TEST REPORT

FCC DTS ax Test for LGSWNAX61
Certification

APPLICANT
LG Electronics Inc.

REPORT NO.
HCT-RF-2509-FC005

DATE OF ISSUE
September 3, 2025

Tested by
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Accredited by KOLAS, Republic of KOREA

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HCT-RF-2509-FC005

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September 03, 2025

Applicant	LG Electronics Inc. 222, LG-ro, Jinwi-myeon, Pyeongtaek-si, Gyeonggi-do 17709, Republic of Korea
Product Name Model Name	RF Module LGSWNAX61
FCC ID	2BO3LLGSWNAX61
Date of Test	July 21, 2025 ~ August 29, 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)
Brand	LG

REVISION HISTORY

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

Revision No.	Date of Issue	Description
0	September 03, 2025	Initial Release

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	LGSWNAX61		
Additional Model	-		
EUT Type	RF Module		
Power Supply	DC 3.30 V		
Frequency Range	2 412 MHz ~ 2 472 MHz		
Max. RF Output Power	Peak Power	SISO(Ant.1)	23.05 dBm
		SISO(Ant.2)	23.39 dBm
		MIMO_CDD(Ant.1+ Ant.2)	26.24 dBm
	Average Power	SISO(Ant.1)	13.79 dBm
		SISO(Ant.2)	14.15 dBm
		MIMO_CDD(Ant.1+ Ant.2)	16.98 dBm
Modulation Type	OFDM, OFDMA		
Number of Channels	13 Channels		
Antenna Specification	Type: Metal Press		
Serial number	Conducted : 6C15DB1726F0 Radiated : 0827A8A35F68		

ANTENNA CONFIGURATIONS

1. Antenna configuration

Configurations	SISO		MIMO	
	ANT.1	ANT.2	CDD	SDM
802.11ax(HE20)	O	O	O	O

Note:

(1) O = Support, X = Not Support

(2) SISO = Single Input Single Output

(3) SDM = Spatial Diversity Multiplexing

(4) CDD = Cyclic Delay Diversity

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

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

3. Directional Gain Calculation

According to KDB 662911 D01 Multiple Transmitter Output v02r01 F) 2) e) (iii), f) ii)

$$\text{Directional Gain(CDD)} = \mathbf{10} \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\{\sum_{k=1}^{N_{ANT}} g_{j,k}\}^2}{N_{ANT}}\right]$$

Directional gain(SDM) = Gmax + 10·LOG(N_{ANT}/ N_{ss})

Ant Gain (dBi)		N_{ANT}/ N_{ss}	Directional Gain (dBi)	
			CDD	SDM
ANT.1	0.49	2/2	3.60	0.69
ANT.2	0.69			

Note

According to to ANSI C63.10-2020 section 14.6.3, the directional gain is calculated using the formula, where G_N is the gain of the nth antenna and N_{ANT} is the total number of antennas used.

Directional gain(CDD) = 10·log(((10$^{(ANT.0\ Gain/20)}$+10$^{(ANT.1\ Gain/20)}$)^2)/2) dBi

Directional gain(SDM) = Gmax + 10·log(N_{ANT}/ N_{ss})

Sample MIMO Calculation:

Ex) ANT.1 : 11.58 dBm ANT.2 : 12.08 dBm

MIMO = ANT.1 + ANT.2

(11.58 dBm + 12.08 dBm) = (14.387 mW + 16.143 mW) = 30.53 mW = 14.88 dBm

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 : 2020) '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 : 2020) Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30 MHz using CISPR Quasi-peak and average detector modes.

Radiated Emissions

According to the requirements in Section 6.3 ~ Section 6.6 of ANSI C63.10. (Version: 2020),
The EUT is placed on a turn table, which is 0.8 m above ground plane below 1 GHz. Above 1 GHz with 1.5 m using absorbers between the EUT and receive antenna. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3 m away from the receiving antenna, which varied from 1 m to 4 m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the max. emission, the relative positions of this hand-held transmitter (EUT) was rotated through three orthogonal axes.

DESCRIPTION OF TEST MODES

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

3. INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment's, which is traceable to recognized national standards.
Especially, all antenna for measurement is calibrated in accordance with the requirements of 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 C63.10-2020.

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

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

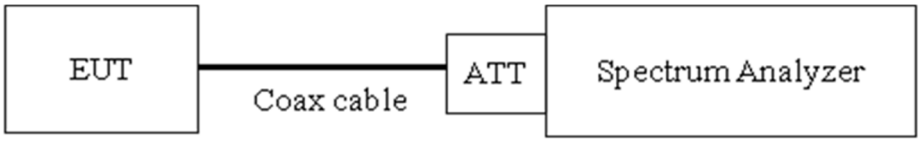
Parameter	Expanded Uncertainty (±kHz)
X dB, 99% Bandwidth	95 (Confidence level about 95 %, *k*=2)
Frequency stability	28 (Confidence level about 95 %, *k*=2)

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

Test Standard Used : Section 11.6 in ANSI C63.10-2020

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*.

The transmitter output is connected to the Spectrum Analyzer.
The Spectrum Analyzer is set to

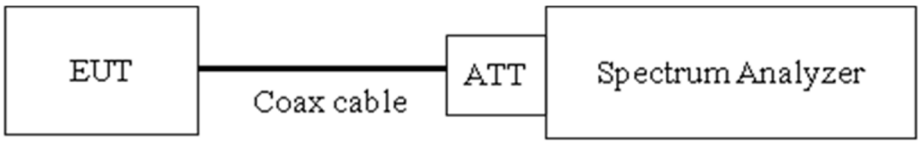
1. RBW = 8 MHz (the largest available value)
2. VBW = 8 MHz (≥ RBW)
3. SPAN = 0 Hz
4. Detector = Peak
5. Number of points in sweep > 100
6. Trace mode = Clear write
7. Measure T_{total} and T_{on}
8. Calculate Duty Cycle = T_{on} / T_{total} and Duty Cycle Factor = 10log(1/Duty Cycle)

7.2. 6 dB Bandwidth

Limit

The minimum permissible 6 dB bandwidth is 500 kHz.

Test Configuration



Test Procedure

Test Standard Used : Section 11.8 in ANSI C63.10-2020

The transmitter output is connected to the Spectrum Analyzer.
The Spectrum Analyzer is set to

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

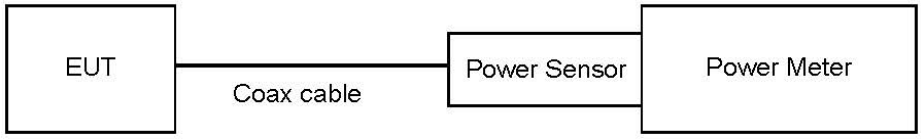
Note : We tested OBW using the automatic bandwidth measurement capability of a spectrum analyzer.

7.3. Output Power

Limit

The maximum permissible conducted output power is 1 Watt.

Test Configuration



Test Procedure

Test Standard Used(Peak) : Section 11.9.1.2 in ANSI C63.10-2020

Test Standard Used(Average) : Section 11.9.2.3 in ANSI C63.10-2020

The transmitter output is connected to the Power Meter.

▪ Peak Power

: Measure the peak power of the transmitter.

▪ Average Power

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

Sample Calculation

▪ Conducted Output Power(Peak) = Measured Value + ATT loss + Cable loss

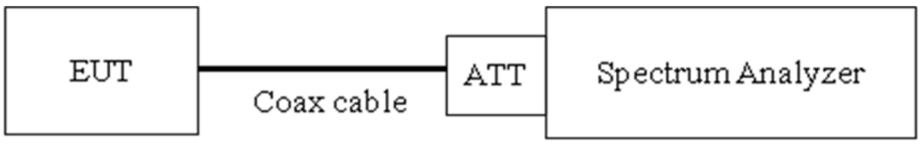
▪ Conducted Output Power(Average) = Measured Value + ATT loss + Cable loss + Duty Cycle Factor

7.4. Power Spectral Density

Limit

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

Test Configuration



Test Procedure

Test Standard Used : Section 11.10 in ANSI C63.10-2020

The transmitter output is connected to the Spectrum Analyzer.
The spectrum analyzer is set to :

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

Sample Calculation

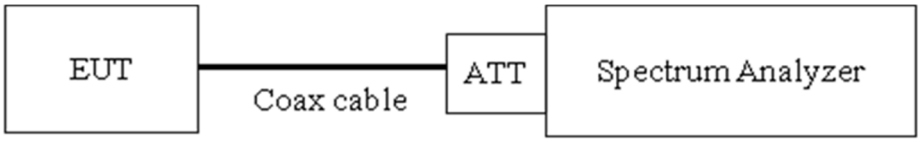
▪ Power Spectral Density = Measured Value + ATT loss + Cable loss

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

Limit

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

Test Configuration



Test Procedure

Test Standard Used : Section 11.11 in ANSI C63.10-2020

The transmitter output is connected to the spectrum analyzer.
The spectrum analyzer is set to :

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 = No faster than coupled (auto) time.
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

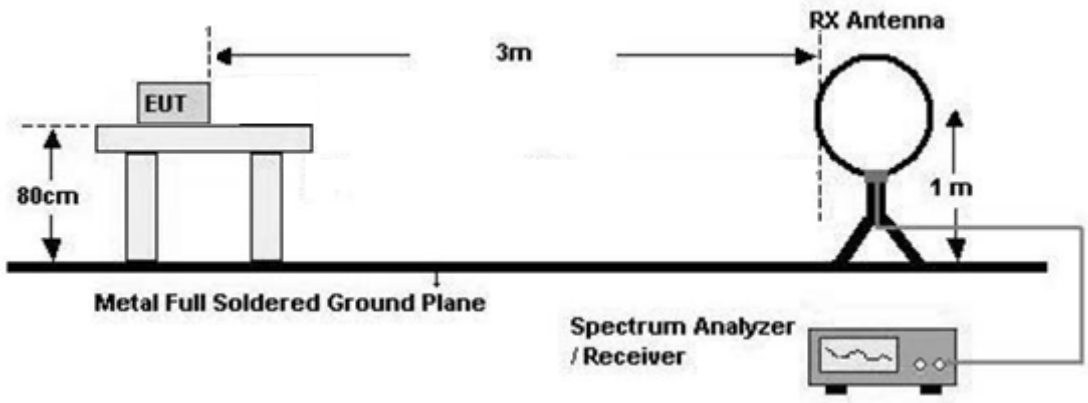
7.6. Radiated Test

Limit

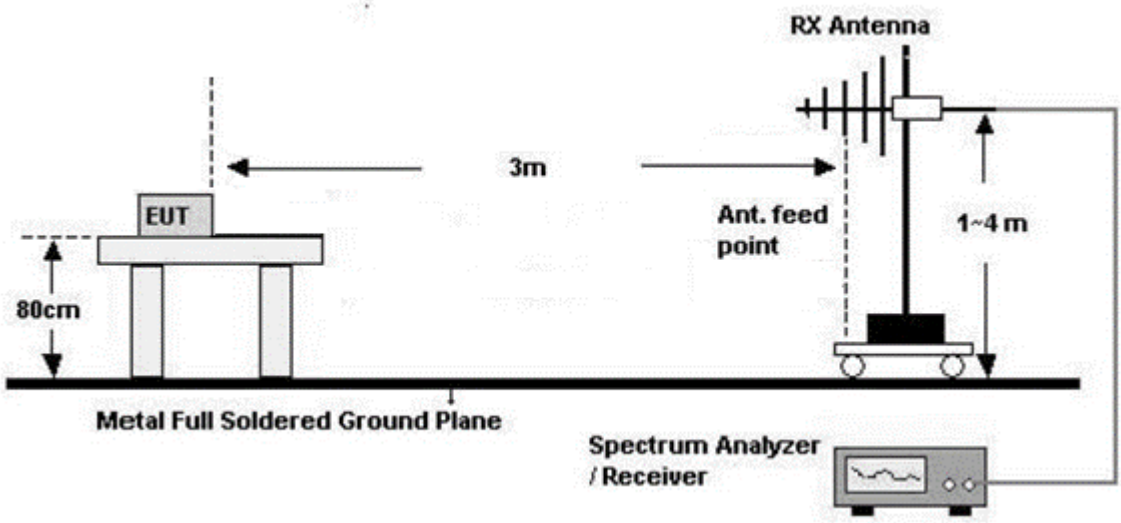
Frequency (MHz)	Field Strength (μV/m)	Measurement Distance (m)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Test Configuration

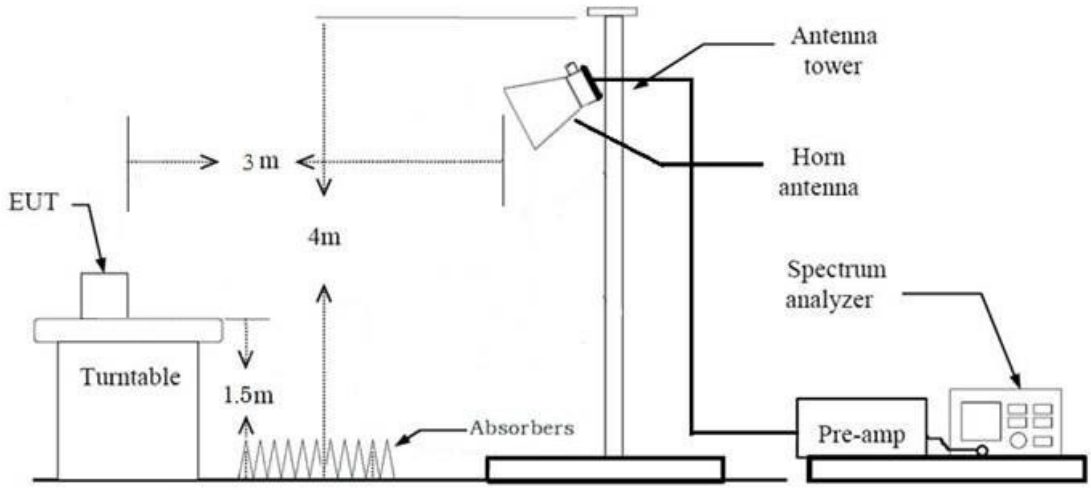
Below 30 MHz



30 MHz - 1 GHz



Above 1 GHz



Test Procedure of Radiated spurious emissions (Below 30 MHz)

Test Standard Used : Section 6.4 in ANSI C63.10-2020

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 C63.10-2020

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 1 m 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 C63.10-2020

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 : 1 GHz – 25 GHz
      - Detector = Peak
      - Trace = Maxhold
      - RBW = 1 MHz
      - VBW ≥ 3 x RBW
   (2) Measurement Type(Average): Duty cycle ≥ 98 %
      - 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).
   (3) 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 % 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)
= Measured value + Antenna Factor(A.F) + Cable Loss(C.L) - Amp Gain(A.G) + Distance Factor(D.F)
Total(Measurement Type : Average, Duty cycle ≥ 98 %)
= Measured value + Antenna Factor(A.F) + Cable Loss(C.L) - Amp Gain(A.G) + Distance Factor(D.F)
Total(Measurement Type : Average, Duty cycle < 98 %)
= Measured value + Antenna Factor(A.F) + Cable Loss(C.L) - Amp Gain(A.G) + Distance Factor(D.F) + Duty Cycle Factor

Test Procedure of Radiated Restricted Band Edge

Test Standard Used : Section 6.10 & 11.12 in ANSI C63.10-2020

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 = Maxhold
- RBW = 1 MHz
- VBW ≥ 3 x RBW

(2) Measurement Type(Average): Duty cycle ≥ 98 %
- 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).

(3) 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 % duty cycle.
- Duty Cycle Factor (dB) : Please refer to the please refer to section 9.1.

(4) Measurement Type(Average, Integration Method): Duty cycle ≥ 98 %

- Measured Frequency Range : 2310 MHz ~ 2390 MHz/ 2483.5 MHz ~ 2500 MHz
- Detector = RMS
- Averaging type = power (*i.e.*, RMS)
- RBW = 100 kHz
- VBW ≥ 3 x RBW
- Sweep time = auto.
- Trace mode = average (at least 100 traces).
- Compute the power by integrating the spectrum over 1 MHz using the analyzer's band-power measurement function with band limits set equal to the emission frequency ($f_{emission}$) ± 0.5 MHz. If the instrument does not have a band-power function, then sum the amplitude levels (in power units) at 100 kHz intervals extending across the 1 MHz spectrum defined by $f_{emission}$ ± 0.5 MHz

(5) Measurement Type(Average, Integration Method): 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 = 100 kHz
- VBW ≥ 3 x RBW
- Sweep time = auto.
- Trace mode = average (at least 100 traces).
- Compute the power by integrating the spectrum over 1 MHz using the analyzer's band-power measurement function with band limits set equal to the emission frequency ($f_{emission}$) ± 0.5 MHz. If the instrument does not have a band-power function, then sum the amplitude levels (in power units) at 100 kHz intervals extending across the 1 MHz spectrum defined by $f_{emission}$ ± 0.5 MHz.
- Correction factor shall be added to the measurement results prior to comparing to the emission limit in order to compute the emission level that would have been measured had the test been performed at 100 % duty cycle.
- Duty Cycle Factor (dB) : Please refer to the 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
    Total(Measurement Type : Average, Duty cycle ≥ 98 %)
    = Average Measured Value
    Total(Measurement Type : Average, Duty cycle < 98 %)
    = Average Measured Value + Duty Cycle Factor
        - We apply to the offset in the range 1 GHz - 18 GHz.
        - The offset = Antenna Factor(A.F) + Cable Loss(C.L) + Distance Factor(D.F)

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

Test Standard Used : Section 6.2 in ANSI C63.10-2020

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. Test RU offset for Tones

BW (MHz)	Tones (T)	RU offset	Test RU offset		
			Low	Mid	High
20	26	0~8	0	4	8
	52	37~40	37	38	40
	106	53~54	53	-	54
	242	61	-	61	-

7.9. Worst case configuration and mode

Conducted test

1. All data rate of operation were investigated and the worst case results are reported.
   (Worst case : MCS0)
2. Band Edge (Conducted)
   : All Mode (Channel, Tones, RU Offset) of operation were investigated and the worst case configuration results are reported.

Tones	Channel	RU Index
26	1, 11, 12, 13	0, 8
52	1, 11, 12, 13	37, 40
106	1, 11, 12, 13	53, 54
242	1, 11, 12, 13	61
SU	1, 11, 12, 13	-

3. All test was performed with continuous signal.(Duty Cycle ≥ 98%)

Radiated test

1. All modes of operation were investigated and the worst case configuration results are reported.
   - Mode : Stand alone(Connector Type FFC / HW ver.1.0), Stand alone(Connector Type Harness / HW ver.1.1)
   - Worstcase : Stand alone(Connector Type FFC / HW ver.1.0)
2. All data rate of operation were investigated and the worst case results are reported.
   (Worst case : MCS 0)
3. All Antenna of operation were investigated and the worst case results are reported
   - Antenna Operation Type : SISO, MIMO_CDD(Ant.1+Ant.2), MIMO_SDM(Ant.1+Ant.2)
   - Worst case: MIMO_CDD(Ant.1+Ant.2)
4. EUT Axis
   - Radiated Spurious Emissions : Y
   - Radiated Restricted Band Edge : X
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. All mode(Tone, RU Offset) of operation were investigated and the worst case configuration results are reported
7. All test was performed with continuous signal.(Duty Cycle ≥ 98%)

[RSE Worst case]

BW (MHz)	Test	Tones (T)	Offset
20	RSE	26	4
		242	61

[Bandedge Worst case]

BW (MHz)	Test	Tones (T)	Offset	
			Lower	Upper
20	Band Edge	26	0	8
		52	37	40
		106	53	54
		242	61	61
		SU	-	-

Radiated test(Simultaneous transmission Scenario)

1. Please refer to the [DTS], [BT LE], [UNII]Test Report.

AC Power line Conducted Emissions

1. Please refer to the [DTS] 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. Please refer to the [DTS] Test Report.
2. The decision rule applies 'simple acceptance'

9. TEST RESULT

9.1 DUTY CYCLE

Mode	Worst Data rate	T_{on} (ms)	T_{total} (ms)	Duty Cycle	Duty Cycle Factor (dB)
802.11ax	MCS0	-	-	-	-

Note:

1. Duty Cycle Factor = 10Xlog(1/Duty Cycle). where, Duty Cycle = T_{on} / T_{total}
2. Test was performed with continuous Tx.

9.2 6 dB BANDWIDTH / 99% Occupied Bandwidth

Limit : > 500 kHz

[ANT.1]

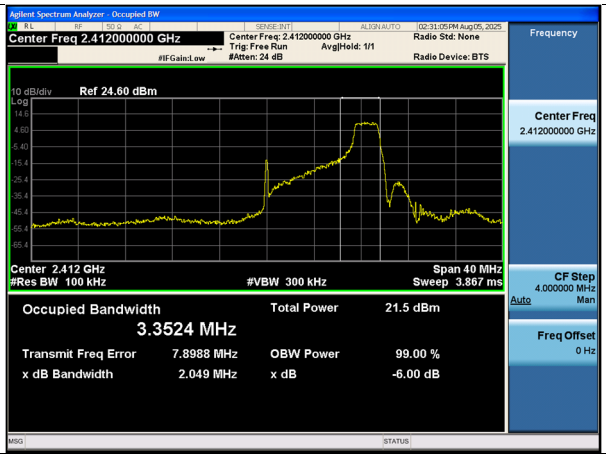
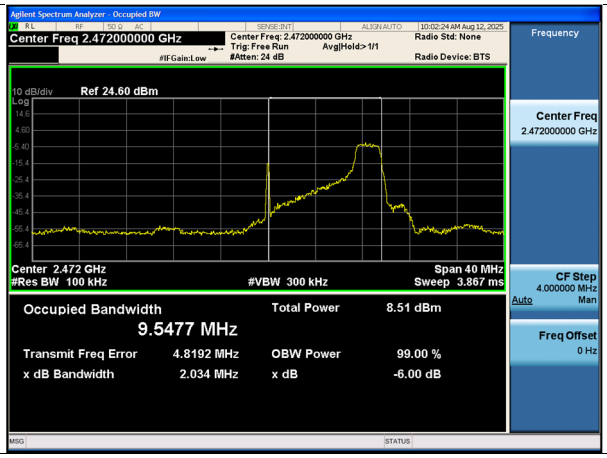
Mode	Freq. [MHz]	CH.	6dB Bandwidth [MHz]			99% Occupied Bandwidth [MHz]		
			RU Index : Low	RU Index : Mid	RU Index : High	RU Index : Low	RU Index : Mid	RU Index : High
			ANT2	ANT2	ANT2	ANT2	ANT2	ANT2
HE20 26T	2412	1	2.083	2.574	2.049	3.473	4.018	3.352
	2437	6	2.099	2.668	2.122	3.035	3.442	3.024
	2462	11	2.062	2.654	2.076	3.036	3.436	2.991
	2467	12	2.063	2.583	2.056	3.299	4.122	3.265
	2472	13	2.074	2.588	2.086	3.289	3.938	3.360
HE20 52T	2412	1	4.179	4.177	4.159	5.375	5.701	5.388
	2437	6	4.149	4.167	4.216	4.860	5.028	4.841
	2462	11	4.158	4.204	4.159	4.929	4.949	4.966
	2467	12	4.173	4.144	4.145	5.315	5.791	5.351
	2472	13	4.191	4.194	4.131	5.305	5.821	5.330
HE20 106T	2412	1	8.322	-	8.347	8.459	-	8.476
	2437	6	8.399	-	8.275	8.591	-	8.595
	2462	11	8.404	-	8.446	8.569	-	8.599
	2467	12	8.380	-	8.309	8.450	-	8.419
	2472	13	8.297	-	8.326	8.488	-	8.419
HE20 242T	2412	1	-	18.81	-	-	18.786	-
	2437	6	-	18.92	-	-	18.948	-
	2462	11	-	18.89	-	-	18.923	-
	2467	12	-	18.84	-	-	18.756	-
	2472	13	-	18.91	-	-	18.796	-
HE20 SU	2412	1	-	18.86	-	-	18.804	-
	2437	6	-	18.89	-	-	19.014	-
	2462	11	-	18.90	-	-	18.980	-
	2467	12	-	18.90	-	-	18.793	-
	2472	13	-	18.76	-	-	18.765	-

[ANT.2]

Mode	Freq. [MHz]	CH.	6dB Bandwidth [MHz]			99% Occupied Bandwidth [MHz]		
			RU Index : Low	RU Index : Mid	RU Index : High	RU Index : Low	RU Index : Mid	RU Index : High
			ANT2	ANT2	ANT2	ANT2	ANT2	ANT2
HE20 26T	2412	1	2.054	2.651	2.062	9.555	3.975	9.571
	2437	6	2.095	2.643	2.122	9.851	3.402	9.911
	2462	11	2.080	2.624	2.085	9.881	3.405	9.914
	2467	12	2.066	2.593	2.099	9.552	4.079	9.537
	2472	13	2.066	2.610	2.034	9.558	4.193	9.548
HE20 52T	2412	1	4.116	4.152	4.167	9.484	6.004	9.528
	2437	6	4.202	4.152	4.151	9.715	5.784	6.126
	2462	11	4.263	4.119	4.229	7.466	5.703	7.866
	2467	12	4.183	4.169	4.138	8.170	6.079	7.545
	2472	13	4.196	4.171	4.144	9.494	6.061	9.248
HE20 106T	2412	1	8.328	-	8.303	9.493	-	9.510
	2437	6	8.442	-	8.409	9.659	-	9.618
	2462	11	8.393	-	8.315	9.662	-	9.623
	2467	12	8.323	-	8.308	9.446	-	9.253
	2472	13	8.296	-	8.261	9.523	-	9.481
HE20 242T	2412	1	-	18.77	-	-	18.780	-
	2437	6	-	18.96	-	-	18.930	-
	2462	11	-	18.90	-	-	18.941	-
	2467	12	-	18.89	-	-	18.774	-
	2472	13	-	18.82	-	-	18.777	-
HE20 SU	2412	1	-	18.75	-	-	18.787	-
	2437	6	-	18.98	-	-	19.000	-
	2462	11	-	18.86	-	-	18.999	-
	2467	12	-	18.81	-	-	18.785	-
	2472	13	-	18.69	-	-	18.771	-

☑ Test Plots

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

ANT.1	ANT.2
BW20M CH1 - 26Tones RU 8	BW20M CH13 - 26Tones RU 8
	

9.3 OUTPUT POWER

Limit : 30dBm

Peak Power

Note:

1. MIMO Peak Power = 10•log((10^(Ant.1 Peak power /10))+(10^(Ant.2 Peak power /10)))

[MIMO_CDD(Ant.1+Ant.2)]

Mode	Freq. [MHz]	CH.	Total Peak Power [dBm]								
			RU Index : Low			RU Index : Mid			RU Index : High		
			ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	ANT1	ANT2	MIMO
HE20 26T	2412	1	22.84	22.67	25.77	23.05	23.39	26.24	22.67	22.99	25.84
	2437	6	22.39	22.82	25.62	22.48	23.01	25.76	22.60	22.69	25.65
	2462	11	22.29	22.71	25.51	22.69	23.21	25.97	22.66	22.83	25.76
	2467	12	19.63	20.04	22.85	20.01	20.52	23.29	20.01	20.59	23.32
	2472	13	8.83	9.35	12.11	9.55	10.13	12.86	9.43	9.80	12.63
HE20 52T	2412	1	22.90	23.15	26.04	23.00	23.26	26.15	23.03	23.12	26.09
	2437	6	22.77	22.92	25.86	22.86	22.95	25.92	22.87	22.85	25.87
	2462	11	22.74	22.82	25.79	23.01	23.21	26.12	22.96	23.19	26.09
	2467	12	19.54	20.28	22.94	19.72	20.47	23.13	20.35	20.70	23.54
	2472	13	12.44	12.27	15.37	12.24	12.62	15.44	12.66	13.00	15.85
HE20 106T	2412	1	22.90	23.07	25.99	-	-	-	22.96	23.24	26.12
	2437	6	22.55	22.78	25.68	-	-	-	22.65	22.96	25.82
	2462	11	22.42	22.92	25.69	-	-	-	22.78	23.03	25.92
	2467	12	19.87	20.08	22.99	-	-	-	20.40	20.63	23.53
	2472	13	13.12	12.30	15.74	-	-	-	13.46	12.79	16.15
HE20 242T	2412	1	-	-	-	22.46	22.78	25.63	-	-	-
	2437	6	-	-	-	22.68	22.73	25.71	-	-	-
	2462	11	-	-	-	22.67	22.91	25.80	-	-	-
	2467	12	-	-	-	19.63	20.19	22.93	-	-	-
	2472	13	-	-	-	16.71	17.27	20.01	-	-	-
HE20 SU	2412	1	-	-	-	22.57	22.94	25.77	-	-	-
	2437	6	-	-	-	22.53	22.78	25.67	-	-	-
	2462	11	-	-	-	22.55	22.79	25.68	-	-	-
	2467	12	-	-	-	19.99	20.30	23.16	-	-	-
	2472	13	-	-	-	16.88	17.44	20.18	-	-	-

Average Power

Note:

1. Ant Total Power [dBm] = Measured Power [dBm] + Duty Cycle Factor [dB]
2. MIMO Total Power = 10·log((10^(Ant.1 Total power /10))+(10^(Ant.2 Total power /10)))

[MIMO_CDD(Ant.1+Ant.2)]

Mode	Freq. [MHz]	CH.	Total Average Power [dBm]								
			RU Index : Low			RU Index : Mid			RU Index : High		
			ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	ANT1	ANT2	MIMO
HE20 26T	2412	1	13.69	13.64	16.68	13.64	14.15	16.92	13.50	13.94	16.74
	2437	6	13.32	13.72	16.54	13.52	13.91	16.73	13.46	13.70	16.59
	2462	11	13.39	13.84	16.63	13.59	13.98	16.80	13.59	13.88	16.75
	2467	12	10.41	10.92	13.69	10.78	11.19	14.00	10.83	11.37	14.12
	2472	13	-0.24	0.11	2.95	0.07	0.56	3.33	0.21	0.56	3.40
HE20 52T	2412	1	13.69	14.08	16.90	13.71	13.99	16.86	13.76	14.11	16.95
	2437	6	13.50	13.59	16.56	13.45	13.79	16.63	13.58	13.80	16.70
	2462	11	13.57	13.79	16.69	13.64	13.92	16.79	13.62	13.95	16.80
	2467	12	10.37	11.00	13.71	10.42	10.89	13.68	10.98	11.40	14.21
	2472	13	2.99	2.95	5.98	2.54	3.04	5.81	3.21	3.45	6.34
HE20 106T	2412	1	13.78	14.15	16.98	-	-	-	13.79	14.15	16.98
	2437	6	13.39	13.76	16.59	-	-	-	13.42	13.79	16.62
	2462	11	13.36	13.75	16.57	-	-	-	13.62	13.92	16.78
	2467	12	10.64	11.06	13.87	-	-	-	11.12	11.51	14.33
	2472	13	3.94	3.15	6.57	-	-	-	4.31	3.56	6.96
HE20 242T	2412	1	-	-	-	13.25	13.53	16.40	-	-	-
	2437	6	-	-	-	13.34	13.53	16.45	-	-	-
	2462	11	-	-	-	13.38	13.65	16.53	-	-	-
	2467	12	-	-	-	10.32	10.84	13.60	-	-	-
	2472	13	-	-	-	7.47	8.02	10.76	-	-	-
HE20 SU	2412	1	-	-	-	13.35	13.71	16.55	-	-	-
	2437	6	-	-	-	13.29	13.53	16.42	-	-	-
	2462	11	-	-	-	13.29	13.54	16.43	-	-	-
	2467	12	-	-	-	10.73	11.06	13.91	-	-	-
	2472	13	-	-	-	7.65	8.18	10.93	-	-	-

9.4 POWER SPECTRAL DENSITY

Limit : 8 dBm/kHz

Note :

1. MIMO Total PSD = 10•log(((10^(Ant.1 PSD /10))+(10^(Ant.2 PSD/10)))

[MIMO_CDD(Ant.1+Ant.2)]

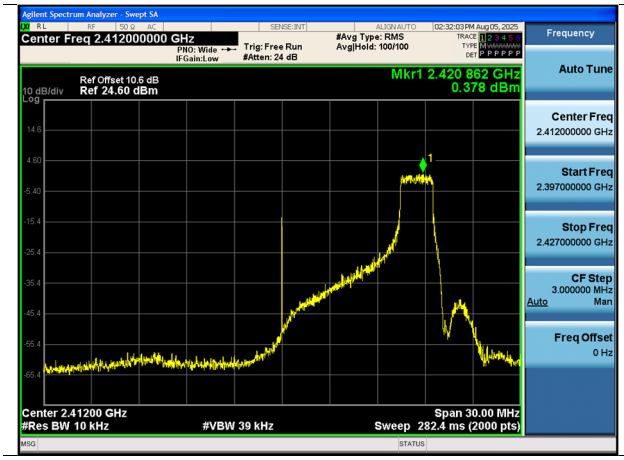
Mode	Freq. [MHz]	CH.	Total Power Spectral Density [dBm/kHz]								
			RU Index : Low			RU Index : Mid			RU Index : High		
			ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	ANT1	ANT2	MIMO
HE20 26T	2412	1	0.795	0.592	3.705	0.724	0.818	3.782	0.378	1.375	3.915
	2437	6	0.686	0.778	3.743	0.363	1.396	3.920	0.540	0.782	3.673
	2462	11	0.658	0.621	3.650	0.321	0.839	3.598	0.641	1.181	3.930
	2467	12	-2.332	-1.451	1.141	-2.315	-2.308	0.699	-2.161	-1.859	1.003
	2472	13	-13.178	-12.878	-10.015	-12.880	-12.958	-9.909	-12.403	-12.474	-9.428
HE20 52T	2412	1	-2.183	-1.327	1.276	-2.339	-1.192	1.283	-1.615	-1.233	1.590
	2437	6	-2.156	-2.207	0.829	-1.889	-1.801	1.166	-2.197	-2.193	0.815
	2462	11	-1.849	-2.233	0.974	-1.912	-1.912	1.098	-2.307	-2.017	0.851
	2467	12	-5.344	-4.402	-1.837	-5.357	-4.576	-1.939	-4.831	-4.006	-1.389
	2472	13	-12.679	-12.397	-9.525	-13.284	-12.263	-9.733	-12.543	-11.829	-9.161
HE20 106T	2412	1	-4.541	-1.314	0.376	-	-	-	-5.100	-1.357	0.173
	2437	6	-5.103	-2.558	-0.636	-	-	-	-5.241	-2.593	-0.708
	2462	11	-5.363	-2.177	-0.474	-	-	-	-5.067	-2.136	-0.348
	2467	12	-8.062	-5.120	-3.336	-	-	-	-6.812	-5.300	-2.980
	2472	13	-14.987	-10.843	-9.428	-	-	-	-14.454	-10.830	-9.264
HE20 242T	2412	1	-	-	-	-7.602	-2.302	-1.179	-	-	-
	2437	6	-	-	-	-7.676	-2.137	-1.067	-	-	-
	2462	11	-	-	-	-7.491	-1.828	-0.785	-	-	-
	2467	12	-	-	-	-10.849	-4.855	-3.881	-	-	-
	2472	13	-	-	-	-13.843	-6.174	-5.488	-	-	-
HE20 SU	2412	1	-	-	-	-7.460	-2.362	-1.192	-	-	-
	2437	6	-	-	-	-6.940	-2.079	-0.852	-	-	-
	2462	11	-	-	-	-7.552	-1.758	-0.743	-	-	-
	2467	12	-	-	-	-9.354	-4.672	-3.400	-	-	-
	2472	13	-	-	-	-13.092	-6.381	-5.541	-	-	-

☑ Test Plots

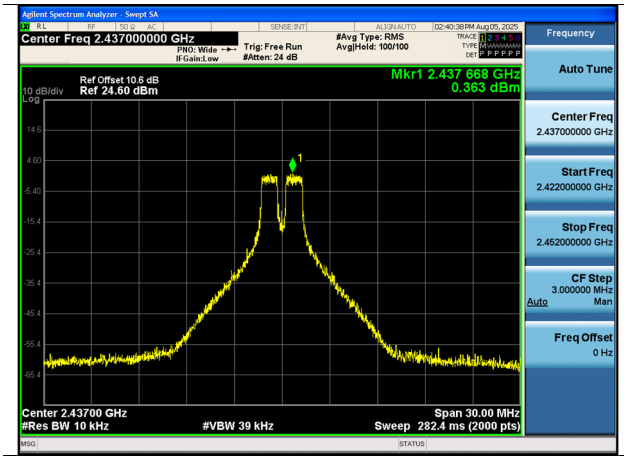
Note: In order to simplify the report, attached plots were only the worst case PSD channel.

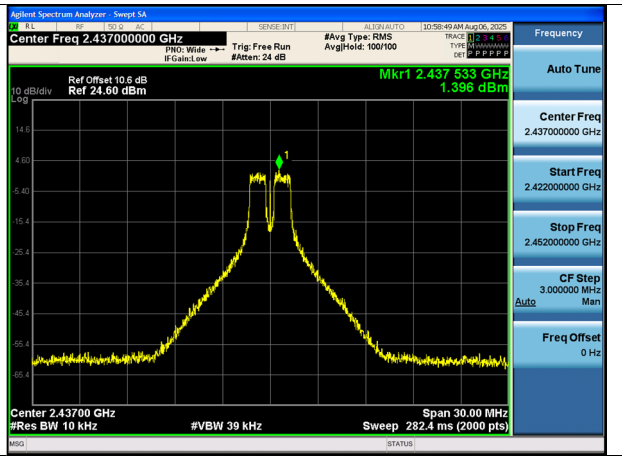
ANT.1	ANT.2

BW20M Ch.1(2412 MHz) 26 Tones RU 8

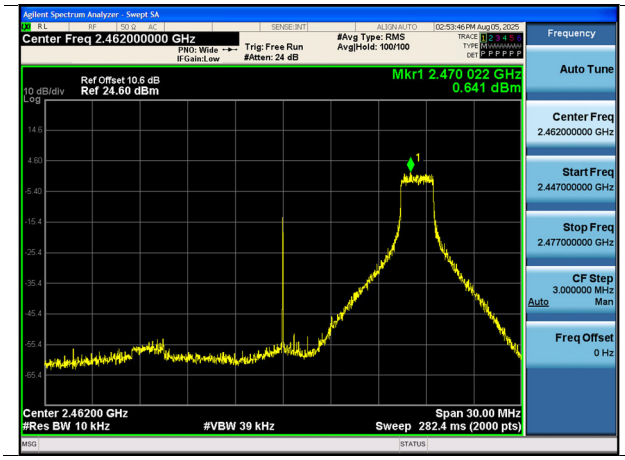


BW20M Ch.6(2437 MHz) 26 Tones RU 4





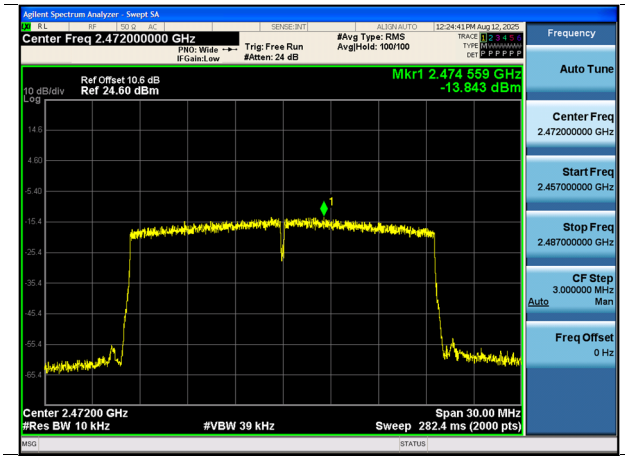
BW20M Ch.11(2462 MHz) 26 Tones RU 8



ANT.1	ANT.2

BW20M Ch.12(2467 MHz) 26 Tones RU 0

BW20M Ch.13(2472 MHz) 242 Tones RU 61



9.5 BAND EDGE / CONDUCTED SPURIOUS EMISSIONS

Band Edge

Limit : 20 dBc

[ANT.1]

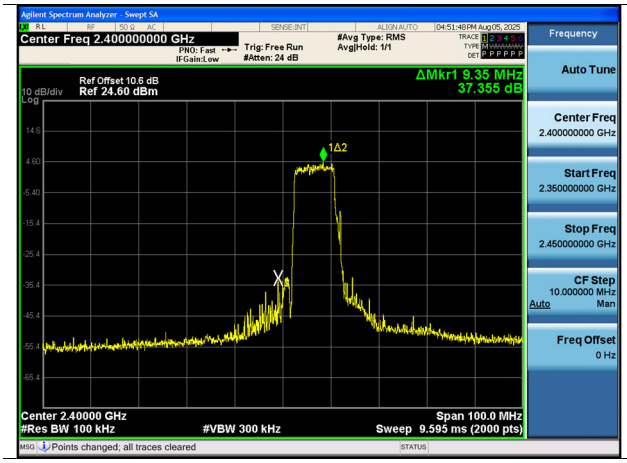
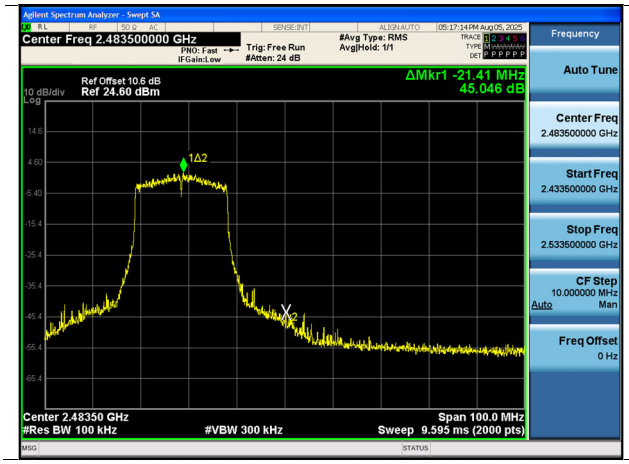
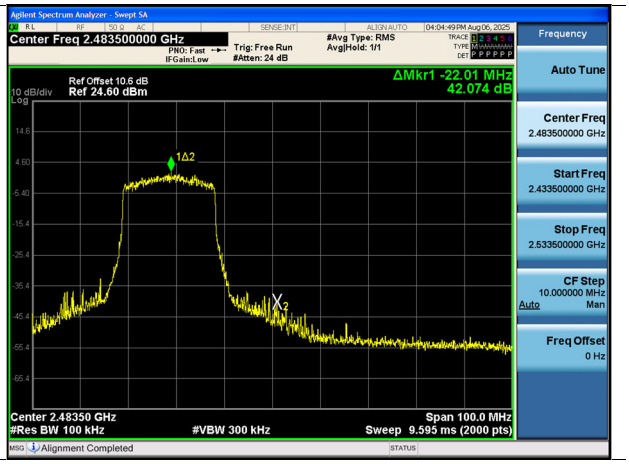
Mode	Freq. [MHz]	CH.	RU Index	Measured Position	Band edge [dB]
HE20 26T	2412	1	Low	Lowest Bandedge	46.983
	2462	11	High	Highest Bandedge	51.480
	2467	12	High	Highest Bandedge	56.970
	2472	13	High	Highest Bandedge	40.846
HE20 52T	2412	1	Low	Lowest Bandedge	46.364
	2462	11	High	Highest Bandedge	46.731
	2467	12	High	Highest Bandedge	56.512
	2472	13	High	Highest Bandedge	39.309
HE20 106T	2412	1	Low	Lowest Bandedge	37.355
	2462	11	High	Highest Bandedge	49.717
	2467	12	High	Highest Bandedge	50.090
	2472	13	High	Highest Bandedge	39.143
HE20 242T	2412	1	Low	Lowest Bandedge	45.480
	2462	11	High	Highest Bandedge	45.046
	2467	12	High	Highest Bandedge	42.503
	2472	13	High	Highest Bandedge	42.960
HE20 SU	2412	1	Low	Lowest Bandedge	46.295
	2462	11	High	Highest Bandedge	46.716
	2467	12	High	Highest Bandedge	42.035
	2472	13	High	Highest Bandedge	41.511

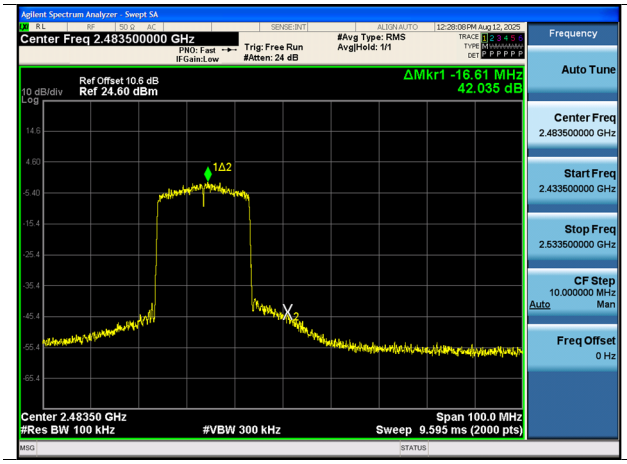
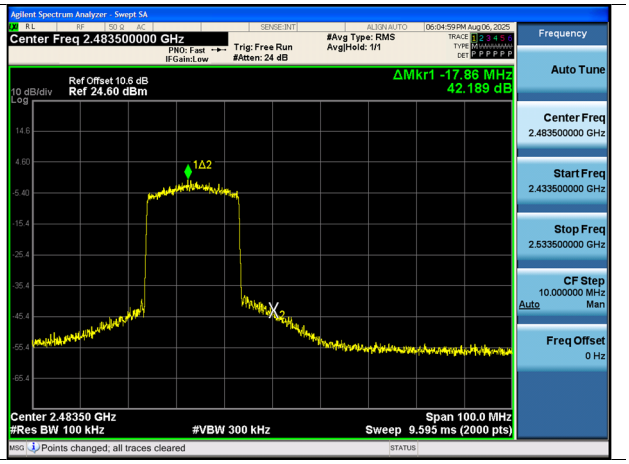
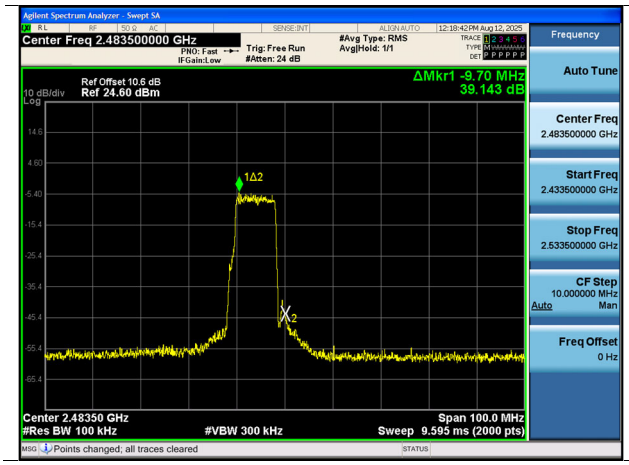
[ANT.2]

Mode	Freq. [MHz]	CH.	RU Index	Measured Position	Band edge [dB]
HE20 26T	2412	1	Low	Lowest Bandedge	41.698
	2462	11	High	Highest Bandedge	46.094
	2467	12	High	Highest Bandedge	52.770
	2472	13	High	Highest Bandedge	41.085
HE20 52T	2412	1	Low	Lowest Bandedge	38.576
	2462	11	High	Highest Bandedge	47.450
	2467	12	High	Highest Bandedge	50.484
	2472	13	High	Highest Bandedge	36.099
HE20 106T	2412	1	Low	Lowest Bandedge	38.761
	2462	11	High	Highest Bandedge	49.189
	2467	12	High	Highest Bandedge	50.385
	2472	13	High	Highest Bandedge	36.456
HE20 242T	2412	1	Low	Lowest Bandedge	39.104
	2462	11	High	Highest Bandedge	42.074
	2467	12	High	Highest Bandedge	43.194
	2472	13	High	Highest Bandedge	39.663
HE20 SU	2412	1	Low	Lowest Bandedge	40.826
	2462	11	High	Highest Bandedge	45.688
	2467	12	High	Highest Bandedge	42.189
	2472	13	High	Highest Bandedge	38.585

▣ Test Plots

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

[ANT.1]	[ANT.2]
BW 20M Ch.1(2412 MHz) 106 Tones RU 53	BW 20M Ch.1(2412 MHz) 52 Tones RU 37
	
BW 20M Ch.11(2462 MHz) 242 Tones RU 61	BW 20M Ch.11(2462 MHz) 242 Tones RU 61
	

[ANT.1]	[ANT.2]
BW 20M Ch.12(2467 MHz) SU	BW 20M Ch.12(2467 MHz) SU
	
BW 20M Ch.13(2472 MHz) 106 Tones RU 54	BW 20M Ch.13(2472 MHz) 52 Tones RU 40
	

Conducted Spurious Emissions

Limit : 20 dBc

[ANT.1]

Mode	Freq. [MHz]	CH.	Conducted Spurious Emissions [dB]		
			RU Index : Low	RU Index : Mid	RU Index : High
			ANT1	ANT1	ANT1
HE20 26T	2412	1	65.628	65.719	66.717
	2437	6	64.921	65.931	65.708
	2462	11	63.948	65.614	65.466
	2467	12	62.628	64.009	63.528
	2472	13	51.806	51.404	52.151
HE20 52T	2412	1	63.553	61.813	62.416
	2437	6	63.371	61.005	62.920
	2462	11	62.990	61.651	64.028
	2467	12	58.812	60.574	59.194
	2472	13	50.301	51.667	52.241
HE20 106T	2412	1	61.025	-	60.253
	2437	6	59.787	-	60.438
	2462	11	60.743	-	60.922
	2467	12	58.814	-	56.986
	2472	13	51.629	-	51.161
HE20 242T	2412	1	-	58.129	-
	2437	6	-	55.923	-
	2462	11	-	57.900	-
	2467	12	-	55.441	-
	2472	13	-	53.214	-
HE20 SU	2412	1	-	58.115	-
	2437	6	-	57.734	-
	2462	11	-	56.632	-
	2467	12	-	54.864	-
	2472	13	-	52.992	-

[ANT.2]

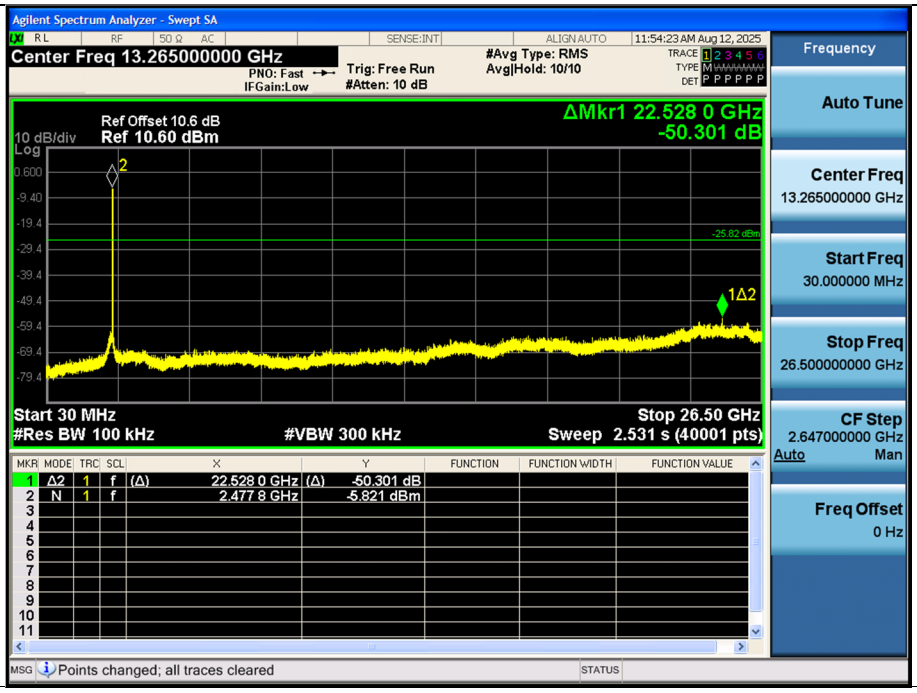
Mode	Freq. [MHz]	CH.	Conducted Spurious Emissions [dB]		
			RU Index : Low	RU Index : Mid	RU Index : High
			ANT2	ANT2	ANT2
HE20 26T	2412	1	61.947	63.766	64.000
	2437	6	64.784	64.103	64.787
	2462	11	62.960	63.770	64.597
	2467	12	62.230	61.937	63.331
	2472	13	51.257	51.691	51.517
HE20 52T	2412	1	64.089	61.593	64.044
	2437	6	62.392	63.494	62.699
	2462	11	62.554	62.753	61.838
	2467	12	60.943	61.998	62.273
	2472	13	52.570	52.573	52.158
HE20 106T	2412	1	60.010	-	61.006
	2437	6	59.905	-	61.015
	2462	11	59.966	-	61.771
	2467	12	58.218	-	58.753
	2472	13	50.929	-	49.922
HE20 242T	2412	1	-	57.161	-
	2437	6	-	57.238	-
	2462	11	-	57.905	-
	2467	12	-	55.682	-
	2472	13	-	51.803	-
HE20 SU	2412	1	-	55.932	-
	2437	6	-	57.188	-
	2462	11	-	57.386	-
	2467	12	-	54.115	-
	2472	13	-	52.844	-

▣ Test Plots

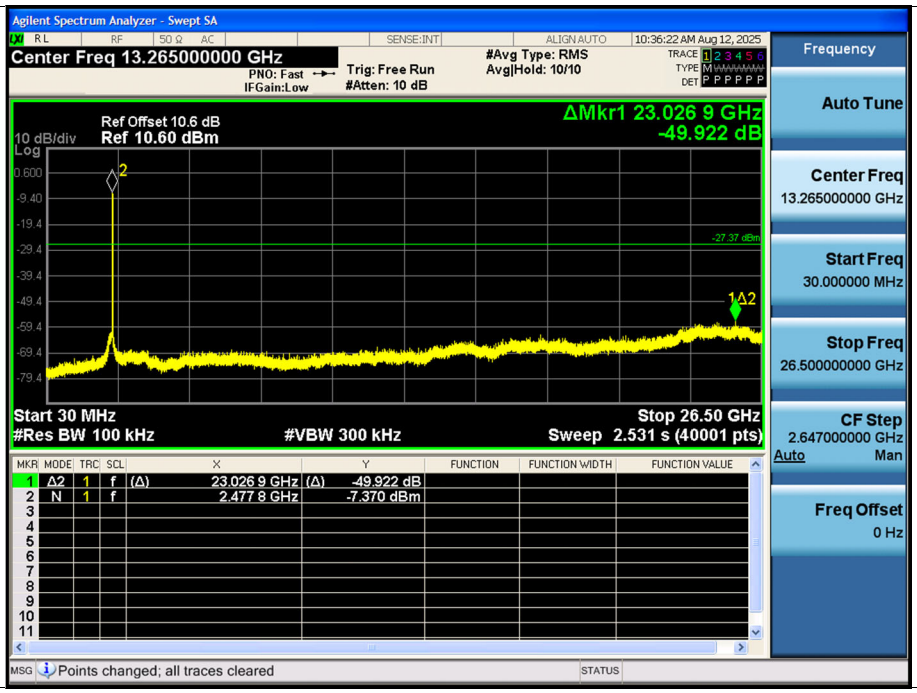
Note:

In order to simplify the report, attached plots were only the worst case.

[ANT.1] BW 20M Ch.13(2472 MHz) 52 Tones RU 37



[ANT.2] BW 20M Ch.13(2472 MHz) 106 Tones RU 54



Limit

ANT.1 : -25.821 dBm, ANT.2 : -27.370 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/m]	[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/m]	[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

[MIMO_CDD(Ant.1+Ant.2)]

Band :	DTS		Operation Mode :		802.11ax_HE20 MCS0 26T RU4			
CH.1	2412 MHz		Transfer Rate :		MCS0			
Frequency [MHz]	Measured value [dBµV]	D.C.F [dB]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
4824	53.61	0.00	1.95	V	55.56	73.98	18.42	PK
4824	40.22	0.00	1.95	V	42.17	53.98	11.81	AV
7236	44.29	0.00	10.48	V	54.77	73.98	19.21	PK
7236	30.26	0.00	10.48	V	40.74	53.98	13.24	AV
4824	55.12	0.00	1.95	H	57.07	73.98	16.91	PK
4824	41.13	0.00	1.95	H	43.08	53.98	10.90	AV
7236	42.09	0.00	10.48	H	52.57	73.98	21.41	PK
7236	29.82	0.00	10.48	H	40.30	53.98	13.68	AV

Band :	DTS		Operation Mode :		802.11ax_HE20 MCS0 26T RU4			
CH.6	2437 MHz		Transfer Rate :		MCS0			
Frequency [MHz]	Measured value [dBµV]	D.C.F [dB]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
4874	54.24	0.00	2.26	V	56.50	73.98	17.48	PK
4874	39.09	0.00	2.26	V	41.35	53.98	12.63	AV
7311	41.74	0.00	9.95	V	51.69	73.98	22.29	PK
7311	29.49	0.00	9.95	V	39.44	53.98	14.54	AV
4874	56.29	0.00	2.26	H	58.55	73.98	15.43	PK
4874	40.94	0.00	2.26	H	43.20	53.98	10.78	AV
7311	42.85	0.00	9.95	H	52.80	73.98	21.18	PK
7311	29.55	0.00	9.95	H	39.50	53.98	14.48	AV

Band :	DTS		Operation Mode :		802.11ax_HE20 MCS0 26T RU4			
CH.11	2462 MHz		Transfer Rate :		MCS0			
Frequency [MHz]	Measured value [dBµV]	D.C.F [dB]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
4924	53.72	0.00	3.14	V	56.86	73.98	17.12	PK
4924	37.88	0.00	3.14	V	41.02	53.98	12.96	AV
7386	41.56	0.00	10.39	V	51.95	73.98	22.03	PK
7386	29.98	0.00	10.39	V	40.37	53.98	13.61	AV
4924	54.59	0.00	3.14	H	57.73	73.98	16.25	PK
4924	38.91	0.00	3.14	H	42.05	53.98	11.93	AV
7386	43.36	0.00	10.39	H	53.75	73.98	20.23	PK
7386	30.06	0.00	10.39	H	40.45	53.98	13.53	AV

Band :	DTS		Operation Mode :		802.11ax_HE20 MCS0 242T RU61			
CH.1	2412 MHz		Transfer Rate :		MCS0			
Frequency [MHz]	Measured value [dBµV]	D.C.F [dB]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
4824	47.69	0.00	1.95	V	49.64	73.98	24.34	PK
4824	35.17	0.00	1.95	V	37.12	53.98	16.86	AV
7236	40.52	0.00	10.48	V	51.00	73.98	22.98	PK
7236	28.76	0.00	10.48	V	39.24	53.98	14.74	AV
4824	50.57	0.00	1.95	H	52.52	73.98	21.46	PK
4824	36.48	0.00	1.95	H	38.43	53.98	15.55	AV
7236	40.91	0.00	10.48	H	51.39	73.98	22.59	PK
7236	28.80	0.00	10.48	H	39.28	53.98	14.70	AV

Band :	DTS		Operation Mode :		802.11ax_HE20 MCS0 242T RU61			
CH.6	2437 MHz		Transfer Rate :		MCS0			
Frequency [MHz]	Measured value [dBµV]	D.C.F [dB]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
4874	48.52	0.00	2.26	V	50.78	73.98	23.20	PK
4874	35.13	0.00	2.26	V	37.39	53.98	16.59	AV
7311	41.22	0.00	9.95	V	51.17	73.98	22.81	PK
7311	29.19	0.00	9.95	V	39.14	53.98	14.84	AV
4874	49.19	0.00	2.26	H	51.45	73.98	22.53	PK
4874	36.23	0.00	2.26	H	38.49	53.98	15.49	AV
7311	41.73	0.00	9.95	H	51.68	73.98	22.30	PK
7311	29.24	0.00	9.95	H	39.19	53.98	14.79	AV

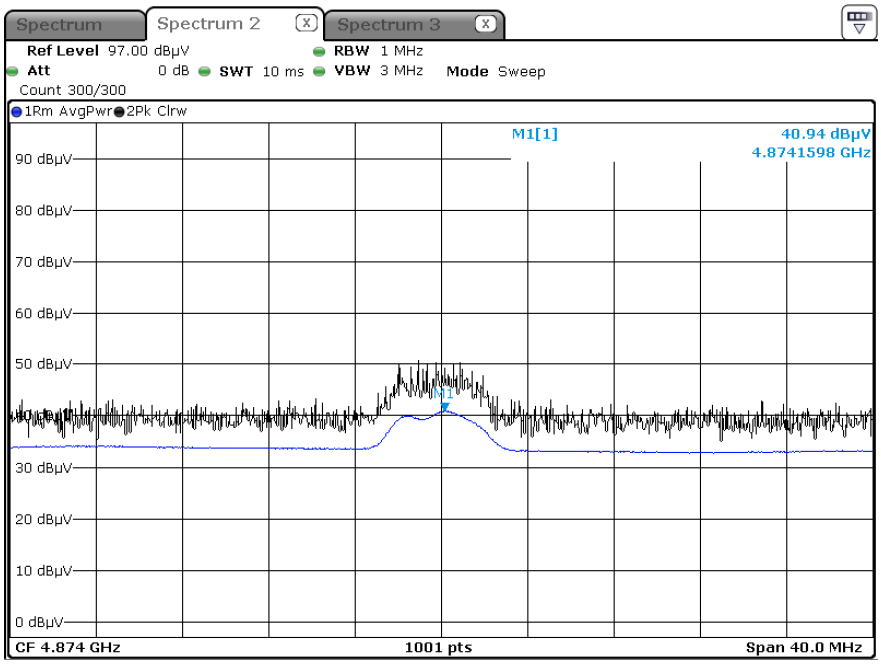
Band :	DTS		Operation Mode :		802.11ax_HE20 MCS0 242T RU61			
CH.11	2462 MHz		Transfer Rate :		MCS0			
Frequency [MHz]	Measured value [dBµV]	D.C.F [dB]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Measurement Type
4924	46.25	0.00	3.14	V	49.39	73.98	24.59	PK
4924	33.67	0.00	3.14	V	36.81	53.98	17.17	AV
7386	41.29	0.00	10.39	V	51.68	73.98	22.30	PK
7386	29.28	0.00	10.39	V	39.67	53.98	14.31	AV
4924	47.80	0.00	3.14	H	50.94	73.98	23.04	PK
4924	34.55	0.00	3.14	H	37.69	53.98	16.29	AV
7386	42.00	0.00	10.39	H	52.39	73.98	21.59	PK
7386	29.39	0.00	10.39	H	39.78	53.98	14.20	AV

▣ Test Plots

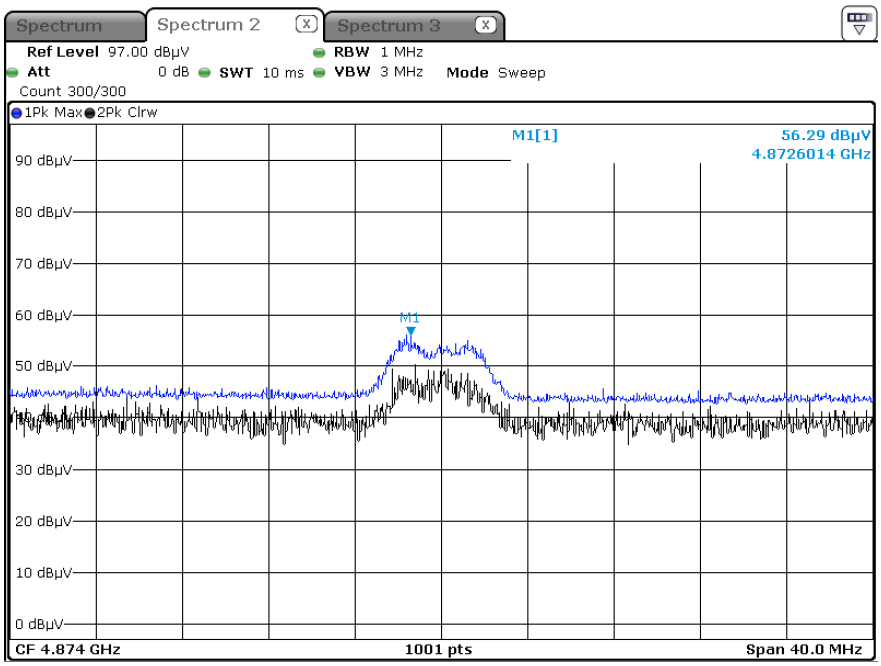
[MIMO_CDD(Ant.1+Ant.2)]

Note: In order to simplify, Plots of worst case are only reported.

Radiated Spurious Emissions plot – Average result (802.11ax(HE20) 26 Tone RU 4, Ch.6 2nd Harmonic, Y-H)



Radiated Spurious Emissions plot – Peak result (802.11ax(HE20) 26 Tone RU 4, Ch.6 2nd Harmonic, Y-H)



9.7 RADIATED RESTRICTED BAND EDGES

9.7.1 Channel 1, 11

[MIMO_CDD(Ant.1+Ant.2)]

802.11ax(MCS0)			HE20	242T				
Channel	CH 1		Freq	2412 MHz		RU offset	61	
Frequency	Measured Value	Duty Cycle Factor	A.F+C.L+D.F	ANT. POL	Total	Limit	Margin	Measurement Type
[MHz]	[dBµV]	[dB]	[dB/m]	[H/V]	[dBµV/m]	[dBµV/m]	[dB]	
2390.0	61.37	0.00	-	H	61.37	73.98	12.61	PK
2390.0	48.41	0.00	-	H	48.41	53.98	5.57	AV

802.11ax(MCS0)			HE20	242T				
Channel	CH 11		Freq	2462 MHz		RU offset	61	
Frequency	Measured Value	Duty Cycle Factor	A.F+C.L+D.F	ANT. POL	Total	Limit	Margin	Measurement Type
[MHz]	[dBµV]	[dB]	[dB/m]	[H/V]	[dBµV/m]	[dBµV/m]	[dB]	
2483.5	64.72	0.00	-	H	64.72	73.98	9.26	PK
2483.5	49.05	0.00	-	H	49.05	53.98	4.93	AV

802.11ax(MCS0)			HE20	26T				
Channel	CH 1		Freq	2412 MHz		RU offset	0	
Frequency	Measured Value	Duty Cycle Factor	A.F+C.L+D.F	ANT. POL	Total	Limit	Margin	Measurement Type
[MHz]	[dBµV]	[dB]	[dB/m]	[H/V]	[dBµV/m]	[dBµV/m]	[dB]	
2390.0	56.34	0.00	-	H	56.34	73.98	17.64	PK
2390.0	44.87	0.00	-	H	44.87	53.98	9.11	AV

802.11ax(MCS0)			HE20	26T				
Channel	CH 11		Freq	2462 MHz		RU offset	8	
Frequency	Measured Value	Duty Cycle Factor	A.F+C.L+D.F	ANT. POL	Total	Limit	Margin	Measurement Type
[MHz]	[dBµV]	[dB]	[dB/m]	[H/V]	[dBµV/m]	[dBµV/m]	[dB]	
2483.5	59.71	0.00	-	H	59.71	73.98	14.27	PK
2483.5	46.51	0.00	-	H	46.51	53.98	7.47	AV

802.11ax(MCS0)			HE20	52T				
Channel	CH 1		Freq	2412 MHz		RU offset	37	
Frequency	Measured Value	Duty Cycle Factor	A.F+C.L+D.F	ANT. POL	Total	Limit	Margin	Measurement Type
[MHz]	[dBµV]	[dB]	[dB/m]	[H/V]	[dBµV/m]	[dBµV/m]	[dB]	
2390.0	56.12	0.00	-	H	56.12	73.98	17.86	PK
2390.0	44.85	0.00	-	H	44.85	53.98	9.13	AV

802.11ax(MCS0)			HE20	52T				
Channel	CH 11		Freq	2462 MHz		RU offset	40	
Frequency	Measured Value	Duty Cycle Factor	A.F+C.L+D.F	ANT. POL	Total	Limit	Margin	Measurement Type
[MHz]	[dBμV]	[dB]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	
2483.5	58.53	0.00	-	H	58.53	73.98	15.45	PK
2483.5	46.66	0.00	-	H	46.66	53.98	7.32	AV

802.11ax(MCS0)			HE20	106T				
Channel	CH 1		Freq	2412 MHz		RU offset	53	
Frequency	Measured Value	Duty Cycle Factor	A.F+C.L+D.F	ANT. POL	Total	Limit	Margin	Measurement Type
[MHz]	[dBμV]	[dB]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	
2390.0	59.05	0.00	-	H	59.05	73.98	14.93	PK
2390.0	45.88	0.00	-	H	45.88	53.98	8.10	AV

802.11ax(MCS0)			HE20	106T				
Channel	CH 11		Freq	2462 MHz		RU offset	54	
Frequency	Measured Value	Duty Cycle Factor	A.F+C.L+D.F	ANT. POL	Total	Limit	Margin	Measurement Type
[MHz]	[dBμV]	[dB]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	
2483.5	59.14	0.00	-	H	59.14	73.98	14.84	PK
2483.5	46.90	0.00	-	H	46.90	53.98	7.08	AV

802.11ax(MCS0)			HE20			SU		
Channel	CH 1		Freq	2412 MHz				
Frequency	Measured Value	Duty Cycle Factor	A.F+C.L+D.F	ANT. POL	Total	Limit	Margin	Measurement Type
[MHz]	[dBμV]	[dB]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	
2390.0	60.78	0.00	-	H	60.78	73.98	13.20	PK
2390.0	48.36	0.00	-	H	48.36	53.98	5.62	AV

802.11ax(MCS0)			HE20			SU		
Channel	CH 11		Freq	2462 MHz				
Frequency	Measured Value	Duty Cycle Factor	A.F+C.L+D.F	ANT. POL	Total	Limit	Margin	Measurement Type
[MHz]	[dBμV]	[dB]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	
2483.5	64.60	0.00	-	H	64.60	73.98	9.38	PK
2483.5	48.67	0.00	-	H	48.67	53.98	5.31	AV

9.7.2 Channel 12, 13

[MIMO_CDD(Ant.1+Ant.2)]

802.11ax(MCS0)			HE20	242T				
Channel	CH 12		Freq	2467 MHz		RU offset	61	
Frequency	Measured Value	Duty Cycle Factor	A.F+C.L+D.F	ANT. POL	Total	Limit	Margin	Measurement Type
[MHz]	[dBμV]	[dB]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	
2483.5	62.93	0.00	-	H	62.93	73.98	11.05	PK
2483.5	48.86	0.00	-	H	48.86	53.98	5.12	AV

802.11ax(MCS0)			HE20	242T				
Channel	CH 13		Freq	2472 MHz		RU offset	61	
Frequency	Measured Value	Duty Cycle Factor	A.F+C.L+D.F	ANT. POL	Total	Limit	Margin	Measurement Type
[MHz]	[dBμV]	[dB]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	
2483.5	61.79	0.00	-	H	61.79	73.98	12.19	PK
2483.5	48.24	0.00	-	H	48.24	53.98	5.74	AV

802.11ax(MCS0)			HE20	26T				
Channel	CH 12		Freq	2467 MHz		RU offset	8	
Frequency	Measured Value	Duty Cycle Factor	A.F+C.L+D.F	ANT. POL	Total	Limit	Margin	Measurement Type
[MHz]	[dBμV]	[dB]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	
2483.5	57.92	0.00	-	H	57.92	73.98	16.06	PK
2483.5	46.93	0.00	-	H	46.93	53.98	7.05	AV

802.11ax(MCS0)			HE20	26T				
Channel	CH 13		Freq	2472 MHz		RU offset	8	
Frequency	Measured Value	Duty Cycle Factor	A.F+C.L+D.F	ANT. POL	Total	Limit	Margin	Measurement Type
[MHz]	[dBμV]	[dB]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	
2483.5	70.45	0.00	-	H	70.45	73.98	3.53	PK
2483.5	49.72	0.00	-	H	49.72	53.98	4.26	AV

802.11ax(MCS0)			HE20	52T				
Channel	CH 12		Freq	2467 MHz		RU offset	40	
Frequency	Measured Value	Duty Cycle Factor	A.F+C.L+D.F	ANT. POL	Total	Limit	Margin	Measurement Type
[MHz]	[dBμV]	[dB]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	
2483.5	57.41	0.00	-	H	57.41	73.98	16.57	PK
2483.5	45.47	0.00	-	H	45.47	53.98	8.51	AV

802.11ax(MCS0)			HE20	52T				
Channel	CH 13		Freq	2472 MHz		RU offset	40	
Frequency	Measured Value	Duty Cycle Factor	A.F+C.L+D.F	ANT. POL	Total	Limit	Margin	Measurement Type
[MHz]	[dBμV]	[dB]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	
2483.5	70.62	0.00	-	H	70.62	73.98	3.36	PK
2483.5	50.34	0.00	-	H	50.34	53.98	3.64	AV

802.11ax(MCS0)			HE20	106T				
Channel	CH 12		Freq	2467 MHz		RU offset	54	
Frequency	Measured Value	Duty Cycle Factor	A.F+C.L+D.F	ANT. POL	Total	Limit	Margin	Measurement Type
[MHz]	[dBμV]	[dB]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	
2483.5	58.82	0.00	-	H	58.82	73.98	15.16	PK
2483.5	45.56	0.00	-	H	45.56	53.98	8.42	AV

802.11ax(MCS0)			HE20	106T				
Channel	CH 13		Freq	2472 MHz		RU offset	54	
Frequency	Measured Value	Duty Cycle Factor	A.F+C.L+D.F	ANT. POL	Total	Limit	Margin	Measurement Type
[MHz]	[dBμV]	[dB]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	
2483.5	69.57	0.00	-	H	69.57	73.98	4.41	PK
2483.5	49.84	0.00	-	H	49.84	53.98	4.14	AV

802.11ax(MCS0)			HE20			SU		
Channel	CH 12		Freq	2467 MHz				
Frequency	Measured Value	Duty Cycle Factor	A.F+C.L+D.F	ANT. POL	Total	Limit	Margin	Measurement Type
[MHz]	[dBμV]	[dB]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	
2483.5	62.14	0.00	-	H	62.14	73.98	11.84	PK
2483.5	48.95	0.00	-	H	48.95	53.98	5.03	AV

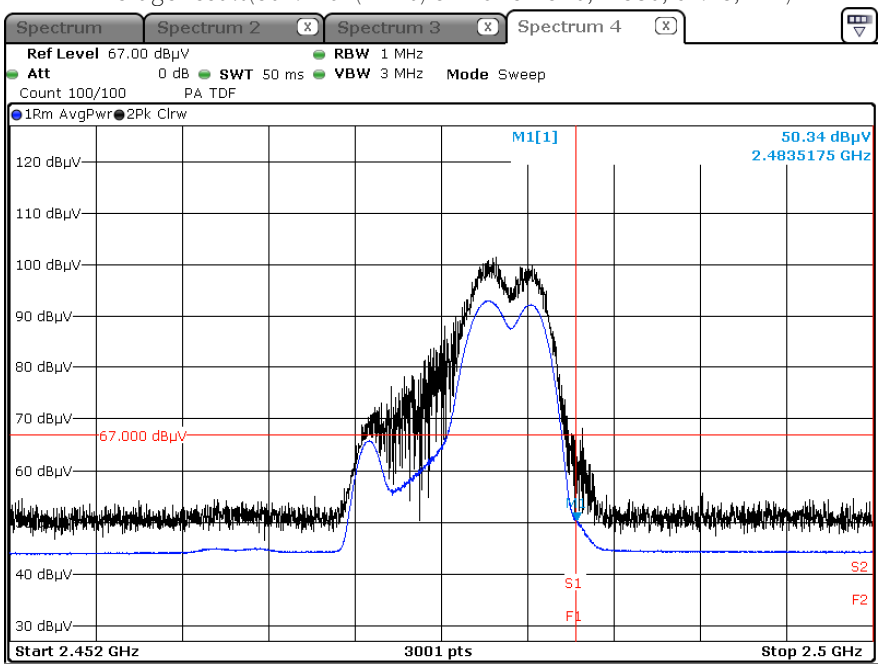
802.11ax(MCS0)			HE20			SU		
Channel	CH 13		Freq	2472 MHz				
Frequency	Measured Value	Duty Cycle Factor	A.F+C.L+D.F	ANT. POL	Total	Limit	Margin	Measurement Type
[MHz]	[dBμV]	[dB]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	
2483.5	62.18	0.00	-	H	62.18	73.98	11.80	PK
2483.5	49.99	0.00	-	H	49.99	53.98	3.99	AV

▣ Test Plots

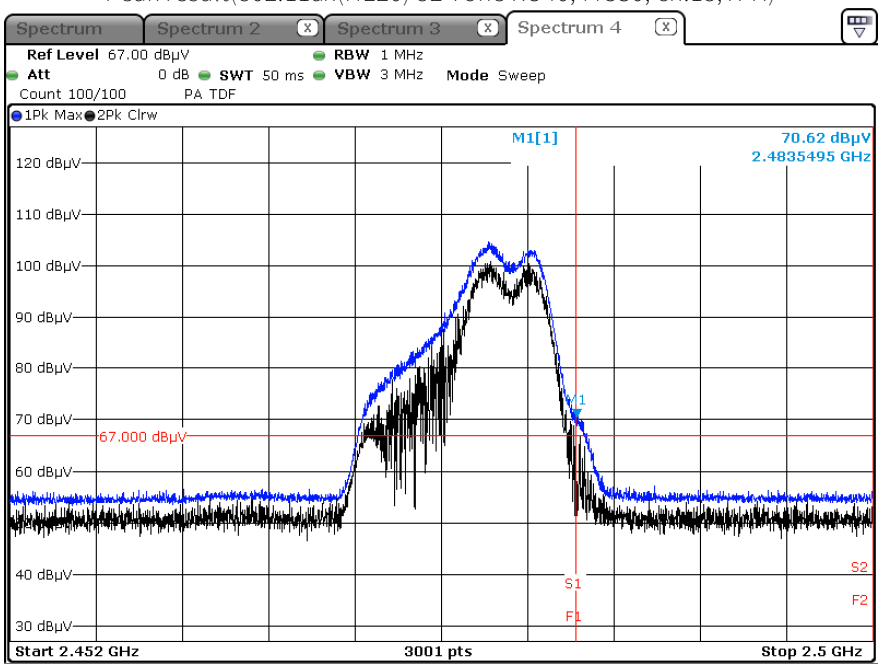
[MIMO_CDD(Ant.1+Ant.2)]

Note: In order to simplify the report, Plots of worst case are only reported.

Average result(802.11ax(HE20) 52 Tone RU40, MCS0, ch.13, X-H)



Peak result(802.11ax(HE20) 52 Tone RU40, MCS0, ch.13, X-H)



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	08/20/2026	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	5001	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
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-2509-FC005-P