

# TEST REPORT

FCC BT LE Test for LGSWCAX71  
Certification

**APPLICANT**

LG Electronics Inc.

**REPORT NO.**

HCT-RF-2609-FC002

**DATE OF ISSUE**

September 04, 2026

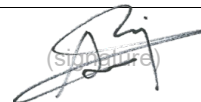
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**Accredited by KOLAS, Republic of KOREA**

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# TEST REPORT

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September 04, 2026

**Applicant**

**LG Electronics Inc.**

222, LG-ro, Jinwi-myeon, Pyeongtaek-si, Gyeonggi-do 17709, Republic of Korea

**Product Name**

RF Module

**Model Name**

LGSWCAX71

**FCC ID**

2BO3LLGSWCAX71

**Date of Test**

July 07, 2026 ~ September 04, 2026

**FCC Classification**

Digital Transmission System(DTS)

**Test Standard Used**

FCC Rule Part(s): Part 15.247

**Test Results**

PASS

**Location of Test**

☒ Permanent Testing Lab    ☐ On Site Testing Lab  
(Address: 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, Republic of Korea)

**Brand**

LG

## REVISION HISTORY

The revision history for this test report is shown in table.

| Revision No. | Date of Issue      | Description     |
|--------------|--------------------|-----------------|
| 0            | September 04, 2026 | Initial Release |

## Notice

| Content                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Engineering Statement:</p> <p>The measurements shown in this report were made in accordance with the procedures indicated, and the emissions from this equipment were found to be within the limits applicable. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them. It is further stated that upon the basis of the measurements made, the equipment tested is capable of operation in accordance with the requirements of the FCC Rules under normal use and maintenance.</p> <p>The results shown in this test report only apply to the sample(s), as received, provided by the applicant, unless otherwise stated.</p> <p>The test results have only been applied with the test methods required by the standard(s).</p> <p>The laboratory is not accredited for the test results marked *.</p> <p>Information provided by the applicant is marked **.</p> <p>Test results provided by external providers are marked ***.</p> <p>When confirmation of authenticity of this test report is required, please contact <a href="http://www.hct.co.kr">www.hct.co.kr</a></p> <p>This test report provides test result(s) under the scope accredited by the Korea Laboratory Accreditation Scheme (KOLAS), which signed the ILAC-MRA.</p> <p>(KOLAS (KS Q ISO/IEC 17025) Accreditation No. KT197)</p> |

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## 1. EUT DESCRIPTION

|                                      |                                                     |                                                                                                                                          |
|--------------------------------------|-----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Model</b>                         | LGSWCAX71                                           |                                                                                                                                          |
| <b>Additional Model</b>              | -                                                   |                                                                                                                                          |
| <b>EUT Type</b>                      | RF Module                                           |                                                                                                                                          |
| <b>Power Supply</b>                  | DC 3.30 V                                           |                                                                                                                                          |
| <b>Frequency Range</b>               | 2402 - 2480 MHz                                     |                                                                                                                                          |
| <b>Number of Channels</b>            | 40 Channels                                         |                                                                                                                                          |
| <b>Max. RF Output Power (Normal)</b> | Peak                                                | 1 M Bit/s: 8.725 dBm (7.46 mW)<br>2 M Bit/s: 8.747 dBm (7.49 mW)<br>125 k Bit/s: 8.746 dBm (7.49 mW)<br>500 k Bit/s: 8.743 dBm (7.49 mW) |
|                                      | Average                                             | 1 M Bit/s: 8.397 dBm (6.91 mW)<br>2 M Bit/s: 8.337 dBm (6.82 mW)<br>125 k Bit/s: 8.407 dBm (6.93 mW)<br>500 k Bit/s: 8.413 dBm (6.94 mW) |
| <b>Modulation Type</b>               | GFSK                                                |                                                                                                                                          |
| <b>Bluetooth Version</b>             | 5.4                                                 |                                                                                                                                          |
| <b>Antenna Information</b>           | Please refer to the Antenna Specification document. |                                                                                                                                          |
| <b>Serial number</b>                 | Conducted : 8C2AC169F094                            |                                                                                                                                          |
|                                      | Radiated : 8C2AC169EEF6                             |                                                                                                                                          |

Grant Notes :

1. Output Power listed is conducted(Peak)

## ANTENNA CONFIGURATIONS

1. Below Tables are the possible configurations.

| Configurations       | SISO |      | Dual BT     |
|----------------------|------|------|-------------|
|                      | Ant1 | Ant2 | Ant1 & Ant2 |
| Bluetooth Low Energy | O    | X    | X           |

Note:

- 1) O = Support, X = Not Support
- 2) SISO = Single Input Single Output

2. This device supports simultaneous transmission operation, which allows for two channels to operate independent of one another in the 2.4 GHz and 5 GHz or 6GHz Bands simultaneously on each antenna.

| Simultaneous transmission Scenario              | 2.4 GHz WiFi Ant.1 | 2.4 GHz WiFi Ant.2 | 5 GHz WiFi Ant.1 | 5 GHz WiFi Ant.2 | 6 GHz WiFi Ant.1 | 6 GHz WiFi Ant.2 | Bluetooth | Test Case  |
|-------------------------------------------------|--------------------|--------------------|------------------|------------------|------------------|------------------|-----------|------------|
| Bluetooth + 2.4 GHz WiFi MIMO                   | on                 | on                 | -                | -                | -                | -                | on        | Scenario 1 |
| Bluetooth + 5 GHz WiFi MIMO                     | -                  | -                  | on               | on               | -                | -                | on        | Scenario 2 |
| Bluetooth + 6 GHz WiFi MIMO                     | -                  | -                  | -                | -                | on               | on               | on        | -          |
| 2.4 GHz WiFi SISO + 5 GHz WiFi SISO             | -                  | on                 | on               | -                | -                | -                | -         | -          |
| 2.4 GHz WiFi SISO + 6 GHz WiFi SISO             | -                  | on                 | -                | -                | on               | -                | -         | -          |
| Bluetooth + 2.4 GHz WiFi SISO + 5 GHz WiFi SISO | -                  | on                 | on               | -                | -                | -                | on        | Scenario 3 |
| Bluetooth + 2.4 GHz WiFi SISO + 6 GHz WiFi SISO | -                  | on                 | -                | -                | on               | -                | on        | -          |

## 2. TEST METHODOLOGY

Unlicensed wireless device were tested using the following measurement procedure.

[1] KDB 558074 D01 15.247 Meas Guidance v05r02

[2] ANSI C63.10-2020 + Cor. 1-2023

Note : Here in after, ANSI C63.10-2020 + Cor. 1-2023 will be referred to as ANSI C63.10-2020

### EUT CONFIGURATION

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner that intends to maximize its emission characteristics in a continuous normal application.

### EUT EXERCISE

The EUT was operated in the engineering mode to fix the Tx frequency that was for the purpose of the measurements. According to its specifications, the EUT must comply with the requirements of the Section 15.207, 15.209 and 15.247 under the FCC Rules Part 15 Subpart C.

### GENERAL TEST PROCEDURES

#### Conducted Emissions

The EUT is placed on the turntable, which is 0.8 m above ground plane. According to the requirements in Section 6.2 of ANSI C63.10-2020 Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30 MHz using CISPR Quasi-peak and average detector modes.

#### Radiated Emissions

According to the requirements in Section 6.3 ~ Section 6.6 of ANSI C63.10-2020

The EUT is placed on a turn table, which is 0.8 m above ground plane below 1 GHz. Above 1 GHz with 1.5 m using absorbers between the EUT and receive antenna. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3 m away from the receiving antenna, which varied from 1 m to 4 m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the max. emission, the relative positions of this hand-held transmitter (EUT) was rotated through three orthogonal axes.

## DESCRIPTION OF TEST MODES

The EUT has been tested under operating condition. Test program used to control the EUT for staying in continuous transmitting and receiving mode is programmed.

### 3. INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment's, which is traceable to recognized national standards.

Especially, all antenna for measurement is calibrated in accordance with the requirements of ANSI C63.5-2017.

### 4. FACILITIES AND ACCREDITATIONS

#### FACILITIES

The SAC(Semi-Anechoic Chamber) and conducted measurement facility used to collect the radiated data are located at the 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, Republic of Korea. This test facility has completed the evaluation in compliance with the standards and evaluation period required for chamber validity verification. ANSI C63.4-2014 + C63.4a-2017 and ANSI C63.25.1-2018

Detailed description of test facility was submitted to the Commission and accepted dated February 26, 2026 (Registration Number: KR0032).

#### EQUIPMENT

Radiated emissions are measured with one or more of the following types of Linearly polarized antennas: tuned dipole, bi-conical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with pre-selectors and quasi-peak detectors are used to perform radiated measurements.

Conducted emissions are measured with Line Impedance Stabilization Networks and EMI Test Receivers. Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

All receiving equipment conforms to ANSI/USEMCSC C63.2-2023, "American National Standard for Specifications of Electromagnetic Interference and Field Strength Measuring Instrumentation in the Frequency Range 9 kHz to 40 GHz".

## 5. ANTENNA REQUIREMENTS

### According to FCC 47 CFR §15.203

“An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.”

## 6. MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.10-2020.

All measurement uncertainty values are shown with a coverage factor of  $k = 2$  to indicate a 95 % level of confidence.

The measurement data shown herein meets or exceeds the  $U_{\text{CISPR}}$  measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

| Parameter           | Expanded Uncertainty ( $\pm$ kHz)        |
|---------------------|------------------------------------------|
| X dB, 99% Bandwidth | 95 (Confidence level about 95 %, $k=2$ ) |

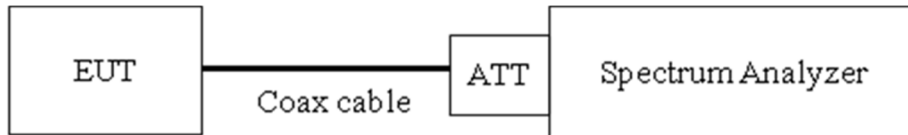
| Parameter                                | Expanded Uncertainty ( $\pm$ dB)           |
|------------------------------------------|--------------------------------------------|
| Conducted Disturbance (150 kHz ~ 30 MHz) | 1.16 (Confidence level about 95 %, $k=2$ ) |
| Conducted Output Power(Power Meter)      | 0.54 (Confidence level about 95 %, $k=2$ ) |
| Conducted Output Power(Signal Analyzer)  | 0.73 (Confidence level about 95 %, $k=2$ ) |
| Power Spectral Density                   | 0.98 (Confidence level about 95 %, $k=2$ ) |
| Band Edge (Out of Band Emissions)        | 1.11 (Confidence level about 95 %, $k=2$ ) |
| Radiated Disturbance (9 kHz ~ 30 MHz)    | 4.54 (Confidence level about 95 %, $k=2$ ) |
| Radiated Disturbance (30 MHz ~ 1 GHz)    | 5.74 (Confidence level about 95 %, $k=2$ ) |
| Radiated Disturbance (1 GHz ~ 18 GHz)    | 5.80 (Confidence level about 95 %, $k=2$ ) |
| Radiated Disturbance (18 GHz ~ 40 GHz)   | 5.86 (Confidence level about 95 %, $k=2$ ) |
| Radiated Disturbance (Above 40 GHz)      | 5.44 (Confidence level about 95 %, $k=2$ ) |

## 7. DESCRIPTION OF TESTS

| Test Item                                                                 | Test Procedure                                                                                                                                                                                                                           |
|---------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Duty Cycle                                                                | - ANSI C63.10-2020 – Section 11.6                                                                                                                                                                                                        |
| 6 dB Bandwidth                                                            | - ANSI C63.10-2020 – Section 11.8                                                                                                                                                                                                        |
| Output Power                                                              | - ANSI C63.10-2020 – Section 11.9.1.2(Peak) & 11.9.2.3(Avg)                                                                                                                                                                              |
| Power Spectral Density                                                    | - ANSI C63.10-2020 – Section 11.10                                                                                                                                                                                                       |
| Conducted Band Edge(Out of Band Emissions) & Conducted Spurious Emissions | - ANSI C63.10-2020– Section 11.11                                                                                                                                                                                                        |
| Radiated Test                                                             | - ANSI C63.10-2020 – Section 6.4 (Below 30 MHz)<br>- ANSI C63.10-2020 – Section 6.5 (30 MHz to 1000 MHz)<br>- ANSI C63.10-2020 – Section 6.6 (1 GHz to 40 GHz)<br>- ANSI C63.10-2020 – Section 6.10 & 11.12 (Restricted frequency bands) |
| AC Power line Conducted Emissions                                         | - ANSI C63.10-2020– Section 6.2                                                                                                                                                                                                          |

### 7.1. Duty Cycle

#### Test Configuration



#### Test Procedure

The transmitter output is connected to the Spectrum Analyzer.

The largest available value of RBW is 8 MHz and VBW is 50 MHz.

The zero-span method of measuring duty cycle shall not be used if  $T \leq 6.25$  microseconds. ( $50/6.25 = 8$ )

The zero-span method was used because all measured T data are  $> 6.25$  microseconds and both RBW and VBW are  $> 50/T$ .

The Spectrum Analyzer is set to

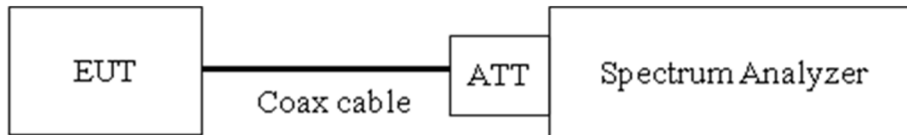
1. RBW = 8 MHz (the largest available value)
2. VBW = 8 MHz ( $\geq$  RBW)
3. SPAN = 0 Hz
4. Detector = Peak
5. Number of points in sweep  $> 100$
6. Trace mode = Clear write
7. Measure  $T_{total}$  and  $T_{on}$
8. Calculate Duty Cycle =  $T_{on} / T_{total}$  and Duty Cycle Factor =  $10\log(1/\text{Duty Cycle})$

## 7.2. 6 dB Bandwidth

### Limit

The minimum permissible 6 dB bandwidth is 500 kHz.

### Test Configuration



### Test Procedure

The transmitter output is connected to the Spectrum Analyzer.

The Spectrum Analyzer is set to

- 1) RBW = shall be in the range of 1% to 5% of the OBW but not less than 100 kHz.
- 2) VBW  $\geq 3 \times$  RBW
- 3) Detector = Peak
- 4) Trace mode = max hold
- 5) Sweep = No faster than coupled (auto) time.
- 6) Allow the trace to stabilize
- 7) We tested 6 dB bandwidth using the automatic bandwidth measurement capability of a spectrum analyzer. X dB is set 6 dB.

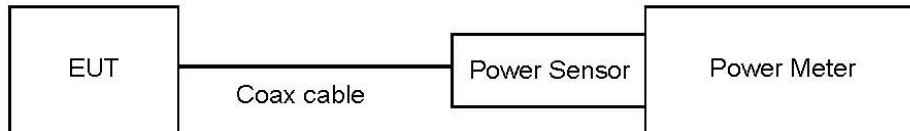
Note : We tested OBW using the automatic bandwidth measurement capability of a spectrum analyzer.

### 7.3. Output Power

#### Limit

The maximum permissible conducted output power is 1 Watt.

#### Test Configuration



#### Test Procedure

The transmitter output is connected to the Power Meter.

- Peak Power
  - : Measure the peak power of the transmitter.
- Average Power
  - 1) Measure the duty cycle.
  - 2) Measure the average power of the transmitter. This measurement is an average over both the on and off periods of the transmitter.
  - 3) Add  $10 \log (1/x)$ , where  $x$  is the duty cycle, to the measured power in order to compute the average power during the actual transmission times.

#### Sample Calculation

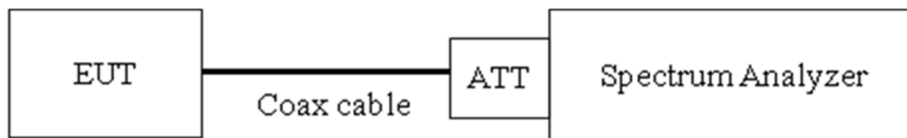
- Conducted Output Power(Peak) = Measured Value + ATT loss + Cable loss
- Conducted Output Power(Average) = Measured Value + ATT loss + Cable loss + Duty Cycle Factor

#### 7.4. Power Spectral Density

##### Limit

The transmitter power density average over 1-second interval shall not be greater than 8 dBm in any 3 kHz BW.

##### Test Configuration



##### Test Procedure

The transmitter output is connected to the Spectrum Analyzer.

The spectrum analyzer is set to :

- 1) Set analyzer center frequency to DTS channel center frequency.
- 2) Set span to at least 1.5 times the DTS bandwidth.
- 3)  $RBW = 3 \text{ kHz} \leq RBW \leq 100 \text{ kHz}$ .
- 4)  $VBW \geq 3 \times RBW$ .
- 5) Sweep = No faster than coupled (auto) time.
- 6) Detector = Peak.
- 7) Trace mode = max hold.
- 8) Allow trace to fully stabilize.
- 9) Use the peak marker function to determine the maximum amplitude level within the RBW.
- 10) If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

##### Sample Calculation

- Power Spectral Density = Measured Value + ATT loss + Cable loss

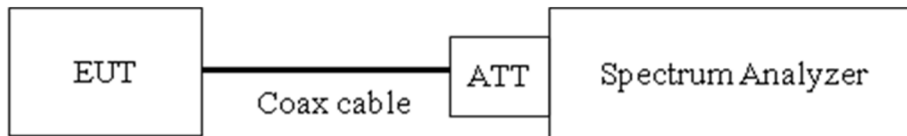
### 7.5. Conducted Band Edge(Out of Band Emissions) & Conducted Spurious Emissions

#### Limit

The maximum conducted (Peak) output power was used to demonstrate compliance, then the peak power in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz.

[ Conducted > 20 dBc ]

#### Test Configuration



#### Test Procedure

The transmitter output is connected to the spectrum analyzer.

- 1) RBW = 100 kHz
- 2) VBW  $\geq 3 \times$  RBW
- 3) Set span to encompass the spectrum to be examined
- 4) Detector = Peak
- 5) Trace Mode = max hold
- 6) Sweep time = No faster than coupled (auto) time.
- 7) Allow trace to fully stabilize.
- 8) Use peak marker function to determine the maximum amplitude level.

Measurements are made over the 30 MHz to 25 GHz range with the transmitter set to the lowest, middle, and highest channels.

### Factors for frequency

| Freq(MHz)    | Factor(dB)   |
|--------------|--------------|
| 30           | 10.11        |
| 100          | 10.11        |
| 200          | 10.25        |
| 300          | 10.30        |
| 400          | 10.25        |
| 500          | 10.36        |
| 600          | 10.33        |
| 700          | 10.34        |
| 800          | 10.41        |
| 900          | 10.45        |
| 1 000        | 10.50        |
| 2 000        | 10.57        |
| <b>2 400</b> | <b>10.86</b> |
| <b>2 500</b> | <b>10.86</b> |
| 3 000        | 10.93        |
| 4 000        | 10.40        |
| 5 000        | 10.47        |
| 5 150        | 10.55        |
| 5 850        | 10.55        |
| 6 000        | 10.91        |
| 7 000        | 10.91        |
| 8 000        | 11.04        |
| 9 000        | 11.27        |
| 10 000       | 11.37        |
| 11 000       | 11.46        |
| 12 000       | 11.54        |
| 13 000       | 11.35        |
| 14 000       | 11.31        |
| 15 000       | 11.28        |
| 16 000       | 11.10        |
| 17 000       | 11.41        |
| 18 000       | 11.76        |
| 19 000       | 11.70        |
| 20 000       | 11.30        |
| 21 000       | 11.66        |
| 22 000       | 11.54        |
| 23 000       | 12.07        |
| 24 000       | 11.98        |
| 25 000       | 11.85        |
| 26 000       | 11.93        |

Note : 1. 2400 ~ 2500 MHz is fundamental frequency range.

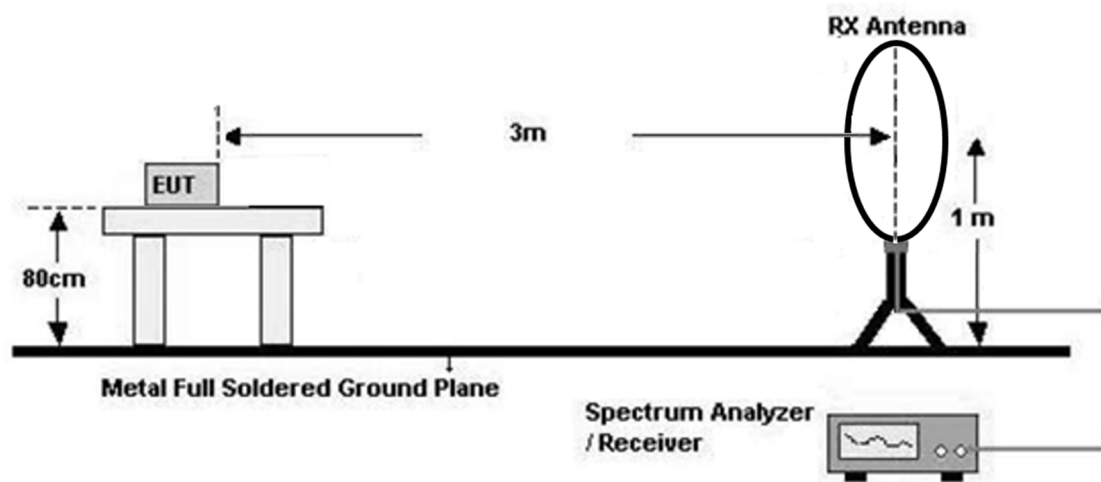
## 7.6. Radiated Test

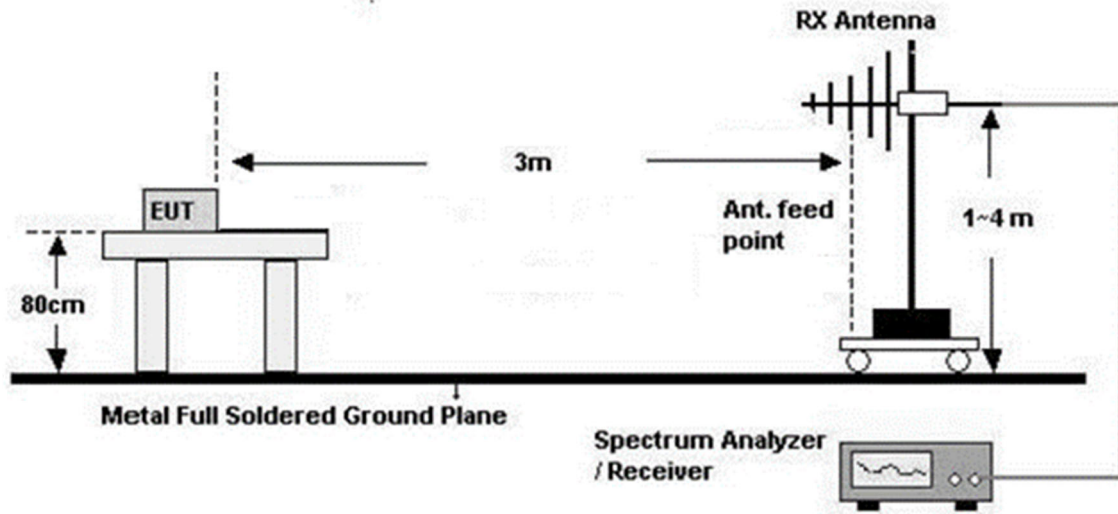
### Limit

| Frequency (MHz) | Field Strength ( $\mu\text{V/m}$ ) | Measurement Distance (m) |
|-----------------|------------------------------------|--------------------------|
| 0.009 – 0.490   | $2400/F(\text{kHz})$               | 300                      |
| 0.490 – 1.705   | $24000/F(\text{kHz})$              | 30                       |
| 1.705 – 30      | 30                                 | 30                       |
| 30-88           | 100                                | 3                        |
| 88-216          | 150                                | 3                        |
| 216-960         | 200                                | 3                        |
| Above 960       | 500                                | 3                        |

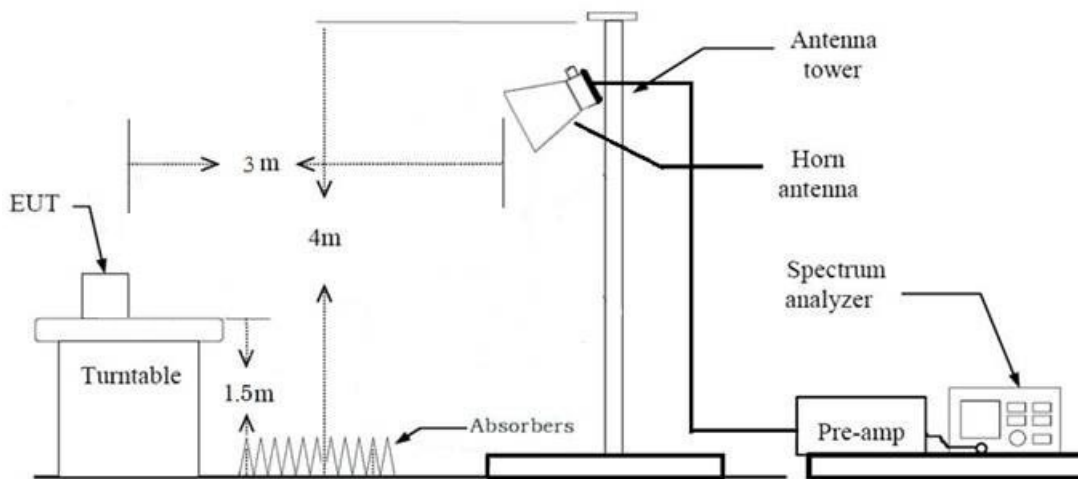
### Test Configuration

Below 30 MHz





Above 1 GHz



**Test Procedure of Radiated spurious emissions(Below 30 MHz)**

1. The EUT was placed on a non-conductive table located on semi-anechoic chamber.
2. The loop antenna was placed at a location 3 m from the EUT
3. The EUT is placed on a turntable, which is 0.8 m above ground plane.
4. We have done x, y, z planes in EUT and horizontal and vertical polarization and Parallel to the ground plane in detecting antenna.
5. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
6. Distance Correction Factor(0.009 MHz – 0.490 MHz) =  $40\log(3 \text{ m}/300 \text{ m}) = - 80 \text{ dB}$   
Measurement Distance : 3 m
7. Distance Correction Factor(0.490 MHz – 30 MHz) =  $40\log(3 \text{ m}/30 \text{ m}) = - 40 \text{ dB}$   
Measurement Distance : 3 m
8. Spectrum Analyzer Setting
  - Frequency Range = 9 kHz ~ 30 MHz
  - Detector = Peak
  - Trace = Max hold
  - RBW = 9 kHz
  - VBW  $\geq 3 \times$  RBW
9. Total = Measured Value + Antenna Factor(A.F) + Cable Loss(C.L) + Distance Factor(D.F)
10. Measurement value only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.

**KDB 414788 OFS and Chamber Correlation Justification**

Base on FCC 15.31 (f) (2): measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field.

OFS and chamber correlation testing had been performed and chamber measured test result is the worst case test result.

**Test Procedure of Radiated spurious emissions(Below 1 GHz)**

1. The EUT was placed on a non-conductive table located on semi-anechoic chamber.
2. The EUT is placed on a turntable, which is 0.8 m above ground plane.
3. The Hybrid antenna was placed at a location 3 m from the EUT, which is varied from 1m to 4 m to find out the highest emissions.
4. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
5. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
6. Spectrum Analyzer Setting

**(1) Measurement Type(Peak):**

- Measured Frequency Range : 30 MHz – 1 GHz
- Detector = Peak
- Trace = Max hold
- RBW = 100 kHz
- VBW  $\geq 3 \times$  RBW

**(2) Measurement Type(Quasi-peak):**

- Measured Frequency Range : 30 MHz – 1 GHz
- Detector = Quasi-Peak
- RBW = 120 kHz

In general, (1) is used mainly

7. Total = Measured Value + Antenna Factor(A.F) + Cable Loss(C.L)
8. Measurement value only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.

**Test Procedure of Radiated spurious emissions (Above 1 GHz)**

1. The EUT is placed on a turntable, which is 1.5 m above ground plane.
2. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
3. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
4. EUT is set 3 m away from the receiving antenna, which is varied from 1 m to 4 m to find out the highest emissions.
5. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
6. Each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.

**7. Spectrum Analyzer Setting****(1) Measurement Type(Peak):**

- Measured Frequency Range : 1 GHz – 25 GHz
- Detector = Peak
- Trace = Max hold
- RBW = 1 MHz
- VBW  $\geq 3 \times$  RBW

**(2) Measurement Type(Average):**

- Duty cycle < 98 %, duty cycle variations are less than  $\pm 2$  %
- Measured Frequency Range : 1 GHz – 25 GHz
- Detector = RMS
- Averaging type = power (i.e., RMS)
- RBW = 1 MHz
- VBW  $\geq 3 \times$  RBW
- Sweep time = auto.
- Trace mode = average (at least 100 traces).
- Correction factor shall be added to the measurement results prior to comparing to the emission limit in order to compute the emission level that would have been measured had the test been performed at 100 percent duty cycle.
- Duty Cycle Factor (dB) : Please refer to the duty cycle test result.

8. Measurement value only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.

9. Distance extrapolation factor =  $20\log(\text{test distance} / \text{specific distance})$  (dB)

10. Total (Measurement Type : Peak)

$$= \text{Peak Measured Value} + \text{Antenna Factor(A.F)} + \text{Cable Loss(C.L)} - \text{Amp Gain(A.G)} \\ + \text{Distance Factor(D.F)}$$

Total (Measurement Type : Average)

$$= \text{Average Measured Value} + \text{Antenna Factor(A.F)} + \text{Cable Loss(C.L)} - \text{Amp Gain(A.G)} \\ + \text{Distance Factor(D.F)}$$

#Note : Used Average measurement method according to KDB 558074 Section11 Q3

**Test Procedure of Radiated Restricted Band Edge**

1. The EUT is placed on a turntable, which is 1.5 m above ground plane.
2. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

3. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
4. EUT is set 3 m away from the receiving antenna, which is varied from 1 m to 4 m to find out the highest emissions.
5. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
6. Each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.

7. Spectrum Analyzer Setting

(1) Measurement Type(Peak):

- Measured Frequency Range : 1 GHz – 25 GHz
- Detector = Peak
- Trace = Max hold
- RBW = 1 MHz
- VBW  $\geq 3 \times$  RBW

(2) Measurement Type(Average):

- Duty cycle < 98 %, duty cycle variations are less than  $\pm 2$  %
- Measured Frequency Range : 1 GHz – 25 GHz
- Detector = RMS
- Averaging type = power (i.e., RMS)
- RBW = 1 MHz
- VBW  $\geq 3 \times$  RBW
- Sweep time = auto.
- Trace mode = average (at least 100 traces).
- Correction factor shall be added to the measurement results prior to comparing to the emission limit in order to compute the emission level that would have been measured had the test been performed at 100 percent duty cycle.
- Duty Cycle Factor (dB) : Please refer to the duty cycle test result.

(3) Measurement Type(Average , Integration Method) : Duty cycle < 98 %, duty cycle variations are less than  $\pm 2$  %

- Measured Frequency Range : 1 GHz – 25 GHz
- Detector = RMS
- Averaging type = power (i.e., RMS)
- RBW = 100 kHz
- VBW  $\geq 3 \times$  RBW
- Sweep time = auto.
- Trace mode = average (at least 100 traces).
- Compute the power by integrating the spectrum over 1 MHz using the analyzer's band-power measurement function with band limits set equal to the emission frequency ( $f_{\text{emission}} \pm 0.5$  MHz). If the instrument does not have a band-power function, then sum the amplitude levels (in power units) at 100 kHz intervals extending across the 1 MHz spectrum defined by  $f_{\text{emission}} \pm 0.5$  MHz.
- Correction factor shall be added to the measurement results prior to comparing to the emission limit in order to compute the emission level that would have been measured had the test been performed at 100 % duty cycle.
- Duty Cycle Factor (dB) : Please refer to the duty cycle test result.

8. Measurement value only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.

9. Distance extrapolation factor =  $20\log(\text{test distance} / \text{specific distance})$  (dB)

10.Total

(1)Measurement(Peak)

= Peak Measured Value

(2)Measurement(Average)

= Average Measured Value

- We apply to the offset in the range 1 GHz - 18 GHz.

- The offset = Antenna Factor(A.F) + Cable Loss(C.L) + Distance Factor(D.F)

#Note : Used Average measurement method according to KDB 558074 Section11 Q3

## 7.7. AC Power line Conducted Emissions

### Limit

For an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50  $\mu$ H/50 ohms line impedance stabilization network (LISN).

| Frequency Range (MHz) | Limits (dB $\mu$ V)     |                         |
|-----------------------|-------------------------|-------------------------|
|                       | Quasi-peak              | Average                 |
| 0.15 to 0.50          | 66 to 56 <sup>(a)</sup> | 56 to 46 <sup>(a)</sup> |
| 0.50 to 5             | 56                      | 46                      |
| 5 to 30               | 60                      | 50                      |

<sup>(a)</sup>Decreases with the logarithm of the frequency.

Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line (LINE and NEUTRAL) and ground at the power terminals.

### Test Configuration

See test photographs attached in Annex A for the actual connections between EUT and support equipment.

### Test Procedure

1. The EUT is placed on a wooden table 80 cm above the reference ground plane.
2. The EUT is connected via LISN to a test power supply.
3. The measurement results are obtained as described below:
4. Detectors : Quasi Peak and Average Detector.

### Sample Calculation

Quasi-peak(Final Result) = Measured Value + Correction Factor

## 7.8. Worst case configuration and mode

### **Conducted test**

1. The EUT was configured with packet length of highest power.
- All supported mode tested.
- Worst Results refer to Notes for each test item

### **Radiated Test**

1. All modes of operation were investigated and the worst case configuration results are reported.
  - Mode : Stand alone
2. EUT Axis
  - Radiated Spurious Emissions : Z
  - Radiated Restricted Band Edge : Z
3. All packet length of operation were investigated and the test results are worst case in lowest packet length.
  - (Worst case : 1M Bit/s 37 Byte)
  - (125k, 500k, 1M Bit/s all have the same 1 MHz Bandwidth and only Worst result is attached.)
4. All datarate of operation were investigated and the worst case configuration results are reported.
  - Worst case : 1 M, 2 M
5. All position of loop antenna were investigated and the test result is a no critical peak found at all positions.
  - Position : Horizontal, Vertical, Parallel to the ground plane

### **AC Power line Conducted Emissions**

1. All modes of operation were investigated and the worst case configuration results are reported.
  - Mode : Stand alone + Notebook Computer
  - Worstcase : Stand alone + Notebook Computer

### **Radiated test(Simultaneous transmission Scenario)**

1. All modes of operation were investigated and the worst case configuration results are reported.
  - Mode : Stand alone
2. EUT Axis
  - Radiated Spurious Emissions : X, Y
3. All of Simultaneous transmission Scenario were investigated and the worst case configuration results are reported.

| Simultaneous transmission Scenario              | 2.4 GHz WiFi Ant.1 | 2.4 GHz WiFi Ant.2 | 5 GHz WiFi Ant.1 | 5 GHz WiFi Ant.2 | 6 GHz WiFi Ant.1 | 6 GHz WiFi Ant.2 | Bluetooth | Test Case  |
|-------------------------------------------------|--------------------|--------------------|------------------|------------------|------------------|------------------|-----------|------------|
| Bluetooth + 2.4 GHz WiFi MIMO                   | on                 | on                 | -                | -                | -                | -                | on        | Scenario 1 |
| Bluetooth + 5 GHz WiFi MIMO                     | -                  | -                  | on               | on               | -                | -                | on        | Scenario 2 |
| Bluetooth + 6 GHz WiFi MIMO                     | -                  | -                  | -                | -                | on               | on               | on        | -          |
| 2.4 GHz WiFi SISO + 5 GHz WiFi SISO             | -                  | on                 | on               | -                | -                | -                | -         | -          |
| 2.4 GHz WiFi SISO + 6 GHz WiFi SISO             | -                  | on                 | -                | -                | on               | -                | -         | -          |
| Bluetooth + 2.4 GHz WiFi SISO + 5 GHz WiFi SISO | -                  | on                 | on               | -                | -                | -                | on        | Scenario 3 |
| Bluetooth + 2.4 GHz WiFi SISO + 6 GHz WiFi SISO | -                  | on                 | -                | -                | on               | -                | on        | -          |

4. The Simultaneous transmission Scenario mode test investigated both intermodulation and radiated spurious emissions. And the worst results were reported.

- Worst result : Radiated spurious emissions
- Intermodulation : No signals are generated.
- Radiated spurious emissions : cf. Section 9.6

5. The following tables show the worst case configurations determined during testing.

(Worst case : The lowest margin condition the channels and modes were selected for test.)

| Scenario 1                 | Description | BT Emission      | 2.4 GHz Emission |
|----------------------------|-------------|------------------|------------------|
| 2.4 GHz WiFi MIMO + BT ANT | Antenna     | BT ANT           | ANT ALL          |
|                            | Channel     | 0                | 11               |
|                            | Data Rate   | 1 Mbps           | 1 Mbps           |
|                            | Mode        | BTLE 1M 37 Bytes | 802.11b          |

**Note** : DTS Simultaneous transmission Data refer to [DTS] Test Report

| Scenario 2               | Description | BT Emission      | 5 GHz Emission         |
|--------------------------|-------------|------------------|------------------------|
| 5 GHz WiFi MIMO + BT ANT | Antenna     | BT ANT           | ANT ALL                |
|                          | Channel     | 0                | 62                     |
|                          | Data Rate   | 1 Mbps           | MCS 0                  |
|                          | Mode        | BTLE 1M 37 Bytes | 802.11ax[HE40] 26T RU9 |

**Note** : UNII ax Simultaneous transmission Data refer to [UNII ax] Test Report

| Scenario 3                                                   | Description | BT Emission         | 2.4 GHz Emission | 5 GHz Emission |
|--------------------------------------------------------------|-------------|---------------------|------------------|----------------|
| 2.4 GHz WiFi SISO ANT2<br>+ 5 GHz WiFi SISO ANT1<br>+ BT ANT | Antenna     | BT ANT              | ANT 2            | ANT 1          |
|                                                              | Channel     | 0                   | 11               | 165            |
|                                                              | Data Rate   | 1 Mbps              | 1 Mbps           | 6 Mbps         |
|                                                              | Mode        | BTLE<br>1M 37 Bytes | 802.11b          | 802.11a        |

Note : DTS Simultaneous transmission Data refer to [DTS] Test Report

Note : UNII Simultaneous transmission Data refer to [UNII] Test Report

## 8. SUMMARY TEST OF RESULTS

| Test Item                         | FCC Part Section(s)              | Test Limit         | Test Condition | Test Result |
|-----------------------------------|----------------------------------|--------------------|----------------|-------------|
| 6 dB Bandwidth                    | §15.247(a)(2)                    | > 500 kHz          | Conducted      | PASS        |
| Conducted Maximum Output Power    | §15.247(b)(3)                    | < 1 Watt           |                | PASS        |
| Power Spectral Density            | §15.247(e)                       | < 8 dBm / 3 kHz    |                | PASS        |
| Band Edge (Out of Band Emissions) | §15.247(d)                       | Conducted > 20 dBc |                | PASS        |
| AC Power line Conducted Emissions | §15.207                          | cf. Section 7.7    |                | PASS        |
| Radiated Spurious Emissions       | §15.247(d),<br>15.205,<br>15.209 | cf. Section 7.6    | Radiated       | PASS        |
| Radiated Restricted Band Edge     | §15.247(d),<br>15.205,<br>15.209 | cf. Section 7.6    |                | PASS        |

Note: The decision rule applies 'simple acceptance'

## 9. TEST RESULT

### 9.1 DUTY CYCLE

| Data rate<br>(Bit/s) | Packet length<br>(Byte) | T <sub>on</sub><br>(ms) | T <sub>total</sub><br>(ms) | Duty Cycle | Duty Cycle Factor<br>(dB) |
|----------------------|-------------------------|-------------------------|----------------------------|------------|---------------------------|
| 1M                   | 37                      | 0.383                   | 0.626                      | 0.611      | 2.137                     |
|                      | 255                     | 2.125                   | 2.500                      | 0.850      | 0.706                     |
| 2M                   | 37                      | 0.199                   | 0.626                      | 0.318      | 4.978                     |
|                      | 255                     | 1.071                   | 1.877                      | 0.570      | 2.439                     |
| 125k                 | 37                      | 3.100                   | 3.750                      | 0.827      | 0.827                     |
|                      | 255                     | 17.033                  | 17.500                     | 0.973      | 0.117                     |
| 500k                 | 37                      | 1.060                   | 1.874                      | 0.566      | 2.475                     |
|                      | 255                     | 4.550                   | 5.000                      | 0.910      | 0.410                     |

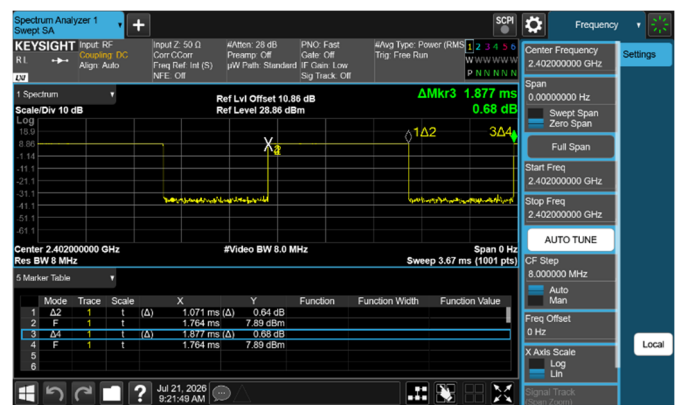
## 1 M Bit/s (37 Byte)

## 1 M Bit/s (255 Byte)



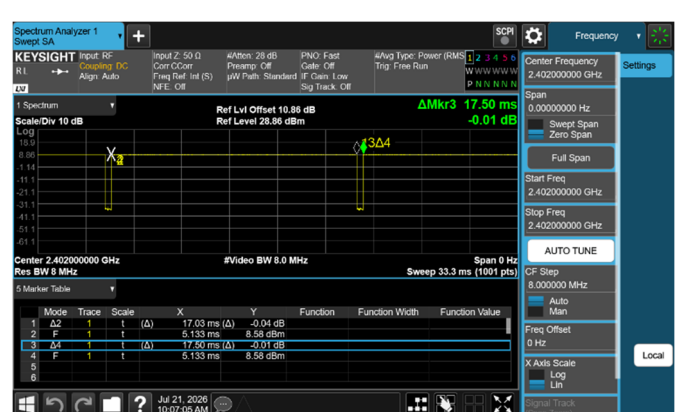
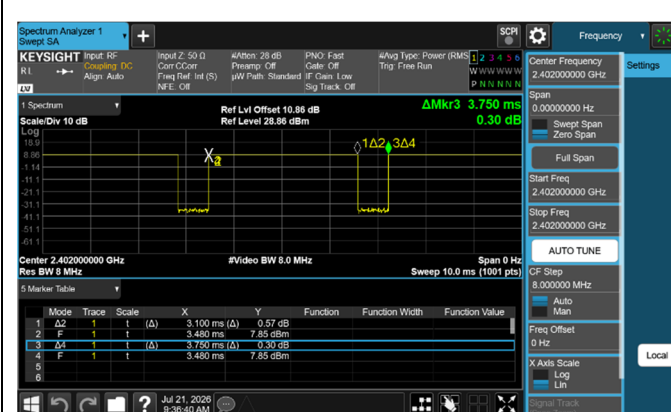
## 2 M Bit/s (37 Byte)

## 2 M Bit/s (255 Byte)



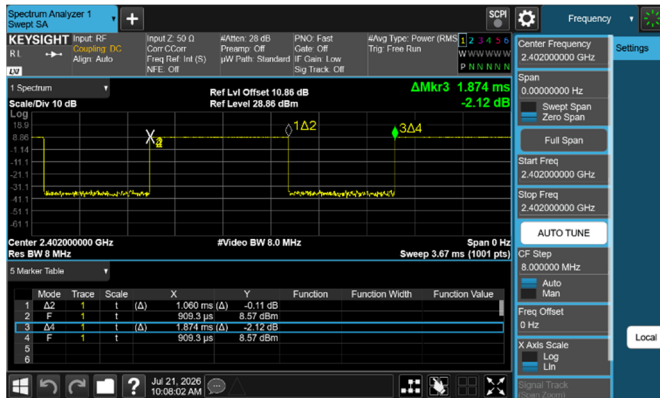
## 125 k Bit/s(37 Byte)

## 125 k Bit/s(255 Byte)



## 500 k Bit/s(37 Byte)

## 500 k Bit/s(255 Byte)

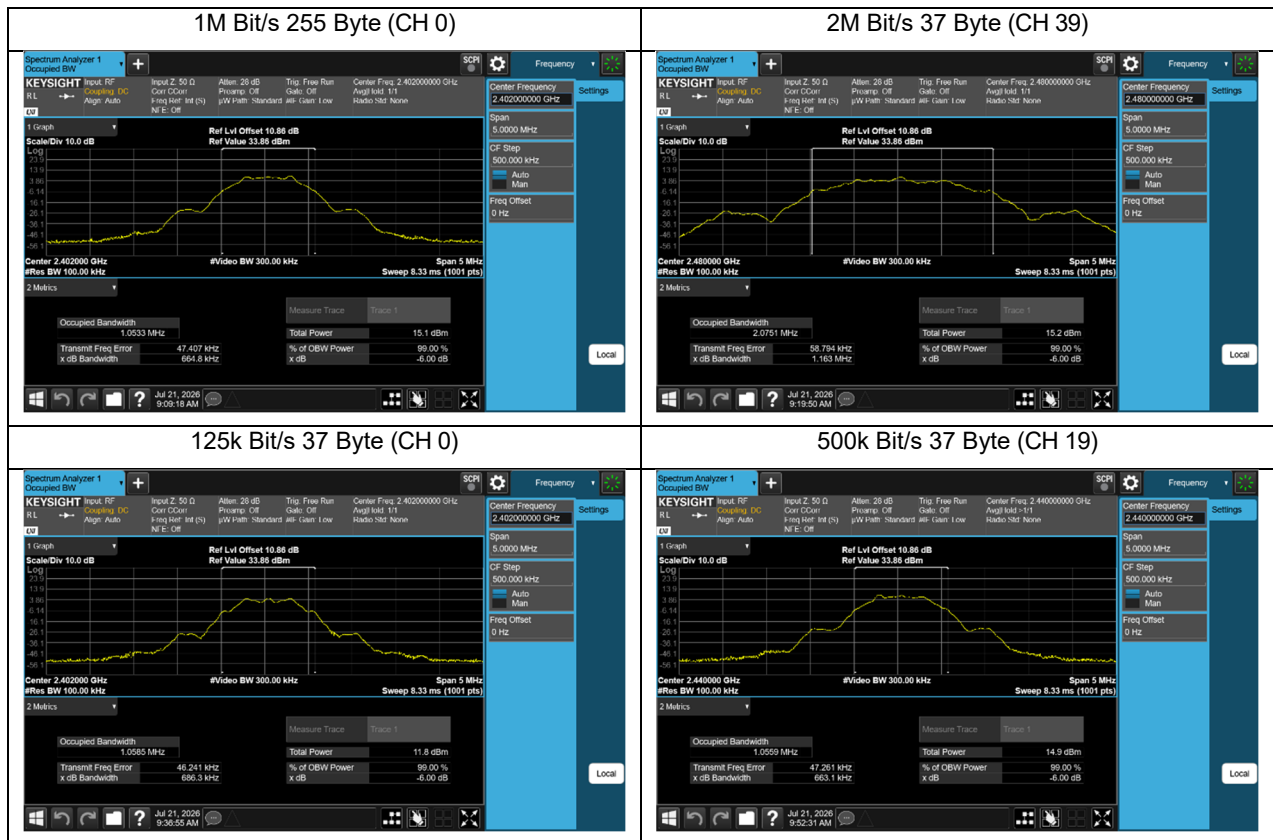


## 9.2 6 dB BANDWIDTH

| Mode         | Channel | Frequency<br>[MHz] | 6dB BW<br>[kHz] | Limit<br>[kHz] |
|--------------|---------|--------------------|-----------------|----------------|
| 1M 37Byte    | 0       | 2402               | 718.0           | > 500          |
|              | 19      | 2440               | 712.9           |                |
|              | 39      | 2480               | 702.4           |                |
| 1M 255Byte   | 0       | 2402               | 664.8           |                |
|              | 19      | 2440               | 668.0           |                |
|              | 39      | 2480               | 668.5           |                |
| 2M 37Byte    | 0       | 2402               | 1166            |                |
|              | 19      | 2440               | 1168            |                |
|              | 39      | 2480               | 1163            |                |
| 2M 255Byte   | 0       | 2402               | 1184            |                |
|              | 19      | 2440               | 1179            |                |
|              | 39      | 2480               | 1175            |                |
| 125k 37Byte  | 0       | 2402               | 686.3           |                |
|              | 19      | 2440               | 693.3           |                |
|              | 39      | 2480               | 691.8           |                |
| 125k 255Byte | 0       | 2402               | 691.6           |                |
|              | 19      | 2440               | 689.2           |                |
|              | 39      | 2480               | 690.1           |                |
| 500k 37Byte  | 0       | 2402               | 666.7           |                |
|              | 19      | 2440               | 663.1           |                |
|              | 39      | 2480               | 670.4           |                |
| 500k 255Byte | 0       | 2402               | 665.8           |                |
|              | 19      | 2440               | 671.1           |                |
|              | 39      | 2480               | 667.4           |                |

## Test Plots

**Note:** In order to simplify the report, attached plots were only the narrowest 6 dB BW channel



### 9.3 OUTPUT POWER

#### Peak Power

| Mode         | Channel | Frequency [MHz] | Peak Power [dBm] | Limit [dBm] |
|--------------|---------|-----------------|------------------|-------------|
| 1M 37Byte    | 0       | 2402            | 8.601            | 30          |
|              | 19      | 2440            | 8.531            |             |
|              | 39      | 2480            | 8.429            |             |
| 1M 255Byte   | 0       | 2402            | 8.725            |             |
|              | 19      | 2440            | 8.634            |             |
|              | 39      | 2480            | 8.552            |             |
| 2M 37Byte    | 0       | 2402            | 8.715            |             |
|              | 19      | 2440            | 8.747            |             |
|              | 39      | 2480            | 8.661            |             |
| 2M 255Byte   | 0       | 2402            | 8.706            |             |
|              | 19      | 2440            | 8.636            |             |
|              | 39      | 2480            | 8.510            |             |
| 125k 37Byte  | 0       | 2402            | 8.648            |             |
|              | 19      | 2440            | 8.527            |             |
|              | 39      | 2480            | 8.437            |             |
| 125k 255Byte | 0       | 2402            | 8.746            |             |
|              | 19      | 2440            | 8.663            |             |
|              | 39      | 2480            | 8.594            |             |
| 500k 37Byte  | 0       | 2402            | 8.616            |             |
|              | 19      | 2440            | 8.612            |             |
|              | 39      | 2480            | 8.558            |             |
| 500k 255Byte | 0       | 2402            | 8.569            |             |
|              | 19      | 2440            | 8.743            |             |
|              | 39      | 2480            | 8.704            |             |

## Average Power

### Note :

Total Power [dBm] = Measured Power [dBm] + Duty Cycle Factor [dB]

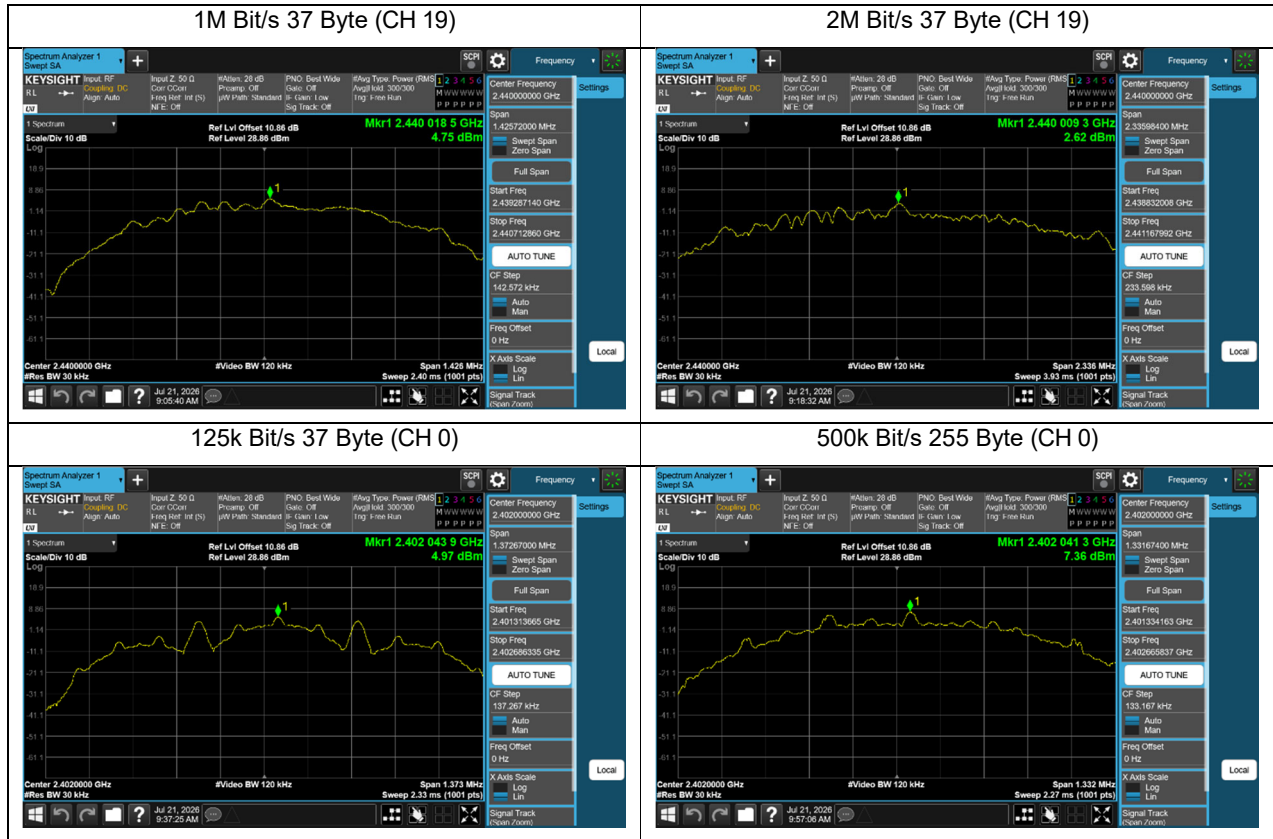
| Mode         | Channel | Frequency [MHz] | Measured Power [dBm] | D.C.F [dB] | Total Power [dBm] | Limit [dBm] |
|--------------|---------|-----------------|----------------------|------------|-------------------|-------------|
| 1M 37Byte    | 0       | 2402            | 6.08                 | 2.14       | 8.22              | 30          |
|              | 19      | 2440            | 6.09                 | 2.14       | 8.22              |             |
|              | 39      | 2480            | 6.00                 | 2.14       | 8.14              |             |
| 1M 255Byte   | 0       | 2402            | 7.53                 | 0.71       | 8.24              |             |
|              | 19      | 2440            | 7.69                 | 0.71       | 8.40              |             |
|              | 39      | 2480            | 7.50                 | 0.71       | 8.21              |             |
| 2M 37Byte    | 0       | 2402            | 3.25                 | 4.98       | 8.23              |             |
|              | 19      | 2440            | 3.27                 | 4.98       | 8.25              |             |
|              | 39      | 2480            | 3.23                 | 4.98       | 8.21              |             |
| 2M 255Byte   | 0       | 2402            | 5.90                 | 2.44       | 8.34              |             |
|              | 19      | 2440            | 5.87                 | 2.44       | 8.31              |             |
|              | 39      | 2480            | 5.61                 | 2.44       | 8.05              |             |
| 125k 37Byte  | 0       | 2402            | 7.47                 | 0.83       | 8.30              |             |
|              | 19      | 2440            | 7.48                 | 0.83       | 8.31              |             |
|              | 39      | 2480            | 7.27                 | 0.83       | 8.10              |             |
| 125k 255Byte | 0       | 2402            | 8.29                 | 0.12       | 8.41              |             |
|              | 19      | 2440            | 8.24                 | 0.12       | 8.35              |             |
|              | 39      | 2480            | 8.07                 | 0.12       | 8.19              |             |
| 500k 37Byte  | 0       | 2402            | 5.81                 | 2.48       | 8.29              |             |
|              | 19      | 2440            | 5.94                 | 2.48       | 8.41              |             |
|              | 39      | 2480            | 5.75                 | 2.48       | 8.23              |             |
| 500k 255Byte | 0       | 2402            | 7.91                 | 0.41       | 8.32              |             |
|              | 19      | 2440            | 8.00                 | 0.41       | 8.41              |             |
|              | 39      | 2480            | 7.79                 | 0.41       | 8.20              |             |

## 9.4 POWER SPECTRAL DENSITY

| Mode         | Channel | Frequency [MHz] | Total PSD [dBm/30kHz] | Limit [dBm/3kHz] |
|--------------|---------|-----------------|-----------------------|------------------|
| 1M 37Byte    | 0       | 2402            | 4.608                 | 8                |
|              | 19      | 2440            | 4.754                 |                  |
|              | 39      | 2480            | 4.533                 |                  |
| 1M 255Byte   | 0       | 2402            | 4.195                 |                  |
|              | 19      | 2440            | 4.698                 |                  |
|              | 39      | 2480            | 4.496                 |                  |
| 2M 37Byte    | 0       | 2402            | 2.517                 |                  |
|              | 19      | 2440            | 2.618                 |                  |
|              | 39      | 2480            | 2.379                 |                  |
| 2M 255Byte   | 0       | 2402            | 2.455                 |                  |
|              | 19      | 2440            | 2.427                 |                  |
|              | 39      | 2480            | 2.437                 |                  |
| 125k 37Byte  | 0       | 2402            | 4.969                 |                  |
|              | 19      | 2440            | 4.734                 |                  |
|              | 39      | 2480            | 4.727                 |                  |
| 125k 255Byte | 0       | 2402            | 4.866                 |                  |
|              | 19      | 2440            | 4.571                 |                  |
|              | 39      | 2480            | 4.846                 |                  |
| 500k 37Byte  | 0       | 2402            | 5.420                 |                  |
|              | 19      | 2440            | 5.442                 |                  |
|              | 39      | 2480            | 5.342                 |                  |
| 500k 255Byte | 0       | 2402            | 7.360                 |                  |
|              | 19      | 2440            | 6.271                 |                  |
|              | 39      | 2480            | 6.502                 |                  |

## Test Plots

**Note :** In order to simplify the report, attached plots were only the worst case PSD channel.

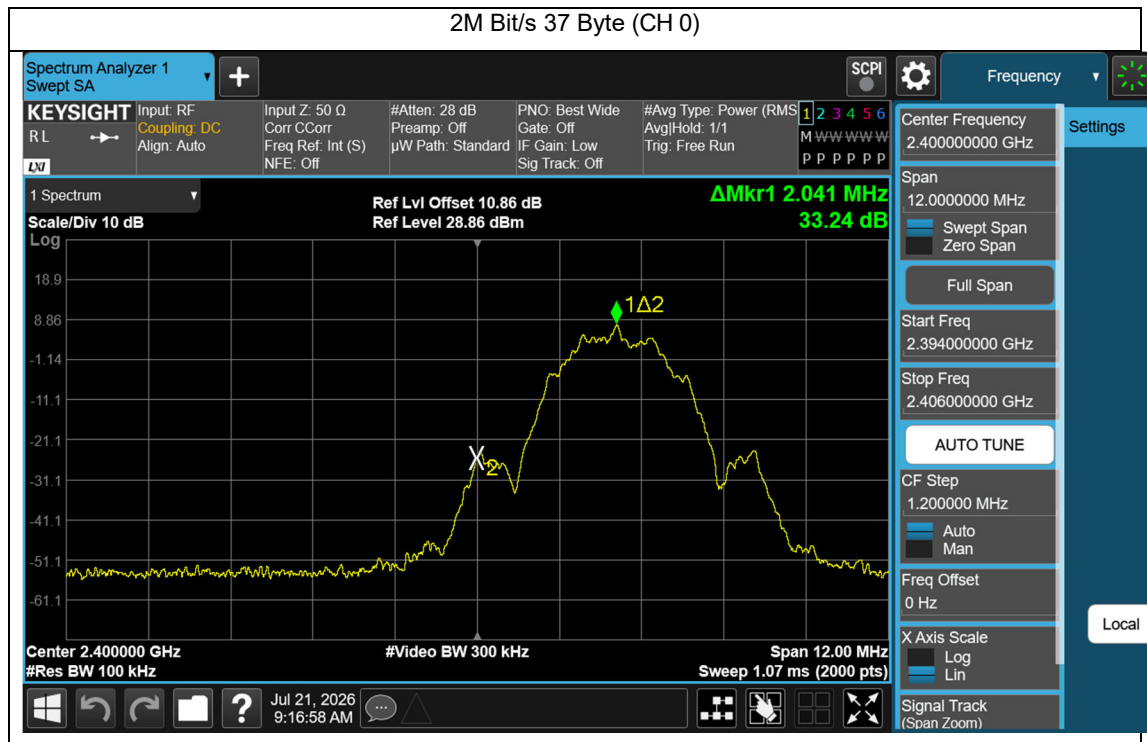


## 9.5 BAND EDGE/ CONDUCTED SPURIOUS EMISSIONS

### [BAND EDGE]

| Mode         | Channel | Frequency [MHz] | Position | Band Edge [dBc] | Limit [dBc] |
|--------------|---------|-----------------|----------|-----------------|-------------|
| 1M 37Byte    | 0       | 2402            | Lower    | 58.731          | 20          |
|              | 39      | 2480            | Upper    | 59.338          |             |
| 1M 255Byte   | 0       | 2402            | Lower    | 59.748          |             |
|              | 39      | 2480            | Upper    | 59.240          |             |
| 2M 37Byte    | 0       | 2402            | Lower    | 33.242          |             |
|              | 39      | 2480            | Upper    | 57.142          |             |
| 2M 255Byte   | 0       | 2402            | Lower    | 34.188          |             |
|              | 39      | 2480            | Upper    | 57.518          |             |
| 125k 37Byte  | 0       | 2402            | Lower    | 57.437          |             |
|              | 39      | 2480            | Upper    | 55.977          |             |
| 125k 255Byte | 0       | 2402            | Lower    | 56.921          |             |
|              | 39      | 2480            | Upper    | 56.219          |             |
| 500k 37Byte  | 0       | 2402            | Lower    | 59.596          |             |
|              | 39      | 2480            | Upper    | 59.102          |             |
| 500k 255Byte | 0       | 2402            | Lower    | 59.991          |             |
|              | 39      | 2480            | Upper    | 58.615          |             |

# Test Plot(Band Edge)

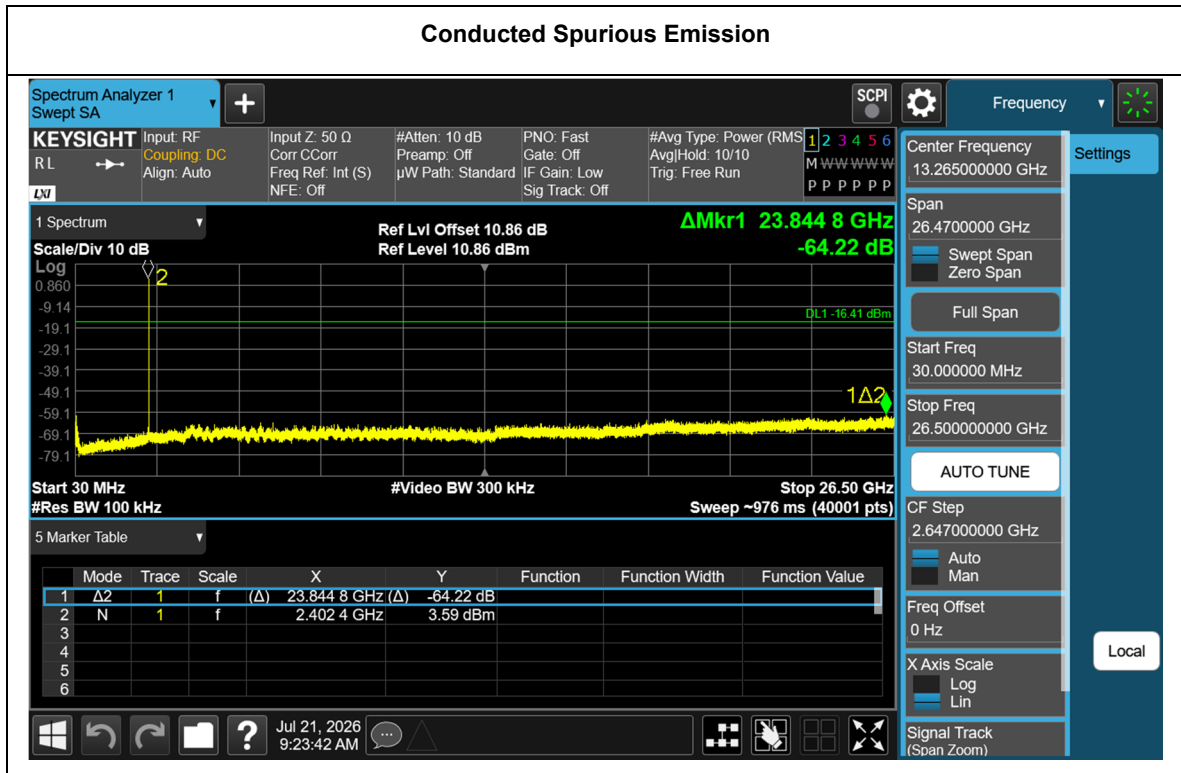


## [CONDUCTED SPURIOUS EMISSIONS]

In order to simplify the report, attached plots were only the worst case channel and data rate.

- Worst case : 2M Bit/s 255 Byte Ch. 0

### ■ Test Plots(Conducted Spurious Emission (30 MHz – 26.5 GHz))



#### Note

1. Limit (dBm): -16.41

## 9.6 RADIATED SPURIOUS EMISSIONS

Frequency Range : 9 kHz – 30 MHz

| Frequency               | Measured Value | A.F+C.L+D.F | POL   | Total    | Limit    | Margin |
|-------------------------|----------------|-------------|-------|----------|----------|--------|
| [MHz]                   | [dBμV]         | [dB/m]      | [H/V] | [dBμV/m] | [dBμV/m] | [dB]   |
| No Critical peaks found |                |             |       |          |          |        |

**Note:**

1. The Measured of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
2. Distance extrapolation factor =  $40 \log (\text{specific distance} / \text{test distance})$  (dB)
3. Limit line = specific Limits (dBμV) + Distance extrapolation factor

Frequency Range : Below 1 GHz

| Frequency               | Measured Value | A.F+C.L | POL   | Total    | Limit    | Margin |
|-------------------------|----------------|---------|-------|----------|----------|--------|
| [MHz]                   | [dBμV]         | [dB/m]  | [H/V] | [dBμV/m] | [dBμV/m] | [dB]   |
| No Critical peaks found |                |         |       |          |          |        |

**Note:**

1. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Quasi peak detector mode.

**Frequency Range : Above 1 GHz**

| CH 0      |                | 2402            | MHz      | Mode :   |          | 1 M Bit/s (37 Bytes) |                  |
|-----------|----------------|-----------------|----------|----------|----------|----------------------|------------------|
| Frequency | Measured Value | A.F+C.L-A.G+D.F | ANT. POL | Total    | Limit    | Margin               | Measurement Type |
| [MHz]     | [dBμV]         | [dB/m]          | [H/V]    | [dBμV/m] | [dBμV/m] | [dB]                 |                  |
| 4804      | 53.92          | -10.56          | V        | 43.36    | 73.98    | 30.62                | PK               |
| 4804      | 42.51          | -10.56          | V        | 31.95    | 53.98    | 22.03                | AV               |
| 7206      | 52.11          | -3.91           | V        | 48.20    | 73.98    | 25.78                | PK               |
| 7206      | 40.12          | -3.91           | V        | 36.21    | 53.98    | 17.77                | AV               |
| 4804      | 54.00          | -10.56          | H        | 43.44    | 73.98    | 30.54                | PK               |
| 4804      | 42.52          | -10.56          | H        | 31.96    | 53.98    | 22.02                | AV               |
| 7206      | 52.16          | -3.91           | H        | 48.25    | 73.98    | 25.73                | PK               |
| 7206      | 40.21          | -3.91           | H        | 36.30    | 53.98    | 17.68                | AV               |

| CH 19     |                | 2440            | MHz      | Mode :   |          | 1 M Bit/s (37 Bytes) |                  |
|-----------|----------------|-----------------|----------|----------|----------|----------------------|------------------|
| Frequency | Measured Value | A.F+C.L-A.G+D.F | ANT. POL | Total    | Limit    | Margin               | Measurement Type |
| [MHz]     | [dBμV]         | [dB/m]          | [H/V]    | [dBμV/m] | [dBμV/m] | [dB]                 |                  |
| 4880      | 54.29          | -10.35          | V        | 43.94    | 73.98    | 30.04                | PK               |
| 4880      | 42.44          | -10.35          | V        | 32.09    | 53.98    | 21.89                | AV               |
| 7320      | 51.87          | -3.70           | V        | 48.17    | 73.98    | 25.81                | PK               |
| 7320      | 39.63          | -3.70           | V        | 35.93    | 53.98    | 18.05                | AV               |
| 4880      | 54.46          | -10.35          | H        | 44.11    | 73.98    | 29.87                | PK               |
| 4880      | 42.78          | -10.35          | H        | 32.43    | 53.98    | 21.55                | AV               |
| 7320      | 52.16          | -3.70           | H        | 48.46    | 73.98    | 25.52                | PK               |
| 7320      | 39.92          | -3.70           | H        | 36.22    | 53.98    | 17.76                | AV               |

| CH 39     |                | 2480            | MHz      | Mode :   |          | 1 M Bit/s (37 Bytes) |                  |
|-----------|----------------|-----------------|----------|----------|----------|----------------------|------------------|
| Frequency | Measured Value | A.F+C.L-A.G+D.F | ANT. POL | Total    | Limit    | Margin               | Measurement Type |
| [MHz]     | [dBμV]         | [dB/m]          | [H/V]    | [dBμV/m] | [dBμV/m] | [dB]                 |                  |
| 4960      | 54.11          | -10.14          | V        | 43.97    | 73.98    | 30.01                | PK               |
| 4960      | 43.21          | -10.14          | V        | 33.07    | 53.98    | 20.91                | AV               |
| 7440      | 52.19          | -3.55           | V        | 48.64    | 73.98    | 25.34                | PK               |
| 7440      | 39.42          | -3.55           | V        | 35.87    | 53.98    | 18.11                | AV               |
| 4960      | 54.67          | -10.14          | H        | 44.53    | 73.98    | 29.45                | PK               |
| 4960      | 43.35          | -10.14          | H        | 33.21    | 53.98    | 20.77                | AV               |
| 7440      | 52.28          | -3.55           | H        | 48.73    | 73.98    | 25.25                | PK               |
| 7440      | 39.65          | -3.55           | H        | 36.10    | 53.98    | 17.88                | AV               |

| CH 0      |                | 2402            | MHz      | Mode :   |          | 2 M Bit/s (37 Bytes) |                  |
|-----------|----------------|-----------------|----------|----------|----------|----------------------|------------------|
| Frequency | Measured Value | A.F+C.L-A.G+D.F | ANT. POL | Total    | Limit    | Margin               | Measurement Type |
| [MHz]     | [dBμV]         | [dB/m]          | [H/V]    | [dBμV/m] | [dBμV/m] | [dB]                 |                  |
| 4804      | 53.17          | -10.56          | V        | 42.61    | 73.98    | 31.37                | PK               |
| 4804      | 42.20          | -10.56          | V        | 31.64    | 53.98    | 22.34                | AV               |
| 7206      | 52.07          | -3.91           | V        | 48.16    | 73.98    | 25.82                | PK               |
| 7206      | 40.08          | -3.91           | V        | 36.17    | 53.98    | 17.81                | AV               |
| 4804      | 53.22          | -10.56          | H        | 42.66    | 73.98    | 31.32                | PK               |
| 4804      | 42.34          | -10.56          | H        | 31.78    | 53.98    | 22.20                | AV               |
| 7206      | 52.11          | -3.91           | H        | 48.20    | 73.98    | 25.78                | PK               |
| 7206      | 40.10          | -3.91           | H        | 36.19    | 53.98    | 17.79                | AV               |

| CH 19     |                | 2440            | MHz      | Mode :   |          | 2 M Bit/s (37 Bytes) |                  |
|-----------|----------------|-----------------|----------|----------|----------|----------------------|------------------|
| Frequency | Measured Value | A.F+C.L-A.G+D.F | ANT. POL | Total    | Limit    | Margin               | Measurement Type |
| [MHz]     | [dBμV]         | [dB/m]          | [H/V]    | [dBμV/m] | [dBμV/m] | [dB]                 |                  |
| 4880      | 54.21          | -10.35          | V        | 43.86    | 73.98    | 30.12                | PK               |
| 4880      | 42.33          | -10.35          | V        | 31.98    | 53.98    | 22.00                | AV               |
| 7320      | 51.60          | -3.70           | V        | 47.90    | 73.98    | 26.08                | PK               |
| 7320      | 39.75          | -3.70           | V        | 36.05    | 53.98    | 17.93                | AV               |
| 4880      | 54.23          | -10.35          | H        | 43.88    | 73.98    | 30.10                | PK               |
| 4880      | 42.97          | -10.35          | H        | 32.62    | 53.98    | 21.36                | AV               |
| 7320      | 51.82          | -3.70           | H        | 48.12    | 73.98    | 25.86                | PK               |
| 7320      | 39.91          | -3.70           | H        | 36.21    | 53.98    | 17.77                | AV               |

| CH 39     |                | 2480            | MHz      | Mode :   |          | 2 M Bit/s (37 Bytes) |                  |
|-----------|----------------|-----------------|----------|----------|----------|----------------------|------------------|
| Frequency | Measured Value | A.F+C.L-A.G+D.F | ANT. POL | Total    | Limit    | Margin               | Measurement Type |
| [MHz]     | [dBμV]         | [dB/m]          | [H/V]    | [dBμV/m] | [dBμV/m] | [dB]                 |                  |
| 4960      | 54.89          | -10.14          | V        | 44.75    | 73.98    | 29.23                | PK               |
| 4960      | 43.22          | -10.14          | V        | 33.08    | 53.98    | 20.90                | AV               |
| 7440      | 51.24          | -3.55           | V        | 47.69    | 73.98    | 26.29                | PK               |
| 7440      | 39.52          | -3.55           | V        | 35.97    | 53.98    | 18.01                | AV               |
| 4960      | 55.09          | -10.14          | H        | 44.95    | 73.98    | 29.03                | PK               |
| 4960      | 43.34          | -10.14          | H        | 33.20    | 53.98    | 20.78                | AV               |
| 7440      | 51.33          | -3.55           | H        | 47.78    | 73.98    | 26.20                | PK               |
| 7440      | 39.69          | -3.55           | H        | 36.14    | 53.98    | 17.84                | AV               |

### [Simultaneous transmission Scenario]

#### Scenario 1

BTLE 1M 37 Bytes Ch. 0 + 2.4G WLAN MIMO(CDD) 802.11b Ch. 11 1Mbps

| CH 0      |                | 2402            | MHz      | Mode :   |          | 1 M Bit/s (37 Bytes) |                  |
|-----------|----------------|-----------------|----------|----------|----------|----------------------|------------------|
| Frequency | Measured Value | A.F+C.L-A.G+D.F | ANT. POL | Total    | Limit    | Margin               | Measurement Type |
| [MHz]     | [dBμV]         | [dB/m]          | [H/V]    | [dBμV/m] | [dBμV/m] | [dB]                 |                  |
| 4804      | 53.19          | -10.56          | V        | 42.63    | 73.98    | 31.35                | PK               |
| 4804      | 42.21          | -10.56          | V        | 31.65    | 53.98    | 22.33                | AV               |
| 7206      | 51.39          | -3.91           | V        | 47.48    | 73.98    | 26.50                | PK               |
| 7206      | 40.16          | -3.91           | V        | 36.25    | 53.98    | 17.73                | AV               |
| 4804      | 53.51          | -10.56          | H        | 42.95    | 73.98    | 31.03                | PK               |
| 4804      | 42.29          | -10.56          | H        | 31.73    | 53.98    | 22.25                | AV               |
| 7206      | 51.94          | -3.91           | H        | 48.03    | 73.98    | 25.95                | PK               |
| 7206      | 40.40          | -3.91           | H        | 36.49    | 53.98    | 17.49                | AV               |

#### Scenario 2

BTLE 1M 37 Bytes Ch. 0 + 5G WLAN MIMO(CDD) 802.11ax[HE40] Ch. 62 26T RU 9 MCS0

| CH 0      |                | 2402            | MHz      | Mode :   |          | 1 M Bit/s (37 Bytes) |                  |
|-----------|----------------|-----------------|----------|----------|----------|----------------------|------------------|
| Frequency | Measured Value | A.F+C.L-A.G+D.F | ANT. POL | Total    | Limit    | Margin               | Measurement Type |
| [MHz]     | [dBμV]         | [dB/m]          | [H/V]    | [dBμV/m] | [dBμV/m] | [dB]                 |                  |
| 4804      | 52.84          | -10.56          | V        | 42.28    | 73.98    | 31.70                | PK               |
| 4804      | 41.90          | -10.56          | V        | 31.34    | 53.98    | 22.64                | AV               |
| 7206      | 51.39          | -3.91           | V        | 47.48    | 73.98    | 26.50                | PK               |
| 7206      | 40.02          | -3.91           | V        | 36.11    | 53.98    | 17.87                | AV               |
| 4804      | 52.66          | -10.56          | H        | 42.10    | 73.98    | 31.88                | PK               |
| 4804      | 41.84          | -10.56          | H        | 31.28    | 53.98    | 22.70                | AV               |
| 7206      | 51.47          | -3.91           | H        | 47.56    | 73.98    | 26.42                | PK               |
| 7206      | 40.10          | -3.91           | H        | 36.19    | 53.98    | 17.79                | AV               |

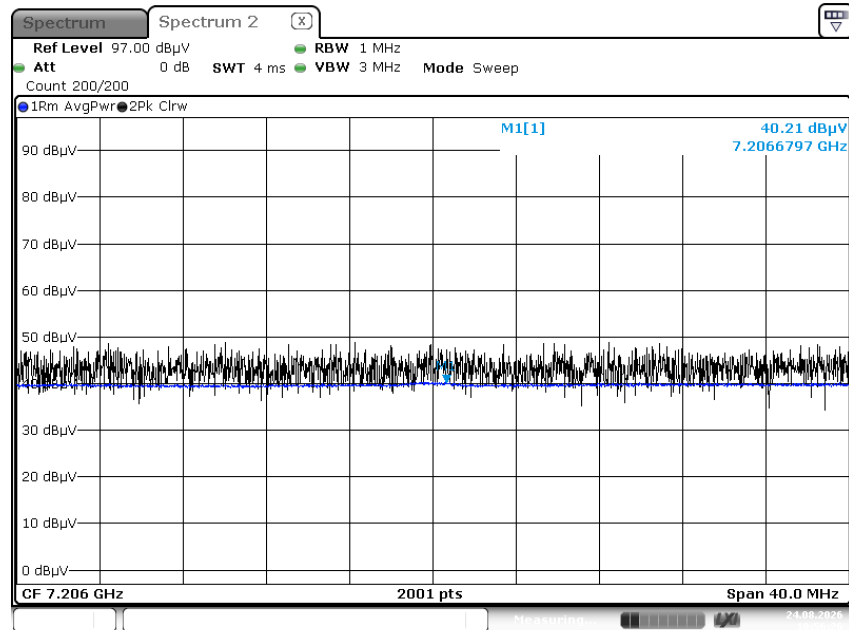
#### Scenario 3

BTLE 1M 37 Bytes Ch. 0 + 2.4G WLAN SISO ANT2 802.11b Ch. 11 1Mbps  
+ 5G WLAN SISO ANT1 802.11a Ch. 165 6 Mbps

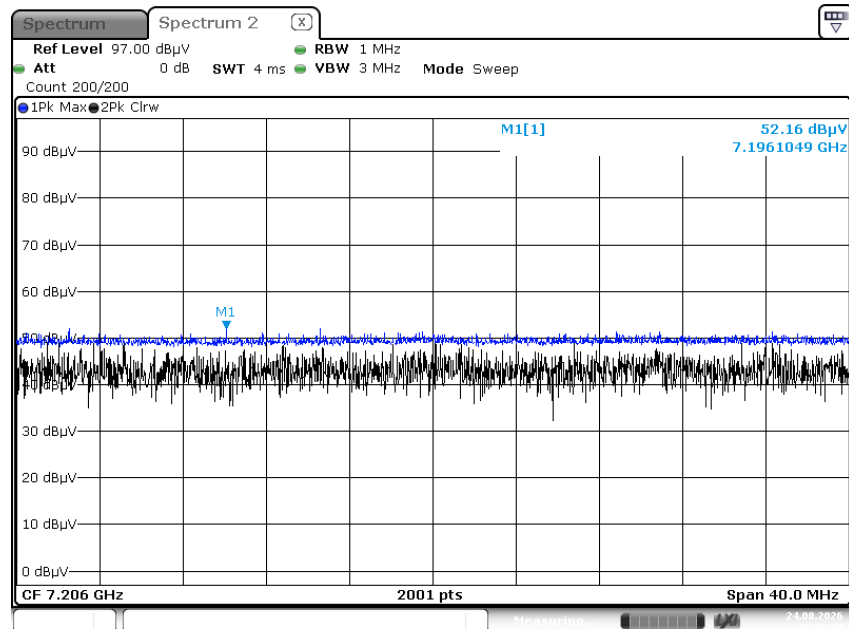
| CH 0      |                | 2402            | MHz      | Mode :   |          | 1 M Bit/s (37 Bytes) |                  |
|-----------|----------------|-----------------|----------|----------|----------|----------------------|------------------|
| Frequency | Measured Value | A.F+C.L-A.G+D.F | ANT. POL | Total    | Limit    | Margin               | Measurement Type |
| [MHz]     | [dBμV]         | [dB/m]          | [H/V]    | [dBμV/m] | [dBμV/m] | [dB]                 |                  |
| 4804      | 53.21          | -10.56          | V        | 42.65    | 73.98    | 31.33                | PK               |
| 4804      | 43.11          | -10.56          | V        | 32.55    | 53.98    | 21.43                | AV               |
| 7206      | 51.29          | -3.91           | V        | 47.38    | 73.98    | 26.60                | PK               |
| 7206      | 40.03          | -3.91           | V        | 36.12    | 53.98    | 17.86                | AV               |
| 4804      | 53.48          | -10.56          | H        | 42.92    | 73.98    | 31.06                | PK               |
| 4804      | 43.18          | -10.56          | H        | 32.62    | 53.98    | 21.36                | AV               |
| 7206      | 51.35          | -3.91           | H        | 47.44    | 73.98    | 26.54                | PK               |
| 7206      | 40.24          | -3.91           | H        | 36.33    | 53.98    | 17.65                | AV               |

# 1 M Bit/s 37 Bytes Test Plots (Worst case : Z-H)

Radiated Spurious Emissions plot – Average Result (Ch.0 3rd Harmonic)



Radiated Spurious Emissions plot – Peak Result (Ch.0 3rd Harmonic)



## Note:

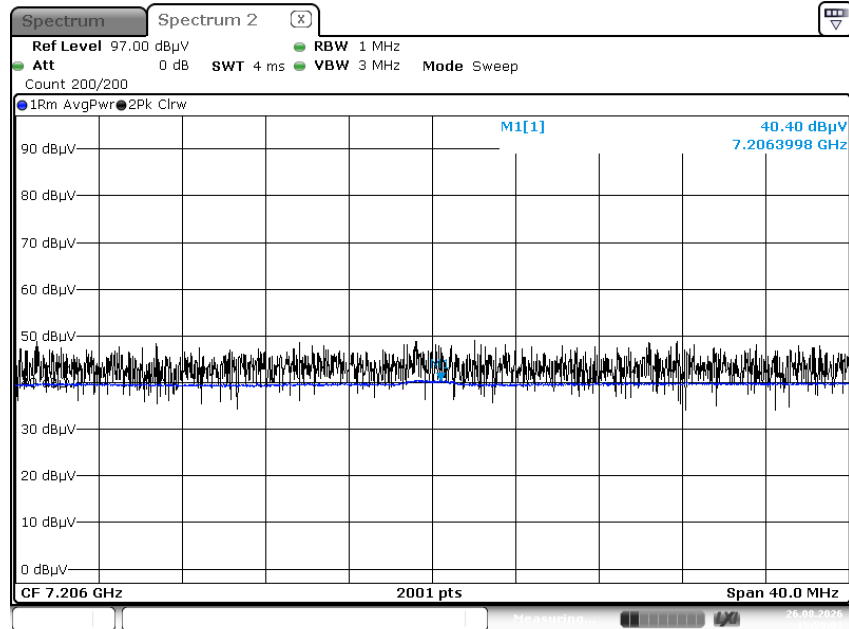
Plots of worst case are only reported.

### [Simultaneous transmission Scenario]

#### Scenario 1

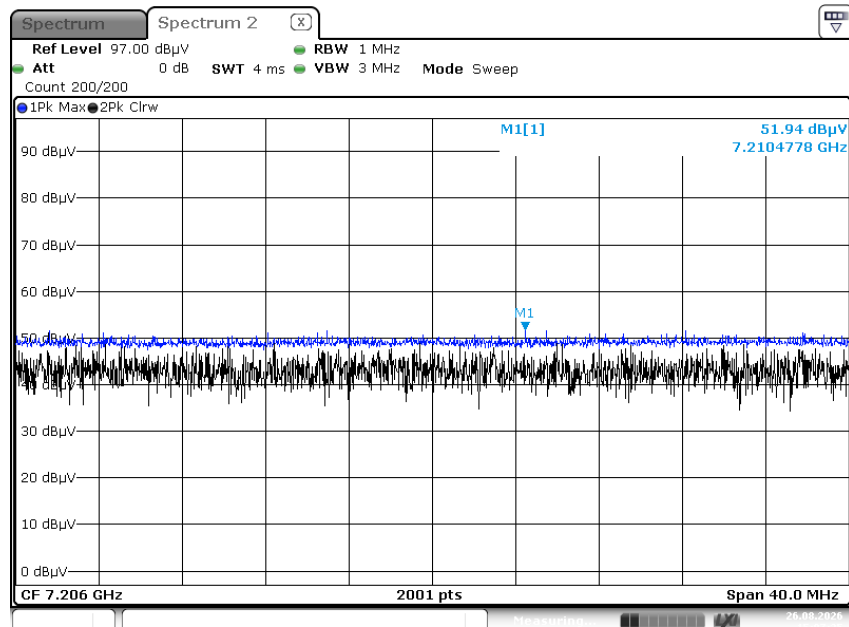
BTLE 1M 37 Bytes Ch. 0 + 2.4G WLAN MIMO(CDD) 802.11b Ch. 11 1Mbps

Radiated Spurious Emissions plot – Average Result (3rd Harmonic, Y-H)



Date: 26.AUG.2026 15:59:03

Radiated Spurious Emissions plot – Peak Result (3rd Harmonic, X-H)

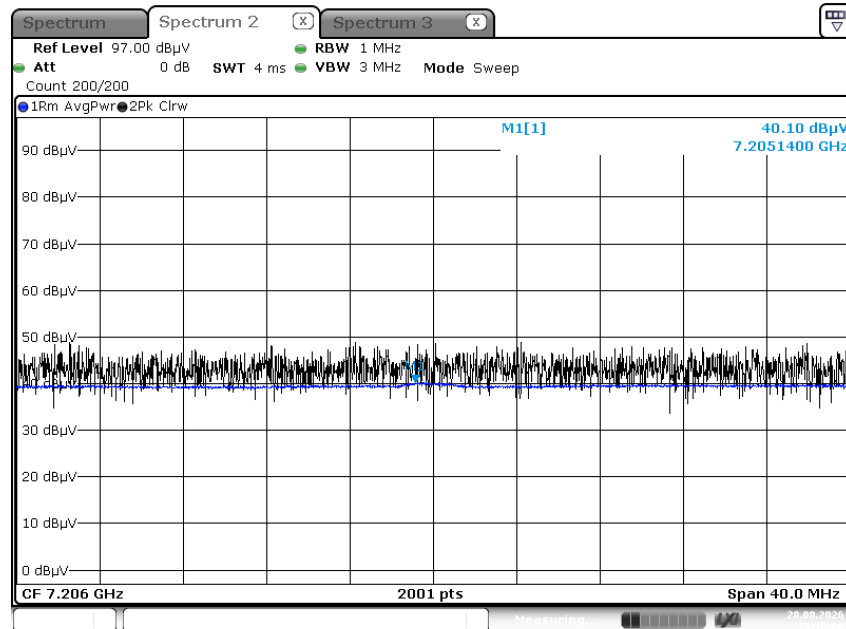


Date: 26.AUG.2026 15:07:26

## Scenario 2

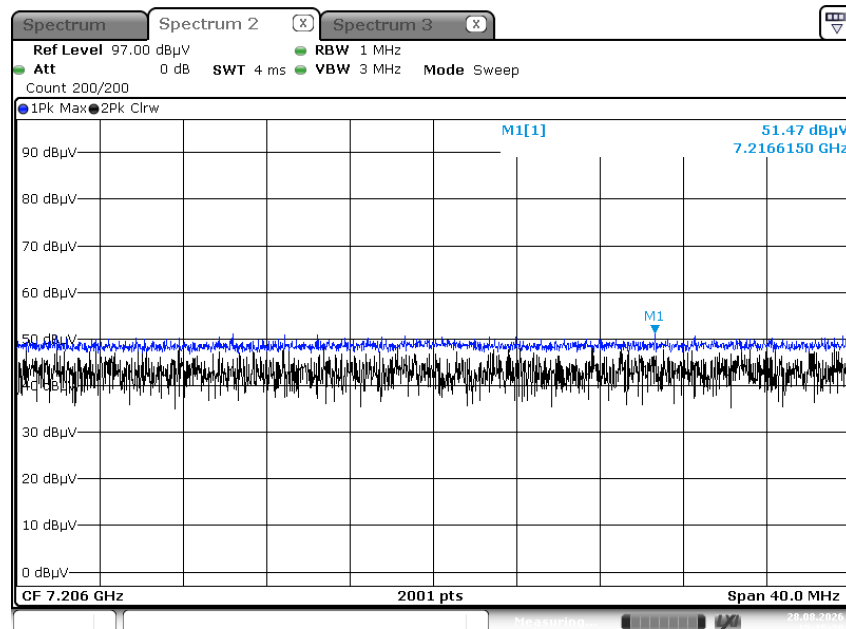
BTLE 1M 37 Bytes Ch. 0 + 5G WLAN MIMO(CDD) 802.11ax[HE40] Ch. 62 26T RU 9 MCS0

### Radiated Spurious Emissions plot – Average Result (3rd Harmonic, Y-H)



Date: 28\_AUG.2026 15:15:07

### Radiated Spurious Emissions plot – Peak Result (3rd Harmonic, Y-H)

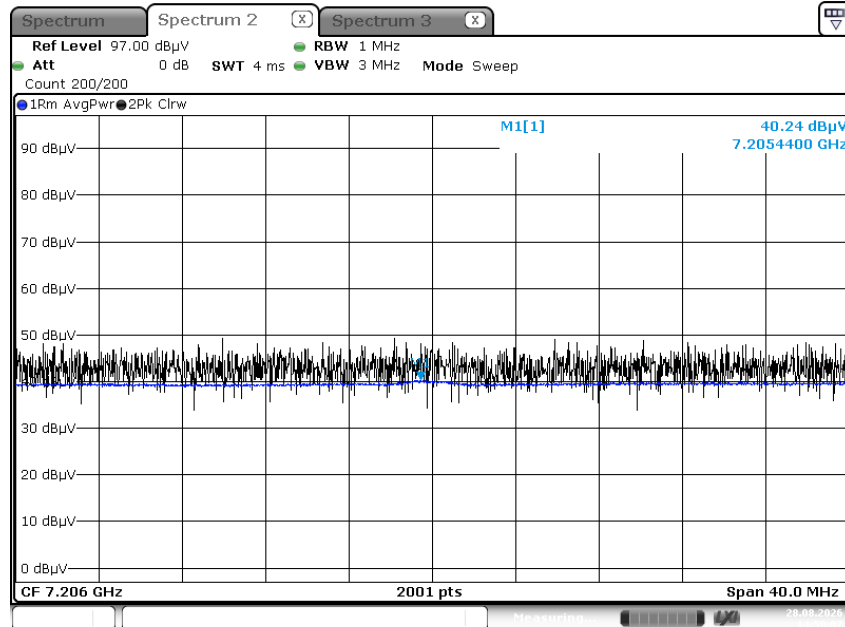


Date: 28\_AUG.2026 15:15:29

### Scenario 3

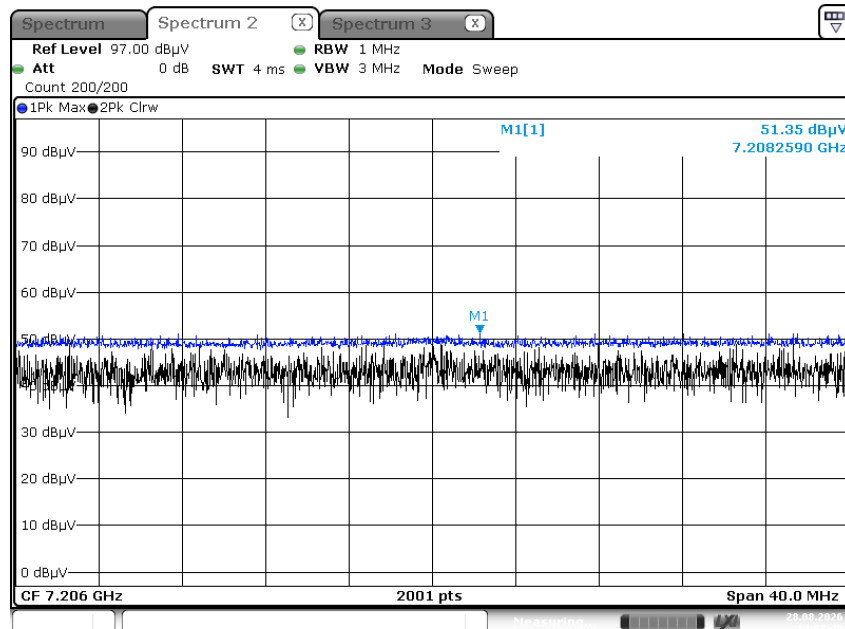
BTLE 1M 37 Bytes Ch. 0 + 2.4G WLAN SISO ANT2 802.11b Ch. 11 1Mbps  
+ 5G WLAN SISO ANT1 802.11a Ch. 165 6 Mbps

Radiated Spurious Emissions plot – Average Result (3rd Harmonic, Y-H)



Date: 28.AUG.2026 14:59:07

Radiated Spurious Emissions plot – Peak Result (3rd Harmonic, Y-H)



Date: 28.AUG.2026 14:57:49

### Note:

Plots of worst case are only reported.

## 9.7 RADIATED RESTRICTED BAND EDGES

### [1M 37Byte]

| 1 M Bit/s (37 Bytes) |                |                   |          |                    |        |                  |
|----------------------|----------------|-------------------|----------|--------------------|--------|------------------|
| Channel              | CH 0, CH 39    | Channel Frequency |          | 2402 MHz, 2480 MHz |        |                  |
| Frequency            | Measured Value | ANT. POL          | Total    | Limit              | Margin | Measurement Type |
| [MHz]                | [dBμV]         | [H/V]             | [dBμV/m] | [dBμV/m]           | [dB]   |                  |
| 2310 - 2390          | 54.78          | V                 | 54.78    | 73.98              | 19.20  | PK               |
| 2310 - 2390          | 43.04          | V                 | 43.04    | 53.98              | 10.94  | AV               |
| 2483.5 - 2500        | 55.49          | V                 | 55.49    | 73.98              | 18.49  | PK               |
| 2483.5 - 2500        | 43.48          | V                 | 43.48    | 53.98              | 10.50  | AV               |

### [1M 255Byte]

| 1 M Bit/s (255 Bytes) |                |                   |          |                    |        |                  |
|-----------------------|----------------|-------------------|----------|--------------------|--------|------------------|
| Channel               | CH 0, CH 39    | Channel Frequency |          | 2402 MHz, 2480 MHz |        |                  |
| Frequency             | Measured Value | ANT. POL          | Total    | Limit              | Margin | Measurement Type |
| [MHz]                 | [dBμV]         | [H/V]             | [dBμV/m] | [dBμV/m]           | [dB]   |                  |
| 2310 - 2390           | 55.70          | V                 | 55.70    | 73.98              | 18.28  | PK               |
| 2310 - 2390           | 43.07          | V                 | 43.07    | 53.98              | 10.91  | AV               |
| 2483.5 - 2500         | 55.36          | V                 | 55.36    | 73.98              | 18.62  | PK               |
| 2483.5 - 2500         | 43.49          | V                 | 43.49    | 53.98              | 10.49  | AV               |

### [2M 37Byte]

| 2 M Bit/s (37 Bytes) |                |                   |          |                    |        |                  |
|----------------------|----------------|-------------------|----------|--------------------|--------|------------------|
| Channel              | CH 0, CH 39    | Channel Frequency |          | 2402 MHz, 2480 MHz |        |                  |
| Frequency            | Measured Value | ANT. POL          | Total    | Limit              | Margin | Measurement Type |
| [MHz]                | [dBμV]         | [H/V]             | [dBμV/m] | [dBμV/m]           | [dB]   |                  |
| 2310 - 2390          | 55.32          | V                 | 55.32    | 73.98              | 18.66  | PK               |
| 2310 - 2390          | 43.05          | V                 | 43.05    | 53.98              | 10.93  | AV               |
| 2483.5 - 2500        | 55.78          | V                 | 55.78    | 73.98              | 18.20  | PK               |
| 2483.5 - 2500        | 44.07          | V                 | 44.07    | 53.98              | 9.91   | AV               |

### [2M 255Byte]

| 2 M Bit/s (255 Bytes) |                |                   |          |                    |        |                  |
|-----------------------|----------------|-------------------|----------|--------------------|--------|------------------|
| Channel               | CH 0, CH 39    | Channel Frequency |          | 2402 MHz, 2480 MHz |        |                  |
| Frequency             | Measured Value | ANT. POL          | Total    | Limit              | Margin | Measurement Type |
| [MHz]                 | [dBμV]         | [H/V]             | [dBμV/m] | [dBμV/m]           | [dB]   |                  |
| 2310 - 2390           | 55.14          | V                 | 55.14    | 73.98              | 18.84  | PK               |
| 2310 - 2390           | 43.11          | V                 | 43.11    | 53.98              | 10.87  | AV               |
| 2483.5 - 2500         | 56.18          | V                 | 56.18    | 73.98              | 17.80  | PK               |
| 2483.5 - 2500         | 44.57          | V                 | 44.57    | 53.98              | 9.41   | AV               |

### [125k 37byte]

| 125k Bit/s (37 Bytes) |                |                   |          |                    |        |                  |
|-----------------------|----------------|-------------------|----------|--------------------|--------|------------------|
| Channel               | CH 0, CH 39    | Channel Frequency |          | 2402 MHz, 2480 MHz |        |                  |
| Frequency             | Measured Value | ANT. POL          | Total    | Limit              | Margin | Measurement Type |
| [MHz]                 | [dBμV]         | [H/V]             | [dBμV/m] | [dBμV/m]           | [dB]   |                  |
| 2310 - 2390           | 55.13          | V                 | 55.13    | 73.98              | 18.85  | PK               |
| 2310 - 2390           | 43.08          | V                 | 43.08    | 53.98              | 10.90  | AV               |
| 2483.5 - 2500         | 55.47          | V                 | 55.47    | 73.98              | 18.51  | PK               |
| 2483.5 - 2500         | 43.53          | V                 | 43.53    | 53.98              | 10.45  | AV               |

**[125k\_255byte]**

| 125k Bit/s (255 Bytes) |                |                   |          |                    |        |                  |
|------------------------|----------------|-------------------|----------|--------------------|--------|------------------|
| Channel                | CH 0, CH 39    | Channel Frequency |          | 2402 MHz, 2480 MHz |        |                  |
| Frequency              | Measured Value | ANT. POL          | Total    | Limit              | Margin | Measurement Type |
| [MHz]                  | [dBμV]         | [H/V]             | [dBμV/m] | [dBμV/m]           | [dB]   |                  |
| 2310 - 2390            | 54.44          | V                 | 54.44    | 73.98              | 19.54  | PK               |
| 2310 - 2390            | 43.12          | V                 | 43.12    | 53.98              | 10.86  | AV               |
| 2483.5 - 2500          | 55.75          | V                 | 55.75    | 73.98              | 18.23  | PK               |
| 2483.5 - 2500          | 43.57          | V                 | 43.57    | 53.98              | 10.41  | AV               |

**[500k\_37byte]**

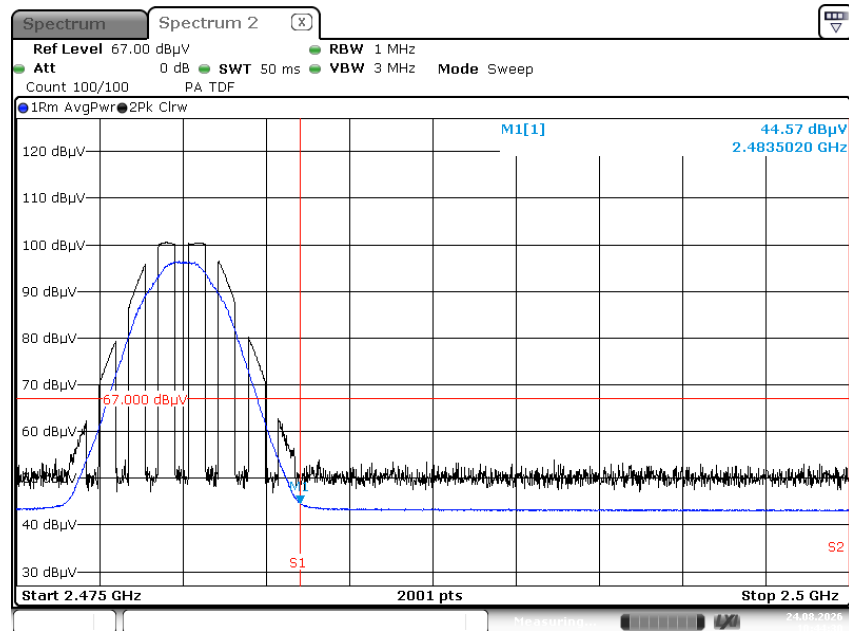
| 500k Bit/s (37 Bytes) |                |                   |          |                    |        |                  |
|-----------------------|----------------|-------------------|----------|--------------------|--------|------------------|
| Channel               | CH 0, CH 39    | Channel Frequency |          | 2402 MHz, 2480 MHz |        |                  |
| Frequency             | Measured Value | ANT. POL          | Total    | Limit              | Margin | Measurement Type |
| [MHz]                 | [dBμV]         | [H/V]             | [dBμV/m] | [dBμV/m]           | [dB]   |                  |
| 2310 - 2390           | 55.37          | V                 | 55.37    | 73.98              | 18.61  | PK               |
| 2310 - 2390           | 43.05          | V                 | 43.05    | 53.98              | 10.93  | AV               |
| 2483.5 - 2500         | 55.43          | V                 | 55.43    | 73.98              | 18.55  | PK               |
| 2483.5 - 2500         | 43.50          | V                 | 43.50    | 53.98              | 10.48  | AV               |

**[500k\_255byte]**

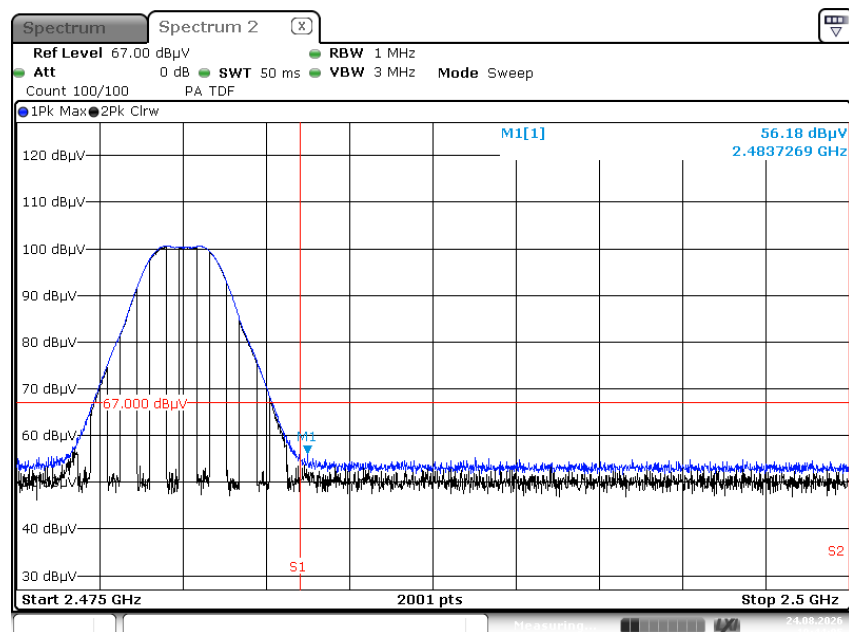
| 500k Bit/s (255 Bytes) |                |                   |          |                    |        |                  |
|------------------------|----------------|-------------------|----------|--------------------|--------|------------------|
| Channel                | CH 0, CH 39    | Channel Frequency |          | 2402 MHz, 2480 MHz |        |                  |
| Frequency              | Measured Value | ANT. POL          | Total    | Limit              | Margin | Measurement Type |
| [MHz]                  | [dBμV]         | [H/V]             | [dBμV/m] | [dBμV/m]           | [dB]   |                  |
| 2310 - 2390            | 54.78          | V                 | 54.78    | 73.98              | 19.20  | PK               |
| 2310 - 2390            | 43.08          | V                 | 43.08    | 53.98              | 10.90  | AV               |
| 2483.5 - 2500          | 55.28          | V                 | 55.28    | 73.98              | 18.70  | PK               |
| 2483.5 - 2500          | 43.54          | V                 | 43.54    | 53.98              | 10.44  | AV               |

Mode : 2 M Bit/s (255 Bytes) Test Plots

Radiated Restricted Band Edges plot – Average Result (Ch.39, Z-V)



Radiated Restricted Band Edges plot – Peak Result (Ch.39, Z-V)



**Note:**

In order to simplify the report, Plot of worst case are only reported.

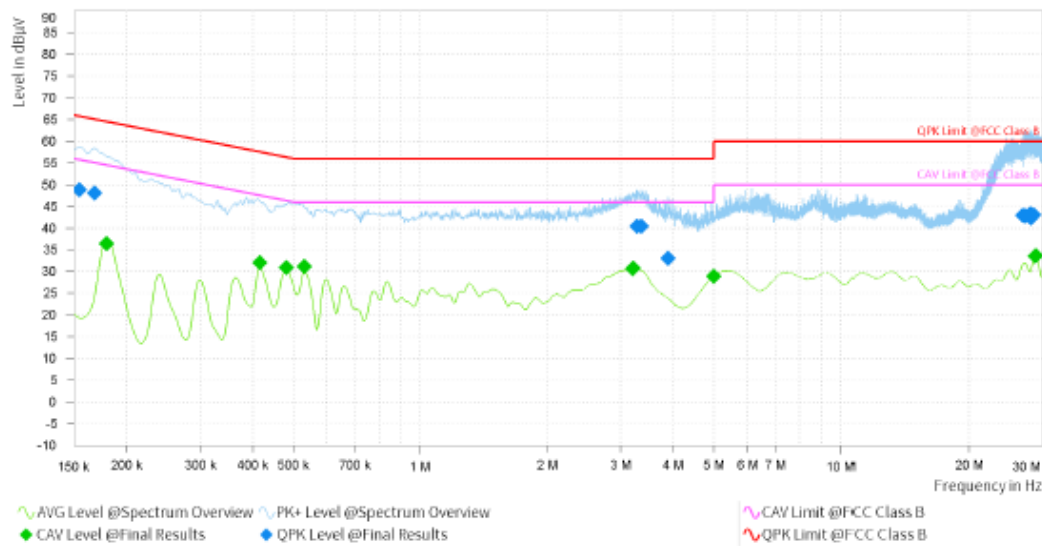
## 9.8 POWERLINE CONDUCTED EMISSIONS

### Conducted Emissions

# EMI Test Report

## Test Information

EUT LGSWCAX71  
Operating Condition BTLE Mode  
Comment



## EMI Final Results

| Frequency [MHz] | QPK Level [dBμV] | QPK Limit [dBμV] | QPK Margin [dB] | Correction [dB] | Line | Meas. BW [kHz] |
|-----------------|------------------|------------------|-----------------|-----------------|------|----------------|
| 0.155           | 48.76            | 65.75            | 16.99           | 9.56            | L1   | 9.000          |
| 0.168           | 48.01            | 65.06            | 17.04           | 9.55            | N    | 9.000          |
| 3.284           | 40.39            | 56.00            | 15.61           | 9.64            | N    | 9.000          |
| 3.361           | 40.40            | 56.00            | 15.60           | 9.64            | N    | 9.000          |
| 3.892           | 33.07            | 56.00            | 22.93           | 9.65            | N    | 9.000          |
| 26.867          | 42.90            | 60.00            | 17.10           | 9.87            | L1   | 9.000          |
| 27.215          | 42.87            | 60.00            | 17.13           | 9.87            | L1   | 9.000          |
| 27.983          | 43.37            | 60.00            | 16.63           | 9.87            | L1   | 9.000          |
| 28.057          | 42.27            | 60.00            | 17.73           | 9.88            | L1   | 9.000          |
| 28.529          | 43.03            | 60.00            | 16.97           | 9.88            | L1   | 9.000          |

## EMI Final Results

| Frequency [MHz] | CAV Level [dBμV] | CAV Limit [dBμV] | CAV Margin [dB] | Correction [dB] | Line | Meas. BW [kHz] |
|-----------------|------------------|------------------|-----------------|-----------------|------|----------------|
| 0.179           | 36.44            | 54.52            | 18.08           | 9.56            | L1   | 9.000          |
| 0.416           | 32.10            | 47.54            | 15.44           | 9.56            | N    | 9.000          |
| 0.481           | 30.91            | 46.33            | 15.42           | 9.57            | N    | 9.000          |
| 0.530           | 31.14            | 46.00            | 14.86           | 9.57            | N    | 9.000          |
| 3.206           | 30.65            | 46.00            | 15.35           | 9.63            | N    | 9.000          |
| 3.217           | 30.76            | 46.00            | 15.24           | 9.63            | N    | 9.000          |
| 4.988           | 28.90            | 46.00            | 17.10           | 9.67            | N    | 9.000          |
| 4.999           | 28.93            | 46.00            | 17.07           | 9.67            | N    | 9.000          |
| 28.804          | 33.59            | 50.00            | 16.41           | 9.88            | L1   | 9.000          |
| 28.820          | 33.68            | 50.00            | 16.32           | 9.88            | L1   | 9.000          |

## 10. LIST OF TEST EQUIPMENT

### Conducted Test

| Equipment                        | Model                   | Manufacturer       | Serial No. | Due to Calibration | Calibration Interval |
|----------------------------------|-------------------------|--------------------|------------|--------------------|----------------------|
| LISN                             | ENV216                  | Rohde & Schwarz    | 102245     | 07/10/2027         | Annual               |
| EMI Test Receiver                | EPL1000                 | Rohde & Schwarz    | 101127     | 05/15/2027         | Annual               |
| Chamber                          | SU-642                  | ESPEC              | 93022487   | 06/17/2027         | Annual               |
| Signal Analyzer                  | N9030B                  | Keysight           | MY56320554 | 01/26/2027         | Annual               |
| Open switch and control platform | OSP 150                 | Rohde & Schwarz    | 100894     | 05/06/2027         | Annual               |
| Power Meter                      | N1911A                  | Agilent            | MY45100523 | 02/13/2027         | Annual               |
| Wideband Power Sensor            | N1921A                  | Keysight           | MY57820067 | 01/26/2027         | Annual               |
| Directional Coupler              | 87300B                  | Agilent            | 3116A03621 | 10/14/2026         | Annual               |
| Power Splitter                   | 11667B                  | Hewlett Packard    | 10545      | 01/15/2027         | Annual               |
| DC Power Supply                  | E3632A                  | Agilent            | MY50360067 | 01/27/2027         | Annual               |
| Attenuator                       | 10 dB                   | Sensor View        | ATT10FC001 | 05/14/2027         | Annual               |
| Software                         | ELEKTRA                 | Rohde & Schwarz    | N/A        | N/A                | N/A                  |
| Bluetooth Tester                 | CBT                     | Rohde & Schwarz    | 100752     | 12/22/2026         | Annual               |
| Radio Communication Tester       | CMX500                  | Rohde&Schwarz      | 100325     | 09/29/2026         | Annual               |
| 4 Way Power DIVIDER              | 4456-4                  | Narda              | 01640      | 04/13/2027         | Annual               |
| Step Attenuator                  | 8310-202-F              | Aeroflex/Weinschel | 1070       | 03/18/2027         | Annual               |
| Automation Software              | FCC WLAN Conducted      | HCT CO., LTD       | -          | -                  | -                    |
| Automation Software              | FCC Bluetooth Conducted | HCT CO.,LTD        | -          | -                  | -                    |

### Note:

1. Equipment whose calibration due date was updated during the test period was not used between the previous due date and the update.  
All reported measurements were performed using equipment within valid calibration.
2. Especially, all antenna for measurement is calibrated in accordance with the requirements of ANSI C63.5-2017.

**Radiated Test**

| Equipment                | Model                                   | Manufacturer                    | Serial No.             | Due to Calibration | Calibration Interval |
|--------------------------|-----------------------------------------|---------------------------------|------------------------|--------------------|----------------------|
| Antenna Mast Controller  | CO3000                                  | Innco systems GmbH              | CO3000/1542/57580623/G | N/A                | N/A                  |
| Antenna Mast             | MA4640-XP-ET                            | Innco systems GmbH              | 9320422                | 03/24/2027         | Biennial             |
| Turn Table               | DT2000-2t                               | Innco systems GmbH              | 5930623                | N/A                | N/A                  |
| Loop Antenna             | FMZB 1513                               | Schwarzbeck Mess-Elektronik OHG | 1513-175               | 06/24/2027         | Biennial             |
| Trilog Broadband Antenna | VULB 9168                               | Schwarzbeck Mess-Elektronik OHG | 9168-1135              | 08/12/2028         | Biennial             |
| Horn Antenna             | BBHA 9120 D                             | Schwarzbeck Mess-Elektronik OHG | 9120D-1151             | 07/11/2027         | Biennial             |
| Horn Antenna             | BBHA 9170                               | Schwarzbeck Mess-Elektronik OHG | BBHA9170342            | 09/20/2026         | Biennial             |
| Band Reject Filter       | WRCJV2400/2483.5-2370/2520-60/12SS      | Wainwright Instruments GmbH     | 2                      | 12/11/2026         | Annual               |
| Band Reject Filter       | WRCJV12-4900-5100-5900-6100-50SS        | Wainwright Instruments GmbH     | 5                      | 03/19/2027         | Annual               |
| Band Reject Filter       | WRCJV12-4900-5100-5900-6100-50SS        | Wainwright Instruments GmbH     | 6                      | 03/19/2027         | Annual               |
| Band Reject Filter       | WRCJV5100/5850-40/50-8EEK               | Wainwright Instruments GmbH     | 1                      | 01/07/2027         | Annual               |
| RF Switching System      | FBSR-04C (HPF(3~18GHz) + LNA1(1~18GHz)) | T&M system                      | S5L1                   | 02/12/2027         | Annual               |
| RF Switching System      | FBSR-04C (ATT(10dB) + LNA1(1~18GHz))    | T&M system                      | S5L2                   | 02/12/2027         | Annual               |
| RF Switching System      | FBSR-04C (ATT(3dB) + LNA1(1~18GHz))     | T&M system                      | S5L3                   | 02/12/2027         | Annual               |
| RF Switching System      | FBSR-04C (LNA1(1~18GHz))                | T&M system                      | S5L4                   | 02/12/2027         | Annual               |
| RF Switching System      | FBSR-04C (HPF(7~18GHz) + LNA2(6~18GHz)) | T&M system                      | S5L5                   | 02/12/2027         | Annual               |
| RF Switching System      | FBSR-04C (Thru(30MHz ~ 18GHz))          | T&M system                      | S5L6                   | 02/12/2027         | Annual               |
| Broadband LNA            | CBL18265035                             | CERNEX                          | 22966                  | 10/21/2026         | Annual               |
| Broadband LNA            | CBL26405040                             | CERNEX                          | 25956                  | 02/09/2027         | Annual               |
| Bluetooth Tester         | TC-3000C                                | TESCOM                          | 3000C000175            | 03/03/2027         | Annual               |
| Signal Analyzer          | FSV40                                   | Rohde & Schwarz                 | 101510                 | 09/01/2027         | Annual               |
| Attenuator               | 18B-03                                  | API Technologies                | 1                      | 04/13/2027         | Annual               |
| Automation Software      | FCC WLAN Radiated                       | HCT CO., LTD                    | -                      | -                  | -                    |

**Note:**

- Equipment whose calibration due date was updated during the test period was not used between the previous due date and the update.  
All reported measurements were performed using equipment within valid calibration.
- Especially, all antenna for measurement

## 11. ANNEX A\_TEST SETUP PHOTO

Please refer to test setup photo file no. as follows;

| No. | Description         |
|-----|---------------------|
| 1   | HCT-RF-2609-FC002-P |