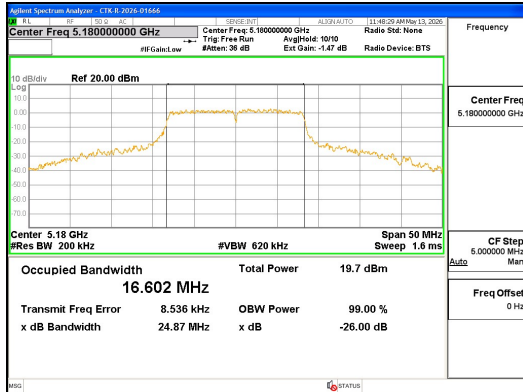
802.11a_UNII 3



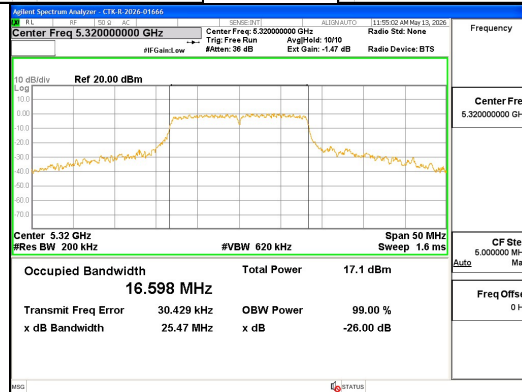
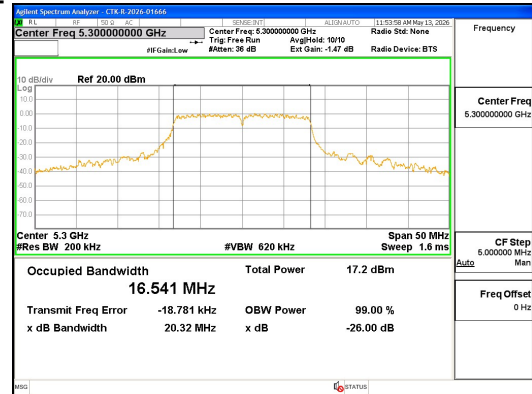
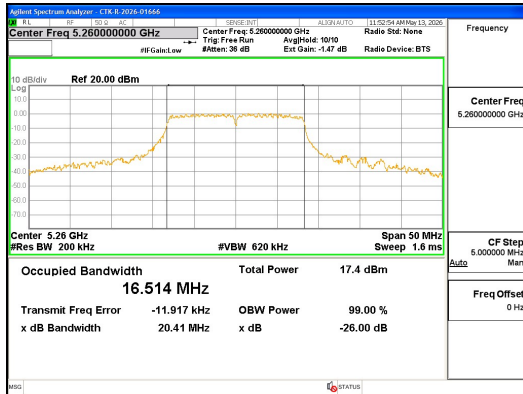
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802.11n_HT20_UNII 1



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