TEST REPORT

FCC BT LE Test for EBR23709201
Certification

APPLICANT
LG Electronics Inc.

REPORT NO.
HCT-RF-2502-FC059-R1

DATE OF ISSUE
March 4, 2025

Tested by
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Applicant	**LG Electronics Inc.** 84, Wanam-ro, Seongsan-gu, Changwon-si, Gyeongsangnam-do 51554, Republic of Korea
Product Name Model Name	RF Module EBR23709201
FCC ID	BEJ-EBR237092
FCC Classification	Digital Transmission System(DTS)
Date of Test	January 06, 2025 ~ February 18, 2025
Test Standard Used	Part 15 subpart C 15.247
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)
Test Results	PASS
Brand	LG

REVISION HISTORY

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

Revision No.	Date of Issue	Description
0	February 18, 2025	Initial Release
1	March 04, 2025	Revised the Typo. (Section 9.5 ~ 9.7)

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 The test results in this test report are not associated with the ((KS Q) ISO/IEC 17025) accreditation by KOLAS (Korea Laboratory Accreditation Scheme) / A2LA (American Association for Laboratory Accreditation) that are under the ILAC (International Laboratory Accreditation Cooperation) Mutual Recognition Agreement (MRA).

CONTENTS

1. EUT DESCRIPTION

Model	EBR23709201		
Additional Model	-		
EUT Type	RF Module		
Power Supply	DC 3.30 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 :	5.865 dBm (3.86 mW) 5.708 dBm (3.72 mW) 5.647 dBm (3.67 mW) 5.711 dBm (3.72 mW)
	Average	1 M Bit/s: 2 M Bit/s: 125 k Bit/s : 500 k Bit/s :	5.64 dBm (3.67 mW) 5.48 dBm (3.53 mW) 5.48 dBm (3.53 mW) 5.72 dBm (3.73 mW)
Modulation Type	GFSK		
Bluetooth Version	5.4		
Antenna Specification	Antenna type: PIFA Peak Gain: 1.64 dBi		
Serial number	Conducted : C8DD6A2CFD04 Radiated : C8DD6A2CFD09		

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, 17383, Rep. 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.

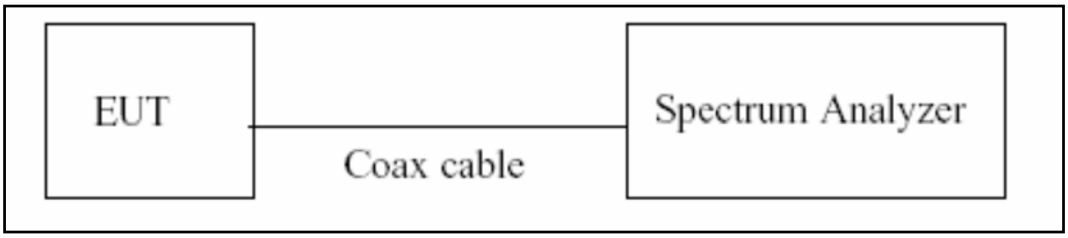
Parameter	Expanded Uncertainty (±kHz)
X dB, 99% Bandwidth	95 (Confidence level about 95 %, k=2)
Frequency stability	28 (Confidence level about 95 %, k=2)

Parameter	Expanded Uncertainty (±dB)
Conducted Disturbance (150 kHz ~ 30 MHz)	1.98 (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)	5.70 (Confidence level about 95 %, k=2)
Radiated Disturbance (1 GHz ~ 18 GHz)	5.52 (Confidence level about 95 %, k=2)
Radiated Disturbance (18 GHz ~ 40 GHz)	5.66 (Confidence level about 95 %, k=2)
Radiated Disturbance (Above 40 GHz)	5.58 (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*.

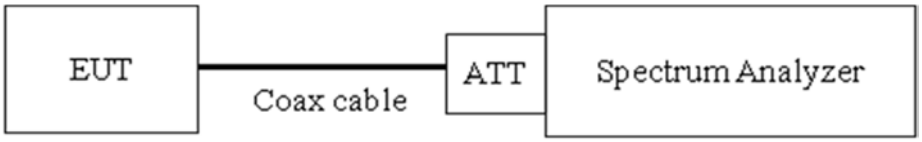
1. RBW = 8 MHz (the largest available value)
2. VBW = 8 MHz (≥ RBW)
3. SPAN = 0 Hz
4. Detector = Average
5. Number of points in sweep > 100
6. Trace mode = Clear write
7. Measure T_{total} and T_{on}
8. Calculate Duty Cycle = T_{on} / T_{total} and Duty Cycle Factor = 10log(1/Duty Cycle)

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.

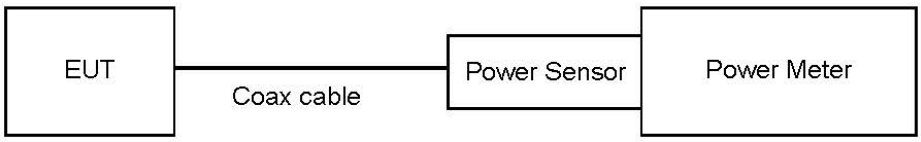
Note : We tested OBW using the automatic bandwidth measurement capability of a spectrum analyzer.

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

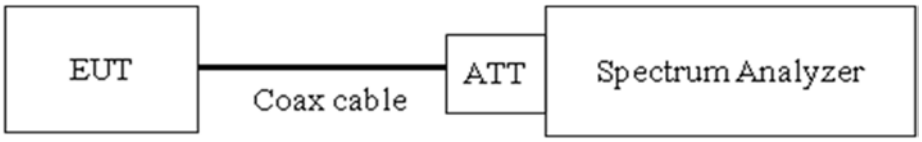
- Conducted Output Power(Peak) = Measured Value + ATT loss + Cable loss
- Conducted Output Power(Average) = Measured Value + ATT loss + Cable loss + Duty Cycle Factor

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

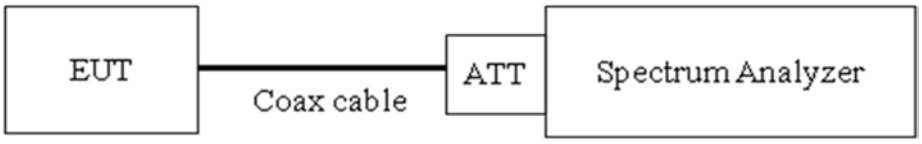
7.5. Conducted Band Edge(Out of Band Emissions) & Conducted Spurious Emissions

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	10.10
100	10.11
200	10.15
300	10.18
400	10.19
500	10.26
600	10.25
700	10.28
800	10.29
900	10.30
1000	10.30
2000	10.52
2400	**10.60**
2500	**10.60**
3000	10.62
4000	10.67
5000	10.80
6000	10.90
7000	10.90
8000	10.94
9000	11.04
10000	11.14
11000	11.18
12000	11.22
13000	11.28
14000	11.35
15000	11.44
16000	11.49
17000	11.53
18000	11.57
19000	11.63
20000	11.68
21000	11.71
22000	11.80
23000	11.82
24000	11.93
25000	11.95

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

2. Factor = Attenuator loss + Cable loss

3. EUT cable loss = 0.5 dB

4. Total Port offest = 11.1 dB

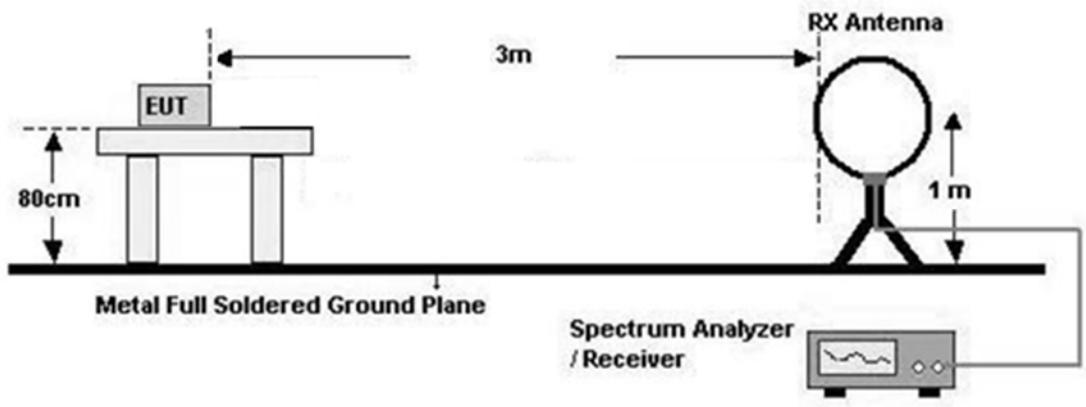
7.6. Radiated Test

Limit

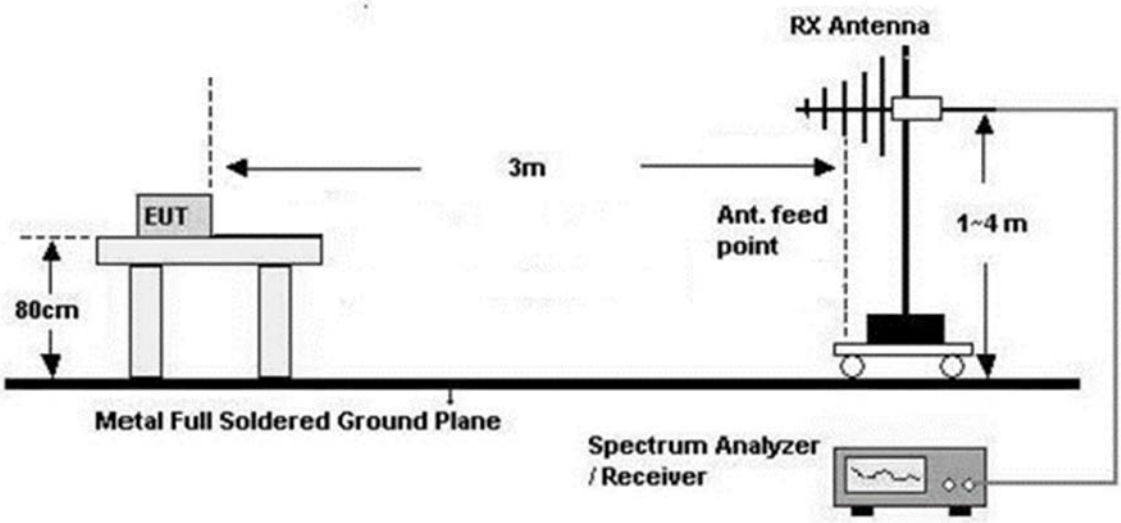
Frequency (MHz)	Field Strength (μV/m)	Measurement Distance (m)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Test Configuration

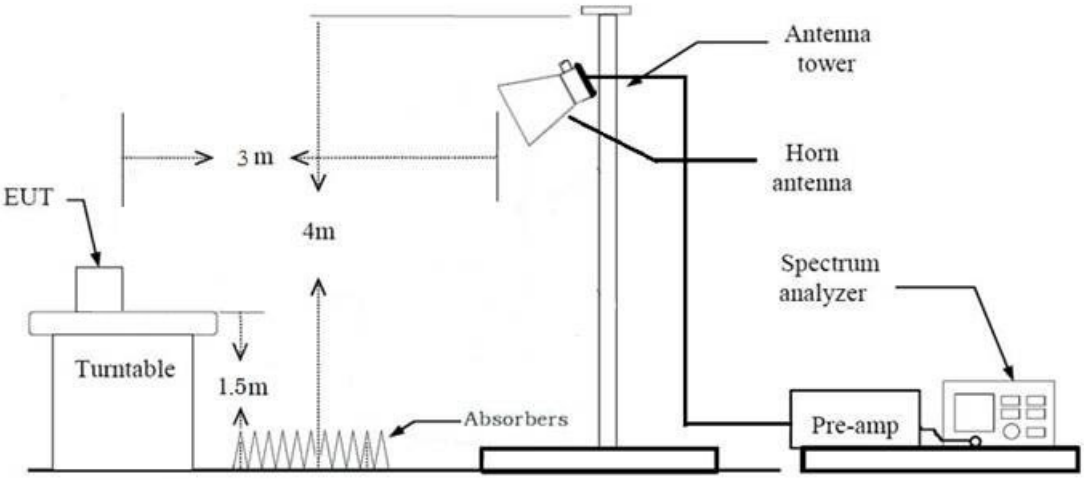
Below 30 MHz



30 MHz - 1 GHz



Above 1 GHz



Test Procedure of Radiated spurious emissions(Below 30 MHz)

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)

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)

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. The unit was tested with provied jig and setup guide.
8. 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

9. 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.
10. Distance extrapolation factor = 20log (test distance / specific distance) (dB)
11. 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

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. The unit was tested with provied jig and setup guide.
8. 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.
9. 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.

10. Distance extrapolation factor = 20log (test distance / specific distance) (dB)
11. Total (Measurement Type : Peak)

= Measured value + Antenna Factor(A.F) + Cable Loss(C.L) + Distance Factor(D.F)

Total(Measurement Type : Average, Duty cycle ≥ 98 %)

= Measured value + Antenna Factor(A.F) + Cable Loss(C.L) + Distance Factor(D.F)

Total(Measurement Type : Average, Duty cycle < 98 %)

= Measured value + Antenna Factor(A.F) + Cable Loss(C.L) + Distance Factor(D.F) + Duty Cycle Factor

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 : Module +Jig + AC Adapter
   - Worstcase : Module +Jig + AC Adapter
2. EUT Axis:
   - Radiated Spurious Emissions : Y
   - Radiated Restricted Band Edge : X
3. All packet length of operation were investigated and the test results are worst case in lowest packet length.
   (125k, 500k, 1M Bit/s all have the same 1MHz 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

AC Power line Conducted Emissions

1. All modes of operation were investigated and the worst case configuration results are reported.
   - Mode : Module +Jig + AC Adapter
   - Worstcase : Module +Jig + AC Adapter

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

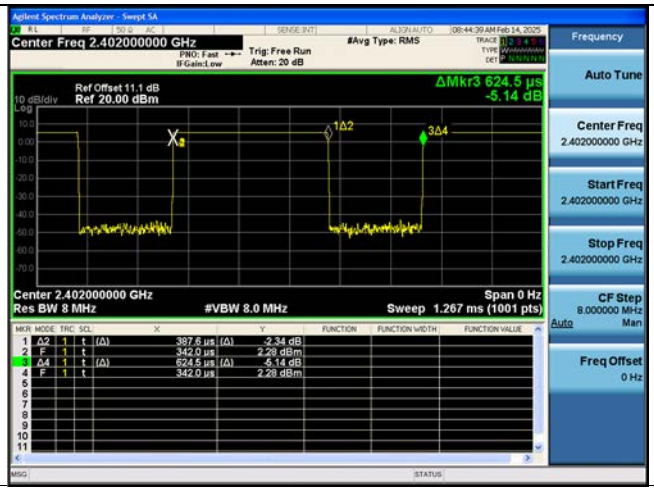
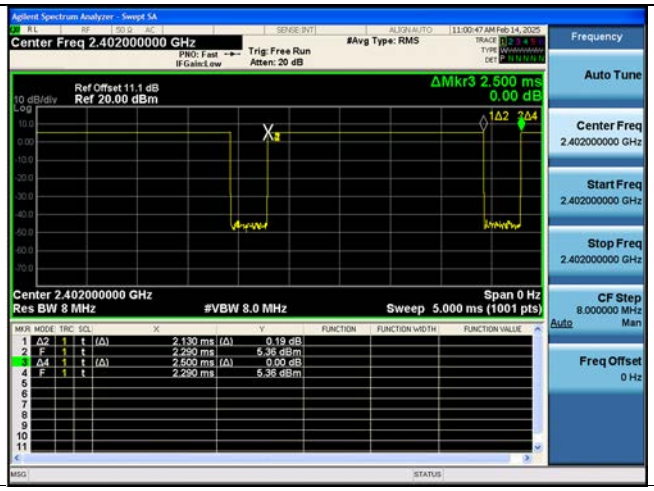
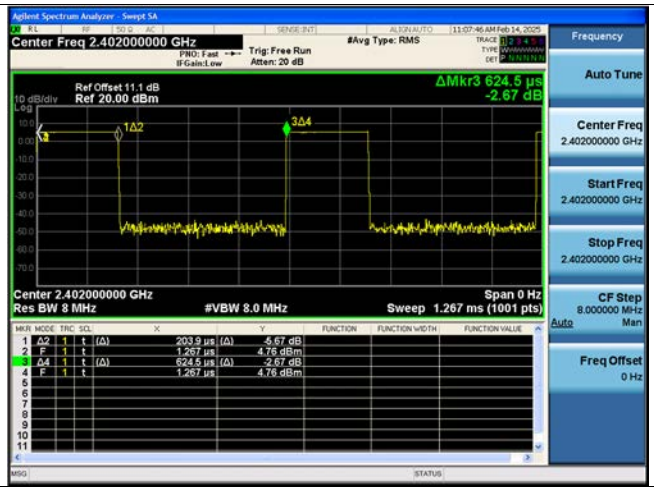
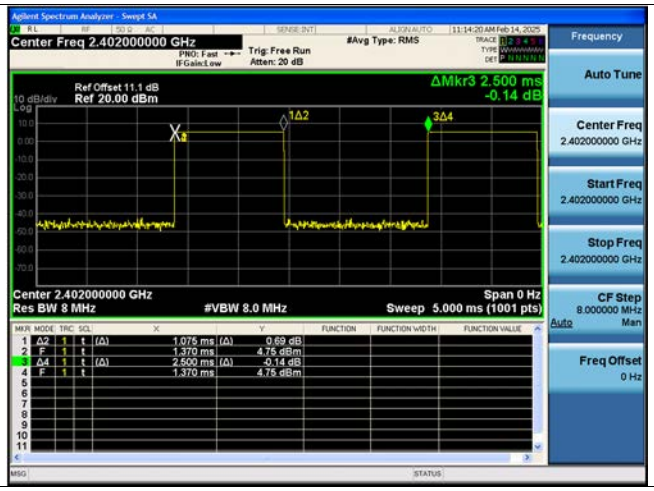
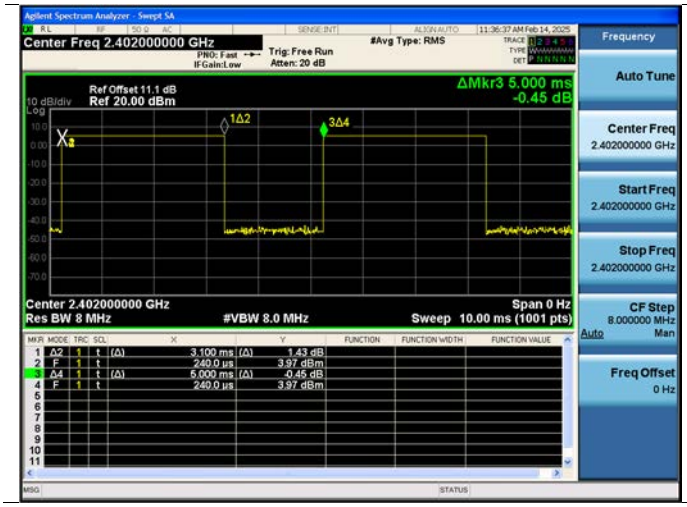
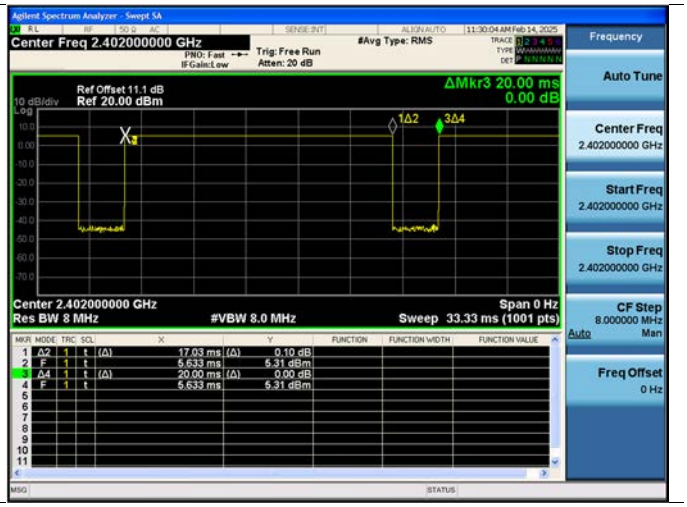
8. SUMMARY TEST OF RESULTS

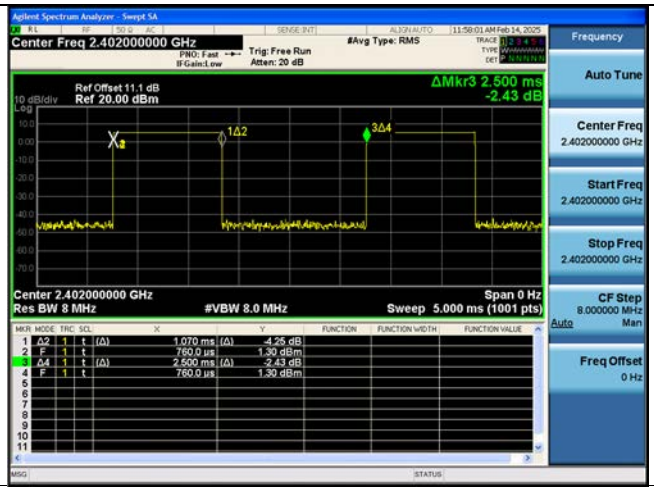
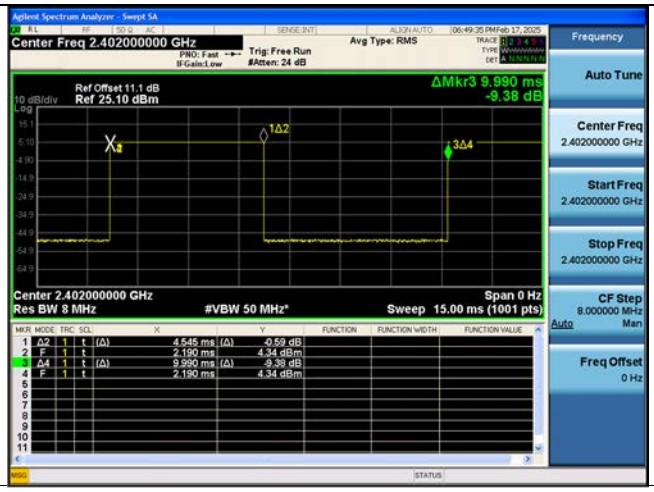
Test Description	FCC Part Section(s)	Test Limit	Test Condition	Test Result
6 dB Bandwidth	§ 15.247(a)(2)	> 500 kHz	Conducted	PASS
Conducted Maximum Output Power	§ 15.247(b)(3)	< 1 Watt		PASS
Power Spectral Density	§ 15.247(e)	< 8 dBm / 3 kHz Band		PASS
Band Edge (Out of Band Emissions)	§ 15.247(d)	Conducted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

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	0.388	0.624	0.621	2.071
	255	2.130	2.500	0.852	0.696
2M	37	0.204	0.624	0.327	4.860
	255	1.075	2.500	0.430	3.665
125k	37	3.100	5.000	0.620	2.076
	255	17.033	20.000	0.852	0.697
500k	37	1.070	2.500	0.428	3.686
	255	4.545	9.990	0.455	3.420

1 M Bit/s (37 Byte) Duty Cycle (Low-CH 0)	1 M Bit/s (255 Byte) Duty Cycle (Low-CH 0)
	
2 M Bit/s (37 Byte) Duty Cycle (Low-CH 0)	**2 M Bit/s (255 Byte) Duty Cycle (Low-CH 0)**
	
125 k Bit/s(37 Byte) Duty Cycle (Low-CH 0)	**125 k Bit/s(255 Byte) Duty Cycle (Low-CH 0)**
	

500 k Bit/s(37 Byte) Duty Cycle (Low-CH 0)	500 k Bit/s(255 Byte) Duty Cycle (Low-CH 0)
	

9.2 6 dB BANDWIDTH

Mode (Bit/s)	Channel	6 dB Bandwidth (kHz)	Limit (kHz)
1M(37)	0	659.2	> 500
	19	697.0	
	39	699.8	
1M(255)	0	680.3	> 500
	19	681.3	
	39	681.7	
2M(37)	0	1168	> 500
	19	1167	
	39	1167	
2M(255)	0	1184	> 500
	19	1191	
	39	1185	
125k(37)	0	648.1	> 500
	19	647.7	
	39	649.2	
125k(255)	0	653.2	> 500
	19	680.7	
	39	649.2	
500k(37)	0	672.3	> 500
	19	671.3	
	39	671.2	
500k(255)	0	674.1	> 500
	19	672.1	
	39	671.4	

Note:

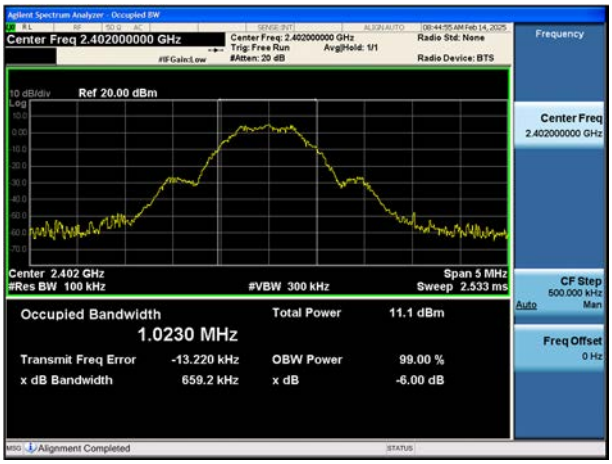
In order to simplify the report, attached plots were only the narrowest 6 dB BW Channel.

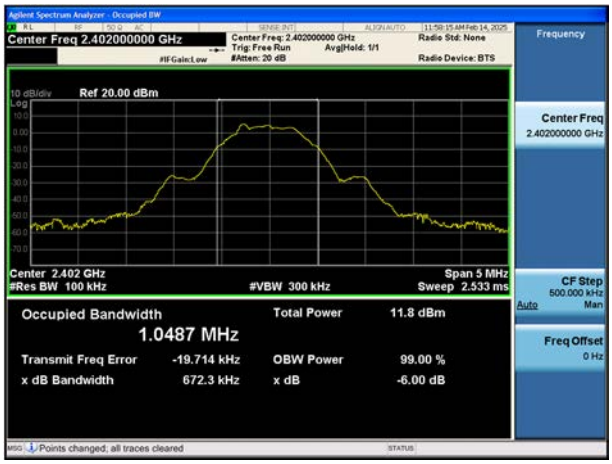
1M Bit/s: 37 Byte

2M Bit/s: 37 Byte

125k Bit/s: 37 Byte

500k Bit/s: 37 Byte

1 MBit/s (37 Byte) Test Plots	2 MBit/s (37 Byte) Test Plots
6 dB Bandwidth plot (Low-CH 0)	6 dB Bandwidth plot (Low-CH 0)
	
6 dB Bandwidth plot (Mid-CH 19)	6 dB Bandwidth plot (Mid-CH 19)
	
6 dB Bandwidth plot (High-CH 39)	6 dB Bandwidth plot (High-CH 39)
	

125k Bit/s(37 Byte) Test Plots	500k Bit/s(37 Byte) Test Plots
6 dB Bandwidth plot (Low-CH 0)	6 dB Bandwidth plot (Low-CH 0)
	
6 dB Bandwidth plot (Mid-CH 19)	6 dB Bandwidth plot (Mid-CH 19)
	
6 dB Bandwidth plot (High-CH 39)	6 dB Bandwidth plot (High-CH 39)
	

9.3 OUTPUT POWER

Peak Power

Data rate	Packet length	LE Mode		Measured Power(dBm)	Limit (dBm)
(Bit/s)	(Byte)	Frequency [MHz]	Channel		
1M	37	2402	0	5.421	30
		2440	19	5.865	
		2480	39	5.819	
	255	2402	0	5.387	
		2440	19	5.661	
		2480	39	5.607	
2M	37	2402	0	5.323	
		2440	19	5.708	
		2480	39	5.650	
	255	2402	0	5.263	
		2440	19	5.620	
		2480	39	5.625	
125k	37	2402	0	5.254	
		2440	19	5.645	
		2480	39	5.579	
	255	2402	0	5.296	
		2440	19	5.647	
		2480	39	5.606	
500k	37	2402	0	5.372	
		2440	19	5.664	
		2480	39	5.680	
	255	2402	0	5.338	
		2440	19	5.711	
		2480	39	5.680	

Average Power

Data rate	Packet length	LE Mode		Measured Power (dBm)	Duty Cycle Factor	Result	Limit (dBm)
(Bit/s)	(Byte)	Frequency [MHz]	Channel		(dB)	(dBm)	
1M	37	2402	0	3.12	2.07	5.19	30
		2440	19	3.57	2.07	5.64	
		2480	39	3.52	2.07	5.59	
	255	2402	0	4.57	0.70	5.27	
		2440	19	4.79	0.70	5.49	
		2480	39	4.74	0.70	5.44	
2M	37	2402	0	0.23	4.86	5.09	
		2440	19	0.62	4.86	5.48	
		2480	39	0.50	4.86	5.36	
	255	2402	0	1.44	3.67	5.11	
		2440	19	1.67	3.67	5.34	
		2480	39	1.61	3.67	5.28	
125k	37	2402	0	3.06	2.08	5.14	
		2440	19	3.32	2.08	5.40	
		2480	39	3.29	2.08	5.37	
	255	2402	0	4.41	0.70	5.11	
		2440	19	4.78	0.70	5.48	
		2480	39	4.73	0.70	5.43	
500k	37	2402	0	1.60	3.69	5.29	
		2440	19	1.72	3.69	5.41	
		2480	39	2.03	3.69	5.72	
	255	2402	0	1.62	3.42	5.04	
		2440	19	2.24	3.42	5.66	
		2480	39	2.08	3.42	5.50	

9.4 POWER SPECTRAL DENSITY

Frequency (MHz)	Channel No.	Mode	Test Result	
			Measured PSD (dBm/kHz)	Limit
2402	0	1M Bit/s 37 Byte	0.545	8 dBm / 3 kHz
2440	19		0.997	
2480	39		0.962	
2402	0	1M Bit/s 255 Byte	1.542	
2440	19		1.749	
2480	39		1.701	
2402	0	2M Bit/s 37 Byte	-2.131	
2440	19		-1.737	
2480	39		-1.747	
2402	0	2M Bit/s 255 Byte	-1.719	
2440	19		-1.388	
2480	39		-1.349	
2402	0	125k Bit/s 37 Byte	1.731	
2440	19		2.151	
2480	39		2.096	
2402	0	125k Bit/s 255 Byte	1.721	
2440	19		2.147	
2480	39		2.103	
2402	0	500k Bit/s 37 Byte	2.800	
2440	19		3.106	
2480	39		3.099	
2402	0	500k Bit/s 255 Byte	4.299	
2440	19		4.462	
2480	39		4.708	

Note :

1. Spectrum measured Value not plot data.
   The PSD results in plot is already including the actual values of loss for the attenuator and cable combination.
2. Worst case test plot was attached. (Worstcase : 500k Bit/s 255 Byte)

▣ 500k Bit/s (255 Byte) Test Plots

Power Spectral Density (Low-CH 0)

Power Spectral Density (Mid-CH 19)

Power Spectral Density (High-CH 39)

9.5 BAND EDGE/ CONDUCTED SPURIOUS EMISSIONS

Test Result : please refer to the plot below.
In order to simplify the report, attached plots were only the worst case channel and data rate.

[BAND EDGE]

Frequency (MHz)	Mode	Channel No.	Position	Test Result	
				Measured Level (dB)	Limit (dBc)
2402	1M Bit/s 37 Byte	0	Lower	56.279	20
2480		39	Upper	59.595	20
2402	1M Bit/s 255 Byte	0	Lower	57.529	20
2480		39	Upper	60.300	20
2402	2M Bit/s 37 Byte	0	Lower	31.853	20
2480		39	Upper	60.170	20
2402	2M Bit/s 255 Byte	0	Lower	31.518	20
2480		39	Upper	59.802	20
2402	125k Bit/s 37 Byte	0	Lower	56.780	20
2480		39	Upper	57.620	20
2402	125k Bit/s 255 Byte	0	Lower	56.230	20
2480		39	Upper	60.442	20
2402	500k Bit/s 37 Byte	0	Lower	56.684	20
2480		39	Upper	59.572	20
2402	500k Bit/s 255 Byte	0	Lower	58.260	20
2480		39	Upper	59.856	20

Note :

1. In order to simplify the report, attached plots were only the worst case channel and data rate.
   [Lower: Worst case : 2M Bit/s (255 Byte)]
   [Upper: Worst case : 125k Bit/s (37 Byte)]

[CONDUCTED SPURIOUS EMISSIONS]

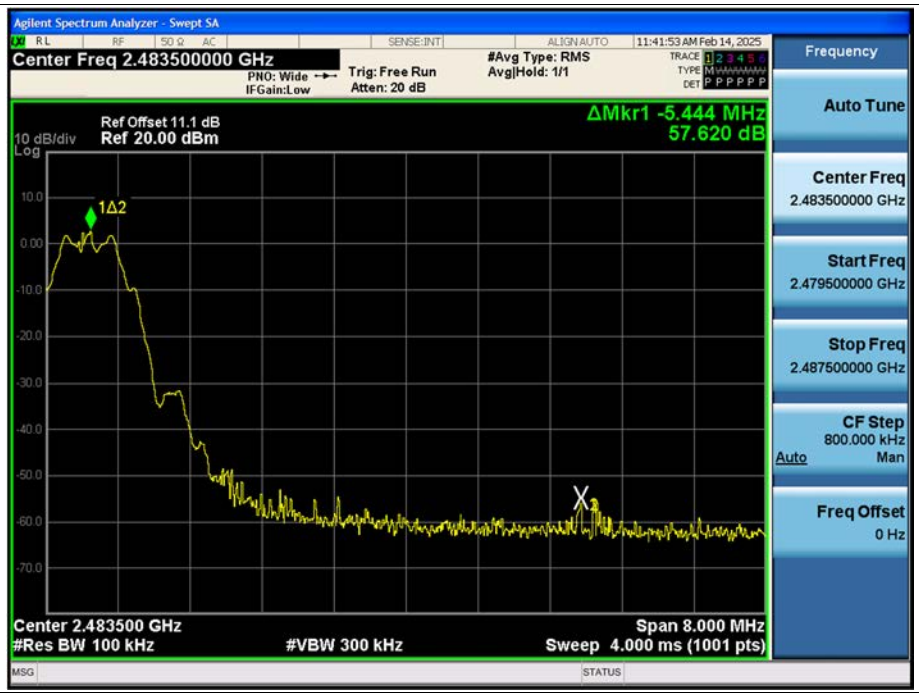
Note :

1. In order to simplify the report, attached plots were only the worst case channel and data rate.
   Worst case 2M Bit/s (37 Byte)

▣ Test Plots - Band Edge

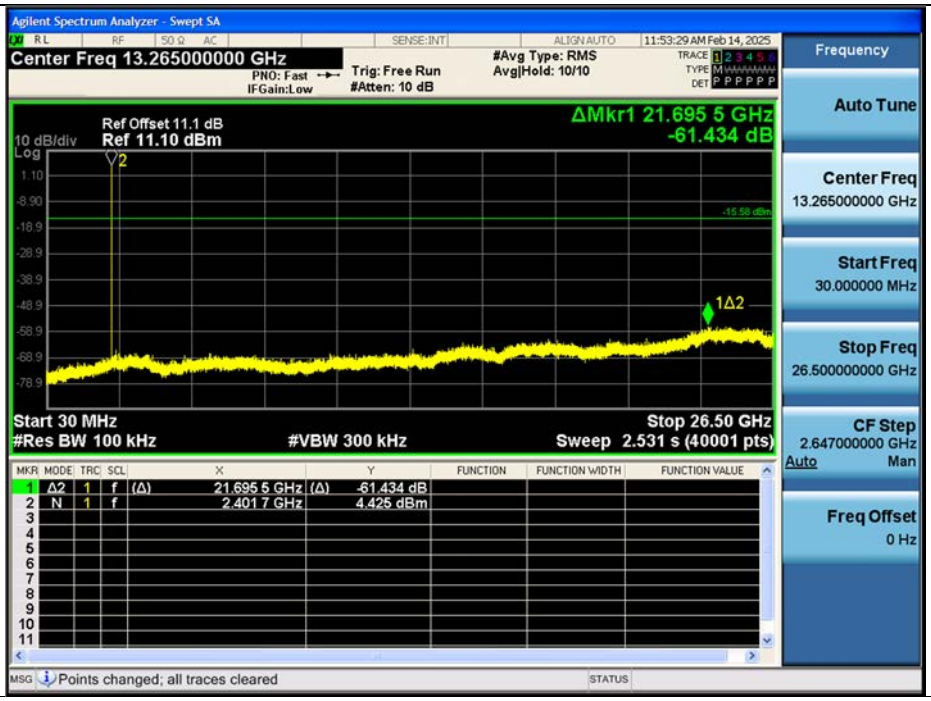
2M Bit/s (255 Byte) Low-CH 0

125k Bit/s (37 Byte) High-CH 39



▣ **Test Plots - Conducted Spurious Emission** (Worst case : 500k Bit/s (255 Byte)_CH.0)

Spurious Emission (30 MHz – 26.5 GHz)



Note:

1. In order to simplify the report, attached plots were only the worst case channel and data rate.
2. Limit: -15.80 dBm

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	42.59	4.46	V	47.05	73.98	26.93	PK
4804	30.89	4.46	V	35.35	53.98	18.63	AV
7206	38.92	13.27	V	52.19	73.98	21.79	PK
7206	26.55	13.27	V	39.82	53.98	14.16	AV
4804	43.53	4.46	H	47.99	73.98	25.99	PK
4804	31.82	4.46	H	36.28	53.98	17.70	AV
7206	39.15	13.27	H	52.42	73.98	21.56	PK
7206	28.58	13.27	H	41.85	53.98	12.13	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	44.31	4.44	V	48.75	73.98	25.23	PK
4880	32.29	4.44	V	36.73	53.98	17.25	AV
7320	38.77	12.28	V	51.05	73.98	22.93	PK
7320	27.52	12.28	V	39.80	53.98	14.18	AV
4880	44.36	4.44	H	48.80	73.98	25.18	PK
4880	32.36	4.44	H	36.80	53.98	17.18	AV
7320	38.24	12.28	H	50.52	73.98	23.46	PK
7320	27.23	12.28	H	39.51	53.98	14.47	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	45.26	5.52	V	50.78	73.98	23.20	PK
4960	34.05	5.52	V	39.57	53.98	14.41	AV
7440	39.45	12.66	V	52.11	73.98	21.87	PK
7440	26.04	12.66	V	38.70	53.98	15.28	AV
4960	46.42	5.52	H	51.94	73.98	22.04	PK
4960	34.55	5.52	H	40.07	53.98	13.91	AV
7440	39.94	12.66	H	52.60	73.98	21.38	PK
7440	27.69	12.66	H	40.35	53.98	13.63	AV

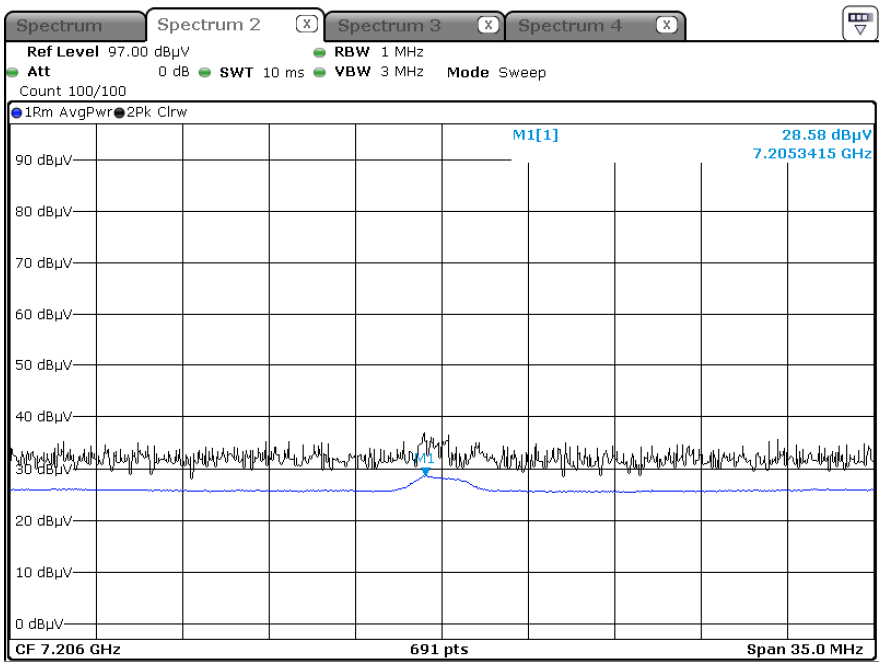
CH 0	2402	MHz	Mode :		2 M Bit/s (37 Bytes)		
Frequency	Measured value	A.F+C.L-A.G+D.F	Pol.	Total	Limit	Margin	Measurement Type
[MHz]	[dBµV]	[dB/m]	[H/V]	[dBµV/m]	[dBµV/m]	[dB]	
4804	42.58	4.46	V	47.04	73.98	26.94	PK
4804	30.34	4.46	V	34.80	53.98	19.18	AV
7206	36.79	13.27	V	50.06	73.98	23.92	PK
7206	26.24	13.27	V	39.51	53.98	14.47	AV
4804	43.08	4.46	H	47.54	73.98	26.44	PK
4804	30.95	4.46	H	35.41	53.98	18.57	AV
7206	38.24	13.27	H	51.51	73.98	22.47	PK
7206	26.33	13.27	H	39.60	53.98	14.38	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	44.43	4.44	V	48.87	73.98	25.11	PK
4880	32.11	4.44	V	36.55	53.98	17.43	AV
7320	39.51	12.28	V	51.79	73.98	22.19	PK
7320	27.19	12.28	V	39.47	53.98	14.51	AV
4880	44.08	4.44	H	48.52	73.98	25.46	PK
4880	32.04	4.44	H	36.48	53.98	17.50	AV
7320	38.62	12.28	H	50.90	73.98	23.08	PK
7320	27.11	12.28	H	39.39	53.98	14.59	AV

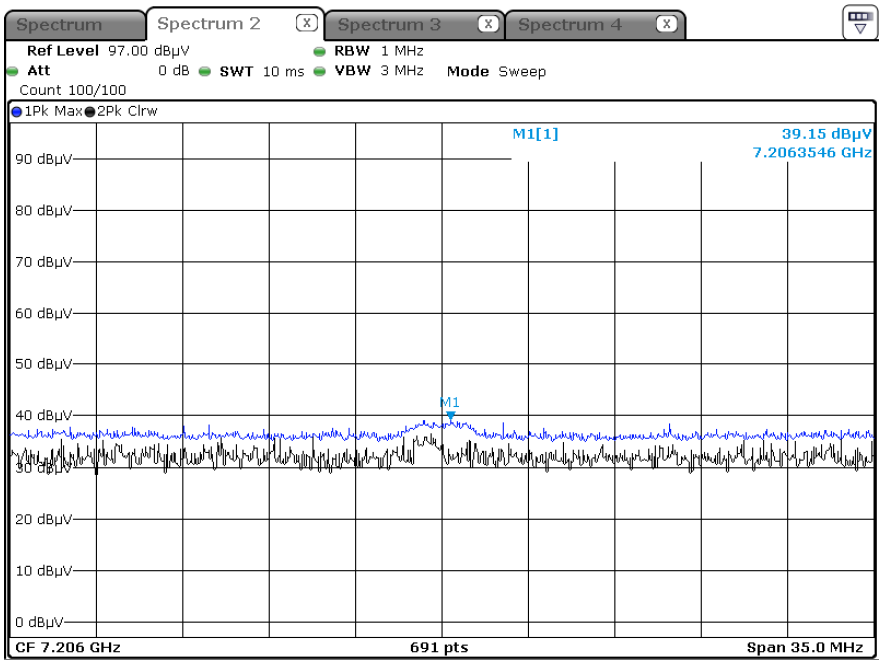
CH 39	2480	MHz	Mode :		2 M Bit/s (37 Bytes)		
Frequency	Measured value	A.F+C.L-A.G+D.F	Pol.	Total	Limit	Margin	Measurement Type
[MHz]	[dBµV]	[dB/m]	[H/V]	[dBµV/m]	[dBµV/m]	[dB]	
4960	43.27	5.52	V	48.79	73.98	25.19	PK
4960	30.98	5.52	V	36.50	53.98	17.48	AV
7440	38.95	12.66	V	51.61	73.98	22.37	PK
7440	26.87	12.66	V	39.53	53.98	14.45	AV
4960	44.07	5.52	H	49.59	73.98	24.39	PK
4960	31.42	5.52	H	36.94	53.98	17.04	AV
7440	39.67	12.66	H	52.33	73.98	21.65	PK
7440	27.76	12.66	H	40.42	53.98	13.56	AV

▣ 1 M Bit/s 37 Bytes Test Plots (Worst case : Y-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.

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	54.86	2.58	H	57.44	73.98	16.54	PK
2390.0	36.92	2.58	H	39.50	53.98	14.48	AV
2483.5	54.16	3.36	H	57.52	73.98	16.46	PK
2483.5	36.81	3.36	H	40.17	53.98	13.81	AV

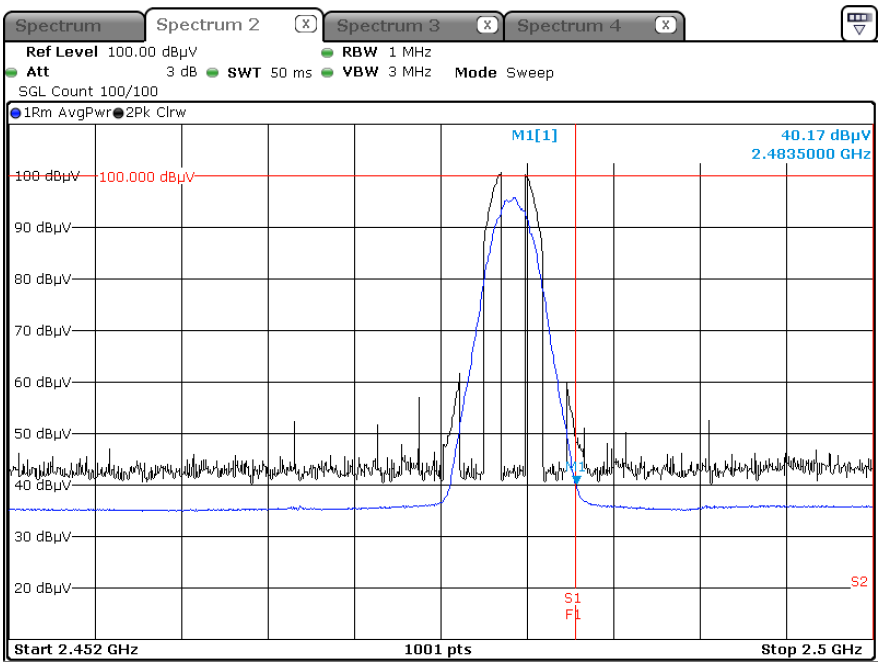
1 M Bit/s (255 Bytes)							
Channel	**0 CH, 39 CH**	**Channel Frequency**	**2402 MHz, 2480 MHz**				
Frequency	Measured Value	A.F+C.L-A.G +ATT+D.F	Ant. Pol.	Total	Limit	Margin	Measurement Type
[MHz]	[dBµV]	[dB/m]	[H/V]	[dBµV/m]	[dBµV/m]	[dB]	
2390.0	55.15	2.58	H	57.73	73.98	16.25	PK
2390.0	36.27	2.58	H	38.85	53.98	15.13	AV
2483.5	54.22	3.36	H	57.58	73.98	16.40	PK
2483.5	37.06	3.36	H	40.42	53.98	13.56	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	55.78	2.58	H	58.36	73.98	15.62	PK
2390.0	37.69	2.58	H	40.27	53.98	13.71	AV
2483.5	54.24	3.36	H	57.60	73.98	16.38	PK
2483.5	39.46	3.36	H	42.82	53.98	11.16	AV

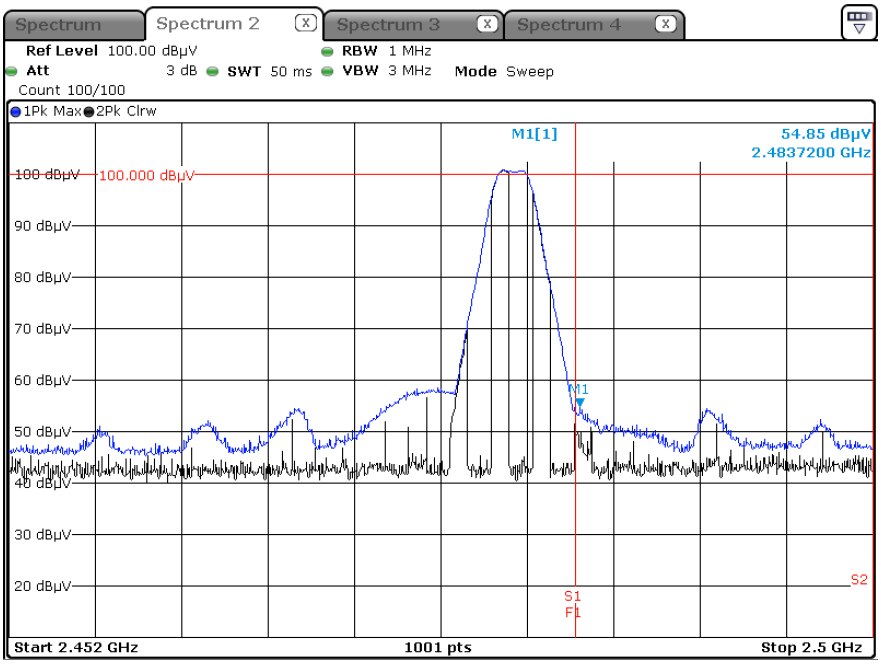
2 M Bit/s (255 Bytes)							
Channel	**0 CH, 39 CH**	**Channel Frequency**	**2402 MHz, 2480 MHz**				
Frequency	Measured Value	A.F+C.L-A.G +ATT+D.F	Ant. Pol.	Total	Limit	Margin	Measurement Type
[MHz]	[dBµV]	[dB/m]	[H/V]	[dBµV/m]	[dBµV/m]	[dB]	
2390.0	55.65	2.58	H	58.23	73.98	15.75	PK
2390.0	36.23	2.58	H	38.81	53.98	15.17	AV
2483.5	54.85	3.36	H	58.21	73.98	15.77	PK
2483.5	40.17	3.36	H	43.53	53.98	10.45	AV

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

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



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



Note:

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

9.8 POWERLINE CONDUCTED EMISSIONS

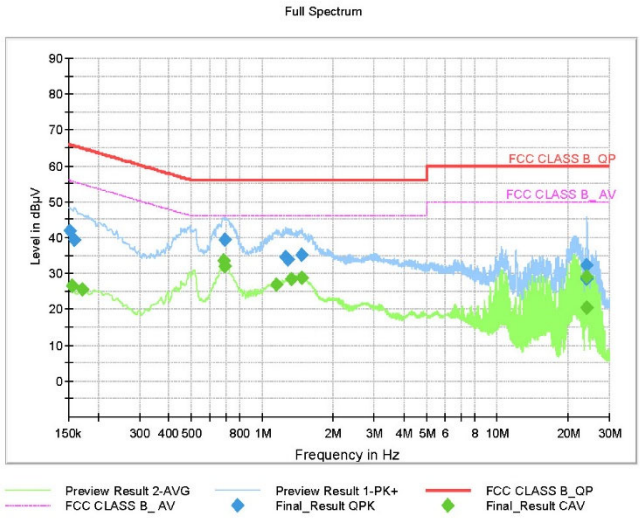
Conducted Emissions

Test 1 / 1

Test Report

Common Information

EUT : EBR23709201
Operating Conditions : BT LE
Comment :



Final_Result_QPK

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Bandwidth (kHz)	Line	Corr. (dB)
0.1523	41.94	65.88	23.93	9.000	N	9.6
0.1590	39.44	65.52	26.08	9.000	N	9.6
0.6935	39.29	56.00	16.71	9.000	N	9.6
1.2538	34.57	56.00	21.43	9.000	L1	9.7
1.2875	33.92	56.00	22.08	9.000	N	9.7
1.4698	35.23	56.00	20.77	9.000	N	9.7
23.9135	32.25	60.00	27.75	9.000	L1	10.5
23.9653	28.42	60.00	31.58	9.000	L1	10.5
24.0148	28.73	60.00	31.27	9.000	L1	10.5

Final_Result_CAV

Frequency (MHz)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Bandwidth (kHz)	Line	Corr. (dB)
0.1545	26.49	55.75	29.26	9.000	N	9.6
0.1725	25.70	54.84	29.14	9.000	N	9.6
0.6823	33.44	46.00	12.56	9.000	N	9.6
0.6935	31.98	46.00	14.02	9.000	N	9.6
1.1525	26.77	46.00	19.23	9.000	N	9.7
1.3280	28.44	46.00	17.56	9.000	N	9.7
1.4698	28.71	46.00	17.29	9.000	N	9.7
23.8978	20.41	50.00	29.59	9.000	L1	10.5
23.9180	29.19	50.00	20.81	9.000	L1	10.5

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10. LIST OF TEST EQUIPMENT

Conducted Test

Equipment	Model	Manufacturer	Serial No.	Due to Calibration	Calibration Interval
LISN	ENV216	Rohde & Schwarz	102245	07/17/2025	Annual
EMI Test Receiver	ESR	Rohde & Schwarz	101910	07/02/2025	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	02/28/2025	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	04/17/2025	Annual
DC Power Supply	E3632A	H.P	KR75303243	04/19/2025	Annual
DAttenuator(10 dB)	8493C	Hewlett Packard	07560	06/05/2025	Annual
Software	EMC32	Rohde & Schwarz	N/A	N/A	N/A
FCC WLAN&BT&BLE Conducted Test Software v3.0	N/A	HCT CO., LTD.	N/A	N/A	N/A

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)	CO3000	Innco system	CO3000-4p	N/A	N/A
Antenna Position Tower	MA4640/800-XP-EP	Innco system	N/A	N/A	N/A
Controller	EM1000	Audix	060520	N/A	N/A
Turn Table	N/A	Audix	N/A	N/A	N/A
Loop Antenna	FMZB 1513	Rohde & Schwarz	1513-333	03/07/2026	Biennial
Hybrid Antenna	VULB 9168	Schwarzbeck	760	02/24/2025	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	02/22/2025	Annual
Signal Analyzer	N9030A	Agilent	MY49431210	12/12/2025	Annual
Band Reject Filter	WRCJV12-4900-5100-5900-6100-50SS	Wainwright Instruments	5	06/04/2025	Annual
Band Reject Filter	WRCJV12-4900-5100-5900-6100-50SS	Wainwright Instruments	6	06/04/2025	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	01/09/2027	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	02/26/2025	Annual

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-2502-FC059-P