FCC PART 15C
TEST REPORT
No.24T04Z103031-006

for

TCL Communication Ltd.

Tablet PC

9185W

FCC ID: 2ACCJB229

with

Hardware Version: 05

Software Version: 4J3M

Issued Date: 2025-03-06

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.

Test Laboratory:

CTTL-Telecommunication Technology Labs, CAICT

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REPORT HISTORY

Report Number	Revision	Description	Issue Date
24T04Z103031-006	Rev.0	1st edition	2025-03-06

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

CONTENTS

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

Location 1:CTTL(Gaolizhang Road)

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

Location 2: CTTL(BDA)

Address: No.18A, Kangding Street, Beijing Economic-Technology Development Area, Beijing, P. R. China 100176

1.3. Testing Environment

Normal Temperature:	15-35°C
Relative Humidity:	20-75%

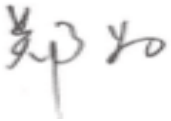
1.4. Project date

Testing Start Date:	2024-12-31
Testing End Date:	2025-03-06

1.5. Signature

Dong Jiaxuan

(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:	TCL Communication Ltd.
Address:	5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Shatin, NT, Hong Kong
City:	Hong Kong
Contact:	Ting Wang
Email:	ting.wang.hz@tcl.com
Telephone:	+86 752 2639091
Fax:	+86 755 3661 2000-81722

2.2. Manufacturer Information

Company Name:	TCL Communication Ltd.
Address:	5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Shatin, NT, Hong Kong
City:	Hong Kong
Contact:	Ting Wang
Email:	ting.wang.hz@tcl.com
Telephone:	+86 752 2639091
Fax:	+86 755 3661 2000-81722

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

3.1. About EUT

Description	Tablet PC
Model name	9185W
FCC ID	2ACCJB229
With WLAN Function	Yes
Frequency Band	ISM 2400MHz~2483.5MHz
Type of Modulation	DSSS/CCK/OFDM
Number of Channels	11
Antenna	Integral Antenna
MAX Conducted Power	25.86dBm
Nominal Voltage	3.8V

3.2. Internal Identification of EUT

EUT ID*	SN or IMEI	HW Version	SW Version	Date of receipt
UT89a	016645000023444 016645000023451	05	4J3M	2025-02-10
UT53a	016645000021653 016645000021703	05	4J3M	2025-02-10

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

UT53a is used for Conduction test, UT89a is used for Radiation test.

3.3. Internal Identification of AE

AE ID*	Name	Model	Manufacturer
AE1	Battery	TLp058C7	Veken
AE2*	Charger	/	/
AE3	USB cable	CDA0000296C8	PUAN
AE4*	Headset	/	/

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

*AE2 and AE4 are not the AE for EUT, provided by the lab for relevant tests.

3.4. General Description

The Equipment under Test (EUT) is a model of Tablet PC 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.

Reference	Title	Version
FCC Part15	FCC CFR 47, Part 15, Subpart C: 15.205 Restricted bands of operation; 15.209 Radiated emission limits, general requirements; 15.247 Operation within the bands 902-928MHz, 2400-2483.5 MHz, and 5725-5850 MHz.	2021
ANSI C63.10	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices	2013
KDB 558074 D01	Federal Communications Commission Office of Engineering and Technology Laboratory Division GUIDANCE FOR COMPLIANCE MEASUREMENTS ON DIGITAL TRANSMISSION SYSTEM, FREQUENCY HOPPING SPREAD SPECTRUM SYSTEM, AND HYBRID SYSTEM DEVICES OPERATING UNDER SECTION 15.247 OF THE FCC RULES	2019

Note:KDB 558074 D01 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	Sub-clause of IC	Verdict
Maximum Peak Output Power	15.247 (b)	/	**P**
Peak Power Spectral Density	15.247 (e)	/	**P**
Occupied 6dB Bandwidth	15.247 (a)	/	**P**
Band Edges Compliance	15.247 (d)	/	**P**
Transmitter Spurious Emission - Conducted	15.247 (d)	/	**P**
Radiated Unwanted Emission	15.247, 15.205, 15.209	/	**P**
AC Powerline Conducted Emission	15.107, 15.207	/	**P**

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

Terms used in Verdict column

P	Pass, The EUT complies with the essential requirements in the standard.
NP	Not Perform, The test was not performed 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	3.8V
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	2025-04-30
2	Test Receiver	ESCI	100344	R&S	1 year	2025-04-01
3	LISN	ENV216	101200	R&S	1 year	2025-05-16
4	Attenuator	10dB/2W	/	Rosenberger	/	/
5	Power Sensor	U2021XA	MY54460006	Agilent	1 year	2025-06-17
6	Data Acquisition Unit	U2531A	TW54433522	Agilent	/	/
7	Shielding Room	S81	/	ETS-Lindgren	/	/

Radiated emission test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Period	Calibration Due date
1	Test Receiver	ESU26	100376	R&S	1 year	2025-06-06
2	Test Receiver	FSV40	101047	R&S	1 year	2025-07-28
3	Loop Antenna	HFH2-Z2	829324/007	R&S	2 years	2026-01-04
4	EMI Antenna	VULB9163	01177	Schwarzbeck	1 year	2025-11-19
5	EMI Antenna	3115	00146404	ETS-Lindgren	1 year	2025-05-16
6	EMI Antenna	3117	00119021	ETS-Lindgren	1 year	2025-09-18
7	EMI Antenna	LB-180400-25-C-KF	2110084000006	A-INFO	1 year	2025-05-15

AC Power Line Conducted Emission

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Period	Calibration Due date
1	LISN	ENV216	101459	R&S	1 year	2025-05-16
2	Test Receiver	ESCI	100766	R&S	1 year	2025-04-18

8. Measurement Uncertainty

8.1. Maximum Output Power

Measurement Uncertainty: 0.387dB,k=1.96

8.2. Peak Power Spectral Density

Measurement Uncertainty: 0.705dB,k=1.96

8.3. DTS 6-dB Signal Bandwidth

Measurement Uncertainty: 60.80Hz,k=1.96

8.4. Band Edges Compliance

Measurement Uncertainty : 0.62dB,k=1.96

8.5. Transmitter Spurious Emission

Conducted (k=1.96)

Frequency Range	Uncertainty(dB)
30MHz ≤ f ≤ 2GHz	1.22
2GHz ≤ f ≤3.6GHz	1.22
3.6GHz ≤ f ≤8GHz	1.22
8GHz ≤ f ≤12.75GHz	1.51
12.75GHz ≤ f ≤26GHz	1.51
26GHz ≤ f ≤40GHz	1.59

8.6. Radiated Unwanted Emission

Frequency Range	Uncertainty(dB) k=2
9kHz-30MHz	3.96
30MHz ≤ f ≤ 1GHz	5.73
1GHz ≤ f ≤18GHz	5.58
18GHz ≤ f ≤40GHz	3.37

8.7. AC Power-line Conducted Emission

Measurement Uncertainty: 3.10dB, k=2

ANNEX A: Detailed Test Results

A.1. Measurement Method

A.1.1. Conducted Measurements

Connect the EUT to the test system as Fig.A.1.1.1 shows.
Set the EUT to the required work mode.
Set the EUT to the required channel.
Set the Vector Signal Analyzer and start measurement.
Record the values. Vector Signal Analyzer

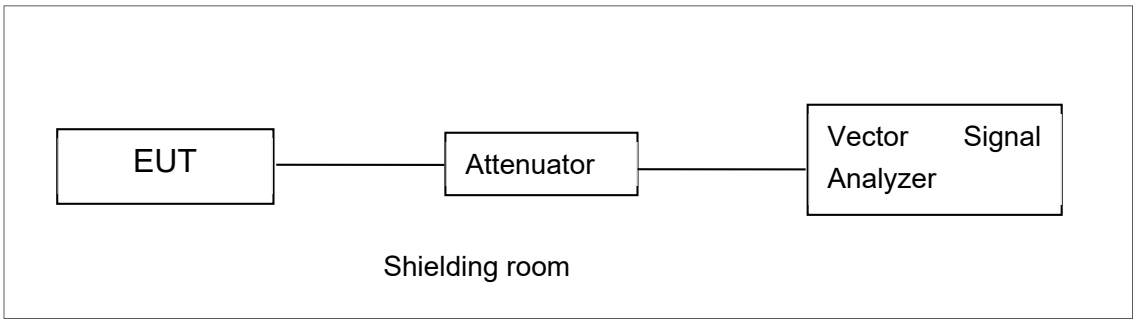


Fig.A.1.1.1: Test Setup Diagram for Conducted Measurements

A.1.2. Radiated Emission Measurements

The measurement is made according to ANSI C63.10

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

Method of Measurement: See ANSI C63.10-2013-clause 11.9.1.3

The maximum peak conducted output power may be measured using a broadband peak RF power meter. The power meter shall have a video bandwidth that is greater than or equal to the DTS bandwidth and shall use a fast-responding diode detector.

Measurement Limit:

Standard	Limit (dBm)
FCC CRF Part 15.247(b)	< 30

A.2.1 Antenna Gain

Antenna gain is -1.8dBi and the value is supplied by the applicant or manufacturer.

A.2.2. Peak Output Power-conducted

EUT ID: UT53a

Measurement Results:

802.11b/g mode

Mode	Data Rate (Mbps)	Test Result (dBm)		
		2412MHz (Ch1)	2437MHz (Ch6)	2462 MHz (Ch11)
802.11b	1	21.16	20.87	20.95
	2	/	/	/
	5.5	/	/	/
	11	/	/	/
802.11g	6	25.86	25.35	24.22
	9	/	/	/
	12	/	/	/
	18	/	/	/
	24	/	/	/
	36	/	/	/
	48	/	/	/
	54	/	/	/

The data rate 1Mbps and 6Mbps are selected as worst condition, and the following cases are performed with this condition.

802.11n-HT20 mode

Mode	Data Rate (Index)	Test Result (dBm)		
		2412MHz (Ch1)	2437MHz (Ch6)	2462 MHz (Ch11)
802.11n (20MHz)	MCS0	24.17	24.16	24.03
	MCS1	/	/	/
	MCS2	/	/	/
	MCS3	/	/	/
	MCS4	/	/	/
	MCS5	/	/	/
	MCS6	/	/	/
	MCS7	/	/	/

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

802.11n-HT40 mode

Mode	Data Rate (Index)	Test Result (dBm)		
		2422MHz (Ch3)	2437MHz (Ch6)	2452 MHz (Ch9)
802.11n (40MHz)	MCS0	22.79	22.74	22.69
	MCS1	/	/	/
	MCS2	/	/	/
	MCS3	/	/	/
	MCS4	/	/	/
	MCS5	/	/	/
	MCS6	/	/	/
	MCS7	/	/	/

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

The duty cycle

TestMode	Antenna	Duty Cycle [%]
11B	Ant1	99.64
11G	Ant1	97.89
11N20SISO	Ant1	97.01
11N40SISO	Ant1	94.20

Conclusion: Pass

A.3. Peak Power Spectral Density

Method of Measurement: See ANSI C63.10-2013-clause 11.10.2

a) Set analyzer center frequency to DTS channel center frequency.
b) Set the span to 1.5 times the DTS bandwidth.
c) Set the RBW to RBW = 3 kHz.
d) Set the VBW = 10 kHz.
e) Detector = peak.
f) Sweep time = auto couple.
g) Trace mode = max hold.
h) Allow trace to fully stabilize.
i) Use the peak marker function to determine the maximum amplitude level within the RBW.

Measurement Limit:

Standard	Limit
FCC CRF Part 15.247(e)	< 8 dBm/3 kHz

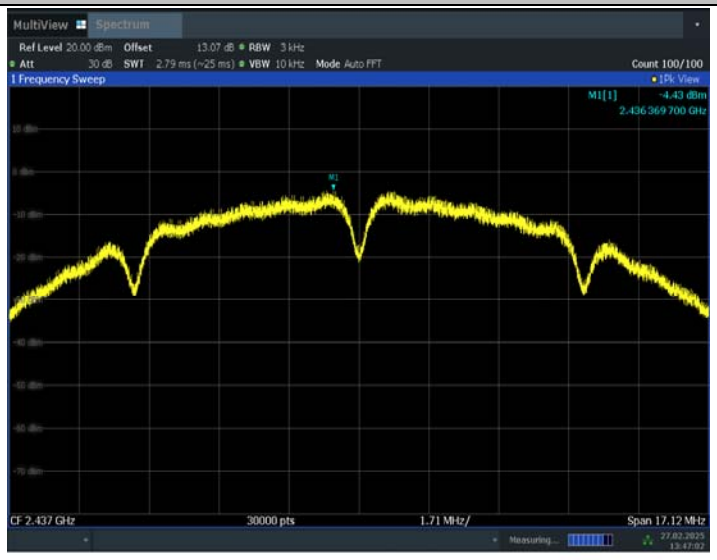
EUT ID: UT53a

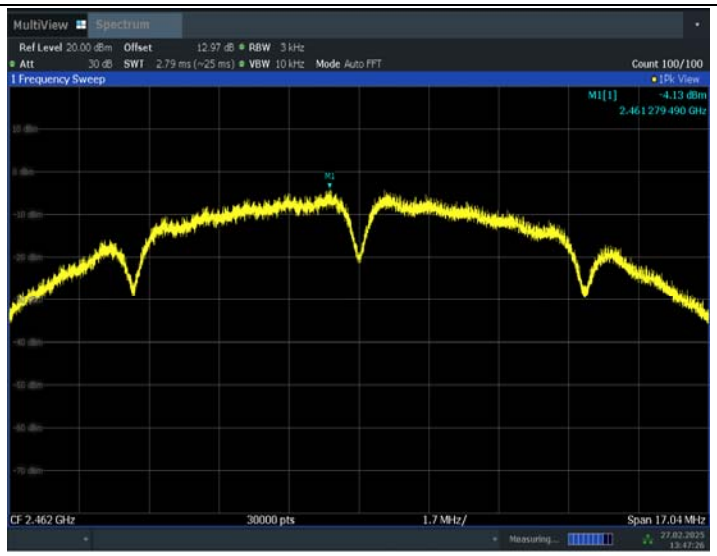
Measurement Results:

TestMode	Antenna	Frequency[MHz]	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-3.23	≤8.00	PASS
		2437	-4.43	≤8.00	PASS
		2462	-4.13	≤8.00	PASS
11G	Ant1	2412	-5.15	≤8.00	PASS
		2437	-6.85	≤8.00	PASS
		2462	-7.75	≤8.00	PASS
11N20SISO	Ant1	2412	-6.94	≤8.00	PASS
		2437	-6.93	≤8.00	PASS
		2462	-7.98	≤8.00	PASS
11N40SISO	Ant1	2422	-12.13	≤8.00	PASS
		2437	-12.73	≤8.00	PASS
		2452	-12.29	≤8.00	PASS

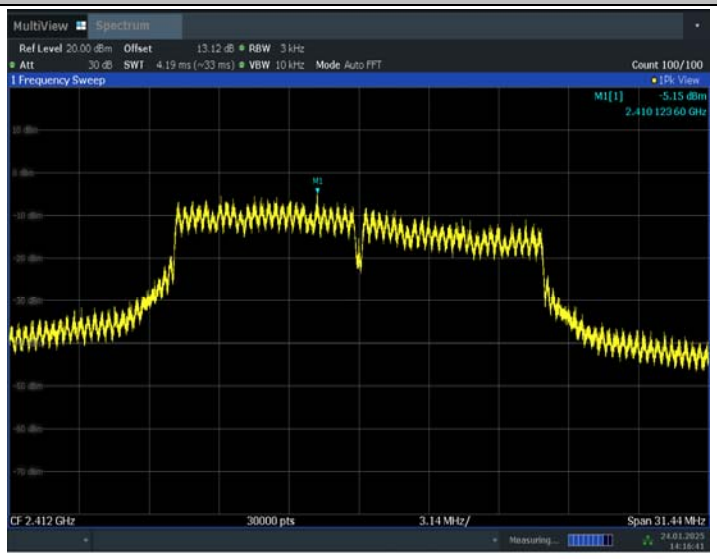
Test graphs as below:

11B_Ant1_2412

11B_Ant1_2437

11B_Ant1_2462



11G_Ant1_2412



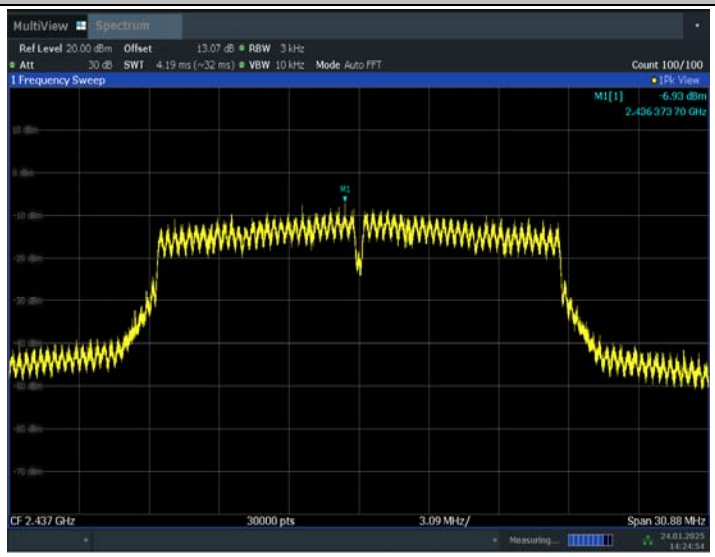
11G_Ant1_2437

11G_Ant1_2462

11N20SISO_Ant1_2412

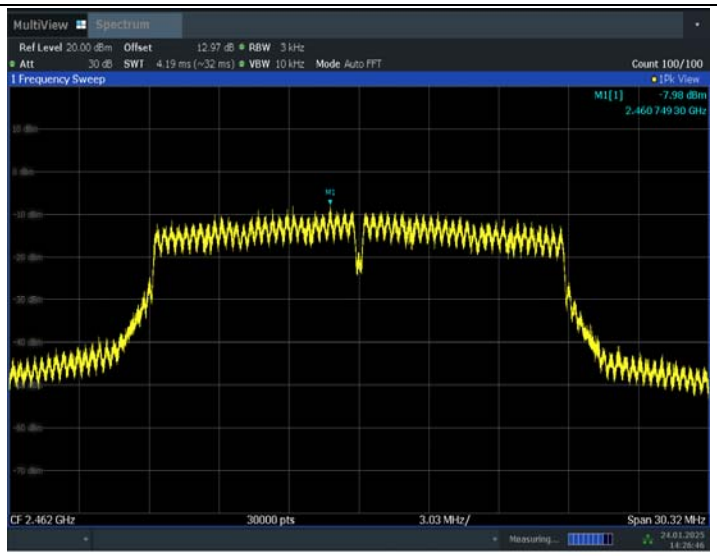
14:22:47 24.01.2025

11N20SISO_Ant1_2437



14:24:55 24.01.2025

11N20SISO_Ant1_2462



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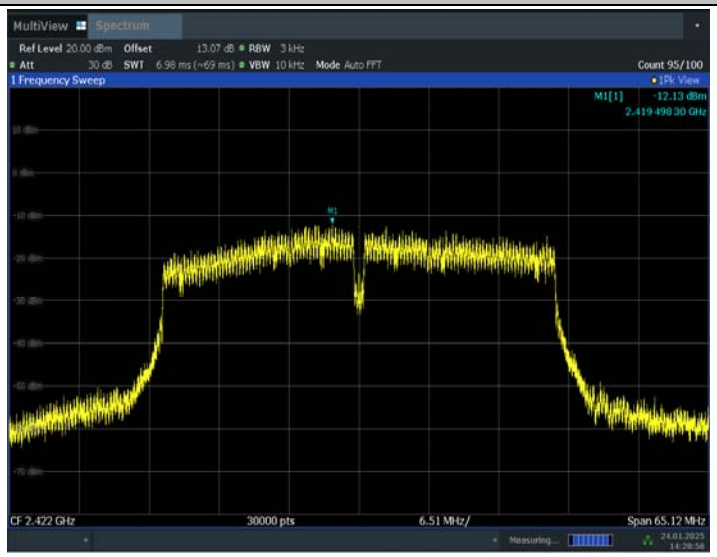

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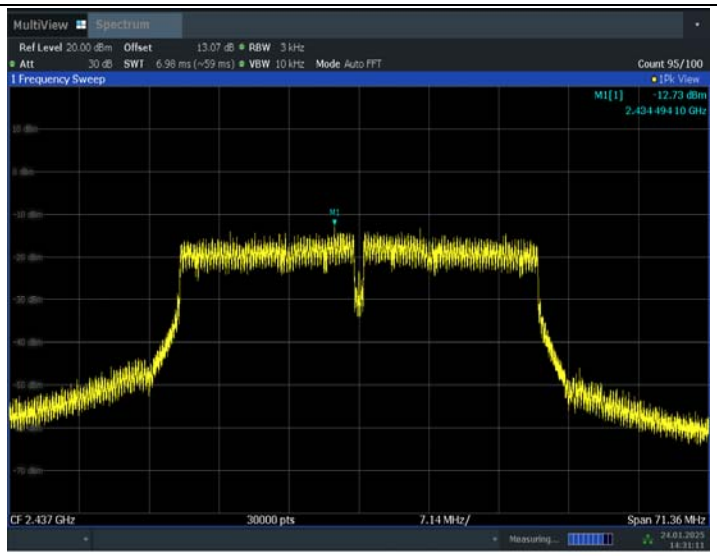
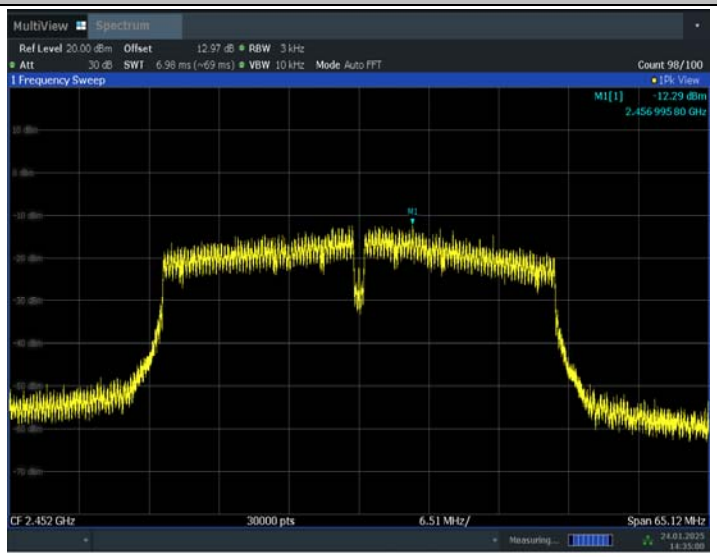
11N40SISO_Ant1_2437



14:31:12 24.01.2025

11N40SISO_Ant1_2452



14:35:00 24.01.2025

Conclusion: Pass

A.4. DTS 6-dB Signal Bandwidth

Method of Measurement: See ANSI C63.10-2013 section 11.8.1.

a) Set RBW = 100 kHz.

b) Set the video bandwidth (VBW) = 300 kHz.

c) Detector = Peak.

d) Trace mode = max hold.

e) Sweep = auto couple.

f) Allow the trace to stabilize.

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

Measurement Limit:

Standard	Limit (kHz)
FCC 47 CFR Part 15.247 (a)	≥ 500

EUT ID: UT53a

Measurement Result:

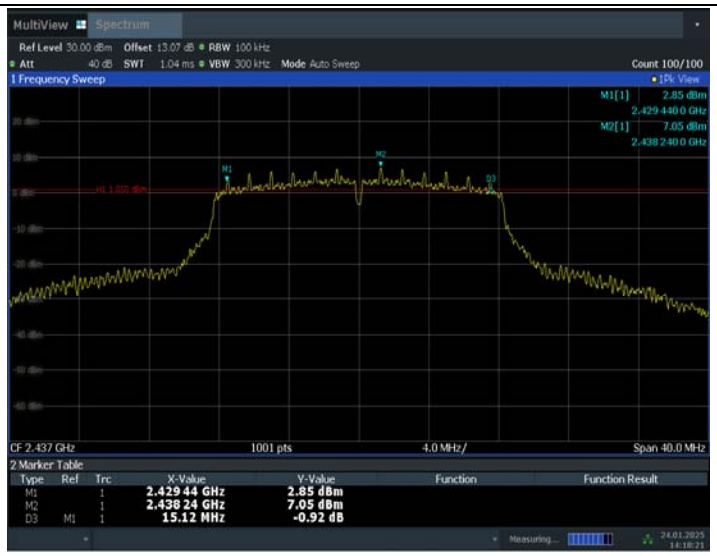
TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	8.04	2407.48	2415.52	0.5	PASS
		2437	8.56	2432.96	2441.52	0.5	PASS
		2462	8.52	2457.48	2466.00	0.5	PASS
11G	Ant1	2412	15.72	2403.80	2419.52	0.5	PASS
		2437	15.12	2429.44	2444.56	0.5	PASS
		2462	15.32	2454.24	2469.56	0.5	PASS
11N20SISO	Ant1	2412	11.32	2403.20	2414.52	0.5	PASS
		2437	15.44	2429.44	2444.88	0.5	PASS
		2462	15.16	2454.40	2469.56	0.5	PASS
11N40SISO	Ant1	2422	32.56	2406.96	2439.52	0.5	PASS
		2437	35.68	2419.08	2454.76	0.5	PASS
		2452	32.56	2434.48	2467.04	0.5	PASS

Test graphs as below:

11B_Ant1_2412
 12:36:42 24.01.2025
11B_Ant1_2437
 12:48:13 24.01.2025
11B_Ant1_2462

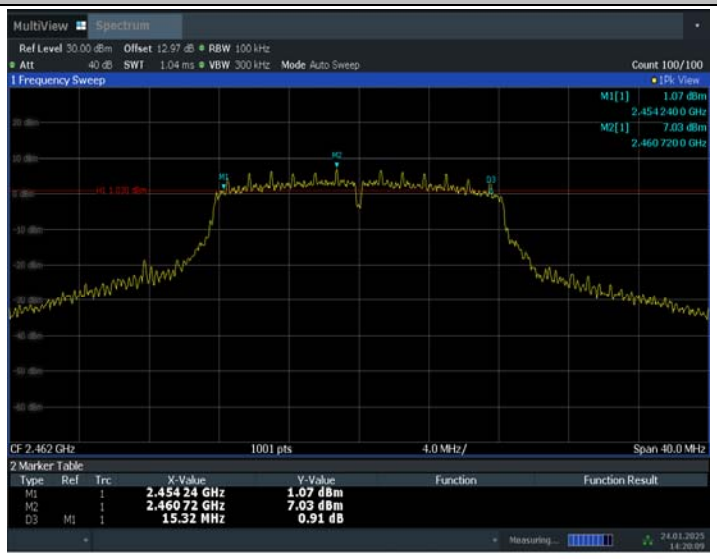
11G_Ant1_2412

11G_Ant1_2437



14:18:21 24.01.2025

11G_Ant1_2462

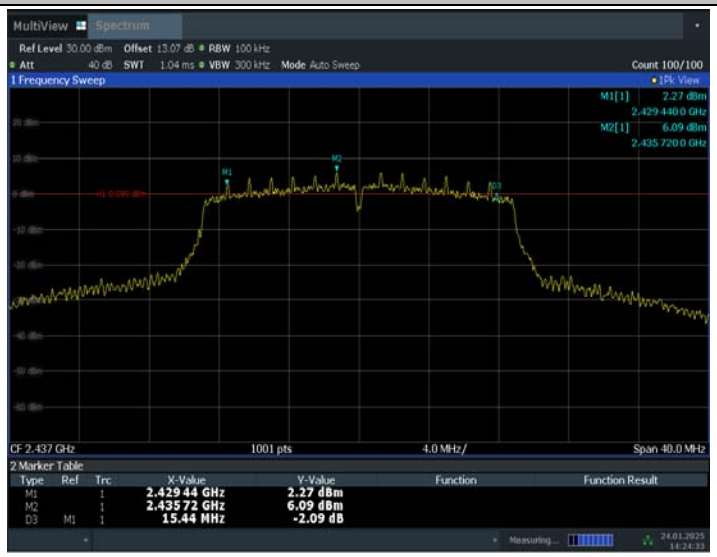


14:20:10 24.01.2025

11N20SISO_Ant1_2412

14:22:26 24.01.2025

11N20SISO_Ant1_2437



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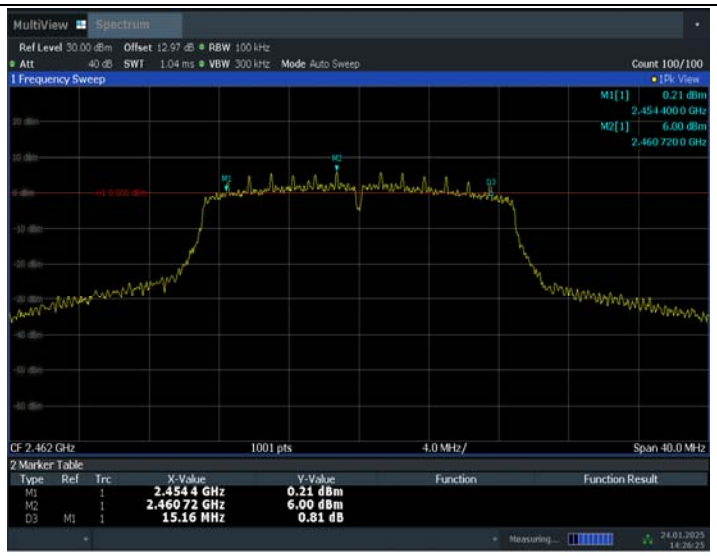


14:26:25 24.01.2025

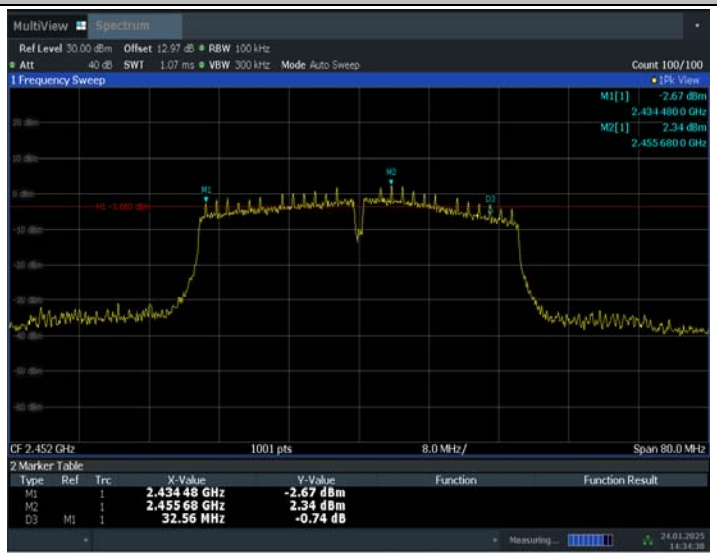
11N40SISO_Ant1_2422

14:28:37 24.01.2025

11N40SISO_Ant1_2437

14:30:52 24.01.2025

11N40SISO_Ant1_2452



14:34:39 24.01.2025

Conclusion: Pass

A.5. Band Edges Compliance

Method of Measurement: See ANSI C63.10-2013-clause 6.10.4

Connect the spectrum analyzer to the EUT using an appropriate RF cable connected to the EUT output. Configure the spectrum analyzer settings as described below.

a) Set Span = 100MHz
b) Sweep Time: coupled
c) Set the RBW= 100 kHz
c) Set the VBW= 300 kHz
d) Detector: Peak
e) Trace: Max hold

Measurement Limit:

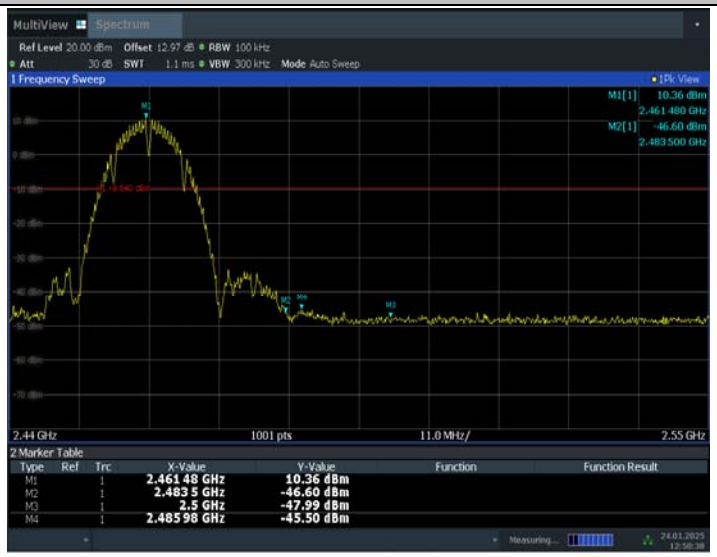
Standard	Limit (dBc)
FCC 47 CFR Part 15.247 (d)	> 20

EUT ID: UT53a

Measurement Result:

TestMode	Antenna	ChName	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	10.27	-35.57	≤-9.73	PASS
		High	2462	10.36	-45.5	≤-9.64	PASS
11G	Ant1	Low	2412	8.00	-18.73	≤-12	PASS
		High	2462	6.86	-39.11	≤-13.14	PASS
11N20SISO	Ant1	Low	2412	7.01	-19.05	≤-12.99	PASS
		High	2462	6.04	-36.93	≤-13.96	PASS
11N40SISO	Ant1	Low	2422	2.48	-35.09	≤-17.52	PASS
		High	2452	2.12	-35.49	≤-17.88	PASS

Test graphs as below:

11B_Ant1_Low_2412
 12:37:13 24.01.2025
11B_Ant1_High_2462
 12:50:38 24.01.2025
11G_Ant1_Low_2412

11G_Ant1_High_2462

11N20SISO_Ant1_Low_2412

11N20SISO_Ant1_High_2462

11N40SISO_Ant1_Low_2422

11N40SISO_Ant1_High_2452

Conclusion: Pass

A.6. Transmitter Spurious Emission

A.6.1 Transmitter Spurious Emission – Conducted

Method of Measurement: See ANSI C63.10-2013-clause 11.11

Establish a reference level by using the following procedure:

a) Set instrument center frequency to DTS channel center frequency

b) Set the span to ≥ 1.5 times the DTS bandwidth

c) Set the RBW= 100 kHz

d) Set the VBW= 300 kHz

e) Detector = Peak

f) Sweep time = auto couple

g) Trace mode = max hold

h) Allow trace to fully stabilize

i) Use the peak marker function to determine the maximum PSD level

Note that the channel found to contain the maximum PSD level can be used to establish the reference level.

Establish an emission level by using the following procedure:

a) Set the center frequency and span to encompass frequency range to be measured.

b) Set the RBW = 100 kHz.

c) Set the VBW = 300 kHz.

d) Detector = peak.

e) Sweep time = auto couple.

f) Trace mode = max hold.

g) Allow trace to fully stabilize.

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

Ensure that the amplitude of all unwanted emissions outside of the authorized frequency band (excluding restricted frequency bands) is attenuated by at least the minimum requirements specified in 11.11. Report the three highest emissions relative to the limit.

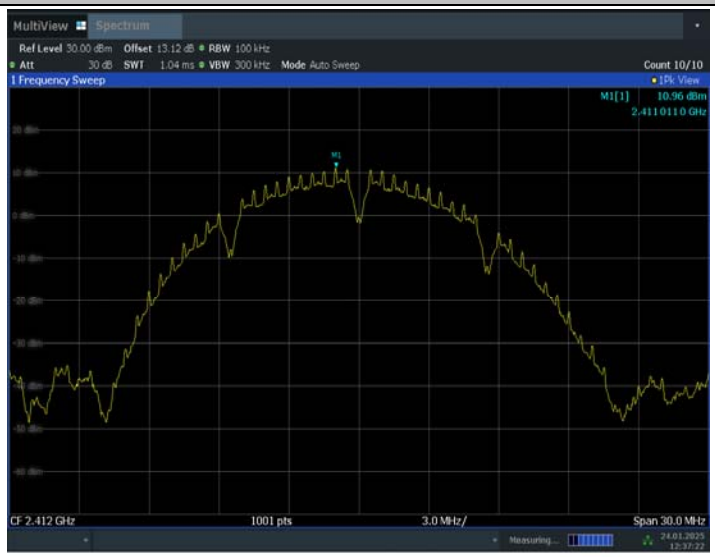
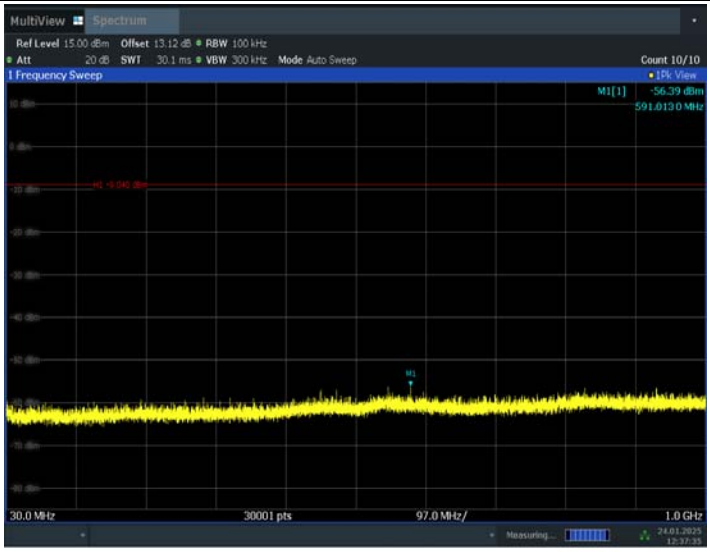
Measurement Limit:

Standard	Limit
FCC 47 CFR Part 15.247 (d)	20dB below peak output power in 100 kHz bandwidth

EUT ID: UT53a

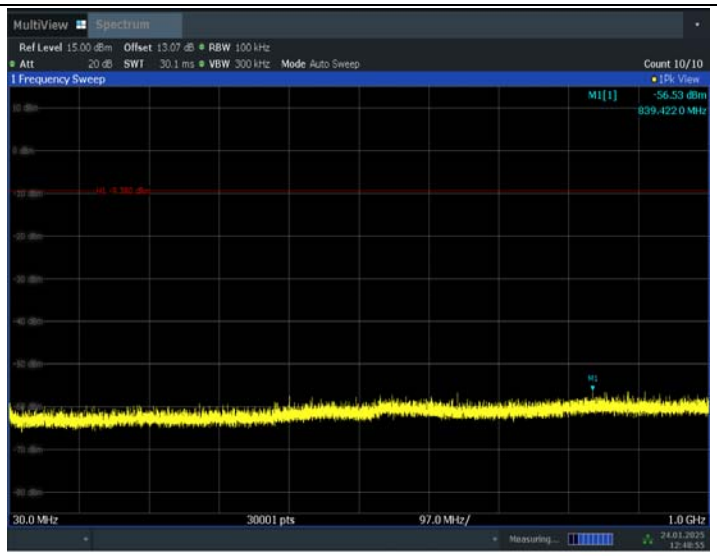
Measurement Results:

TestMode	Antenna	Frequency[MHz]	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	Reference	10.96	10.96	---	PASS
			30~1000	10.96	-56.39	≤-9.04	PASS
			1000~26500	10.96	-43.7	≤-9.04	PASS
		2437	Reference	10.62	10.62	---	PASS
			30~1000	10.62	-56.53	≤-9.38	PASS
			1000~26500	10.62	-40.95	≤-9.38	PASS
		2462	Reference	10.67	10.67	---	PASS
			30~1000	10.67	-55.72	≤-9.33	PASS
			1000~26500	10.67	-40.69	≤-9.33	PASS
11G	Ant1	2412	Reference	8.30	8.30	---	PASS
			30~1000	8.30	-56.53	≤-11.7	PASS
			1000~26500	8.30	-43.9	≤-11.7	PASS
		2437	Reference	7.30	7.30	---	PASS
			30~1000	7.30	-56.67	≤-12.7	PASS
			1000~26500	7.30	-44.03	≤-12.7	PASS
		2462	Reference	7.16	7.16	---	PASS
			30~1000	7.16	-56.5	≤-12.84	PASS
			1000~26500	7.16	-43.95	≤-12.84	PASS
11N20SISO	Ant1	2412	Reference	7.07	7.07	---	PASS
			30~1000	7.07	-55.86	≤-12.93	PASS
			1000~26500	7.07	-43.82	≤-12.93	PASS
		2437	Reference	6.28	6.28	---	PASS
			30~1000	6.28	-56.79	≤-13.72	PASS
			1000~26500	6.28	-44.34	≤-13.72	PASS
		2462	Reference	6.17	6.17	---	PASS
			30~1000	6.17	-56.42	≤-13.83	PASS
			1000~26500	6.17	-43.78	≤-13.83	PASS
11N40SISO	Ant1	2422	Reference	2.46	2.46	---	PASS
			30~1000	2.46	-56.62	≤-17.54	PASS
			1000~26500	2.46	-44.12	≤-17.54	PASS
		2437	Reference	1.03	1.03	---	PASS
			30~1000	1.03	-56.91	≤-18.97	PASS
			1000~26500	1.03	-43.62	≤-18.97	PASS
		2452	Reference	2.18	2.18	---	PASS
			30~1000	2.18	-56.75	≤-17.82	PASS
			1000~26500	2.18	-43.71	≤-17.82	PASS

11B_Ant1_2412_0~Reference
 12:37:22 24.01.2025
11B_Ant1_2412_30~1000
 12:37:35 24.01.2025
11B_Ant1_2412_1000~26500

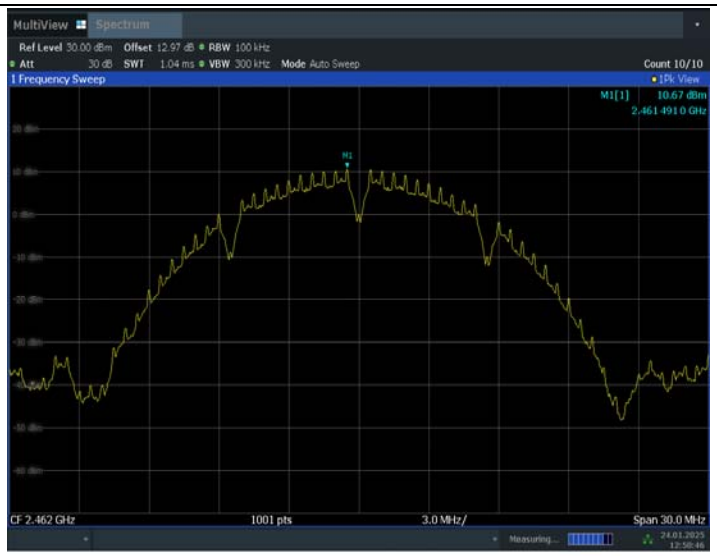
11B_Ant1_2437_0~Reference

11B_Ant1_2437_30~1000



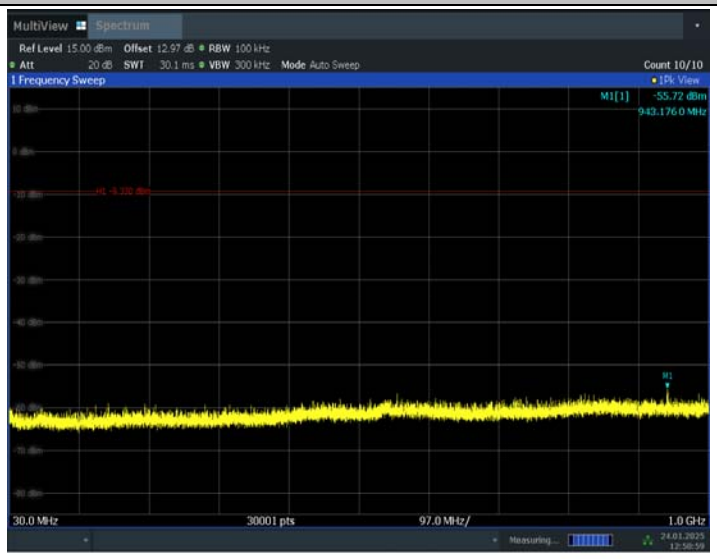
11B_Ant1_2437_1000~26500

11B_Ant1_2462_0~Reference



12:50:47 24.01.2025

11B_Ant1_2462_30~1000



12:51:00 24.01.2025

11B_Ant1_2462_1000~26500

11G_Ant1_2412_0~Reference

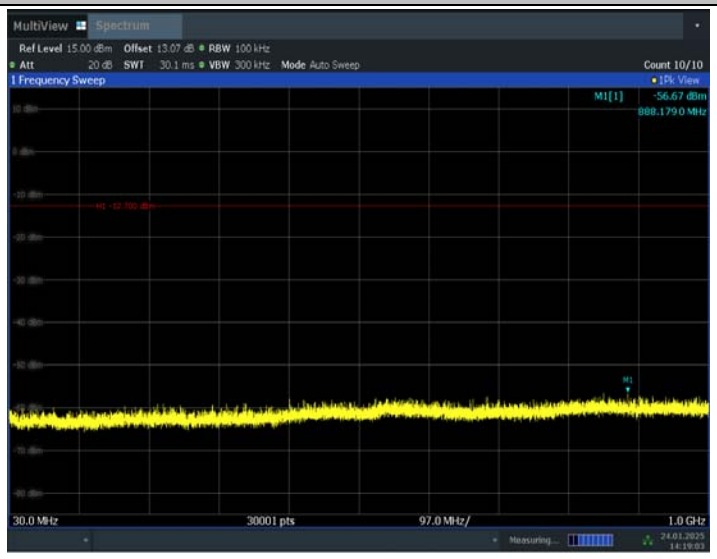
11G_Ant1_2412_30~1000

11G_Ant1_2412_1000~26500

11G_Ant1_2437_0~Reference

14:18:50 24.01.2025

11G_Ant1_2437_30~1000

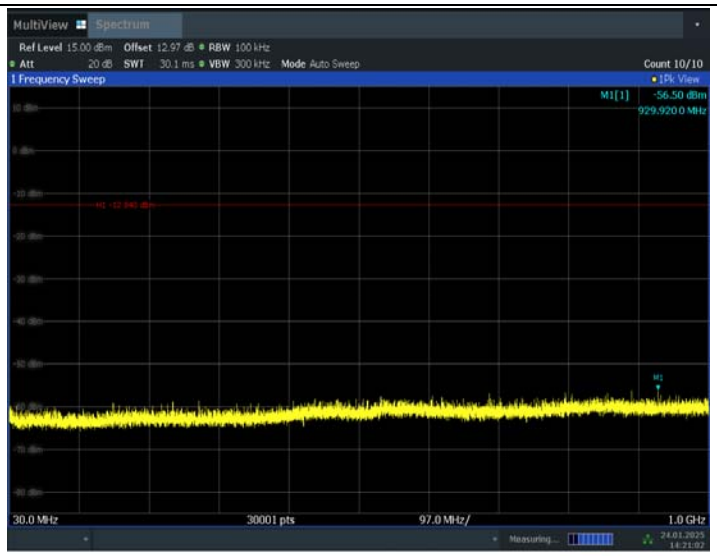


14:19:04 24.01.2025

11G_Ant1_2437_1000~26500

11G_Ant1_2462_0~Reference

11G_Ant1_2462_30~1000



11G_Ant1_2462_1000~26500

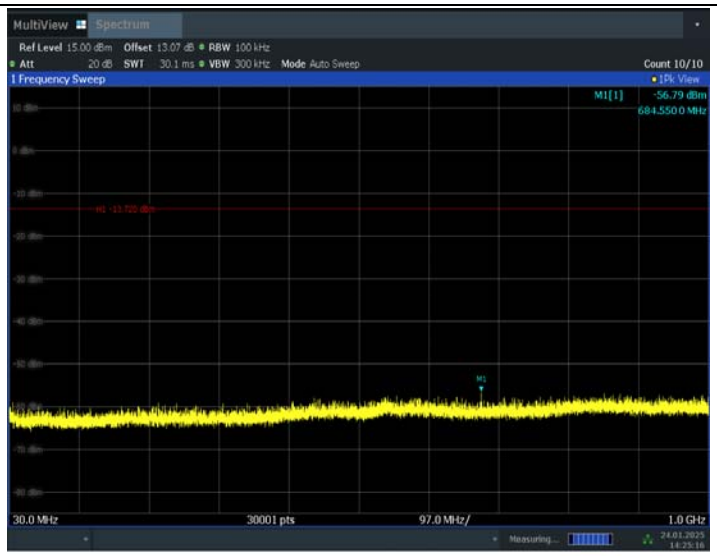
11N20SISO_Ant1_2412_0~Reference

11N20SISO_Ant1_2412_30~1000

11N20SISO_Ant1_2412_1000~26500

11N20SISO_Ant1_2437_0~Reference

11N20SISO_Ant1_2437_30~1000



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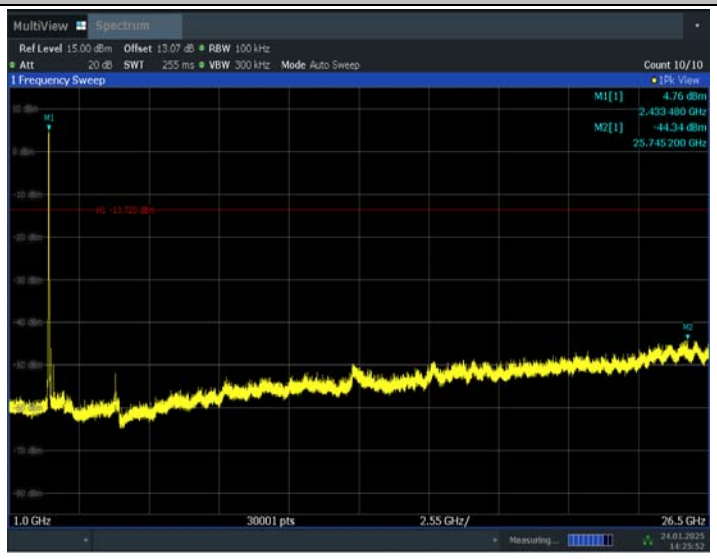
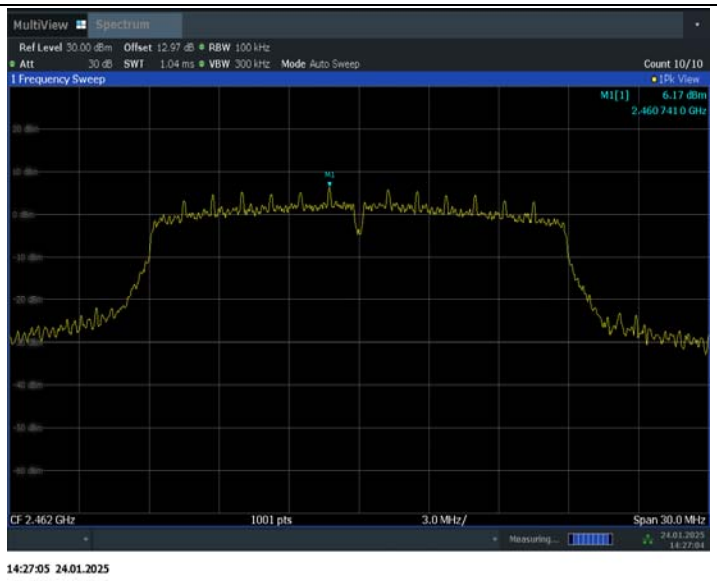
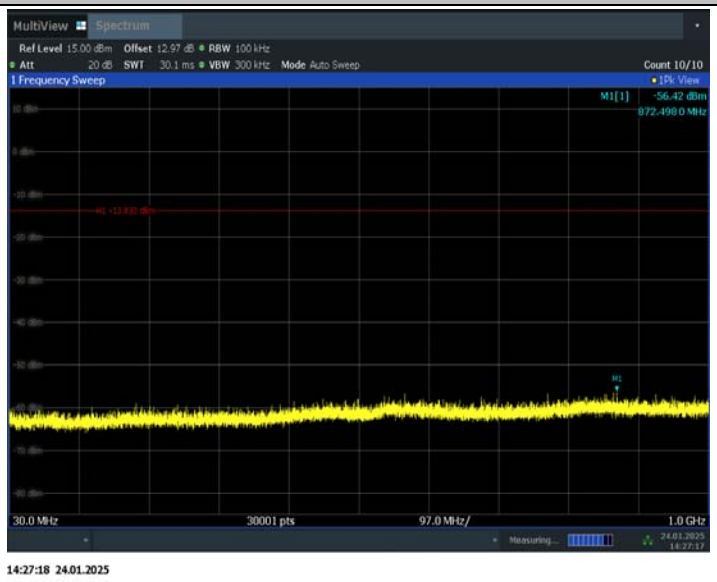


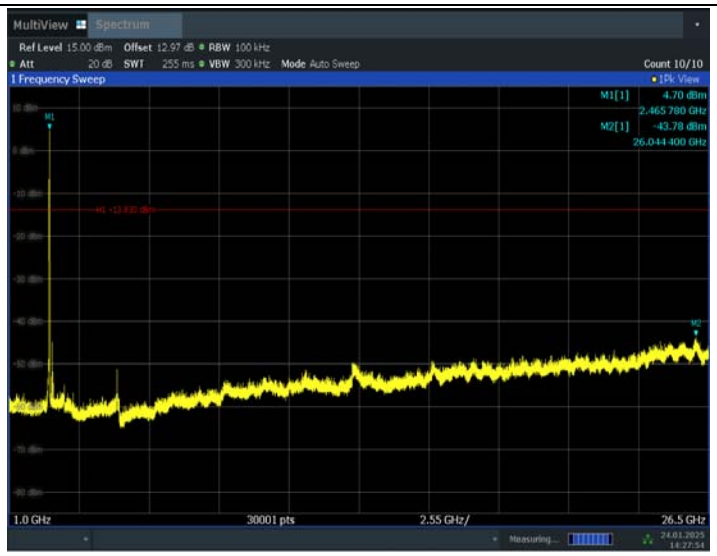
11N20SISO_Ant1_2462_0~Reference



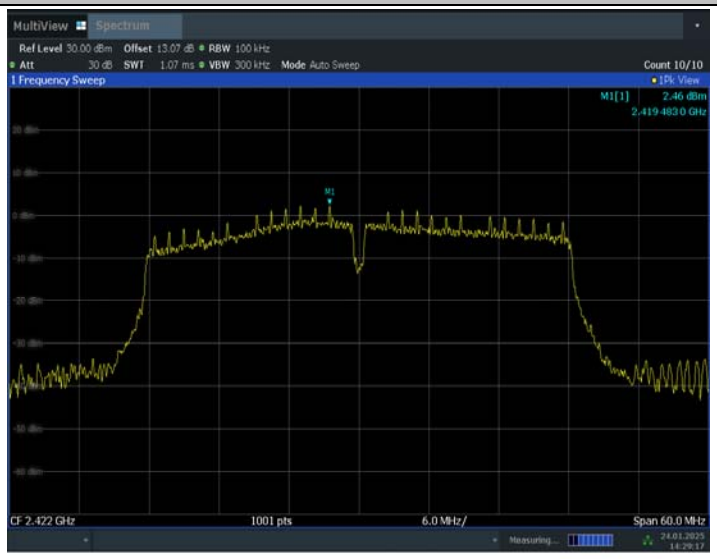
11N20SISO_Ant1_2462_30~1000



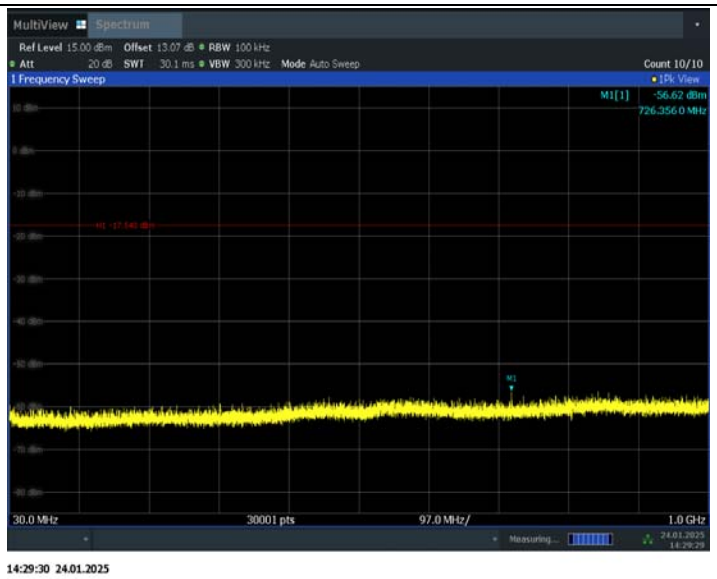
11N20SISO_Ant1_2462_1000~26500



11N40SISO_Ant1_2422_0~Reference

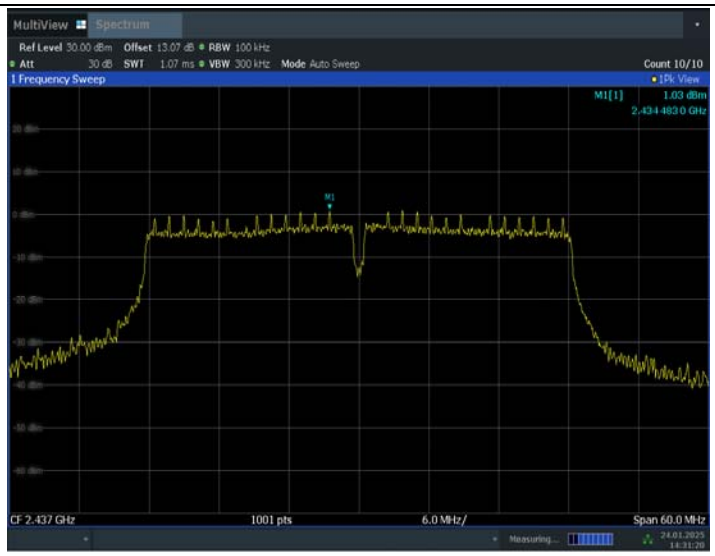


11N40SISO_Ant1_2422_30~1000



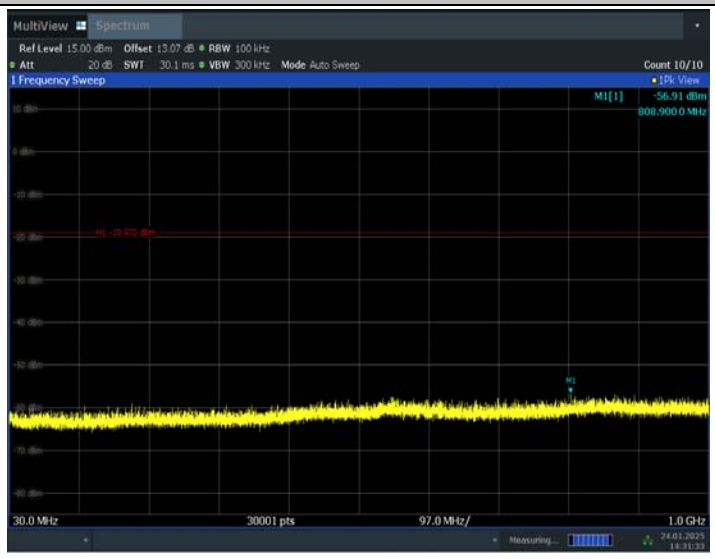
11N40SISO_Ant1_2422_1000~26500

11N40SISO_Ant1_2437_0~Reference



14:31:21 24.01.2025

11N40SISO_Ant1_2437_30~1000

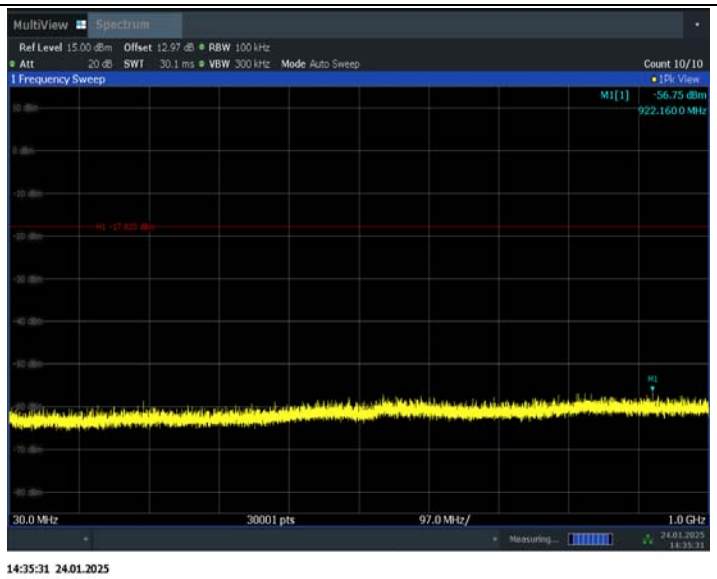


14:31:34 24.01.2025

11N40SISO_Ant1_2437_1000~26500

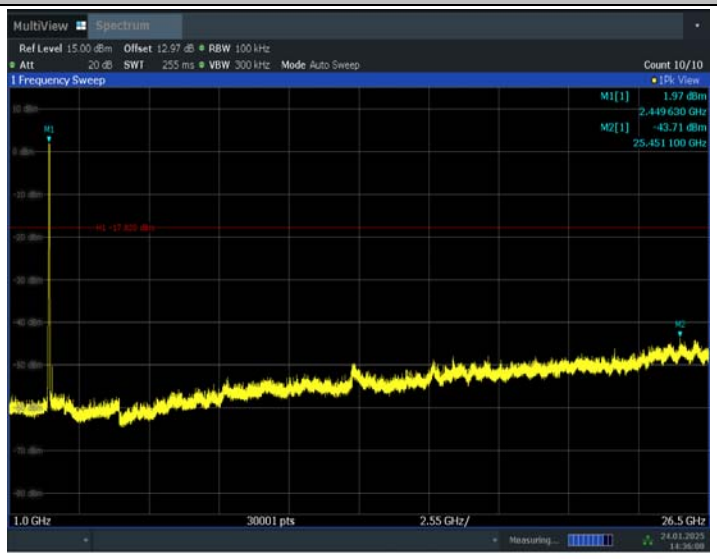
11N40SISO_Ant1_2452_0~Reference

11N40SISO_Ant1_2452_30~1000



14:35:31 24.01.2025

11N40SISO_Ant1_2452_1000~26500



14:36:08 24.01.2025

Conclusion: Pass

A.7. Radiated Unwanted Emission

Limits

Measurement Limit

Standard	Limit
FCC 47 CFR Part 15.247, 15.205, 15.209	20dB below peak output power

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)).

Limit in restricted band

Frequency (MHz)	Field strength(μV/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 (uV/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.

Test setup

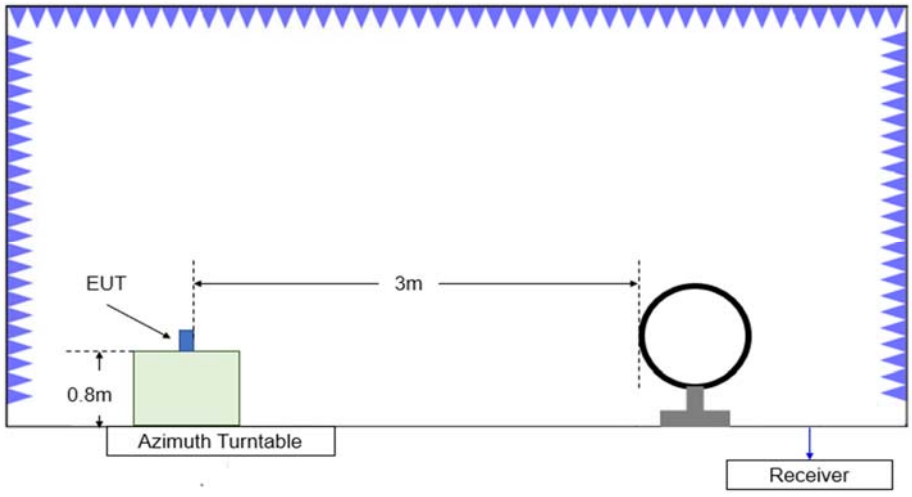


Figure A.2.1. Test Site Diagram (9kHz-30MHz)

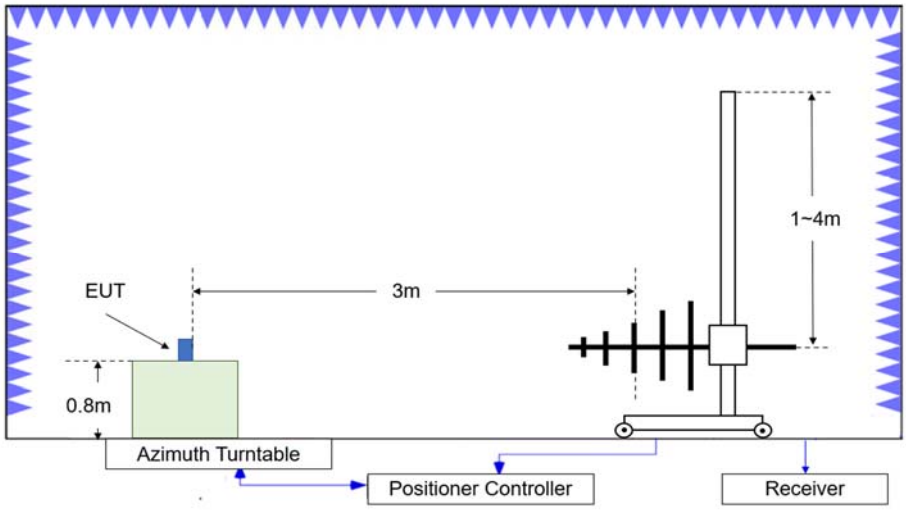


Figure A.2.2. Test Site Diagram (30MHz-1GHz)

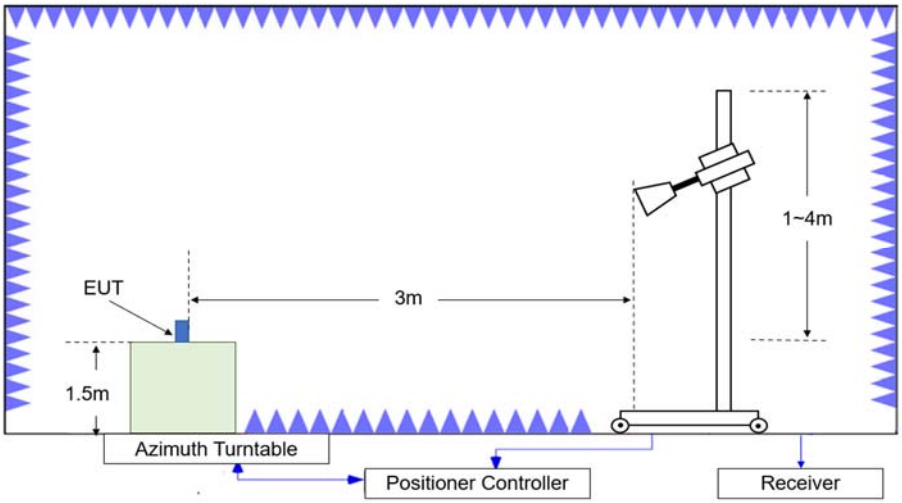


Figure A.2.3. Test Site Diagram (1GHz-40GHz)

Test Procedures

Radiated unwanted emissions from the EUT were measured according to ANSI C63.10.

Test setting

Frequency of emission (MHz)	RBW/VBW	Sweep Time(s)
30-1000	100kHz/300kHz	5
1000-3000	1MHz/3MHz	15
3000-18000	1MHz/3MHz	40
18000-26500	1MHz/3MHz	20

Sample Calculation

A "reference path loss" is established and the A_{Rpl} is the attenuation of “reference path loss”, and including the gain of receive antenna, the gain of the preamplifier, the cable loss.

P_{Mea} is the field strength recorded from the instrument.

The measurement results are obtained as described below:

Result=P_{Mea}+$A_{Rpl=}$ P_{Mea}+Cable Loss+Antenna Factor

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. Measurement frequencies were performed from 9 kHz to the 10^{th} harmonic of highest fundamental frequency.

Test Result

Peak

802.11b

Ch1

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)
2387.406	61.70	4.6	31.9	25.19	74.0	12.3	H
2389.618	61.33	4.6	31.9	24.82	74.0	12.7	V
4824.000	46.35	-32.7	33.9	45.25	74.0	27.6	V
7235.500	44.90	-31.5	35.5	40.94	74.0	29.1	V
9648.000	46.04	-29.9	36.6	39.31	74.0	28.0	V
12060.500	48.38	-28.0	39.0	37.40	74.0	25.6	V

Ch6

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)
2376.800	50.44	-26.7	31.9	45.21	74.0	23.6	V
2494.400	50.53	-26.7	32.1	45.16	74.0	23.5	H
4874.000	54.90	-33.0	33.8	54.05	74.0	19.1	H
7310.500	44.67	-31.4	35.5	40.54	74.0	29.3	H
9748.500	47.15	-29.9	36.8	40.22	74.0	26.9	H
12185.000	49.19	-27.9	38.8	38.22	74.0	24.8	V

Ch11

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)
2486.525	62.86	4.6	32.1	26.11	74.0	11.1	V
2486.155	62.19	4.6	32.1	25.45	74.0	11.8	H
4924.000	53.76	-32.9	33.9	52.81	74.0	20.2	V
7386.500	45.63	-31.4	35.7	41.28	74.0	28.4	H
9847.000	47.29	-29.8	36.9	40.16	74.0	26.7	V
12310.500	48.58	-28.0	38.9	37.72	74.0	25.4	H

802.11g

Ch1

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)
2387.392	70.92	4.6	31.9	34.41	74.0	3.1	H
2388.008	71.75	4.6	31.9	35.24	74.0	2.2	V
4825.500	47.45	-32.7	33.8	46.29	74.0	26.6	H
7236.000	43.58	-31.5	35.5	39.61	74.0	30.4	H
9647.000	46.41	-29.9	36.6	39.68	74.0	27.6	V
12060.000	48.25	-28.0	39.0	37.26	74.0	25.8	V

Ch6

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)
2367.600	50.35	-26.7	31.9	45.15	74.0	23.7	V
2507.200	50.91	-26.6	32.1	45.35	74.0	23.1	H
4874.000	50.49	-33.0	33.8	49.64	74.0	23.5	H
7311.500	43.95	-31.4	35.5	39.82	74.0	30.0	H
9748.000	46.37	-29.9	36.8	39.45	74.0	27.6	H
12186.500	48.75	-27.8	38.8	37.77	74.0	25.2	H

Ch11

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)
2483.650	70.50	4.7	32.1	33.74	74.0	3.5	V
2483.825	69.65	4.7	32.1	32.89	74.0	4.4	V
4923.500	49.39	-32.9	33.9	48.42	74.0	24.6	V
7385.500	45.33	-31.4	35.7	40.99	74.0	28.7	V
9849.000	46.34	-29.8	36.9	39.19	74.0	27.7	V
12311.000	48.59	-28.0	38.9	37.70	74.0	25.4	H

802.11n-HT20

Ch1

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)
2389.604	72.29	4.6	31.9	35.77	74.0	1.7	V
2390.038	72.23	4.6	31.9	35.71	74.0	1.8	V
4822.500	47.35	-32.8	33.9	46.31	74.0	26.7	H
7235.500	44.63	-31.5	35.5	40.68	74.0	29.4	V
9648.500	46.52	-29.9	36.6	39.79	74.0	27.5	V
12062.000	48.75	-28.0	39.0	37.78	74.0	25.3	H

Ch6

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)
2370.600	50.66	-26.7	31.9	45.46	74.0	23.3	V
2495.400	50.91	-26.7	32.1	45.54	74.0	23.1	H
4872.500	48.27	-33.0	33.8	47.38	74.0	25.7	V
7309.000	44.48	-31.4	35.5	40.38	74.0	29.5	V
9746.500	46.59	-29.9	36.8	39.68	74.0	27.4	V
12184.000	48.80	-27.9	38.8	37.84	74.0	25.2	H

Ch11

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)
2483.590	71.12	4.7	32.1	34.36	74.0	2.9	H
2484.525	71.07	4.6	32.1	34.32	74.0	2.9	H
4923.500	48.21	-32.9	33.9	47.25	74.0	25.8	V
7384.500	45.17	-31.4	35.7	40.84	74.0	28.8	H
9848.000	46.60	-29.8	36.9	39.46	74.0	27.4	V
12312.000	48.58	-27.9	38.9	37.63	74.0	25.4	H

802.11n-HT40

Ch3

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)
2388.456	70.89	4.6	31.9	34.38	74.0	3.1	V
2389.996	69.89	4.6	31.9	33.37	74.0	4.1	H
4843.500	44.76	-32.9	33.8	43.88	74.0	29.2	H
7266.000	45.80	-31.4	35.4	41.78	74.0	28.2	V
9688.500	46.65	-30.0	36.5	40.16	74.0	27.4	V
12109.500	49.49	-27.7	39.0	38.20	74.0	24.5	V

Ch6

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)
2381.200	51.04	-26.7	31.9	45.79	74.0	23.0	V
2505.200	51.21	-26.6	32.1	45.70	74.0	22.8	H
4874.500	45.09	-33.0	33.8	44.25	74.0	28.9	V
7311.500	44.52	-31.4	35.5	40.39	74.0	29.5	V
9748.000	46.43	-29.9	36.8	39.51	74.0	27.6	H
12184.000	49.55	-27.9	38.8	38.59	74.0	24.5	V

Ch9

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)
2483.615	67.99	4.7	32.1	31.24	74.0	6.0	H
2484.915	67.51	4.6	32.1	30.76	74.0	6.5	V
4923.500	45.33	-32.9	33.9	44.36	74.0	28.7	H
7352.500	46.56	-31.0	35.7	41.85	74.0	27.4	V
9807.000	46.14	-30.0	36.9	39.20	74.0	27.9	H
12259.000	48.68	-27.9	38.9	37.70	74.0	25.3	H

Average

802.11b

Ch1

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)
2388.030	48.37	4.6	31.9	11.86	54.0	5.6	V
2388.600	48.31	4.6	31.9	11.80	54.0	5.7	V
4824.000	39.08	-32.7	33.9	37.98	54.0	14.9	V
7236.000	31.29	-31.5	35.5	27.33	54.0	22.7	V
9648.000	33.05	-29.9	36.6	26.32	54.0	20.9	H
12060.000	35.57	-28.0	39.0	24.58	54.0	18.4	H

Ch6

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)
2385.450	48.03	4.6	31.9	11.53	54.0	6.0	V
2486.370	48.22	4.6	32.1	11.47	54.0	5.8	V
4874.000	52.62	-33.0	33.8	51.77	54.0	1.4	V
7311.000	31.97	-31.4	35.5	27.84	54.0	22.0	H
9748.000	33.86	-29.9	36.8	26.93	54.0	20.1	V
12185.000	36.19	-27.9	38.8	25.22	54.0	17.8	H

Ch11

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)
2485.800	48.90	4.6	32.1	12.15	54.0	5.1	V
2486.310	48.89	4.6	32.1	12.15	54.0	5.1	V
4923.667	51.13	-32.9	33.9	50.16	54.0	2.9	H
7386.000	33.02	-31.4	35.7	28.67	54.0	21.0	V
9848.000	33.83	-29.8	36.9	26.69	54.0	20.2	H
12310.000	36.11	-28.1	38.9	25.27	54.0	17.9	V

802.11g

Ch1

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)
2389.920	51.94	4.6	31.9	15.42	54.0	2.1	V
2389.980	51.97	4.6	31.9	15.45	54.0	2.0	V
4824.000	32.94	-32.7	33.9	31.83	54.0	21.1	H
7236.000	31.29	-31.5	35.5	27.33	54.0	22.7	H
9648.000	33.15	-29.9	36.6	26.42	54.0	20.9	H
12060.000	35.82	-28.0	39.0	24.84	54.0	18.2	H

Ch6

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)
2386.710	48.15	4.6	31.9	11.64	54.0	5.8	V
2484.180	48.44	4.7	32.1	11.69	54.0	5.6	V
4874.000	37.01	-33.0	33.8	36.15	54.0	17.0	V
7311.000	31.48	-31.4	35.5	27.35	54.0	22.5	V
9748.000	33.32	-29.9	36.8	26.40	54.0	20.7	H
12185.000	35.63	-27.9	38.8	24.67	54.0	18.4	H

Ch11

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)
2483.580	51.17	4.7	32.1	14.42	54.0	2.8	V
2483.640	51.13	4.7	32.1	14.38	54.0	2.9	V
4924.000	35.63	-32.9	33.9	34.67	54.0	18.4	V
7510.666	32.06	-31.0	35.7	27.39	54.0	21.9	V
9848.000	33.84	-29.8	36.9	26.70	54.0	20.2	V
12310.000	35.64	-28.1	38.9	24.80	54.0	18.4	V

802.11n-HT20

Ch1

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)
2389.740	49.69	4.6	31.9	13.18	54.0	4.3	V
2389.950	49.73	4.6	31.9	13.22	54.0	4.3	V
4817.000	32.14	-33.0	33.9	31.23	54.0	21.9	H
7236.000	31.60	-31.5	35.5	27.64	54.0	22.4	H
9648.000	33.48	-29.9	36.6	26.75	54.0	20.5	H
12060.000	36.11	-28.0	39.0	25.13	54.0	17.9	V

Ch6

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)
2389.470	48.33	4.6	31.9	11.81	54.0	5.7	V
2389.560	48.30	4.6	31.9	11.78	54.0	5.7	V
4870.667	36.12	-32.9	33.8	35.19	54.0	17.9	V
7311.000	31.70	-31.4	35.5	27.56	54.0	22.3	H
9748.000	33.48	-29.9	36.8	26.56	54.0	20.5	H
12185.000	34.85	-27.9	38.8	23.88	54.0	19.2	V

Ch11

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)
2483.520	51.15	4.7	32.1	14.40	54.0	2.8	V
2483.550	51.13	4.7	32.1	14.38	54.0	2.9	V
4924.000	34.84	-32.9	33.9	33.88	54.0	19.2	V
7386.000	32.08	-31.4	35.7	27.73	54.0	21.9	H
9848.000	33.87	-29.8	36.9	26.73	54.0	20.1	V
12310.000	35.67	-28.1	38.9	24.83	54.0	18.3	H

802.11n-HT40

Ch3

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)
2389.710	51.48	4.6	31.9	14.97	54.0	2.5	V
2389.890	51.50	4.6	31.9	14.99	54.0	2.5	V
4844.000	32.51	-33.0	33.8	31.66	54.0	21.5	H
7266.000	31.94	-31.4	35.4	27.93	54.0	22.1	V
9688.000	33.36	-30.0	36.5	26.88	54.0	20.6	H
12110.000	36.47	-27.7	39.0	25.16	54.0	17.5	H

Ch6

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)
2389.530	49.08	4.6	31.9	12.56	54.0	4.9	V
2389.830	49.04	4.6	31.9	12.52	54.0	5.0	V
4866.667	32.46	-33.0	33.8	31.63	54.0	21.5	H
7311.000	31.78	-31.4	35.5	27.65	54.0	22.2	V
9748.000	33.58	-29.9	36.8	26.66	54.0	20.4	V
12185.000	35.92	-27.9	38.8	24.95	54.0	18.1	H

Ch9

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)
2483.790	49.48	4.7	32.1	12.73	54.0	4.5	V
2483.940	49.45	4.7	32.1	12.70	54.0	4.6	V
4914.000	32.58	-32.7	33.9	31.38	54.0	21.4	V
7356.000	32.99	-31.1	35.7	28.42	54.0	21.0	H
9808.000	33.72	-29.9	36.9	26.76	54.0	20.3	H
12260.000	36.05	-27.9	38.9	25.09	54.0	18.0	V

Conclusion: Pass

Note: the spurious emission above 18G is noise only and did not show on the report.

Band edge compliance

802.11b mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11b	1	2.31GHz~2.43GHz---L	Fig.1	P
	11	2.45GHz~2.50GHz---H	Fig.2	P

802.11g mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11g	1	2.31GHz~2.43GHz---L	Fig.3	P
	10	2.45GHz~2.50GHz---H	Fig.4	P
	11	2.45GHz~2.50GHz---H	Fig.5	P

802.11n-HT20 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n (HT20)	1	2.31GHz~2.43GHz---L	Fig.6	P
	11	2.45GHz~2.50GHz---H	Fig.7	P

802.11n-HT40 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n (HT40)	3	2.31GHz~2.43GHz---L	Fig.8	P
	9	2.45GHz~2.50GHz---H	Fig.9	P

Test graphs as below:

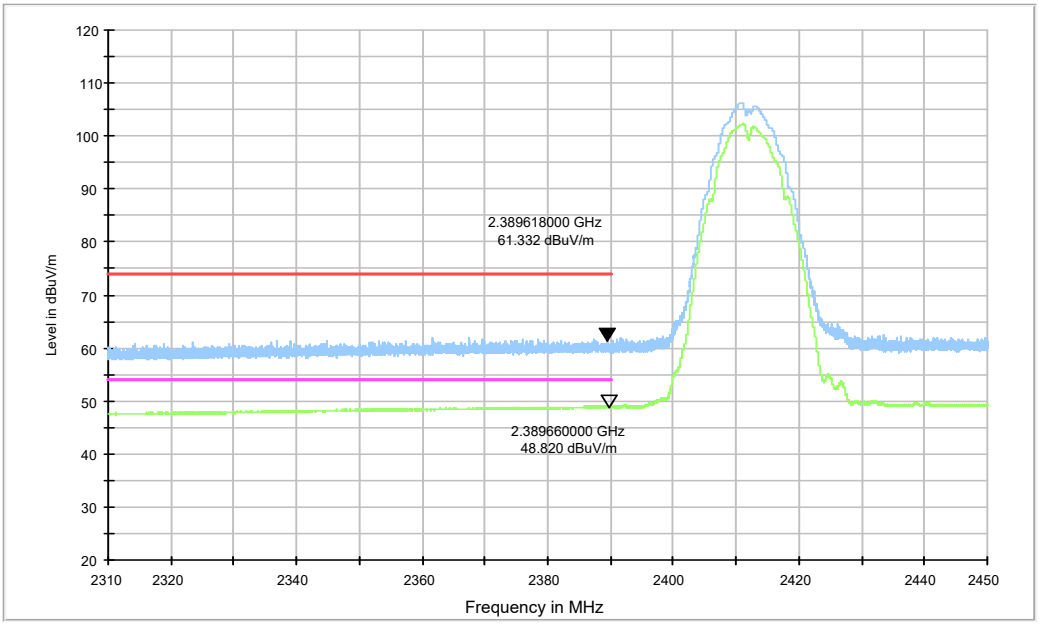


Fig.1 Transmitter Spurious Emission - Radiated (Power): 802.11b, ch1, 2.31 GHz – 2.43GHz

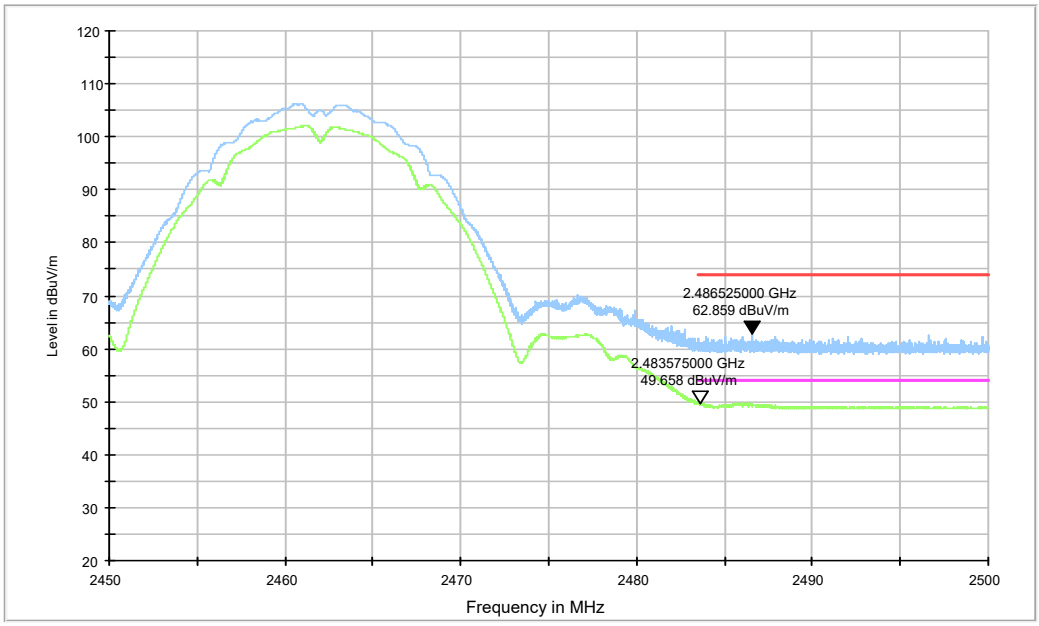


Fig.2 Transmitter Spurious Emission - Radiated (Power): 802.11b, ch11, 2.45 GHz - 2.50GHz

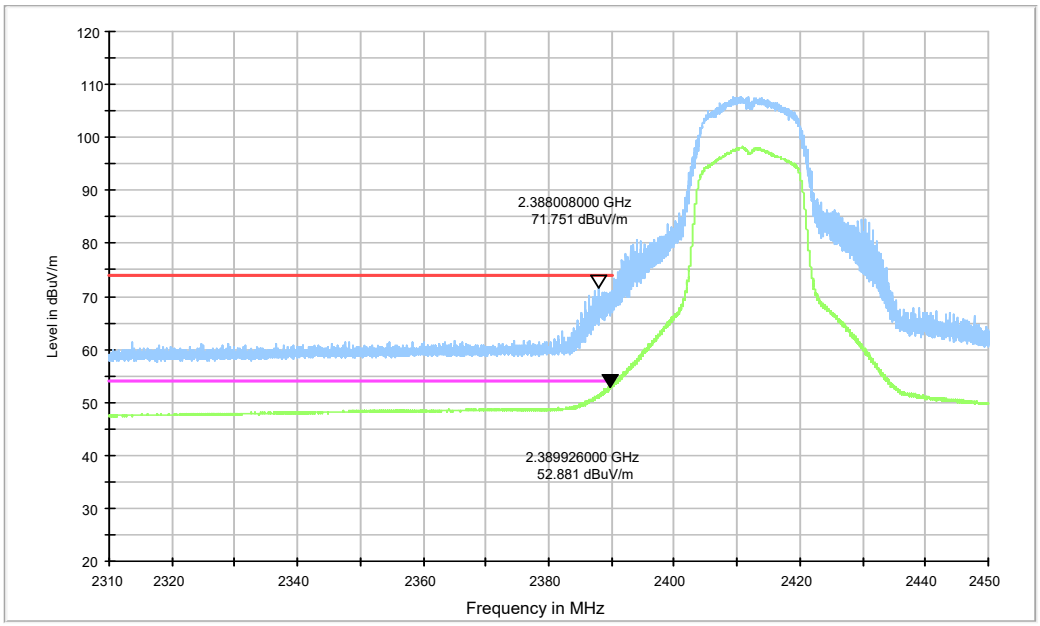


Fig.3 Transmitter Spurious Emission - Radiated (Power): 802.11g, ch1, 2.31 GHz - 2.43GHz

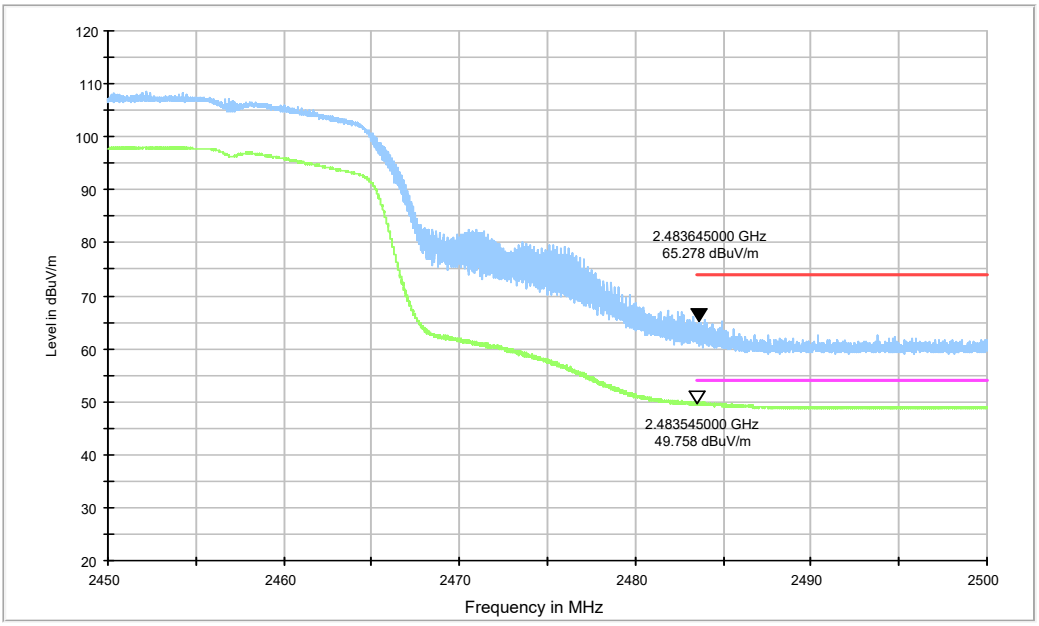


Fig.4 Transmitter Spurious Emission - Radiated (Power): 802.11g, ch10, 2.45 GHz - 2.50GHz

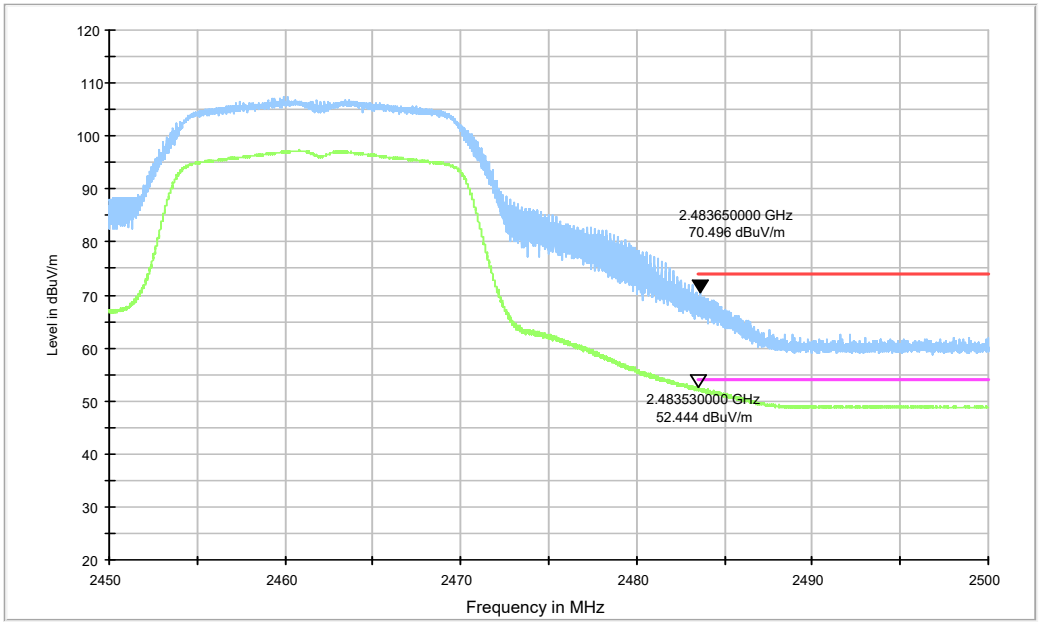


Fig.5 Transmitter Spurious Emission - Radiated (Power): 802.11g, ch11, 2.45 GHz - 2.50GHz

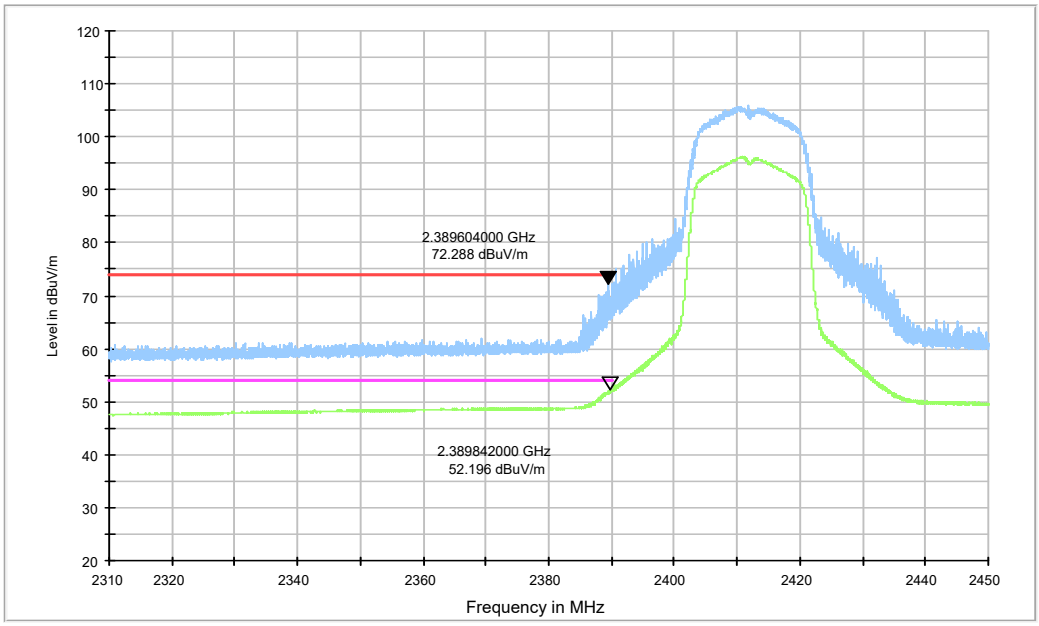


Fig.6 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch1, 2.31 GHz - 2.43GHz

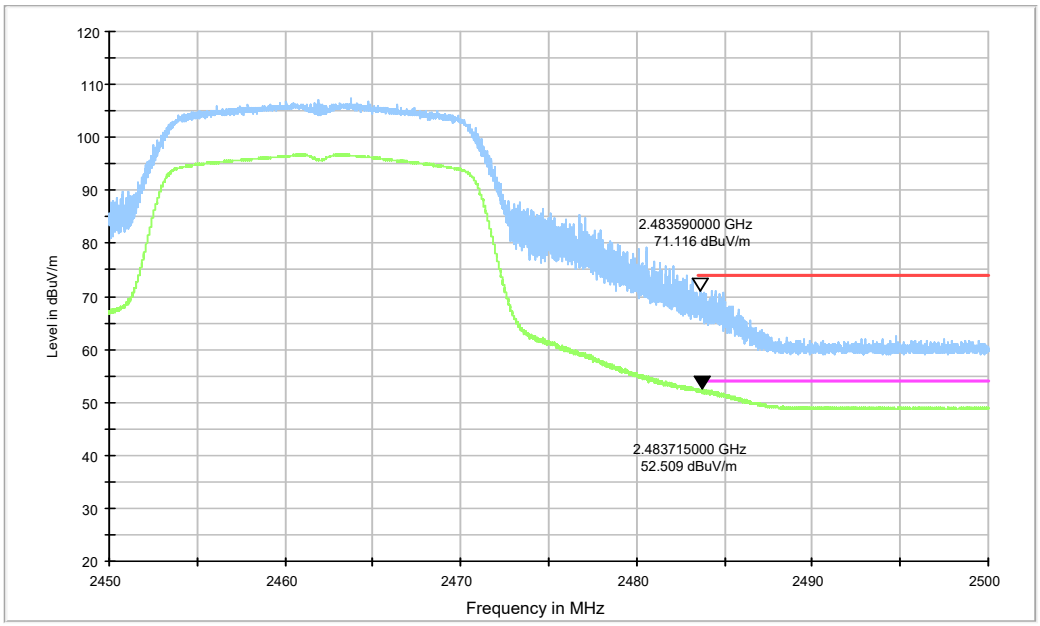


Fig.7 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch11, 2.45 GHz - 2.50GHz

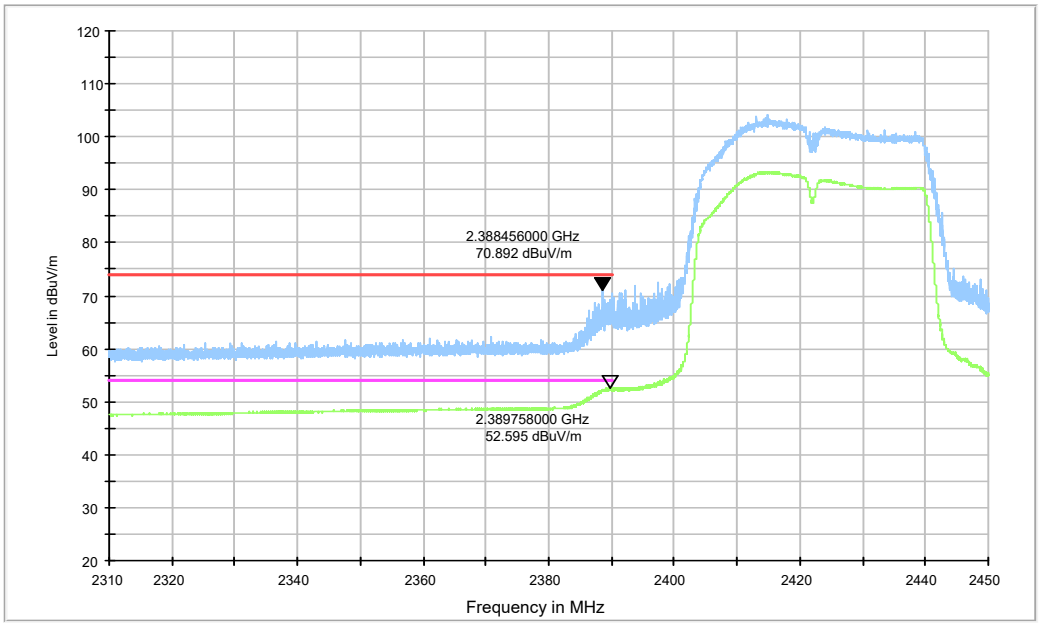


Fig.8 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch3, 2.31 GHz - 2.43GHz

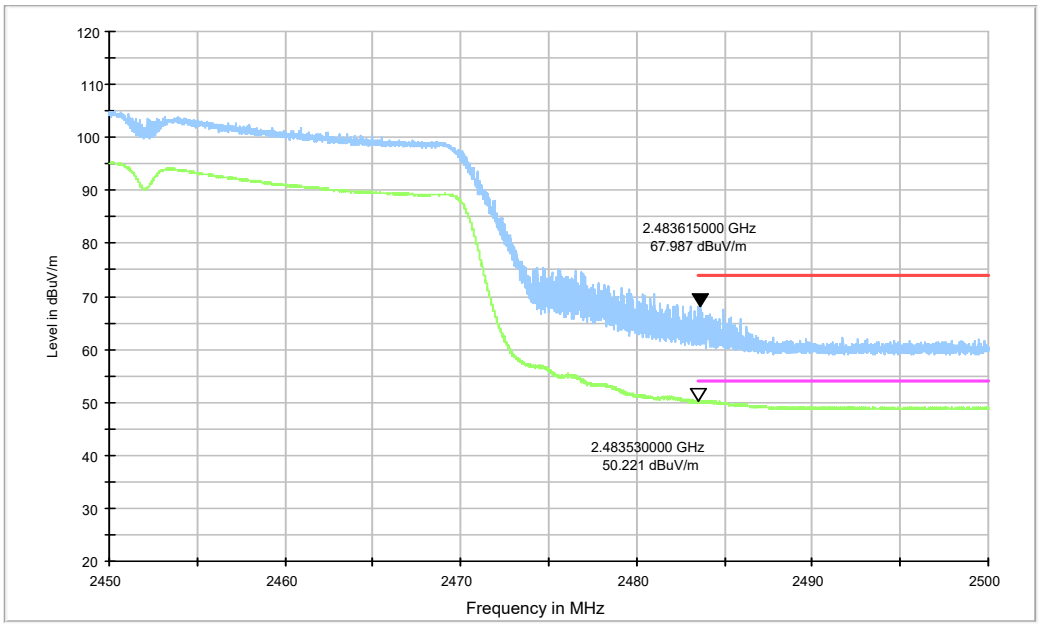


Fig.9 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch9, 2.45 GHz - 2.50GHz

A.8. AC Power-line Conducted Emission

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

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.

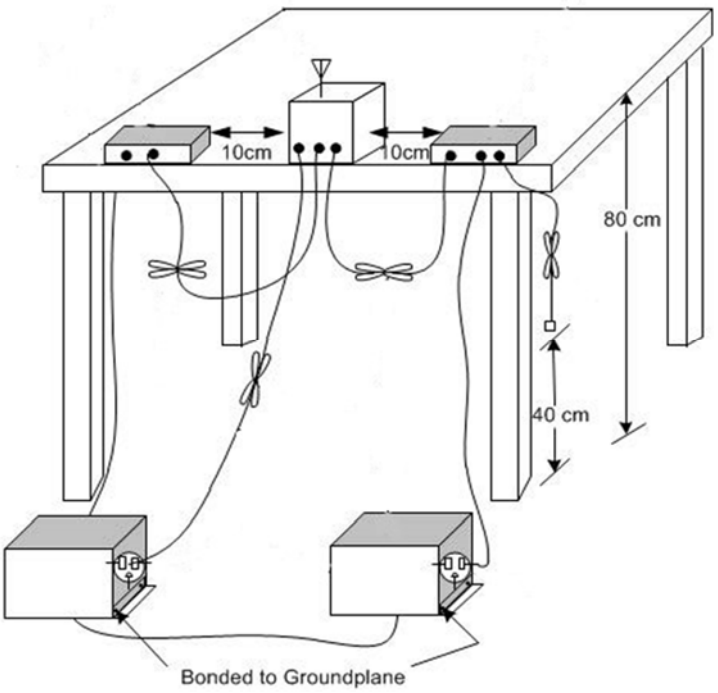
The measurement bandwidth is:

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

Test Condition:

Voltage（V）	Frequency（Hz）
120	60

Test setup



Measurement Result and limit:

WLAN (Quasi-peak Limit)

Frequency range (MHz)	Quasi-peak Limit (dBμV)	Result (dBμV)		Conclusion
		With charger		
		802.11b	Idle	
0.15 to 0.5	66 to 56	Fig.A.8.1	Fig.A.8.2	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		
		802.11b	Idle	
0.15 to 0.5	56 to 46	Fig.A.8.1	Fig.A.8.2	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:

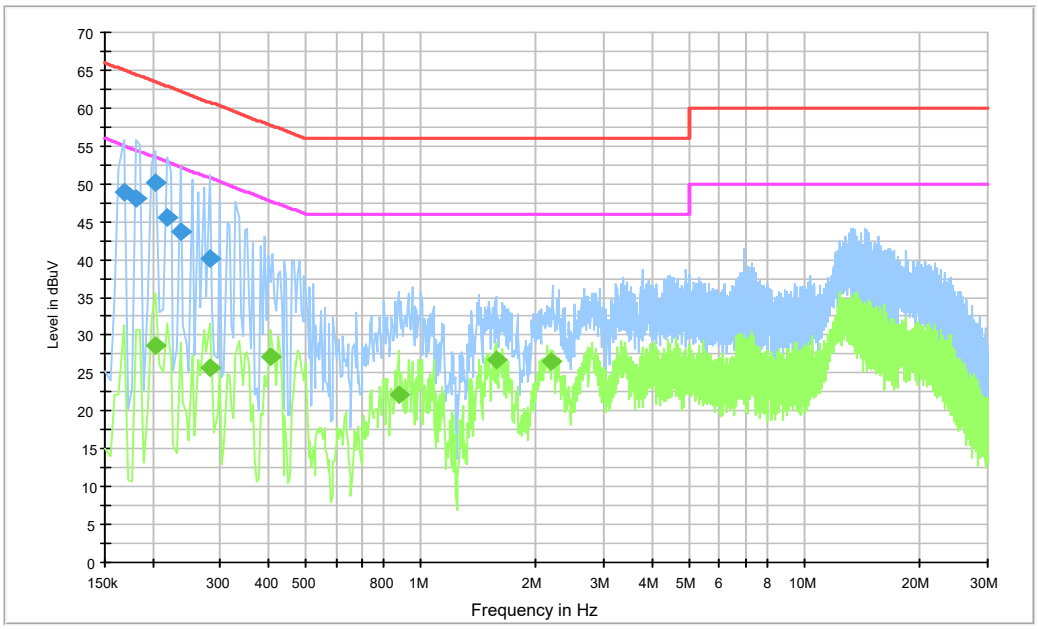


Fig.A.8.1 AC Powerline Conducted Emission-802.11b

Note: The graphic result above is the maximum of the measurements for both phase line and neutral line.

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.168000	48.9	2000.0	9.000	N	20.1	16.2	65.1
0.181500	48.1	2000.0	9.000	N	20.0	16.3	64.4
0.204000	50.2	2000.0	9.000	L1	20.0	13.3	63.4
0.217500	45.5	2000.0	9.000	L1	20.0	17.4	62.9
0.235500	43.8	2000.0	9.000	L1	20.0	18.5	62.3
0.280500	40.0	2000.0	9.000	L1	20.0	20.8	60.8

Final Result 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.204000	28.6	2000.0	9.000	N	20.0	24.9	53.4
0.280500	25.7	2000.0	9.000	N	20.1	25.1	50.8
0.406500	27.1	2000.0	9.000	N	20.1	20.6	47.7
0.874500	22.1	2000.0	9.000	N	20.1	23.9	46.0
1.567500	26.8	2000.0	9.000	L1	19.9	19.2	46.0
2.188500	26.5	2000.0	9.000	L1	19.8	19.5	46.0

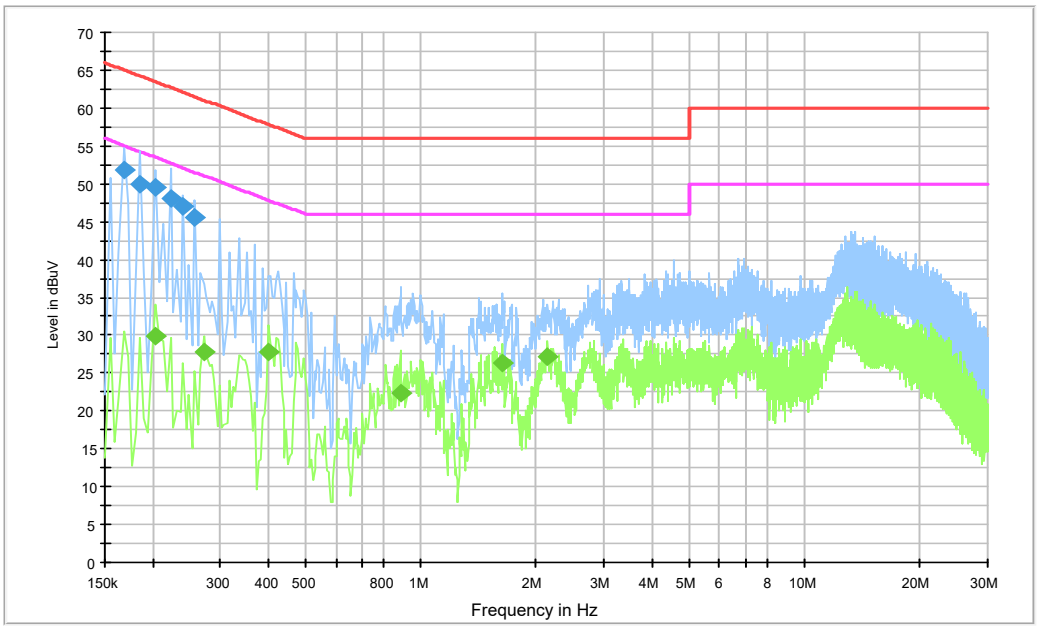


Fig.A.8.2 AC Powerline Conducted Emission-Idle

Note: The graphic result above is the maximum of the measurements for both phase line and neutral line.

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.168000	51.7	2000.0	9.000	N	20.1	13.3	65.1
0.186000	49.9	2000.0	9.000	L1	20.0	14.4	64.2
0.204000	49.5	2000.0	9.000	L1	20.0	13.9	63.4
0.222000	48.0	2000.0	9.000	L1	20.0	14.7	62.7
0.240000	46.9	2000.0	9.000	L1	20.0	15.1	62.1
0.258000	45.6	2000.0	9.000	L1	20.0	15.9	61.5

Final Result 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.204000	29.8	2000.0	9.000	L1	20.0	23.6	53.4
0.271500	27.8	2000.0	9.000	N	20.1	23.3	51.1
0.402000	27.7	2000.0	9.000	N	20.1	20.1	47.8
0.883500	22.3	2000.0	9.000	N	20.1	23.7	46.0
1.630500	26.3	2000.0	9.000	L1	19.8	19.7	46.0
2.143500	27.2	2000.0	9.000	L1	19.8	18.8	46.0

A.9. 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.

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 McInturff, 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*****