



FCC PART 15E TEST REPORT No.25T04Z100481-004

for

Shenzhen Tinno Mobile Technology Corp.

Weymouth

B321MH

FCC ID:XD6B321MH

with

Hardware Version: V1.0

Software Version: B321MHV01.07.10

Issued Date: 2025-05-20

Note:

The test results in this test report relate only to the devices specified in this report. This report shall not be reproduced except in full without the written approval of CTTL.

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REPORT HISTORY

Report Number	Revision	Description	Issue Date
25T04Z100481-004	Rev.0	1st edition	2025-05-13
25T04Z100481-004	Rev.1	Update 11ac40 11ac80 26db results	2025-05-20

Note: the latest revision of the test report supersedes all previous version.

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1. Test Laboratory

1.1. Introduction & Accreditation

Telecommunication Technology Labs, CAICT is an ISO/IEC 17025:2017 accredited test laboratory under American Association for Laboratory Accreditation (A2LA) with lab code 7049.01, and is also an FCC accredited test laboratory (CN1349), and ISED accredited test laboratory (CAB identifier:CN0066). The detail accreditation scope can be found on A2LA website.

1.2. Testing Location

Conducted testing Location:CTTL(Gaolizhang Road)

Address: Cuihu Cloud Center, No.1, Gaolizhang Road, Wenquan,
Haidian District, Beijing, China

Radiated testing Location: CTTL(huayuan North Road)

Address: No. 52, Huayuan North Road, Haidian District, Beijing,
100191, P. R. China

1.3. Testing Environment

Normal Temperature: 15-35°C

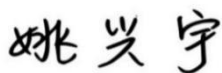
Relative Humidity: 20-75%

1.4. Project date

Testing Start Date: 2025-04-01

Testing End Date: 2025-05-20

1.5. Signature



Yao Xingyu

(Prepared this test report)



Zheng Wei

(Reviewed this test report)



Pang Shuai

(Approved this test report)

2. Client Information

2.1 Applicant Information

Company Name: Shenzhen Tinno Mobile Technology Corp.
27-001, South Side of Tianlong Mobile Headquarters Building,
Address: Tongfa South Road, Xili Community, Xili Street, Nanshan District,
Shenzhen ,PRC
City: Shenzhen
Postal Code: /
Country: China
Telephone: 0755-86095550
Fax: 0755-86095551

2.2 Manufacturer Information

Company Name: Shenzhen Tinno Mobile Technology Corp.
27-001, South Side of Tianlong Mobile Headquarters Building,
Address: Tongfa South Road, Xili Community, Xili Street, Nanshan District,
Shenzhen ,PRC
City: Shenzhen
Postal Code: /
Country: China
Telephone: 0755-86095550
Fax: 0755-86095551

3. Equipment Under Test (EUT) and Ancillary Equipment (AE)

3.1. About EUT

Description	Weymouth
Model name	B321MH
FCC ID	XD6B321MH
WLAN Frequency Band	ISM Bands: -5150MHz~5250MHz
Type of modulation	OFDM
Antenna	Integral Antenna
Normal Voltage	3.85V
Extreme High Voltage	4.4V
Extreme Low Voltage	3.5V

3.2. Internal Identification of EUT used during the test

EUT ID*	SN or IMEI	HW Version	SW Version	Date of receipt
UT27a	864214070001898	V1.0	B321MHV01.01.10	2025-04-01
UT39a	864214070007994	V1.0	B321MHV01.07.10	2025-04-03

*EUT ID: is used to identify the test sample in the lab internally.

UT27a is used for Conduction test, UT39a is used for Radiation test.

3.3. Internal Identification of AE used during the test

AE ID*	Description	Model	Manufacturer
AE1	Battery1	TNO496386AG-N1	Guangdong Fenghua New Energy Co.,Ltd.
AE2	Charger1	TN-050200U3	SICHUAN PROVINCE GANGQI ELECTROINC CO.,LTD
AE3	USB Cable1	T365-011B-1	Shenzhen Yihuaxing Electronics Co. Ltd.

*AE ID: is used to identify the test sample in the lab internally.

3.4. General Description

The Equipment under Test (EUT) is a model of Weymouth with integrated antenna and inbuilt battery.

It consists of normal options: travel charger, USB cable.

Manual and specifications of the EUT were provided to fulfil the test.

Samples undergoing test were selected by the client.

3.5. Interpretation of the Test Environment

For the test methods, the test environment uncertainty figures correspond to an expansion factor $k=2$.

Measurement Uncertainty

Parameter	Uncertainty
temperature	0.48°C
humidity	2 %
DC voltages	0.003V

4. Reference Documents

4.1. Documents supplied by applicant

EUT feature information is supplied by the applicant or manufacturer, which is the basis of testing.

4.2. Reference Documents for testing

The following documents listed in this section are referred for testing.

FCC Part15	FCC CFR 47, Part 15, Subpart C and E:	
	15.205 Restricted bands of operation;	
	15.207 Conducted limits;	2021
	15.209 Radiated emission limits, general requirements;	
	15.403 Definitions;	
	15.407 General technical requirements.	
ANSI C63.10	Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz	2013
UNII: KDB 789033 D02	General U-NII Test Procedures New Rules v02r01	2017-12

Note: UNII: KDB 789033 D02 is not in the scope of ISO/IEC 17025 accreditation by A2LA.

5. Laboratory Environment

Conducted RF performance testing is performed in shielding room.

EMC performance testing is performed in Semi-anechoic chamber.

6. Test Results

6.1. Summary of Test Results

SUMMARY OF MEASUREMENT RESULTS	Sub-clause of Part15C/E	Sub-clause of IC	Verdict
Maximum Output Power	15.407	/	P
Peak Power Spectral Density	15.407	/	P
26dB Emission Bandwidth	15.403	/	P
Radiated Unwanted Emission	15.407, 15.205, 15.209	/	P
AC Powerline Conducted Emission	15.207	/	P
99% Occupied bandwidth	/	/	P
Transmit Power Control	15.407	/	NA

Please refer to **ANNEX A** for detail.

Terms used in Verdict column

P	Pass, The EUT complies with the essential requirements in the standard.
NM	Not measured, The test was not measured by CTTL
NA	Not Applicable, The test was not applicable
F	Fail, The EUT does not comply with the essential requirements in the standard

6.2. Statements

CTTL has evaluated the test cases as listed in section 6.1 of this report for the EUT specified in section 3 according to the standards or reference documents listed in section 4.

This report only deals with the WLAN function among the features described in section 3.

6.3. Test Conditions

For this report, all the test cases are tested under normal temperature and normal voltage, and also under norm humidity, the specific condition is shown as follows:

Temperature	26°C
Voltage	3.85V
Humidity	44%

7. Test Facilities Utilized

Conducted test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Period	Calibration Due date
1	Vector Signal Analyzer	FSW67	104051	Rohde & Schwarz	1 year	2026-05-09
2	LISN	ENV216	101200	R&S	1 year	2024-06-05
3	Test Receiver	ESCI	100344	R&S	1 year	2024-02-21
4	Attenuator	10dB/2W	/	Rosenberger	/	/
5	Shielding Room	S81	/	ETS-Lindgren	/	/
6	DC Power Supply	NGSM	5311	Rohde & Schwarz	1 year	2026-05-09

Radiated emission test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Period	Calibration Due date
1	Test Receiver	ESW44	103023	Rohde & Schwarz	1 year	2025-06-06
2	EMI Antenna	VULB9163	01222	Schwarzbeck	1 year	2025-09-11
3	EMI Antenna	3115	00167250	ETS-Lindgren	1 year	2025-04-11
4	EMI Antenna	3116	2663	ETS-Lindgren	1 year	2026-03-03
5	EMI Antenna	HFH2-Z2	829324/007	Rohde & Schwarz	1 year	2026-01-04

Note: The EMI Antenna with series number of 00167250 did not exceed the CAL.DUE.DATE when used.

8. Measurement Uncertainty

8.1 Transmitter Output Power

Measurement Uncertainty: 0.387dB,k=1.96

8.2 Peak Power Spectral Density

Measurement Uncertainty: 0.705dB,k=1.96

8.3 26dB Emission Bandwidth

Measurement Uncertainty: 60.80Hz,k=1.96

8.4 Band Edges Compliance

Measurement Uncertainty : 0.62dB,k=1.96

8.5 Spurious Emissions

Conducted (k=1.96)

Frequency Range	Uncertainty(dB)
$30\text{MHz} \leq f \leq 2\text{GHz}$	1.22
$2\text{GHz} \leq f \leq 3.6\text{GHz}$	1.22
$3.6\text{GHz} \leq f \leq 8\text{GHz}$	1.22
$8\text{GHz} \leq f \leq 12.75\text{GHz}$	1.51
$12.75\text{GHz} \leq f \leq 26\text{GHz}$	1.51
$26\text{GHz} \leq f \leq 40\text{GHz}$	1.59

8.6 Radiated Unwanted Emission

Frequency Range	Uncertainty(dB) (k=2)
9kHz-30MHz	
$30\text{MHz} \leq f \leq 1\text{GHz}$	4.72
$1\text{GHz} \leq f \leq 18\text{GHz}$	4.84
$18\text{GHz} \leq f \leq 40\text{GHz}$	5.12

8.7 AC Power-line Conducted Emission

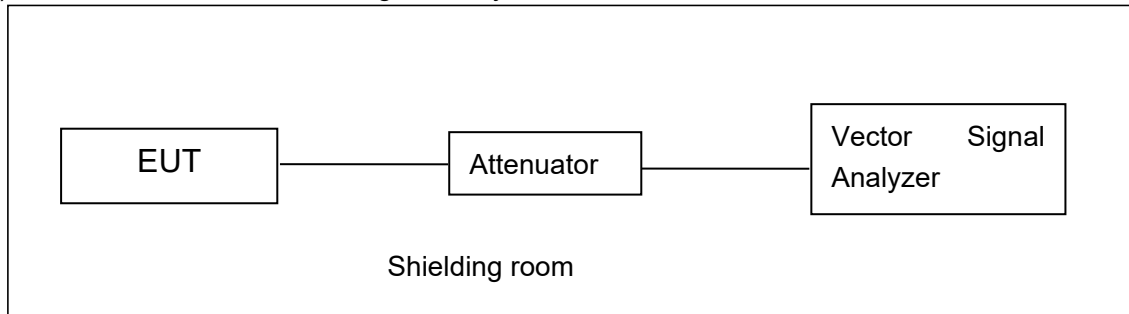
Measurement Uncertainty : 3.08dB,k=2

ANNEX A: Detailed Test Results

A.1. Measurement Method

A.1.1. Conducted Measurements

- 1). Connect the EUT to the test system correctly.
- 2). Set the EUT to the required work mode.
- 3). Set the EUT to the required channel.
- 4). Set the spectrum analyzer to start measurement.
- 5). Record the values. Vector Signal Analyzer



A.1.2. Radiated Emission Measurements

Measurement performed according to Clause 6.4, 6.5, 6.6 in ANSI C63.10-2013 and II.G.4, II.G.5, II.G.6 in KDB 789033.

The radiated emission test is performed in semi-anechoic chamber. The EUT was placed on a non-conductive table with 80cm above the ground plane for measurement below 1GHz and 1.5m above the ground plane for measurement above 1GHz. The measurement antenna was placed at a distance of 3 meters from the EUT. The test is carried out on both vertical and horizontal polarization and only maximization result of both polarizations is kept. During the test, the turntable is rotated from 0° to 360° and the measurement antenna is moved from 1m to 4m to get the maximization result. The maximization process was repeated with the EUT positioned in each of its three orthogonal orientations

A.2. Maximum output Power

Measurement Limit and Method:

Standard	Frequency (MHz)	Limit (dBm)
FCC CRF Part 15.407(a)	5150MHz~5250MHz	24dBm
	5250MHz~5350MHz	24dBm or 11+10logB
	5470MHz~5725MHz	24dBm or 11+10logB

Limit use the less value, and B is the 26dB bandwidth.

The measurement method SA-2 is made according to KDB 789033

A.2.1 Antenna Gain

Antenna gain is -1.6dBi and the value is supplied by the applicant or manufacturer.

A.2.2 Maximum output Power-Conducted

EUT ID: UT27a

Measurement Results:

802.11a mode

Mode	Frequency	Test Result (dBm)							
		Data Rate (Mbps)							
		6	9	12	18	24	36	48	54
802.11a	5180MHz	17.29	/	/	/	/	/	/	/
	5200MHz	18.26	/	/	/	/	/	/	/
	5240MHz	18.65	/	/	/	/	/	/	/

The data rate 6Mbps is selected as worst condition, and the following cases are performed with this condition.

802.11n-HT20 mode

Mode	Frequency	Test Result (dBm)							
		Data Rate							
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
802.11n (HT20)	5180MHz	15.45	/	/	/	/	/	/	/
	5200MHz	18.15	/	/	/	/	/	/	/
	5240MHz	18.24	/	/	/	/	/	/	/

The data rate MCS0 is selected as worst condition, and the following cases are performed with this condition.

802.11ac-VHT20 mode

Mode	Frequency	Test Result (dBm)								
		Data Rate								
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8
802.11ac	5180MHz	16.79	/	/	/	/	/	/	/	/

(VHT20)	5200MHz	17.76	/	/	/	/	/	/	/	/
	5240MHz	18.09	/	/	/	/	/	/	/	/

The data rate MCS0 is selected as worst condition, and the following cases are performed with this condition.

802.11n-HT40 mode

Mode	Frequency	Test Result (dBm)							
		Data Rate							
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
802.11n	5190MHz	14.47	/	/	/	/	/	/	/
(HT40)	5230MHz	17.70	/	/	/	/	/	/	/

The data rate MCS0 is selected as worst condition, and the following cases are performed with this condition.

802.11ac-VHT40 mode

Mode	Frequency	Test Result (dBm)									
		Data Rate									
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9
802.11ac	5190MHz	14.69	/	/	/	/	/	/	/	/	/
(VHT40)	5230MHz	18.21	/	/	/	/	/	/	/	/	/

The data rate MCS0 is selected as worst condition, and the following cases are performed with this condition.

802.11ac-VHT80 mode

Mode	Frequency	Test Result (dBm)									
		Data Rate									
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9
802.11ac	5210MHz	13.66	/	/	/	/	/	/	/	/	/
(VHT80)											

The data rate MCS0 is selected as worst condition, and the following cases are performed with this condition.

Conclusion: PASS



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Maximum output Power: 11a CH48

Duty Cycle

Test Mode	Frequency[MHz]	Duty Cycle [%]
11A	5180	97.89
	5200	97.22
	5240	97.89
11N20SISO	5180	90.00
	5200	92.31
	5240	90.00
11N40SISO	5190	91.89
	5230	91.67
11AC20SISO	5180	90.00
	5200	92.50
	5240	92.50
11AC40SISO	5190	89.47
	5230	92.11
11AC80SISO	5210	88.89



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A.3. Peak Power Spectral Density (conducted)

Measurement Limit:

Standard	Frequency (MHz)	Limit (dBm/MHz)
FCC CRF Part 15.407(a)	5150MHz~5250MHz	11
	5250MHz~5350MHz	11
	5470MHz~5725MHz	11

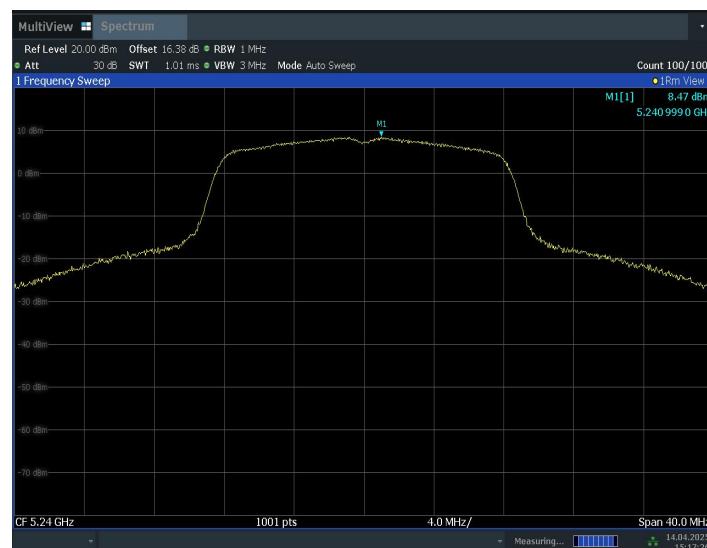
The output power measurement method Section F is made according to KDB 789033

EUT ID: UT27a

Measurement Results:

Mode	Frequency	Power Spectral Density (dBm/MHz)
802.11a	5180 MHz	7.25
	5200 MHz	8.05
	5240 MHz	8.47
802.11n HT20	5180 MHz	4.96
	5200 MHz	7.42
	5240 MHz	8.08
802.11ac VHT40	5190 MHz	4.77
	5230 MHz	5.22
802.11ac VHT80	5210 MHz	-0.65

Conclusion: PASS



Peak Power Spectral Density:11a CH48

A.4. 26dB Emission Bandwidth (conducted)

Measurement Limit:

Standard	Limit (kHz)
FCC 47 CFR Part 15.403 (i)	/

The measurement is made according to KDB 789033

Measurement Uncertainty:

Measurement Uncertainty	60.80Hz
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EUT ID: UT27a

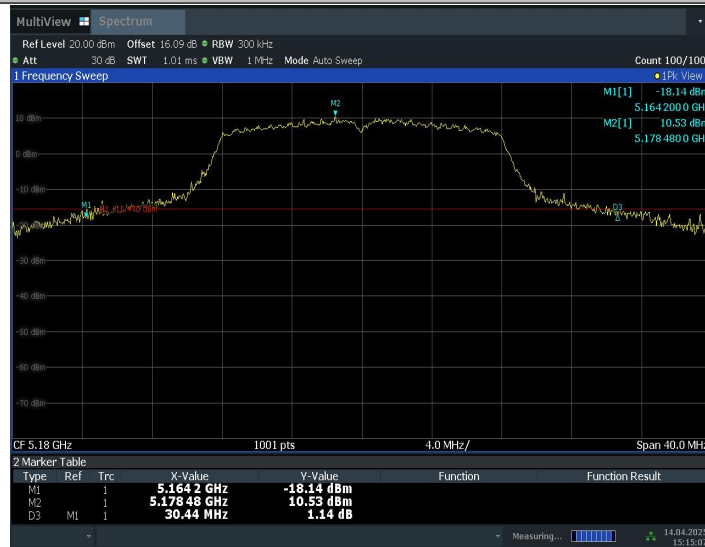
Measurement Result:

Test Mode	Frequency [MHz]	26db EBW [MHz]	FL[MHz]	FH[MHz]
11A	5180	30.44	5164.20	5194.64
	5200	33.28	5183.64	5216.92
	5240	34.12	5223.04	5257.16
11N20SISO	5180	25.28	5167.52	5192.80
	5200	33.96	5183.28	5217.24
	5240	34.36	5222.68	5257.04
11AC40SISO	5190	41.20	5169.28	5210.48
	5230	77.68	5192.08	5269.76
11AC80SISO	5210	82.24	5168.24	5250.48

Conclusion: PASS

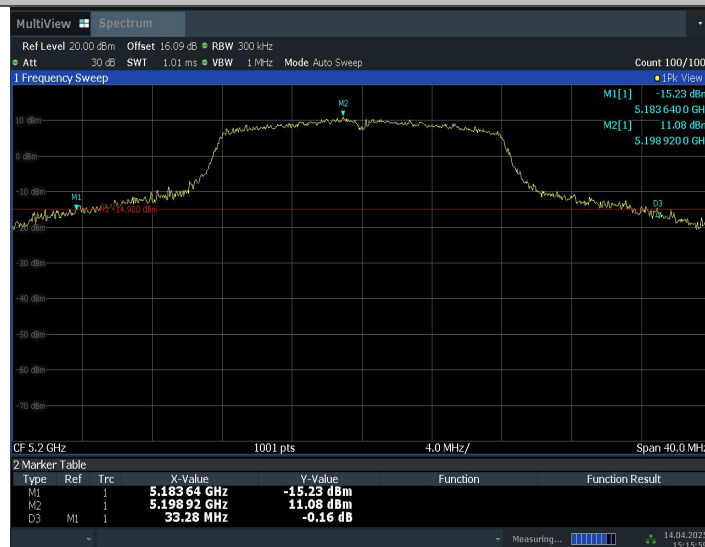
Test graphs as below:

11A_5180



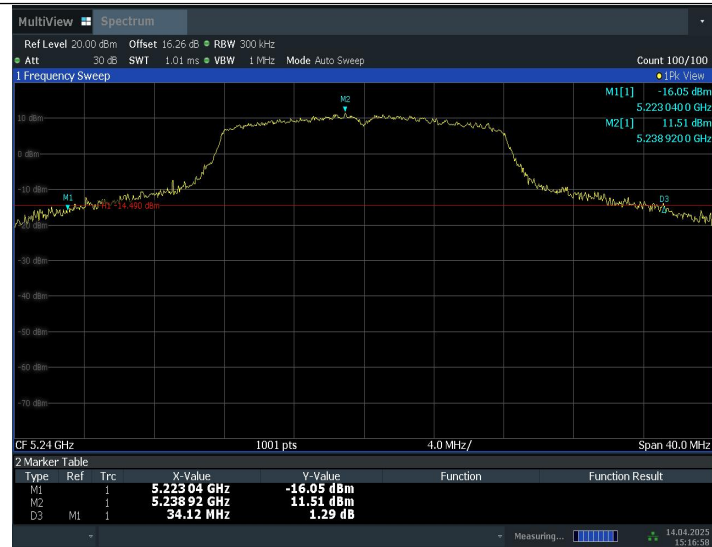
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11A_5200



15:15:59 14.04.2025

11A_5240



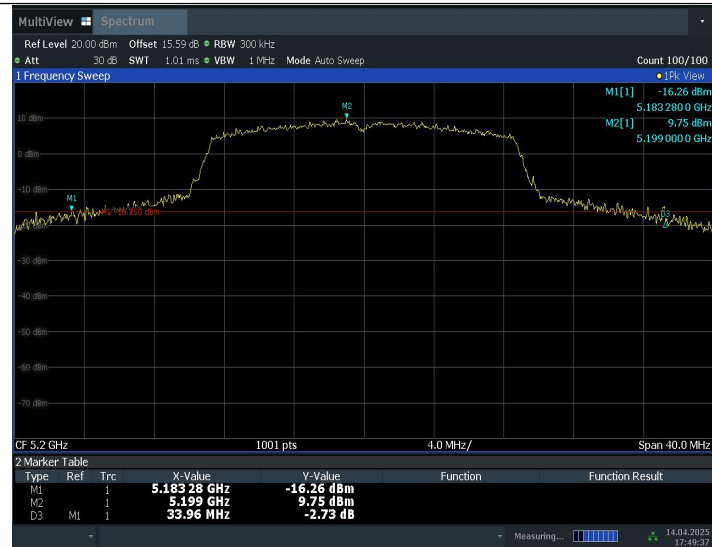
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11N20SISO_5180



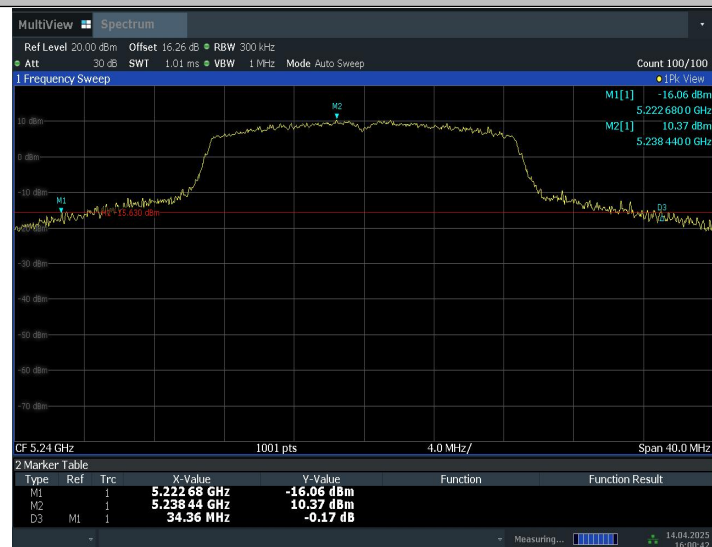
15:26:05 14.04.2025

11N20SISO_5200



17:49:38 14.04.2025

11N20SISO_5240



16:00:43 14.04.2025

11AC40SISO_5190



12:09:06 20.05.2025

11AC40SISO_5230



12:08:19 20.05.2025

11AC80SISO_5210



A.5. Radiated Unwanted Emission

A.5.1 Limits

Unwanted Emissions in the unrestricted bands shall not exceed the limits that shown in 15.407:

Standard	Limit
FCC 47 CFR Part 15.407	(1) 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. (2) 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. (3) 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.

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

Frequency (MHz)	Field strength(μ V/m)	Measurement distance (m)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30

Frequency of emission (MHz)	Field strength (μ V/m)	Field strength (dBuV/m)	Measurement distance (m)
30-88	100	40	3
88-216	150	43.5	3
216-960	200	46	3
Above 960	500	54	3

Note: When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor (as defined in KDB 789033 II.G.2.d).

A.5.2 Test setup

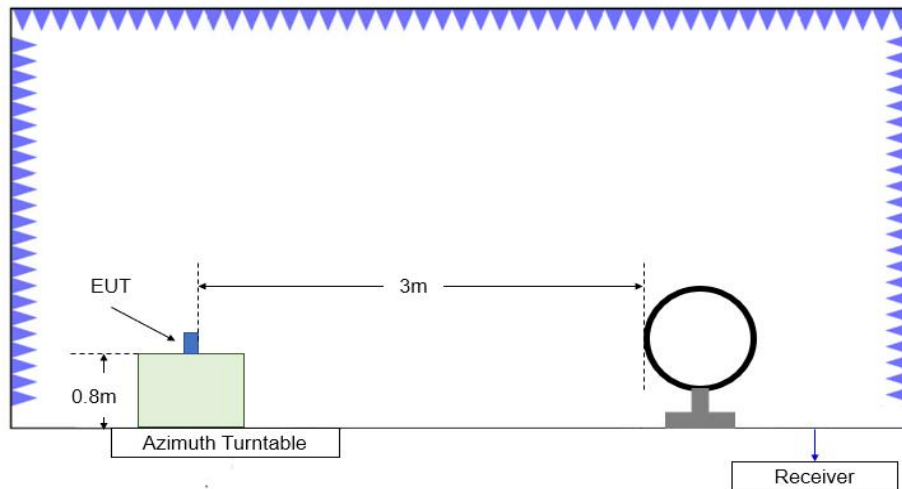


Figure A.5.1. Test Site Diagram (9kHz-30MHz)

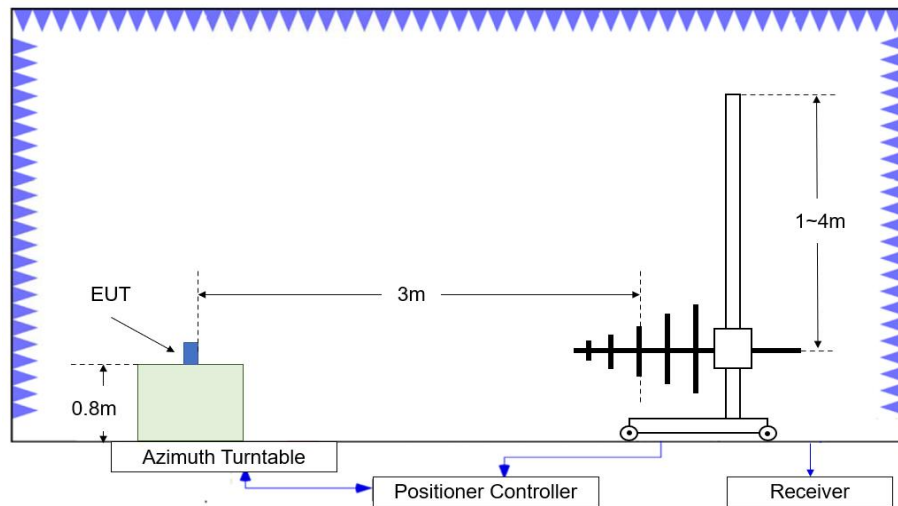


Figure A.5.2. Test Site Diagram (30MHz-1GHz)

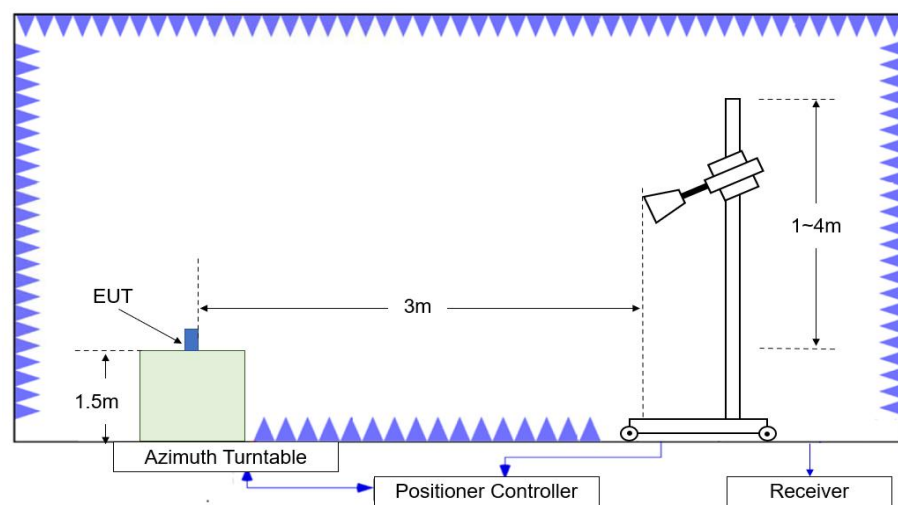


Figure A.5.3. Test Site Diagram (1GHz-40GHz)

A.5.3 Test Procedures

Radiated unwanted emissions from the EUT were measured according to ANSI C63.10 and KDB 789033 D02 v02r01.

Test setting

Frequency of emission (MHz)	RBW/VBW
30-1000	100kHz/300kHz
1000-4000	1MHz/3MHz
4000-18000	1MHz/3MHz
18000-26500	1MHz/3MHz
26500-40000	1MHz/3MHz

A.5.4 Calculation

1. The measurement results reported below is calculated by:

Measurement Results (dB μ V/m) = $P_{\text{measurement}}$ (dB μ V) + Cable Loss (dB) + Antenna Factor (dB/m)

Where: $P_{\text{measurement}}$ is the field strength recorded from the instrument

2. Convert the resultant EIRP level to an equivalent electric field strength using the following relationship:

$$E = \text{EIRP} - 20 \log(D) + 104.77$$

Where:

E is the field strength in dB μ V/m

D is the measurement distance in meters

EIRP is the equivalent isotropically radiated power in dBm

Test note

1. The EUT is operating at its maximum duty cycle and its maximum power control level.
2. Investigation has been done on all modes and modulations/data rates. Only the radiated emissions of the configuration that produced the worst case emissions are reported in this section.
3. Spurious emissions for all channels were investigated and almost the same below 1GHz. According to FCC 47 CFR §15.31, emission levels are not report much lower than the limit by over 20dB
4. The test is carried out on both vertical and horizontal polarization and only maximization result of both polarizations is kept.
5. EUT in each of three orthogonal axis emissions had been tested out only the worst case (axis data) recorded in the report.
6. Measurement frequencies were performed from 9 kHz to the 10th harmonic of highest fundamental frequency or 40GHz, whichever is lower.
7. No spurious emissions were detected within 20dB of the limit below 30MHz. OFS and semi-chamber comparison testing had been performed and the result came out very similar. (KDB 414788)

Measurement Results:

Average Results:

802.11a

Channel 36

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17923.000	45.45	-25.55	42.30	28.70	54.00	8.55	V
17924.650	45.16	-25.55	42.30	28.41	54.00	8.84	V
14479.450	39.19	-28.78	40.00	27.97	54.00	14.81	H
13294.750	38.97	-29.75	40.30	28.42	54.00	15.03	V
5149.500	53.38	-27.27	32.70	47.95	54.00	0.62	H
5149.720	53.01	-27.27	32.70	47.58	54.00	0.99	H

802.11n-HT20

Channel 36

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17913.650	45.32	-25.55	42.30	28.57	54.00	8.68	H
17920.800	45.30	-25.55	42.30	28.55	54.00	8.70	H
13275.500	39.29	-29.75	40.30	28.74	54.00	14.71	V
14494.300	39.13	-28.78	40.00	27.91	54.00	14.87	H
5149.800	50.47	-27.27	32.70	45.04	54.00	3.53	H
5149.960	50.43	-27.27	32.70	45.00	54.00	3.57	H

802.11n-HT40

Channel 38

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17915.300	45.33	-25.55	42.30	28.58	54.00	8.67	H
17942.250	45.28	-25.55	42.30	28.53	54.00	8.72	V
14492.100	39.36	-28.78	40.00	28.14	54.00	14.64	V
14495.950	39.29	-28.78	40.00	28.07	54.00	14.71	H
5149.940	51.32	-27.27	32.70	45.89	54.00	2.68	H
5149.960	50.92	-27.27	32.70	45.49	54.00	3.08	H

802.11ac-HT20

Channel 36

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17914.750	45.35	-25.55	42.30	28.60	54.00	8.65	H
17936.200	45.24	-25.55	42.30	28.49	54.00	8.76	V
14498.700	39.25	-28.78	40.00	28.03	54.00	14.75	V
14499.250	39.19	-28.78	40.00	27.97	54.00	14.81	H
5149.600	53.59	-27.27	32.70	48.16	54.00	0.41	H
5149.540	52.98	-27.27	32.70	47.55	54.00	1.02	H

802.11ac-HT40

Channel 38

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17930.700	45.23	-25.55	42.30	28.48	54.00	8.77	V
17913.100	45.17	-25.55	42.30	28.42	54.00	8.83	H
14493.200	39.53	-28.78	40.00	28.31	54.00	14.47	H
13299.700	39.30	-29.75	40.30	28.75	54.00	14.70	H
5149.340	51.53	-27.27	32.70	46.10	54.00	2.47	H
5148.280	51.23	-27.34	32.70	45.87	54.00	2.77	H

802.11ac-HT80

Channel 42

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17909.250	45.28	-25.55	42.30	28.53	54.00	8.72	V
17911.450	45.25	-25.55	42.30	28.50	54.00	8.75	V
14499.250	39.40	-28.78	40.00	28.18	54.00	14.60	H
14499.800	39.35	-28.78	40.00	28.13	54.00	14.65	H
5149.320	53.28	-27.27	32.70	47.85	54.00	0.72	H
5148.640	52.53	-27.27	32.70	47.10	54.00	1.47	H

PEAK Results:

802.11a

Channel 36

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17908.150	56.30	-25.55	42.30	39.55	74.00	17.70	V
17880.100	56.21	-25.55	42.30	39.46	74.00	17.79	V
14172.550	51.78	-28.86	40.40	40.24	68.20	16.42	V
14153.850	51.73	-28.86	40.50	40.09	68.20	16.47	V
5148.780	71.32	-27.27	32.70	65.89	74.00	2.68	H
5149.600	69.21	-27.27	32.70	63.78	74.00	4.79	H

802.11n-HT20

Channel 36

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17925.750	56.74	-25.55	42.30	39.99	74.00	17.26	V
17903.200	55.95	-25.55	42.30	39.20	74.00	18.05	H
13685.800	52.34	-29.88	40.70	41.52	68.20	15.86	V
13701.750	51.92	-29.88	40.70	41.10	68.20	16.28	V
5148.640	69.45	-27.27	32.70	64.02	74.00	4.55	H
5149.980	69.28	-27.27	32.70	63.85	74.00	4.72	H

802.11n-HT40

Channel 38

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17920.250	56.93	-25.55	42.30	40.18	74.00	17.07	H
17924.100	55.82	-25.55	42.30	39.07	74.00	18.18	H
14126.900	51.73	-28.86	40.50	40.09	68.20	16.47	H
14231.400	51.49	-28.86	40.40	39.95	68.20	16.71	V
5149.960	70.51	-27.27	32.70	65.08	74.00	3.49	H
5149.180	70.06	-27.27	32.70	64.63	74.00	3.94	H

802.11ac-HT20

Channel 36

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17930.700	55.96	-25.55	42.30	39.21	74.00	18.04	H
17936.200	55.88	-25.55	42.30	39.13	74.00	18.12	V
14134.050	52.21	-28.86	40.50	40.57	68.20	15.99	H
14084.550	52.20	-28.98	40.50	40.68	68.20	16.00	H
5148.360	70.41	-27.34	32.70	65.05	74.00	3.59	H
5149.960	70.33	-27.27	32.70	64.90	74.00	3.67	H

802.11ac-HT40

Channel 38

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17941.150	56.10	-25.55	42.30	39.35	74.00	17.90	V
17910.900	55.61	-25.55	42.30	38.86	74.00	18.39	V
13676.450	52.04	-29.88	40.70	41.22	68.20	16.16	H
14041.100	51.99	-28.98	40.70	40.27	68.20	16.21	V
5147.040	70.77	-27.34	32.70	65.41	74.00	3.23	H
5145.640	69.81	-27.34	32.70	64.45	74.00	4.19	H

802.11ac-HT80

Channel 42

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17969.200	55.92	-25.55	42.30	39.17	74.00	18.08	H
17808.600	55.81	-25.55	42.30	39.06	74.00	18.19	V
13801.300	52.31	-29.41	40.90	40.82	68.20	15.89	V
14113.700	51.82	-28.86	40.50	40.18	68.20	16.38	H
5147.780	71.76	-27.34	32.70	66.40	74.00	2.24	H
5145.320	70.49	-27.34	32.70	65.13	74.00	3.51	H

Conclusion: PASS

Band edge compliance

Mode	Channel	Test Results	Conclusion
802.11a	5180 MHz	Fig.1	P
802.11n HT20	5180 MHz	Fig.2	P
802.11n HT40	5190 MHz	Fig.3	P
802.11ac HT20	5180 MHz	Fig.4	P
802.11ac HT40	5190 MHz	Fig.5	P
802.11ac HT80	5210 MHz	Fig.6	P

Conclusion: PASS

Test graphs as below:

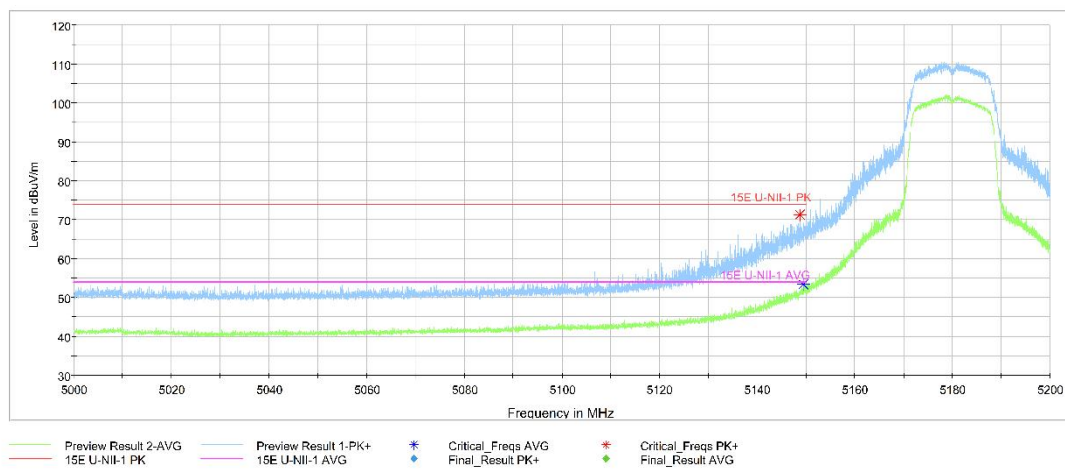


Fig. 1 Band Edges (802.11a Ch36, 5180MHz)

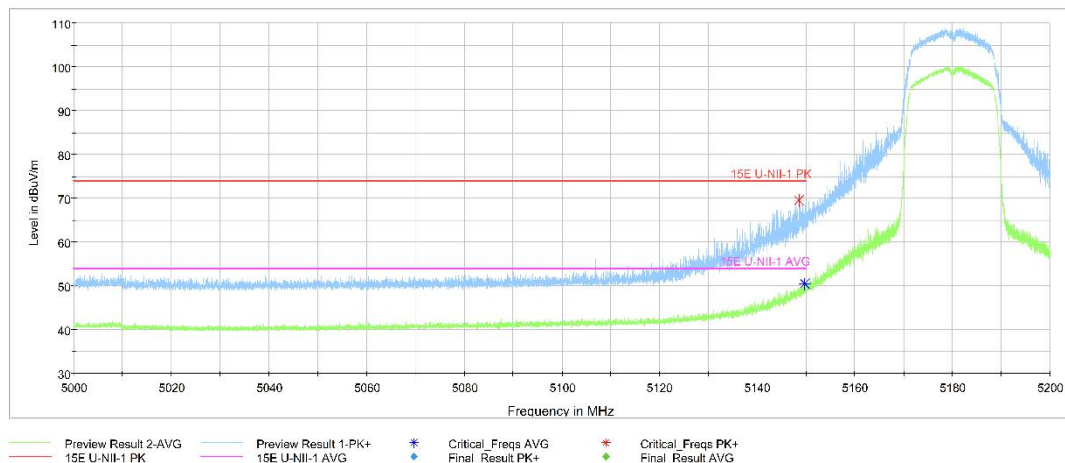


Fig. 2 Band Edges (802.11n-HT20 Ch36, 5180MHz)

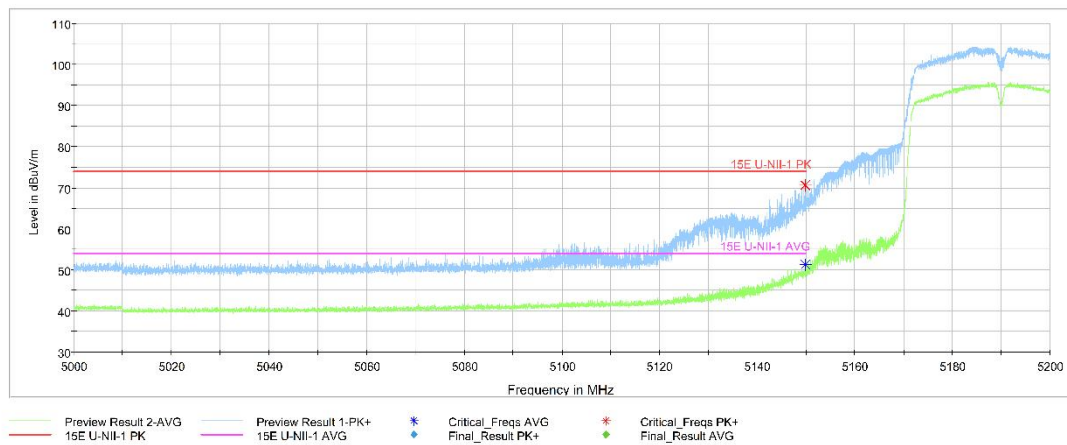


Fig. 3 Band Edges (802.11n-HT40 Ch38, 5190MHz)

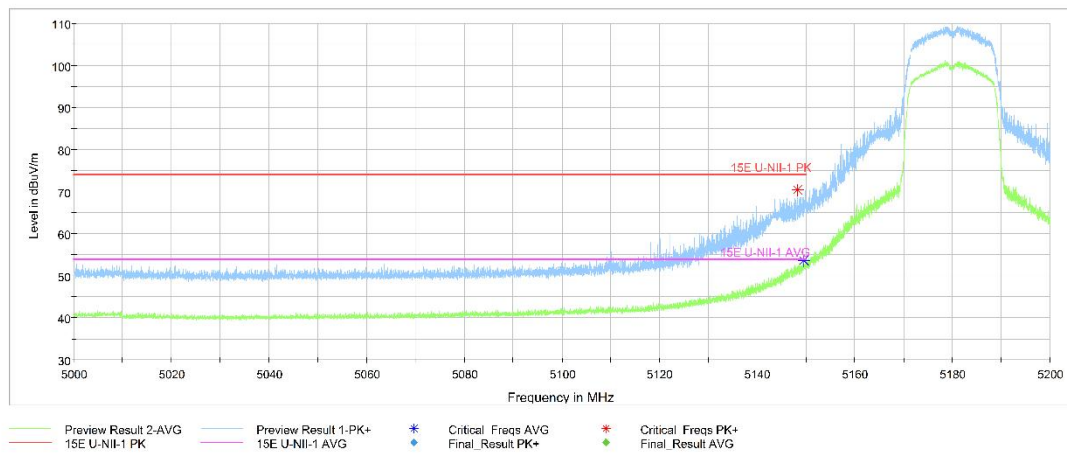


Fig. 4 Band Edges (802.11ac-HT20 Ch36, 5180MHz)

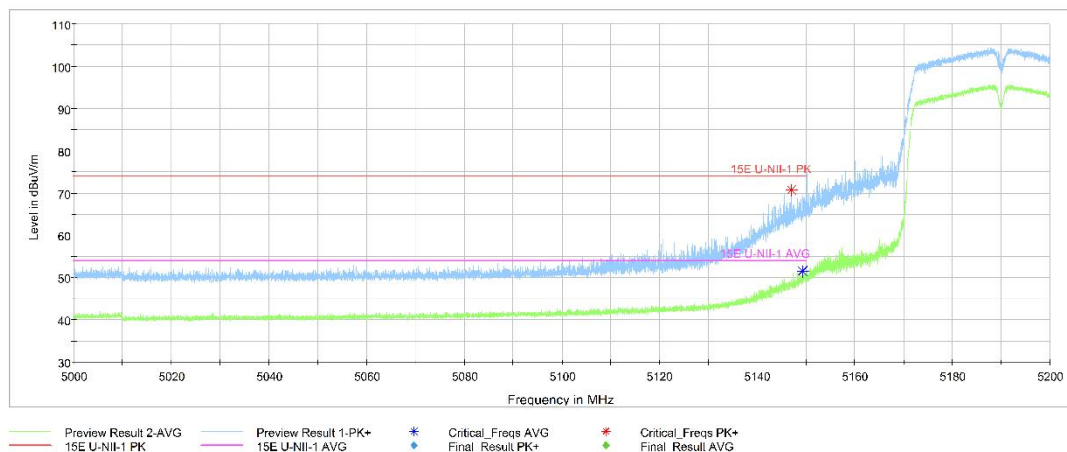


Fig. 5 Band Edges (802.11ac-HT40 Ch38, 5190MHz)

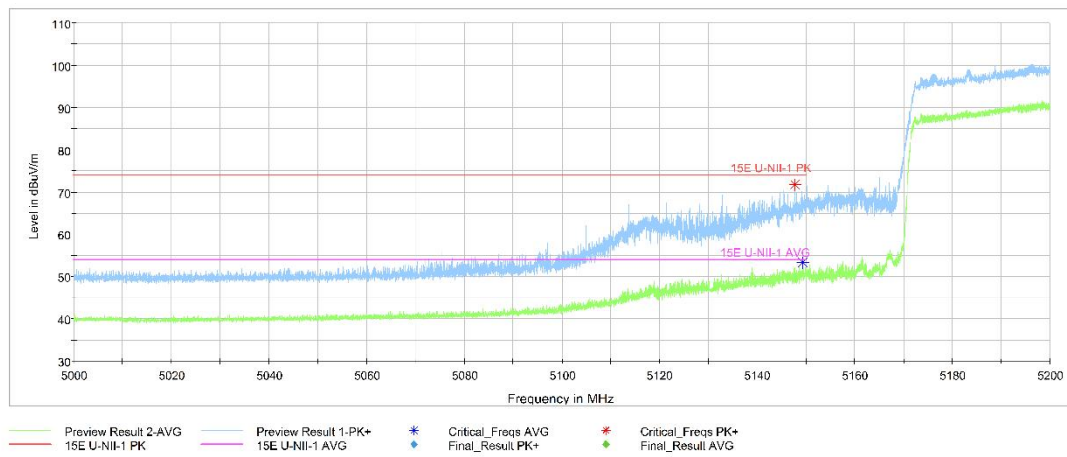


Fig. 6 Band Edges (802.11ac-HT80 Ch42 , 5210MHz)

A.6. AC Powerline Conducted Emission (150kHz- 30MHz)

A.6.1 Summary

All AC line conducted spurious emissions are measured with a receiver connected to a grounded LISN while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates and modes were investigated for conducted spurious emissions. Only the conducted emissions of the configuration that produced the worst case emissions are reported in this section

A.6.2 Method of Measurement

See Clause 6.2 of ANSI C63.10 specifically.

See Clause 4 and Clause 5 of ANSI C63.10 generally.

The conducted emissions from the AC port of the EUT are measured in a shielding room. The EUT is connected to a Line Impedance Stabilization Network (LISN). An overview sweep with peak detection was performed. The measurements were performed with a quasi-peak detector and if required, an average detector.

The conducted emission measurements were made with the following detector of the test receiver: Quasi-Peak / Average Detector.

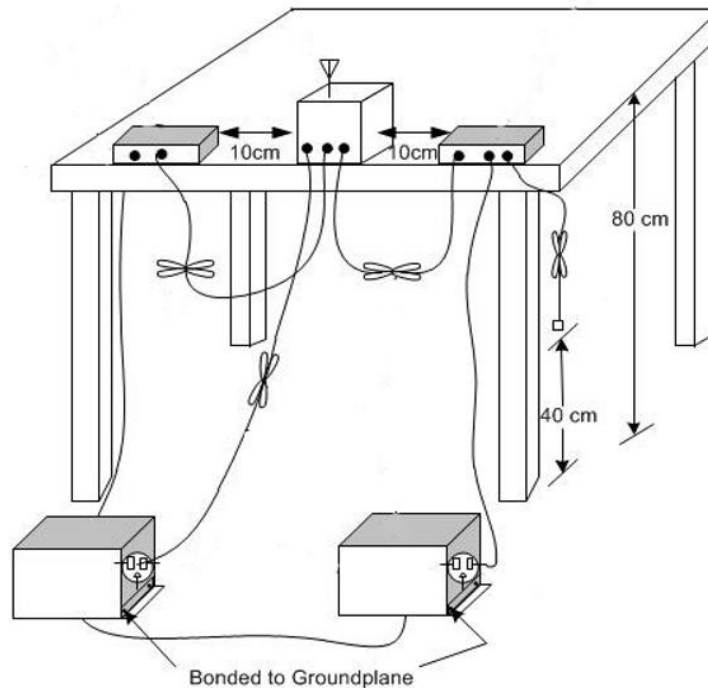
The measurement bandwidth is:

Frequency of Emission (MHz)	RBW/IF bandwidth
0.15-30	9kHz

A.6.3 Test Condition

Voltage (V)	Frequency (Hz)
120	60

A.6.4 Test setup



Measurement Result and limit:

WLAN (Quasi-peak Limit)

Frequency range (MHz)	Quasi-peak Limit (dBμV)	Result (dBμV)		Conclusion
		With charger		
		11a mode	Idle	
0.15 to 0.5	66 to 56	Fig.7	Fig.8	P
0.5 to 5	56			
5 to 30	60			

NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.

WLAN (Average Limit)

Frequency range (MHz)	Average Limit (dBμV)	Result (dBμV)		Conclusion
		With charger		
		11a mode	Idle	
0.15 to 0.5	56 to 46	Fig.7	Fig.8	P
0.5 to 5	46			
5 to 30	50			

NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.

Conclusion: PASS

Test graphs as below:

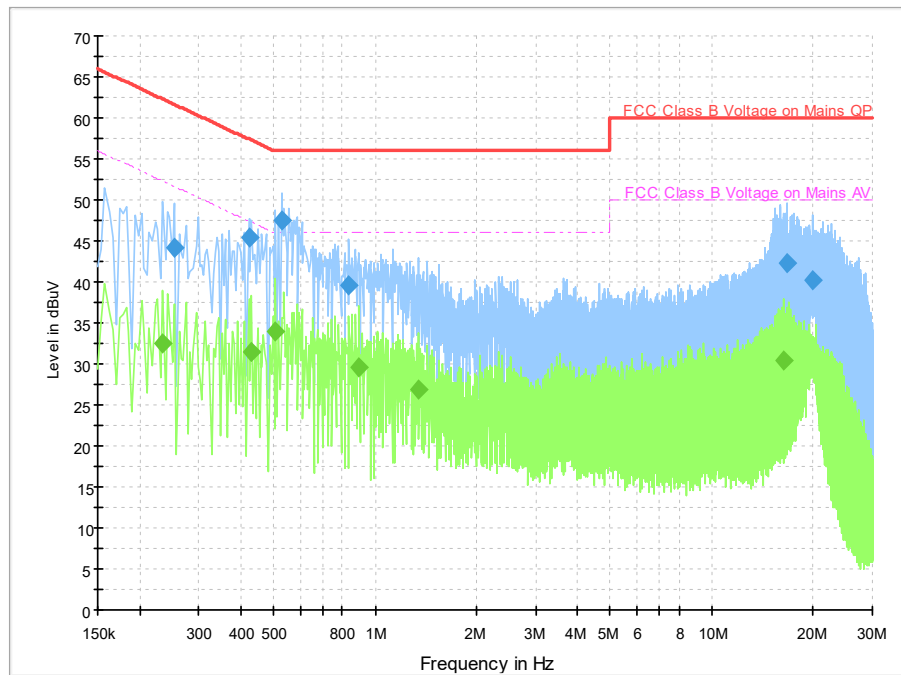


Fig.7 Conducted Emission(802.11a, Ch36, TX)

Final Result 1

Frequency (MHz)	QuasiPeak (dBuV)	Meas. Time	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)	Comment
0.254000	44.3	2000.0	9.000	On	L1	19.9	17.4	61.6	
0.422000	45.4	2000.0	9.000	On	L1	20.0	12.0	57.4	
0.526000	47.5	2000.0	9.000	On	L1	20.0	8.5	56.0	
0.838000	39.5	2000.0	9.000	On	L1	19.9	16.5	56.0	
16.710000	42.2	2000.0	9.000	On	L1	20.0	17.8	60.0	
19.938000	40.3	2000.0	9.000	On	L1	20.0	19.7	60.0	

Final Result 2

Frequency (MHz)	CAverage (dBuV)	Meas. Time	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)	Comment
0.234000	32.5	2000.0	9.000	On	L1	19.9	19.8	52.3	
0.430000	31.5	2000.0	9.000	On	L1	20.0	15.7	47.3	
0.506000	33.9	2000.0	9.000	On	L1	20.0	12.1	46.0	
0.898000	29.7	2000.0	9.000	On	L1	19.9	16.3	46.0	
1.346000	26.8	2000.0	9.000	On	L1	19.9	19.2	46.0	
16.346000	30.4	2000.0	9.000	On	L1	20.0	19.6	50.0	

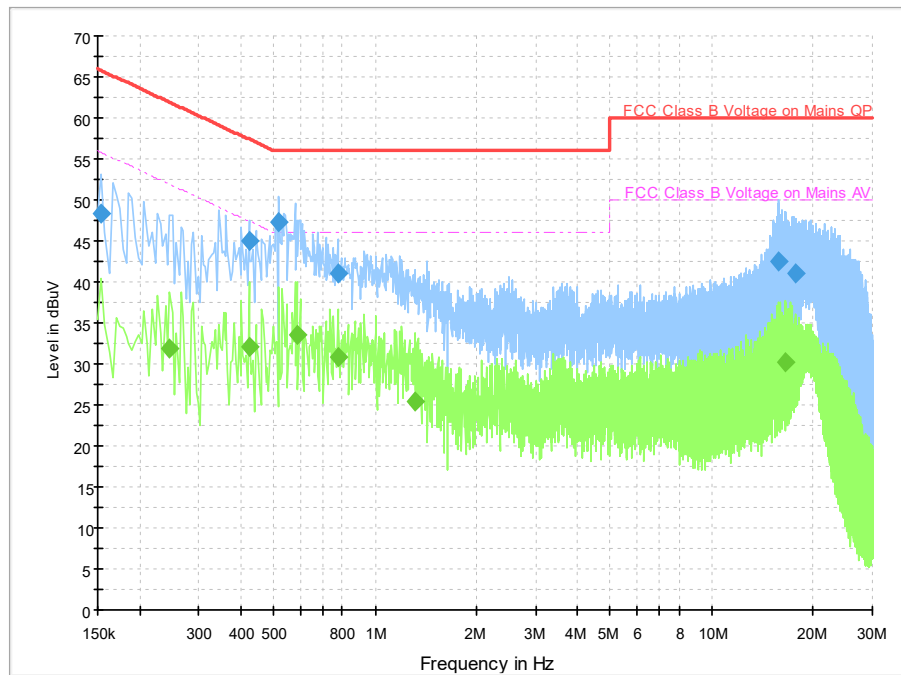


Fig.8 Conducted Emission(802.11a, IDLE)

Final Result 1

Frequency (MHz)	QuasiPeak (dBμV)	Meas. Time	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.154000	48.4	2000.0	9.000	On	N	20.0	17.4	65.8	
0.422000	45.0	2000.0	9.000	On	L1	20.0	12.4	57.4	
0.518000	47.3	2000.0	9.000	On	L1	20.0	8.7	56.0	
0.774000	41.1	2000.0	9.000	On	L1	19.9	14.9	56.0	
15.734000	42.6	2000.0	9.000	On	L1	20.0	17.4	60.0	
17.778000	41.0	2000.0	9.000	On	L1	20.0	19.0	60.0	

Final Result 2

Frequency (MHz)	CAverage (dBμV)	Meas. Time	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.246000	32.0	2000.0	9.000	On	L1	19.9	19.9	51.9	
0.422000	32.0	2000.0	9.000	On	L1	20.0	15.4	47.4	
0.586000	33.5	2000.0	9.000	On	L1	20.0	12.5	46.0	
0.774000	30.9	2000.0	9.000	On	L1	19.9	15.1	46.0	
1.314000	25.3	2000.0	9.000	On	N	19.7	20.7	46.0	
16.474000	30.3	2000.0	9.000	On	L1	20.0	19.7	50.0	

A.7. 99% Occupied bandwidth

Method of Measurement: See ANSI C63.10-2013-clause 12.4.2.

- 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 approximately 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 4.1.5.2.
- 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 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).

Measurement Uncertainty:

Measurement Uncertainty	60.80Hz
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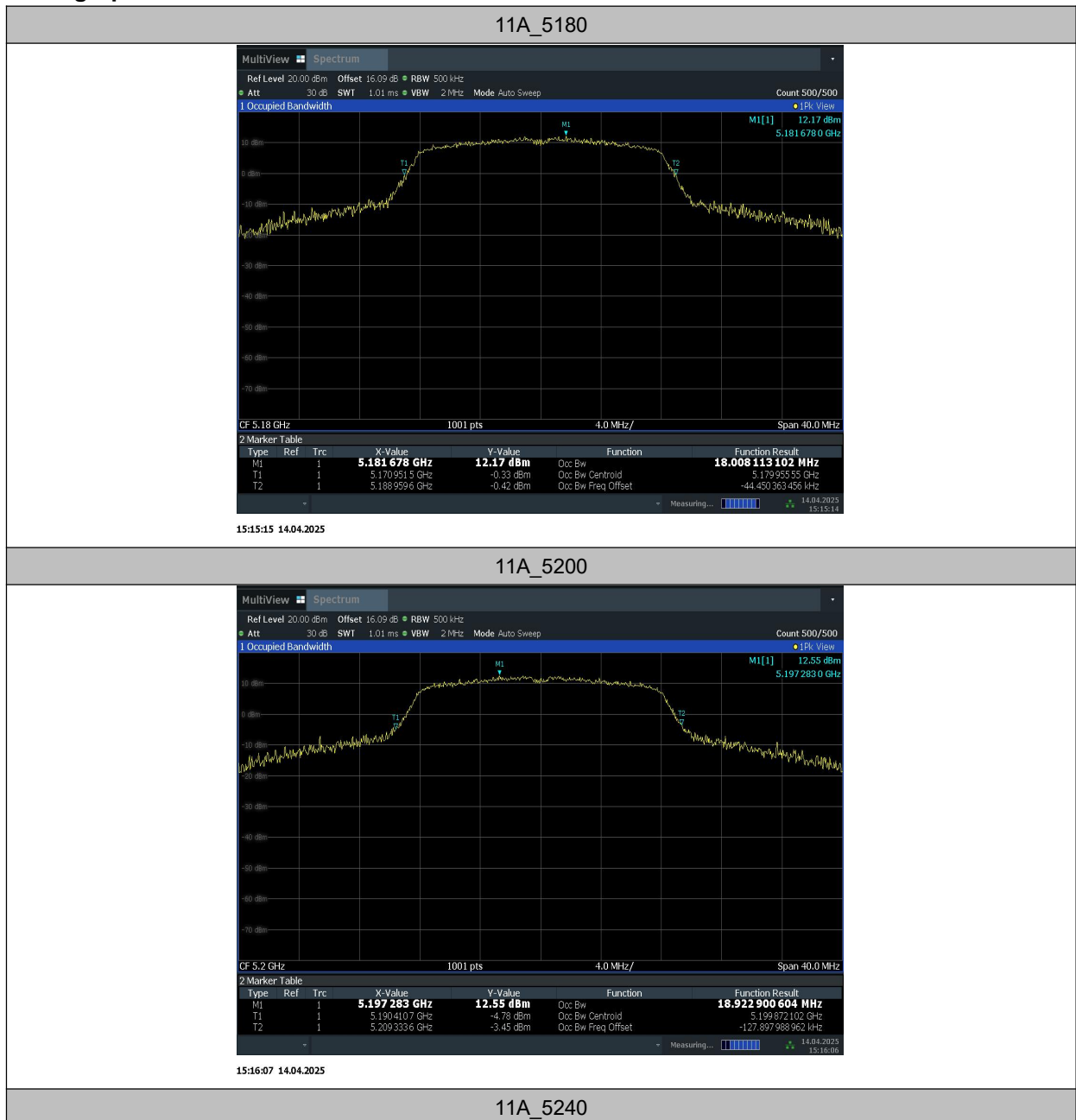
EUT ID: UT27a

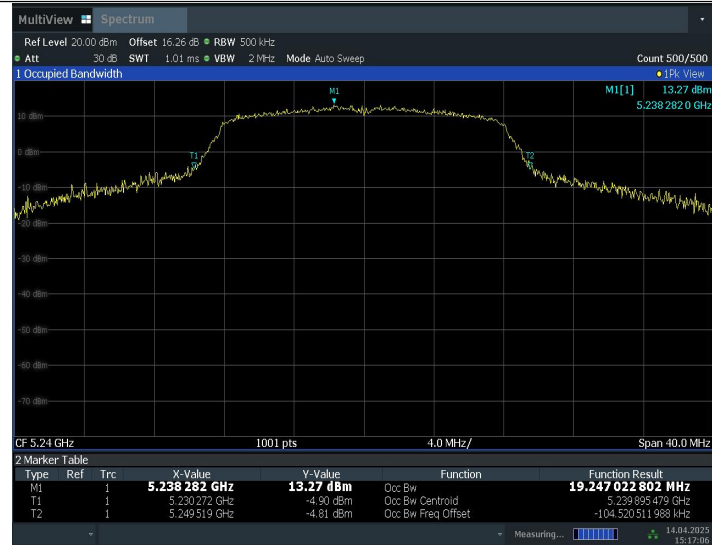
Measurement Result:

TestMode	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	5180	18.008	5170.9515	5188.9596	---	---
	5200	18.923	5190.4107	5209.3336	---	---
	5240	19.247	5230.2720	5249.5190	---	---
11N20SISO	5180	18.265	5170.8756	5189.1410	---	---
	5200	18.874	5190.4840	5209.3578	---	---
	5240	18.88	5230.5483	5249.4283	---	---
11AC40SISO	5190	37.808	5171.0250	5208.8333	---	---
	5230	37.709	5211.0274	5248.7366	---	---
11AC80SISO	5210	75.955	5171.9245	5247.8796	---	---

Conclusion: PASS

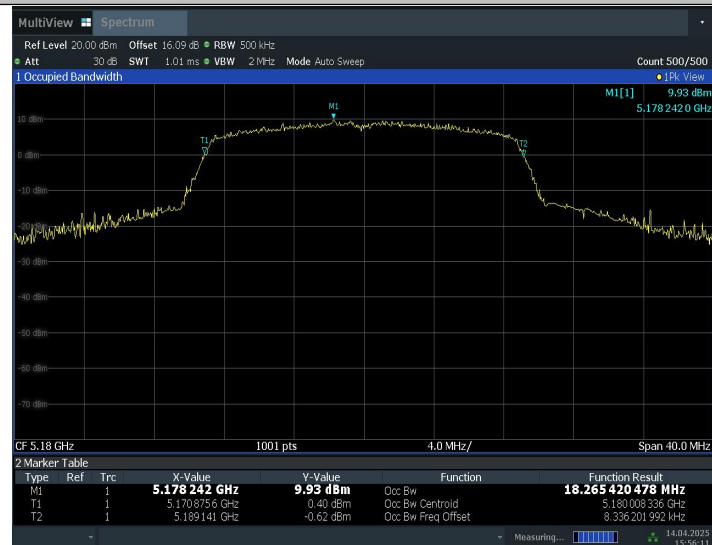
Test graphs as below:





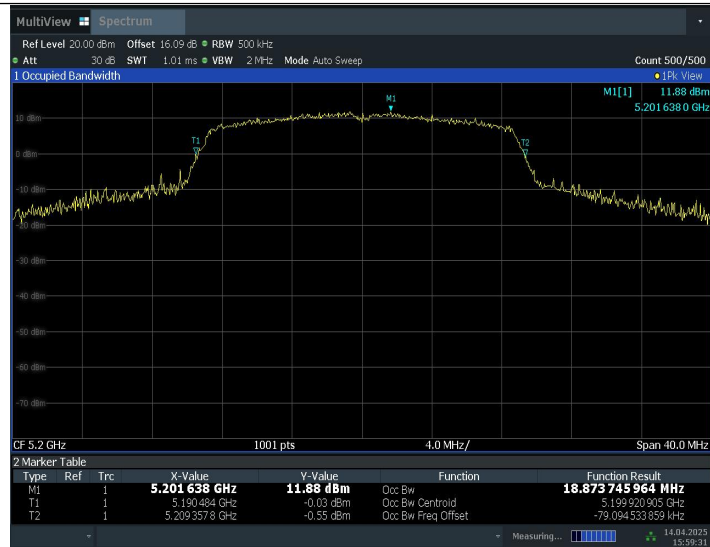
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11N20SISO_5180



15:26:12 14.04.2025

11N20SISO_5200



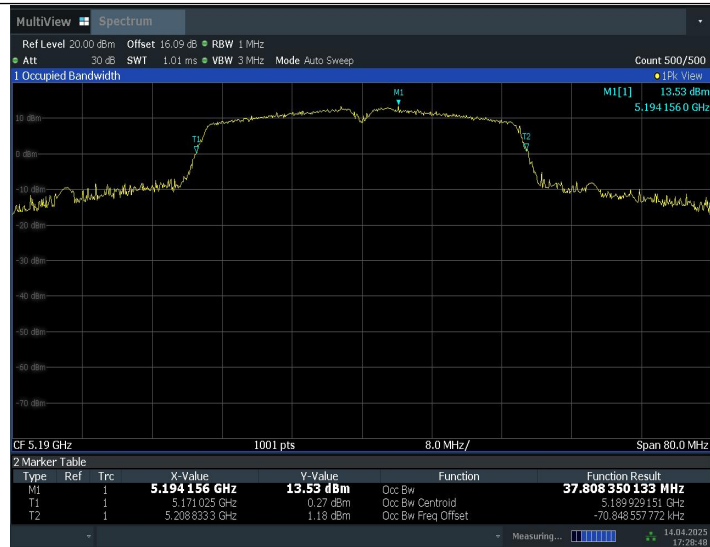
15:59:31 14.04.2025

11N20SISO_5240



16:00:50 14.04.2025

11AC40SISO_5190



17:28:49 14.04.2025

11AC40SISO_5230



17:29:38 14.04.2025

11AC80SISO_5210



A.8. Antenna Requirement

The antenna of the device is permanently attached. There are no provisions for connection to an external antenna.

The unit complies with the requirement of FCC Part 15.203.

A.9. Power control

A Transmission Power Control mechanism is not required for systems with an e.i.r.p. of less than 27dBm (500 mW).

ANNEX B: EUT parameters

Disclaimer: The antenna gain and worse case provided by the client may affect the validity of the measurement results in this report, and the client shall bear the impact and consequences arising therefrom.

ANNEX C: Accreditation Certificate



Accredited Laboratory

A2LA has accredited

TELECOMMUNICATION TECHNOLOGY LABS, CAICT

Beijing, People's Republic of China

for technical competence in the field of

Electrical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).



Presented this 23rd day of July 2024.



Mr. Trace McInturf, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 7049.01
Valid to July 31, 2026

For the tests to which this accreditation applies, please refer to the laboratory's Electrical Scope of Accreditation.

***** END OF REPORT BODY *****