





FCC PART 15C TEST REPORT No.25T04Z100217-009

for

TCL Communication Ltd.

GSM/UMTS/LTE mobile phone

T517F

FCC ID:2ACCJB237

with

Hardware Version: 05

Software Version: 3A4G

Issued Date: 2025-03-21

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
25T04Z100217-009	Rev.0	1st edition	2025-03-21

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

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





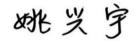
1.3. Testing Environment

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

1.4. Project date

Testing Start Date:	2025-02-10
Testing End Date:	2025-03-21

1.5. Signature



Yao Xingyu (Prepared this test report)

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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/Post:	5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science
	Park, Shatin, NT, Hong Kong
City:	Hong Kong
Postal Code:	1
Country:	China
Contact Person:	Ting Wang
Contact Email:	ting.wang.hz@tcl.com
Telephone:	+86 752 2639091
Fax:	0086-755-36612000-81722

2.2. Manufacturer Information

Company Name:	TCL Communication Ltd.
Address/Post:	5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science
	Park, Shatin, NT, Hong Kong
City:	Hong Kong
Postal Code:	1
Country:	China
Contact Person:	Ting Wang
Contact Email:	ting.wang.hz@tcl.com
Telephone:	+86 752 2639091
Fax:	0086-755-36612000-81722





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

3.1. About EUT

Description	GSM/UMTS/LTE mobile phone
Model name	T517F
FCC ID	2ACCJB237
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	23.75dBm
Normal Voltage	3.91V
Extreme High Voltage	4.5V
Extreme Low Voltage	3.6V

3.2. Internal Identification of EUT

EUT ID*	SN or IMEI	HW Version	SW Version	Date of receipt
UT07a	356956250000133/	05	3A4G	2025-02-10
	356956250000141			
UT18a	356956250000596/	05	3A4G	2025-03-10
	356956250000604			

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

UT07a is used for Conduction test, UT18a is used for Radiation test.

3.3. Internal Identification of AE

AE ID*	Description	Model	Manufacturer
AE1	Battery1	TLp050C7	Dongguan Veken Battery Co., Ltd.
AE2	Battery2	TLp050CB	Shenzhen Aerospace Electronic Co., Ltd.
AE3	Charger1	QC13US-N	ShenZhen BajunDa Electronics Co.,Ltd
AE4	USB Cable1	JWUB1686-M01R	Huizhou Juwei Electronics Co.,Ltd
AE5	USB Cable2	FKY-23-367	Qiyang Fukangyuan Electronic Technology
			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 GSM/UMTS/LTE mobile phone 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. <u>Reference Documents</u>

4.1. Documents supplied by applicant

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

4.2. <u>Reference Documents for testing</u>

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

Reference	Title	Version	
	FCC CFR 47, Part 15, Subpart C:		
	15.205 Restricted bands of operation;		
FCC Part15	15.209 Radiated emission limits, general requirements;	2021	
	15.247 Operation within the bands 902-928MHz,		
	2400-2483.5 MHz, and 5725-5850 MHz.		
ANSI C63.10	American National Standard of Procedures for Compliance	2013	
ANSI C03.10	Testing of Unlicensed Wireless Devices	2013	
	Federal Communications Commission Office of		
	Engineering and Technology Laboratory Division		
	GUIDANCE FOR COMPLIANCE MEASUREMENTS ON		
KDB 558074 D01	DIGITAL TRANSMISSION SYSTEM, FREQUENCY	2019	
	HOPPING SPREAD SPECTRUM SYSTEM, AND HYBRID		
	SYSTEM DEVICES OPERATING UNDER SECTION		
	15.247 OF THE FCC RULES		
Nata KDD CC0074 D	04 is not in the second of ICO/IEC 17005 second itation by AOLA		

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. <u>Test Results</u>

6.1. <u>Summary of Test Results</u>

SUMMARY OF MEASUREMENT RESULTS	Sub-clause of Part15C	Sub-clause of IC	Verdict
Maximum Peak Output Power	15.247 (b)	1	Р
Peak Power Spectral Density	15.247 (e)	1	Р
DTS 6-dB Signal Bandwidth	15.247 (a)	1	Р
Band Edges Compliance	15.247 (d)	1	Р
Transmitter Spurious Emission - Conducted	15.247 (d)	1	Р
Radiated Unwanted Emission	15.247, 15.205, 15.209	1	Р
AC Powerline Conducted Emission	15.107, 15.207	1	Р

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

Terms used in Verdict column

Р	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	3.91V
Humidity	44%





7. Test Facilities Utilized

Conducted test system

No.	Equipment	Model	Serial	Serial Manufacturer		Calibration
NO.	Equipment	Widdei	Number	Manufacturer	Period	Due date
1	Vector Signal	FSW67	104051	Rohde &	1.voor	2025-04-30
	Analyzer	F3W07	104051	Schwarz	1 year	2025-04-50
2	Test Receiver	ESCI	100766	R&S	1 year	2025-04-18
3	LISN	ENV216	101459	R&S	1 year	2025-05-16
4	Attenuator	10dB/2W	/	Rosenberger	/	/
5	Shielding Room	S81	/	ETS-Lindgren	/	/
6	Data Acquisition		TW64400500	Agilant	1	1
0	Unit	U2531A	TW54433522	Agilent	1	/
7	Power Sensor	U2021XA	MY54460006	Agilent	1 year	2025-06-15

Radiated emission test system

No.	Equipment	Model	Serial	Manufacturer	Calibration	Calibration
NO.	Equipment	Model	Number	Wallulacturer	Period	Due date
1	Test Receiver	ESW44	103015	R&S	1 year	2026-01-15
2		VULB 01170	01176	SCHWARZBE	1 voor	2025-04-07
2	EMI Antenna	9163	01176	СК	1 year	2023-04-07
3	EMI Antenna	3117	00058888	ETS-Lindgren	1 year	2025-09-18
4	Bluetooth	CMW500	143008	Rohde &	1.voor	2026-01-15
4	Tester	CIVIV500	143006	Schwarz	1 year	2020-01-15
5	EMI Antenna	LB-180400-	2110084000	A-INFO	1.voor	2025-05-22
5		25-C-KF	006	A-INFO	1 year	2025-05-22





8. <u>Measurement Uncertainty</u>

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)

Uncertainty(dB)
1.22
1.22
1.22
1.51
1.51
1.59

8.6. Radiated Unwanted Emission

Frequency Range	Uncertainty(dB) k=2
9kHz-30MHz	3.96
30MHz ≤ f ≤ 1GHz	5.29
1GHz ≤ f ≤18GHz	5.62
18GHz ≤ f ≤40GHz	3.52

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

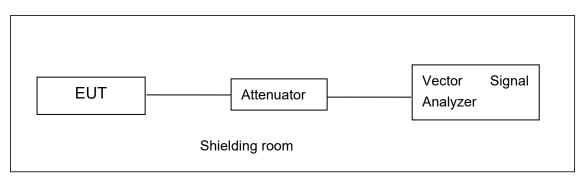


Fig.A.1.1.1: Test Setup Diagram for Conducted Measurements

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 -0.3dBi and the value is supplied by the applicant or manufacturer.

A.2.2. Peak Output Power-conducted

EUT ID: UT07a

Measurement Results:

802.11b/g mode

	Doto Poto		Test Result (dBm)	
Mode	Data Rate (Mbps)	2412MHz (Ch1)	2437MHz (Ch6)	2462 MHz (Ch11)
802.11b	1	19.89	19.96	19.70
802.11g	6	23.25	23.71	22.83

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

802.11n-HT20 mode

	Data Rate		Test Result (dBm)	
Mode	(Index)	2412MHz (Ch1)	2437MHz (Ch6)	2462 MHz (Ch11)
802.11n (20MHz)	MCS0	23.38	23.75	22.87

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





802.11n-HT40 mode

	Data Rate		Test Result (dBm)	
Mode	(Index)	2422MHz (Ch3)	2437MHz (Ch6)	2452 MHz (Ch9)
802.11n (40MHz)	MCS0	23.08	23.17	22.03

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

The duty cycle of all mode are 100%

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: UT07a

Measurement Results:

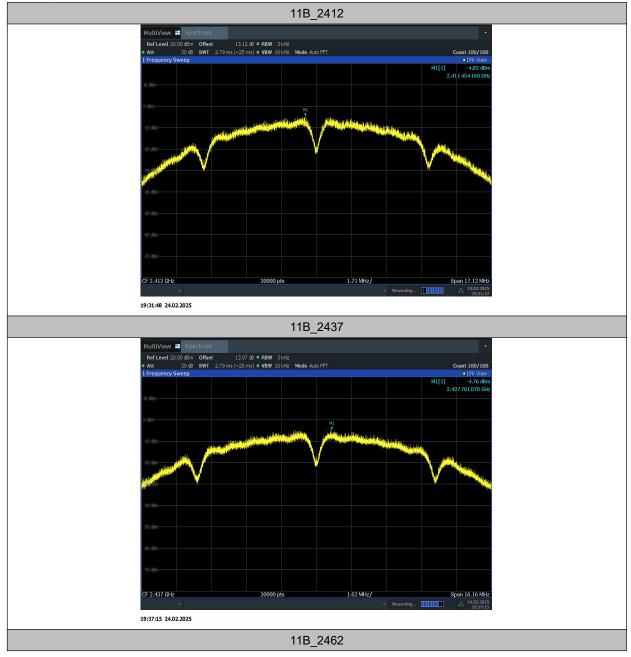
TestMode	Frequency[MHz]	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
	2412	-4.82	≤8.00	PASS
11B	2437	-4.76	≤8.00	PASS
	2462	-4.43	≤8.00	PASS
	2412	-7.86	≤8.00	PASS
11G	2437	-7.73	≤8.00	PASS
	2462	-8.74	≤8.00	PASS
	2412	-8.11	≤8.00	PASS
11N20SISO	2437	-8.04	≤8.00	PASS
	2462	-9.48	≤8.00	PASS





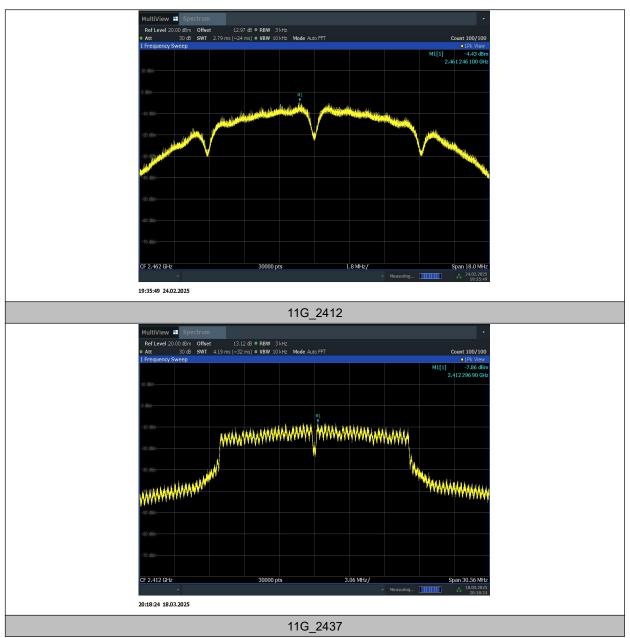
	2422	-12.94	≤8.00	PASS
11N40SISO	2437	-12.71	≤8.00	PASS
	2452	-15.37	≤8.00	PASS

Test graphs as below:



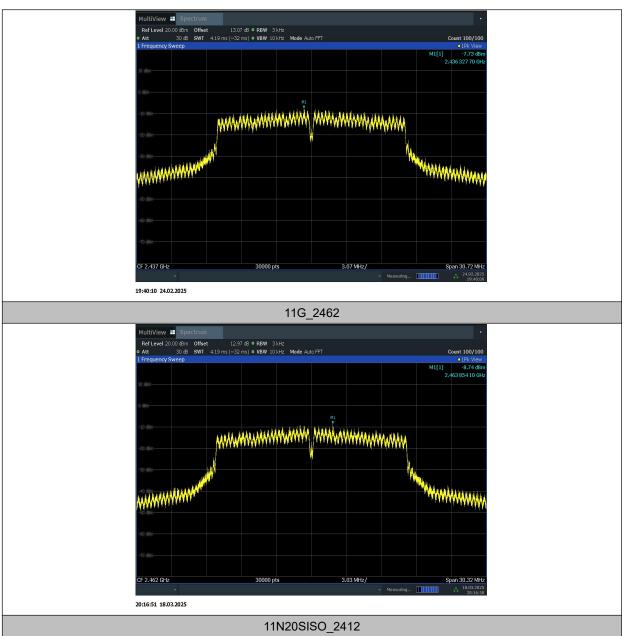






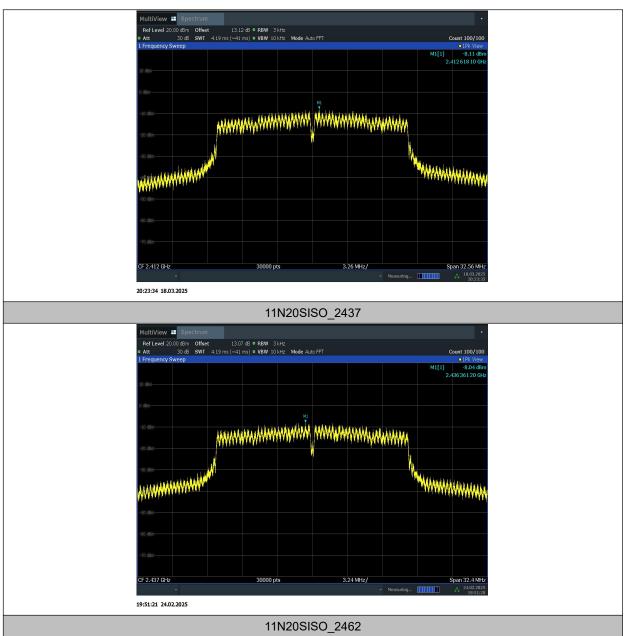






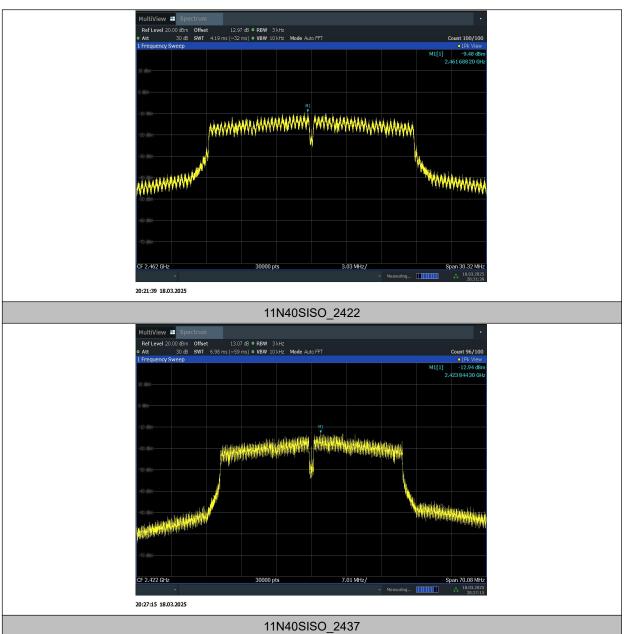






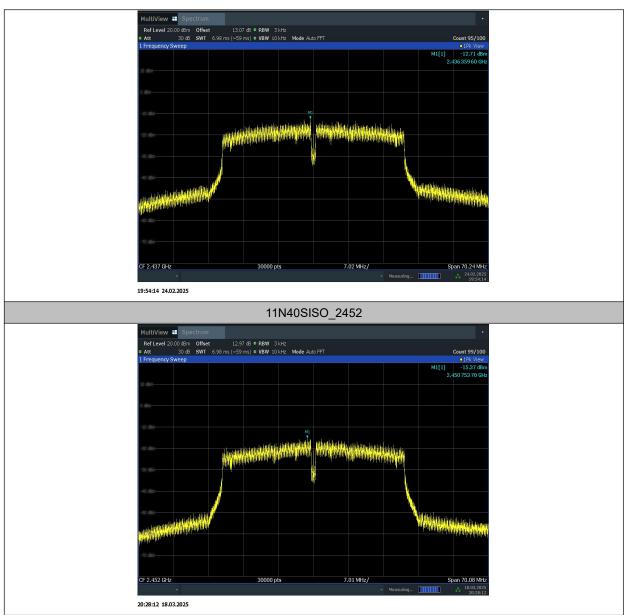












Conclusion: Pass





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: UT07a

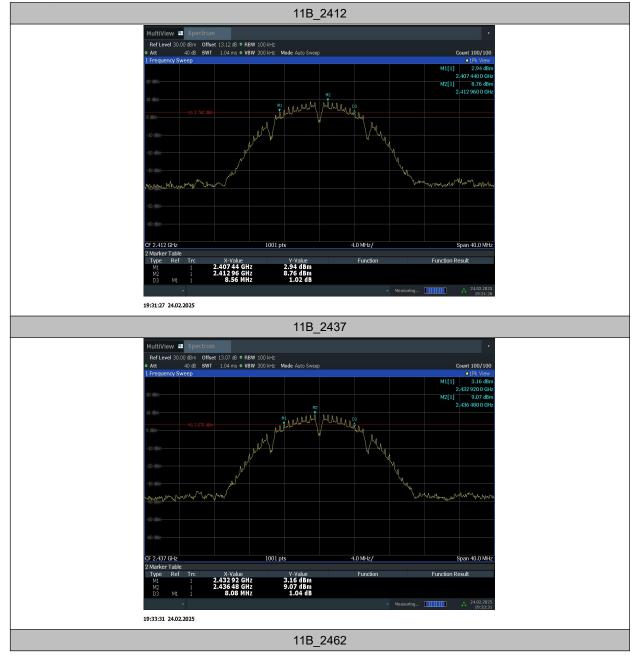
Measurement Result:

TestMode	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
	2412	8.56	2407.44	2416.00	0.5	PASS
11B	2437	8.08	2432.92	2441.00	0.5	PASS
	2462	9.00	2457.48	2466.48	0.5	PASS
	2412	15.28	2404.48	2419.76	0.5	PASS
11G	2437	15.36	2429.20	2444.56	0.5	PASS
	2462	15.16	2454.40	2469.56	0.5	PASS
	2412	16.28	2404.20	2420.48	0.5	PASS
11N20SISO	2437	16.20	2428.56	2444.76	0.5	PASS
	2462	15.16	2454.40	2469.56	0.5	PASS
	2422	35.04	2404.48	2439.52	0.5	PASS
11N40SISO	2437	35.12	2419.40	2454.52	0.5	PASS
	2452	35.04	2434.48	2469.52	0.5	PASS



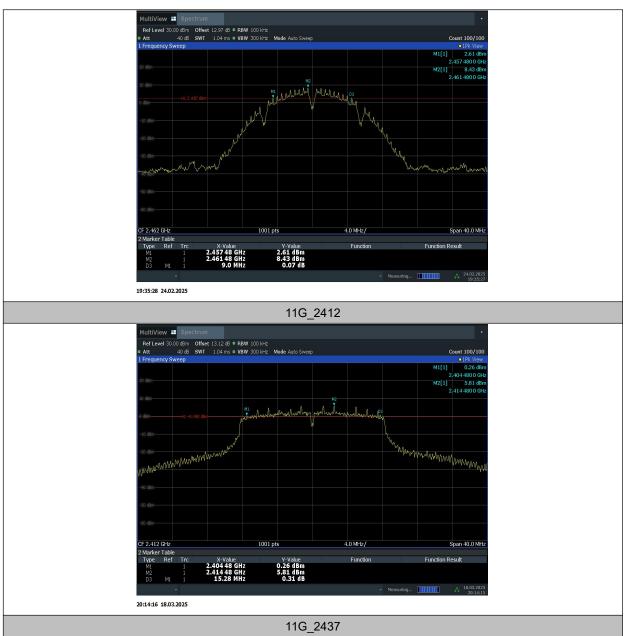


Test graphs as below:



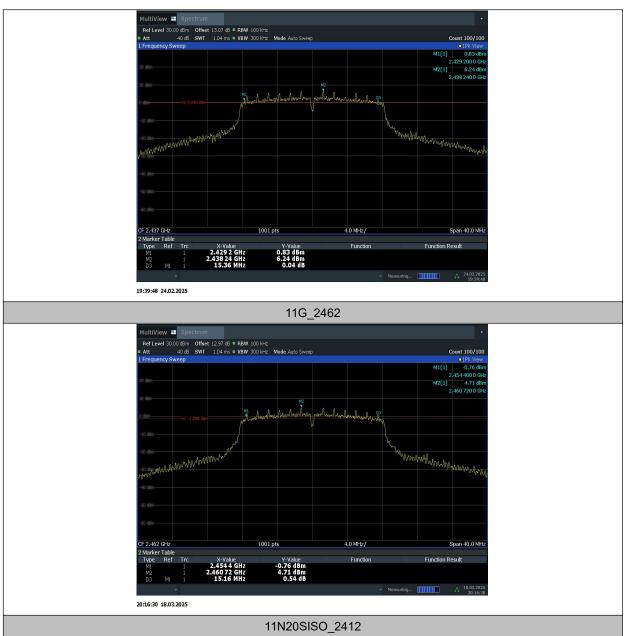






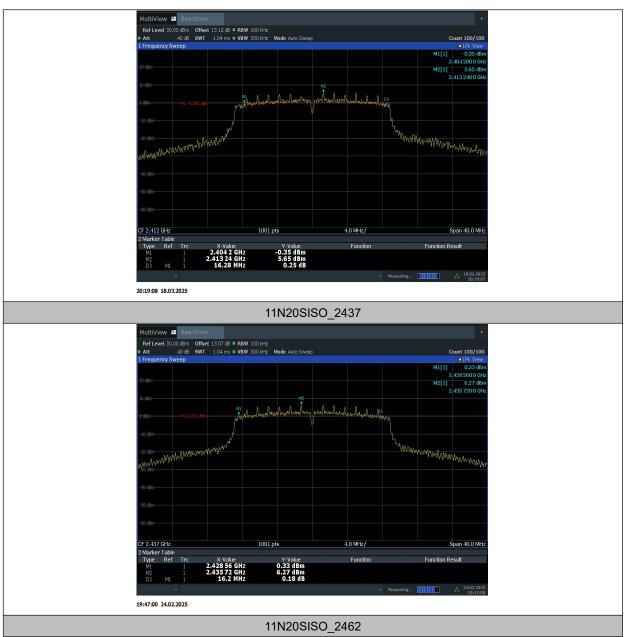






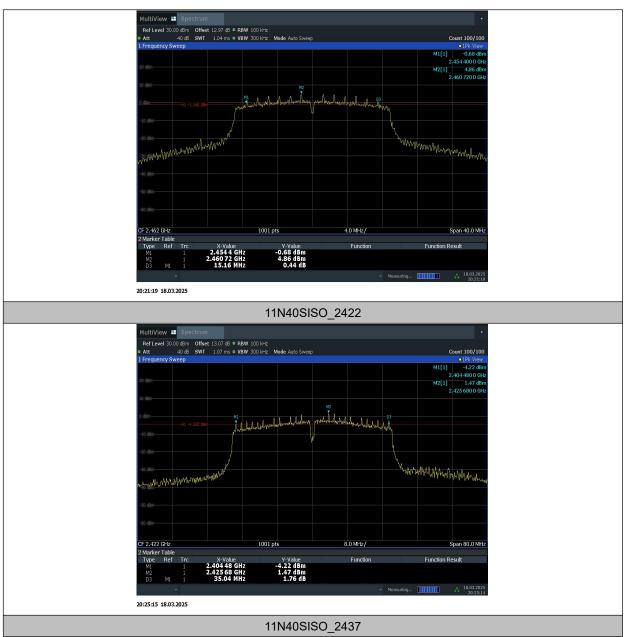






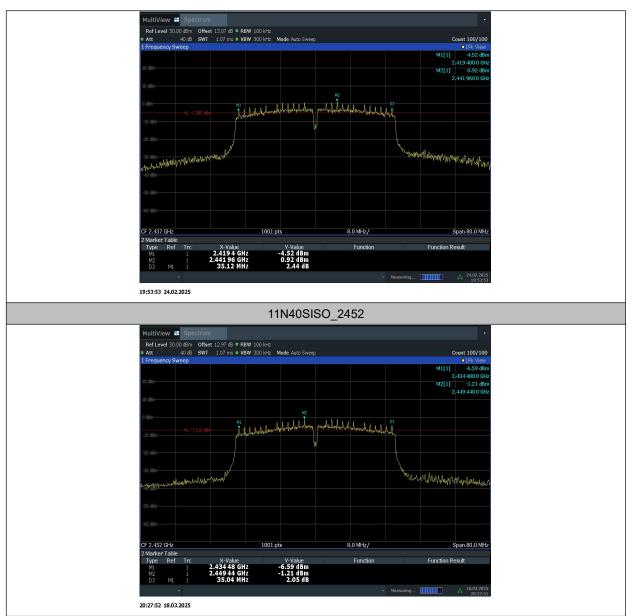












Conclusion: Pass





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: UT07a

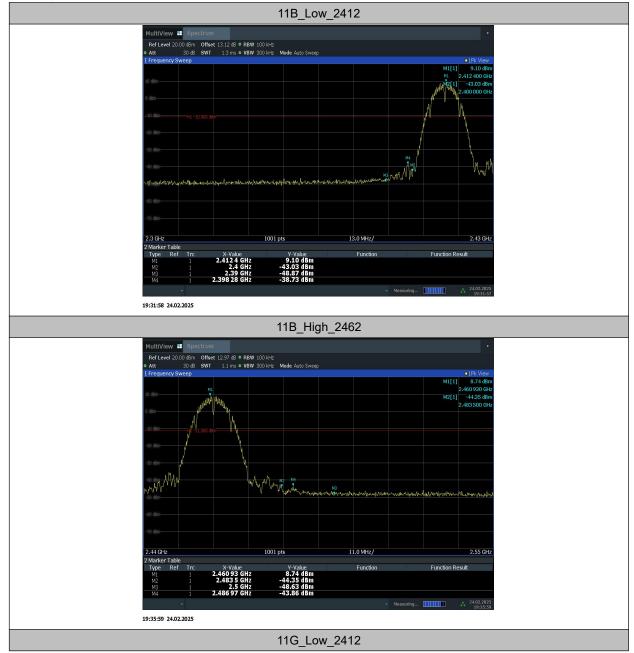
Measurement Result:

TestMode	ChName	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Low	2412	9.10	-38.73	≤-10.9	PASS
ПВ	High	2462	8.74	-43.86	≤-11.26	PASS
11G	Low	2412	5.77	-21.37	≤-14.23	PASS
ПG	High	2462	4.90	-36.32	≤-15.1	PASS
11N20SISO	Low	2412	5.86	-20.38	≤-14.14	PASS
1111203130	High	2462	4.79	-32	≤-15.21	PASS
11N40SISO -	Low	2422	1.51	-32.97	≤-18.49	PASS
	High	2452	-0.99	-34.73	≤-20.99	PASS



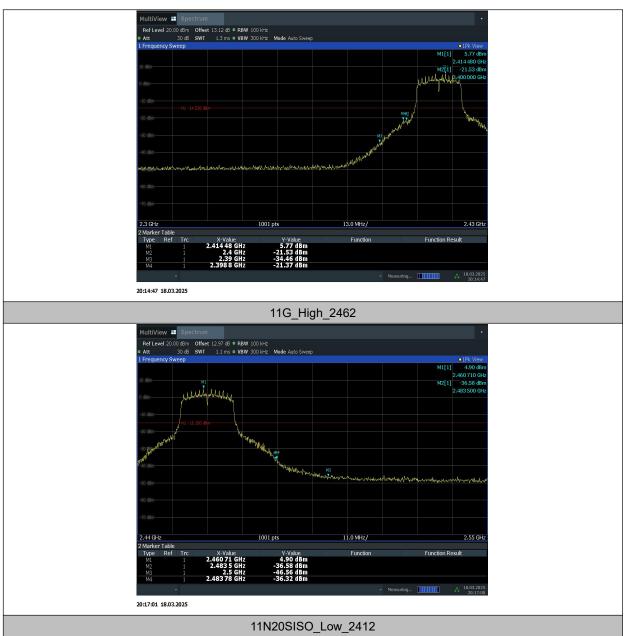


Test graphs as below:



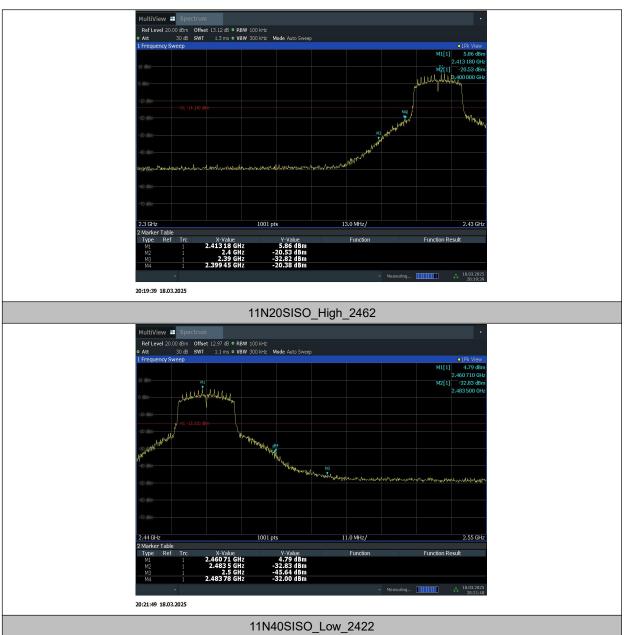


















Conclusion: Pass





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 \geq 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: UT07a

Measurement Results:

TestMode	Frequency[MHz]	FreqRange	RefLevel	Result	Limit	Verdict
		[Mhz]	[dBm]	[dBm]	[dBm]	verdict
2412 11B 2437	Reference	9.08	9.08		PASS	
		30~1000	9.08	-56.78	≤-10.92	PASS
		1000~26500	9.08	-44.06	≤-10.92	PASS
		Reference	9.03	9.03		PASS
		30~1000	9.03	-56.46	≤-10.97	PASS



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		1000~26500	9.03	-43.94	≤-10.97	PASS
	2462	Reference	8.74	8.74		PASS
		30~1000	8.74	-57	≤-11.26	PASS
		1000~26500	8.74	-43.69	≤-11.26	PASS
		Reference	6.18	6.18		PASS
	2412	30~1000	6.18	-56.96	≤-13.82	PASS
		1000~26500	6.18	-43.37	≤-13.82	PASS
		Reference	6.38	6.38		PASS
11G	2437	30~1000	6.38	-56.71	≤-13.62	PASS
		1000~26500	6.38	-44.03	≤-13.62	PASS
		Reference	4.97	4.97		PASS
	2462	30~1000	4.97	-55.86	≤-15.03	PASS
		1000~26500	4.97	-43.99	≤-15.03	PASS
	2412	Reference	6.14	6.14		PASS
		30~1000	6.14	-56.61	≤-13.86	PASS
		1000~26500	6.14	-44.23	≤-13.86	PASS
	2437	Reference	6.47	6.47		PASS
11N20SISO		30~1000	6.47	-56.63	≤-13.53	PASS
		1000~26500	6.47	-43.67	≤-13.53	PASS
	2462	Reference	4.98	4.98		PASS
		30~1000	4.98	-56.57	≤-15.02	PASS
		1000~26500	4.98	-44.16	≤-15.02	PASS
		Reference	1.40	1.40		PASS
	2422	30~1000	1.40	-56.32	≤-18.6	PASS
		1000~26500	1.40	-43.99	≤-18.6	PASS
11N40SISO		Reference	0.95	0.95		PASS
	2437	30~1000	0.95	-56.68	≤-19.05	PASS
		1000~26500	0.95	-43.76	≤-19.05	PASS
		Reference	-1.10	-1.10		PASS
	2452	30~1000	-1.10	-56.17	≤-21.1	PASS
		1000~26500	-1.10	-43.45	≤-21.1	PASS





Test graphs as below:

