FCC Part 15.407

TEST REPORT

For

Centron Design Co., Ltd.

2F.-3, No.15, Ln. 360, Sec. 1, Neihu Rd., Neihu Dist., Taipei City 114, Taiwan

FCC ID: 2AP48CT130UC

Report Type:	**Product Type:**
Original Report	SynCast Go

Report Producer : Jojo Lu

Report Number : RXZ250425121RF02

Report Date : 2025-09-10

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Revision History

Revision	No.	Report Number	Issue Date	Description	Author/ Revised by
0.0	RXZ250425121	RXZ250425121RF02	2025-09-10	Original Report	Jojo Lu

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1 General Information

1.1 Product Description for Equipment under Test (EUT)

Applicant	Centron Design Co., Ltd.
	2F.-3, No.15, Ln. 360, Sec. 1, Neihu Rd., Neihu Dist., Taipei City 114, Taiwan
Brand(Trade) Name	Centron
Product (Equipment)	SynCast Go
Main Model Name	CT1300-TC
Series Model Name	GO CT13XX (XX: 0~9; A~Z) BXB OV-TX10 KLIK GO KB3XX (XX: 0~9) ShareGo HDXXX (XXX: 0~9; A~Z) AeroShare HDXXX (XXX 0~9; A~Z) SynXion GO HDXXX (XXX: 0~9; A~Z) DisplayPass HDXXX (XXX: 0~9; A~Z)
Model Discrepancy	Please refer to the difference declaration letter provided by the Applicant.
Frequency Range	5180 MHz ~ 5240 MHz
Maximum Conducted Average Output Power	5180-5240 MHz: 12.97 dBm
Modulation Technique	OFDM
Power Operation (Voltage Range)	5 Vdc
Received Date	2025/06/05

*All measurement and test data in this report was gathered from production sample serial number: RXZ250425121-1 (Assigned by BACL, New Taipei Laboratory).

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1.2 Objective

This report is prepared on behalf of *Centron Design Co., Ltd* in accordance with Part 2, Subpart J, Part 15, Subparts A, and E of the Federal Communication Commission's rules.

1.3 Test Methodology

All measurements contained in this report were conducted with ANSI C63.10-2020, American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices.
KDB 789033 D02 General UNII Test Procedures New Rules v02r01

1.4 Statement

Decision Rule: No, (The test results do not include MU judgment)

1. It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp. (New Taipei Laboratory).
2. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.
3. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.
4. The determination of the test results does not require consideration of the uncertainty of the measurement, unless the assessment is required by customer agreement, regulation or standard document specification.
5. Bay Area Compliance Laboratories Corp. (New Taipei Laboratory) is not responsible for the authenticity of the information provided by the applicant that affects the test results.

1.5 Measurement Uncertainty

Parameter		Uncertainty
AC Mains		+/- 2.53 dB
RF output power, conducted		+/- 3.74 dB
Power Spectral Density, conducted		+/- 0.58 dB
Occupied Bandwidth		+/- 0.09 %
Unwanted Emissions, conducted		+/- 1.13 dB
Emissions, radiated	9 kHz~30 MHz	+/- 3.54 dB
	30 MHz~1 GHz	+/- 4.99 dB
	1 GHz~18 GHz	+/- 7.56 dB
	18 GHz~40 GHz	+/- 5.06 dB
Temperature		+/- 0.79 °C
Humidity		+/- 0.44 %

Note: The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval.Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.

1.6 Environmental Conditions

Test Site	Test Date	Temperature (℃)	Relative Humidity (%)	Test Engineer
AC Line Conducted Emissions	2025/7/16	22.4	54	Nick
Radiation Spurious Emissions	2025/7/9~2025/7/25	23.4~24.1	60~68	Nick
Duty Cycle	2025/6/19	26.9	50	Nick
Emission Bandwidth And Occupied Bandwidth	2025/6/19	26.9	50	Nick
Maximum Output Power	2025/6/19	26.9	50	Nick
Power Spectral Density	2025/6/19	26.9	50	Nick

1.7 Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (New Taipei Laboratory) to collect test data is located on

☒70, Lane 169, Sec. 2, Datong Road, Xizhi Dist., New Taipei City 221, Taiwan, R.O.C.

Bay Area Compliance Laboratories Corp. (New Taipei Laboratory) is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code: 3732) and the FCC designation No.TW3732 under the Mutual Recognition Agreement (MRA) in FCC Test.

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2 System Test Configuration

2.1 Description of Test Configuration

The system supports 802.11a/ n ht20 mode.

For 5150 ~ 5250MHz

4 channels are provided for 802.11a, 802.11n (HT20):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	44	5220
40	5200	48	5240

802.11a/n20 mode Channel 36, 40, 48 were tested.

2.2 EUT Exercise Software

The software was used "FCC_assist v1.0.4".

The system was configured for testing in engineering mode, which was provided by Applicant.

UNII Band	Mode	Channel	Frequency (MHz)	Power setting
UNII-1	802.11a	36	5180	75
		40	5200	75
		48	5240	75
UNII-1	802.11n HT20	36	5180	75
		40	5200	75
		48	5240	75

The worst case data rates are as follows:

802.11a: 6Mbps

802.11n HT20: MCS0

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2.3 Equipment Modifications

No modification was made to the EUT.

2.4 Test Mode

Full System (model: CT1300-TC) for all test item.

2.5 Support Equipment List and Details

Description	Manufacturer	Model Number
NB	DELL	E6410
Adapter	NEXGO	ADS-12CG-06 05010EPCU

2.6 External Cable List and Details

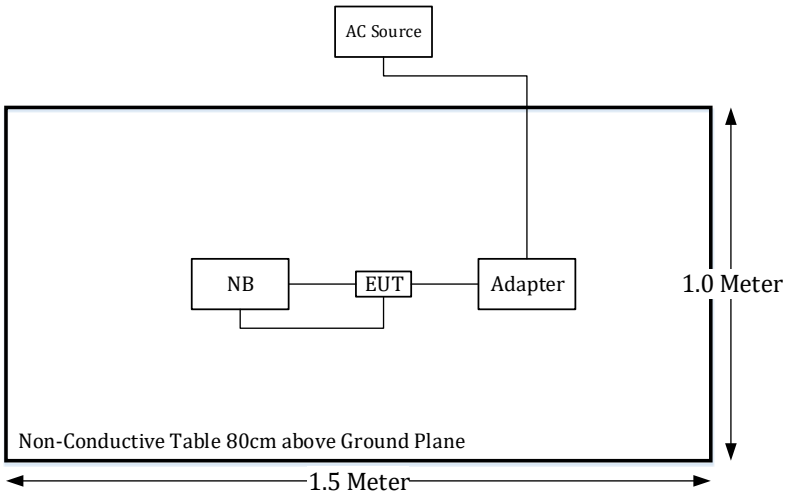
Description	Manufacturer	Model Number
USB Type A-C Cable	HONGDAXIN	H-M2-5

2.7 Block Diagram of Test Setup

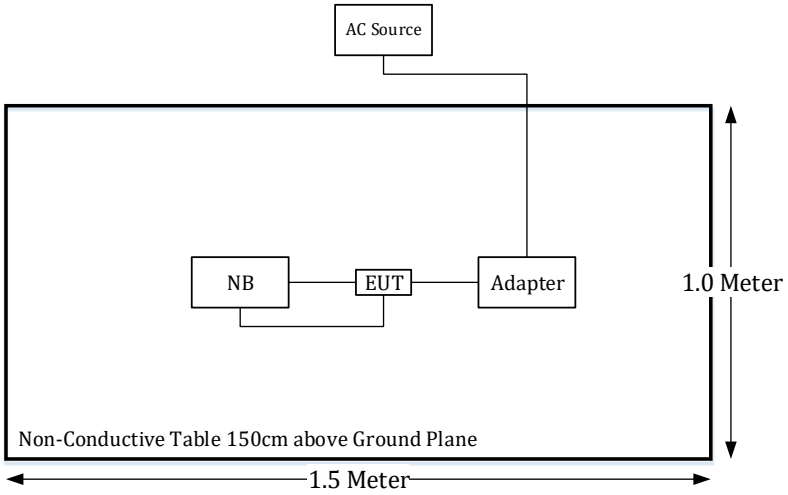
See test photographs attached in setup photos for the actual connections between EUT and support equipment.

Radiation:

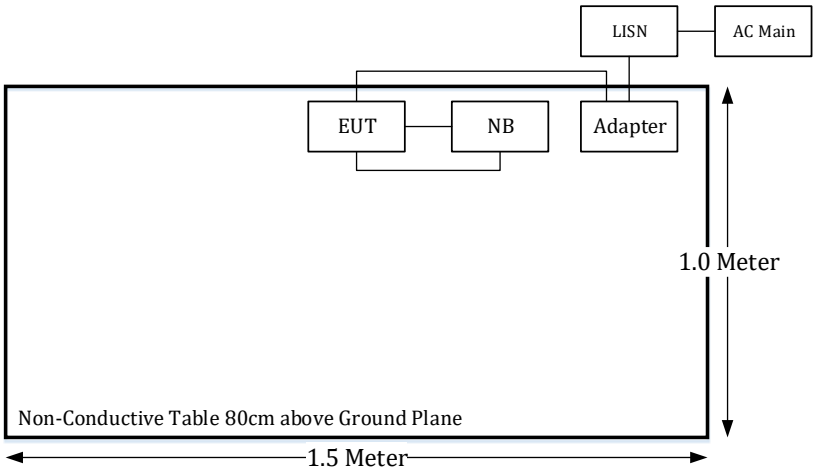
Below 1GHz



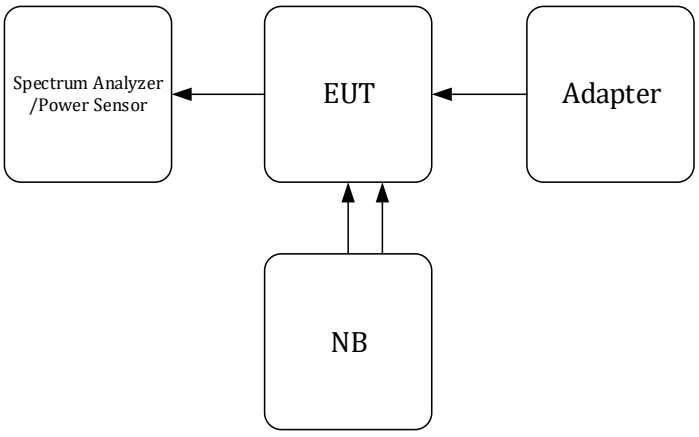
Above 1GHz:



Conduction:



Conducted:



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2.8 Duty Cycle

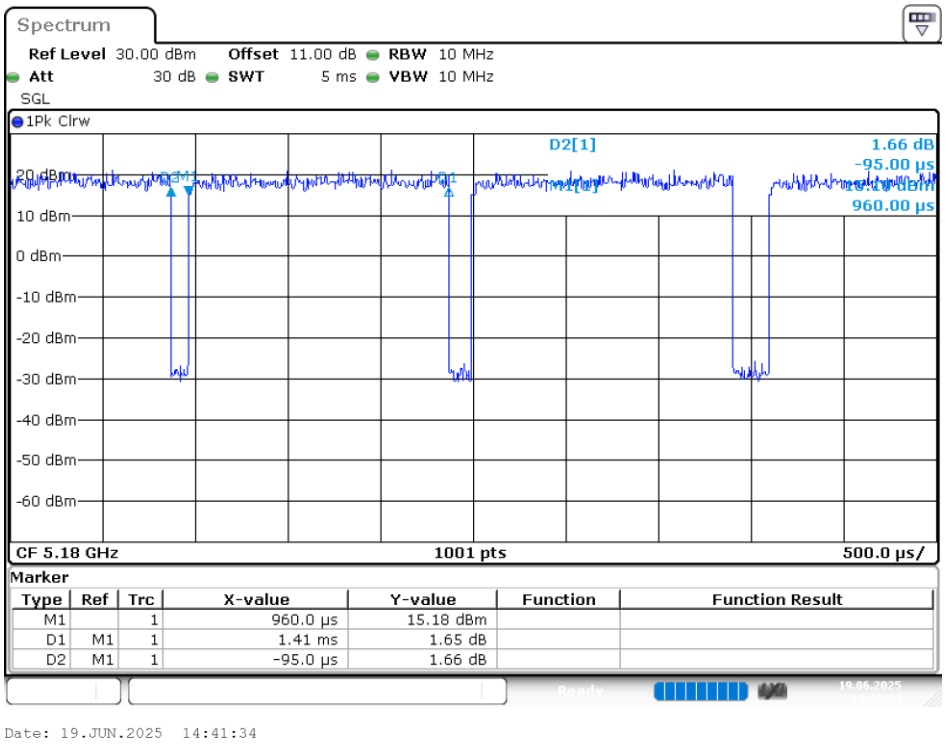
The duty cycle as below:

Radio Mode	On Time (ms)	Off Time (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/T (kHz)	VBW Setting (kHz)
802.11a	1.41	0.095	94	0.27	0.71	1
802.11n 20	1.32	0.185	88	0.56	0.76	1

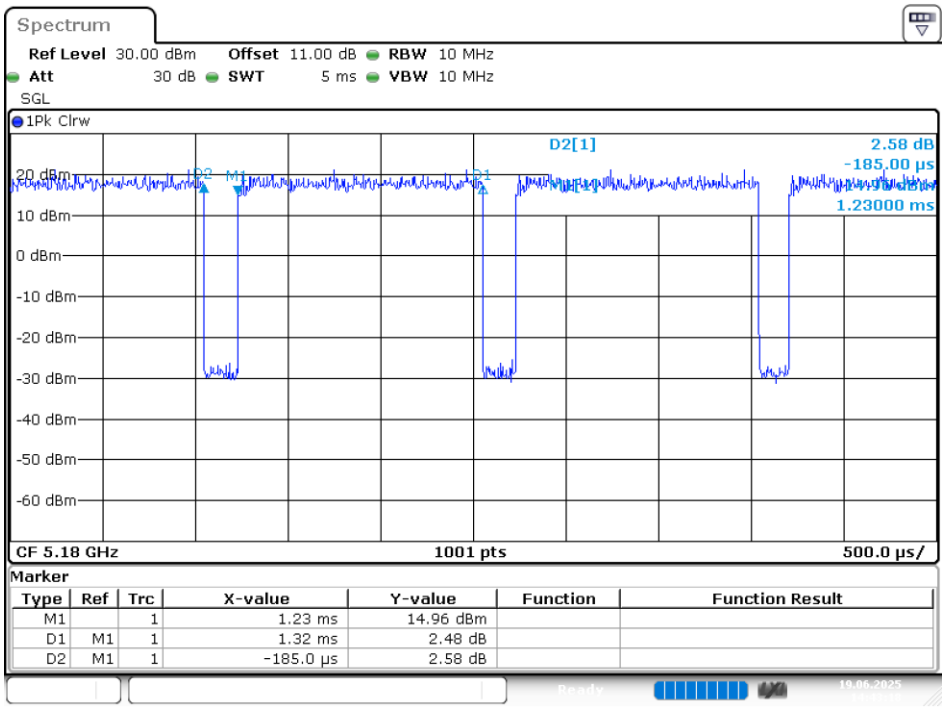
Note: Duty Cycle Correction Factor = 10*log(1/duty cycle)

Please refer to the following plots.

802.11a Mode



802.11n HT20 Mode



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3 Summary of Test Results

Standard(s) Section	Description of Test	Results
§15.203	Antenna Requirement	Compliance
§15.407(b)(9) & §15.207(a)	AC Line Conducted Emissions	Compliance
§15.205 & §15.209 & §15.407(b)	Unwanted Emission	Compliance
§15.407(a)(e)	Emission Bandwidth	Compliance
§15.407(a)	Conducted Transmitter Output Power	Compliance
§15.407(a)	Power Spectral Density	Compliance

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4 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due Date
AC Line Conduction Room (CON-A)					
LISN	Rohde & Schwarz	ENV216	101612	2025/2/17	2026/2/17
EMI Test Receiver	Rohde & Schwarz	ESW8	100947	2025/5/28	2026/5/28
RF Cable	EMEC	EM-CB5D	1	2025/6/30	2026/6/30
Software	AUDIX	E3	V9.150826k	N.C.R	N.C.R
Radiation 3M Room (966-A)					
Active Loop Antenna	ETS-Lindgren	6502	35796	2025/3/27	2026/3/27
Bilog Antenna with 6 dB Attenuator	SUNOL SCIENCES & MINI-CIRCUITS	JB6/UNAT-6+	A050115/15542_01	2025/1/16	2026/1/16
Horn Antenna	ETS-Lindgren	3115	40736	2025/5/6	2026/5/6
Horn Antenna	ETS-Lindgren	3116	62638	2024/8/30	2025/8/30
Preamplifier	Sonoma	310N	130602	2025/6/17	2026/6/17
Preamplifier	Channel	ERA-100M-18G-01D1748	EC2300051	2025/4/10	2026/4/10
Preamplifier	BACL	BACL-1313-A1840	4011511	2025/2/12	2026/2/12
Spectrum Analyzer	Rohde & Schwarz	FSV40	101939	2025/3/27	2026/3/27
EMI Test Receiver	Rohde & Schwarz(R&S)	ESR3	102759	2024/9/19	2025/9/19
Microflex Cable	UTIFLEX	UFB197C-1-2362-70U-70U	225757-001	2024/12/20	2025/12/20
Coaxial Cable	UTIFLEX	UFB311A-Q-1440-300300	220490-006	2024/12/20	2025/12/20
Coaxial Cable	COMMATE	PEWC	8Dr	2024/12/20	2025/12/20
Cable	EMC	EMC105-SM-SM-10000	201003	2024/12/20	2025/12/20
Coaxial Cable	JUNFLON	J12J102248-00-B-5	AUG-07-15-044	2024/12/20	2025/12/20
Coaxial Cable	ROSNOL	K1K50-UP0264-K1K50-450CM	160309-1	2025/1/21	2026/1/21
Microflex Cable	ROSNOL	K1K50-UP0264-K1K50-80CM	160309-2	2025/1/21	2026/1/21
Band-stop filter	SinoSciTe	BSF5150-5850MN-0899-002	001	2024/10/19	2025/10/19
High-pass filter	XINGBOKEJI	XBLBQ-GTA29	200121-3-26	2024/10/19	2025/10/19
Software	AUDIX	E3	18621a	N.C.R	N.C.R
Conducted Room					
Spectrum Analyzer	Rohde & Schwarz(R&S)	FSV40	101204	2025/6/4	2026/6/4
Cable	UTIFLEX	UFA210A	9435	2024/10/1	2025/10/1
Power Sensor	Agilent	U2021XA	MY54080018	2025/2/5	2026/2/5
Attenuator	MCL	BW-S10W5+	1419	2025/3/6	2026/3/6

***Statement of Traceability:** BACL Corp. attests that all of the calibrations on the equipment items listed above were traceable to the SI System of Units via the R.O.C. Center for Measurement Standards of the Electronics Testing Center, Taiwan (ETC) or to another internationally recognized National Metrology Institute (NMI), and were compliant with the current Taiwan Accreditation Foundation (TAF) requirements.

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5 FCC §15.203 – Antenna Requirements

5.1 Applicable Standard

For intentional device, according to §15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used.

5.2 Antenna Information

Manufacturer	Antenna Type	Antenna Gain (dBi)	Input impedance
Shenzhen RedbirdTek Technology Co., Ltd.	PCB Antenna	1.757	50Ω

The antenna is permanently attached to the device.

Result: Compliance

6 FCC §15.407(b)(9), §15.207(a) – AC Line Conducted Emissions

6.1 Applicable Standard

As per FCC §15.407(b) (9)

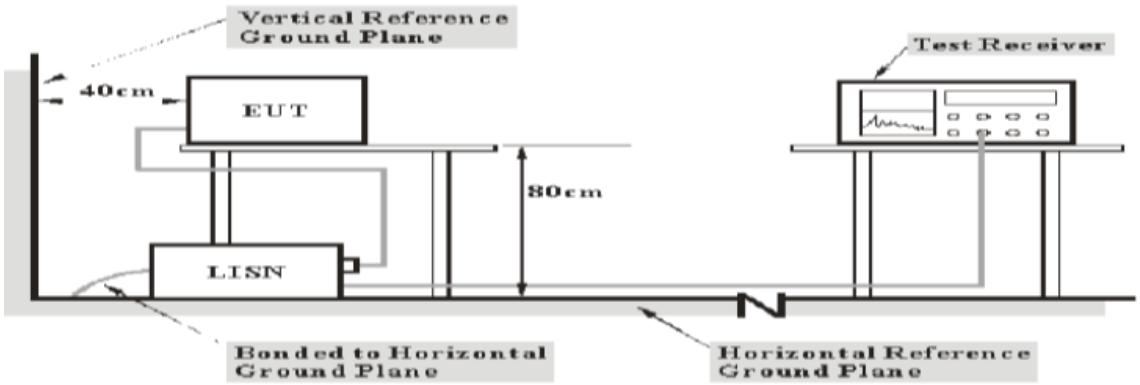
Further, any U-NII devices using an AC power line are required to comply also with the conducted limits set forth in §15.207

For an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50 μH/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequencies ranges.

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi-Peak	Average
0.15-0.5	66 to 56 Note 1	56 to 46 Note 1
0.5-5	56	46
5-30	60	50

Note 1: Decreases with the logarithm of the frequency.

6.2 EUT Setup



The setup of EUT is according with per ANSI C63.10-2020 measurement procedure. The specification used was with the FCC Part 15.207 limits.

6.3 EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150kHz to 30MHz.

During the conducted emission test, the EMI test receiver was set with the following configurations

Frequency Range	IF B/W
150kHz – 30MHz	9kHz

6.4 Test Procedure

During the conducted emission test, the adapter was connected to the outlet of the LISN.

Maximizing procedure was performed on the six (6) highest emissions of the EUT.

All data was recorded in the Quasi-peak and average detection mode.

6.5 Corrected Factor & Margin Calculation

The factor is calculated by adding LISN/ISN VDF (Voltage Division Factor), Cable Loss and Transient Limiter Attenuation. The basic equation is as follows:

Factor = LISN VDF + Cable Loss + Transient Limiter Attenuation

The “Over Limit” column of the following data tables indicates the degree of compliance with the applicable limit. For example, an over limit of -7 dB means the emission is 7 dB below the limit. The equation for Over Limit calculation is as follows:

Over Limit = Result – Limit Line

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6.6 Test Results

Test Mode: Transmitting

Main: AC120 V, 60 Hz

Worst case is 802.11n HT20 mode, 5200 MHz

Band 1 Line

Description: RBW:9kHz/VBW:30kHz

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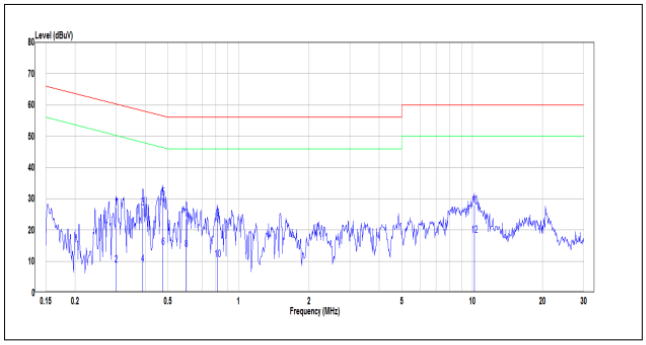

No.	Frequency	Reading	Correct Factor	Result	Limit	Over limit	Remark	Phase
	MHz	dBuV	dB	dBuV	dBuV	dB		
1	0.300	17.45	9.76	27.21	60.24	-33.03	QP	Line
2	0.300	-0.97	9.76	8.79	50.24	-41.45	Average	Line
3	0.389	17.50	9.75	27.25	58.08	-30.83	QP	Line
4	0.389	-0.72	9.75	9.03	48.08	-39.04	Average	Line
5	0.476	20.61	9.75	30.36	56.41	-26.04	QP	Line
6	0.476	4.68	9.75	14.43	46.41	-31.97	Average	Line
7	0.598	13.79	9.75	23.54	56.00	-32.46	QP	Line
8	0.598	4.17	9.75	13.92	46.00	-32.08	Average	Line
9	0.813	14.03	9.76	23.79	56.00	-32.21	QP	Line
10	0.813	0.72	9.76	10.48	46.00	-35.52	Average	Line
11	10.233	18.09	9.97	28.06	60.00	-31.94	QP	Line
12	10.233	8.30	9.97	18.27	50.00	-31.73	Average	Line

Band 1 Neutral

Description: RBW:9kHz/VBW:30kHz

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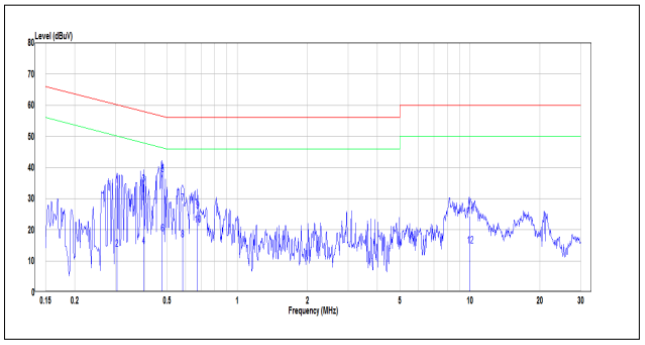

No.	Frequency	Reading	Correct Factor	Result	Limit	Over limit	Remark	Phase
	MHz	dBuV	dB	dBuV	dBuV	dB		
1	0.303	24.48	9.71	34.19	60.15	-25.96	QP	Neutral
2	0.303	4.13	9.71	13.85	50.15	-36.30	Average	Neutral
3	0.396	25.12	9.70	34.82	57.95	-23.13	QP	Neutral
4	0.396	4.98	9.70	14.68	47.95	-33.26	Average	Neutral
5	0.476	28.13	9.70	37.83	56.41	-18.58	QP	Neutral
6	0.476	8.99	9.70	18.69	46.41	-27.72	Average	Neutral
7	0.582	18.74	9.70	28.45	56.00	-27.55	QP	Neutral
8	0.582	7.03	9.70	16.74	46.00	-29.26	Average	Neutral
9	0.675	16.31	9.71	26.02	56.00	-29.98	QP	Neutral
10	0.675	11.94	9.71	21.65	46.00	-24.35	Average	Neutral
11	10.019	14.35	9.94	24.29	60.00	-35.71	QP	Neutral
12	10.019	4.99	9.94	14.93	50.00	-35.07	Average	Neutral

Note:

Result = Reading + Factor

Over Limit = Result – Limit Line

Factor = (LISN, ISN, PLC or current probe) Factor + Cable Loss + Attenuator

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7 FCC §15.209, §15.205, §15.407(b) – Spurious Emissions

7.1 Applicable Standard

As Per FCC §15.205(a) except as show in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 – 0.110	16.42 – 16.423	608 – 614	4.5 – 5.15
0.495 – 0.505	16.69475 – 16.69525	960 – 1240	5.35 – 5. 46
2.1735 – 2.1905	16.80425 – 16.80475	1300 – 1427	7.25 – 7.75
4.125 – 4.128	25.5 – 25.67	1435 – 1626.5	8.025 – 8.5
4.17725 – 4.17775	37.5 – 38.25	1645.5 – 1646.5	9.0 – 9.2
4.20725 – 4.20775	73 – 74.6	1660 – 1710	9.3 – 9.5
6.215 – 6.218	74.8 – 75.2	1718.8 – 1722.2	10.6 – 12.7
6.26775 – 6.26825	108 – 121.94	2200 – 2300	13.25 – 13.4
6.31175 – 6.31225	123 – 138	2310 – 2390	14.47 – 14.5
8.291 – 8.294	149.9 – 150.05	2483.5 – 2500	15.35 – 16.2
8.362 – 8.366	156.52475 – 156.52525	2690 – 2900	17.7 – 21.4
8.37625 – 8.38675	156.7 – 156.9	3260 – 3267	22.01 – 23.12
8.41425 – 8.41475	162.0125 –167.17	3.332 – 3.339	23.6 – 24.0
12.29 – 12.293	167.72 – 173.2	3 3458 – 3 358	31.2 – 31.8
12.51975 – 12.52025	240 – 285	3.600 – 4.400	36.43 – 36.5
12.57675 – 12.57725	322 – 335.4		Above 38.6
13.36 – 13.41	399.9 – 410		

As per FCC §15.209(a): Except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength (micro volts/meter)	Measurement Distance (meters)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 - 30.0	30	30
30 - 88	100**	3
88 - 216	150**	3
216 - 960	200**	3
Above 960	500	3

Note 1: Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g., Sections 15.231 and 15.241.

According to ANSI C63.10-2020, section 5.3.3

Measurements may be performed at a distance other than the limit distance provided they are not performed in the near field, and the emissions to be measured can be detected by the measurement equipment (see 4.3.4). Measurements shall not be performed at a distance greater than 30 m for frequencies above 30 MHz, unless it can be further demonstrated that measurements at a distance of 30 m or less are impractical. Measurements from 18 GHz to 40 GHz are typically made at distances significantly less than 3 m from the EUT. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance

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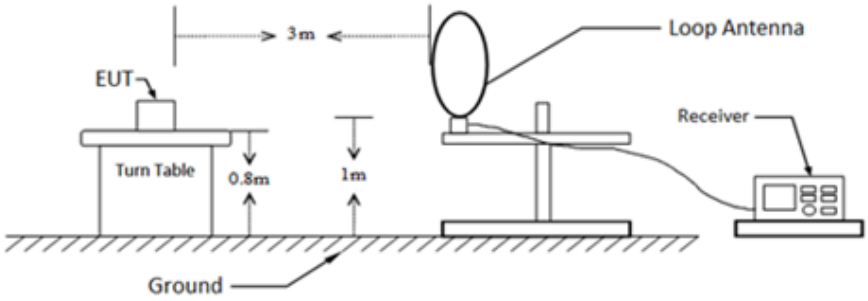
using an extrapolation factor of 20 dB/decade of distance (inverse of linear distance for field-strength measurements or inverse of linear distance-squared for power-density measurements).

As per FCC Part 15.407 (b)

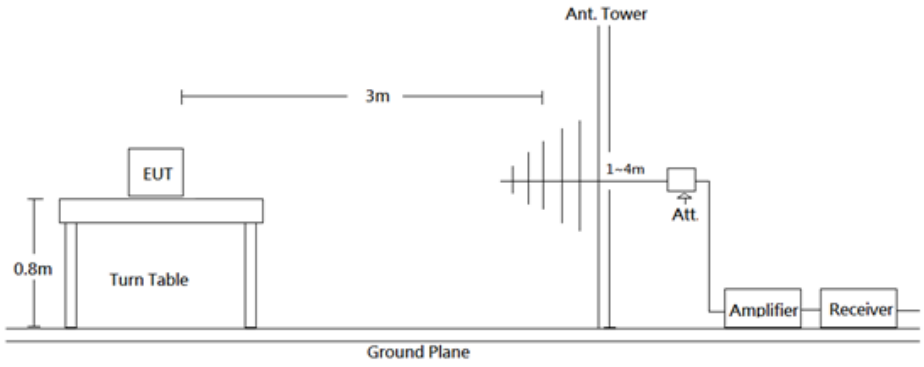
- For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
- For transmitters operating in the 5.25–5.35 GHz band: All emissions outside of the 5.15–5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
- For transmitters operating in the 5.47–5.725 GHz band: All emissions outside of the 5.47–5.725 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
- For transmitters operating in the 5.725-5.85 GHz band: All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.
- Devices certified before March 2, 2017 with antenna gain greater than 10 dBi may demonstrate compliance with the emission limits in § 15.247(d), but manufacturing, marketing and importing of devices certified under this alternative must cease by March 2, 2018. Devices certified before March 2, 2018 with antenna gain of 10 dBi or less may demonstrate compliance with the emission limits in §15.247(d), but manufacturing, marketing and importing of devices certified under this alternative must cease before March 2, 2020.
- The emission measurements shall be performed using a minimum resolution bandwidth of 1 MHz. A lower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 1 MHz.
- Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209.

7.2 EUT Setup

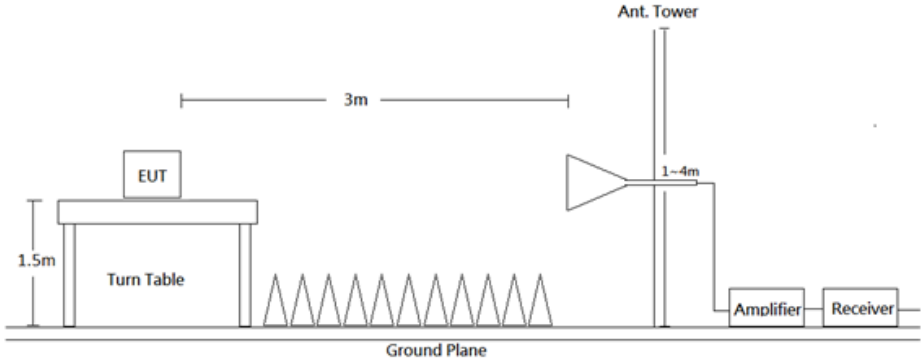
9kHz-30MHz:



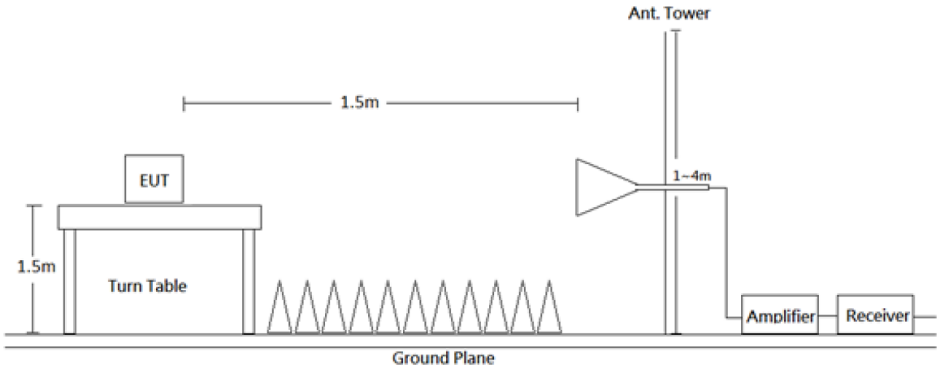
30MHz-1GHz:



1-18 GHz:



18-40 GHz:



Radiated emission tests were performed in the 3 meters chamber test site, using the setup accordance with the ANSI C63.10-2020. The specification used was the FCC Part 15.209, FCC 15.407 Limits.

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7.3 EMI Test Receiver & Spectrum Analyzer Setup

The system was investigated from 9 kHz to 40 GHz. During the radiated emission test, the EMI test receiver was set with the following configurations measurement method 6.3 in ANSI C63.10.

Frequency Range	RBW	VBW	Duty cycle	Measurement method	Detector
9 kHz - 150 kHz	200 Hz/300 Hz	1 kHz	/	QP/AV	QP/AV
150 kHz - 30 MHz	9 kHz/10 kHz	30 kHz	/	QP/AV	QP/AV
30-1000 MHz	100 kHz/120 kHz	300 kHz	/	QP/PK	QP/PK
Above 1 GHz	Pre-scan :				
	1 MHz	3 MHz	/	PK	PK
	1 MHz	1 kHz	>98%	Ave	PK
	1 MHz	≥ 1/Ton, not less than 1 kHz	<98%	Ave	PK
	Final measurement for emission identified during pre-scan :				
	1 MHz	3 MHz	/	PK	PK
	1 MHz	10 Hz	>98%	Ave	PK
	1 MHz	≥ 1/Ton	<98%	Ave	PK

Note: T is minimum transmission duration

If the maximized peak measured value complies with under the QP/Average limit more than 6dB, then it is unnecessary to perform an QP/Average measurement.

7.4 Test Procedure

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

All data was recorded in Quasi-peak and average detector mode from 9 kHz to 30 MHz, Quasi-peak detector mode from 30 MHz to 1 GHz and PK and average detector modes for frequencies above 1 GHz.

According to C63.10, emission shall be computed as: E [dBμV/m] = EIRP[dBm] + 95.2, for d = 3 meters.

All emissions under the average limit and under the noise floor have not recorded in the report

7.5 Corrected Factor & Margin Calculation

The Correct Factor is calculated by adding the Antenna Factor and Cable Loss, and subtracting the Amplifier Gain from the Meter Reading. The basic equation is as follows:

Correct Factor = Antenna Factor + Cable Loss – Amplifier Gain

The “Margin” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -7 dB means the emission is 7 dB below the limit. The equation for margin calculation is as follows:

Margin = Level – Limit

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7.6 Test Results

Test Mode: Transmitting

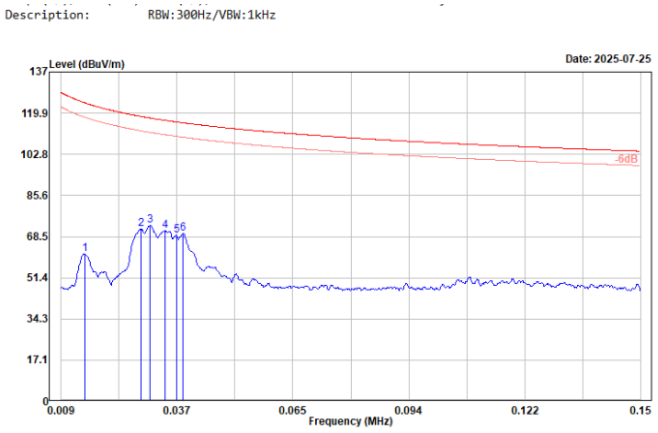
(Pre-scan with three orthogonal axis, and worse case as Z axis.)

9kHz-30MHz:

(Worst case is 802.11n HT20 mode, 5200MHz)

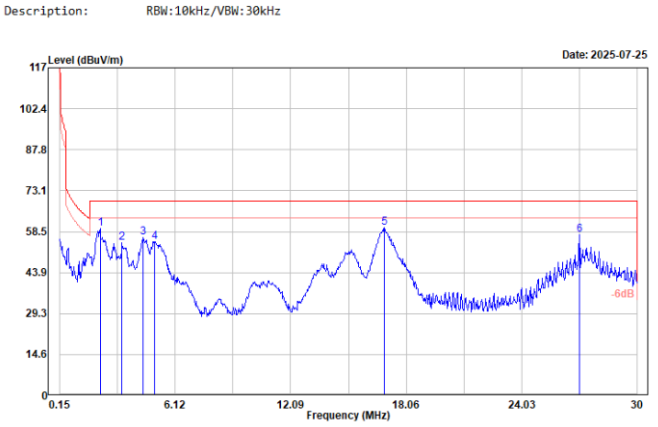
(Pre-scan using three directional polarities, worst case as parallel.)

9kHz-150kHz



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
0.015	45.72	15.58	61.30	124.21	-62.91	100	23	Average
0.028	57.85	13.78	71.63	118.52	-46.89	100	147	Average
0.031	59.59	13.46	73.05	117.86	-44.81	100	326	Average
0.034	57.63	13.18	70.81	116.91	-46.10	100	58	Average
0.037	56.08	12.96	69.04	116.23	-47.19	100	220	Average
0.039	56.97	12.82	69.79	115.84	-46.05	100	180	Average

150kHz-30MHz

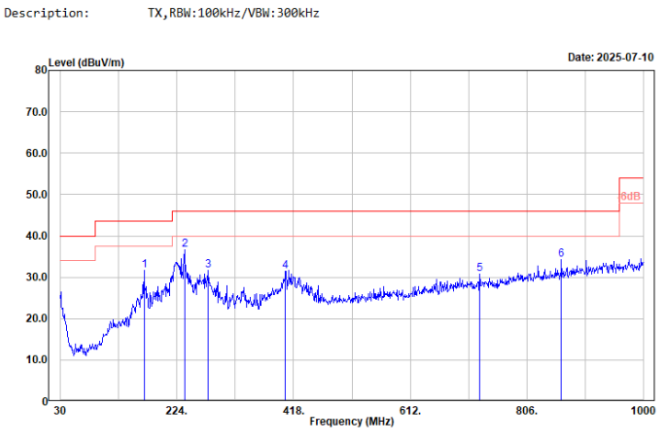


Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
2.240	48.76	10.79	59.55	69.54	-9.99	100	28	QP
3.374	43.68	10.71	54.39	69.54	-15.15	100	128	QP
4.478	45.75	10.80	56.55	69.54	-12.99	100	326	QP
5.075	44.07	10.90	54.97	69.54	-14.57	100	227	QP
16.926	48.23	11.64	59.87	69.54	-9.67	100	68	QP
27.015	45.41	11.87	57.28	69.54	-12.26	100	150	QP

30MHz-1GHz:

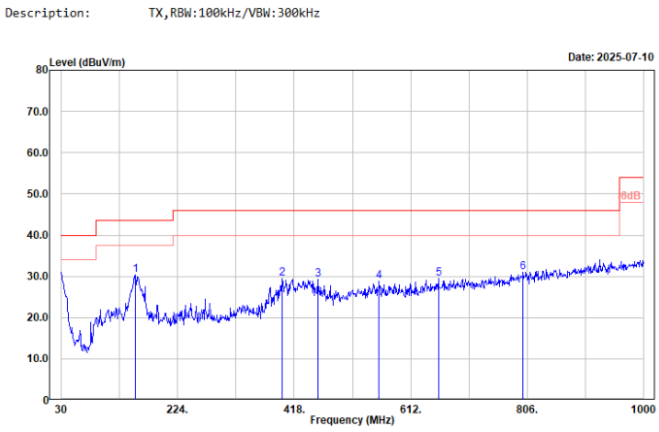
(Worst case is 802.11n HT20 Mode, 5200 MHz)

Horizontal



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
169.680	44.21	-12.63	31.58	43.50	-11.92	100	104	QP
236.610	49.11	-12.42	36.69	46.00	-9.31	100	61	QP
276.380	41.84	-10.24	31.60	46.00	-14.40	100	123	QP
404.420	38.68	-7.21	31.47	46.00	-14.53	100	123	QP
727.430	31.75	-0.99	30.76	46.00	-15.24	100	50	QP
863.230	32.60	1.64	34.24	46.00	-11.76	100	204	QP

Vertical



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
154.160	41.90	-11.51	30.39	43.50	-13.11	100	360	QP
398.600	36.80	-7.27	29.53	46.00	-16.47	100	118	QP
457.770	34.98	-5.68	29.30	46.00	-16.70	100	76	QP
559.620	32.87	-4.10	28.77	46.00	-17.23	100	302	QP
658.560	31.56	-2.02	29.54	46.00	-16.46	100	172	QP
799.210	30.27	0.70	30.97	46.00	-15.03	100	176	QP

Note: It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp. (New Taipei Laboratory)

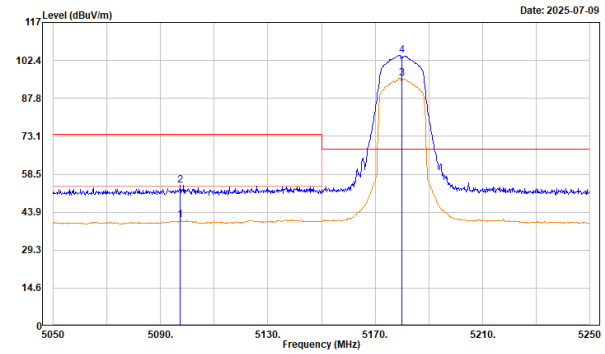
Band-Edge

5150-5250 MHz

802.11a Mode, 5180 MHz

Horizontal

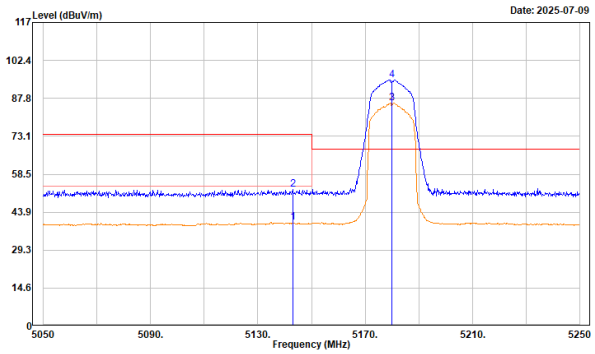
Description: A-TX-5180,Peak RBW:1MHz/VBW:3MHz,Avg RBW:1MHz/VBW:1kHz



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5097.400	43.96	-3.03	40.93	54.00	-13.07	110	255	Average
5097.400	57.38	-3.03	54.35	74.00	-19.65	110	255	Peak
5180.000	98.32	-2.81	95.51			110	255	Average
5180.000	107.02	-2.81	104.21			110	255	Peak

Vertical

Description: A-TX-5180,Peak RBW:1MHz/VBW:3MHz,Avg RBW:1MHz/VBW:1kHz

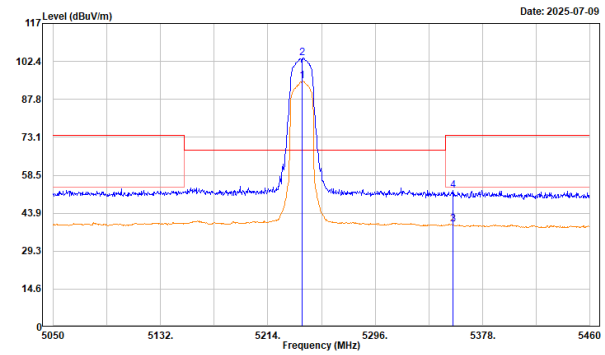


Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5143.000	42.91	-2.83	40.08	54.00	-13.92	168	12	Average
5143.000	55.33	-2.83	52.50	74.00	-21.50	168	12	Peak
5180.000	88.74	-2.81	85.93			168	12	Average
5180.000	97.57	-2.81	94.76			168	12	Peak

802.11a Mode, 5240 MHz

Horizontal

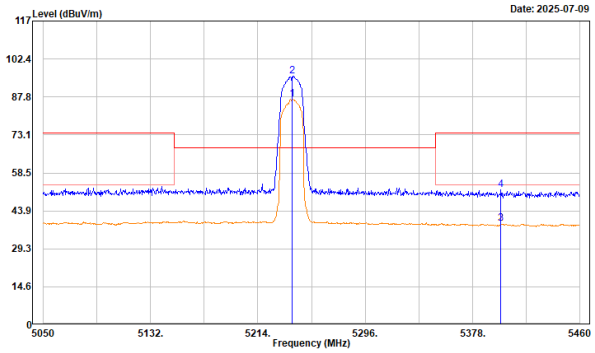
Description: A-TX-5240,Peak RBW:1MHz/VBW:3MHz,Avg RBW:1MHz/VBW:1kHz



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5240.000	97.72	-2.99	94.73			114	251	Average
5240.000	106.62	-2.99	103.63			114	251	Peak
5355.450	42.96	-3.42	39.54	54.00	-14.46	114	251	Average
5355.450	56.09	-3.42	52.67	74.00	-21.33	114	251	Peak

Vertical

Description: A-TX-5240,Peak RBW:1MHz/VBW:3MHz,Avg RBW:1MHz/VBW:1kHz



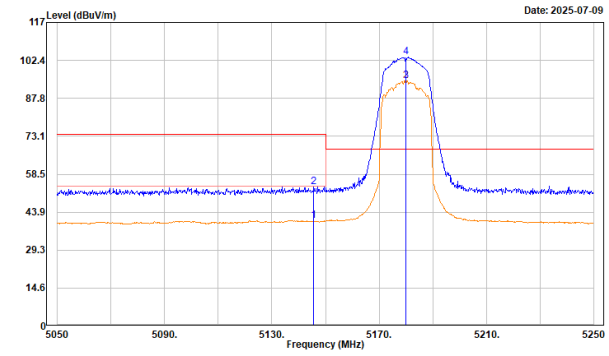
Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5240.000	89.84	-2.99	86.85			137	83	Average
5240.000	98.74	-2.99	95.75			137	83	Peak
5399.730	42.66	-3.66	39.00	54.00	-15.00	137	83	Average
5399.730	55.53	-3.66	51.87	74.00	-22.13	137	83	Peak

Note: It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp. (New Taipei Laboratory)

802.11n HT20 Mode, 5180 MHz

Horizontal

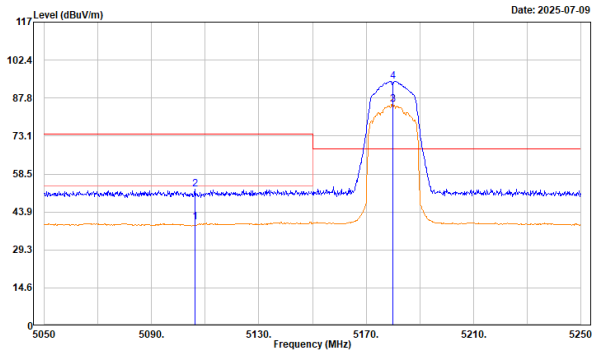
Description: N20-TX-5180,Peak RBW:1MHz/VBW:3MHz,Avg RBW:1MHz/VBW:1kHz



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5145.600	43.46	-2.82	40.64	54.00	-13.36	107	255	Average
5145.600	56.48	-2.82	53.66	74.00	-20.34	107	255	Peak
5180.000	97.34	-2.81	94.53			107	255	Average
5180.000	106.40	-2.81	103.59			107	255	Peak

Vertical

Description: N20-TX-5180,Peak RBW:1MHz/VBW:3MHz,Avg RBW:1MHz/VBW:1kHz

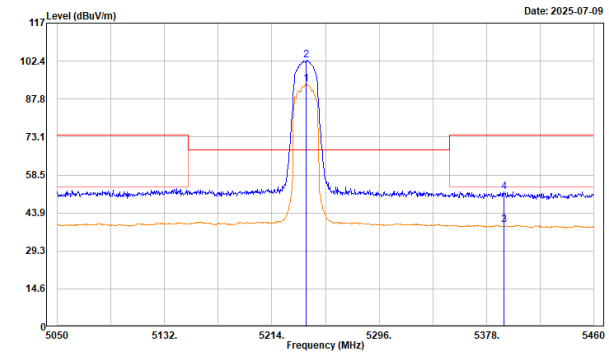


Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5106.200	42.89	-3.01	39.88	54.00	-14.12	166	12	Average
5106.200	55.65	-3.01	52.64	74.00	-21.36	166	12	Peak
5180.000	88.12	-2.81	85.31			166	12	Average
5180.000	97.08	-2.81	94.27			166	12	Peak

802.11n HT20 Mode, 5240 MHz

Horizontal

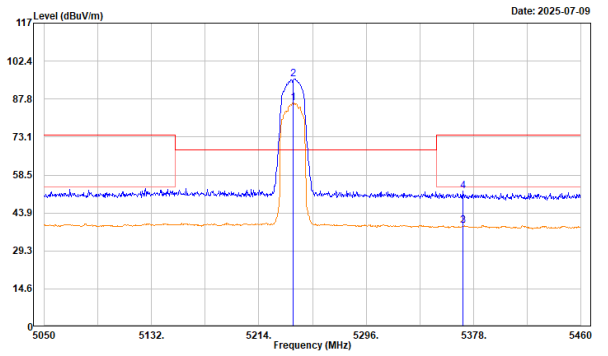
Description: N20-TX-5240,Peak RBW:1MHz/VBW:3MHz,Avg RBW:1MHz/VBW:1kHz



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5240.000	96.49	-2.99	93.50			139	26	Average
5240.000	105.67	-2.99	102.68			139	26	Peak
5391.530	42.87	-3.62	39.25	54.00	-14.75	139	26	Average
5391.530	55.68	-3.62	52.06	74.00	-21.94	139	26	Peak

Vertical

Description: N20-TX-5240,Peak RBW:1MHz/VBW:3MHz,Avg RBW:1MHz/VBW:1kHz



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5240.000	89.38	-2.99	86.39			138	82	Average
5240.000	98.45	-2.99	95.46			138	82	Peak
5369.800	42.45	-3.50	38.95	54.00	-15.05	138	82	Average
5369.800	55.78	-3.50	52.28	74.00	-21.72	138	82	Peak

Level = Reading + Factor.

Margin = Level – Limit.

Factor = Antenna Factor + Cable Loss – Amplifier Gain.

Note: It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp. (New Taipei Laboratory)

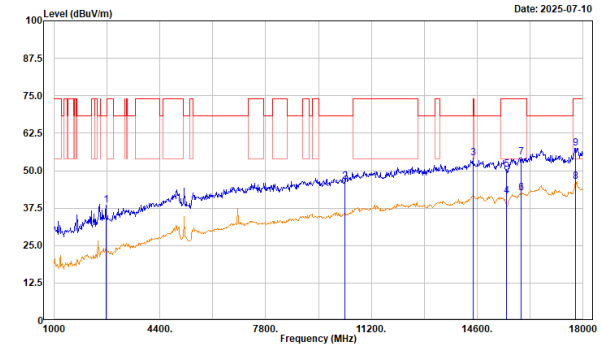
1GHz-18GHz:

5150-5250 MHz

802.11a Mode worst case is 5180 MHz

Horizontal

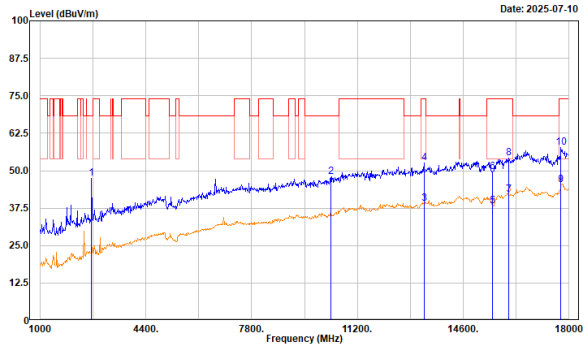
Description: A-TX-5180,Peak RBW:1MHz/VBW:3MHz,Avg RBW:1MHz/VBW:1kHz



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
2666.000	47.87	-9.26	38.61	68.20	-29.59	150	10	Peak
10360.000	40.15	6.21	46.36	68.20	-21.84	140	224	Peak
14464.000	43.00	11.25	54.25	68.20	-13.95	150	147	Peak
15540.000	33.06	8.48	41.54	54.00	-12.46	151	105	Average
15540.000	41.89	8.48	50.37	74.00	-23.63	151	105	Peak
16028.000	32.02	10.44	42.46	54.00	-11.54	150	206	Average
16028.000	44.16	10.44	54.60	74.00	-19.40	150	206	Peak
17762.000	33.07	13.17	46.24	54.00	-7.76	150	321	Average
17762.000	44.31	13.17	57.48	74.00	-16.52	150	321	Peak

Vertical

Description: A-TX-5180,Peak RBW:1MHz/VBW:3MHz,Avg RBW:1MHz/VBW:1kHz

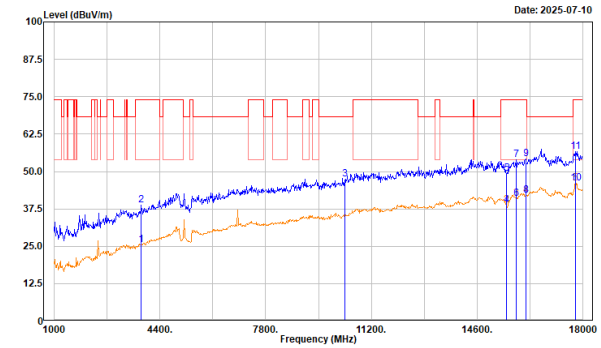


Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
2649.000	56.87	-9.44	47.43	68.20	-20.77	150	18	Peak
10360.000	41.79	6.21	48.00	68.20	-20.20	129	224	Peak
13342.000	28.94	10.02	38.96	54.00	-15.04	150	168	Average
13342.000	42.51	10.02	52.53	74.00	-21.47	150	168	Peak
15540.000	29.70	8.48	38.18	54.00	-15.82	172	309	Average
15540.000	41.11	8.48	49.59	74.00	-24.41	172	309	Peak
16062.000	31.36	10.70	42.06	54.00	-11.94	150	207	Average
16062.000	43.52	10.70	54.22	74.00	-19.78	150	207	Peak
17745.000	32.06	13.08	45.14	54.00	-8.86	150	347	Average
17745.000	44.69	13.08	57.77	74.00	-16.23	150	347	Peak

802.11n HT20 Mode worst case is 5180 MHz

Horizontal

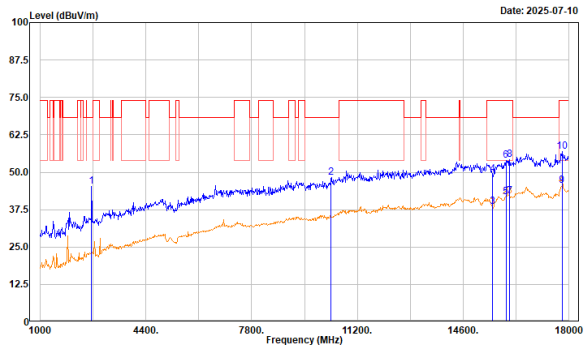
Description: N20-TX-5180,Peak RBW:1MHz/VBW:3MHz,Avg RBW:1MHz/VBW:1kHz



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
3805.000	32.32	-6.86	25.46	54.00	-28.54	150	128	Average
3805.000	45.64	-6.86	38.78	74.00	-35.22	150	128	Peak
10360.000	41.28	6.21	47.49	68.20	-20.71	184	117	Peak
15540.000	30.34	8.48	38.82	54.00	-15.18	163	308	Average
15540.000	40.77	8.48	49.25	74.00	-24.75	163	308	Peak
15858.000	31.25	9.59	40.84	54.00	-13.16	150	109	Average
15858.000	44.36	9.59	53.95	74.00	-20.05	150	109	Peak
16164.000	30.86	11.07	41.93	54.00	-12.07	150	247	Average
16164.000	43.15	11.07	54.22	74.00	-19.78	150	247	Peak
17762.000	32.92	13.17	46.09	54.00	-7.91	150	359	Average
17762.000	43.59	13.17	56.76	74.00	-17.24	150	359	Peak

Vertical

Description: N20-TX-5180,Peak RBW:1MHz/VBW:3MHz,Avg RBW:1MHz/VBW:1kHz



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
2649.000	54.60	-9.44	45.16	68.20	-23.04	150	87	Peak
10360.000	41.96	6.21	48.17	68.20	-20.03	155	104	Peak
15540.000	30.04	8.48	38.52	54.00	-15.48	168	248	Average
15540.000	40.71	8.48	49.19	74.00	-24.81	168	248	Peak
15977.000	31.74	10.06	41.80	54.00	-12.20	150	125	Average
15977.000	43.88	10.06	53.94	74.00	-20.06	150	125	Peak
16096.000	31.15	10.85	42.00	54.00	-12.00	150	186	Average
16096.000	43.38	10.85	54.23	74.00	-19.77	150	186	Peak
17779.000	32.15	13.28	45.43	54.00	-8.57	150	304	Average
17779.000	43.60	13.28	56.88	74.00	-17.12	150	304	Peak

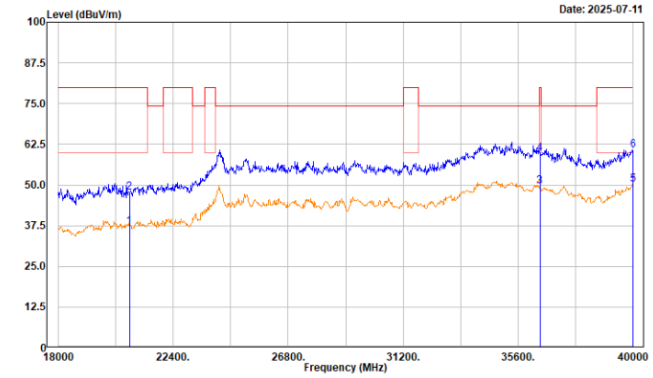
Note: It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp. (New Taipei Laboratory)

18GHz-40GHz:

(Worst case is 802.11a Mode 5180 MHz)

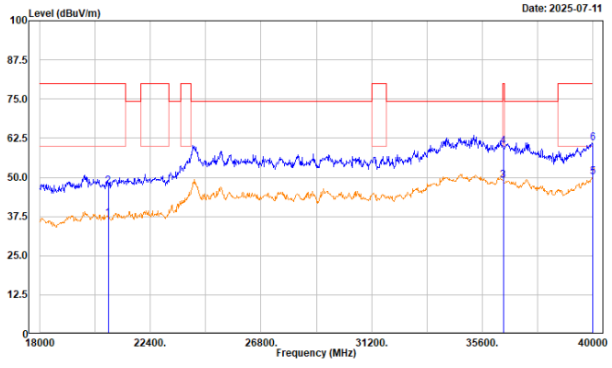
Horizontal	Vertical

Description: A-TX-5180,Peak RBW:1MHz/VBW:3MHz,Avg RBW:1MHz/VBW:1kHz



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
20720.000	36.91	0.24	37.15	60.00	-22.85	150	124	Average
20720.000	47.50	0.24	47.74	80.00	-32.26	150	124	Peak
36436.000	38.69	10.83	49.52	60.00	-10.48	150	56	Average
36436.000	48.78	10.83	59.61	80.00	-20.39	150	56	Peak
40000.000	41.45	8.73	50.18	60.00	-9.82	150	227	Average
40000.000	52.04	8.73	60.77	80.00	-19.23	150	227	Peak

Description: A-TX-5180,Peak RBW:1MHz/VBW:3MHz,Avg RBW:1MHz/VBW:1kHz



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
20720.000	36.61	0.24	36.85	60.00	-23.15	150	246	Average
20720.000	46.98	0.24	47.22	80.00	-32.78	150	246	Peak
36436.000	38.19	10.83	49.02	60.00	-10.98	150	111	Average
36436.000	48.99	10.83	59.82	80.00	-20.18	150	111	Peak
40000.000	41.39	8.73	50.12	60.00	-9.88	150	307	Average
40000.000	52.36	8.73	61.09	80.00	-18.91	150	307	Peak

Level = Reading + Factor.

Margin = Level – Limit.

Factor = Antenna Factor + Cable Loss – Amplifier Gain.

For 18-26.5GHz Convert the test distance limit of 3 meters to a limit of 1.5 meter:

Conversion factor = 20 log (1.5m/3m) = 6 dB,

Average Limit = 54+6 = 60 dBuV/m@1.5m , Peak Limit = 60+20 = 80 dBuV/m@1.5m

Note: It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp. (New Taipei Laboratory)

Above 1GHz:

5150-5250 MHz

802.11a Mode:

5180 MHz

Horizontal

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
2666.000	47.87	-9.26	38.61	68.20	-29.59	150	10	Peak
10360.000	40.15	6.21	46.36	68.20	-21.84	140	224	Peak
14464.000	43.00	11.25	54.25	68.20	-13.95	150	147	Peak
15540.000	33.06	8.48	41.54	54.00	-12.46	151	105	Average
15540.000	41.89	8.48	50.37	74.00	-23.63	151	105	Peak
16028.000	32.02	10.44	42.46	54.00	-11.54	150	206	Average
16028.000	44.16	10.44	54.60	74.00	-19.40	150	206	Peak
17762.000	33.07	13.17	46.24	54.00	-7.76	150	321	Average
17762.000	44.31	13.17	57.48	74.00	-16.52	150	321	Peak

Vertical

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
2649.000	56.87	-9.44	47.43	68.20	-20.77	150	18	Peak
10360.000	41.79	6.21	48.00	68.20	-20.20	129	224	Peak
13342.000	28.94	10.02	38.96	54.00	-15.04	150	168	Average
13342.000	42.51	10.02	52.53	74.00	-21.47	150	168	Peak
15540.000	29.70	8.48	38.18	54.00	-15.82	172	309	Average
15540.000	41.11	8.48	49.59	74.00	-24.41	172	309	Peak
16062.000	31.36	10.70	42.06	54.00	-11.94	150	207	Average
16062.000	43.52	10.70	54.22	74.00	-19.78	150	207	Peak
17745.000	32.06	13.08	45.14	54.00	-8.86	150	347	Average
17745.000	44.69	13.08	57.77	74.00	-16.23	150	347	Peak

5200 MHz

Horizontal

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
2190.000	49.50	-11.91	37.59	68.20	-30.61	150	301	Peak
10400.000	39.84	6.19	46.03	68.20	-22.17	149	268	Peak
15600.000	30.54	8.58	39.12	54.00	-14.88	186	302	Average
15600.000	41.74	8.58	50.32	74.00	-23.68	186	302	Peak
15790.000	31.92	9.50	41.42	54.00	-12.58	150	222	Average
15790.000	44.33	9.50	53.83	74.00	-20.17	150	222	Peak
16079.000	31.12	10.78	41.90	54.00	-12.10	150	269	Average
16079.000	43.54	10.78	54.32	74.00	-19.68	150	269	Peak
17779.000	32.41	13.28	45.69	54.00	-8.31	150	104	Average
17779.000	44.92	13.28	58.20	74.00	-15.80	150	104	Peak

Vertical

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
2445.000	53.10	-10.35	42.75	68.20	-25.45	150	10	Peak
10400.000	39.44	6.19	45.63	68.20	-22.57	177	248	Peak
15600.000	30.27	8.58	38.85	54.00	-15.15	180	306	Average
15600.000	42.15	8.58	50.73	74.00	-23.27	180	306	Peak
15773.000	32.16	9.50	41.66	54.00	-12.34	150	257	Average
15773.000	44.71	9.50	54.21	74.00	-19.79	150	257	Peak
16147.000	30.78	11.02	41.80	54.00	-12.20	150	268	Average
16147.000	42.94	11.02	53.96	74.00	-20.04	150	268	Peak
17779.000	32.60	13.28	45.88	54.00	-8.12	150	311	Average
17779.000	44.05	13.28	57.33	74.00	-16.67	150	311	Peak

5240 MHz

Horizontal

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
3924.000	31.57	-6.19	25.38	54.00	-28.62	150	146	Average
3924.000	45.71	-6.19	39.52	74.00	-34.48	150	146	Peak
4247.000	31.83	-5.10	26.73	54.00	-27.27	150	169	Average
4247.000	45.27	-5.10	40.17	74.00	-33.83	150	169	Peak
10480.000	41.18	6.46	47.64	68.20	-20.56	128	228	Peak
15720.000	31.99	9.24	41.23	54.00	-12.77	159	326	Average
15720.000	43.78	9.24	53.02	74.00	-20.98	159	326	Peak
15960.000	31.54	9.96	41.50	54.00	-12.50	150	258	Average
15960.000	45.79	9.96	55.75	74.00	-18.25	150	258	Peak
17762.000	32.35	13.17	45.52	54.00	-8.48	150	312	Average
17762.000	43.40	13.17	56.57	74.00	-17.43	150	312	Peak

Vertical

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
2649.000	50.93	-9.44	41.49	68.20	-26.71	150	20	Peak
4145.000	32.33	-5.28	27.05	54.00	-26.95	150	49	Average
4145.000	44.80	-5.28	39.52	74.00	-34.48	150	49	Peak
10480.000	40.29	6.46	46.75	68.20	-21.45	166	128	Peak
15720.000	32.50	9.24	41.74	54.00	-12.26	178	305	Average
15720.000	44.33	9.24	53.57	74.00	-20.43	178	305	Peak
16062.000	31.53	10.70	42.23	54.00	-11.77	150	246	Average
16062.000	44.06	10.70	54.76	74.00	-19.24	150	246	Peak
17779.000	32.54	13.28	45.82	54.00	-8.18	150	333	Average
17779.000	44.14	13.28	57.42	74.00	-16.58	150	333	Peak

Note: It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp. (New Taipei Laboratory)

802.11n HT20 Mode:

5180 MHz

Horizontal

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
3805.000	32.32	-6.86	25.46	54.00	-28.54	150	128	Average
3805.000	45.64	-6.86	38.78	74.00	-35.22	150	128	Peak
10360.000	41.28	6.21	47.49	68.20	-20.71	184	117	Peak
15540.000	30.34	8.48	38.82	54.00	-15.18	163	308	Average
15540.000	40.77	8.48	49.25	74.00	-24.75	163	308	Peak
15858.000	31.25	9.59	40.84	54.00	-13.16	150	109	Average
15858.000	44.36	9.59	53.95	74.00	-20.05	150	109	Peak
16164.000	30.86	11.07	41.93	54.00	-12.07	150	247	Average
16164.000	43.15	11.07	54.22	74.00	-19.78	150	247	Peak
17762.000	32.92	13.17	46.09	54.00	-7.91	150	359	Average
17762.000	43.59	13.17	56.76	74.00	-17.24	150	359	Peak

Vertical

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
2649.000	54.60	-9.44	45.16	68.20	-23.04	150	87	Peak
10360.000	41.96	6.21	48.17	68.20	-20.03	155	104	Peak
15540.000	30.04	8.48	38.52	54.00	-15.48	168	248	Average
15540.000	40.71	8.48	49.19	74.00	-24.81	168	248	Peak
15977.000	31.74	10.06	41.80	54.00	-12.20	150	125	Average
15977.000	43.88	10.06	53.94	74.00	-20.06	150	125	Peak
16096.000	31.15	10.85	42.00	54.00	-12.00	150	186	Average
16096.000	43.38	10.85	54.23	74.00	-19.77	150	186	Peak
17779.000	32.15	13.28	45.43	54.00	-8.57	150	304	Average
17779.000	43.60	13.28	56.88	74.00	-17.12	150	304	Peak

5200 MHz

Horizontal

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
2394.000	51.87	-10.54	41.33	68.20	-26.87	150	214	Peak
3482.000	46.86	-7.74	39.12	68.20	-29.08	150	159	Peak
10400.000	40.08	6.19	46.27	68.20	-21.93	148	221	Peak
15600.000	30.65	8.58	39.23	54.00	-14.77	159	324	Average
15600.000	41.02	8.58	49.60	74.00	-24.40	159	324	Peak
16028.000	31.70	10.44	42.14	54.00	-11.86	150	321	Average
16028.000	45.05	10.44	55.49	74.00	-18.51	150	321	Peak
17745.000	31.79	13.08	44.87	54.00	-9.13	150	306	Average
17745.000	43.72	13.08	56.80	74.00	-17.20	150	306	Peak

Vertical

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
2649.000	50.54	-9.44	41.10	68.20	-27.10	150	28	Peak
4247.000	32.13	-5.10	27.03	54.00	-26.97	150	59	Average
4247.000	44.35	-5.10	39.25	74.00	-34.75	150	59	Peak
10400.000	40.34	6.19	46.53	68.20	-21.67	168	108	Peak
15600.000	30.32	8.58	38.90	54.00	-15.10	145	307	Average
15600.000	40.99	8.58	49.57	74.00	-24.43	145	307	Peak
16028.000	31.52	10.44	41.96	54.00	-12.04	150	227	Average
16028.000	44.03	10.44	54.47	74.00	-19.53	150	227	Peak
17762.000	32.34	13.17	45.51	54.00	-8.49	150	268	Average
17762.000	43.71	13.17	56.88	74.00	-17.12	150	268	Peak

5240 MHz

Horizontal

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
2649.000	60.25	-9.44	50.81	68.20	-17.39	150	20	Peak
4298.000	32.54	-4.85	27.69	54.00	-26.31	150	128	Average
4298.000	44.10	-4.85	39.25	74.00	-34.75	150	128	Peak
10480.000	40.09	6.46	46.55	68.20	-21.65	147	210	Peak
15720.000	32.38	9.24	41.62	54.00	-12.38	158	304	Average
15720.000	43.48	9.24	52.72	74.00	-21.28	158	304	Peak
16011.000	31.76	10.29	42.05	54.00	-11.95	150	264	Average
16011.000	43.42	10.29	53.71	74.00	-20.29	150	264	Peak
17796.000	32.45	13.41	45.86	54.00	-8.14	150	273	Average
17796.000	43.36	13.41	56.77	74.00	-17.23	150	273	Peak

Vertical

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
1697.000	33.69	-14.38	19.31	54.00	-34.69	150	314	Average
1697.000	57.61	-14.38	43.23	74.00	-30.77	150	314	Peak
1986.000	55.02	-11.84	43.18	68.20	-25.02	150	222	Peak
10480.000	39.88	6.46	46.34	68.20	-21.86	152	104	Peak
15720.000	32.25	9.24	41.49	54.00	-12.51	169	306	Average
15720.000	43.92	9.24	53.16	74.00	-20.84	169	306	Peak
16011.000	31.63	10.29	41.92	54.00	-12.08	150	49	Average
16011.000	44.35	10.29	54.64	74.00	-19.36	150	49	Peak
17796.000	32.39	13.41	45.80	54.00	-8.20	150	187	Average
17796.000	43.94	13.41	57.35	74.00	-16.65	150	187	Peak

Level = Reading + Factor.

Margin = Level – Limit.

Factor = Antenna Factor + Cable Loss – Amplifier Gain.

Note: It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp. (New Taipei Laboratory)

8 FCC §15.407(a)(e) – Emission Bandwidth And Occupied Bandwidth

8.1 Applicable Standard

As per FCC §15.407(a): The maximum power spectral density is measured as a conducted emission by direct connection of a calibrated test instrument to the equipment under test. If the device cannot be connected directly, alternative techniques acceptable to the Commission may be used. Measurements in the 5.725-5.85 GHz band are made over a reference bandwidth of 500 kHz or the 26 dB emission bandwidth of the device, whichever is less. Measurements in the 5.15-5.25 GHz, 5.25-5.35 GHz, and the 5.47-5.725 GHz bands are made over a bandwidth of 1 MHz or the 26 dB emission bandwidth of the device, whichever is less. A narrower resolution bandwidth can be used, provided that the measured power is integrated over the full reference bandwidth.

8.2 Test Procedure

26dB Emission Bandwidth (EBW)

According to ANSI C63.10-2020 Section 12.5.2

a) Set RBW = shall be in the range of 1% to 5% of the emission bandwidth.

b) Set the 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 peak of the emission.

Compare this with the RBW setting of the instrument. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is in the range of 1% to 5%.

99% Occupied Bandwidth:

According to ANSI C63.10-2020 Section 12.5.3&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.

The following procedure shall be used for measuring 99% power bandwidth:

a) The instrument center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be between 1.5 times and 5.0 times the OBW.

b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW, and VBW shall be at least three times the RBW, unless otherwise specified by the applicable requirement.

c) Set the reference level of the instrument as required, keeping the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than [10 log (OBW/RBW)] below the reference level. Specific guidance is given in 4.1.6.2.

d) Step a) through step c) might require iteration to adjust within the specified range.

e) 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.

f) Use the 99% power bandwidth function of the instrument (if available) and report the measured bandwidth.

g) If the instrument does not have a 99% power bandwidth function, then the trace data points are recovered and directly summed in linear power terms. 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% power bandwidth is the difference between these two frequencies.

h) The occupied bandwidth shall be reported by providing spectral plot(s) of the measuring instrument display; the plot axes and the scale units per division shall be clearly labeled. Tabular data may be reported in addition to the plot(s).

Note: It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp. (New Taipei Laboratory)

8.3 Test Results

Test mode: Transmitting

5150-5250MHz

UNII Band	Mode	Channel	Frequency (MHz)	26dB Emission Bandwidth (MHz)	99% Emission Bandwidth (MHz)
UNII-1	802.11a	36	5180	20.00	16.22
		40	5200	20.20	16.26
		48	5240	20.36	16.26
	802.11n 20	36	5180	20.96	17.38
		40	5200	20.64	17.30
		48	5240	20.92	17.34

The 99% Occupied Bandwidth have not fallen into the band 5250-5350MHz, please refer to the test plots of 99% Occupied Bandwidth.

Please refer to the following plots

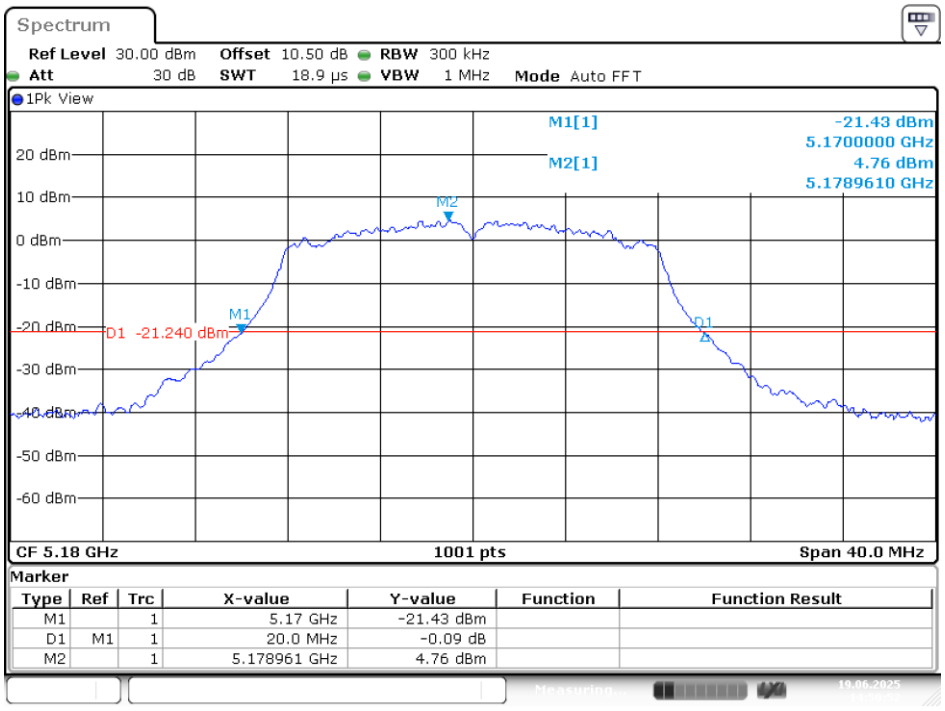
Note: It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp. (New Taipei Laboratory)

Transmitting Mode:

UNII-1 Band I / BW 26dBc

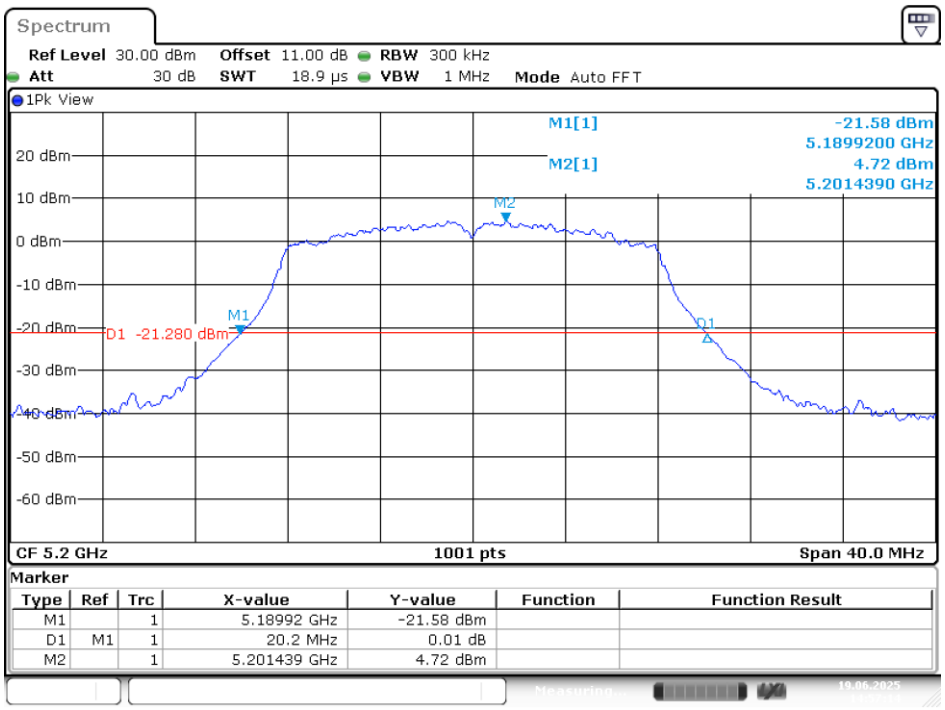
IEEE 802.11a Mode / 5150 ~ 5250MHz

5180MHz



Date: 19.JUN.2025 14:50:52

5200MHz



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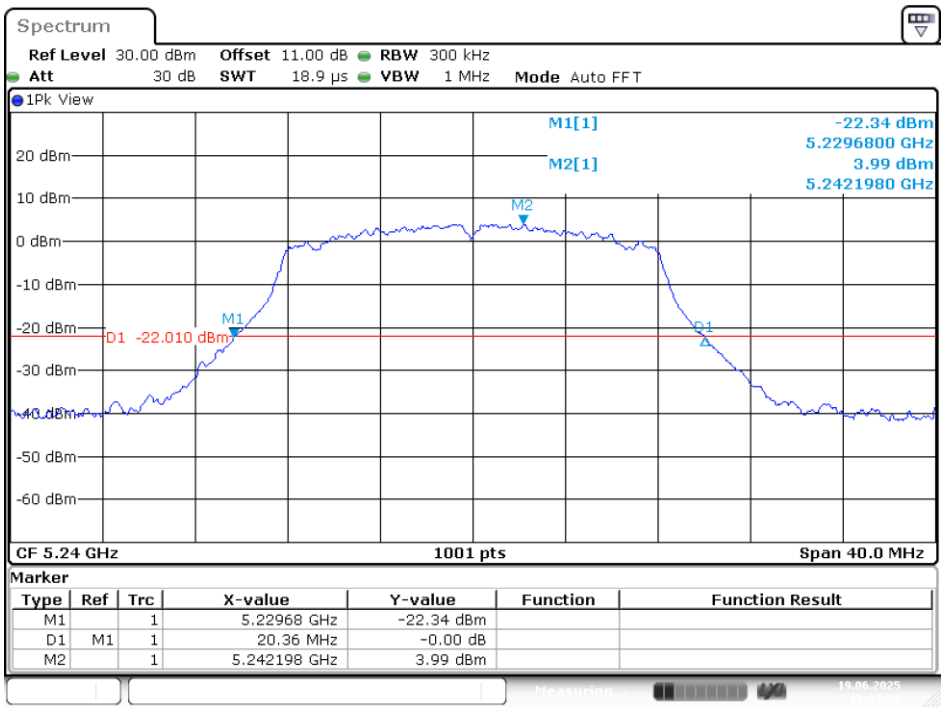
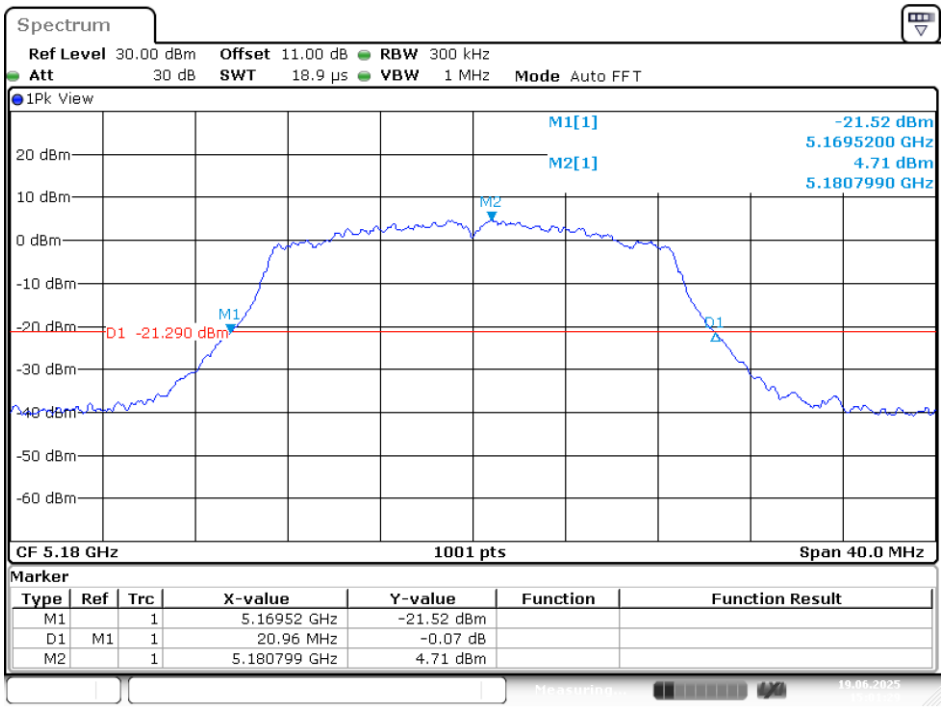
5240MHz



Date: 19.JUN.2025 15:09:59

IEEE 802.11n HT20 Mode / 5150 ~ 5250MHz

5180MHz



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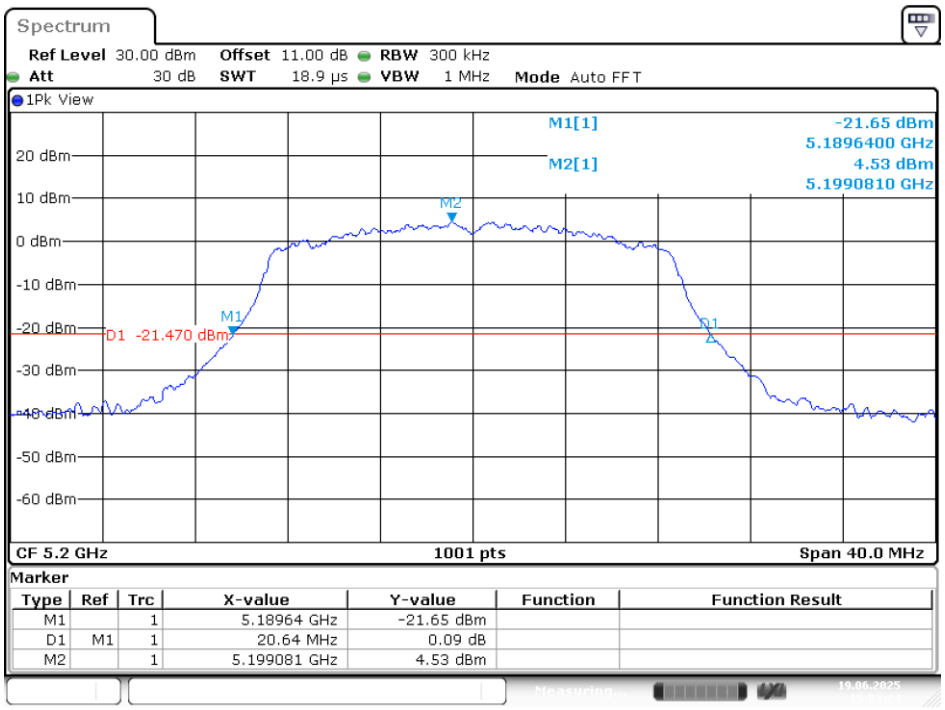
5200MHz



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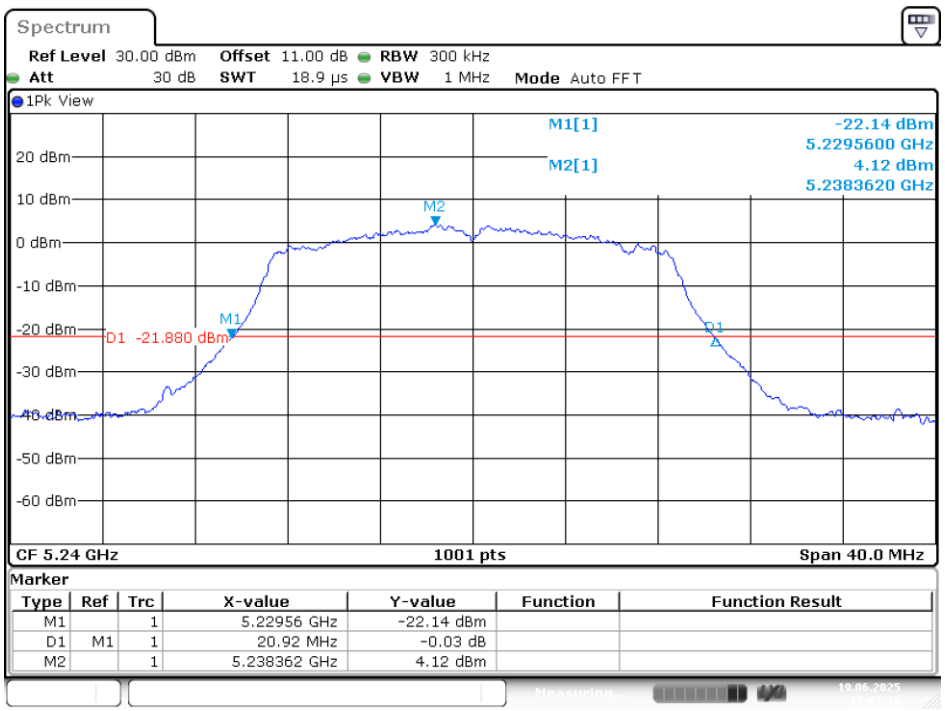
5240MHz



Date: 19.JUN.2025 15:07:17

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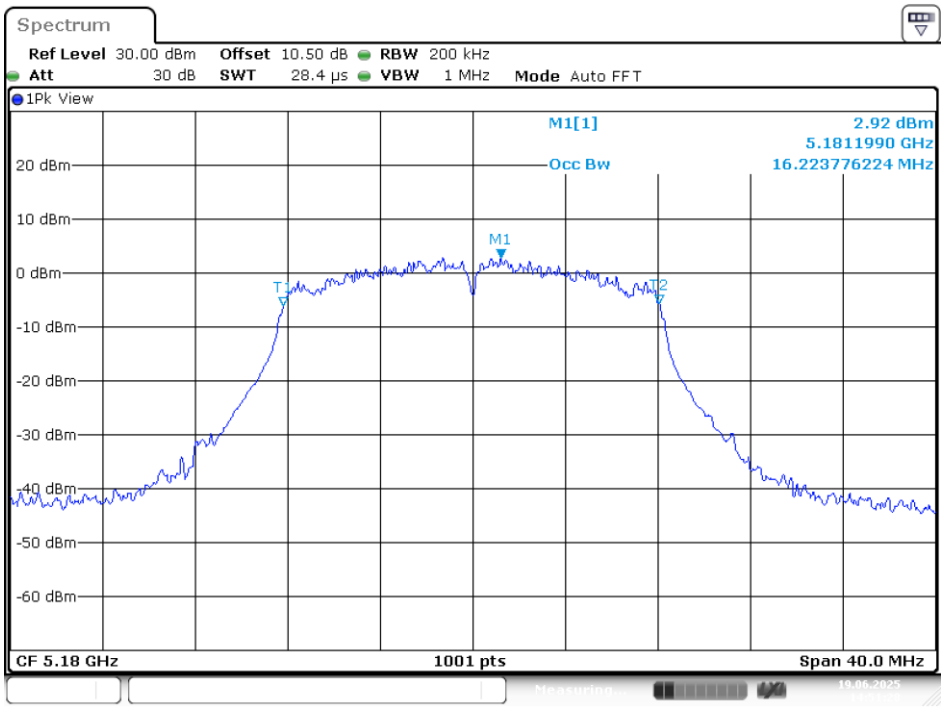
UNII-1 Band I / OBW 99%

IEEE 802.11a Mode / 5150 ~ 5250MHz

5180MHz



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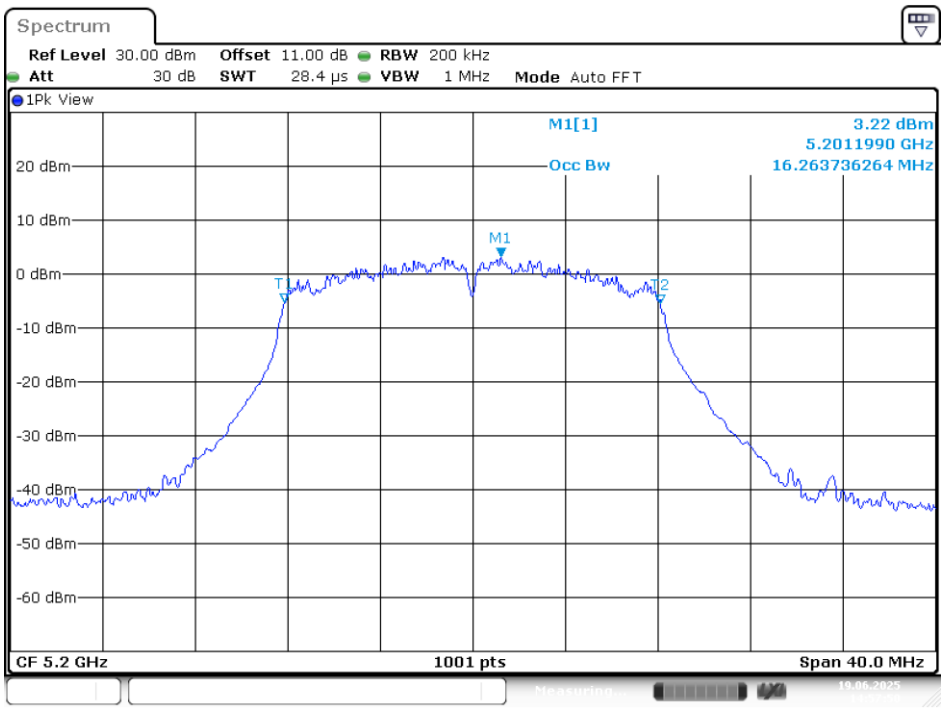
5200MHz



Date: 19.JUN.2025 14:57:50

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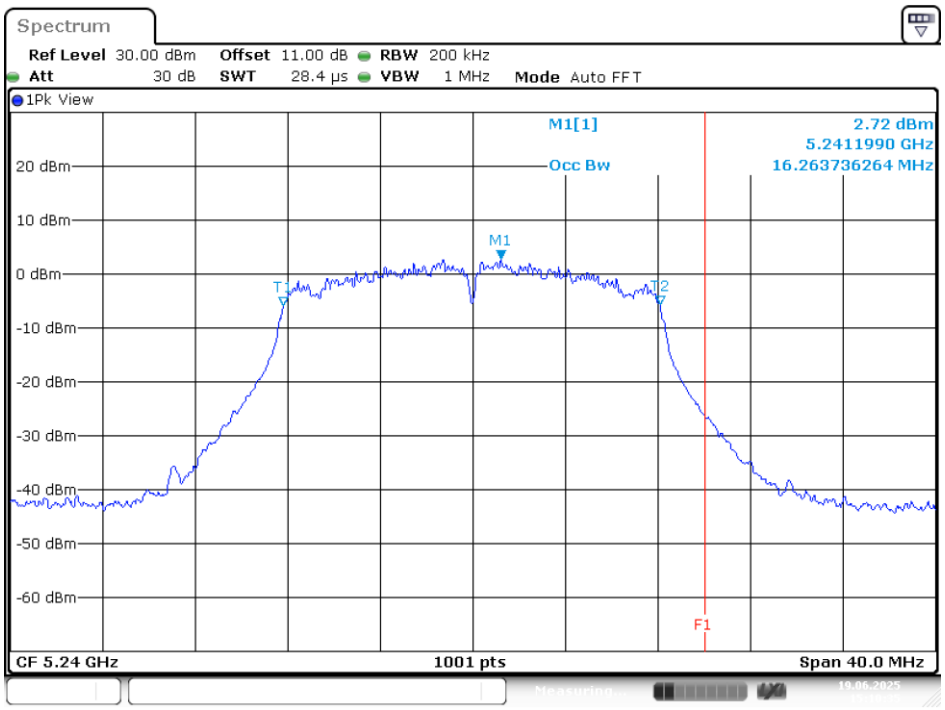
5240MHz



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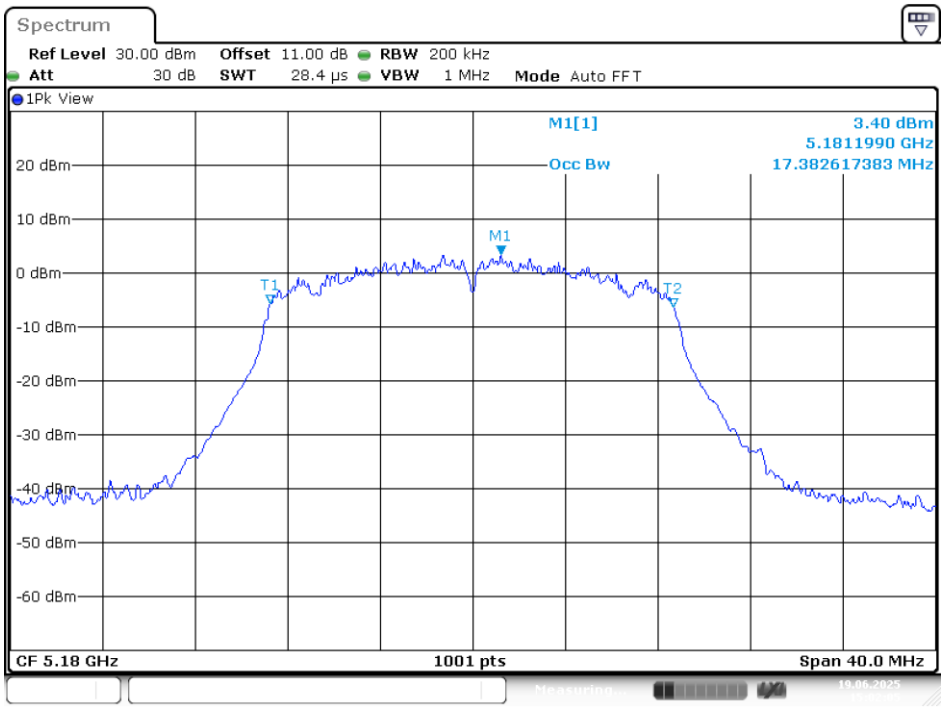
IEEE 802.11n HT20 Mode / 5150 ~ 5250MHz

5180MHz



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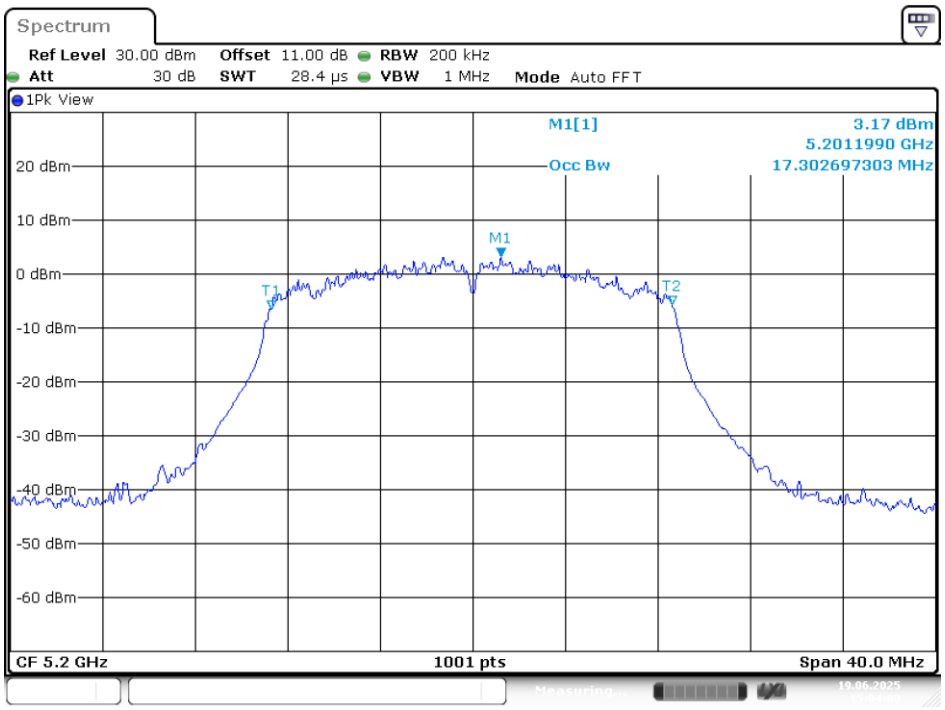
5200MHz



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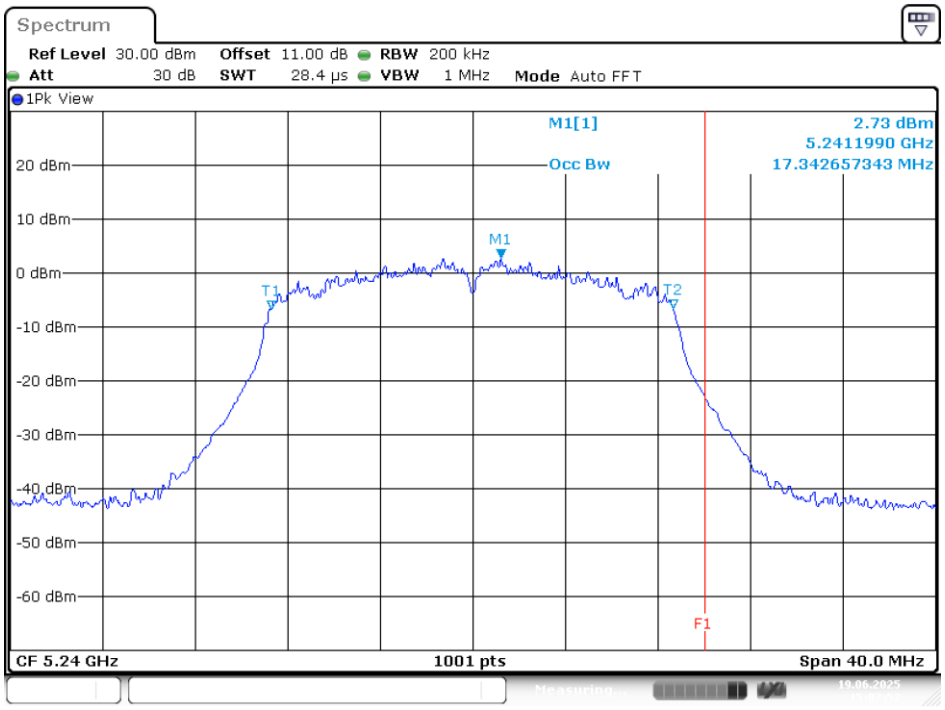
5240MHz



Date: 19.JUN.2025 15:07:53

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9 FCC §15.407(a) – Maximum Output Power

9.1 Applicable Standard

According to FCC §15.407(a):

For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

9.2 Test Procedure

According to ANSI C63.10-2020 Section 12.4.3.1

The use Power Meter

1. Place the EUT on a bench 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 a Power sensor.

9.3 Test Results

Test Mode: Transmitting

5150-5250MHz

Test Modes	Channel	Frequency (MHz)	Maximum Conducted Average Output Power (dBm)	Duty Factor (dB)	Total Maximum Conducted Average Output Power With Duty Factor (dBm)	Limit (dBm)
802.11a	36	5180	12.45	0.27	12.72	24
	40	5200	12.41	0.27	12.68	24
	48	5240	11.96	0.27	12.23	24
802.11n HT20	36	5180	12.33	0.56	12.89	24
	40	5200	12.41	0.56	12.97	24
	48	5240	11.69	0.56	12.25	24

Note: The device is a client device.

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10 FCC §15.407(a) – Power Spectral Density

10.1 Applicable Standard

According to FCC §15.407(a):

For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

10.2 Test Procedure

The measurements are base on FCC KDB 789033 D02 General UNII Test Procedyres New Rules v02r01: Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices section F: Maximum power spectral density.

Duty cycle <98%, duty cycle variations are less than ±2%

Method SA-2 was used.

10.3 Test Results

Test Mode: Transmitting

5150-5250MHz

Mode	Channel	Frequency (MHz)	Power Spectral Density (dBm/MHz)	Duty Factor (dB)	Power Spectral Density with duty factor (dBm/MHz)	Limit (dBm/MHz)
802.11a	36	5180	1.18	0.27	1.45	11
	40	5200	1.02	0.27	1.29	11
	48	5240	1.12	0.27	1.39	11
802.11n 20	36	5180	1.23	0.56	1.79	11
	40	5200	1.14	0.56	1.70	11
	48	5240	0.99	0.56	1.55	11

Note: The device is a client device.

Please refer to the following plots

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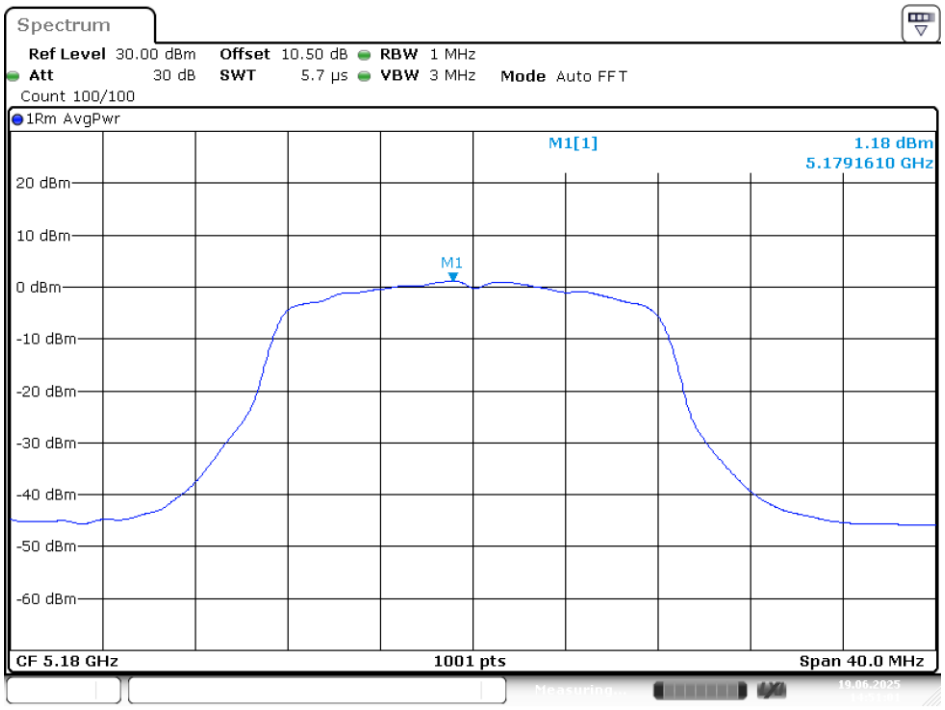
UNII-1 Band I / PSD

IEEE 802.11a Mode / 5150 ~ 5250MHz

5180MHz



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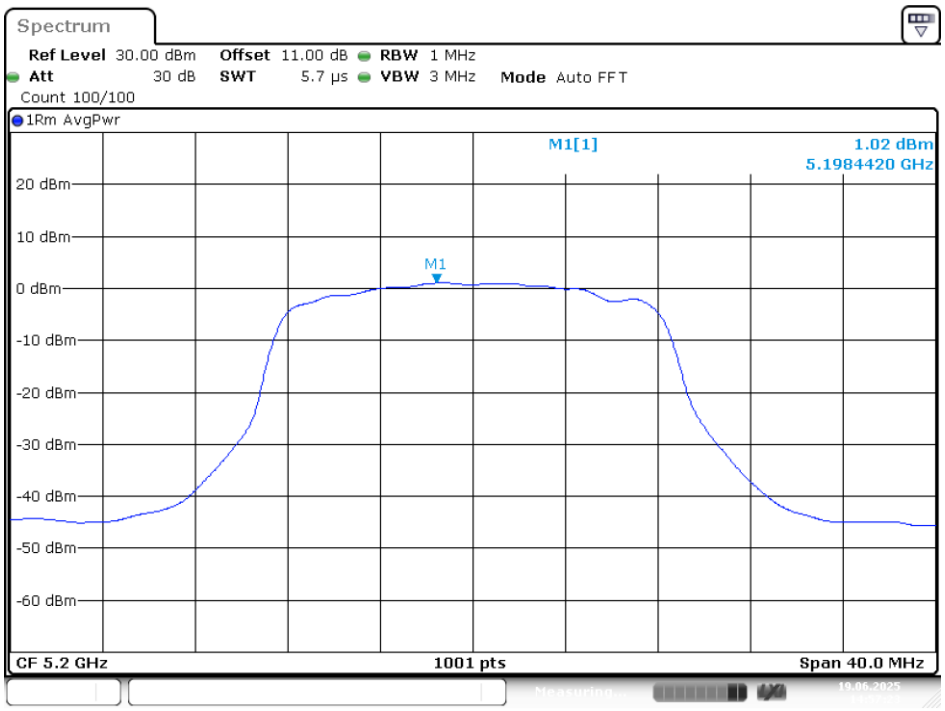
5200MHz



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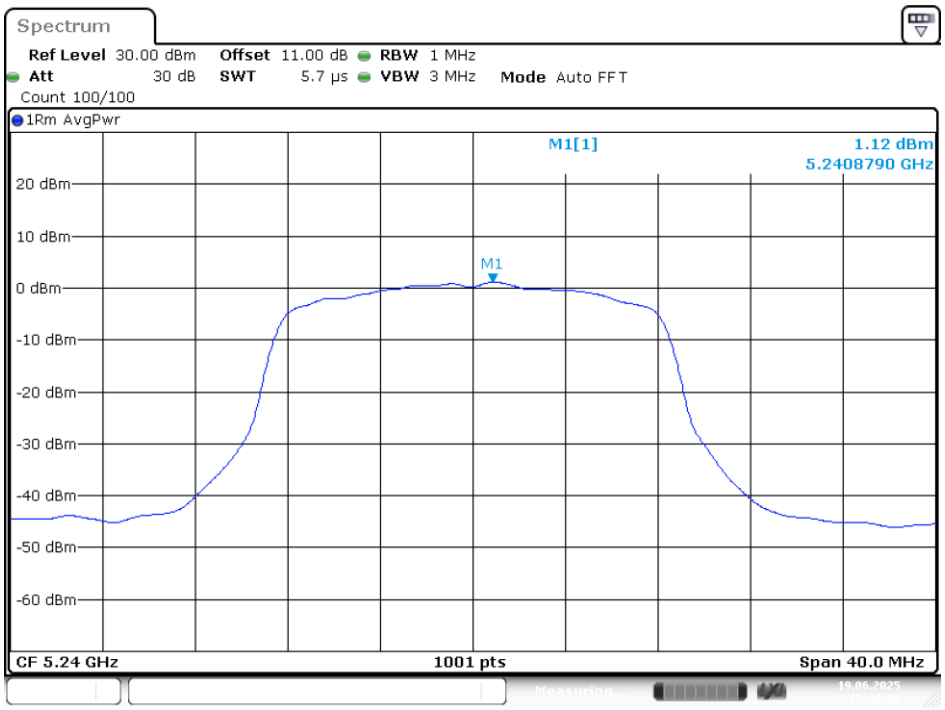
5240MHz



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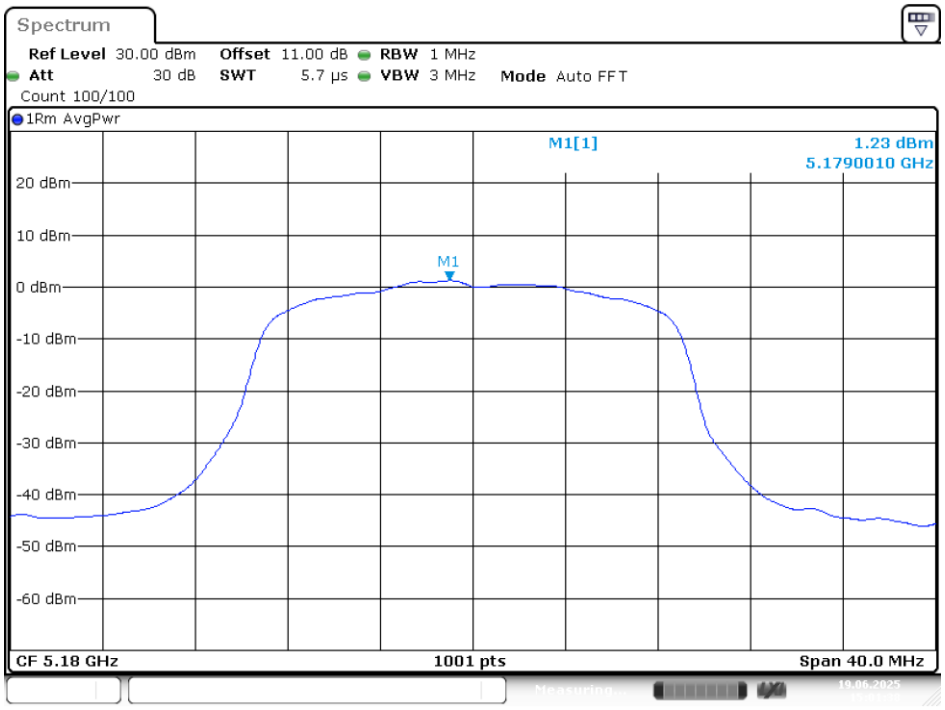
IEEE 802.11n HT20 Mode / 5150 ~ 5250MHz

5180MHz



Date: 19.JUN.2025 15:01:38

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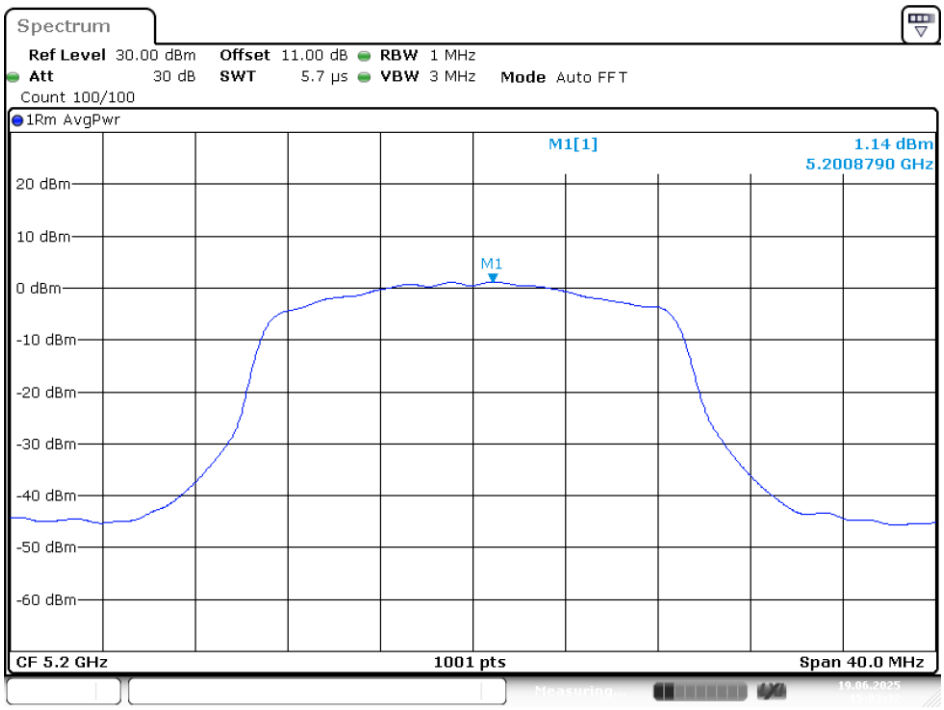
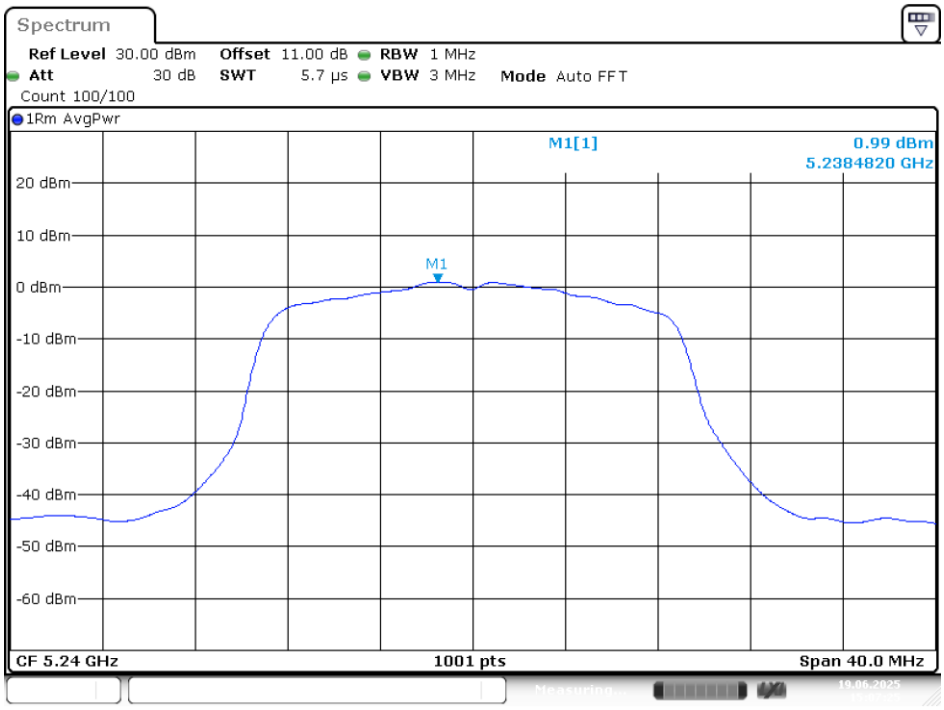
5200MHz



Date: 19.JUN.2025 15:03:32

5240MHz



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