TEST REPORT

FCC BT LE Test for TFBMEEBN6FU
Certification

APPLICANT
LG Electronics Inc.

REPORT NO.
HCT-RF-2507-FC079-R3

DATE OF ISSUE
September 1, 2025

Tested by
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Accredited by KOLAS, Republic of KOREA

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Additional Model
TFBMEEBN6FR, TFBMNENN0FN

Applicant	LG Electronics Inc. 128, Yeoui-daero, Yeongdeungpo-gu, Seoul, Republic of Korea
Product Name Model Name	Telematics TFBMEEBN6FU
FCC ID	2BO3LTFBMEEBN6FU
Date of Test	March 14, 2025~ July 11, 2025
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)

REVISION HISTORY

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

Revision No.	Date of Issue	Description
0	July 17, 2025	Initial Release
1	August 04, 2025	Added Note on page 6, 25. Added Simultaneous case(WWAN) on page 25, 26. Revised The Typo on page 42, 44, 45.
2	August 06, 2025	Revised BTLE Antenna information (Ant.3 → Ant.1)
3	September 01, 2025	Added the Radiated Emission Test Method

Notice

Content
Engineering Statement: 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. The results shown in this test report only apply to the sample(s), as received, provided by the applicant, unless otherwise stated. The test results have only been applied with the test methods required by the standard(s). The laboratory is not accredited for the test results marked *. Information provided by the applicant is marked **. Test results provided by external providers are marked ***. When confirmation of authenticity of this test report is required, please contact www.hct.co.kr This test report provides test result(s) under the scope accredited by the Korea Laboratory Accreditation Scheme (KOLAS), which signed the ILAC-MRA. (KOLAS (KS Q ISO/IEC 17025) Accreditation No. KT197)

CONTENTS

1. EUT DESCRIPTION

Model	TFBMEEBN6FU		
Additional Model	TFBMEEBN6FR, TFBMNENN0FN		
EUT Type	Telematics		
Power Supply	DC 12.0 V		
Frequency Range	2 402 MHz – 2 480 MHz		
Number of Channels	40 Channels		
Max. RF Output Power (Normal)	Peak	1 M Bit/s: 2 M Bit/s: 125 k Bit/s : 500 k Bit/s :	2.134 dBm (1.63 mW) 2.255 dBm (1.68 mW) 2.092 dBm (1.62 mW) 2.250 dBm (1.68 mW)
	Average	1 M Bit/s: 2 M Bit/s: 125 k Bit/s : 500 k Bit/s :	1.88 dBm (1.54 mW) 1.84 dBm (1.53 mW) 1.88 dBm (1.54 mW) 2.07 dBm (1.61 mW)
Modulation Type	GFSK		
Bluetooth Version	5.3		
Antenna Type	Ant.1 : Shark-fin		
Antenna Peak Gain	US-5A7F527 : 4.99 dBi ROW-5A7F528 : 5.53 dBi NC-5A7F529 : 7.34 dBi		
Serial number	Conducted : 0000009075 Radiated : 0000009068		

ANTENNA CONFIGURATIONS

1. Antenna configuration

Configurations	SISO		
	Ant1	Ant2	Ant3
BLE	O	X	X

Note :

(1) O = Support, X = Not Support

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

Simultaneous transmission Scenario	5 GHz WiFi Ant.1	5 GHz WiFi Ant.2	5 GHz WiFi Ant.3	6 GHz WiFi Ant.1	6 GHz WiFi Ant.2	6 GHz WiFi Ant.3	BT LE Ant.1	WWAN	Test Case
Bluetooth LE + 5 GHz WiFi MIMO + WWAN	on	on	-	-	-	-	on	on	Scenario1
Bluetooth LE + 5 GHz WiFi MIMO + WWAN	on	-	on	-	-	-	on	on	-
Bluetooth LE + 6 GHz WiFi MIMO + WWAN	-	-	-	on	on	-	on	on	Scenario2
Bluetooth LE + 6 GHz WiFi MIMO + WWAN	-	-	-	on	-	on	on	on	-

Note : TFBMNENN0FN does not support WWAN.

2. TEST METHODOLOGY

FCC KDB 558074 D01 15.247 Meas Guidance v05r02 dated April 02, 2019 entitled "guidance for compliance measurements on digital transmission system, frequency hopping spread spectrum system, and hybrid system devices and the measurement procedure described in ANSI C63.10(Version : 2013) 'the American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices'.

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. (Version :2013) 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

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 according to the requirements in Section 6.6.5 of ANSI C63.10. (Version: 2013)

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 C63.5 (Version : 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. The site is constructed in conformance with the requirements of ANSI C63.4. (Version :2014) and CISPR Publication 22.
Detailed description of test facility was submitted to the Commission and accepted dated March 11, 2024 (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 CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."

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."

(1) The antennas of this E.U.T are permanently attached.

(2) The E.U.T Complies with the requirement of § 15.203

6. MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.10-2013.

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_{CISPR} measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

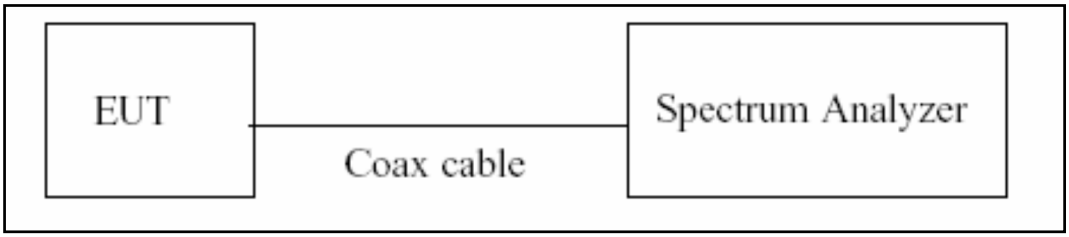
Parameter	Expanded Uncertainty (±kHz)
X dB, 99% Bandwidth	95 (Confidence level about 95 %, *k=2*)
Frequency stability	28 (Confidence level about 95 %, *k=2*)

Parameter	Expanded Uncertainty (±dB)
Conducted Disturbance (150 kHz ~ 30 MHz)	1.54 (Confidence level about 95 %, *k=2*)
Conducted Output Power(Power Meter)	0.54 (Confidence level about 95 %, k=2)
Conducted Output Power(Signal Analyzer)	0.68 (Confidence level about 95 %, k=2)
Power Spectral Density	1.03 (Confidence level about 95 %, k=2)
Band Edge (Out of Band Emissions)	0.70 (Confidence level about 95 %, k=2)
Radiated Disturbance (9 kHz ~ 30 MHz)	4.36 (Confidence level about 95 %, *k*=2)
Radiated Disturbance (30 MHz ~ 1 GHz)	5.68 (Confidence level about 95 %, *k*=2)
Radiated Disturbance (1 GHz ~ 18 GHz)	5.75 (Confidence level about 95 %, *k*=2)
Radiated Disturbance (18 GHz ~ 40 GHz)	5.82 (Confidence level about 95 %, *k*=2)

7. DESCRIPTION OF TESTS

7.1. Duty Cycle

Test Configuration



Test Procedure

The transmitter output is connected to the Spectrum Analyzer.

We tested according to the zero-span measurement method.

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 ≤ 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*.

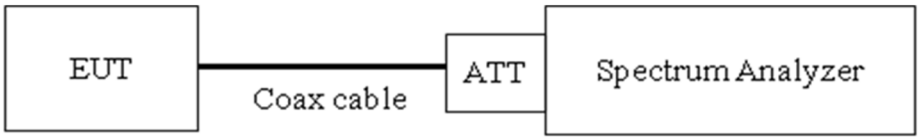
1. RBW = 8 MHz (the largest available value)
2. VBW = 8 MHz (≥ RBW)
3. SPAN = 0 Hz
4. Detector = Average
5. Number of points in sweep > 100
6. Trace mode = Clear write
7. Measure T_{total} and T_{on}
8. Calculate Duty Cycle = T_{on} / T_{total} and Duty Cycle Factor = 10log(1/Duty Cycle)

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 (Procedure 11.8.1 in ANSI 63.10-2013)

1) RBW = 100 kHz
2) VBW ≥ 3 x RBW
3) Detector = Peak
4) Trace mode = max hold
5) Sweep = auto couple
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.

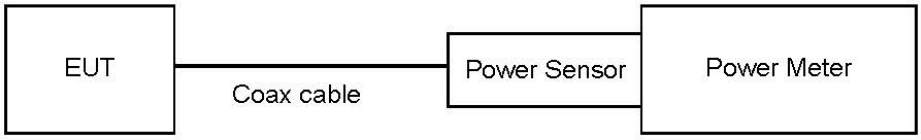
Note : We tested OBW using the automatic bandwidth measurement capability of a spectrum analyzer.

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 (Procedure 11.9.1.3 in ANSI 63.10-2013)
  : Measure the peak power of the transmitter.

- Average Power (Procedure 11.9.2.3 in ANSI 63.10-2013)
  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

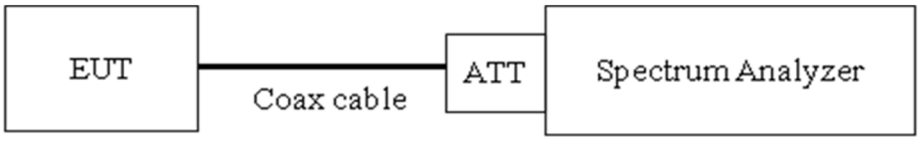
- Conducted Output Power(Peak) = Measured Value + ATT loss + Cable loss
- Conducted Output Power(Average) = Measured Value + ATT loss + Cable loss + Duty Cycle Factor

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.

We tested according to Procedure 8.4 in KDB 558074 v05r02, Procedure 11.10 in ANSI 63.10-2013.

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 kHz ≤ RBW ≤ 100 kHz.
4) VBW ≥ 3 x RBW.
5) Sweep = auto couple.
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

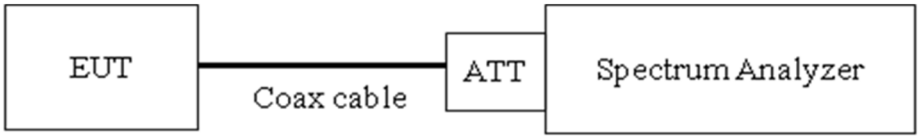
7.5. Conducted Band Edge(Out of Band Emissions) & Conducted Spurious Emissions

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.

(Procedure 11.11 in ANSI 63.10-2013)

1) RBW = 100 kHz
2) VBW ≥ 3 x RBW
3) Set span to encompass the spectrum to be examined
4) Detector = Peak
5) Trace Mode = max hold
6) Sweep time = auto couple
7) Ensure that the number of measurement points ≥ 2 x Span/RBW
8) Allow trace to fully stabilize.
9) 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	10.89
100	10.96
200	10.99
300	10.97
400	11.08
500	11.16
600	11.19
700	11.33
800	11.45
900	11.55
1000	11.57
2000	11.57
2400	11.62
2500	11.62
3000	11.88
4000	11.96
5000	12.65
6000	12.65
7000	12.83
8000	12.84
9000	12.88
10000	12.95
11000	12.94
12000	12.97
13000	12.99
14000	13.12
15000	13.07
16000	13.13
17000	13.17
18000	13.61
19000	13.67
20000	13.71
21000	13.73
22000	13.77
23000	13.94
24000	14.04
25000	14.08

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

2. Factor = Attenuator loss + Cable loss

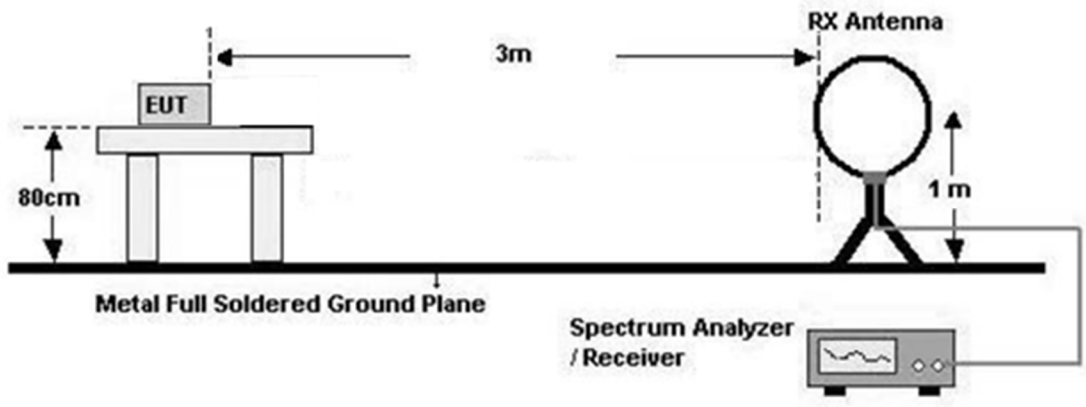
7.6. Radiated Test

Limit

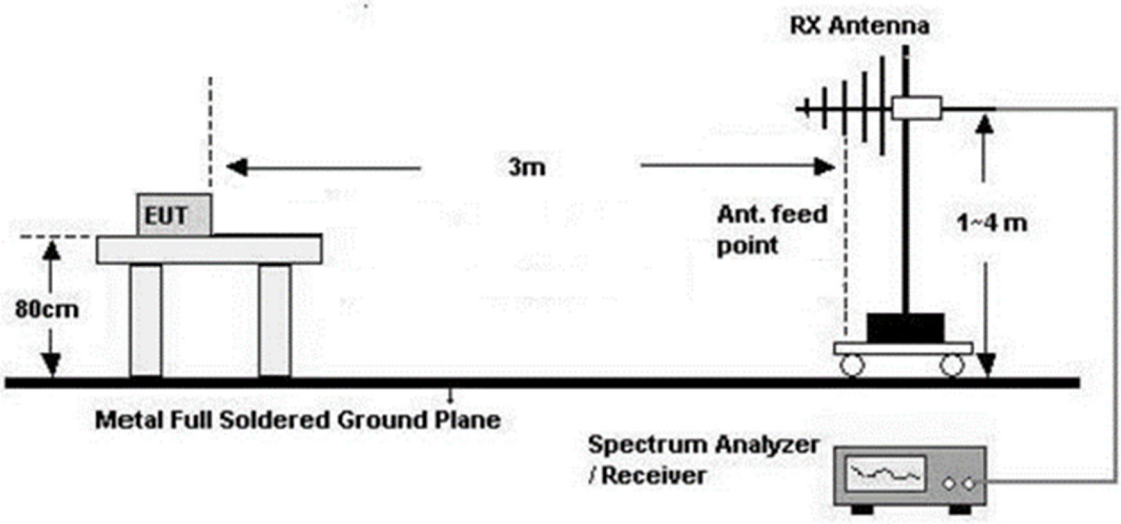
Frequency (MHz)	Field Strength (μV/m)	Measurement Distance (m)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Test Configuration

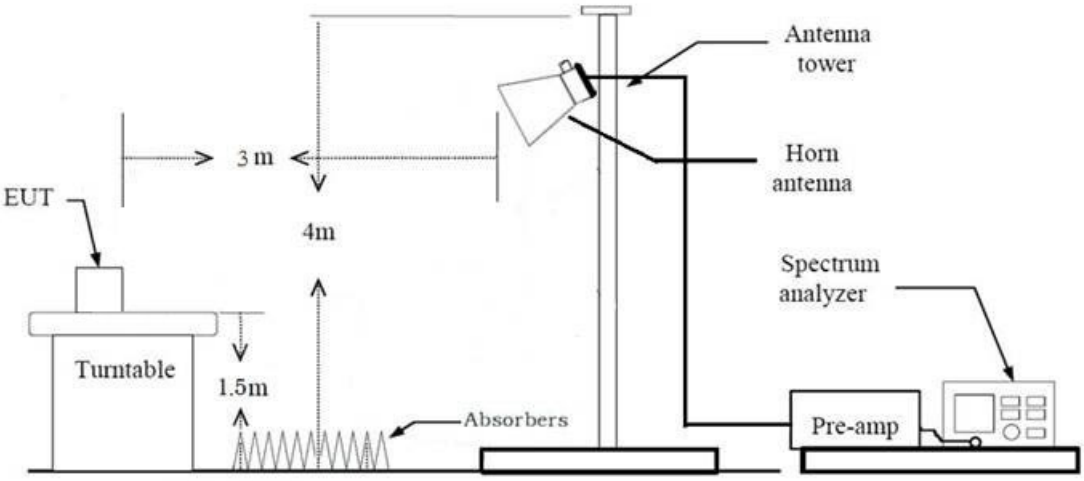
Below 30 MHz



30 MHz - 1 GHz



Above 1 GHz



Test Procedure of Radiated spurious emissions(Below 30 MHz)

Test Standard Used : Section 6.4 in ANSI C63.10-2013

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) = 40log(3 m/300 m) = - 80 dB
   Measurement Distance : 3 m
7. Distance Correction Factor(0.490 MHz – 30 MHz) = 40log(3 m/30 m) = - 40 dB
   Measurement Distance : 3 m
8. Spectrum Setting
   - Frequency Range = 9 kHz ~ 30 MHz
   - Detector = Peak
   - Trace = Max hold
   - RBW = 9 kHz
   - VBW ≥ 3 x 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)

Test Standard Used : Section 6.5 in ANSI C63.10-2013

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 Setting
   (1) Measurement Type(Peak):
      - Measured Frequency Range : 30 MHz – 1 GHz
      - Detector = Peak
      - Trace = Max hold
      - RBW = 100 kHz
      - VBW ≥ 3 x 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)

Test Standard Used : Section 6.6 in ANSI C63.10-2013

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 Setting (Method 8.6 in KDB 558074 v05r02, Procedure 11.12 in ANSI 63.10-2013)
   (1) Measurement Type(Peak):
      - Measured Frequency Range : 1 GHz – 25 GHz
      - Detector = Peak
      - Trace = Max hold
      - RBW = 1 MHz
      - VBW ≥ 3 x RBW
   (2) Measurement Type(Average):
      - Duty cycle < 98 %, duty cycle variations are less than ±2 %
      - Measured Frequency Range : 1 GHz – 25 GHz
      - Detector = RMS
      - Averaging type = power (*i.e.*, RMS)
      - RBW = 1 MHz
      - VBW ≥ 3 x 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 please refer to section 9.1

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 = 20log (test distance / specific distance) (dB)
10. Total (Measurement Type : Peak)
    = Peak Measured Value + Antenna Factor(A.F) + Cable Loss(C.L) - Amp Gain(A.G) + Distance Factor(D.F)
    Total (Measurement Type : Average)

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

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

Test Procedure of Radiated Restricted Band Edge

Test Standard Used : Section 6.10 & 11.12 in ANSI C63.10-2013

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 Setting
   (1) Measurement Type(Peak):
      - Measured Frequency Range : 2310 MHz ~ 2390 MHz/ 2483.5 MHz ~ 2500 MHz
      - Detector = Peak
      - Trace = Max hold
      - RBW = 1 MHz
      - VBW ≥ 3 x RBW
   (2) Measurement Type(Average):
      - Duty cycle < 98 %, duty cycle variations are less than ±2 %
      - Measured Frequency Range : 2310 MHz ~ 2390 MHz/ 2483.5 MHz ~ 2500 MHz
      - Detector = RMS
      - Averaging type = power (*i.e.*, RMS)
      - RBW = 1 MHz
      - VBW ≥ 3 x 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 please refer to section 9.1.
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 = 20log (test distance / specific distance) (dB)

10.Total

(1)Measurement(Peak)

= Peak Measured Value + Antenna Factor(A.F) + Cable Loss(C.L) - Amp Gain(A.G)
+ Distance Factor(D.F) + Attenuator (ATT)

(2)Measurement(Avg)

= Average Measured Value + Antenna Factor(A.F) + Cable Loss(C.L) - Amp Gain(A.G)
+ Distance Factor(D.F) + Attenuator (ATT)

#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 μH/50 ohms line impedance stabilization network (LISN).

Frequency Range (MHz)	Limits (dBμV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56[a]	56 to 46[a]
0.50 to 5	56	46
5 to 30	60	50

[a]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

Radiated Test

1. All modes of operation were investigated and the worst case configuration results are reported.
   - Mode : Stand alone, Stand alone + External accessories(Earphone etc)
   - Worstcase : Stand alone
2. EUT Axis
   - Radiated Spurious Emissions : X
   - Radiated Restricted Band Edge : Y
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 Band width 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
6. TFBMEEBN6FU, Additional Models were tested and the worst case results are reported. (Worst case : TFBMNENN0FN)

AC Power line Conducted Emissions

1. We don't perform powerline conducted emission test. The device only employ battery power for operation.

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
2. TFBMEEBN6FU, Additional Models were tested and the worst case results are reported. (Worst case : TFBMEEBN6FU)

Radiated test(Simultaneous transmission Scenario)

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

Simultaneous transmission Scenario	5 GHz WiFi Ant.1	5 GHz WiFi Ant.2	5 GHz WiFi Ant.3	6 GHz WiFi Ant.1	6 GHz WiFi Ant.2	6 GHz WiFi Ant.3	BT LE Ant.1	WWAN	Test Case
Bluetooth LE + 5 GHz WiFi MIMO + WWAN	on	on	-	-	-	-	on	on	Scenario1
Bluetooth LE + 5 GHz WiFi MIMO + WWAN	on	-	on	-	-	-	on	on	-
Bluetooth LE + 6 GHz WiFi MIMO + WWAN	-	-	-	on	on	-	on	on	Scenario2
Bluetooth LE + 6 GHz WiFi MIMO + WWAN	-	-	-	on	-	on	on	on	-

4. The Simultaneous transmission test investigated both intermodulation and radiated spurious emissions. And the worst results were reported.
   - Worst result: Radiated spurious emissions
   - Intermodulation: No signals are generated.
   -WWAN: No signals are generated.
   - Radiated spurious emissions: cf. Section 9.6
5. TFBMEEBN6FU, Additional Models were tested and the worst case results are reported. (Worstcase : TFBMEEBN6FU)
6. 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	BTLE Emission	5 GHz Emission	WWAN(LTE B25)
Bluetooth LE + 5 GHz WiFi MIMO + WWAN	Antenna	Ant.1	Ant.1+Ant.2	MIMO Ant.1
	Channel	39	39	26055
	Data Rate	1 Mbps	MCS0	MCS0
	Mode	GFSK	802.11ax(HE80)	QPSK
	Tone/RU	-	996/67	1RB

Note : 5 GHz Simultaneous transmission Data refer to [UNII] Test Report

Scenario 2	Description	BTLE Emission	6 GHz Emission	WWAN(LTE B25)
Bluetooth LE + 6 GHz WiFi MIMO + WWAN	Antenna	Ant.1	Ant.1+Ant.2	MIMO Ant.1
	Channel	39	39	26055
	Data Rate	1 Mbps	MCS0	MCS0
	Mode	GFSK	802.11ax(HE80)	QPSK
	Tone/RU	-	996/67	1RB

Note : 6 GHz Simultaneous transmission Data refer to [UNII 6G] Test Report

8. SUMMARY TEST OF RESULTS

Test Description	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 Band		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		N/A (Note1)
Radiated Spurious Emissions	§ 15.247(d), 15.205, 15.209	cf. Section 7.6	Radiated	PASS
Radiated Restricted Band Edge	§ 15.247(d), 15.205, 15.209	cf. Section 7.6		PASS

Note:

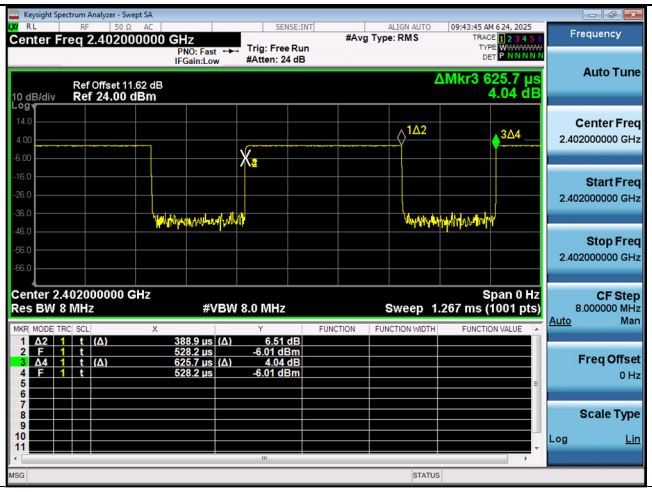
1. The device only employ battery power for operation
2. The decision rule applies 'simple acceptance'

9. TEST RESULT

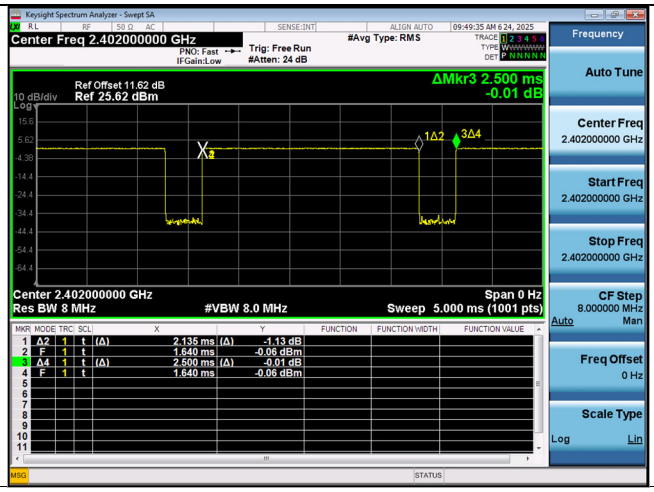
9.1 DUTY CYCLE

Data rate (Bit/s)	Packet length (Byte)	T_{on} (ms)	T_{total} (ms)	Duty Cycle	Duty Cycle Factor (dB)
1M	37	0.389	0.626	0.621	2.066
	255	2.135	2.500	0.854	0.685
2M	37	0.204	0.625	0.326	4.862
	255	1.078	1.877	0.574	2.408
125k	37	3.100	3.750	0.827	0.827
	255	17.070	17.500	0.975	0.108
500k	37	1.067	1.874	0.569	2.446
	255	4.560	5.000	0.912	0.400

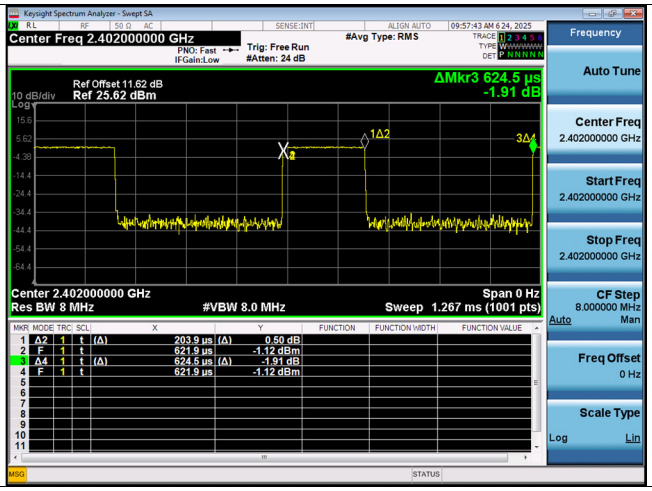
1 M Bit/s (37 Byte)



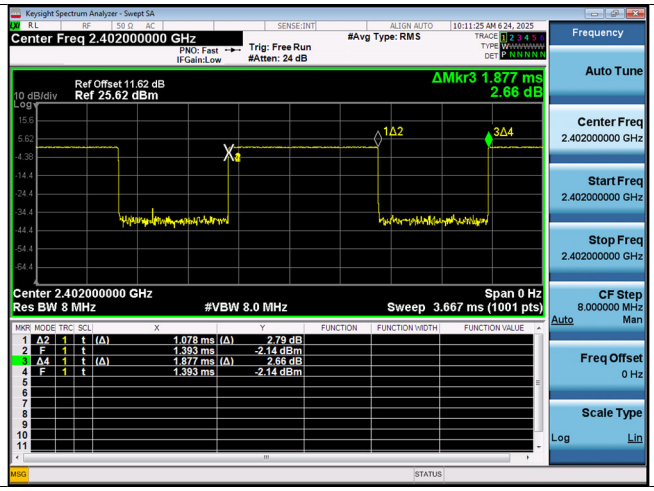
1 M Bit/s (255 Byte)



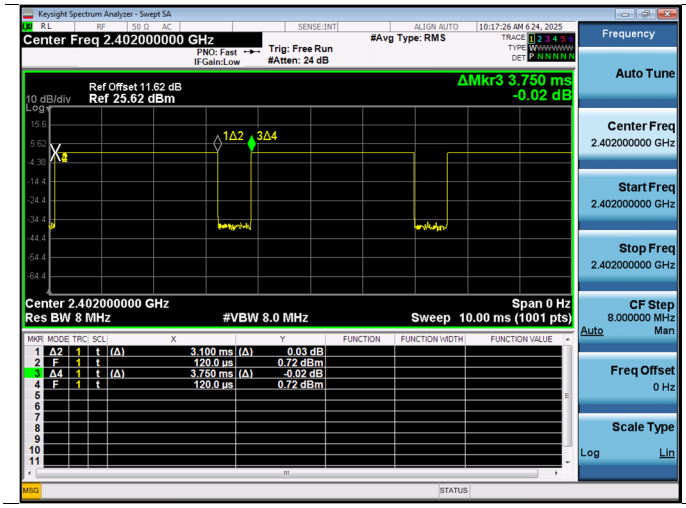
2 M Bit/s (37 Byte)



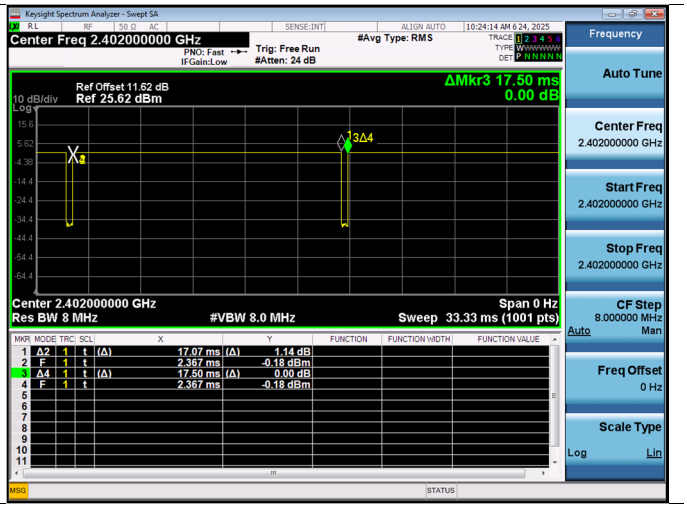
2 M Bit/s (255 Byte)

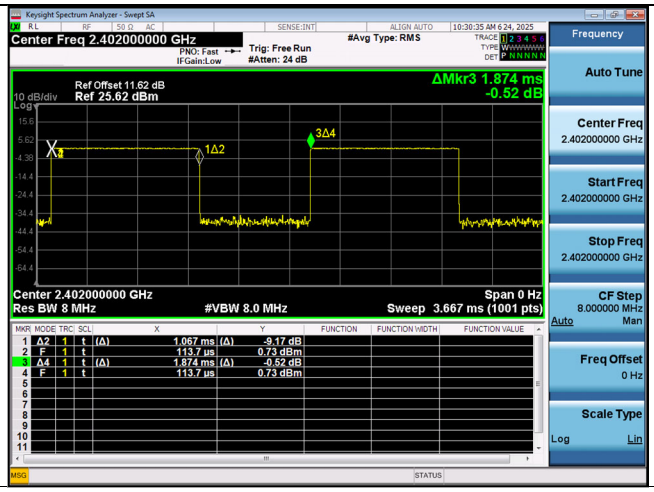
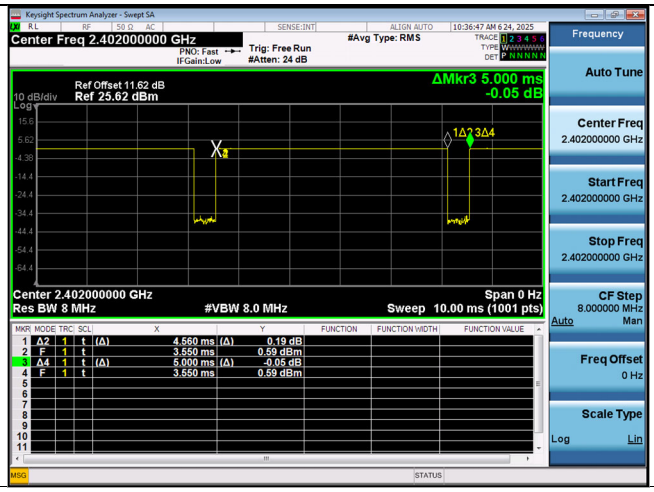


125 k Bit/s(37 Byte)



125 k Bit/s(255 Byte)



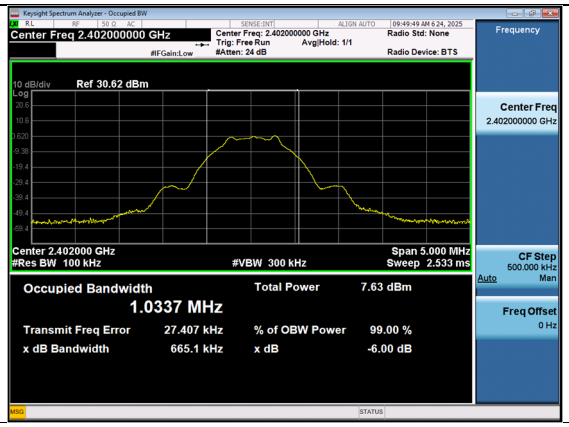
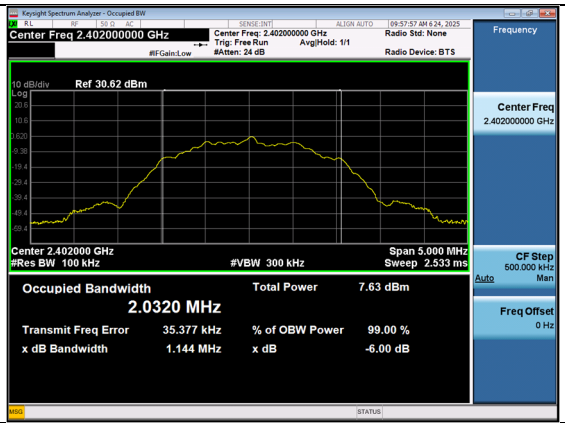
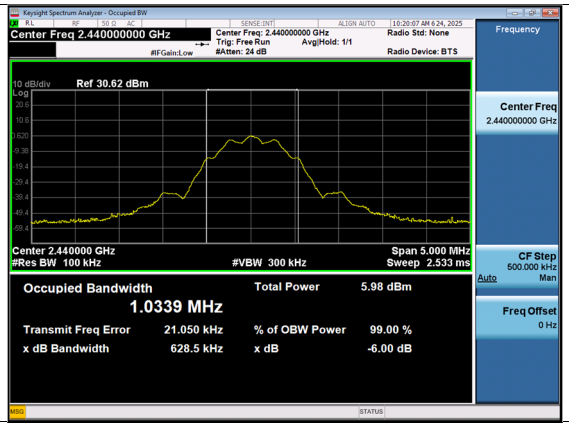
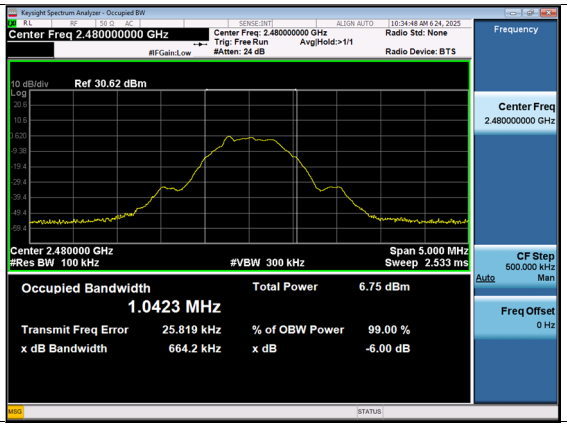
500 k Bit/s(37 Byte)	500 k Bit/s(255 Byte)
	

9.2 6 dB BANDWIDTH

Mode	Channel	Frequency (MHz)	6dB BW (kHz)	Limit (kHz)
1M 37Byte	0	2402	673.6	> 500
	19	2440	672.6	
	39	2480	675.4	
1M 255Byte	0	2402	665.1	
	19	2440	668.6	
	39	2480	668.2	
2M 37Byte	0	2402	1144	
	19	2440	1148	
	39	2480	1149	
2M 255Byte	0	2402	1152	
	19	2440	1155	
	39	2480	1159	
125k 37Byte	0	2402	628.8	
	19	2440	628.5	
	39	2480	629.0	
125k 255Byte	0	2402	630.2	
	19	2440	629.4	
	39	2480	631.7	
500k 37Byte	0	2402	667.7	
	19	2440	667.8	
	39	2480	664.2	
500k 255Byte	0	2402	669.4	
	19	2440	668.1	
	39	2480	667.1	

▣ Test Plots

Note: In order to simplify the report, attached plots were only the narrowest 6 dB BW channel (125k, 500k, 1M Bit/s all have the same 1 MHz Band width and only Worst result is attached.)

1 MBit/s 255 Byte (Low-CH 0)	2 MBit/s 37 Byte (Low-CH 0)
	
125k Bit/s 37 Byte (Low-CH 19)	500k Bit/s 37 Byte (High-CH 39)
	

9.3 OUTPUT POWER

Peak Power

Mode	Channel	Frequency (MHz)	Peak Power (dBm)	Limit (dBm)
1M 37Byte	0	2402	0.990	30
	19	2440	2.134	
	39	2480	0.411	
1M 255Byte	0	2402	1.043	
	19	2440	2.033	
	39	2480	0.280	
2M 37Byte	0	2402	1.116	
	19	2440	2.255	
	39	2480	0.460	
2M 255Byte	0	2402	1.056	
	19	2440	2.167	
	39	2480	0.526	
125k 37Byte	0	2402	0.899	
	19	2440	2.007	
	39	2480	0.278	
125k 255Byte	0	2402	0.949	
	19	2440	2.092	
	39	2480	0.403	
500k 37Byte	0	2402	1.103	
	19	2440	2.250	
	39	2480	0.385	
500k 255Byte	0	2402	0.981	
	19	2440	2.073	
	39	2480	0.326	

Average Power

Mode	Channel	Frequency (MHz)	Measured Power [dBm]	D.C.F [dB]	Total Power [dBm]	Limit (dBm)
1M 37Byte	0	2402	-1.39	2.07	0.67	30
	19	2440	-0.19	2.07	1.88	
	39	2480	-1.91	2.07	0.15	
1M 255Byte	0	2402	0.11	0.69	0.79	
	19	2440	1.07	0.69	1.76	
	39	2480	-0.66	0.69	0.02	
2M 37Byte	0	2402	-4.30	4.86	0.57	
	19	2440	-3.02	4.86	1.84	
	39	2480	-4.97	4.86	-0.11	
2M 255Byte	0	2402	-2.09	2.41	0.31	
	19	2440	-0.68	2.41	1.73	
	39	2480	-2.39	2.41	0.02	
125k 37Byte	0	2402	-0.30	0.83	0.52	
	19	2440	0.93	0.83	1.76	
	39	2480	-0.81	0.83	0.02	
125k 255Byte	0	2402	0.57	0.11	0.67	
	19	2440	1.77	0.11	1.88	
	39	2480	0.01	0.11	0.12	
500k 37Byte	0	2402	-1.68	2.45	0.77	
	19	2440	-0.38	2.45	2.07	
	39	2480	-2.30	2.45	0.15	
500k 255Byte	0	2402	0.21	0.40	0.61	
	19	2440	1.49	0.40	1.89	
	39	2480	-0.30	0.40	0.10	

9.4 POWER SPECTRAL DENSITY

Mode	Channel	Frequency (MHz)	Total PSD (dBm/kHz)	Limit (dBm/3kHz)
1M 37Byte	0	2402	-3.014	8
	19	2440	-1.832	
	39	2480	-3.625	
1M 255Byte	0	2402	-3.046	
	19	2440	-1.857	
	39	2480	-3.628	
2M 37Byte	0	2402	-3.993	
	19	2440	-2.791	
	39	2480	-4.625	
2M 255Byte	0	2402	-4.100	
	19	2440	-2.886	
	39	2480	-4.560	
125k 37Byte	0	2402	-2.723	
	19	2440	-1.563	
	39	2480	-3.303	
125k 255Byte	0	2402	-2.755	
	19	2440	-1.487	
	39	2480	-3.188	
500k 37Byte	0	2402	-2.066	
	19	2440	-0.812	
	39	2480	-2.641	
500k 255Byte	0	2402	-0.345	
	19	2440	0.831	
	39	2480	-0.935	

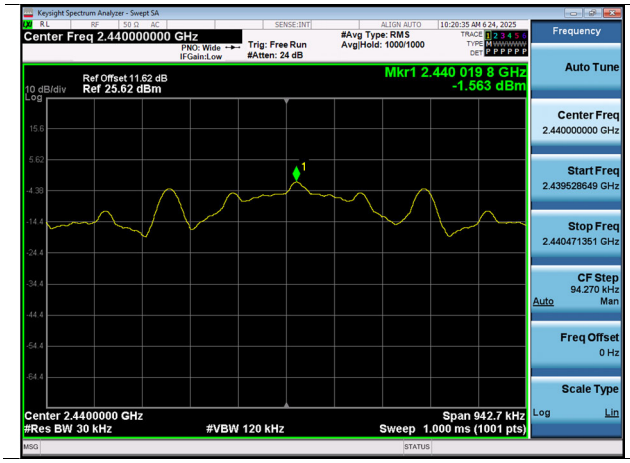
▣ Test Plots

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

1 MBit/s 37 Byte (Mid-CH 19)

2 MBit/s 37 Byte (Mid-CH 19)

125k Bit/s 255 Byte (Mid-CH 19)



500k Bit/s 255 Byte (Mid-CH 19)

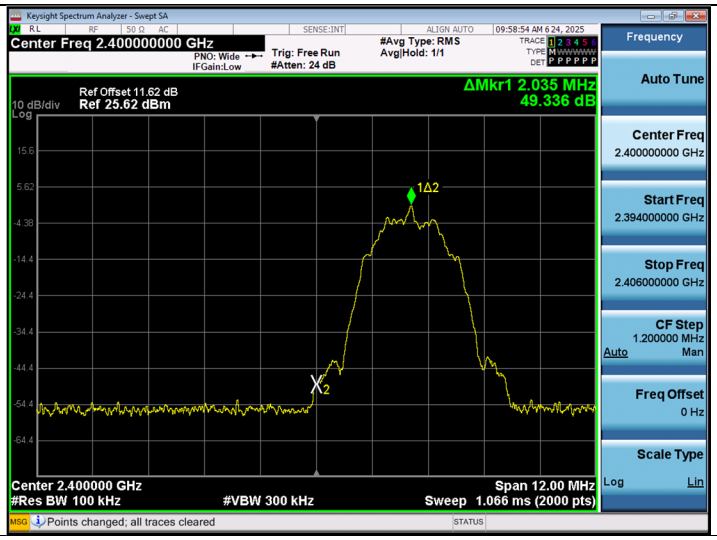
9.5 BAND EDGE/ CONDUCTED SPURIOUS EMISSIONS

[BAND EDGE]

Mode	Channel	Frequency (MHz)	Position	Band Edge	Limit (dBc)
1M 37Byte	0	2402	Lower	54.368	20
	39	2480	Upper	53.706	
1M 255Byte	0	2402	Lower	55.094	
	39	2480	Upper	54.145	
2M 37Byte	0	2402	Lower	49.336	
	39	2480	Upper	53.186	
2M 255Byte	0	2402	Lower	50.492	
	39	2480	Upper	52.978	
125k 37Byte	0	2402	Lower	53.800	
	39	2480	Upper	52.281	
125k 255Byte	0	2402	Lower	50.350	
	39	2480	Upper	51.530	
500k 37Byte	0	2402	Lower	54.517	
	39	2480	Upper	54.106	
500k 255Byte	0	2402	Lower	55.030	
	39	2480	Upper	53.304	

▣ Test Plot(Band Edge)

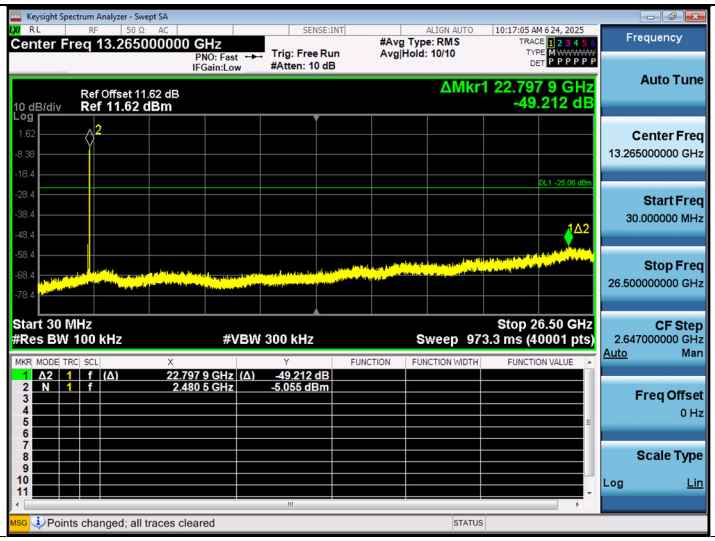
2 MBit/s 37 Byte (Low-CH 0)



[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. 39(2 480 MHz))

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

Conducted Spurious Emission


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 = 40log (specific distance / 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	Pol.	Total	Limit	Margin	Measurement Type
[MHz]	[dBµV]	[dB/m]	[H/V]	[dBµV/m]	[dBµV/m]	[dB]	
4804	45.59	2.26	V	47.85	73.98	26.13	PK
4804	34.17	2.26	V	36.43	53.98	17.55	AV
7206	39.77	10.85	V	50.62	73.98	23.36	PK
7206	27.83	10.85	V	38.68	53.98	15.30	AV
4804	44.45	2.26	H	46.71	73.98	27.27	PK
4804	34.02	2.26	H	36.28	53.98	17.70	AV
7206	39.56	10.85	H	50.41	73.98	23.57	PK
7206	27.54	10.85	H	38.39	53.98	15.59	AV

CH 17	2440	MHz	Mode :		1 M Bit/s (37 Bytes)		
Frequency	Measured value	A.F+C.L-A.G+D.F	Pol.	Total	Limit	Margin	Measurement Type
[MHz]	[dBµV]	[dB/m]	[H/V]	[dBµV/m]	[dBµV/m]	[dB]	
4880	46.58	2.35	V	48.93	73.98	25.05	PK
4880	35.95	2.35	V	38.30	53.98	15.68	AV
7320	41.32	9.96	V	51.28	73.98	22.70	PK
7320	28.83	9.96	V	38.79	53.98	15.19	AV
4880	45.96	2.35	H	48.31	73.98	25.67	PK
4880	35.15	2.35	H	37.50	53.98	16.48	AV
7320	40.90	9.96	H	50.86	73.98	23.12	PK
7320	28.78	9.96	H	38.74	53.98	15.24	AV

CH 39	2480	MHz	Mode :		1 M Bit/s (37 Bytes)		
Frequency	Measured value	A.F+C.L-A.G+D.F	Pol.	Total	Limit	Margin	Measurement Type
[MHz]	[dBµV]	[dB/m]	[H/V]	[dBµV/m]	[dBµV/m]	[dB]	
4960	45.63	3.48	V	49.11	73.98	24.87	PK
4960	33.57	3.48	V	37.05	53.98	16.93	AV
7440	42.08	10.16	V	52.24	73.98	21.74	PK
7440	29.26	10.16	V	39.42	53.98	14.56	AV
4960	45.35	3.48	H	48.83	73.98	25.15	PK
4960	33.04	3.48	H	36.52	53.98	17.46	AV
7440	41.49	10.16	H	51.65	73.98	22.33	PK
7440	29.12	10.16	H	39.28	53.98	14.70	AV

CH 0	2402	MHz	Mode :		2 M Bit/s (37 Bytes)		
Frequency	Measured value	A.F+C.L-A.G+D.F	Pol.	Total	Limit	Margin	Measurement Type
[MHz]	[dBµV]	[dB/m]	[H/V]	[dBµV/m]	[dBµV/m]	[dB]	
4804	44.95	2.26	V	47.21	73.98	26.77	PK
4804	32.76	2.26	V	35.02	53.98	18.96	AV
7206	39.83	10.85	V	50.68	73.98	23.30	PK
7206	27.95	10.85	V	38.80	53.98	15.18	AV
4804	44.16	2.26	H	46.42	73.98	27.56	PK
4804	32.62	2.26	H	34.88	53.98	19.10	AV
7206	38.86	10.85	H	49.71	73.98	24.27	PK
7206	27.88	10.85	H	38.73	53.98	15.25	AV

CH 17	2440	MHz	Mode :		2 M Bit/s (37 Bytes)		
Frequency	Measured value	A.F+C.L-A.G+D.F	Pol.	Total	Limit	Margin	Measurement Type
[MHz]	[dBµV]	[dB/m]	[H/V]	[dBµV/m]	[dBµV/m]	[dB]	
4880	46.87	2.35	V	49.22	73.98	24.76	PK
4880	34.16	2.35	V	36.51	53.98	17.47	AV
7320	40.99	9.96	V	50.95	73.98	23.03	PK
7320	28.76	9.96	V	38.72	53.98	15.26	AV
4880	45.93	2.35	H	48.28	73.98	25.70	PK
4880	33.97	2.35	H	36.32	53.98	17.66	AV
7320	40.20	9.96	H	50.16	73.98	23.82	PK
7320	28.53	9.96	H	38.49	53.98	15.49	AV

CH 39	2480	MHz	Mode :		2 M Bit/s (37 Bytes)		
Frequency	Measured value	A.F+C.L-A.G+D.F	Pol.	Total	Limit	Margin	Measurement Type
[MHz]	[dBµV]	[dB/m]	[H/V]	[dBµV/m]	[dBµV/m]	[dB]	
4960	45.30	3.48	V	48.78	73.98	25.20	PK
4960	32.97	3.48	V	36.45	53.98	17.53	AV
7440	41.58	10.16	V	51.74	73.98	22.24	PK
7440	29.25	10.16	V	39.41	53.98	14.57	AV
4960	45.08	3.48	H	48.56	73.98	25.42	PK
4960	32.43	3.48	H	35.91	53.98	18.07	AV
7440	41.06	10.16	H	51.22	73.98	22.76	PK
7440	29.18	10.16	H	39.34	53.98	14.64	AV

Simultaneous transmission Scenario

Scenario 1

BT LE 1 M Bit/s 37 Byte Ch.39 + MIMO_CDD(Ant.1+Ant.2) 5 GHz 802.11ax(HE20)_26 Tone RU4 MCS0 Ch.165 + WWAN(LTE B25)

Frequency	Measured value	A.F+C.L-A.G+D.F	Pol.	Total	Limit	Margin	Measurement Type
[MHz]	[dBµV]	[dB/m]	[H/V]	[dBµV/m]	[dBµV/m]	[dB]	
4960	45.32	0.00	3.93	V	49.25	73.98	24.73
4960	33.61	0.00	3.93	V	37.54	53.98	16.44
7440	41.89	0.00	10.61	V	52.50	73.98	21.48
7440	29.99	0.00	10.61	V	40.60	53.98	13.38
4960	44.41	0.00	3.93	H	48.34	73.98	25.64
4960	32.51	0.00	3.93	H	36.44	53.98	17.54
7440	40.52	0.00	10.61	H	51.13	73.98	22.85
7440	29.94	0.00	10.61	H	40.55	53.98	13.43

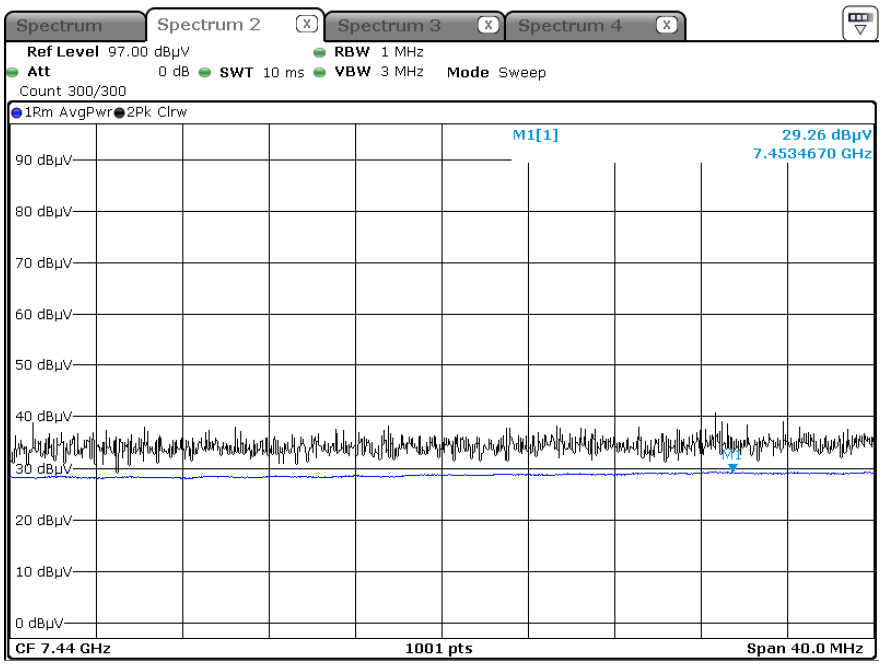
Scenario 2

BLE 1M Bit/s (37 Bytes) CH 39 + 6 GHz 802.11ax(HE80) 996T RU67 CH 7+ WWAN(LTE B25)

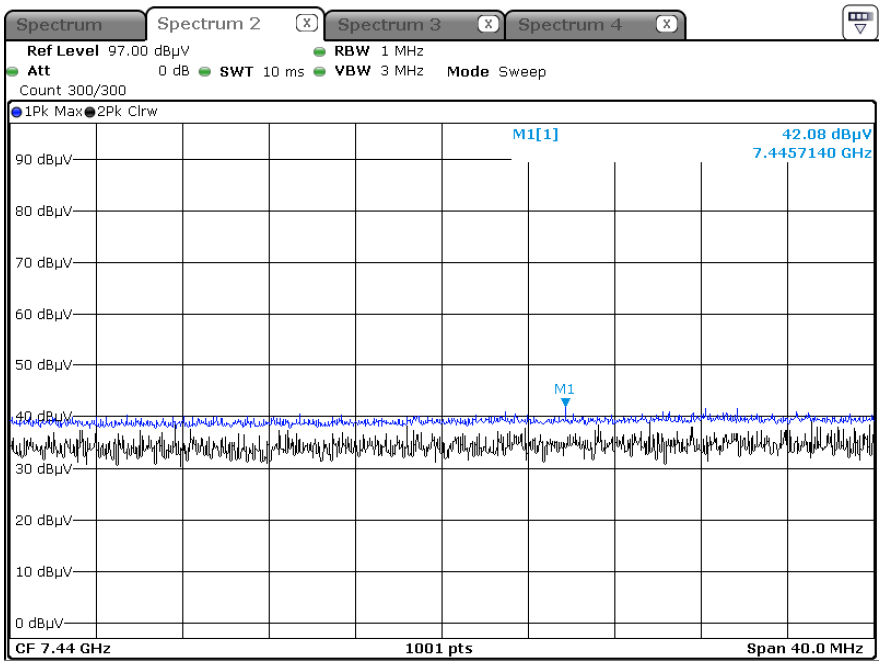
Frequency	Measured value	A.F+C.L-A.G+D.F	Pol.	Total	Limit	Margin	Measurement Type
[MHz]	[dBµV]	[dB/m]	[H/V]	[dBµV/m]	[dBµV/m]	[dB]	
4960	44.94	0.00	3.93	V	48.87	73.98	25.11
4960	33.39	0.00	3.93	V	37.32	53.98	16.66
7440	41.65	0.00	10.61	V	52.26	73.98	21.72
7440	30.00	0.00	10.61	V	40.61	53.98	13.37
4960	44.24	0.00	3.93	H	48.17	73.98	25.81
4960	33.04	0.00	3.93	H	36.97	53.98	17.01
7440	41.05	0.00	10.61	H	51.66	73.98	22.32
7440	29.92	0.00	10.61	H	40.53	53.98	13.45

▣ 1 M Bit/s 37 Bytes Test Plots (Worst case : X-V)

Radiated Spurious Emissions plot – Average Result (Ch.39 3rd Harmonic)



Radiated Spurious Emissions plot – Peak Result (Ch.39 3rd Harmonic)



Note:

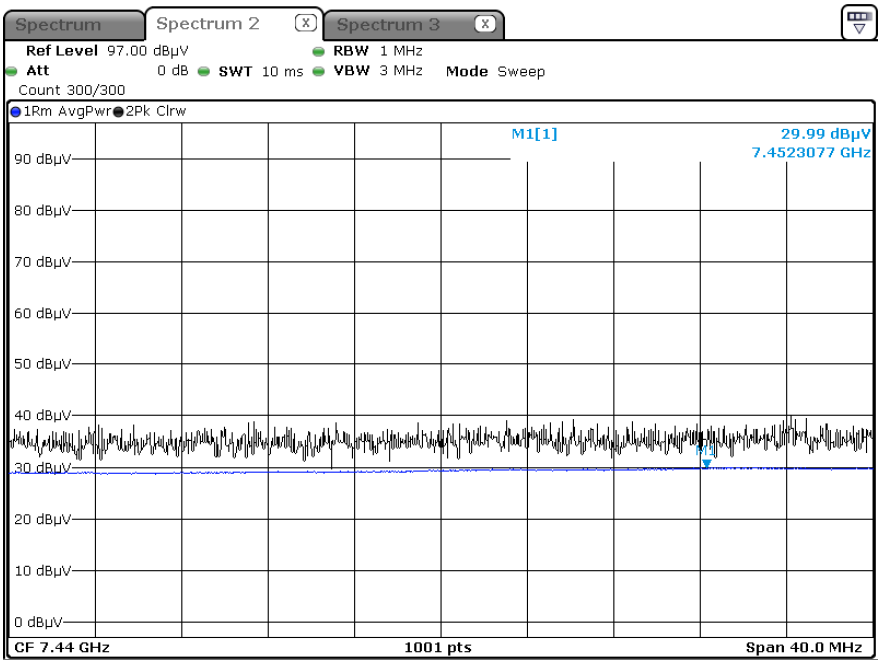
Plots of worst case are only reported.

[Simultaneous transmission Scenario]

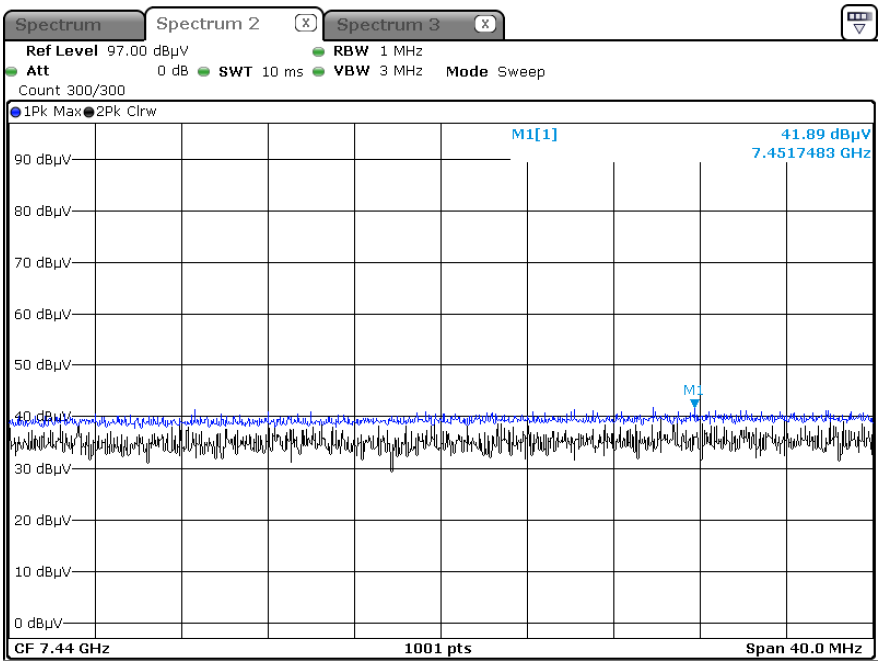
Scenario 1

BT LE 1 M Bit/s (37 Byte) Ch.39 + MIMO_CDD(Ant.1+Ant.2) 5 GHz 802.11ax(HE20)_26 Tone RU4 MCS0 Ch.165 + WWAN(LTE B25)

Radiated Spurious Emissions plot – Average Result (3rd Harmonic, X-V)



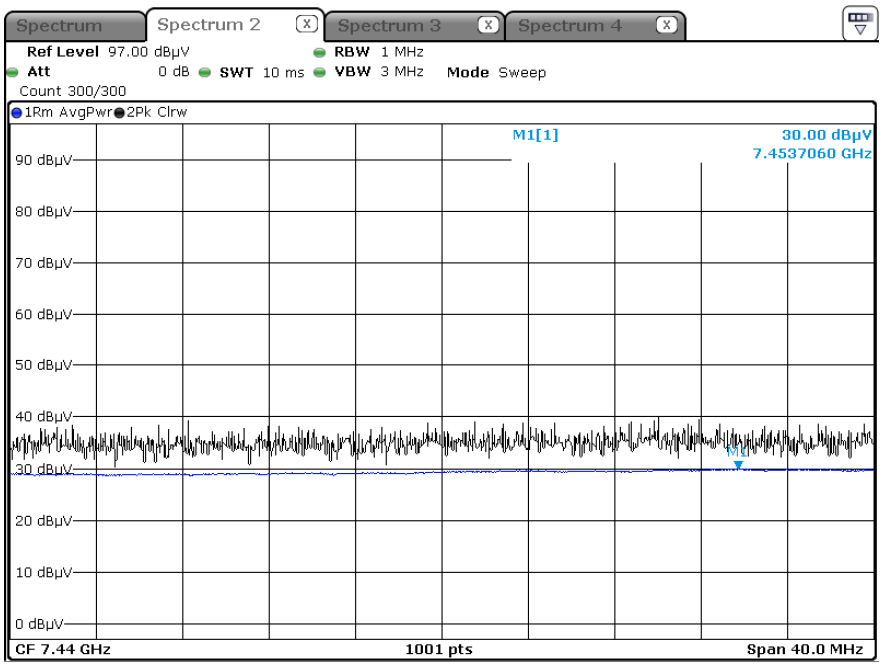
Radiated Spurious Emissions plot – Peak Result (3rd Harmonic, X-V)



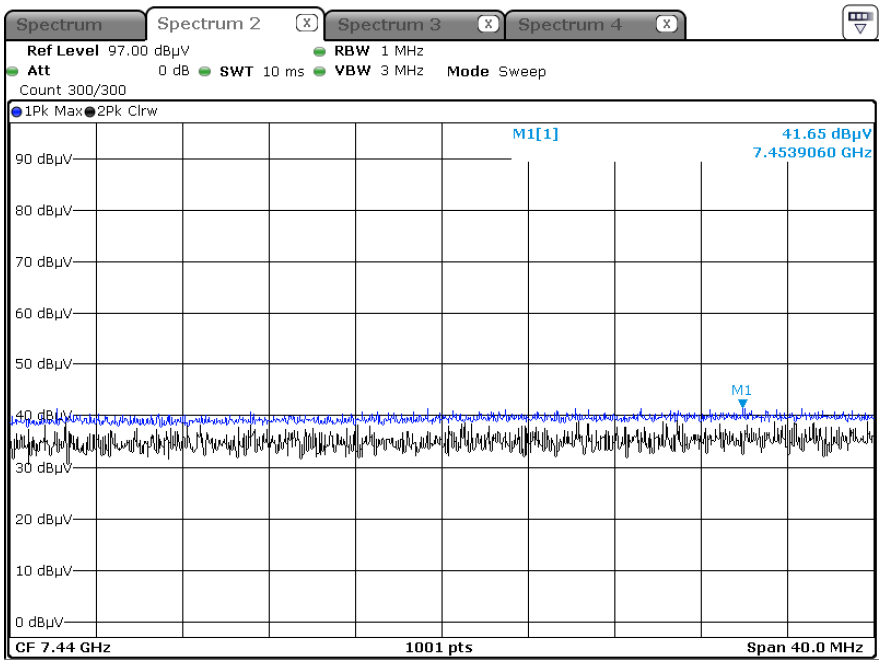
Scenario 2

BLE 1M Bit/s (37 Bytes) Ch.39 + MIMO_CDD(Ant.1+Ant.2) 6 GHz 802.11ax(HE80) 996T RU67 MCS0 CH .7 + WWAN(LTE B25)

Radiated Spurious Emissions plot – Average Result (3rd Harmonic, X-V)



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



Note:

Plots of worst case are only reported.

9.7 RADIATED RESTRICTED BAND EDGES

1 M Bit/s (37 Bytes)							
Channel	0 CH, 39 CH	Channel Frequency	2402 MHz, 2480 MHz				
Frequency	Measured Value	A.F+C.L-A.G +ATT+D.F	Ant. Pol.	Total	Limit	Margin	Measurement Type
[MHz]	[dBµV]	[dB/m]	[H/V]	[dBµV/m]	[dBµV/m]	[dB]	
2390.0	51.08	1.40	V	52.48	73.98	21.50	PK
2390.0	36.44	1.40	V	37.84	53.98	16.14	AV
2483.5	49.22	2.04	H	51.26	73.98	22.72	PK
2483.5	36.47	2.04	H	38.51	53.98	15.47	AV

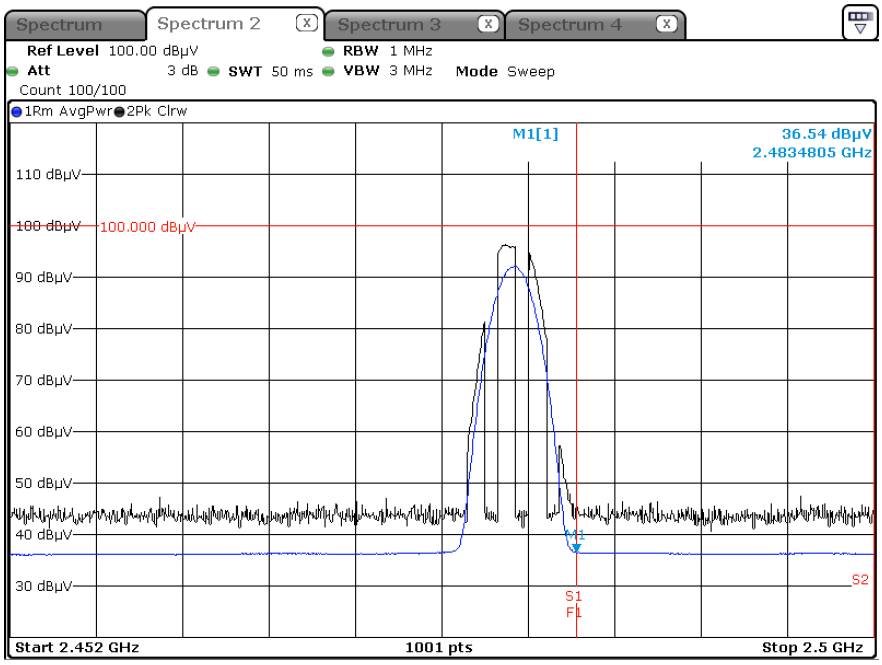
1 M Bit/s (255 Bytes)							
Channel	0 CH, 39 CH	Channel Frequency	2402 MHz, 2480 MHz				
Frequency	Measured Value	A.F+C.L-A.G +ATT+D.F	Ant. Pol.	Total	Limit	Margin	Measurement Type
[MHz]	[dBµV]	[dB/m]	[H/V]	[dBµV/m]	[dBµV/m]	[dB]	
2390.0	49.79	1.40	V	51.19	73.98	22.79	PK
2390.0	36.80	1.40	V	38.20	53.98	15.78	AV
2483.5	48.95	2.04	H	50.99	73.98	22.99	PK
2483.5	36.50	2.04	H	38.54	53.98	15.44	AV

2 M Bit/s (37 Bytes)							
Channel	0 CH, 39 CH	Channel Frequency	2402 MHz, 2480 MHz				
Frequency	Measured Value	A.F+C.L-A.G +ATT+D.F	Ant. Pol.	Total	Limit	Margin	Measurement Type
[MHz]	[dBµV]	[dB/m]	[H/V]	[dBµV/m]	[dBµV/m]	[dB]	
2390.0	50.04	1.40	V	51.44	73.98	22.54	PK
2390.0	36.54	1.40	V	37.94	53.98	16.04	AV
2483.5	50.68	2.04	H	52.72	73.98	21.26	PK
2483.5	36.51	2.04	H	38.55	53.98	15.43	AV

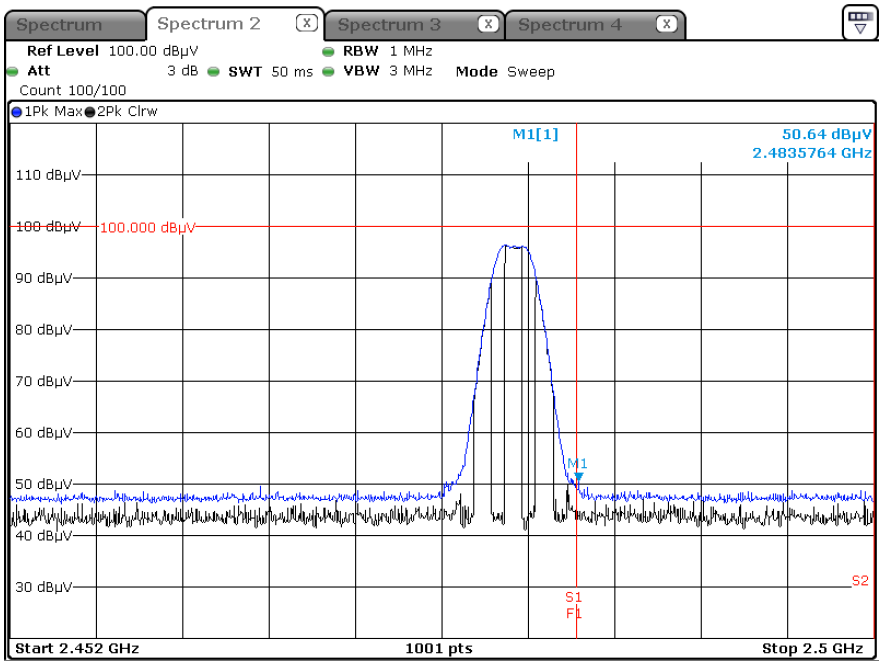
2 M Bit/s (255 Bytes)							
Channel	0 CH, 39 CH	Channel Frequency	2402 MHz, 2480 MHz				
Frequency	Measured Value	A.F+C.L-A.G +ATT+D.F	Ant. Pol.	Total	Limit	Margin	Measurement Type
[MHz]	[dBµV]	[dB/m]	[H/V]	[dBµV/m]	[dBµV/m]	[dB]	
2390.0	49.32	1.40	V	50.72	73.98	23.26	PK
2390.0	36.51	1.40	V	37.91	53.98	16.07	AV
2483.5	50.64	2.04	H	52.68	73.98	21.30	PK
2483.5	36.54	2.04	H	38.58	53.98	15.40	AV

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

Radiated Restricted Band Edges plot – Average Result (Ch.39, Y-H)



Radiated Restricted Band Edges plot – Peak Result (Ch.39, Y-H)



Note:

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

10. LIST OF TEST EQUIPMENT

Conducted Test

Equipment	Model	Manufacturer	Serial No.	Due to Calibration	Calibration Interval
LISN	ENV216	Rohde & Schwarz	102245	07/15/2026	Annual
EMI Test Receiver	ESR	Rohde & Schwarz	101910	08/27/2025	Annual
Temperature Chamber	SU-642	ESPEC	0093008124	02/11/2026	Annual
Signal Analyzer	N9030A	Agilent	MY49431210	12/12/2025	Annual
Power Measurement Set	OSP 120	Rohde & Schwarz	101231	10/17/2025	Annual
Power Meter	N1911A	Agilent	MY45100523	02/21/2026	Annual
Power Sensor	N1921A	Agilent	MY57820067	02/04/2026	Annual
Directional Coupler	87300B	Agilent	3116A03621	10/21/2025	Annual
Power Splitter	11667B	Hewlett Packard	05001	04/10/2026	Annual
DC Power Supply	E3632A	H.P	KR75303243	04/16/2026	Annual
Attenuator(10 dB)	8493C	Hewlett Packard	07560	05/27/2026	Annual
Software	EMC32	Rohde & Schwarz	N/A	N/A	N/A
Radio Communication Tester	CMX500	Rohde & Schwarz	100325	10/14/2025	Annual
Attenuator(3 dB)	18B-03	Api tech.	1	04/21/2026	Annual
Step Attenuator	8495B	Agilent	MY42141593	03/11/2026	Annual
4 WAY POWER DIVIDER	4456-4	Narda	01640	04/28/2026	Annual
Wireless AP	GT-AXE11000	ASUS	M6IAJF201782 (FCC ID : MSQ-RTAXJF00)	N/A	N/A
BE19000 Tri-Band Wi-Fi 7 Router	Archer BE800	Tp-Link	Y2350N50000581 (FCC ID : 2AX-J4BE800	N/A	N/A
Automation Software	FCC WLAN Conducted	HCT CO., LTD	-	-	-
Automation Software	FCC Bluetooth Conducted	HCT CO., LTD	-	-	-

Note:

1. Equipment listed above that calibrated during the testing period was set for test after the calibration.
2. Equipment listed above that has a calibration due date during the testing period, the testing is completed before equipment expiration date.

Radiated Test

Equipment	Model	Manufacturer	Serial No.	Due to Calibration	Calibration Interval
Controller (Antenna mast & Turn Table)	CO3000	Innco system	CO3000/1031/ 41190717/P	N/A	N/A
Antenna Mast	MA4640	Innco system	S2AM	07/30/2025	Annual
Turn Table	DS2000-S	Innco system	N/A	N/A	N/A
Loop Antenna	FMZB 1513	Rohde & Schwarz	1513-333	03/07/2026	Biennial
Hybrid Antenna	VULB 9168	Schwarzbeck	760	02/17/2027	Biennial
Horn Antenna	BBHA 9120D	Schwarzbeck	02299	01/29/2026	Biennial
Horn Antenna (15GHz ~ 40 GHz)	BBHA9170	Schwarzbeck	BBHA9170342	09/20/2026	Biennial
Spectrum Analyzer	FSV40	Rohde & Schwarz	100901	02/21/2026	Annual
Signal Analyzer	N9030A	Agilent	MY52350879	03/25/2026	Annual
Attenuator(3 dB)	18B-03	Api tech.	1	04/21/2026	Annual
Band Reject Filter	WRCJV12-4900-5100-5900-6100-50SS	Wainwright Instruments	5	05/27/2026	Annual
Band Reject Filter	WRCJV12-4900-5100-5900-6100-50SS	Wainwright Instruments	6	05/27/2026	Annual
Band Reject Filter	WRCJV2400/2483.5-2370/2520-60/12SS	Wainwright Instruments	2	12/26/2025	Annual
Band Reject Filter	WRCJV5100/5850-40/50-8EEK	Wainwright Instruments	1	01/09/2026	Annual
RF Switching System	FMSR-04B (3G HPF+LNA)	T&M SYSTEM	S2L1	12/23/2025	Annual
RF Switching System	FMSR-04B (10dB ATT+LNA)	T&M SYSTEM	S2L2	12/23/2025	Annual
RF Switching System	FMSR-04B (3dB ATT+LNA)	T&M SYSTEM	S2L3	12/23/2025	Annual
RF Switching System	FMSR-04B (LNA)	T&M SYSTEM	S2L4	12/23/2025	Annual
RF Switching System	FMSR-04B (7G HPF+LNA)	T&M SYSTEM	S2L5	12/23/2025	Annual
Power Amplifier	CBL18265035	CERNEX	22966	11/07/2025	Annual
Power Amplifier	CBL26405040	CERNEX	25956	02/19/2026	Annual
Automation Software	FCC WLAN Radiated	HCT CO., LTD	-	-	-

Note:

1. Equipment listed above that calibrated during the testing period was set for test after the calibration.
2. Equipment listed above that has a calibration due date during the testing period, the testing is completed before equipment expiration date.
3. Especially, all antenna for measurement is calibrated in accordance with the requirements of C63.5(Version : 2017).

11. ANNEX A_ TEST SETUP PHOTO

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

No.	Description
1	HCT-RF-2507-FC079-P