



# FCC PART 15C TEST REPORT No.24T04Z101045-016

for

**TCL Communication Ltd.**

**Tablet PC**

**9491G**

**FCC ID: 2ACCJB221**

with

**Hardware Version: 05**

**Software Version: 1AS0**

**Issued Date: 2024-06-01**

**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:**

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## **REPORT HISTORY**

| Report Number    | Revision | Description | Issue Date |
|------------------|----------|-------------|------------|
| 24T04Z101045-016 | Rev.0    | 1st edition | 2024-06-01 |
|                  |          |             |            |

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(Huayuan North Road)

Address: No. 52, Huayuan North Road, Haidian District, Beijing,  
P. R. China100191

Radiated testing Location: CTTL(Huayuan North Road)

Address: No. 52, Huayuan North Road, Haidian District, Beijing,  
P. R. China100191

### **1.3. Testing Environment**

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

### **1.4. Project date**

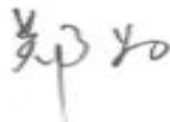
Testing Start Date: 2024-05-10  
Testing End Date: 2024-05-30

### **1.5. Signature**



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Yao Xingyu  
(Prepared this test report)



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Zheng Wei  
(Reviewed this test report)



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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: /  
Country: China  
Contact Person: Ting Wang  
Contact Email: ting.wang.hz@tcl.com  
Telephone: +86 755 3661 1621  
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: /  
Country: China  
Contact Person: Ting Wang  
Contact Email: ting.wang.hz@tcl.com  
Telephone: +86 755 3661 1621  
Fax: 0086-755-36612000-81722

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

#### **3.1. About EUT**

|                      |                       |
|----------------------|-----------------------|
| Description          | Tablet PC             |
| Model name           | 9491G                 |
| FCC ID               | 2ACCJB221             |
| 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  | 25.64dBm              |
| Nominal Voltage      | 3.9V                  |
| Extreme High Voltage | 4.45V                 |
| Extreme Low Voltage  | 3.45V                 |

#### **3.2. Internal Identification of EUT**

| EUT ID* | SN or IMEI       | HW Version | SW Version | Date of receipt |
|---------|------------------|------------|------------|-----------------|
| UT02a   | USQC6DAMYXFA79CU | 05         | 1AS0       | 2024-05-11      |
| UT04a   | VKBYLJGYIBLFYPV4 | 05         | 1AS0       | 2024-05-10      |

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

UT02a is used for Conduction test, UT04a is used for Radiation test.

#### **3.3. Internal Identification of AE**

| AE ID* | Name       | Model        | Manufacturer                            |
|--------|------------|--------------|-----------------------------------------|
| AE1    | Battery    | TLp100A7     | Dongguan Veken Battery CO., LTD.        |
| AE2    | Charger    | QC16US       | SHENZHEN BAIJUNDA ELECTRONICS CO., LTD. |
| AE3    | Charger    | QC16UK       | SHENZHEN BAIJUNDA ELECTRONICS CO., LTD. |
| AE4    | Charger    | QC16EU       | SHENZHEN BAIJUNDA ELECTRONICS CO., LTD. |
| AE5    | Charger    | QC16AU       | SHENZHEN BAIJUNDA ELECTRONICS CO., LTD. |
| AE6    | Date Cable | CDA0000205C1 | Huizhou Juwei 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 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:                                                                                                                  | 2021    |
|                | 15.205 Restricted bands of operation;                                                                                                            |         |
|                | 15.209 Radiated emission limits, general requirements;                                                                                           |         |
| ANSI C63.10    | 15.247 Operation within the bands 902-928MHz, 2400-2483.5 MHz, and 5725-5850 MHz.                                                                | 2013    |
|                | American National Standard of Procedures for Compliance                                                                                          |         |
|                | Testing of Unlicensed Wireless Devices                                                                                                           |         |
| KDB 558074 D01 | Federal Communications Commission Office of Engineering and Technology Laboratory Division                                                       | 2019    |
|                | 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 |         |

## 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     | 3.9V |
| 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             | 2025-04-01           |
| 2   | Attenuator             | 10dB/2W | /             | Rosenberger     | /                  | /                    |
| 3   | Shielding Room         | S81     | /             | ETS-Lindgren    | /                  | /                    |

### Radiated emission test system

| No. | Equipment     | Model    | Serial Number | Manufacturer | Calibration Period | Calibration Due date |
|-----|---------------|----------|---------------|--------------|--------------------|----------------------|
| 1   | Test Receiver | ESW44    | 103015        | R&S          | 1 year             | 2025-01-18           |
| 2   | Test Receiver | ESW44    | 103023        | R&S          | 1 year             | 2024-06-08           |
| 3   | Loop Antenna  | HFH2-Z2  | 829324/007    | R&S          | 1 year             | 2025-01-04           |
| 4   | EMI Antenna   | VULB9163 | 01223         | Schwarzbeck  | 1 year             | 2024-07-18           |
| 5   | EMI Antenna   | 3115     | 6914          | ETS-Lindgren | 1 year             | 2024-06-07           |
| 6   | EMI Antenna   | 3116     | 2663          | ETS-Lindgren | 1 year             | 2025-02-21           |

### AC Power Line Conducted Emission

| No. | Equipment     | Model  | Serial Number | Manufacturer | Calibration Period | Calibration Due date |
|-----|---------------|--------|---------------|--------------|--------------------|----------------------|
| 1   | LISN          | ENV216 | 101200        | R&S          | 1 year             | 2025-05-16           |
| 2   | Test Receiver | ESCI   | 100344        | R&S          | 1 year             | 2025-04-01           |

## 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) |
|--------------------------------------------|-----------------|
| $30\text{MHz} \leq f \leq 2\text{GHz}$     | 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            |

#### Radiated (k=2)

| Frequency Range                         | Uncertainty(dB) |
|-----------------------------------------|-----------------|
| 9kHz-30MHz                              | 4.92            |
| $30\text{MHz} \leq f \leq 1\text{GHz}$  | 4.72            |
| $1\text{GHz} \leq f \leq 18\text{GHz}$  | 4.84            |
| $18\text{GHz} \leq f \leq 40\text{GHz}$ | 5.12            |

### 8.6. 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**

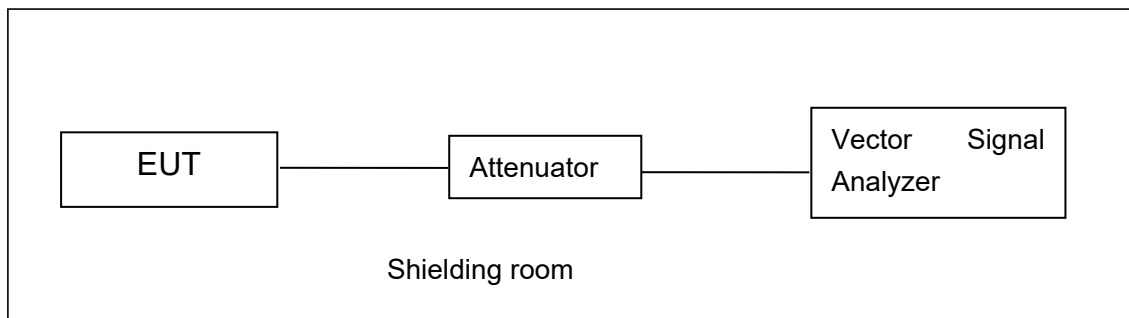
Connect the EUT to the test system as Fig.A.1.1.1 shows.

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 orientation

## **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 0.2dBi and the value is supplied by the applicant or manufacturer.

### **A.2.2. Peak Output Power-conducted**

**EUT ID: UT02a**

**Measurement Results:**

**802.11b/g mode**

| Mode    | Data Rate (Mbps) | Test Result (dBm) |               |                 |
|---------|------------------|-------------------|---------------|-----------------|
|         |                  | 2412MHz (Ch1)     | 2437MHz (Ch6) | 2462 MHz (Ch11) |
| 802.11b | 1                | 21.39             | 21.64         | 21.79           |
|         | 2                | /                 | /             | /               |
|         | 5.5              | /                 | /             | /               |
|         | 11               | /                 | /             | /               |
| 802.11g | 6                | 25.43             | 25.60         | 25.64           |
|         | 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<br>(Index) | Test Result (dBm) |                  |                    |
|--------------------|----------------------|-------------------|------------------|--------------------|
|                    |                      | 2412MHz<br>(Ch1)  | 2437MHz<br>(Ch6) | 2462 MHz<br>(Ch11) |
| 802.11n<br>(20MHz) | MCS0                 | 25.20             | 25.36            | 25.42              |
|                    | 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<br>(Index) | Test Result (dBm) |                  |                   |
|--------------------|----------------------|-------------------|------------------|-------------------|
|                    |                      | 2422MHz<br>(Ch3)  | 2437MHz<br>(Ch6) | 2452 MHz<br>(Ch9) |
| 802.11n<br>(40MHz) | MCS0                 | 23.48             | 23.57            | 23.56             |
|                    | 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 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: UT02a**

**Measurement Results:**

| TestMode  | Frequency[MHz] | Result[dBm/3-100kHz] | Limit[dBm/3kHz] | Verdict |
|-----------|----------------|----------------------|-----------------|---------|
| 11B       | 2412           | -2.62                | ≤8.00           | PASS    |
|           | 2437           | -2.95                | ≤8.00           | PASS    |
|           | 2462           | -2.55                | ≤8.00           | PASS    |
| 11G       | 2412           | -6.49                | ≤8.00           | PASS    |
|           | 2437           | -6.04                | ≤8.00           | PASS    |
|           | 2462           | -6.70                | ≤8.00           | PASS    |
| 11N20SISO | 2412           | -6.41                | ≤8.00           | PASS    |
|           | 2437           | -6.78                | ≤8.00           | PASS    |
|           | 2462           | -6.59                | ≤8.00           | PASS    |
| 11N40SISO | 2422           | -11.72               | ≤8.00           | PASS    |
|           | 2437           | -11.53               | ≤8.00           | PASS    |
|           | 2452           | -11.51               | ≤8.00           | PASS    |



## Test Graphs

11B\_2412



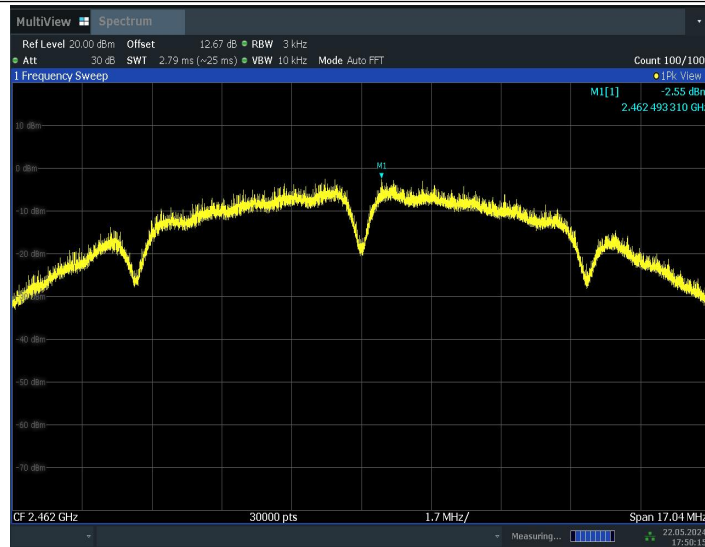
17:26:00 22.05.2024

11B\_2437



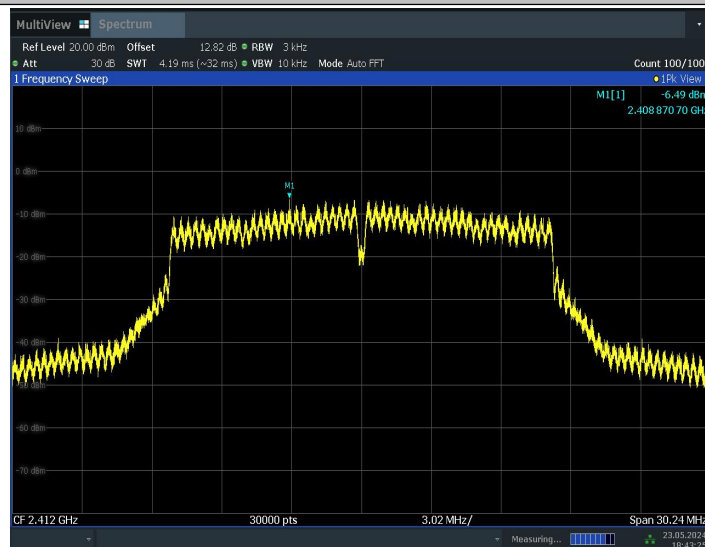
17:28:15 22.05.2024

11B\_2462



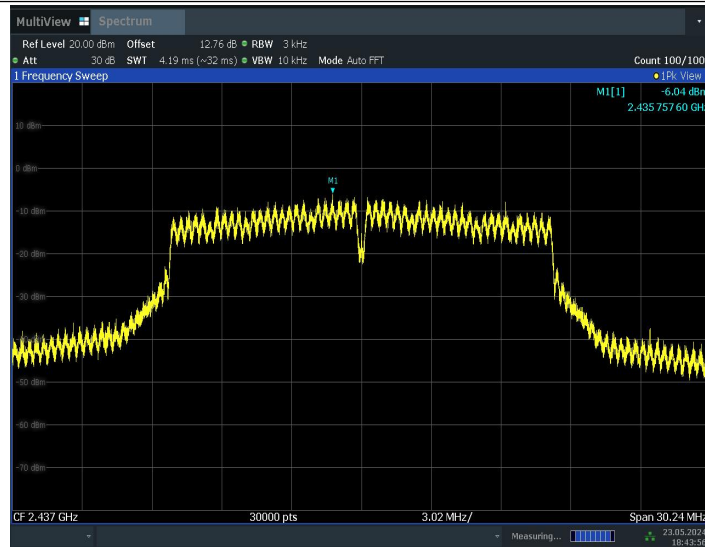
17:50:16 22.05.2024

11G\_2412



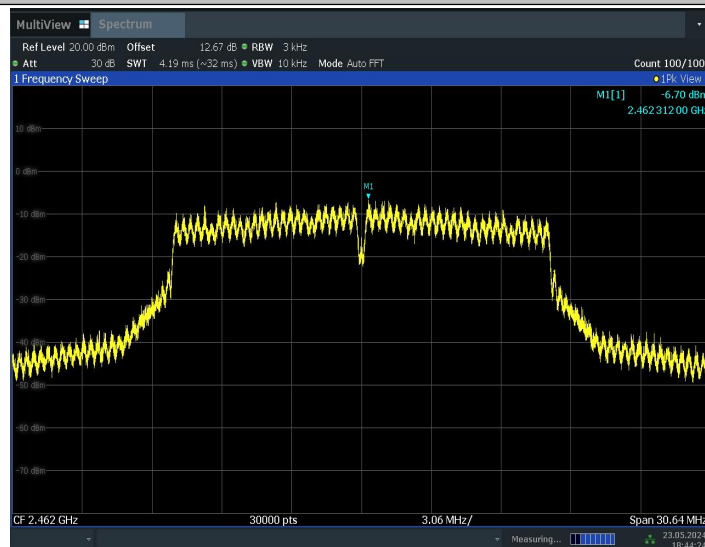
18:43:26 23.05.2024

11G\_2437



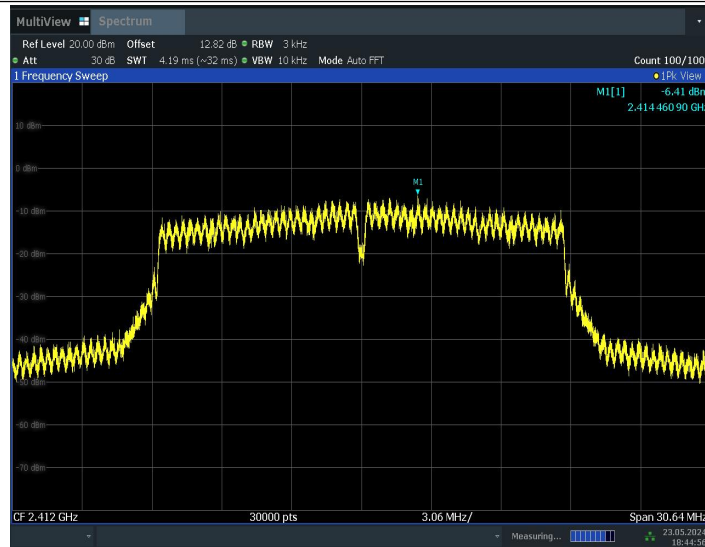
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11G\_2462



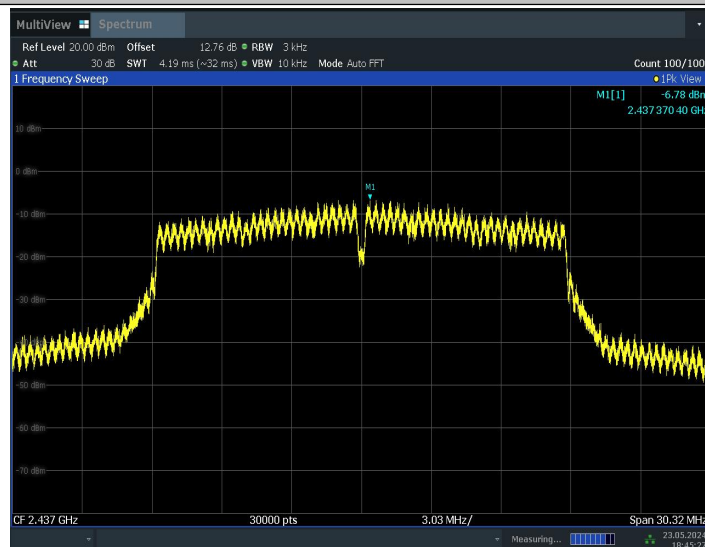
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11N20\_2412



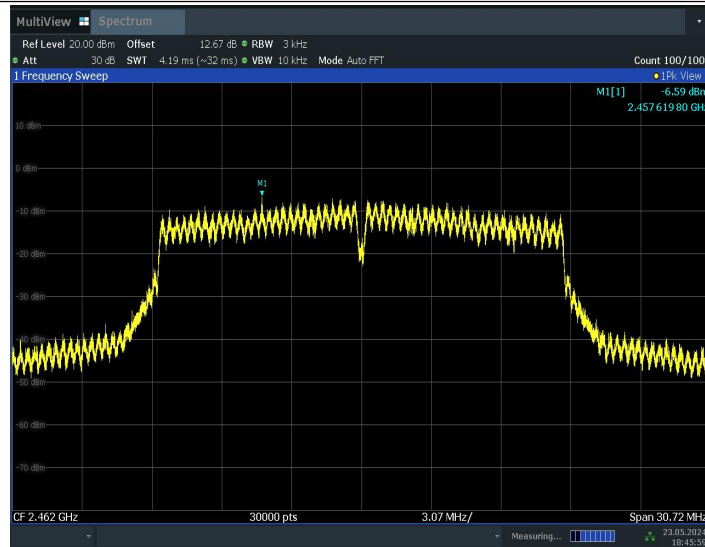
18:44:56 23.05.2024

11N20\_2437



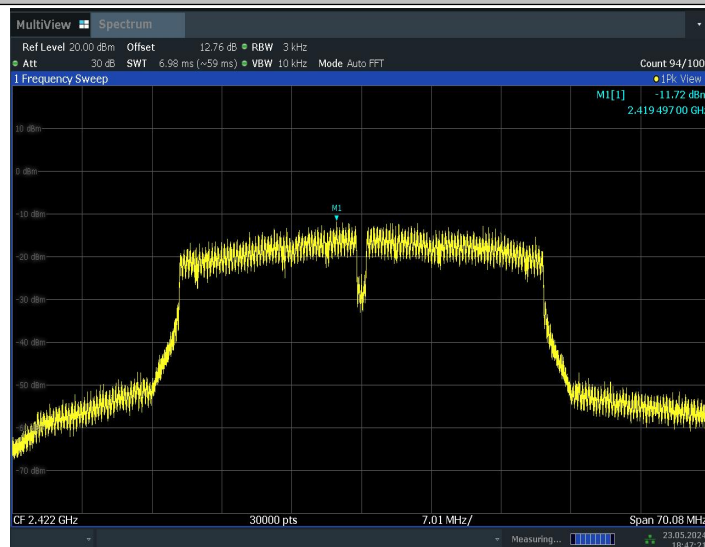
18:45:27 23.05.2024

11N20\_2462



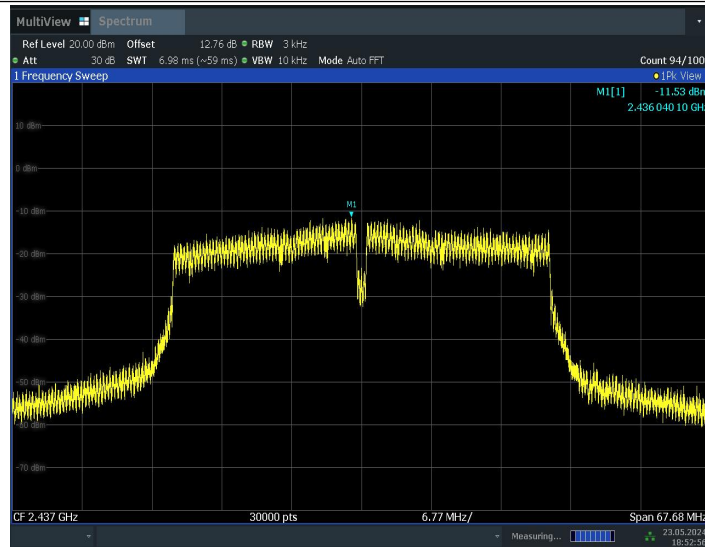
18:46:00 23.05.2024

11N40\_2422



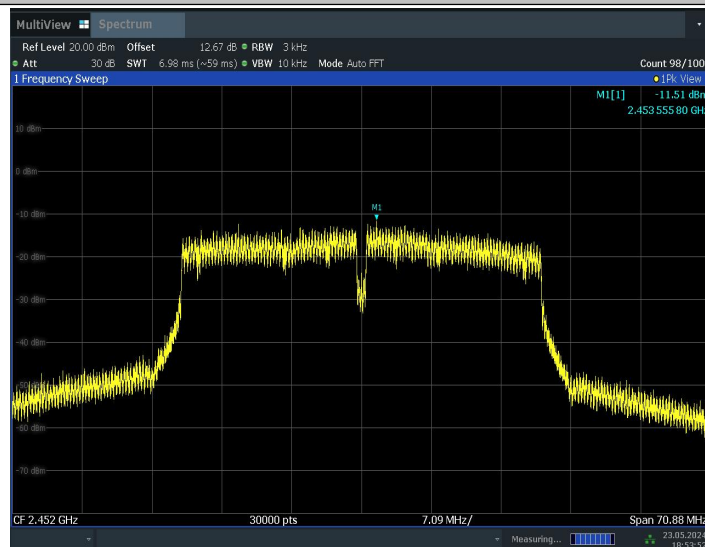
18:47:22 23.05.2024

11N40\_2437



18:52:57 23.05.2024

11N40\_2452



18:53:52 23.05.2024

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: UT02a**

**Measurement Result:**

| TestMode | Frequency[MHz] | DTS BW [MHz] | FL[MHz] | FH[MHz] | Limit[MHz] | Verdict |
|----------|----------------|--------------|---------|---------|------------|---------|
| 11B      | 2412           | 8.08         | 2407.96 | 2416.04 | 0.5        | PASS    |
|          | 2437           | 8.52         | 2432.48 | 2441.00 | 0.5        | PASS    |
|          | 2462           | 8.52         | 2457.48 | 2466.00 | 0.5        | PASS    |
| 11G      | 2412           | 15.12        | 2404.44 | 2419.56 | 0.5        | PASS    |
|          | 2437           | 15.12        | 2429.44 | 2444.56 | 0.5        | PASS    |
|          | 2462           | 15.32        | 2454.24 | 2469.56 | 0.5        | PASS    |
| 11N20    | 2412           | 15.32        | 2404.44 | 2419.76 | 0.5        | PASS    |
|          | 2437           | 15.16        | 2429.40 | 2444.56 | 0.5        | PASS    |
|          | 2462           | 15.36        | 2454.20 | 2469.56 | 0.5        | PASS    |
| 11N40    | 2422           | 35.04        | 2404.48 | 2439.52 | 0.5        | PASS    |
|          | 2437           | 33.84        | 2420.68 | 2454.52 | 0.5        | PASS    |
|          | 2452           | 35.44        | 2434.08 | 2469.52 | 0.5        | PASS    |

## Test Graphs

11B\_2412



17:25:36 22.05.2024

11B\_2437



17:27:54 22.05.2024

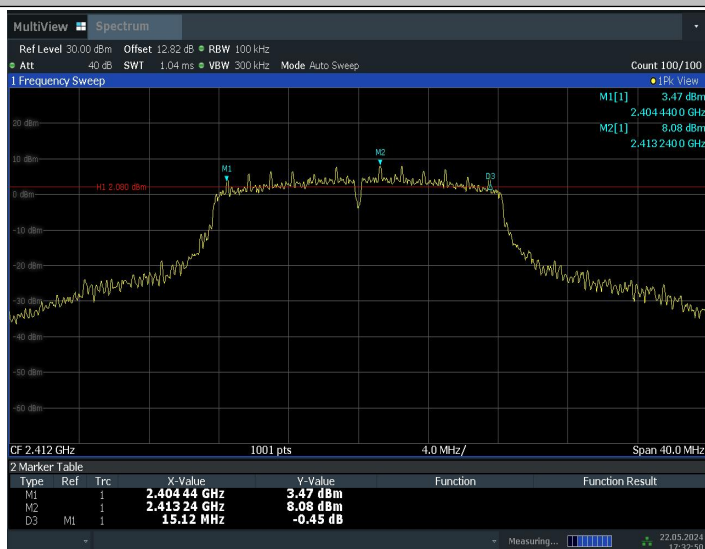
11B\_2462





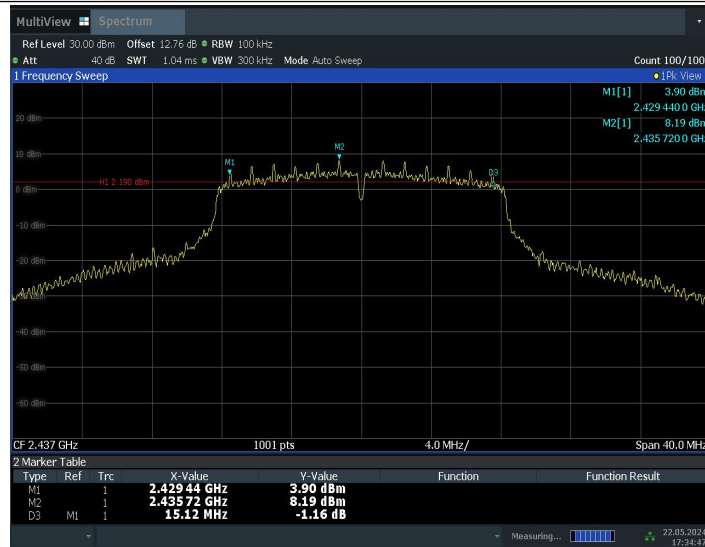
17:30:34 22.05.2024

11G\_2412



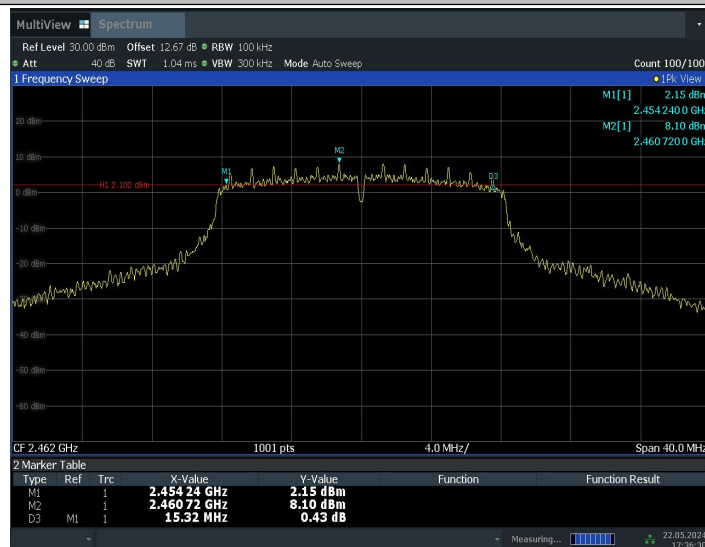
17:32:51 22.05.2024

11G\_2437



17:34:47 22.05.2024

11G\_2462



17:36:31 22.05.2024

11N20\_2412



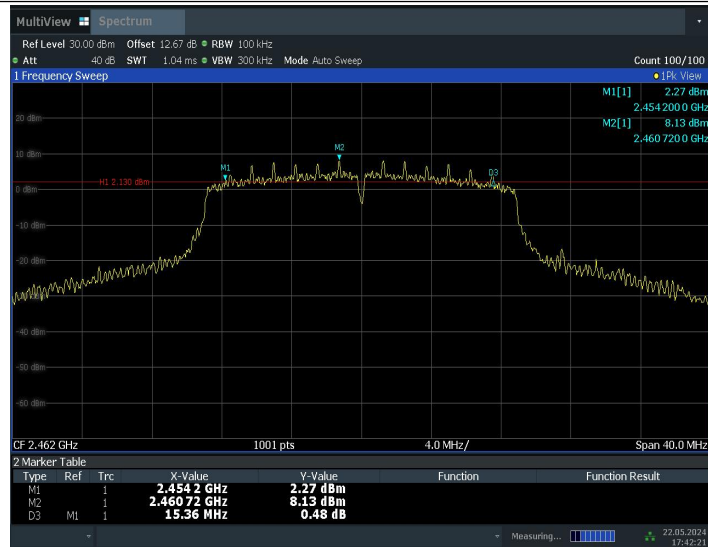
17:38:33 22.05.2024

11N20\_2437



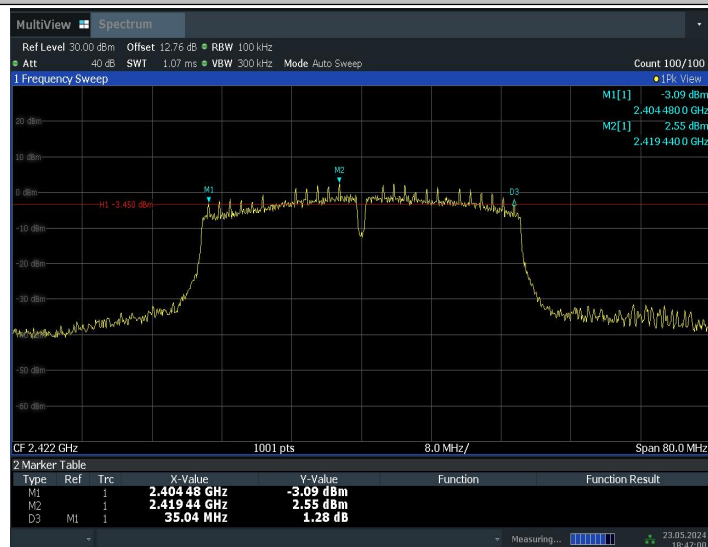
17:40:28 22.05.2024

11N20\_2462



17:42:21 22.05.2024

11N40\_2422



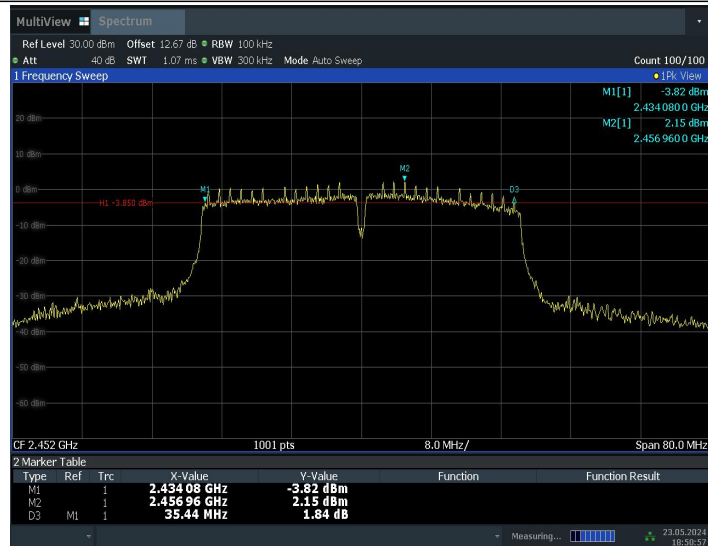
18:47:01 23.05.2024

11N40\_2437



18:48:57 23.05.2024

11N40\_2452



18:50:58 23.05.2024

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: UT02a

### Measurement Result:

| TestMode  | ChName | Frequency[MHz] | RefLevel[dBm] | Result[dBm] | Limit[dBm] | Verdict |
|-----------|--------|----------------|---------------|-------------|------------|---------|
| 11B       | Low    | 2412           | 10.37         | -33.75      | ≤-9.63     | PASS    |
|           | High   | 2462           | 10.59         | -46.08      | ≤-9.41     | PASS    |
| 11G       | Low    | 2412           | 8.20          | -21.53      | ≤-11.8     | PASS    |
|           | High   | 2462           | 8.07          | -37.51      | ≤-11.93    | PASS    |
| 11N20SISO | Low    | 2412           | 8.14          | -21.02      | ≤-11.86    | PASS    |
|           | High   | 2462           | 8.07          | -33.84      | ≤-11.93    | PASS    |
| 11N40SISO | Low    | 2422           | 2.58          | -33.25      | ≤-17.42    | PASS    |
|           | High   | 2452           | 2.14          | -35.03      | ≤-17.86    | PASS    |

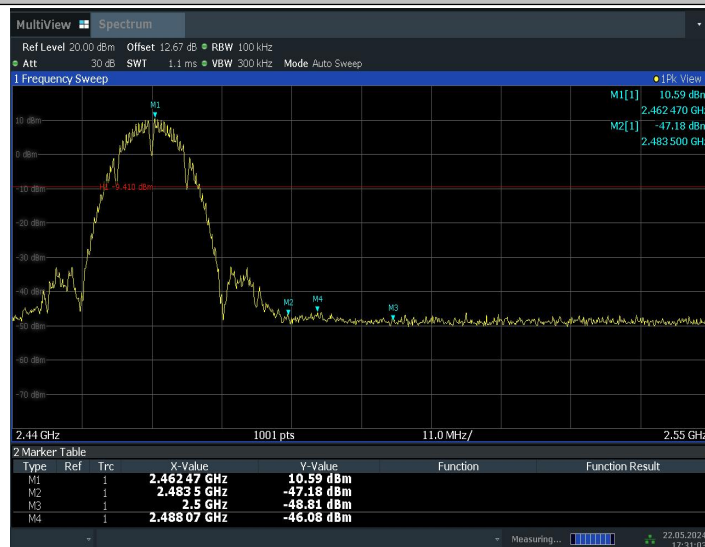
## Test Graphs

|              |
|--------------|
| 11B_Low_2412 |
|--------------|



17:26:09 22.05.2024

11B\_High\_2462



17:31:04 22.05.2024

11G\_Low\_2412



17:33:20 22.05.2024

### 11G\_High\_2462



17:37:00 22.05.2024

### 11N20\_Low\_2412





17:39:02 22.05.2024

11N20\_High\_2462



17:42:49 22.05.2024

11N40\_Low\_2422



18:47:33 23.05.2024

### 11N40\_High\_2452



18:51:28 23.05.2024

**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:**

| <b>Standard</b>            | <b>Limit</b>                                      |
|----------------------------|---------------------------------------------------|
| FCC 47 CFR Part 15.247 (d) | 20dB below peak output power in 100 kHz bandwidth |

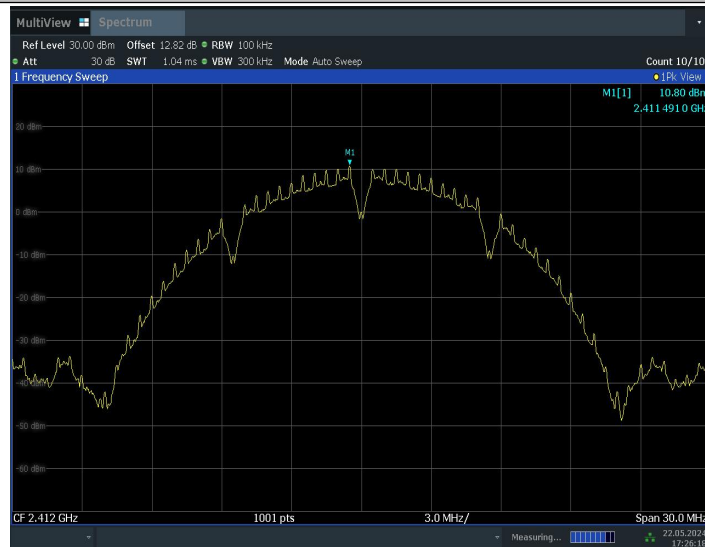
**EUT ID: UT02a**

#### **Measurement Results:**

| TestMode | Frequency[MHz] | FreqRange [Mhz] | RefLevel [dBm] | Result [dBm] | Limit [dBm]   | Verdict |
|----------|----------------|-----------------|----------------|--------------|---------------|---------|
| 11B      | 2412           | Reference       | 10.80          | 10.80        | ---           | PASS    |
|          |                | 30~1000         | 10.80          | -56.97       | $\leq -9.2$   | PASS    |
|          |                | 1000~26500      | 10.80          | -44.59       | $\leq -9.2$   | PASS    |
|          | 2437           | Reference       | 10.93          | 10.93        | ---           | PASS    |
|          |                | 30~1000         | 10.93          | -56.52       | $\leq -9.07$  | PASS    |
|          |                | 1000~26500      | 10.93          | -44.57       | $\leq -9.07$  | PASS    |
|          | 2462           | Reference       | 10.79          | 10.79        | ---           | PASS    |
|          |                | 30~1000         | 10.79          | -57.11       | $\leq -9.21$  | PASS    |
|          |                | 1000~26500      | 10.79          | -44.4        | $\leq -9.21$  | PASS    |
| 11G      | 2412           | Reference       | 8.18           | 8.18         | ---           | PASS    |
|          |                | 30~1000         | 8.18           | -56.49       | $\leq -11.82$ | PASS    |
|          |                | 1000~26500      | 8.18           | -44.18       | $\leq -11.82$ | PASS    |
|          | 2437           | Reference       | 8.58           | 8.58         | ---           | PASS    |
|          |                | 30~1000         | 8.58           | -57.09       | $\leq -11.42$ | PASS    |
|          |                | 1000~26500      | 8.58           | -44.52       | $\leq -11.42$ | PASS    |
|          | 2462           | Reference       | 8.22           | 8.22         | ---           | PASS    |
|          |                | 30~1000         | 8.22           | -57.56       | $\leq -11.78$ | PASS    |
|          |                | 1000~26500      | 8.22           | -44.38       | $\leq -11.78$ | PASS    |
| 11N20    | 2412           | Reference       | 8.32           | 8.32         | ---           | PASS    |
|          |                | 30~1000         | 8.32           | -56.89       | $\leq -11.68$ | PASS    |
|          |                | 1000~26500      | 8.32           | -44.21       | $\leq -11.68$ | PASS    |
|          | 2437           | Reference       | 8.57           | 8.57         | ---           | PASS    |
|          |                | 30~1000         | 8.57           | -56.38       | $\leq -11.43$ | PASS    |
|          |                | 1000~26500      | 8.57           | -43.86       | $\leq -11.43$ | PASS    |
|          | 2462           | Reference       | 8.26           | 8.26         | ---           | PASS    |
|          |                | 30~1000         | 8.26           | -56.88       | $\leq -11.74$ | PASS    |
|          |                | 1000~26500      | 8.26           | -44.45       | $\leq -11.74$ | PASS    |
| 11N40    | 2422           | Reference       | 2.70           | 2.70         | ---           | PASS    |
|          |                | 30~1000         | 2.70           | -56.3        | $\leq -17.3$  | PASS    |
|          |                | 1000~26500      | 2.70           | -44.5        | $\leq -17.3$  | PASS    |
|          | 2437           | Reference       | 3.19           | 3.19         | ---           | PASS    |
|          |                | 30~1000         | 3.19           | -56.2        | $\leq -16.81$ | PASS    |
|          |                | 1000~26500      | 3.19           | -44.15       | $\leq -16.81$ | PASS    |
|          | 2452           | Reference       | 2.31           | 2.31         | ---           | PASS    |
|          |                | 30~1000         | 2.31           | -57.16       | $\leq -17.69$ | PASS    |
|          |                | 1000~26500      | 2.31           | -43.45       | $\leq -17.69$ | PASS    |

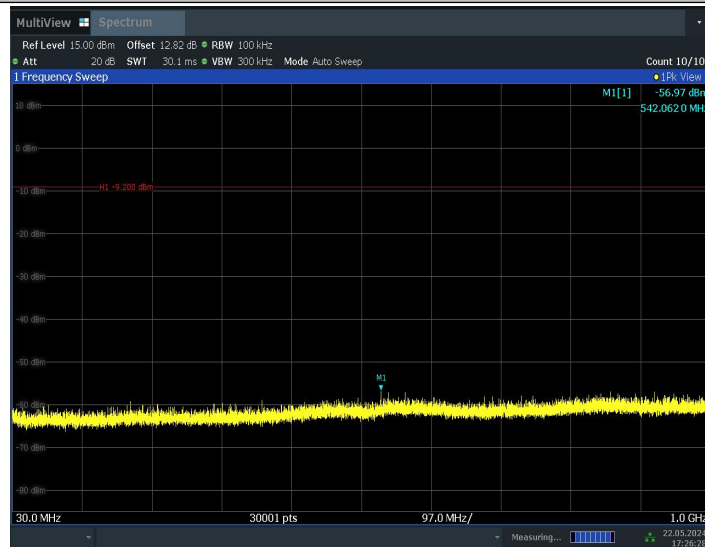
## Test Graphs

11B\_2412\_0~Reference



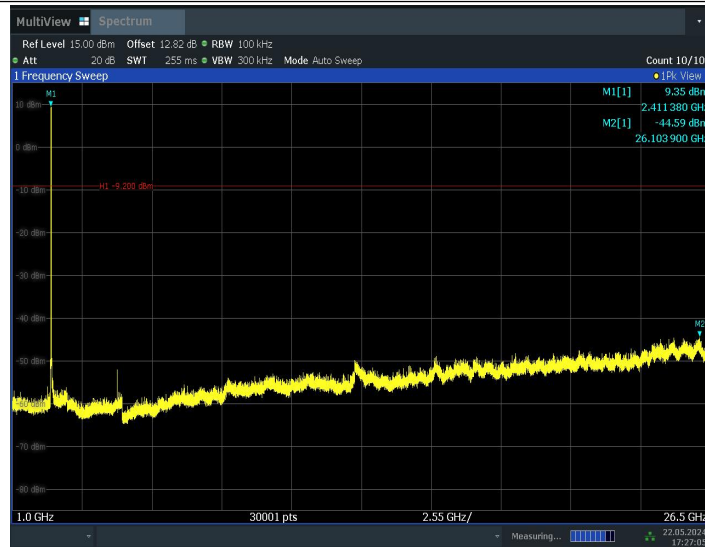
17:26:18 22.05.2024

11B\_2412\_30~1000



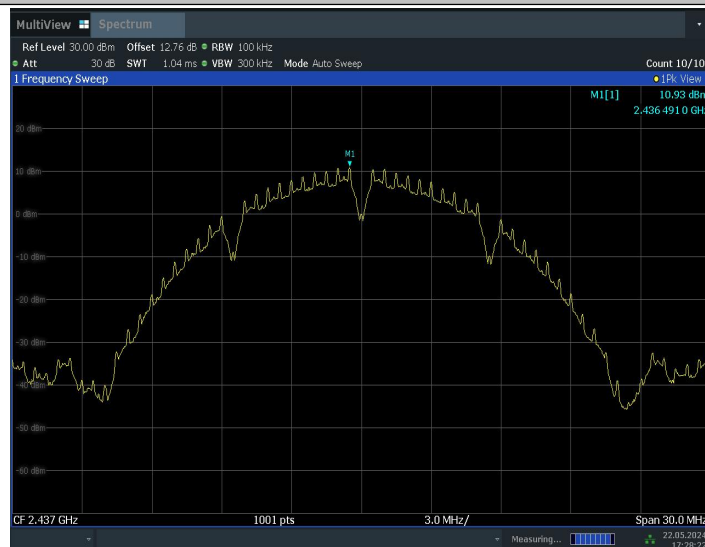
17:26:29 22.05.2024

11B\_2412\_1000~26500



17:27:05 22.05.2024

11B\_2437\_0~Reference



17:28:23 22.05.2024

11B\_2437\_30~1000