

TEST REPORT

FCC DTS ax Test for SM-A376U
Certification

APPLICANT
SAMSUNG Electronics Co., Ltd.

REPORT NO.
HCT-RF-2512-FC036

DATE OF ISSUE
December 16, 2025

Tested by
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TEST REPORT

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HCT-RF-2512-FC036

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Additional Model

SM-A376U1, SM-S376V

Applicant	SAMSUNG Electronics Co., Ltd. 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea
Product Name	Mobile Phone
Model Name	SM-A376U
FCC ID	A3LSMA376U
Date of Test	November 04, 2025 ~ December 16, 2025
FCC Classification	Digital Transmission System(DTS)
Test Standard Used	FCC Rule Part(s): Part 15.247
Test Results	PASS
Location of Test	☒ Permanent Testing Lab ☐ On Site Testing Lab (Address: 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, Republic of Korea)

REVISION HISTORY

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

Revision No.	Date of Issue	Description
0	December 16, 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

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).

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1. EUT DESCRIPTION

Model	SM-A376U		
Additional Model	SM-A376U1, SM-S376V		
EUT Type	Mobile Phone		
Power Supply	DC 3.90 V		
Frequency Range	2 412 MHz ~ 2 462 MHz		
Max. RF Output Power	<u>Peak Power</u>	SISO (Ant.1)	24.95 dBm
		MIMO_SDM(Ant.1+ Ant.2)	27.80 dBm
	<u>Average Power</u>	SISO (Ant.1)	15.79 dBm
		MIMO_SDM(Ant.1+ Ant.2)	18.50 dBm
Modulation Type	OFDM, OFDMA		
Number of Channels	11 Channels		
Antenna Information	Please refer to the Antenna Specification document.		
Serial number	Conducted : R3CY90Z801Y Radiated : R3CY90Z834Z		

Grant Notes :

1. Output Power listed is conducted(Average)

ANTENNA CONFIGURATIONS

1. Antenna configuration

Configurations	SISO		MIMO	
	Ant1	Ant2	CDD	SDM
802.11ax (HE20)	O	X	X	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 Bands simultaneously on each antenna.

Simultaneous transmission Scenario	5 GHz WiFi Ant.1	5 GHz WiFi Ant.2	BT Ant.1	BT Ant.2	Test Case
BT ANT.1 + 5 GHz WiFi MIMO	on	on	on	-	Scenario 1
BT ANT.1 + 5 GHz WiFi ANT.1	on	-	on	-	Scenario 2

2. TEST METHODOLOGY

Unlicensed wireless device were tested using the following measurement procedure.

[1] KDB 558074 D01 15.247 Meas Guidance v05r02

[2] ANSI C63.10-2020

EUT CONFIGURATION

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

EUT EXERCISE

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

GENERAL TEST PROCEDURES

Conducted Emissions

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

Radiated Emissions

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

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

DESCRIPTION OF TEST MODES

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

3. INSTRUMENT CALIBRATION

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

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

4. FACILITIES AND ACCREDITATIONS

FACILITIES

The SAC(Semi-Anechoic Chamber) and conducted measurement facility used to collect the radiated data are located at the 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, Republic of Korea. The site is constructed in conformance with the requirements of ANSI C63.4-2014 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 ANSI/USEMCSC C63.2-2023, "American National Standard for Specifications of Electromagnetic Interference and Field Strength Measuring Instrumentation in the Frequency Range 9 kHz to 40 GHz".

5. ANTENNA REQUIREMENTS

According to FCC 47 CFR § 15.203:

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

- (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 ($\pm$ kHz)
X dB, 99% Bandwidth	95 (Confidence level about 95 %, $k=2$)
Frequency stability	28 (Confidence level about 95 %, $k=2$)

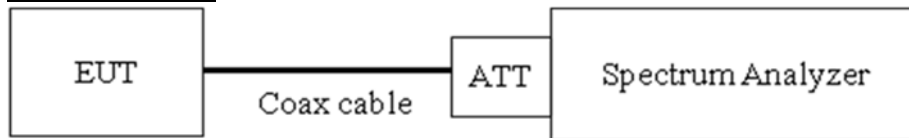
Parameter	Expanded Uncertainty ($\pm$ dB)
Conducted Disturbance (150 kHz ~ 30 MHz)	1.54 (Confidence level about 95 %, $k=2$)
Conducted Output Power(Power Meter)	0.54 (Confidence level about 95 %, $k=2$)
Conducted Output Power(Signal Analyzer)	0.68 (Confidence level about 95 %, $k=2$)
Power Spectral Density	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

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

7.1. Duty Cycle

Test Configuration



Test Procedure

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 $T \leq 6.25$ microseconds. ($50/6.25 = 8$)

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

The transmitter output is connected to the Spectrum Analyzer.

The Spectrum Analyzer is set to :

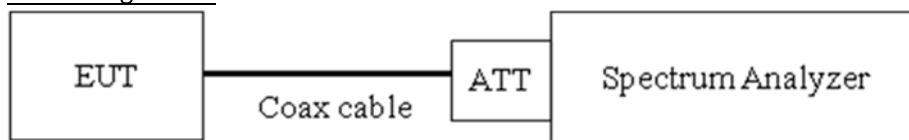
1. RBW = 8 MHz (the largest available value)
2. VBW = 8 MHz or 50 MHz ($\geq$ RBW)
3. SPAN = 0 Hz
4. Detector = Average
5. Number of points in sweep > 100
6. Trace mode = Clear write
7. Measure T_{total} and T_{on}
8. Calculate Duty Cycle = $T_{\text{on}} / T_{\text{total}}$ and Duty Cycle Factor = $10\log(1/\text{Duty Cycle})$

7.2. 6 dB Bandwidth

Limit

The minimum permissible 6 dB bandwidth is 500 kHz.

Test Configuration



Test Procedure

The transmitter output is connected to the Spectrum Analyzer.

The Spectrum Analyzer is set to :

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

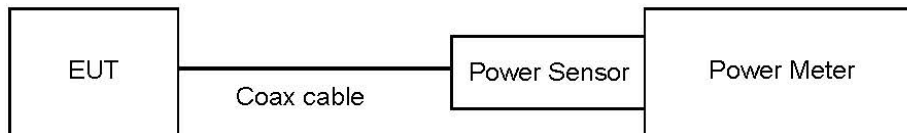
Note : We tested OBW using the automatic bandwidth measurement capability of a spectrum analyzer.

7.3. Output Power

Limit

The maximum permissible conducted output power is 1 Watt.

Test Configuration



Test Procedure

The transmitter output is connected to the Power Meter.

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

Sample Calculation

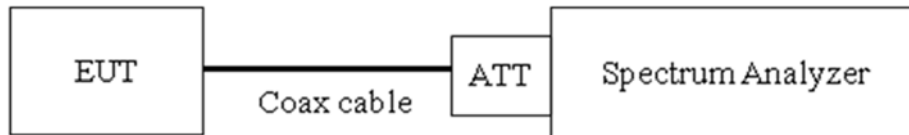
- Conducted Output Power(Peak) = Measured Value + ATT loss + Cable loss
- Conducted Output Power(Average) = Measured Value + ATT loss + Cable loss + Duty Cycle Factor

7.4. Power Spectral Density

Limit

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

Test Configuration



Test Procedure

The transmitter output is connected to the Spectrum Analyzer.

The Spectrum Analyzer is set to :

- 1) Set analyzer center frequency to DTS channel center frequency.
- 2) Set span to at least 1.5 times the OBW.
- 3) $RBW = 3 \text{ kHz} \leq RBW \leq 100 \text{ kHz}$.
- 4) $VBW \geq 3 \times RBW$.
- 5) Sweep = No faster than coupled (auto) time.
- 6) Detector = power averaging (rms) or sample detector (when rms not available).
- 7) Ensure that the number of measurement points in the sweep $\geq [2 \times \text{span} / RBW]$.
- 8) Employ trace averaging (rms) mode over a minimum of 100 traces
- 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.
- 11) if then duty factor shall be added to adjust the result if the duty cycle is less than 98 %

Sample Calculation

- Power Spectral Density = Measured Value + ATT loss + Cable loss + Duty Cycle Factor

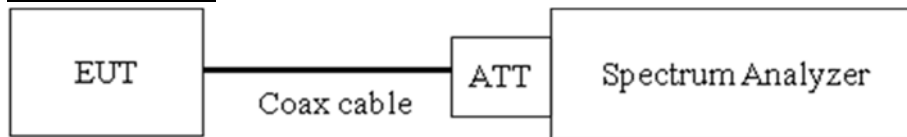
7.5. Conducted Band Edge (Out of Band Emissions) & Conducted Spurious Emissions

Limit

The maximum conducted (Average) 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 30 dB relative to the maximum in-band peak PSD level in 100 kHz.

[Conducted > 30 dBc]

Test Configuration



Test Procedure

The transmitter output is connected to the Spectrum Analyzer.

The Spectrum Analyzer is set to :

- 1) RBW = 100 kHz
- 2) VBW $\geq 3 \times$ RBW
- 3) Set span to encompass the spectrum to be examined
- 4) Detector = Peak
- 5) Trace Mode = max hold
- 6) Sweep time = No faster than coupled (auto) time.
- 7) Ensure that the number of measurement points $\geq 2 \times$ 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	10.08
100	10.15
200	10.18
300	10.16
400	10.27
500	10.35
600	10.38
700	10.52
800	10.64
900	10.74
1000	10.76
2000	10.76
2400	10.81
2500	10.81
3000	11.07
4000	11.15
5000	11.95
6000	11.95
7000	12.13
8000	12.14
9000	12.18
10000	12.25
11000	12.24
12000	12.27
13000	12.29
14000	12.42
15000	12.37
16000	12.43
17000	12.47
18000	12.91
19000	12.97
20000	13.01
21000	13.03
22000	13.07
23000	13.24
24000	13.34
25000	13.38

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

2. Factor = Attenuator loss + Cable loss

3. EUT cable loss = 0.20 dB

4. Total Port offset = 11.01 dB

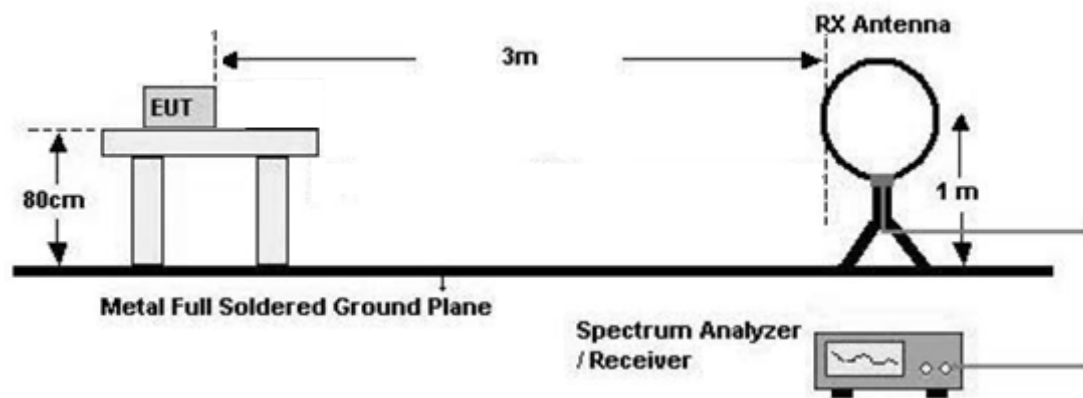
7.6. Radiated Test

Limit

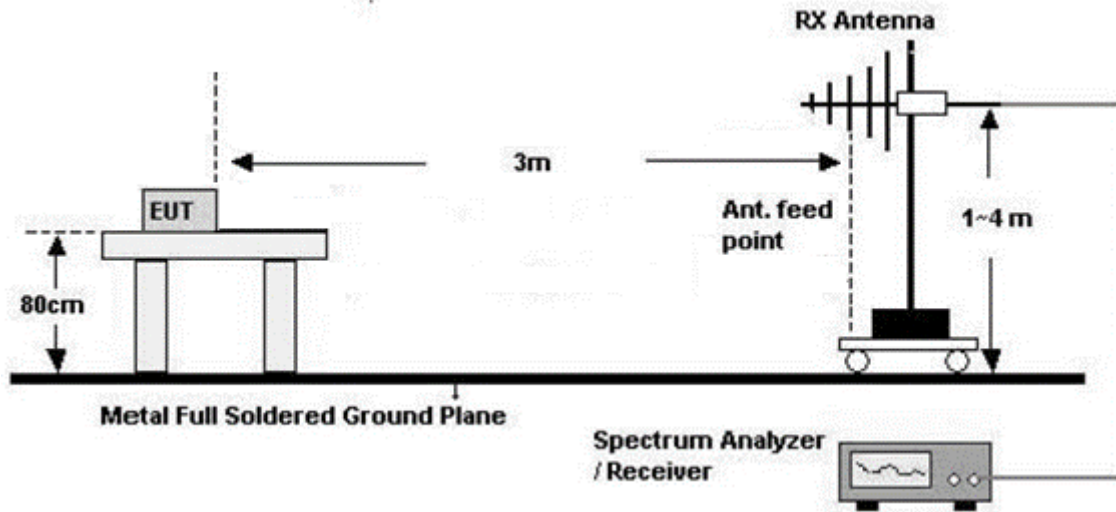
Frequency (MHz)	Field Strength ($\mu\text{V/m}$)	Measurement Distance (m)
0.009 – 0.490	$2400/F(\text{kHz})$	300
0.490 – 1.705	$24000/F(\text{kHz})$	30
1.705 – 30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Test Configuration

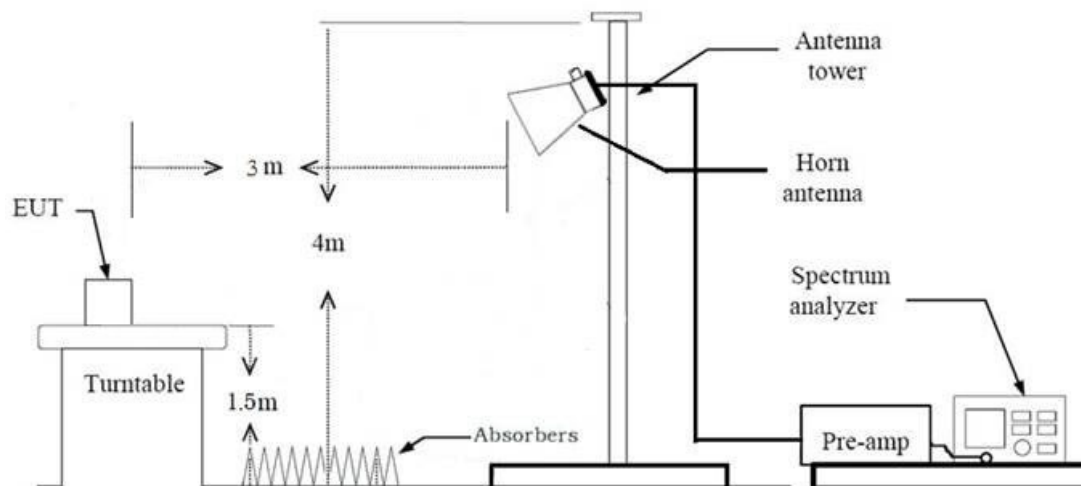
Below 30 MHz



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) = $40\log(3\text{ m}/300\text{ m}) = -80\text{ dB}$
Measurement Distance : 3 m
7. Distance Correction Factor(0.490 MHz – 30 MHz) = $40\log(3\text{ m}/30\text{ m}) = -40\text{ dB}$
Measurement Distance : 3 m
8. Spectrum Analyzer Setting
Measurement Type(Peak):
 - Frequency Range = 9 kHz ~ 30 MHz
 - Detector = Peak
 - Trace = Max hold
 - RBW = 9 kHz
 - VBW $\geq 3 \times$ RBW
9. Total = Measured value + Antenna Factor(A.F) + Cable Loss(C.L) + Distance Factor(D.F)
10. Measurement value only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.

KDB 414788 OFS and Chamber Correlation Justification

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

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

Test Procedure of Radiated spurious emissions (Below 1 GHz)

1. The EUT was placed on a non-conductive table located on semi-anechoic chamber.
2. The EUT is placed on a turntable, which is 0.8 m above ground plane.
3. The Hybrid antenna was placed at a location 3 m from the EUT, which is varied from 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 Analyzer Setting

(1) Measurement Type(Peak):

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

(2) Measurement Type(Quasi-peak):

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

In general, (1) is used mainly

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

Test Procedure of Radiated spurious emissions (Above 1 GHz)

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

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

- Measured Frequency Range : 1 GHz – 25 GHz
- Detector = Peak
- Trace = Maxhold
- RBW = 1 MHz

- $VBW \geq 3 \times RBW$

(2) Measurement Type(Average): (Duty cycle $\geq 98\%$)

- Measured Frequency Range : 1 GHz – 25 GHz

- Detector = RMS

- Averaging type = power (*i.e.*, RMS)

- RBW = 1 MHz

- $VBW \geq 3 \times RBW$

- Sweep time = auto.

- Trace mode = average (at least 100 traces).

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

- Measured Frequency Range : 1 GHz – 25 GHz

- Detector = RMS

- Averaging type = power (*i.e.*, RMS)

- RBW = 1 MHz

- $VBW \geq 3 \times RBW$

- Sweep time = auto.

- Trace mode = average (at least 100 traces).

- Correction factor shall be added to the measurement results prior to comparing to the emission limit in order to compute the emission level that would have been measured had the test been performed at 100 % duty cycle.

- Duty Cycle Factor (dB) : Please refer to Duty cycle test result.

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

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

10. Total(Measurement Type : Peak)

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

Total(Measurement Type : Average, Duty cycle $\geq 98\%$)

= 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

1. The EUT is placed on a turntable, which is 1.5 m above ground plane.
2. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
3. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
4. EUT is set 3 m away from the receiving antenna, which is varied from 1 m to 4 m to find out the highest emissions.
5. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
6. Each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
7. Spectrum Analyzer Setting
 - (1) Measurement Type(Peak):
 - Measured Frequency Range : 2310 MHz ~ 2390 MHz/ 2483.5 MHz ~ 2500 MHz
 - Detector = Peak
 - Trace = Maxhold
 - RBW = 1 MHz
 - VBW $\geq 3 \times$ RBW
 - (2) Measurement Type(Average):
 - (Duty cycle $\geq 98 \%$)
 - Measured Frequency Range : 2310 MHz ~ 2390 MHz/ 2483.5 MHz ~ 2500 MHz
 - Detector = RMS
 - Averaging type = power (*i.e.*, RMS)
 - RBW = 1 MHz
 - VBW $\geq 3 \times$ RBW
 - Sweep time = auto.
 - Trace mode = average (at least 100 traces).
 - (3) Measurement Type(Average): (Duty cycle < 98 %, duty cycle variations are less than $\pm 2 \%$)
 - Measured Frequency Range : 2310 MHz ~ 2390 MHz / 2483.5 MHz ~ 2500 MHz
 - Detector = RMS
 - Averaging type = power (*i.e.*, RMS)
 - RBW = 1 MHz
 - VBW $\geq 3 \times$ RBW
 - Sweep time = auto.
 - Trace mode = average (at least 100 traces).
 - Correction factor shall be added to the measurement results prior to comparing to the emission limit in order to compute the emission level that would have been measured had the test been performed at 100 % duty cycle.
 - Duty Cycle Factor (dB) : Please refer to Duty cycle test result.

(4) Measurement Type(Average , Integration Method) : Duty cycle $\geq 98 \%$

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

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

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

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

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

10. Total (Measurement Type : Peak)

= Peak Measured Value

Total(Measurement Type : Average, Duty cycle $\geq 98\%$)

= 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 μ H/50 ohms line impedance stabilization network (LISN).

Frequency Range (MHz)	Limits (dB μ V)	
	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. 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	0
	11	8
52	1	37
	11	40
106	1	53
	11	54
242	1, 11	61
SU	1, 11	-

Radiated test

1. All modes of operation were investigated and the worst case configuration results are reported.

- Mode : Stand alone, Stand alone + External accessories

- Worst case : Stand alone

2. All data rate of operation were investigated and the worst case results are reported.

(Worst case : MCS 0)

3. All Antennas of operation were investigated and the worst case results are reported

- Antenna Operation Type : SISO(Ant.1), MIMO_SDM(Ant.1+Ant.2)

- Worstcase : SISO(Ant.1), MIMO_SDM(Ant.1+Ant.2)

4. EUT Axis

- Radiated Spurious Emissions : Y

- Radiated Restricted Band Edge : Z

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. SM-A376U, Additional Models were tested and the worst case results are reported.

(Worst case: SM-A376U)

AC Power line Conducted Emissions

1. Please refer to the [DTS] Test Report.

[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	-	-

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 > 30 dBc		PASS
AC Power line Conducted Emissions	§ 15.207	cf. Section 7.7		PASS (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

[SISO(Ant.1)]

Mode	Tone (T)	Worst Data rate	T _{on} (ms)	T _{total} (ms)	Duty Cycle	Duty Cycle Factor (dB)
802.11ax (HE20)	26	MCS0	4.900	5.000	0.980	0.088
	52	MCS0	5.122	5.221	0.981	0.083
	106	MCS0	2.436	2.554	0.954	0.205
	242	MCS0	1.099	1.214	0.905	0.432
802.11ax(SU)	BW 20	MCS0	1.093	1.210	0.903	0.442

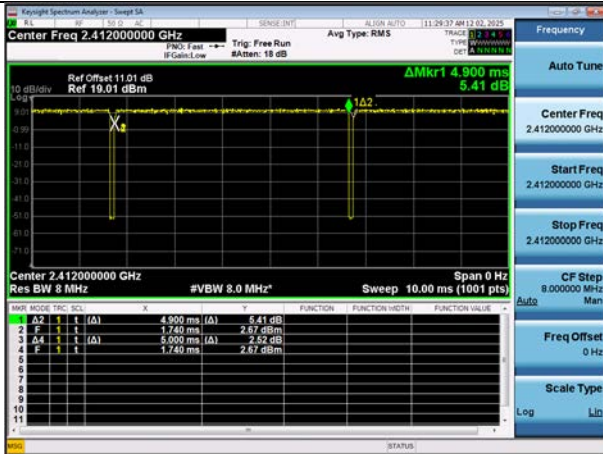
[MIMO_SDM(Ant.1+Ant.2)]

Mode	Tone (T)	Worst Data rate	T _{on} (ms)	T _{total} (ms)	Duty Cycle	Duty Cycle Factor (dB)
802.11ax (HE20)	26	MCS0	5.138	5.243	0.980	0.088
	52	MCS0	2.603	2.721	0.957	0.193
	106	MCS0	1.250	1.349	0.927	0.331
	242	MCS0	0.588	0.685	0.859	0.662
802.11ax(SU)	BW 20	MCS0	0.584	0.683	0.855	0.681

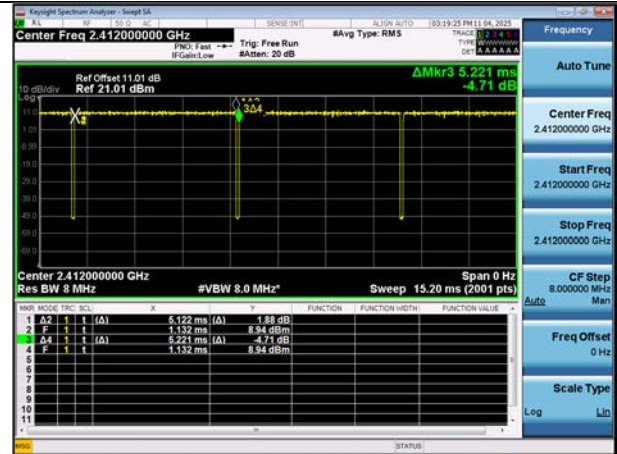
Test Plots

[SISO(Ant.1)]

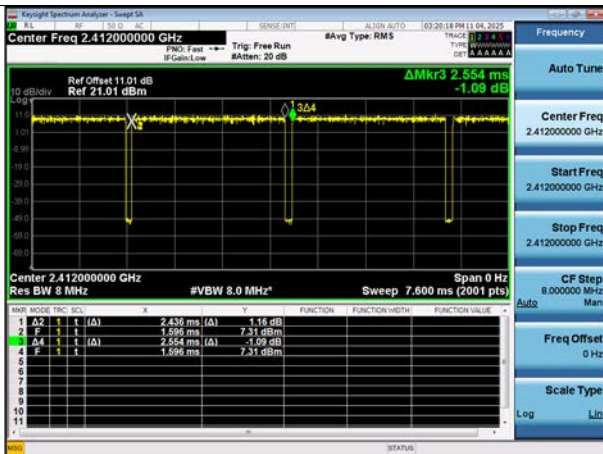
26 Tones (MCS 0)



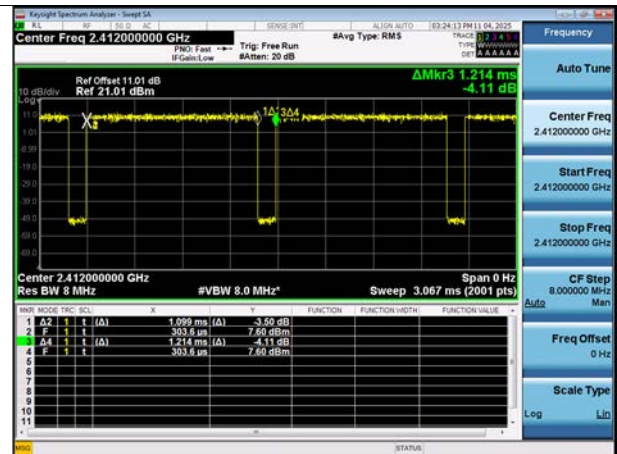
52 Tones (MCS 0)



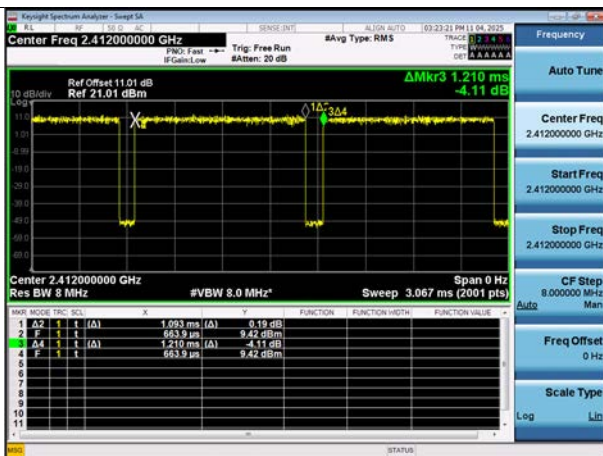
106 Tones (MCS 0)



242 Tones (MCS 0)

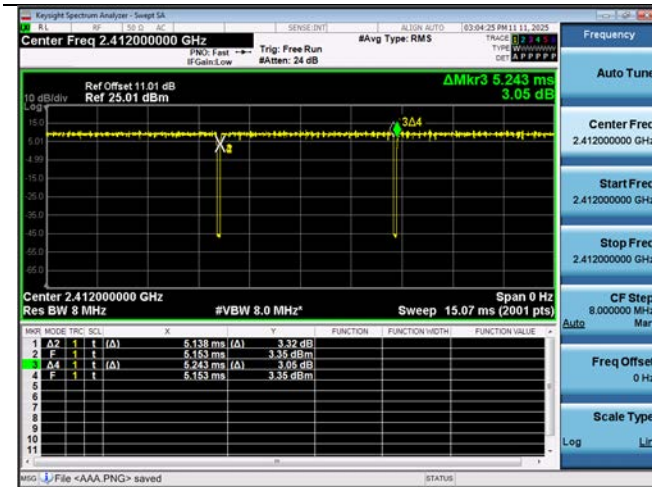


SU (MCS 0)

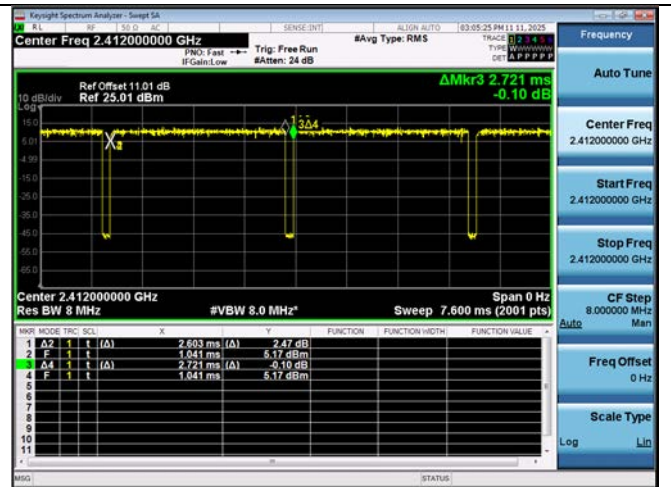


[MIMO_SDM(Ant.1+Ant.2)]

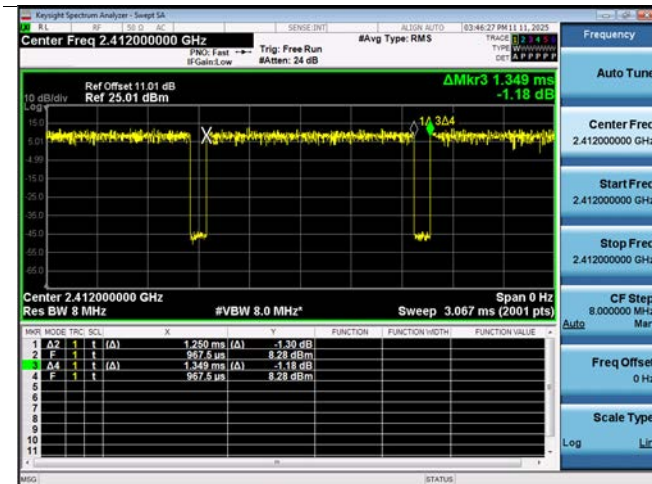
26 Tones (MCS 0)



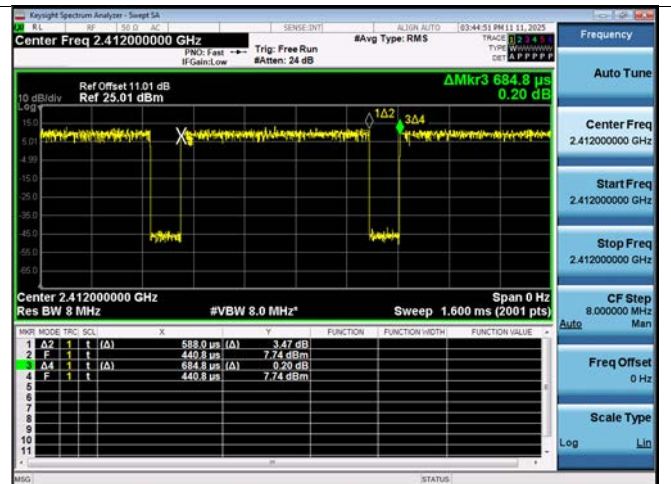
52 Tones (MCS 0)



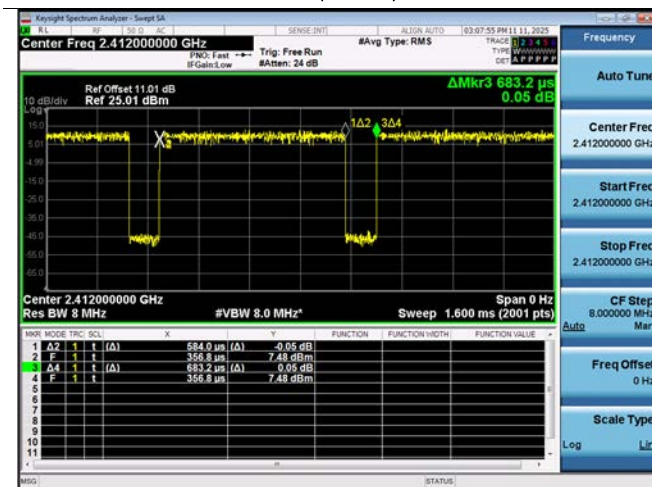
106 Tones (MCS 0)



242 Tones (MCS 0)



SU (MCS 0)



9.2 6 dB BANDWIDTH

[ANT. 1]

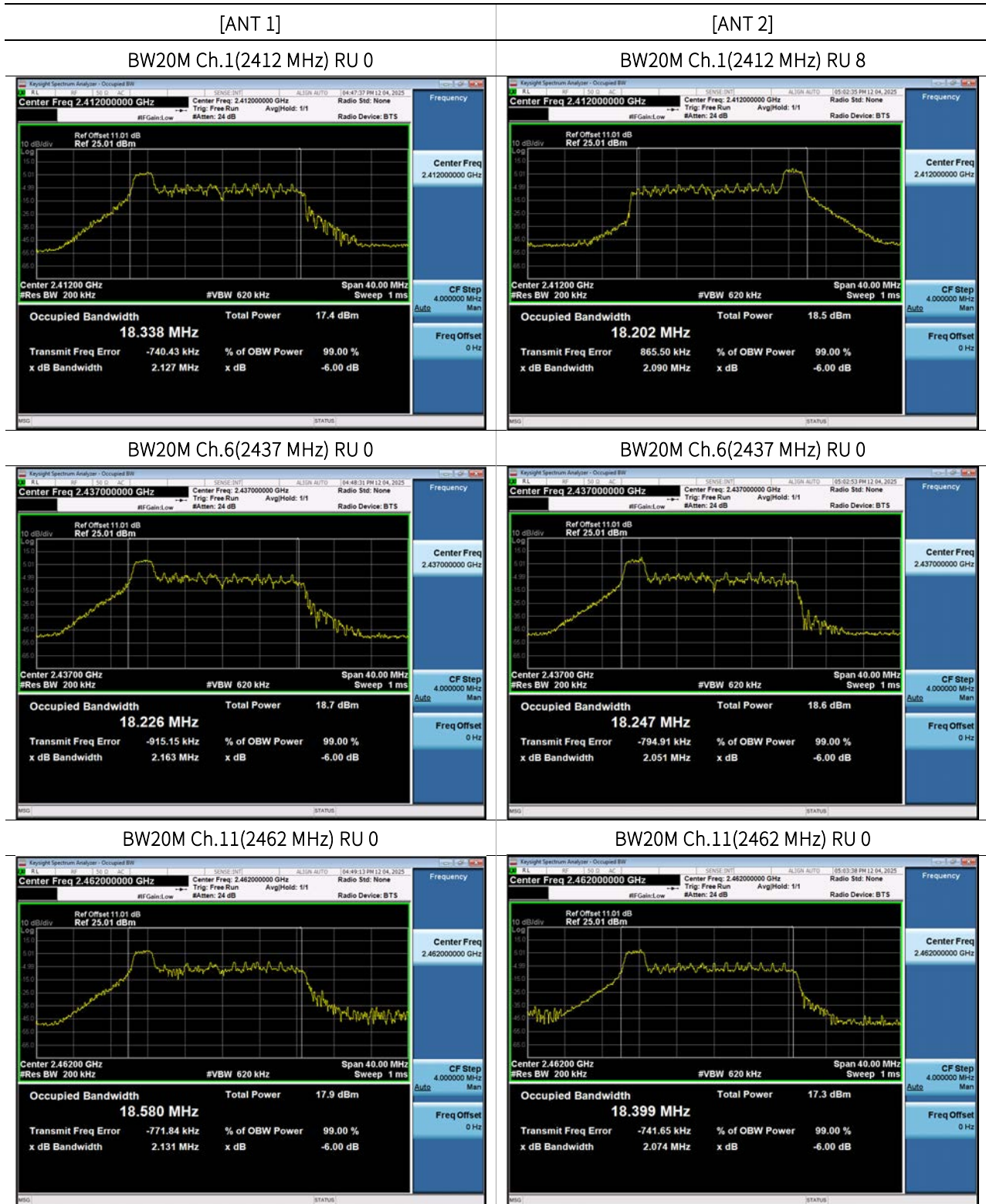
Mode	Freq. [MHz]	CH.	6dB Bandwidth [MHz]			99% Occupied Bandwidth [MHz]			Limit [MHz]
			RU Index : Low	RU Index : Mid	RU Index : High	RU Index : Low	RU Index : Mid	RU Index : High	
			ANT1	ANT1	ANT1	ANT1	ANT1	ANT1	
HE20 26T	2412	1	2.127	2.695	2.228	18.338	16.594	18.424	> 0.50
	2437	6	2.163	2.642	2.179	18.226	16.563	18.482	> 0.50
	2462	11	2.131	2.651	2.148	18.580	16.737	18.443	> 0.50
HE20 52T	2412	1	4.100	4.157	4.127	18.238	16.757	17.998	> 0.50
	2437	6	4.120	4.159	4.141	18.028	16.771	18.224	> 0.50
	2462	11	4.160	4.115	4.127	18.269	16.891	18.000	> 0.50
HE20 106T	2412	1	17.07	-	15.87	18.178	-	18.019	> 0.50
	2437	6	14.59	-	17.10	18.072	-	18.220	> 0.50
	2462	11	17.12	-	13.31	18.242	-	18.023	> 0.50
HE20 242T	2412	1	-	19.01	-	-	18.974	-	> 0.50
	2437	6	-	18.82	-	-	19.000	-	> 0.50
	2462	11	-	18.96	-	-	18.993	-	> 0.50
HE20 SU	2412	1	-	18.85	-	-	18.985	-	> 0.50
	2437	6	-	18.97	-	-	18.974	-	> 0.50
	2462	11	-	19.00	-	-	18.994	-	> 0.50

[ANT. 2]

Mode	Freq. [MHz]	CH.	6dB Bandwidth [MHz]			99% Occupied Bandwidth [MHz]			Limit [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	2.112	2.669	2.090	18.482	16.588	18.202	> 0.50
	2437	6	2.051	2.685	2.158	18.247	16.487	18.388	> 0.50
	2462	11	2.074	2.672	2.120	18.399	16.577	18.271	> 0.50
HE20 52T	2412	1	4.111	4.181	4.095	18.167	16.717	17.962	> 0.50
	2437	6	4.127	4.166	4.060	18.062	16.714	18.164	> 0.50
	2462	11	4.044	4.197	4.094	18.135	16.759	18.032	> 0.50
HE20 106T	2412	1	17.12	-	8.273	18.152	-	17.907	> 0.50
	2437	6	17.08	-	17.19	18.165	-	18.171	> 0.50
	2462	11	17.18	-	8.274	18.106	-	17.956	> 0.50
HE20 242T	2412	1	-	19.00	-	-	19.028	-	> 0.50
	2437	6	-	19.01	-	-	19.227	-	> 0.50
	2462	11	-	18.96	-	-	18.954	-	> 0.50
HE20 SU	2412	1	-	19.03	-	-	19.023	-	> 0.50
	2437	6	-	19.01	-	-	19.166	-	> 0.50
	2462	11	-	19.04	-	-	19.008	-	> 0.50

Test Plots

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



9.3 OUTPUT POWER

Peak Power

Note:

1. MIMO Total Power = $10 \cdot \log((10^{\text{Ant.1 Total power}/10}) + (10^{\text{Ant.2 Total power}/10}))$

[SISO(Ant.1)]

Mode	Freq. [MHz]	CH.	Total Peak Power [dBm]			Limit [dBm]
			RU Index : Low	RU Index : Mid	RU Index : High	
			ANT1	ANT1	ANT1	
HE20 26T	2412	1	19.37	20.29	20.25	30
	2437	6	20.20	19.75	19.10	30
	2462	11	19.18	19.83	19.77	30
HE20 52T	2412	1	21.97	22.81	22.74	30
	2437	6	23.08	23.22	22.31	30
	2462	11	22.04	22.42	22.65	30
HE20 106T	2412	1	22.87	-	23.17	30
	2437	6	24.92	-	24.50	30
	2462	11	22.70	-	23.18	30
HE20 242T	2412	1	-	22.32	-	30
	2437	6	-	24.95	-	30
	2462	11	-	22.15	-	30
HE20 SU	2412	1	-	22.36	-	30
	2437	6	-	24.95	-	30
	2462	11	-	22.15	-	30

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

Mode	Freq. [MHz]	CH.	Total Peak Power [dBm]									Limit [dBm]
			RU Index : Low			RU Index : Mid			RU Index : High			
			ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	
HE20 26T	2412	1	19.91	17.99	22.06	19.73	19.10	22.44	19.58	19.28	22.44	30
	2437	6	19.80	19.51	22.67	19.93	20.17	23.06	18.78	19.63	22.23	30
	2462	11	19.09	18.22	21.69	19.81	18.96	22.41	19.20	18.89	22.06	30
HE20 52T	2412	1	22.03	21.35	24.71	22.88	21.91	25.43	22.68	22.39	25.55	30
	2437	6	23.12	23.06	26.10	23.05	23.02	26.04	21.99	22.61	25.32	30
	2462	11	22.30	21.30	24.84	22.28	21.63	24.98	22.46	21.76	25.13	30
HE20 106T	2412	1	22.62	21.94	25.30	-	-	-	23.02	22.76	25.90	30
	2437	6	24.40	24.78	27.61	-	-	-	24.98	24.59	27.80	30
	2462	11	22.40	21.85	25.14	-	-	-	22.95	22.32	25.66	30
HE20 242T	2412	1	-	-	-	22.17	21.67	24.94	-	-	-	30
	2437	6	-	-	-	24.41	24.95	27.70	-	-	-	30
	2462	11	-	-	-	21.84	21.50	24.68	-	-	-	30
HE20 SU	2412	1	-	-	-	22.01	21.73	24.88	-	-	-	30
	2437	6	-	-	-	24.27	22.67	26.55	-	-	-	30
	2462	11	-	-	-	21.87	21.04	24.49	-	-	-	30

Average Power

Note:

1. Ant Total Power [dBm] = Measured Power [dBm] + Duty Cycle Factor [dB]
2. MIMO Total Power = $10 \cdot \log((10^{\text{Ant.1 Total power}/10}) + (10^{\text{Ant.2 Total power}/10}))$

[SISO(Ant.1)]

Mode	Freq. [MHz]	CH.	Total Average Power [dBm]			Limit [dBm]
			RU Index : Low	RU Index : Mid	RU Index : High	
			ANT1	ANT1	ANT1	
HE20 26T	2412	1	7.21	8.75	8.38	30
	2437	6	8.63	8.61	6.78	30
	2462	11	7.86	8.83	8.71	30
HE20 52T	2412	1	10.60	11.73	11.61	30
	2437	6	11.26	11.81	10.58	30
	2462	11	10.62	11.42	11.57	30
HE20 106T	2412	1	12.64	-	13.37	30
	2437	6	14.61	-	13.94	30
	2462	11	12.71	-	13.39	30
HE20 242T	2412	1	-	12.52	-	30
	2437	6	-	15.79	-	30
	2462	11	-	12.98	-	30
HE20 SU	2412	1	-	12.45	-	30
	2437	6	-	15.75	-	30
	2462	11	-	12.91	-	30

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

Mode	Freq. [MHz]	CH.	Total Average Power [dBm]									Limit [dBm]
			RU Index : Low			RU Index : Mid			RU Index : High			
			ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	
HE20 26T	2412	1	7.25	6.71	10.00	8.89	8.35	11.64	8.62	8.48	11.56	30
	2437	6	8.17	8.28	11.24	8.56	8.62	11.60	6.69	8.32	10.59	30
	2462	11	7.24	7.02	10.14	8.61	8.13	11.39	8.35	7.98	11.18	30
HE20 52T	2412	1	10.86	10.29	13.60	11.85	11.25	14.57	11.67	11.84	14.77	30
	2437	6	11.49	11.61	14.56	11.71	11.88	14.81	10.49	11.45	14.01	30
	2462	11	10.64	10.20	13.44	11.40	10.87	14.16	11.85	10.95	14.44	30
HE20 106T	2412	1	12.38	11.47	14.96	-	-	-	12.74	12.47	15.62	30
	2437	6	14.83	14.86	17.86	-	-	-	13.68	14.56	17.15	30
	2462	11	12.09	11.42	14.78	-	-	-	12.92	12.03	15.51	30
HE20 242T	2412	1	-	-	-	12.54	11.81	15.20	-	-	-	30
	2437	6	-	-	-	15.26	15.60	18.45	-	-	-	30
	2462	11	-	-	-	12.68	12.11	15.42	-	-	-	30
HE20 SU	2412	1	-	-	-	12.44	11.77	15.13	-	-	-	30
	2437	6	-	-	-	15.32	15.65	18.50	-	-	-	30
	2462	11	-	-	-	12.77	12.14	15.48	-	-	-	30

9.4 POWER SPECTRAL DENSITY

Note:

1. Total PSD = Measured PSD + Duty Cycle Factor
2. MIMO Total PSD = $10 \cdot \log(((10^{\text{Ant.1 PSD}/10}) + (10^{\text{Ant.2 PSD}/10})))$

[SISO(Ant.1)]

Mode	Freq. [MHz]	CH.	Total Power Spectral Density [dBm/3 kHz]			Limit
			RU Index : Low	RU Index : Mid	RU Index : High	
			ANT1	ANT1	ANT1	
HE20 26T	2412	1	-12.766	-11.270	-11.705	8 dBm / 3 kHz
	2437	6	-12.038	-11.678	-13.352	
	2462	11	-13.492	-11.982	-12.566	
HE20 52T	2412	1	-12.591	-12.125	-12.055	
	2437	6	-11.624	-11.405	-12.331	
	2462	11	-12.694	-12.191	-11.763	
HE20 106T	2412	1	-14.652	-	-14.216	
	2437	6	-11.062	-	-11.598	
	2462	11	-14.534	-	-13.503	
HE20 242T	2412	1	-	-17.450	-	
	2437	6	-	-13.516	-	
	2462	11	-	-17.064	-	
HE20 SU	2412	1	-	-16.849	-	
	2437	6	-	-13.198	-	
	2462	11	-	-16.780	-	

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

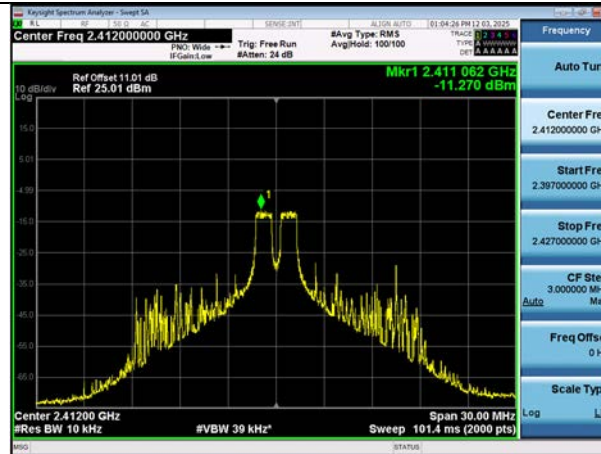
Mode	Freq. [MHz]	CH.	Total Power Spectral Density [dBm/3 kHz]									Limit
			RU Index : Low			RU Index : Mid			RU Index : High			
			ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	
HE20 26T	2412	1	-14.189	-14.332	-11.250	-12.319	-12.357	-9.328	-12.614	-12.778	-9.685	8 dBm / 3 kHz
	2437	6	-12.510	-12.148	-9.315	-12.080	-11.904	-8.981	-13.011	-12.331	-9.647	
	2462	11	-13.679	-14.411	-11.019	-12.232	-13.141	-9.652	-12.388	-13.576	-9.931	
HE20 52T	2412	1	-12.362	-13.006	-9.662	-12.112	-12.962	-9.506	-12.264	-12.248	-9.246	
	2437	6	-11.803	-11.490	-8.634	-11.350	-11.621	-8.474	-13.080	-12.238	-9.629	
	2462	11	-12.766	-13.746	-10.219	-12.347	-12.258	-9.292	-11.829	-12.579	-9.178	
HE20 106T	2412	1	-14.792	-15.606	-12.170	-	-	-	-14.406	-14.229	-11.306	
	2437	6	-11.757	-11.537	-8.635	-	-	-	-12.308	-12.139	-9.212	
	2462	11	-15.128	-15.195	-12.151	-	-	-	-14.523	-14.117	-11.305	
HE20 242T	2412	1	-	-	-	-16.515	-17.538	-13.986	-	-	-	
	2437	6	-	-	-	-13.241	-13.078	-10.149	-	-	-	
	2462	11	-	-	-	-16.074	-17.313	-13.639	-	-	-	
HE20 SU	2412	1	-	-	-	-16.978	-17.484	-14.213	-	-	-	
	2437	6	-	-	-	-13.404	-13.132	-10.255	-	-	-	
	2462	11	-	-	-	-16.826	-18.212	-14.453	-	-	-	

Test Plots

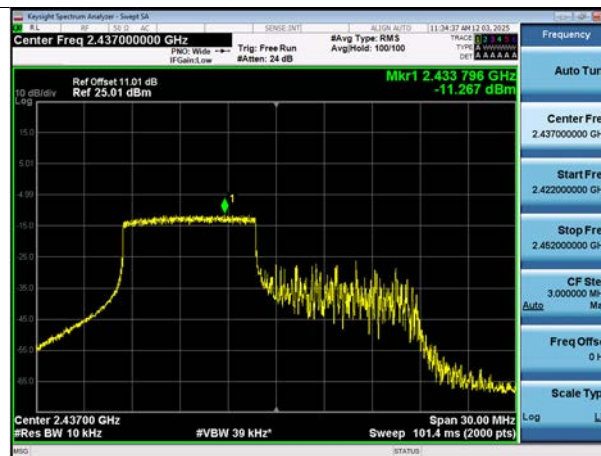
Note: In order to simplify the report, attached plots were only the worst case PSD channel.

[SISO(Ant.1)]

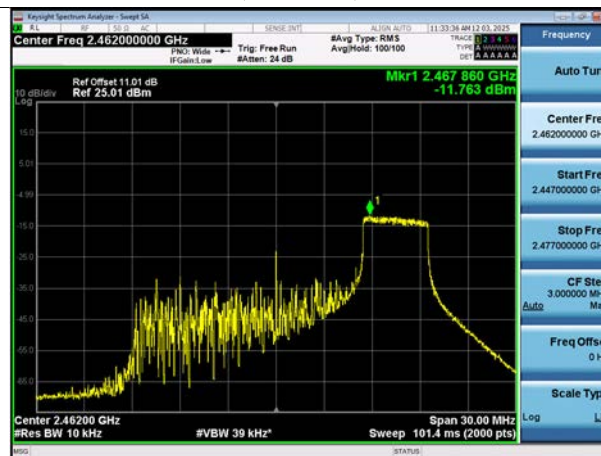
BW20M Ch.1(2412 MHz) 26 Tones RU 4



BW20M Ch.6(2437 MHz) 106 Tones RU 53



BW20M Ch.11(2462 MHz) 52 Tones RU 40

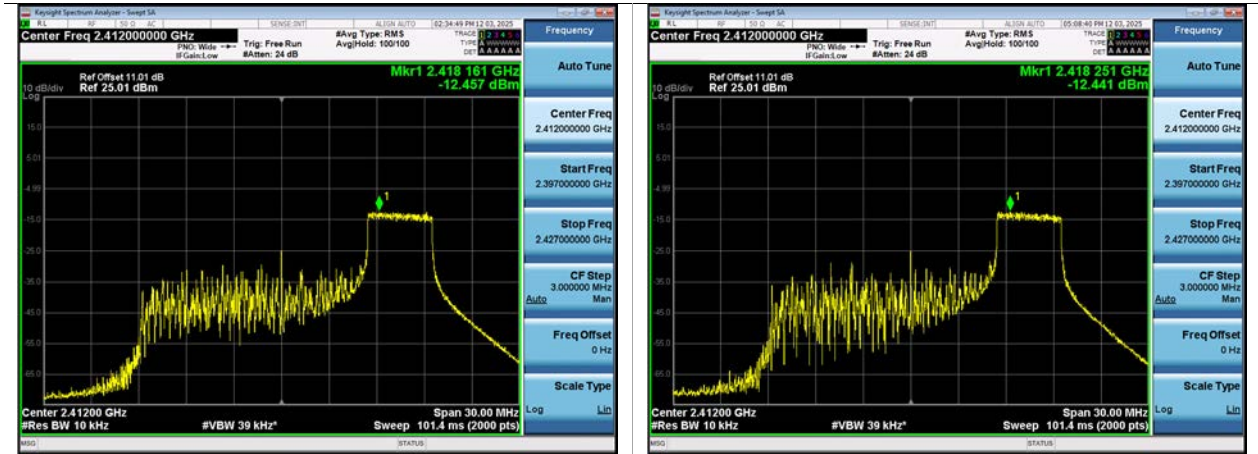


[MIMO_SDM(Ant.1+Ant.2)]

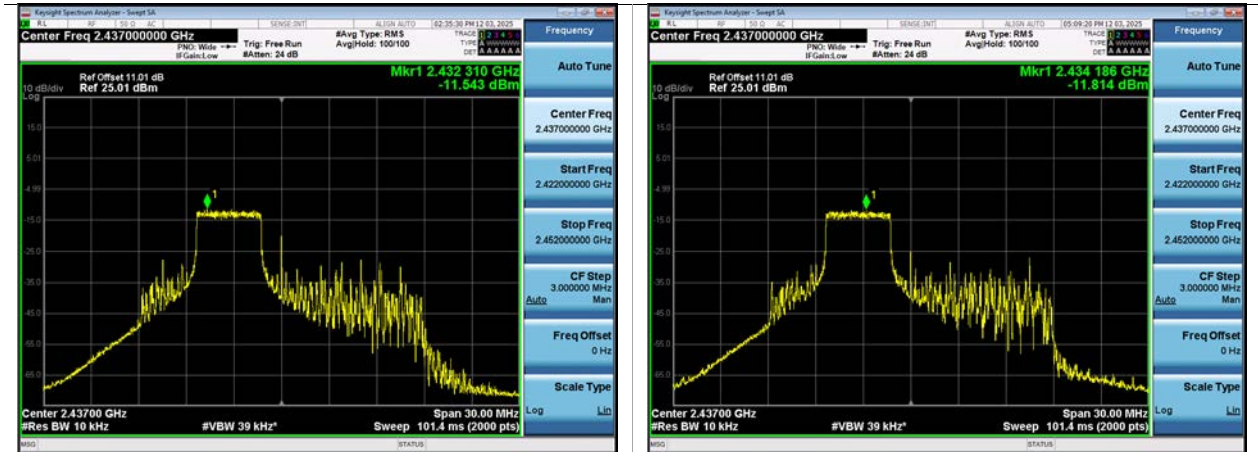
[MIMO_SDM(Ant.1)]

[MIMO_SDM(Ant.2)]

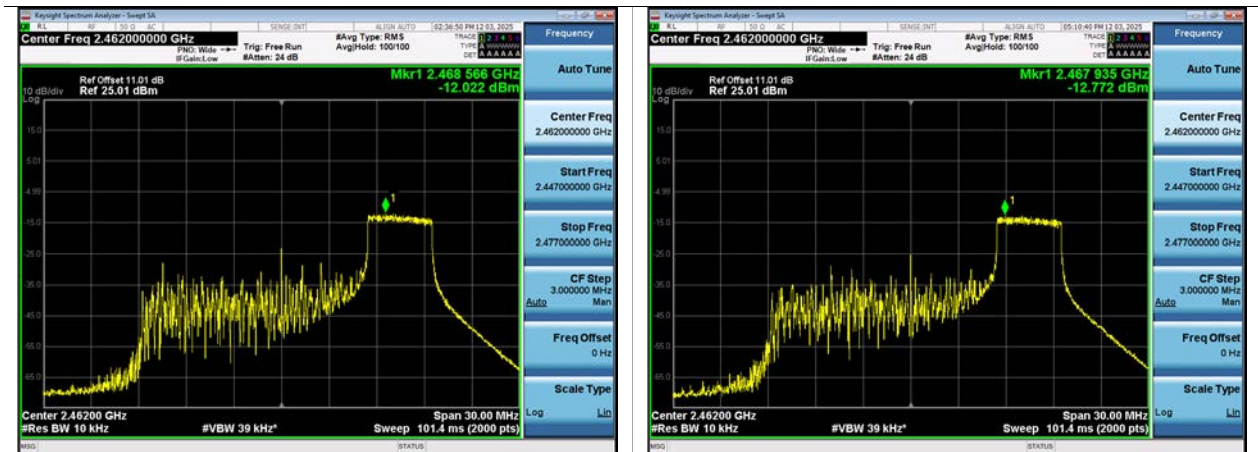
BW20M Ch.1(2412 MHz) 52 Tones RU 40



BW20M Ch.6(2437 MHz) 52 Tones RU 38



BW20M Ch.11(2462 MHz) 52 Tones RU 40



9.5 BAND EDGE / CONDUCTED SPURIOUS EMISSIONS

Band Edge

Limit : 30 dBc

[SISO(Ant.1)]

Mode	Freq. [MHz]	CH.	Worst Data Rate	Measured Position	Band edge [dB]
HE20	2412	1	MCS0	Lowest Bandedge	33.141
26T	2462	11	MCS0	Highest Bandedge	50.766
HE20	2412	1	MCS0	Lowest Bandedge	32.455
52T	2462	11	MCS0	Highest Bandedge	56.012
HE20	2412	1	MCS0	Lowest Bandedge	32.480
106T	2462	11	MCS0	Highest Bandedge	54.062
HE20	2412	1	MCS0	Lowest Bandedge	33.849
242T	2462	11	MCS0	Highest Bandedge	49.891
HE20	2412	1	MCS0	Lowest Bandedge	34.478
SU	2462	11	MCS0	Highest Bandedge	50.514

[MIMO_SDM(Ant.1)]

Mode	Freq. [MHz]	CH.	Worst Data Rate	Measured Position	Band edge [dB]
HE20	2412	1	MCS0	Lowest Bandedge	32.651
26T	2462	11	MCS0	Highest Bandedge	55.883
HE20	2412	1	MCS0	Lowest Bandedge	33.557
52T	2462	11	MCS0	Highest Bandedge	56.912
HE20	2412	1	MCS0	Lowest Bandedge	33.106
106T	2462	11	MCS0	Highest Bandedge	53.362
HE20	2412	1	MCS0	Lowest Bandedge	34.283
242T	2462	11	MCS0	Highest Bandedge	49.126
HE20	2412	1	MCS0	Lowest Bandedge	34.590
SU	2462	11	MCS0	Highest Bandedge	50.572

[MIMO_SDM(Ant.2)]

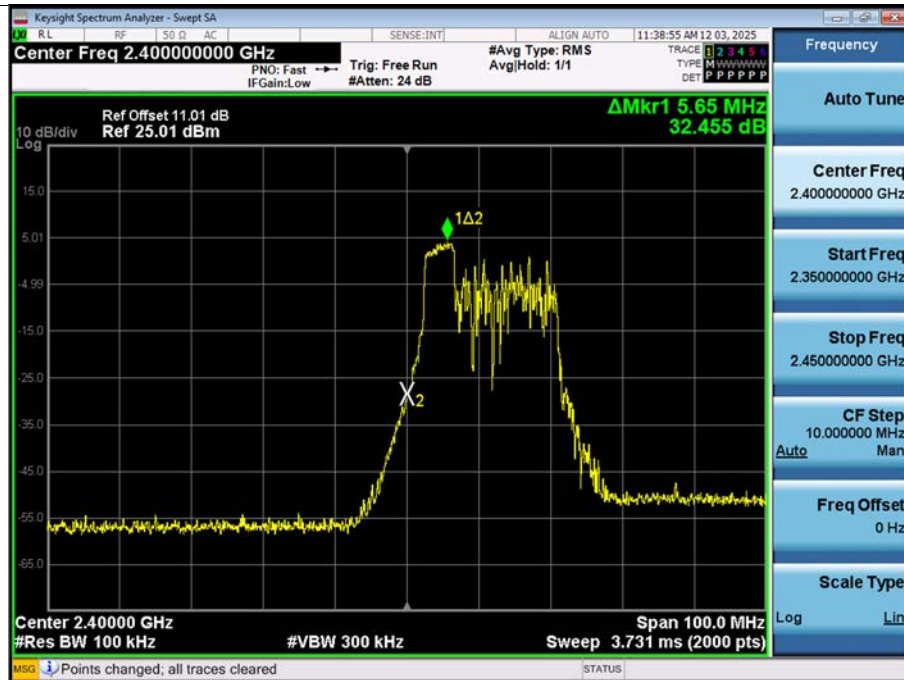
Mode	Freq. [MHz]	CH.	Worst Data Rate	Measured Position	Band edge [dB]
HE20 26T	2412	1	MCS0	Lowest Bandedge	33.670
	2462	11	MCS0	Highest Bandedge	55.411
HE20 52T	2412	1	MCS0	Lowest Bandedge	31.892
	2462	11	MCS0	Highest Bandedge	50.590
HE20 106T	2412	1	MCS0	Lowest Bandedge	31.226
	2462	11	MCS0	Highest Bandedge	45.557
HE20 242T	2412	1	MCS0	Lowest Bandedge	32.982
	2462	11	MCS0	Highest Bandedge	42.615
HE20 SU	2412	1	MCS0	Lowest Bandedge	35.264
	2462	11	MCS0	Highest Bandedge	42.031

Test Plots

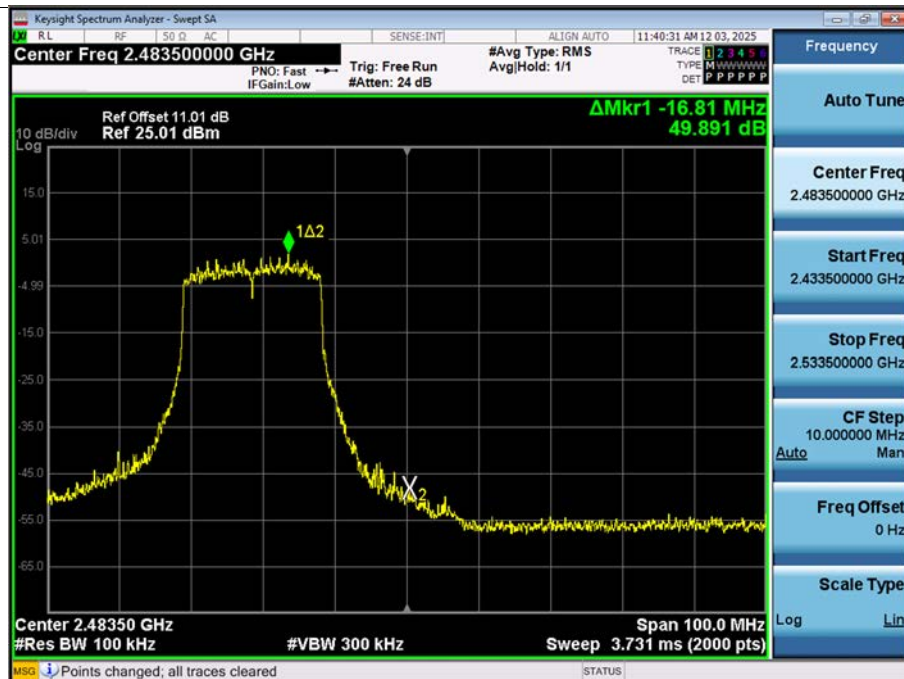
Note: In order to simplify the report, attached plots were only the worst case.

[SISO(Ant.1)]

BW 20M Ch.1(2412 MHz) 52T RU 37

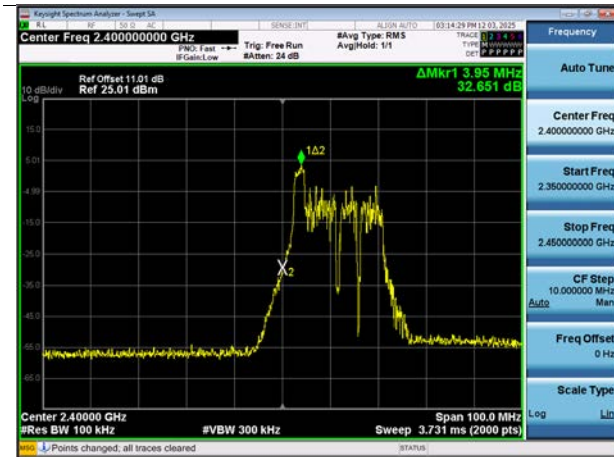


BW 20M Ch.11(2462 MHz) 242T RU 61



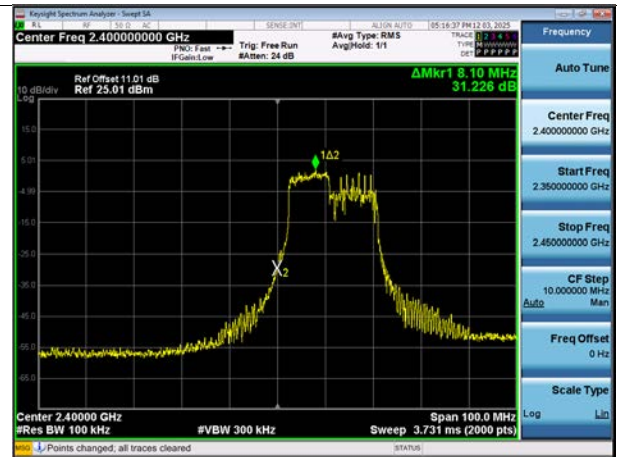
[MIMO_SDM(Ant.1)]

BW 20M Ch.1(2412 MHz) 26T RU 0

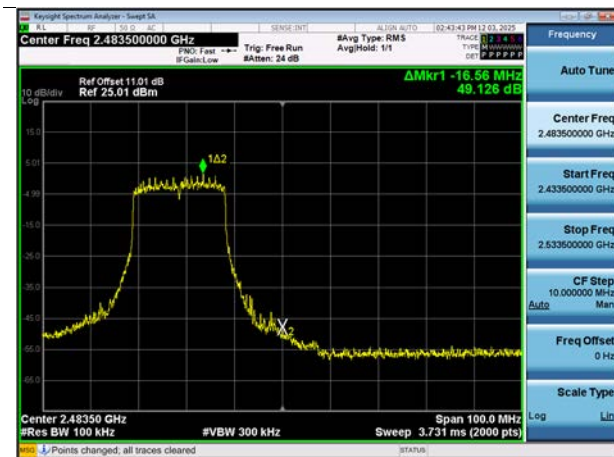


[MIMO_SDM(Ant.2)]

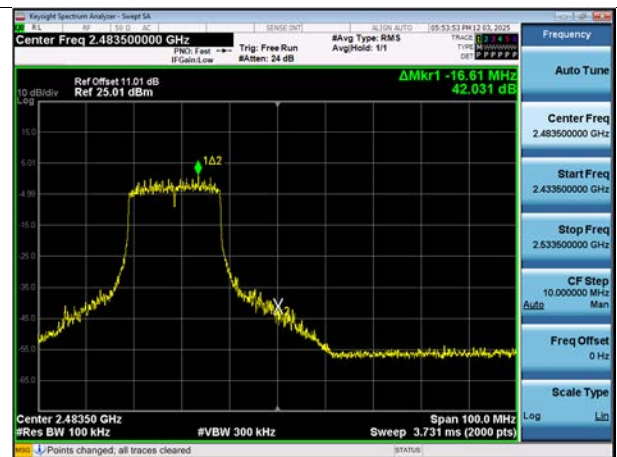
BW 20M Ch.1(2412 MHz) 106T RU 53



BW 20M Ch.11(2462 MHz) 242T RU 61



BW 20M Ch.11(2462 MHz) SU



Conducted Spurious Emissions

Limit : 30 dBc

[SISO(Ant.1)]

Mode	Freq. [MHz]	CH.	Worsts Data Rate	Conducted Spurious Emissions [dBc]		
				RU Index : Low	RU Index : Mid	RU Index : High
				ANT1	ANT1	ANT1
HE20 26T	2412	1	MCS0	56.789	56.974	56.930
	2437	6	MCS0	56.697	57.358	54.968
	2462	11	MCS0	55.035	56.021	56.544
HE20 52T	2412	1	MCS0	56.652	58.175	56.993
	2437	6	MCS0	57.159	58.676	55.499
	2462	11	MCS0	57.391	57.986	58.420
HE20 106T	2412	1	MCS0	55.732	-	56.780
	2437	6	MCS0	58.528	-	56.894
	2462	11	MCS0	56.339	-	56.679
HE20 242T	2412	1	MCS0	-	52.781	-
	2437	6	MCS0	-	57.030	-
	2462	11	MCS0	-	53.809	-
HE20 SU	2412	1	MCS0	-	53.041	-
	2437	6	MCS0	-	58.269	-
	2462	11	MCS0	-	55.859	-

[MIMO_SDM(Ant.1)]

Mode	Freq. [MHz]	CH.	Worsts Data Rate	Conducted Spurious Emissions [dBc]		
				RU Index : Low	RU Index : Mid	RU Index : High
				ANT1	ANT1	ANT1
HE20 26T	2412	1	MCS0	55.963	57.432	57.514
	2437	6	MCS0	56.886	58.078	55.433
	2462	11	MCS0	56.669	58.468	57.384
HE20 52T	2412	1	MCS0	55.640	58.605	57.105
	2437	6	MCS0	57.031	58.630	57.831
	2462	11	MCS0	55.888	59.294	58.086
HE20 106T	2412	1	MCS0	54.998	-	56.831
	2437	6	MCS0	57.506	-	58.479
	2462	11	MCS0	58.576	-	58.925
HE20 242T	2412	1	MCS0	-	60.575	-
	2437	6	MCS0	-	57.769	-
	2462	11	MCS0	-	58.243	-
HE20 SU	2412	1	MCS0	-	58.192	-
	2437	6	MCS0	-	58.268	-
	2462	11	MCS0	-	57.790	-

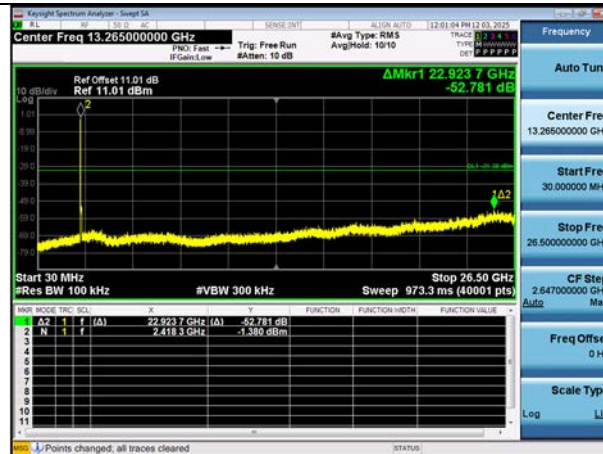
[MIMO_SDM(Ant.2)]

Mode	Freq. [MHz]	CH.	Worst Data Rate	Conducted Spurious Emissions [dBc]		
				RU Index : Low	RU Index : Mid	RU Index : High
				ANT2	ANT2	ANT2
HE20 26T	2412	1	MCS0	53.545	56.568	55.858
	2437	6	MCS0	55.530	57.920	56.314
	2462	11	MCS0	53.857	56.830	53.721
HE20 52T	2412	1	MCS0	55.368	56.883	58.392
	2437	6	MCS0	58.070	56.791	57.673
	2462	11	MCS0	55.944	56.051	56.337
HE20 106T	2412	1	MCS0	55.616	-	55.890
	2437	6	MCS0	58.890	-	57.227
	2462	11	MCS0	53.437	-	54.296
HE20 242T	2412	1	MCS0	-	52.099	-
	2437	6	MCS0	-	59.195	-
	2462	11	MCS0	-	52.547	-
HE20 SU	2412	1	MCS0	-	54.101	-
	2437	6	MCS0	-	58.374	-
	2462	11	MCS0	-	54.429	-

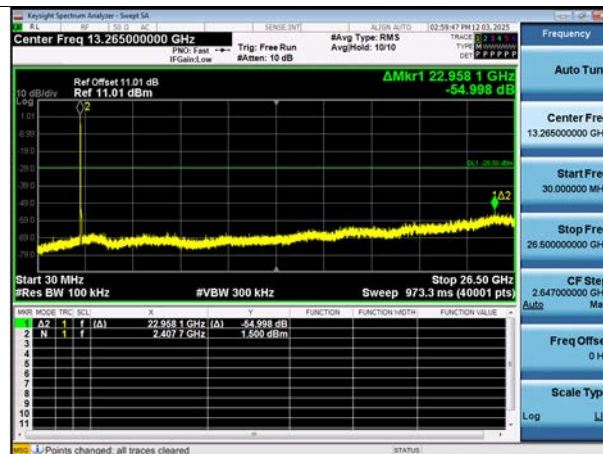
Test Plots

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

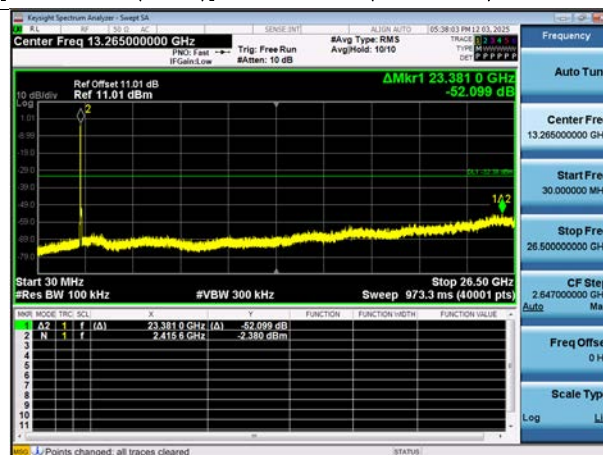
[SISO(Ant.1)] BW 20M Ch.1(2 412 MHz) 242T RU 61



[MIMO_SDM(Ant.1)] BW 20M Ch.1(2 412 MHz) 106T RU 53



[MIMO_SDM(Ant.2)] BW 20M Ch.1(2 412 MHz) 242T RU 61



Limit

SISO(Ant.1): -31.380 dBm, MIMO_SDM(Ant.1): -28.500 dBm, MIMO_SDM(Ant.2): -32.380 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]	[dB μ V/m]	[dB/m]	[H/V]	[dB μ V/m]	[dB μ V/m]	[dB]
No Critical peaks found						

Note:

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

Frequency Range : Below 1 GHz

Frequency	Measured Value	A.F+C.L	POL	Total	Limit	Margin
[MHz]	[dB μ V/m]	[dB/m]	[H/V]	[dB μ V/m]	[dB μ V/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

[SISO(Ant.1)]

[802.11ax_20, 26 Tone]

Band : DTS			Operation Mode :		802.11ax_HE20 MCS0 26T 4RU			
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	43.76	0.00	3.45	V	47.21	73.98	26.77	PK
4824	31.81	0.00	3.45	V	35.26	53.98	18.72	AV
7236	45.95	0.00	9.39	V	55.34	73.98	18.64	PK
7236	30.60	0.00	9.39	V	39.99	53.98	13.99	AV
4824	43.91	0.00	3.45	H	47.36	73.98	26.62	PK
4824	32.15	0.00	3.45	H	35.60	53.98	18.38	AV
7236	46.33	0.00	9.39	H	55.72	73.98	18.26	PK
7236	30.77	0.00	9.39	H	40.16	53.98	13.82	AV

Band : DTS			Operation Mode :		802.11ax_HE20 MCS0 26T 4RU			
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	43.39	0.00	3.79	V	47.18	73.98	26.80	PK
4874	30.93	0.00	3.79	V	34.72	53.98	19.26	AV
7311	47.36	0.00	10.29	V	57.65	73.98	16.33	PK
7311	30.72	0.00	10.29	V	41.01	53.98	12.97	AV
4874	43.49	0.00	3.79	H	47.28	73.98	26.70	PK
4874	31.27	0.00	3.79	H	35.06	53.98	18.92	AV
7311	47.44	0.00	10.29	H	57.73	73.98	16.25	PK
7311	31.10	0.00	10.29	H	41.39	53.98	12.59	AV

Band : DTS			Operation Mode :		802.11ax_HE20 MCS0 26T 4RU			
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	42.55	0.00	3.30	V	45.85	73.98	28.13	PK
4924	30.52	0.00	3.30	V	33.82	53.98	20.16	AV
7386	45.30	0.00	11.08	V	56.38	73.98	17.60	PK
7386	30.11	0.00	11.08	V	41.19	53.98	12.79	AV
4924	42.91	0.00	3.30	H	46.21	73.98	27.77	PK
4924	30.74	0.00	3.30	H	34.04	53.98	19.94	AV
7386	45.34	0.00	11.08	H	56.42	73.98	17.56	PK
7386	30.29	0.00	11.08	H	41.37	53.98	12.61	AV

[802.11ax_20, 242 Tone]

Band : DTS			Operation Mode :		802.11ax_HE20 MCS0 242T 61RU			
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	43.87	0.00	3.45	V	47.32	73.98	26.66	PK
4824	31.90	0.43	3.45	V	35.78	53.98	18.20	AV
7236	48.64	0.00	9.39	V	58.03	73.98	15.95	PK
7236	33.60	0.43	9.39	V	43.42	53.98	10.56	AV
4824	44.04	0.00	3.45	H	47.49	73.98	26.49	PK
4824	32.13	0.43	3.45	H	36.01	53.98	17.97	AV
7236	48.82	0.00	9.39	H	58.21	73.98	15.77	PK
7236	33.65	0.43	9.39	H	43.47	53.98	10.51	AV

Band : DTS			Operation Mode :		802.11ax_HE20 MCS0 242T 61RU			
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	43.19	0.00	3.79	V	46.98	73.98	27.00	PK
4874	31.20	0.43	3.79	V	35.42	53.98	18.56	AV
7311	50.70	0.00	10.29	V	60.99	73.98	12.99	PK
7311	35.15	0.43	10.29	V	45.87	53.98	8.11	AV
4874	43.34	0.00	3.79	H	47.13	73.98	26.85	PK
4874	31.23	0.43	3.79	H	35.45	53.98	18.53	AV
7311	50.84	0.00	10.29	H	61.13	73.98	12.85	PK
7311	35.28	0.43	10.29	H	46.00	53.98	7.98	AV

Band : DTS			Operation Mode :		802.11ax_HE20 MCS0 242T 61RU			
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	43.16	0.00	3.30	V	46.46	73.98	27.52	PK
4924	30.74	0.43	3.30	V	34.47	53.98	19.51	AV
7386	46.97	0.00	11.08	V	58.05	73.98	15.93	PK
7386	32.21	0.43	11.08	V	43.72	53.98	10.26	AV
4924	43.32	0.00	3.30	H	46.62	73.98	27.36	PK
4924	30.93	0.43	3.30	H	34.66	53.98	19.32	AV
7386	47.03	0.00	11.08	H	58.11	73.98	15.87	PK
7386	32.34	0.43	11.08	H	43.85	53.98	10.13	AV

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

[802.11ax_20, 26 Tone]

Band : DTS			Operation Mode :		802.11ax_HE20 MCS0 26T 4RU			
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	44.67	0.00	3.45	V	48.12	73.98	25.86	PK
4824	31.61	0.00	3.45	V	35.06	53.98	18.92	AV
7236	47.62	0.00	9.39	V	57.01	73.98	16.97	PK
7236	30.66	0.00	9.39	V	40.05	53.98	13.93	AV
4824	44.94	0.00	3.45	H	48.39	73.98	25.59	PK
4824	31.85	0.00	3.45	H	35.30	53.98	18.68	AV
7236	47.77	0.00	9.39	H	57.16	73.98	16.82	PK
7236	30.78	0.00	9.39	H	40.17	53.98	13.81	AV

Band : DTS			Operation Mode :		802.11ax_HE20 MCS0 26T 4RU			
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	42.78	0.00	3.79	V	46.57	73.98	27.41	PK
4874	30.76	0.00	3.79	V	34.55	53.98	19.43	AV
7311	45.92	0.00	10.29	V	56.21	73.98	17.77	PK
7311	30.77	0.00	10.29	V	41.06	53.98	12.92	AV
4874	42.94	0.00	3.79	H	46.73	73.98	27.25	PK
4874	31.07	0.00	3.79	H	34.86	53.98	19.12	AV
7311	46.35	0.00	10.29	H	56.64	73.98	17.34	PK
7311	30.86	0.00	10.29	H	41.15	53.98	12.83	AV

Band : DTS			Operation Mode :		802.11ax_HE20 MCS0 26T 4RU			
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	44.80	0.00	3.30	V	48.10	73.98	25.88	PK
4924	31.04	0.00	3.30	V	34.34	53.98	19.64	AV
7386	42.44	0.00	11.08	V	53.52	73.98	20.46	PK
7386	30.30	0.00	11.08	V	41.38	53.98	12.60	AV
4924	44.91	0.00	3.30	H	48.21	73.98	25.77	PK
4924	31.10	0.00	3.30	H	34.40	53.98	19.58	AV
7386	42.72	0.00	11.08	H	53.80	73.98	20.18	PK
7386	30.68	0.00	11.08	H	41.76	53.98	12.22	AV

[802.11ax_20, 242 Tone]

Band : DTS			Operation Mode :		802.11ax_HE20 MCS0 242T 61RU			
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	43.86	0.00	3.45	V	47.31	73.98	26.67	PK
4824	31.81	0.68	3.45	V	35.94	53.98	18.04	AV
7236	48.11	0.00	9.39	V	57.50	73.98	16.48	PK
7236	33.27	0.68	9.39	V	43.34	53.98	10.64	AV
4824	44.17	0.00	3.45	H	47.62	73.98	26.36	PK
4824	32.19	0.68	3.45	H	36.32	53.98	17.66	AV
7236	48.45	0.00	9.39	H	57.84	73.98	16.14	PK
7236	33.72	0.68	9.39	H	43.79	53.98	10.19	AV

Band : DTS			Operation Mode :		802.11ax_HE20 MCS0 242T 61RU			
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	42.51	0.00	3.79	V	46.30	73.98	27.68	PK
4874	30.63	0.68	3.79	V	35.10	53.98	18.88	AV
7311	47.71	0.00	10.29	V	58.00	73.98	15.98	PK
7311	33.52	0.68	10.29	V	44.49	53.98	9.49	AV
4874	42.87	0.00	3.79	H	46.66	73.98	27.32	PK
4874	30.79	0.68	3.79	H	35.26	53.98	18.72	AV
7311	48.07	0.00	10.29	H	58.36	73.98	15.62	PK
7311	33.68	0.68	10.29	H	44.65	53.98	9.33	AV

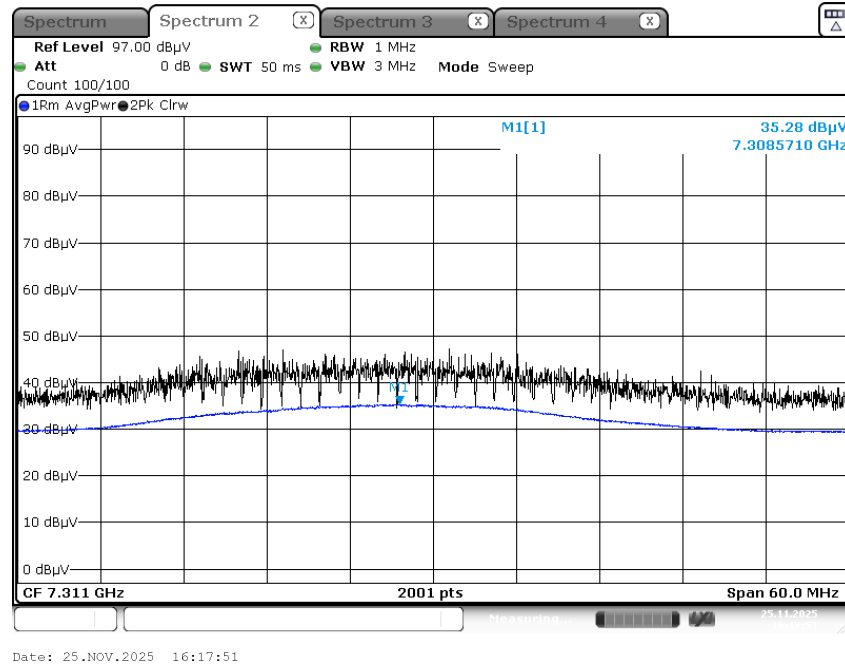
Band : DTS			Operation Mode :		802.11ax_HE20 MCS0 242T 61RU			
CH.11 2462 MHz			Transfer Rate :		MCS0			
Frequency [MHz]	Measured value [dBμV]	D.C.F [dB]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
4924	43.43	0.00	3.30	V	46.73	73.98	27.25	PK
4924	30.87	0.68	3.30	V	34.85	53.98	19.13	AV
7386	46.24	0.00	11.08	V	57.32	73.98	16.66	PK
7386	31.76	0.68	11.08	V	43.52	53.98	10.46	AV
4924	43.87	0.00	3.30	H	47.17	73.98	26.81	PK
4924	31.10	0.68	3.30	H	35.08	53.98	18.90	AV
7386	46.66	0.00	11.08	H	57.74	73.98	16.24	PK
7386	32.12	0.68	11.08	H	43.88	53.98	10.10	AV

Test Plots

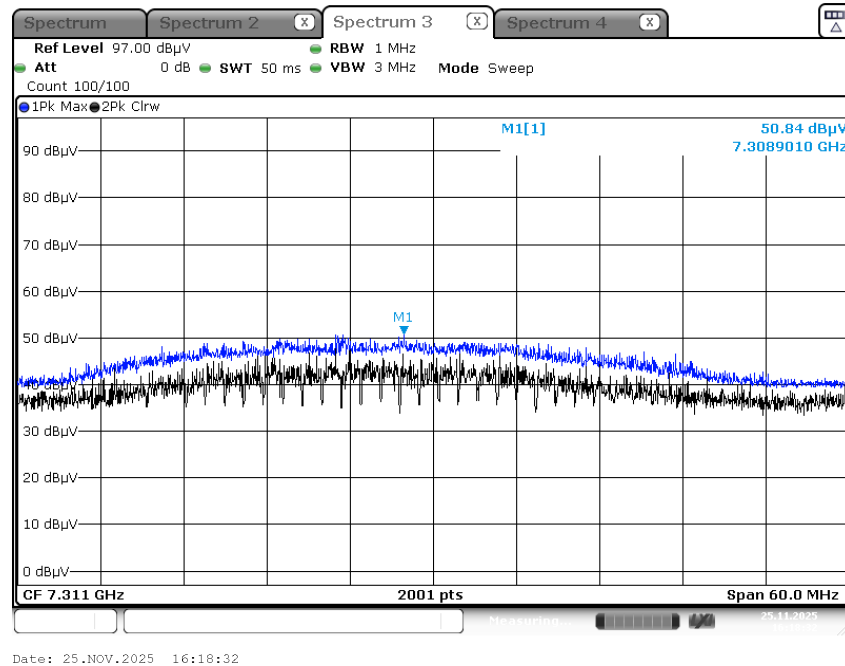
Note: In order to simplify, Plots of worst case are only reported.

[SISO(Ant.1)]

Radiated Spurious Emissions plot – Average result (802.11ax(HE20) 242T RU 61, Ch.6 3rd Harmonic, Y-H)



Radiated Spurious Emissions plot – Peak result (802.11ax(HE20) 242T RU 61, Ch.6 3rd Harmonic, Y-H)



9.7 RADIATED RESTRICTED BAND EDGES

#Note : Integration method Used (ANSI C63.10-2020 Section11.12.3.2)

[SISO(Ant.1)]

[DTS Lower Edge]

[802.11ax_20, 26 Tone]

Operation Mode :	802.11ax_20	Tone & RU Index :	26T & 0		MCS index :	MCS 0	
Channel No. :	1	Frequency :	2412 MHz		Band :	DTS	
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2310 - 2390	56.54	0.00	V	56.54	73.98	17.44	PK
2310 - 2390	44.35	0.00	V	44.35	53.98	9.63	AV

[802.11ax_20, 52 Tone]

Operation Mode :	802.11ax_20	Tone & RU Index :	52T & 37		MCS index :	MCS 0	
Channel No. :	1	Frequency :	2412 MHz		Band :	DTS	
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2310 - 2390	55.95	0.00	V	55.95	73.98	18.03	PK
2310 - 2390	43.89	0.00	V	43.89	53.98	10.09	AV

[802.11ax_20, 106 Tone]

Operation Mode :	802.11ax_20	Tone & RU Index :	106T & 53		MCS index :	MCS 0	
Channel No. :	1	Frequency :	2412 MHz		Band :	DTS	
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2310 - 2390	56.22	0.00	V	56.22	73.98	17.76	PK
2310 - 2390	43.93	0.21	V	44.14	53.98	9.84	AV

Operation Mode :	802.11ax_20	Tone & RU Index :	106T & 53		MCS index :	MCS 0	
Channel No. :	2	Frequency :	2417 MHz		Band :	DTS	
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2310 - 2390	64.97	0.00	V	64.97	73.98	9.01	PK
2310 - 2390	43.87	0.33	V	44.20	53.98	9.78	AV

[802.11ax_20, 242 Tone]

Operation Mode :	802.11ax_20	Tone & RU Index :	242T & 61		MCS index :	MCS 0	
Channel No. :	1	Frequency :	2412 MHz		Band :	DTS	
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2310 - 2390	71.02	0.00	V	71.02	73.98	2.96	PK
2310 - 2390	51.11	0.66	V	51.77	53.98	2.21	AV

Operation Mode :	802.11ax_20	Tone & RU Index :	242T & 61		MCS index :	MCS 0	
Channel No. :	2	Frequency :	2417 MHz		Band :	DTS	
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2310 - 2390	71.69	0.00	V	71.69	73.98	2.29	PK
2310 - 2390	49.59	0.66	V	50.25	53.98	3.73	AV

[802.11ax_20, SU]

Operation Mode :	802.11ax_20	Tone & RU Index :	SU		MCS index :	MCS 0	
Channel No. :	1	Frequency :	2412 MHz		Band :	DTS	
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2310 - 2390	71.85	0.00	V	71.85	73.98	2.13	PK
2310 - 2390	51.13	0.68	V	51.81	53.98	2.17	AV

Operation Mode :	802.11ax_20	Tone & RU Index :	SU		MCS index :	MCS 0	
Channel No. :	2	Frequency :	2417 MHz		Band :	DTS	
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2310 - 2390	70.98	0.00	V	70.98	73.98	3.00	PK
2310 - 2390	49.98	0.68	V	50.66	53.98	3.32	AV

[DTS Upper Edge]

[802.11ax_20, 26 Tone]

Operation Mode :	802.11ax_20	Tone & RU Index :	26T & 8		MCS index :	MCS 0	
Channel No. :	11	Frequency :	2462 MHz		Band :	DTS	
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2483.5 - 2500	57.27	0.00	V	57.27	73.98	16.71	PK
2483.5 - 2500	45.44	0.00	V	45.44	53.98	8.54	AV

[802.11ax_20, 52 Tone]

Operation Mode :	802.11ax_20	Tone & RU Index :	52T & 40			MCS index :	MCS 0
Channel No. :	11	Frequency :	2462 MHz			Band :	DTS
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2483.5 - 2500	62.06	0.00	V	62.06	73.98	11.92	PK
2483.5 - 2500	46.37	0.00	V	46.37	53.98	7.61	AV

[802.11ax_20, 106 Tone]

Operation Mode :	802.11ax_20	Tone & RU Index :	106T & 54			MCS index :	MCS 0
Channel No. :	10	Frequency :	2457 MHz			Band :	DTS
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2483.5 - 2500	65.17	0.00	V	65.17	73.98	8.81	PK
2483.5 - 2500	47.95	0.21	V	48.16	53.98	5.82	AV

Operation Mode :	802.11ax_20	Tone & RU Index :	106T & 54		MCS index :	MCS 0	
Channel No. :	11	Frequency :	2462 MHz		Band :	DTS	
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2483.5 - 2500	71.73	0.00	V	71.73	73.98	2.25	PK
2483.5 - 2500	48.08	0.21	V	48.29	53.98	5.69	AV

[802.11ax_20, 242 Tone]

Operation Mode :	802.11ax_20	Tone & RU Index :	242T & 61		MCS index :	MCS 0	
Channel No. :	8	Frequency :	2447 MHz		Band :	DTS	
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2483.5 - 2500	62.88	0.00	V	62.88	73.98	11.10	PK
2483.5 - 2500	47.88	0.43	V	48.31	53.98	5.67	AV

Operation Mode :	802.11ax_20	Tone & RU Index :	242T & 61		MCS index :	MCS 0	
Channel No. :	9	Frequency :	2452 MHz		Band :	DTS	
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2483.5 - 2500	66.81	0.00	V	66.81	73.98	7.17	PK
2483.5 - 2500	48.60	0.43	V	49.03	53.98	4.95	AV

Operation Mode :	802.11ax_20	Tone & RU Index :	242T & 61		MCS index :	MCS 0	
Channel No. :	10	Frequency :	2457 MHz		Band :	DTS	
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2483.5 - 2500	71.03	0.00	V	71.03	73.98	2.95	PK
2483.5 - 2500	50.27	0.43	V	50.70	53.98	3.28	AV

Operation Mode :	802.11ax_20	Tone & RU Index :	242T & 61		MCS index :	MCS 0	
Channel No. :	11	Frequency :	2462 MHz		Band :	DTS	
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2483.5 - 2500	71.73	0.00	V	71.73	73.98	2.25	PK
#2483.5 - 2485.5	48.08	0.43	V	48.51	53.98	5.47	AV
2485.5 - 2500	47.74	0.43	V	48.17	53.98	5.81	AV

[802.11ax_20, SU]

Operation Mode :	802.11ax_20	Tone & RU Index :	SU		MCS index :	MCS 0	
Channel No. :	8	Frequency :	2447 MHz		Band :	DTS	
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2483.5 - 2500	62.73	0.00	V	62.73	73.98	11.25	PK
2483.5 - 2500	47.89	0.44	V	48.33	53.98	5.65	AV

Operation Mode :	802.11ax_20	Tone & RU Index :	SU		MCS index :	MCS 0	
Channel No. :	9	Frequency :	2452 MHz		Band :	DTS	
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2483.5 - 2500	67.74	0.00	V	67.74	73.98	6.24	PK
2483.5 - 2500	48.49	0.44	V	48.93	53.98	5.05	AV

Operation Mode :	802.11ax_20	Tone & RU Index :	SU		MCS index :	MCS 0	
Channel No. :	10	Frequency :	2457 MHz		Band :	DTS	
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2483.5 - 2500	70.69	0.00	V	70.69	73.98	3.29	PK
2483.5 - 2500	50.62	0.44	V	51.06	53.98	2.92	AV

Operation Mode :	802.11ax_20	Tone & RU Index :	SU		MCS index :	MCS 0	
Channel No. :	11	Frequency :	2462 MHz		Band :	DTS	
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2483.5 - 2500	71.37	0.00	V	71.37	73.98	2.61	PK
#2483.5 - 2485.5	47.43	0.44	V	47.87	53.98	6.11	AV
2485.5 - 2500	46.96	0.44	V	47.40	53.98	6.58	AV

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

[DTS Lower Edge]

[802.11ax_20, 26 Tone]

Operation Mode :	802.11ax_20	Tone & RU Index :	26T & 0		MCS index :	MCS 0	
Channel No. :	1	Frequency :	2412 MHz		Band :	DTS	
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2310 - 2390	57.72	0.00	V	57.72	73.98	16.26	PK
2310 - 2390	44.94	0.00	V	44.94	53.98	9.04	AV

[802.11ax_20, 52 Tone]

Operation Mode :	802.11ax_20	Tone & RU Index :	52T & 37		MCS index :	MCS 0	
Channel No. :	1	Frequency :	2412 MHz		Band :	DTS	
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2310 - 2390	60.32	0.00	V	60.32	73.98	13.66	PK
2310 - 2390	45.40	0.19	V	45.59	53.98	8.39	AV

[802.11ax_20, 106 Tone]

Operation Mode :	802.11ax_20	Tone & RU Index :	106T & 53		MCS index :	MCS 0	
Channel No. :	1	Frequency :	2412 MHz		Band :	DTS	
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2310 - 2390	67.43	0.00	V	67.43	73.98	6.55	PK
2310 - 2390	46.97	0.33	V	47.30	53.98	6.68	AV

Operation Mode :	802.11ax_20	Tone & RU Index :	106T & 53		MCS index :	MCS 0	
Channel No. :	2	Frequency :	2417 MHz		Band :	DTS	
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2310 - 2390	65.14	0.00	V	65.14	73.98	8.84	PK
2310 - 2390	45.97	0.33	V	46.30	53.98	7.68	AV

[802.11ax_20, 242 Tone]

Operation Mode :	802.11ax_20	Tone & RU Index :	242T & 61			MCS index :	MCS 0
Channel No. :	1	Frequency :	2412 MHz			Band :	DTS
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2310 - 2390	71.02	0.00	V	71.02	73.98	2.96	PK
2310 - 2390	51.11	0.66	V	51.77	53.98	2.21	AV

Operation Mode :	802.11ax_20	Tone & RU Index :	242T & 61			MCS index :	MCS 0
Channel No. :	2	Frequency :	2417 MHz			Band :	DTS
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2310 - 2390	71.69	0.00	V	71.69	73.98	2.29	PK
2310 - 2390	49.59	0.66	V	50.25	53.98	3.73	AV

[802.11ax_20, SU]

Operation Mode :	802.11ax_20	Tone & RU Index :	SU			MCS index :	MCS 0
Channel No. :	1	Frequency :	2412 MHz			Band :	DTS
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2310 - 2390	71.85	0.00	V	71.85	73.98	2.13	PK
2310 - 2390	51.13	0.68	V	51.81	53.98	2.17	AV

Operation Mode :	802.11ax_20	Tone & RU Index :	SU			MCS index :	MCS 0
Channel No. :	2	Frequency :	2417 MHz			Band :	DTS
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2310 - 2390	70.98	0.00	V	70.98	73.98	3.00	PK
2310 - 2390	49.98	0.68	V	50.66	53.98	3.32	AV

[DTS Upper Edge]

[802.11ax_20, 26 Tone]

Operation Mode :	802.11ax_20	Tone & RU Index :	26T & 8		MCS index :	MCS 0	
Channel No. :	11	Frequency :	2462 MHz		Band :	DTS	
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2483.5 - 2500	58.95	0.00	V	58.95	73.98	15.03	PK
2483.5 - 2500	45.97	0.00	V	45.97	53.98	8.01	AV

[802.11ax_20, 52 Tone]

Operation Mode :	802.11ax_20	Tone & RU Index :	52T & 40			MCS index :	MCS 0
Channel No. :	11	Frequency :	2462 MHz			Band :	DTS
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2483.5 - 2500	65.32	0.00	V	65.32	73.98	8.66	PK
2483.5 - 2500	47.69	0.19	V	47.88	53.98	6.10	AV

[802.11ax_20, 106 Tone]

Operation Mode :	802.11ax_20	Tone & RU Index :	106T & 54			MCS index :	MCS 0
Channel No. :	10	Frequency :	2457 MHz			Band :	DTS
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2483.5 - 2500	66.93	0.00	V	66.93	73.98	7.05	PK
2483.5 - 2500	49.29	0.33	V	49.62	53.98	4.36	AV

Operation Mode :	802.11ax_20	Tone & RU Index :	106T & 54		MCS index :	MCS 0	
Channel No. :	11	Frequency :	2462 MHz		Band :	DTS	
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2483.5 - 2500	71.55	0.00	V	71.55	73.98	2.43	PK
2483.5 - 2500	50.05	0.33	V	50.38	53.98	3.60	AV

[802.11ax_20, 242 Tone]

Operation Mode :	802.11ax_20	Tone & RU Index :	242T & 61		MCS index :	MCS 0	
Channel No. :	8	Frequency :	2447 MHz		Band :	DTS	
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2483.5 - 2500	68.68	0.00	V	68.68	73.98	5.30	PK
#2483.5 - 2485.5	50.78	0.66	V	51.44	53.98	2.54	AV
2485.5 - 2500	50.61	0.66	V	51.27	53.98	2.71	AV

Operation Mode :	802.11ax_20	Tone & RU Index :	242T & 61		MCS index :	MCS 0	
Channel No. :	9	Frequency :	2452 MHz		Band :	DTS	
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2483.5 - 2500	69.55	0.00	V	69.55	73.98	4.43	PK
#2483.5 - 2485.5	50.55	0.66	V	51.21	53.98	2.77	AV
2485.5 - 2500	50.36	0.66	V	51.02	53.98	2.96	AV

Operation Mode :	802.11ax_20	Tone & RU Index :	242T & 61		MCS index :	MCS 0	
Channel No. :	10	Frequency :	2457 MHz		Band :	DTS	
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2483.5 - 2500	70.14	0.00	V	70.14	73.98	3.84	PK
#2483.5 - 2485.5	51.05	0.66	V	51.71	53.98	2.27	AV
2485.5 - 2500	50.39	0.66	V	51.05	53.98	2.93	AV

Operation Mode :	802.11ax_20	Tone & RU Index :	242T & 61		MCS index :	MCS 0	
Channel No. :	11	Frequency :	2462 MHz		Band :	DTS	
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2483.5 - 2500	71.93	0.00	V	71.93	73.98	2.05	PK
#2483.5 - 2485.5	50.71	0.66	V	51.37	53.98	2.61	AV
2485.5 - 2500	49.99	0.66	V	50.65	53.98	3.33	AV

[802.11ax_20, SU]

Operation Mode: 802.11ax_20		Tone & RU Index: SU		MCS index: MCS 0			
Channel No.: 8		Frequency: 2447 MHz		Band: DTS			
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2483.5 - 2500	67.84	0.00	V	67.84	73.98	6.14	PK
#2483.5 - 2485.5	51.14	0.68	V	51.82	53.98	2.16	AV
2485.5 - 2500	51.05	0.68	V	51.73	53.98	2.25	AV

Operation Mode : 802.11ax_20		Tone & RU Index :		SU		MCS index :		MCS 0	
Channel No. : 9		Frequency :		2452 MHz		Band :		DTS	
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type		
2483.5 - 2500	67.73	0.00	V	67.73	73.98	6.25	PK		
#2483.5 - 2485.5	50.73	0.68	V	51.41	53.98	2.57	AV		
2485.5 - 2500	50.21	0.68	V	50.89	53.98	3.09	AV		

Operation Mode : 802.11ax_20		Tone & RU Index : SU		MCS index : MCS 0			
Channel No. : 10		Frequency : 2457 MHz		Band : DTS			
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2483.5 - 2500	70.34	0.00	V	70.34	73.98	3.64	PK
#2483.5 - 2485.5	50.93	0.68	V	51.61	53.98	2.37	AV
2485.5 - 2500	50.17	0.68	V	50.85	53.98	3.13	AV

Operation Mode: 802.11ax_20		Tone & RU Index: SU		MCS index: MCS 0			
Channel No.: 11		Frequency: 2462 MHz		Band: DTS			
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2483.5 - 2500	71.54	0.00	V	71.54	73.98	2.44	PK
#2483.5 - 2485.5	50.40	0.68	V	51.08	53.98	2.90	AV
2485.5 - 2500	49.74	0.68	V	50.42	53.98	3.56	AV

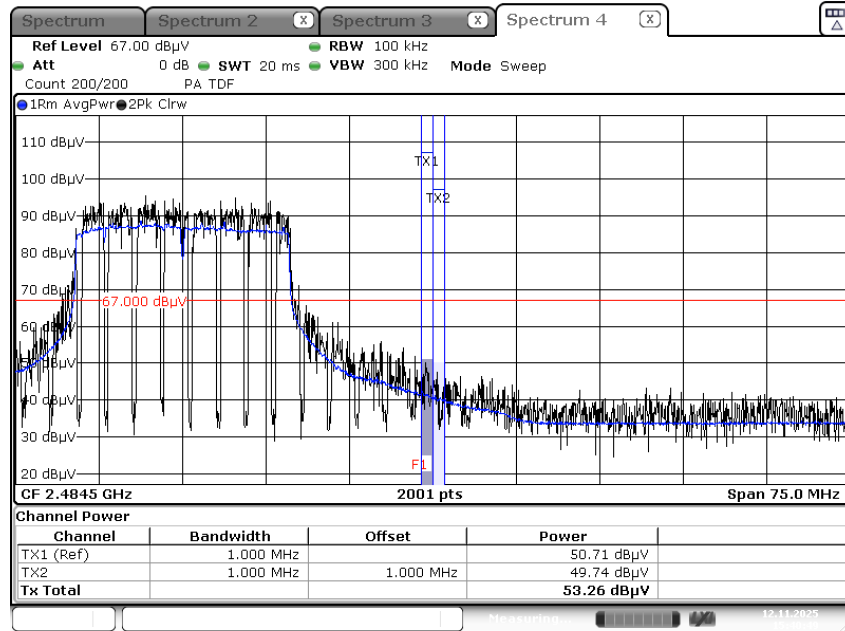
Test Plots

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

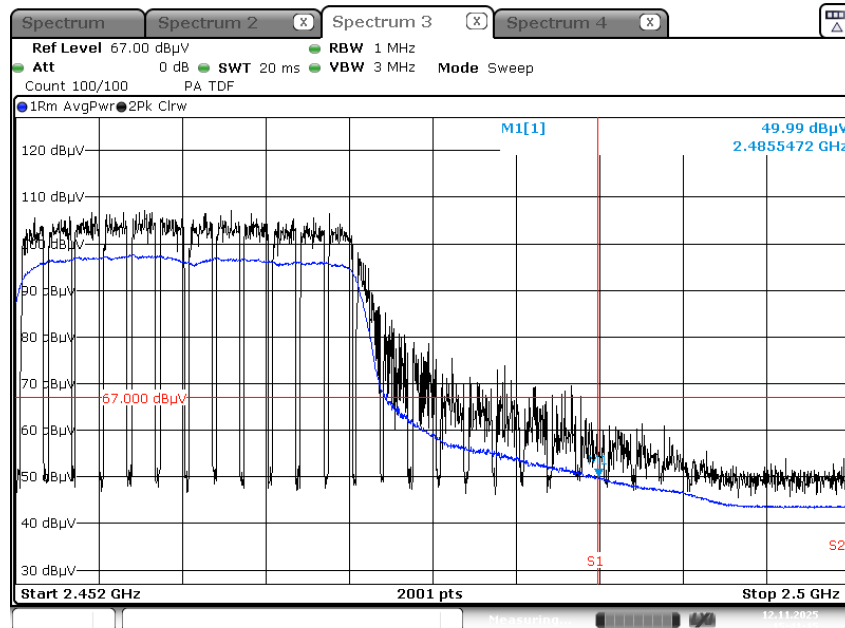
Note: In order to simplify the report, Plots of worst case are only reported.

Average Result(MIMO(SDM) 802.11ax(HE20) 242 Tone RU 61, MCS0, ch.11, Z-V)

(Avg Integration method Used)

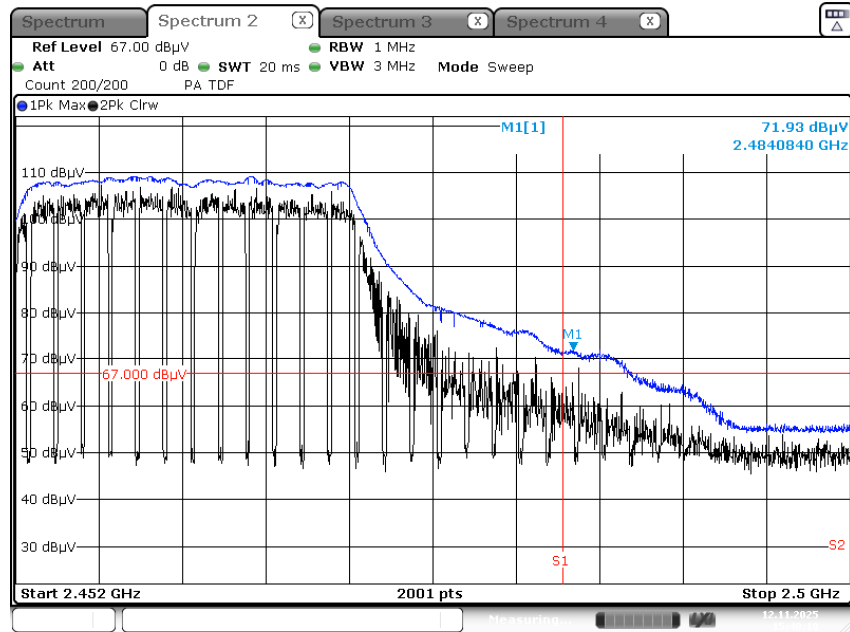


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Peak Result(MIMO(SDM) 802.11ax(HE20) 242 Tone RU 61, MCS0, ch.11, Z-V)



Date: 12.NOV.2025 15:40:18

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	93022487	06/26/2026	Annual
Signal Analyzer	N9030A	Keysight	MY55410508	07/23/2026	Annual
Power Measurement Set	OSP 120	Rohde & Schwarz	100935	07/24/2026	Annual
Power Meter	N1911A	Agilent	MY45100523	02/21/2026	Annual
Power Sensor	N1921A	Agilent	MY57820067	02/04/2026	Annual
Directional Coupler	87300B	Agilent	3116A03621	10/14/2026	Annual
Power Splitter	11667B	Hewlett Packard	10545	01/23/2026	Annual
DC Power Supply	E3632A	Agilent	KR75305528	12/24/2025	Annual
Attenuator(10 dB)(DC-26.5 GHz)	8493C-010	Agilent	08285	05/19/2026	Annual
Attenuator(20 dB)	18N-20dB	Rohde & Schwarz	8	02/18/2026	Annual
Software	EMC32	Rohde & Schwarz	N/A	N/A	N/A
Automation Software	FCC WLAN Conducted	HCT CO., LTD.	-	-	-
Automation Software	FCC BT Conducted	HCT CO., LTD.	-	-	-
Bluetooth Tester	CBT	Rohde & Schwarz	100752	12/27/2025	Annual

Note:

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

Radiated Test

Equipment	Model	Manufacturer	Serial No.	Due to Calibration	Calibration Interval
Controller (Antenna mast & Turn Table)	CO3000	Innco system	CO3000-4p	N/A	N/A
Antenna Position Tower	MA4640/800-XP-EP	Innco system	S3AM	07/25/2026	Annual
Turn Table	DS1500-S-1t	Innco system	N/A	N/A	N/A
Loop Antenna	FMZB 1513	Schwarzbeck	1513-175	01/06/2027	Biennial
Hybrid Antenna	VULB 9168	Schwarzbeck	9168-1135	08/19/2026	Biennial
Horn Antenna	BBHA 9120D	Schwarzbeck	9120D-1191	10/21/2027	Biennial
Horn Antenna (15 GHz ~ 40 GHz)	BBHA9170	Schwarzbeck	BBHA9170124	03/23/2027	Biennial
Band Reject Filter	WRCJV2400/2483.5-2370/2520-60/12SS	Wainwright Instruments	2	12/26/2025	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	WRCJV5100/5850-40/50-8EEK	Wainwright Instruments	1	01/09/2026	Annual
Amp & Filter Bank Switch Controller	FBSM-01A	TNM system	0	N/A	N/A
RF Switching System	FBSR-03A (3G HPF+LNA)	T&M SYSTEM	S3L1	10/20/2026	Annual
RF Switching System	FBSR-03A (10dB ATT+LNA)	T&M SYSTEM	S3L2	10/20/2026	Annual
RF Switching System	FBSR-03A (7G HPF+LNA)	T&M SYSTEM	S3L3	10/20/2026	Annual
RF Switching System	FBSR-03A (3dB ATT+LNA)	T&M SYSTEM	S3L4	10/20/2026	Annual
Automation Software	FCC WLAN Radiated	HCT CO., LTD.	-	-	-
Power Amplifier	CBL18265035	CERNEX	22966	10/21/2026	Annual
Power Amplifier	CBL26405040	CERNEX	25956	02/19/2026	Annual
Bluetooth Tester	TC-3000C	TESCOM	3000C000175	03/12/2026	Annual
Spectrum Analyzer	FSV40 (9 kHz ~ 40 GHz)	Rohde & Schwarz	100900	08/27/2026	Annual

Note:

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

11. ANNEX A_ TEST SETUP PHOTO

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

No.	Description
1	HCT-RF-2512-FC036-P