

TEST REPORT

FCC DTS ax Test for VCLB0ZZZAN
Certification

APPLICANT
Hyundai Mobis Co., Ltd

REPORT NO.
HCT-RF-2605-FC026-R1

DATE OF ISSUE
June 12, 2026

Tested by
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Jong Seok Lee



Accredited by KOLAS, Republic of KOREA

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Applicant

Hyundai Mobis Co., Ltd

203, Teheran-ro, Gangnam-gu, Seoul, Republic of Korea

Product Name

Car infotainment system

Model Name

VCLB0ZZZAN

FCC ID

TQ8-VCLB0ZZZAN

Date of Test

March 26, 2026 ~ May 29, 2026

FCC Classification

Digital Transmission System(DTS)

Test Standard Used

FCC Rule Part(s): Part 15.247

Test Results

PASS

Location of Test

☒ Permanent Testing Lab ☐ On Site Testing Lab

(Address: 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, Republic of Korea)

REVISION HISTORY

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

Revision No.	Date of Issue	Description
0	May 29, 2026	Initial Release
1	June 12, 2026	Revised antenna gain value on Page 7

Notice

Content

Engineering Statement:

The measurements shown in this report were made in accordance with the procedures indicated, and the emissions from this equipment were found to be within the limits applicable. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them. It is further stated that upon the basis of the measurements made, the equipment tested is capable of operation in accordance with the requirements of the FCC Rules under normal use and maintenance.

The results shown in this test report only apply to the sample(s), as received, provided by the applicant, unless otherwise stated.

The test results have only been applied with the test methods required by the standard(s).

The laboratory is not accredited for the test results marked *.

Information provided by the applicant is marked **.

Test results provided by external providers are marked ***.

When confirmation of authenticity of this test report is required, please contact www.hct.co.kr

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)

This test report provides test result(s) under the lab's valid Scope of Accreditation by A2LA (American Association for Laboratory Accreditation), signatory of the ILAC-MRA.
(A2LA (ISO/IEC 17025) Certificate No. 4114.01)

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1. EUT DESCRIPTION

Model	VCLB0ZZZAN		
Additional Model	VCLC0ZZZXX, VCLB0ZZZXX, VCLC0ZZZAN, VCLB0ZZZKN, VCLC0ZZZKN, VCLB0ZZZFN, VCLC0ZZZFN, VCL10ZZZXX, VCL20ZZZXX, VCL10ZZZAN, VCL20ZZZAN, VCL10ZZZKN, VCL20ZZZKN, VCL10ZZZFN, VCL20ZZZFN, VCL30ZZZXX, VCL30ZZZAN, VCL30ZZZKN, VCL30ZZZFN, VCL40ZZZXX, VCL40ZZZAN, VCL40ZZZKN, VCL40ZZZFN, VCL60ZZZXX, VCL60ZZZAN, VCL60ZZZKN, VCL60ZZZFN		
EUT Type	Car infotainment system		
Power Supply	DC 14.4 V		
Frequency Range	2 412 MHz ~ 2 462 MHz		
Max. RF Output Power	<u>Peak Power</u>	SISO(Ant.1)	18.37 dBm
		SISO(Ant.2)	18.84 dBm
		MIMO_CDD(Ant.1+ Ant.2)	19.61 dBm
	<u>Average Power</u>	SISO(Ant.1)	10.01 dBm
		SISO(Ant.2)	10.34 dBm
		MIMO_CDD(Ant.1+ Ant.2)	10.24 dBm
Modulation Type	OFDM : 802.11ax (HE20) OFDMA : 802.11ax (HE20)		
Number of Channels	11 Channels		
Antenna Information	Please refer to the Antenna Specification document.		
Serial number	Conducted : 00 QRFQ300002 Radiated : 00 QRFQ300003		

Grant Notes :

1. Output Power listed is conducted(Peak)

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 Band simultaneously on each antenna.

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

3. Directional Gain Calculation

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

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

$$\text{Directional gain(SDM)} = G_{\max} + 10 \cdot \text{LOG}(N_{ANT} / N_{SS})$$

Ant Gain (dBi)		N _{ANT} / N _{SS}	Directional Gain (dBi)	
			CDD	SDM
ANT.1	-0.50	2/2	5.30	4.40
ANT.2	4.40			

Note

According 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.

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

$$\text{Directional gain(SDM)} = G_{\max} + 10 \cdot \log(N_{ANT} / N_{SS})$$

Sample MIMO Calculation:

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

$$\text{MIMO} = \text{ANT.1} + \text{ANT.2}$$

$$(11.58 \text{ dBm} + 12.08 \text{ dBm}) = (14.387 \text{ mW} + 16.143 \text{ mW}) = 30.53 \text{ mW} = 14.88 \text{ dBm}$$

2. TEST METHODOLOGY

Unlicensed wireless device were tested using the following measurement procedure.

[1] KDB 558074 D01 15.247 Meas Guidance v05r02

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

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

EUT CONFIGURATION

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

EUT EXERCISE

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

GENERAL TEST PROCEDURES

Conducted Emissions

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

Radiated Emissions

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

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

DESCRIPTION OF TEST MODES

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

3. INSTRUMENT CALIBRATION

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

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

4. FACILITIES AND ACCREDITATIONS

FACILITIES

The SAC(Semi-Anechoic Chamber) and conducted measurement facility used to collect the radiated data are located at the 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, Republic of Korea. 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 February 26, 2026 (Registration Number: KR0032).

EQUIPMENT

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

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

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

5. ANTENNA REQUIREMENTS

According to FCC 47 CFR § 15.203:

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

6. MEASUREMENT UNCERTAINTY

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

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

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

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

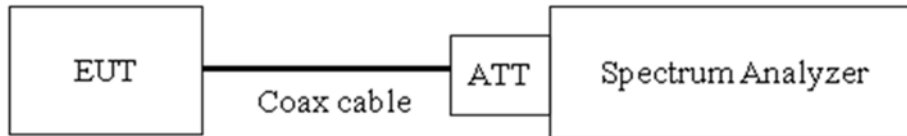
Parameter	Expanded Uncertainty ($\pm$ dB)
Conducted Disturbance (150 kHz ~ 30 MHz)	1.96 (Confidence level about 95 %, $k=2$)
Conducted Output Power(Power Meter)	0.54 (Confidence level about 95 %, $k=2$)
Conducted Output Power(Signal Analyzer)	0.73 (Confidence level about 95 %, $k=2$)
Power Spectral Density	0.98 (Confidence level about 95 %, $k=2$)
Band Edge (Out of Band Emissions)	1.11 (Confidence level about 95 %, $k=2$)
Radiated Disturbance (9 kHz ~ 30 MHz)	4.54 (Confidence level about 95 %, $k=2$)
Radiated Disturbance (30 MHz ~ 1 GHz)	5.74 (Confidence level about 95 %, $k=2$)
Radiated Disturbance (1 GHz ~ 18 GHz)	5.80 (Confidence level about 95 %, $k=2$)
Radiated Disturbance (18 GHz ~ 40 GHz)	5.86 (Confidence level about 95 %, $k=2$)
Radiated Disturbance (Above 40 GHz)	5.44 (Confidence level about 95 %, $k=2$)

7. DESCRIPTION OF TESTS

Test Item	Test Procedure
Duty Cycle	- ANSI C63.10-2020 – Section 11.6
6 dB Bandwidth	- ANSI C63.10-2020 – Section 11.8
Output Power	- ANSI C63.10-2020 – Section 11.9.1.2(Peak) & 11.9.2.3(Avg)
Power Spectral Density	- ANSI C63.10-2020 – Section 11.10
Conducted Band Edge(Out of Band Emissions) & Conducted Spurious Emissions	- ANSI C63.10-2020– Section 11.11
Radiated Test	- ANSI C63.10-2020 – Section 6.4 (Below 30 MHz) - 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 :

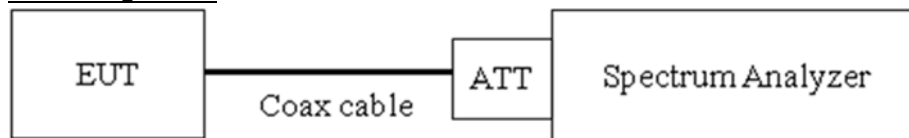
1. RBW = 8 MHz (the largest available value)
2. VBW = 8 MHz or 50 MHz ($\geq$ RBW)
3. SPAN = 0 Hz
4. Detector = Average
5. Number of points in sweep > 100
6. Trace mode = Clear write
7. Measure T_{total} and T_{on}
8. Calculate Duty Cycle = $T_{\text{on}} / T_{\text{total}}$ and Duty Cycle Factor = $10\log(1/\text{Duty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

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.

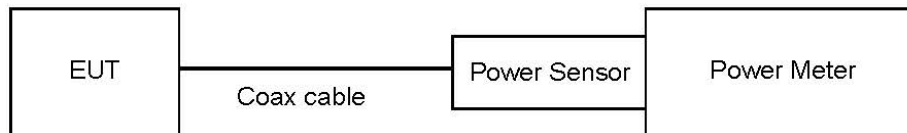
Note : We tested OBW using the automatic bandwidth measurement capability of a spectrum analyzer.

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

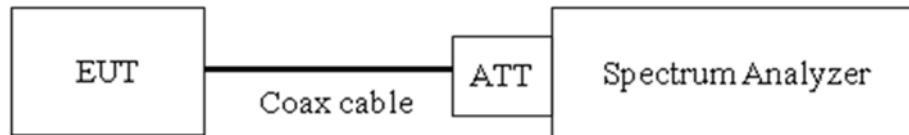
- Conducted Output Power(Peak) = Measured Value + ATT loss + Cable loss
- Conducted Output Power(Average) = Measured Value + ATT loss + Cable loss + Duty Cycle Factor

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

Sample Calculation

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

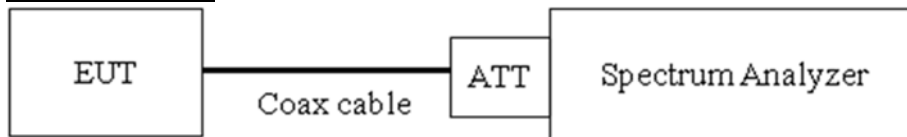
7.5. Conducted Band Edge (Out of Band Emissions) & Conducted Spurious Emissions

Limit

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

[Conducted > 20 dBc]

Test Configuration



Test Procedure

The transmitter output is connected to the Spectrum Analyzer.

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	20.06
100	20.14
200	20.17
300	20.21
400	20.28
500	20.28
600	20.28
700	20.28
800	20.30
900	20.31
1000	20.35
2000	20.55
2400	20.86
2500	20.86
3000	20.87
4000	20.80
5000	20.90
5150	20.84
5850	20.84
6000	20.83
7000	20.92
8000	20.97
9000	21.09
10000	21.18
11000	21.27
12000	21.33
13000	21.33
14000	21.40
15000	21.49
16000	21.52
17000	21.55
18000	21.63
19000	21.65
20000	21.66
21000	21.76
22000	21.82
23000	21.86
24000	21.90
25000	21.92
26000	22.04

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

2. Factor = Attenuator loss + Cable loss

3. Total Port offset = 20.86 dB

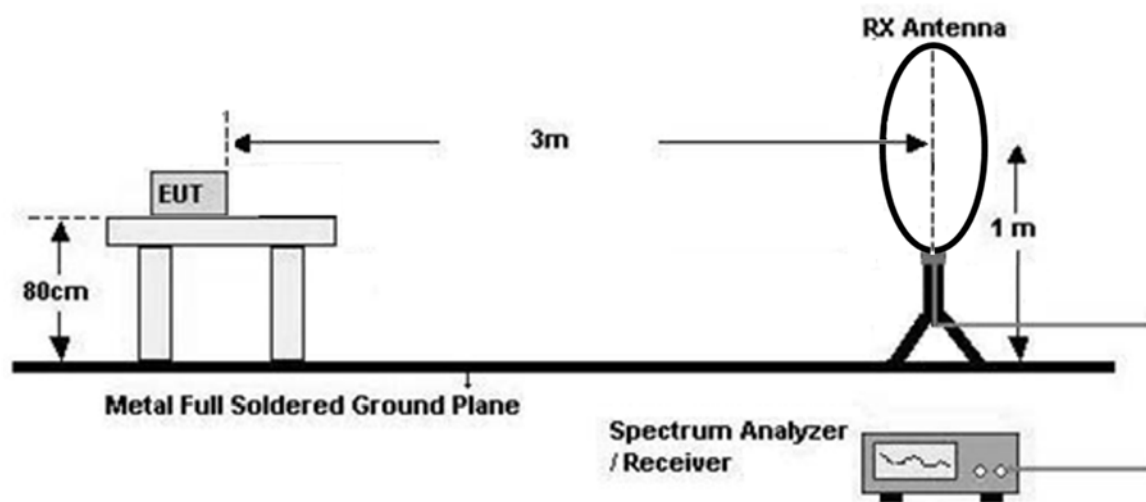
7.6. Radiated Test

Limit

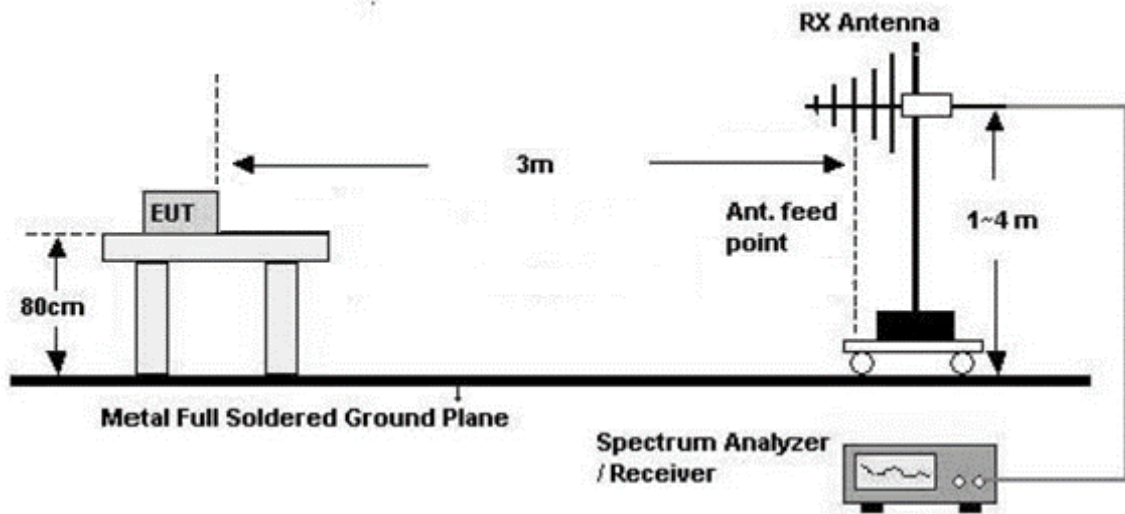
Frequency (MHz)	Field Strength ($\mu\text{V/m}$)	Measurement Distance (m)
0.009 – 0.490	$2400/F(\text{kHz})$	300
0.490 – 1.705	$24000/F(\text{kHz})$	30
1.705 – 30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Test Configuration

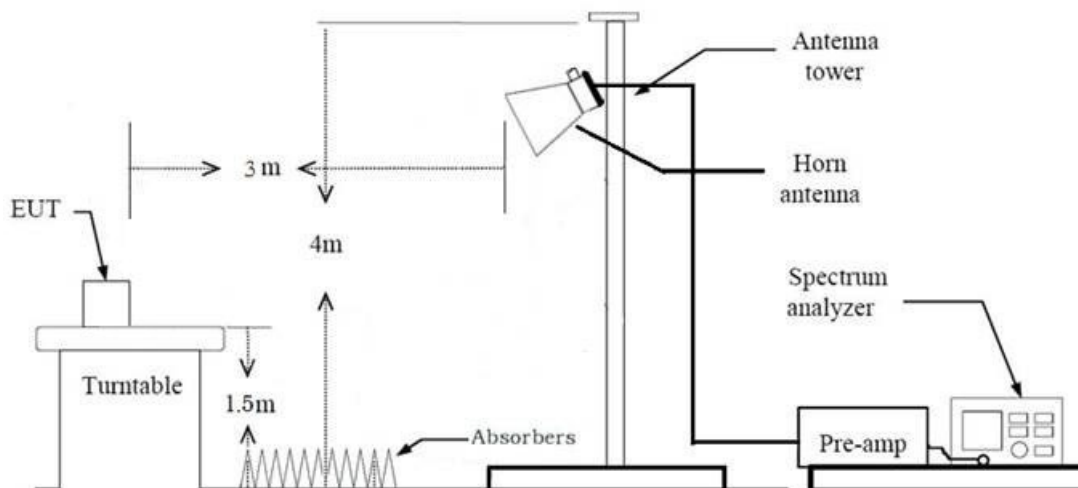
Below 30 MHz



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 kHzIn 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 = Max hold
- 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 : 2388 MHz ~ 2390 MHz/ 2483.5 MHz ~ 2485.5 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 : 2388 MHz ~ 2390 MHz/ 2483.5 MHz ~ 2485.5 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.
- 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

Radiated test

1. All modes of operation were investigated and the worst case configuration results are reported.
 - Mode : Stand alone + Shark Antenna, Stand alone + Shark Antenna + External accessories
 - Worstcase : Stand alone + Shark Antenna
2. EUT Axis
 - Radiated Spurious Emissions : X
 - Radiated Restricted Band Edge : X
3. 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)
 - Worstcase : SISO, MIMO_CDD(Ant.1+Ant.2)
4. EUT Axis
 - Radiated Spurious Emissions : X
 - 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. VCLB0ZZZAN, Additional Models were tested and the worst case results are reported.
(Worst case : VCLB0ZZZAN)

[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	-	-

[RSE Worst case]

BW (MHz)	Test	Tones (T)	Offset
20	RSE	26	4
		SU	-

Conducted test

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

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
SU	1, 11	-

3. VCLB0ZZZAN, Additional Models were tested and the worst case results are reported.

(Worst case : VCLB0ZZZAN)

AC Power line Conducted Emissions

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

Radiated test(Simultaneous transmission Scenario)

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

8. SUMMARY TEST OF RESULTS

Test Description	FCC Part Section(s)	Test Limit	Test Condition	Test Result
6 dB Bandwidth	§ 15.247(a)(2)	> 500 kHz	Conducted	PASS
Conducted Maximum Output Power	§ 15.247(b)(3)	< 1 Watt		PASS
Power Spectral Density	§ 15.247(e)	< 8 dBm / 3 kHz Band		PASS
Band Edge (Out of Band Emissions)	§ 15.247(d)	Conducted > 20 dBc		PASS
AC Power line Conducted Emissions	§ 15.207	cf. Section 7.7		N/A (Note1)
Radiated Spurious Emissions	§ 15.247(d), 15.205, 15.209	cf. Section 7.6	Radiated	PASS
Radiated Restricted Band Edge	§ 15.247(d), 15.205, 15.209	cf. Section 7.6		PASS

Note:

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

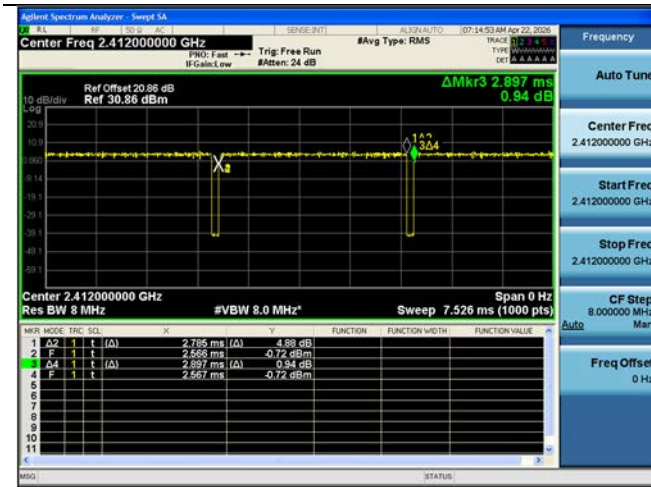
9. TEST RESULT

9.1 DUTY CYCLE

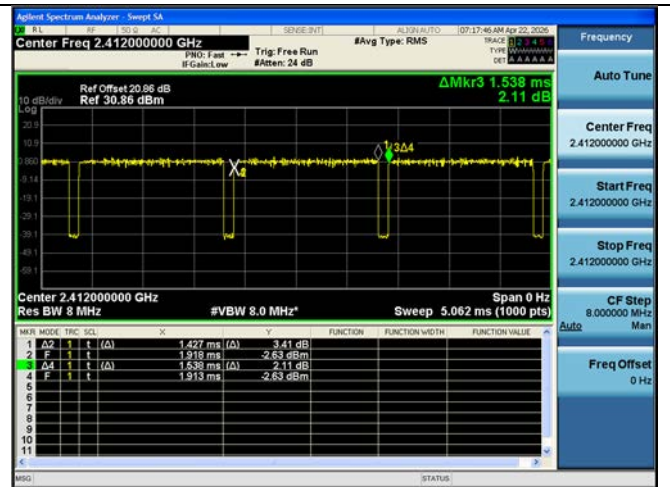
Mode	Tone (T)	Worst Data rate	T _{on} (ms)	T _{total} (ms)	Duty Cycle	Duty Cycle Factor (dB)
802.11ax (HE20)	26	MCS0	2.785	2.897	0.961	0.171
	52	MCS0	1.427	1.538	0.928	0.325
	106	MCS0	0.714	0.815	0.876	0.574
	242	MCS0	0.351	0.455	0.771	1.129
802.11ax(SU)	BW 20	MCS0	0.311	0.414	0.752	1.237

Test Plots

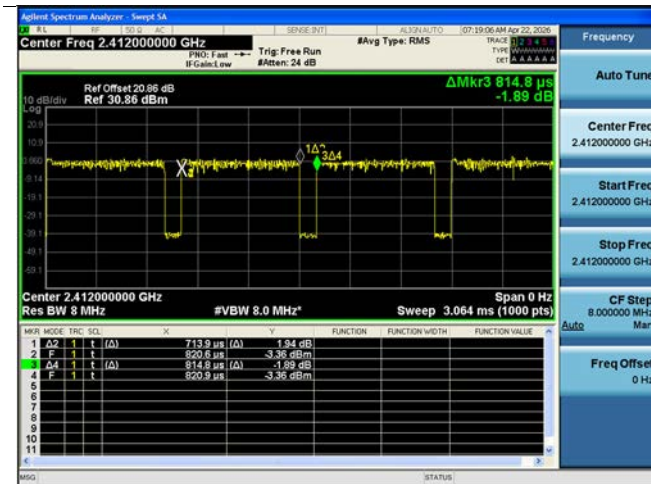
26 Tones (MCS 0)



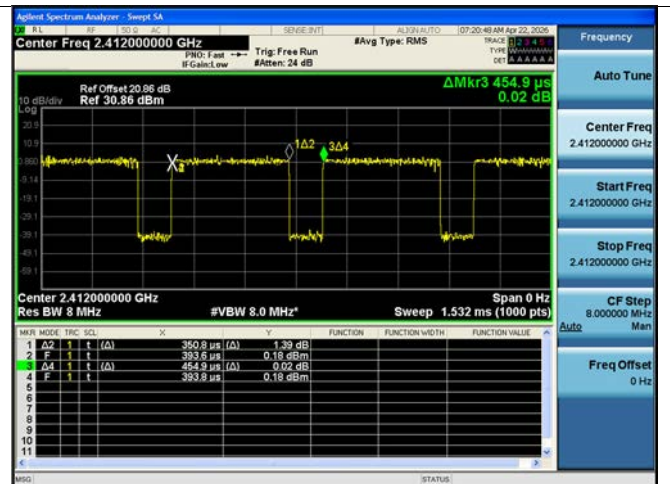
52 Tones (MCS 0)



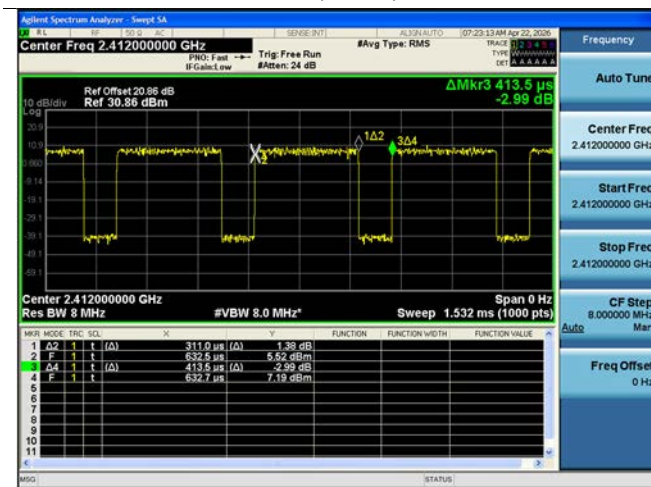
106 Tones (MCS 0)



242 Tones (MCS 0)



SU (MCS 0)



9.2 6 dB 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
			ANT.1	ANT.1	ANT.1	ANT.1	ANT.1	ANT.1
HE20 26T	2412	1	2.121	2.739	2.187	18.468	17.205	18.310
	2437	6	2.076	2.656	2.037	18.197	17.038	18.532
	2462	11	2.132	2.625	2.096	18.510	16.974	18.206
HE20 52T	2412	1	4.16	4.18	4.15	18.319	17.277	18.360
	2437	6	4.18	4.12	4.13	18.171	17.139	18.430
	2462	11	4.16	4.14	4.20	18.282	17.144	18.166
HE20 106T	2412	1	17.36	-	8.47	18.358	-	18.354
	2437	6	8.33	-	17.18	18.151	-	18.418
	2462	11	17.19	-	8.38	18.265	-	18.240
HE20 242T	2412	1	-	19.16	-	-	19.307	-
	2437	6	-	19.29	-	-	19.250	-
	2462	11	-	19.24	-	-	19.195	-
HE20 SU	2412	1	-	19.02	-	-	19.223	-
	2437	6	-	18.92	-	-	19.167	-
	2462	11	-	18.94	-	-	19.101	-

[ANT.2]

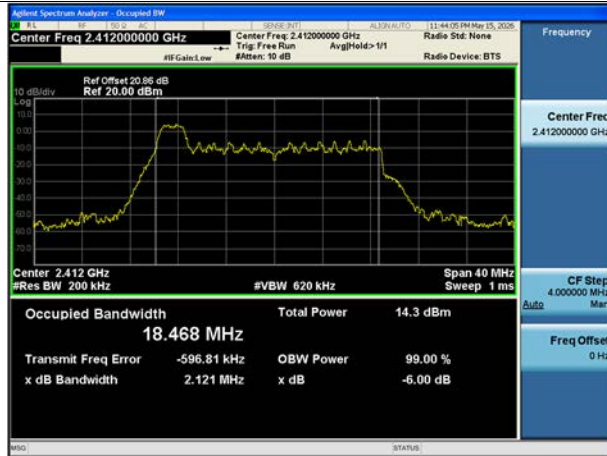
Mode	Freq. [MHz]	CH.	6dB Bandwidth [MHz]			99% Occupied Bandwidth [MHz]		
			RU Index : Low	RU Index : Mid	RU Index : High	RU Index : Low	RU Index : Mid	RU Index : High
			ANT.2	ANT.2	ANT.2	ANT.2	ANT.2	ANT.2
HE20 26T	2412	1	2.202	2.691	2.117	18.519	17.074	18.447
	2437	6	2.101	2.690	2.075	18.365	17.015	18.497
	2462	11	2.124	2.711	2.072	18.476	17.174	18.381
HE20 52T	2412	1	4.09	4.13	4.17	18.317	17.278	18.336
	2437	6	4.21	4.13	4.18	18.147	17.141	18.412
	2462	11	4.14	4.12	4.24	18.287	17.207	18.261
HE20 106T	2412	1	17.25	-	8.47	18.321	-	18.393
	2437	6	8.40	-	17.15	18.161	-	18.443
	2462	11	17.11	-	8.37	18.480	-	18.326
HE20 242T	2412	1	-	19.36	-	-	19.279	-
	2437	6	-	19.13	-	-	19.186	-
	2462	11	-	19.11	-	-	19.169	-
HE20 SU	2412	1	-	19.09	-	-	19.218	-
	2437	6	-	18.91	-	-	19.171	-
	2462	11	-	18.82	-	-	19.141	-

Test Plots(6 dB BANDWIDTH)

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

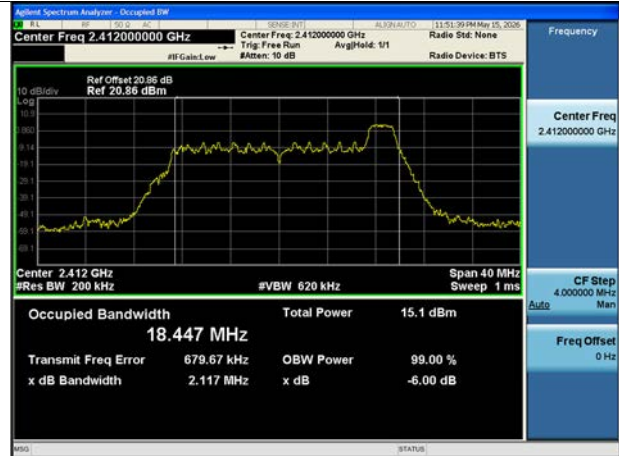
ANT.1

Ch. 1 26 Tones RU 0

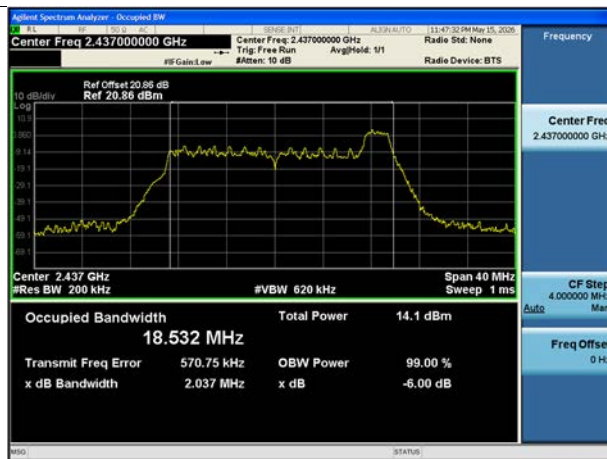


ANT.2

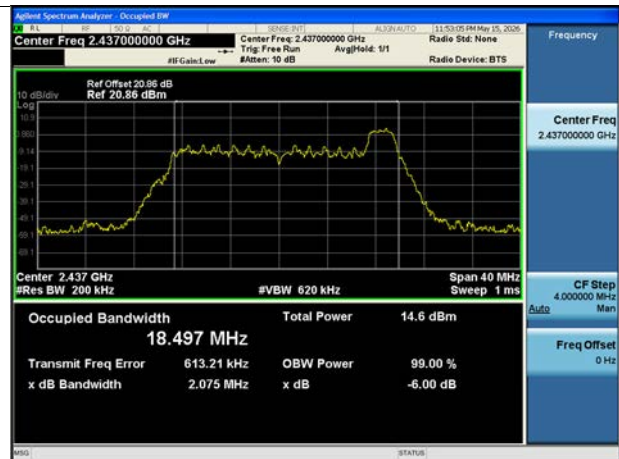
Ch. 1 26 Tones RU 8



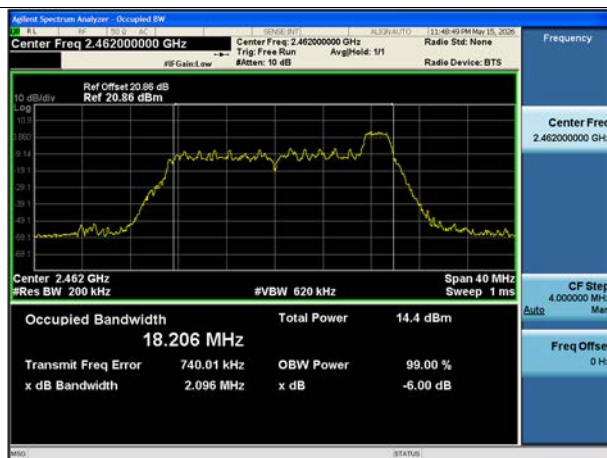
Ch. 6 26 Tones RU 8



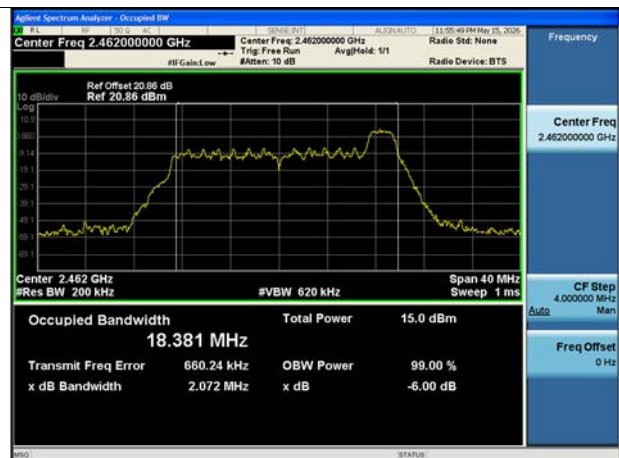
Ch. 6 26 Tones RU 8



Ch. 11 26 Tones RU 8



Ch. 11 26 Tones RU 8



9.3 OUTPUT POWER

Note:

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

Peak Power

[SISO]

Mode	Freq. [MHz]	CH.	Total Peak Power [dBm]					
			RU Index : Low		RU Index : Mid		RU Index : High	
			ANT.1	ANT.2	ANT.1	ANT.2	ANT.1	ANT.2
HE20 26T	2412	1	14.63	15.11	14.60	14.90	15.15	15.44
	2437	6	15.31	15.59	14.75	15.68	14.22	14.76
	2462	11	14.00	14.48	14.82	14.86	14.89	15.04
HE20 52T	2412	1	14.41	15.13	14.33	15.03	15.06	15.29
	2437	6	15.18	15.66	15.19	15.64	14.31	14.97
	2462	11	14.21	14.63	14.54	14.81	14.87	15.25
HE20 106T	2412	1	15.81	16.21	-	-	16.36	16.49
	2437	6	16.45	16.73	-	-	15.91	16.21
	2462	11	15.62	15.67	-	-	16.34	16.32
HE20 242T	2412	1	-	-	15.04	15.21	-	-
	2437	6	-	-	15.11	15.46	-	-
	2462	11	-	-	14.99	15.26	-	-
HE20 SU	2412	1	-	-	18.05	18.31	-	-
	2437	6	-	-	18.37	18.84	-	-
	2462	11	-	-	18.09	18.49	-	-

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

Mode	Freq. [MHz]	CH.	Total Peak Power [dBm]								
			RU Index : Low			RU Index : Mid			RU Index : High		
			ANT.1	ANT.2	MIMO	ANT.1	ANT.2	MIMO	ANT.1	ANT.2	MIMO
HE20 26T	2412	1	14.63	15.11	17.89	14.60	14.90	17.77	15.15	15.44	18.31
	2437	6	15.31	15.59	18.46	14.75	15.68	18.25	14.22	14.76	17.51
	2462	11	14.00	14.48	17.26	14.82	14.86	17.85	14.89	15.04	17.98
HE20 52T	2412	1	14.41	15.13	17.79	14.33	15.03	17.70	15.06	15.29	18.19
	2437	6	15.18	15.66	18.44	15.19	15.64	18.43	14.31	14.97	17.66
	2462	11	14.21	14.63	17.44	14.54	14.81	17.69	14.87	15.25	18.08
HE20 106T	2412	1	15.81	16.21	19.03	-	-	-	16.36	16.49	19.44
	2437	6	16.45	16.73	19.61	-	-	-	15.91	16.21	19.07
	2462	11	15.62	15.67	18.66	-	-	-	16.34	16.32	19.34
HE20 242T	2412	1	-	-	-	15.04	15.21	18.13	-	-	-
	2437	6	-	-	-	15.11	15.46	18.30	-	-	-
	2462	11	-	-	-	14.99	15.26	18.14	-	-	-
HE20 SU	2412	1	-	-	-	14.92	15.65	18.31	-	-	-
	2437	6	-	-	-	15.28	16.04	18.69	-	-	-
	2462	11	-	-	-	14.98	15.55	18.29	-	-	-

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]

Mode	Freq. [MHz]	CH.	Total Average Power [dBm]					
			RU Index : Low		RU Index : Mid		RU Index : High	
			ANT.1	ANT.2	ANT.1	ANT.2	ANT.1	ANT.2
HE20 26T	2412	1	4.29	5.22	4.40	4.95	5.29	5.48
	2437	6	5.22	4.72	4.56	5.82	3.49	4.68
	2462	11	3.31	4.53	4.58	5.15	4.65	5.43
HE20 52T	2412	1	3.92	5.11	3.90	5.09	4.95	5.02
	2437	6	5.22	5.98	5.03	5.80	3.63	4.68
	2462	11	3.50	4.31	4.07	4.71	4.74	5.64
HE20 106T	2412	1	5.52	6.48	-	-	6.24	6.55
	2437	6	6.70	7.05	-	-	5.56	6.34
	2462	11	5.34	5.93	-	-	6.37	6.73
HE20 242T	2412	1	-	-	5.95	6.46	-	-
	2437	6	-	-	6.19	6.81	-	-
	2462	11	-	-	5.97	6.55	-	-
HE20 SU	2412	1	-	-	9.77	9.96	-	-
	2437	6	-	-	10.01	10.34	-	-
	2462	11	-	-	9.77	10.08	-	-

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

Mode	Freq. [MHz]	CH.	Total Average Power [dBm]								
			RU Index : Low			RU Index : Mid			RU Index : High		
			ANT.1	ANT.2	MIMO	ANT.1	ANT.2	MIMO	ANT.1	ANT.2	MIMO
HE20 26T	2412	1	4.29	5.22	7.79	4.40	4.95	7.70	5.29	5.48	8.40
	2437	6	5.22	4.72	7.99	4.56	5.82	8.25	3.49	4.68	7.14
	2462	11	3.31	4.53	6.97	4.58	5.15	7.89	4.65	5.43	8.07
HE20 52T	2412	1	3.92	5.11	7.56	3.90	5.09	7.54	4.95	5.02	7.99
	2437	6	5.22	5.98	8.62	5.03	5.80	8.44	3.63	4.68	7.19
	2462	11	3.50	4.31	6.93	4.07	4.71	7.41	4.74	5.64	8.22
HE20 106T	2412	1	5.52	6.48	9.04	-	-	-	6.24	6.55	9.41
	2437	6	6.70	7.05	9.89	-	-	-	5.56	6.34	8.98
	2462	11	5.34	5.93	8.66	-	-	-	6.37	6.73	9.57
HE20 242T	2412	1	-	-	-	5.95	6.46	9.22	-	-	-
	2437	6	-	-	-	6.19	6.81	9.52	-	-	-
	2462	11	-	-	-	5.97	6.55	9.28	-	-	-
HE20 SU	2412	1	-	-	-	6.56	7.08	9.84	-	-	-
	2437	6	-	-	-	6.96	7.49	10.24	-	-	-
	2462	11	-	-	-	6.62	7.21	9.93	-	-	-

9.4 POWER SPECTRAL DENSITY

Note :

1. MIMO(Ant1+Ant2) PSD = $10 \cdot \log((10^{(\text{Ant. 1 PSD} / 10)} + (10^{(\text{Ant. 2 PSD} / 10)}))$

[SISO]

Mode	Freq. [MHz]	CH.	Total Power Spectral Density [dBm/10 kHz]						Limit
			RU Index : Low		RU Index : Mid		RU Index : High		
			ANT1	ANT2	ANT1	ANT2	ANT1	ANT2	
HE20 26T	2412	1	-8.909	-7.863	-8.221	-8.468	-7.910	-7.825	8 dBm/ 3 kHz
	2437	6	-8.120	-7.551	-8.391	-7.419	-8.865	-8.964	
	2462	11	-9.572	-8.841	-8.603	-8.606	-8.265	-8.028	
HE20 52T	2412	1	-11.184	-10.953	-11.805	-10.353	-10.321	-10.392	
	2437	6	-10.788	-10.239	-10.746	-10.453	-12.005	-11.377	
	2462	11	-12.144	-11.712	-11.121	-11.376	-11.183	-10.306	
HE20 106T	2412	1	-12.966	-12.545	-	-	-11.634	-12.225	
	2437	6	-11.463	-11.179	-	-	-12.709	-12.328	
	2462	11	-13.178	-13.002	-	-	-12.211	-11.899	
HE20 242T	2412	1	-	-	-15.166	-14.907	-	-	
	2437	6	-	-	-14.473	-14.364	-	-	
	2462	11	-	-	-14.998	-14.904	-	-	
HE20 SU	2412	1	-	-	-11.210	-11.108	-	-	
	2437	6	-	-	-10.702	-10.626	-	-	
	2462	11	-	-	-10.977	-10.862	-	-	

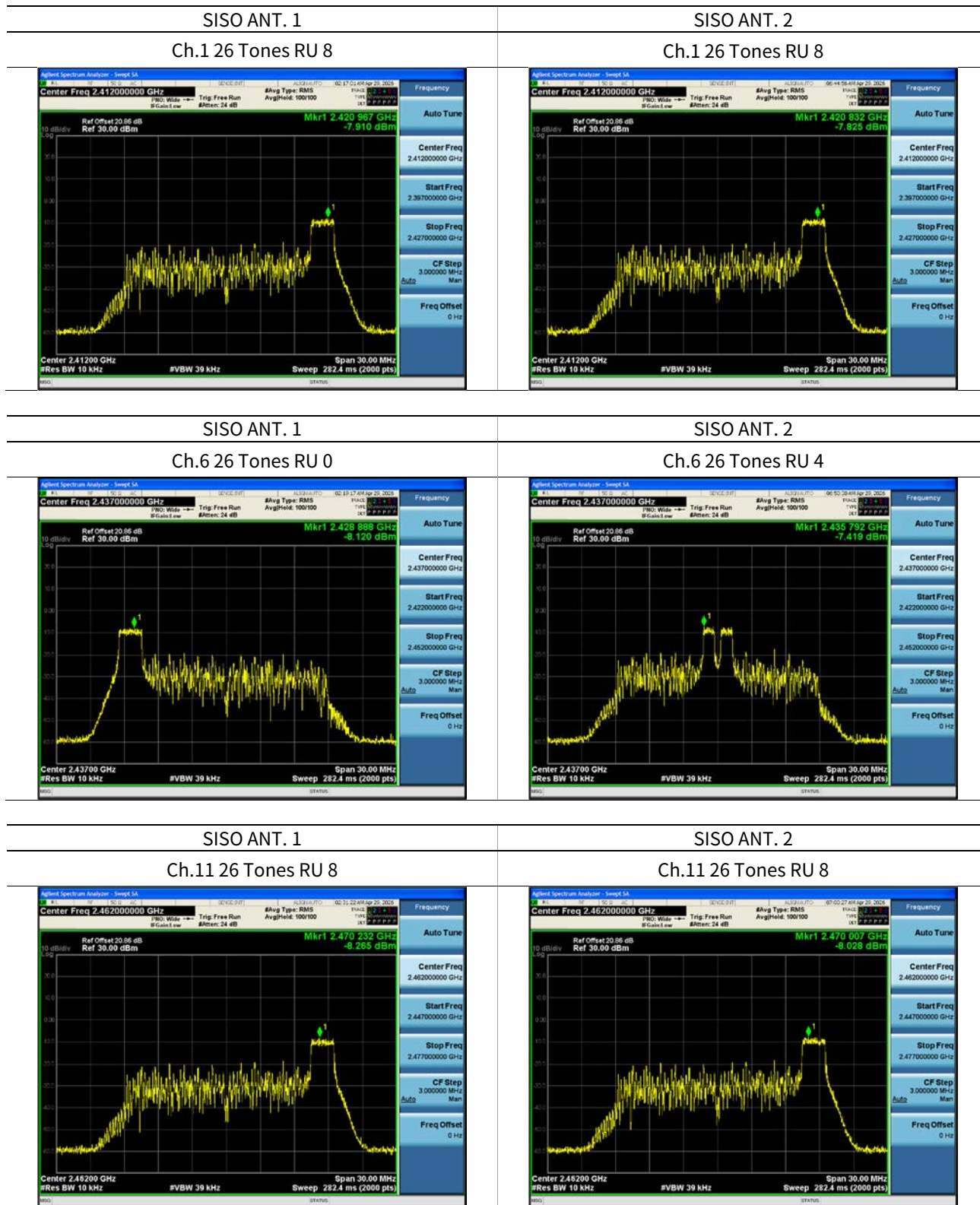
[MIMO_CDD(Ant.1+Ant.2)]

Mode	Freq. [MHz]	CH.	Total Power Spectral Density [dBm/10 kHz]									Limit
			RU Index : Low			RU Index : Mid			RU Index : High			
			ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	
HE20 26T	2412	1	-8.909	-7.863	-5.344	-8.221	-8.468	-5.332	-7.910	-7.825	-4.857	8 dBm/ 3 kHz
	2437	6	-8.120	-7.551	-4.816	-8.391	-7.419	-4.868	-8.865	-8.964	-5.904	
	2462	11	-9.572	-8.841	-6.181	-8.603	-8.606	-5.594	-8.265	-8.028	-5.135	
HE20 52T	2412	1	-11.184	-10.953	-8.057	-11.805	-10.353	-8.008	-10.321	-10.392	-7.346	
	2437	6	-10.788	-10.239	-7.495	-10.746	-10.453	-7.587	-12.005	-11.377	-8.669	
	2462	11	-12.144	-11.712	-8.912	-11.121	-11.376	-8.236	-11.183	-10.306	-7.712	
HE20 106T	2412	1	-12.966	-12.545	-9.740	-	-	-	-11.634	-12.225	-8.909	
	2437	6	-11.463	-11.179	-8.308	-	-	-	-12.709	-12.328	-9.504	
	2462	11	-13.178	-13.002	-10.079	-	-	-	-12.211	-11.899	-9.042	
HE20 242T	2412	1	-	-	-	-15.166	-14.907	-12.024	-	-	-	
	2437	6	-	-	-	-14.473	-14.364	-11.408	-	-	-	
	2462	11	-	-	-	-14.998	-14.904	-11.940	-	-	-	
HE20 SU	2412	1	-	-	-	-14.558	-14.037	-11.279	-	-	-	
	2437	6	-	-	-	-14.273	-12.916	-10.531	-	-	-	
	2462	11	-	-	-	-13.998	-13.839	-10.907	-	-	-	

☐ Test Plots(POWER SPECTRAL DENSITY)

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

[SISO]

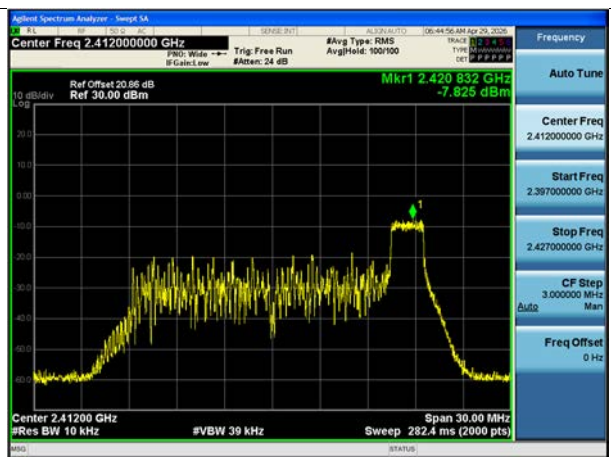
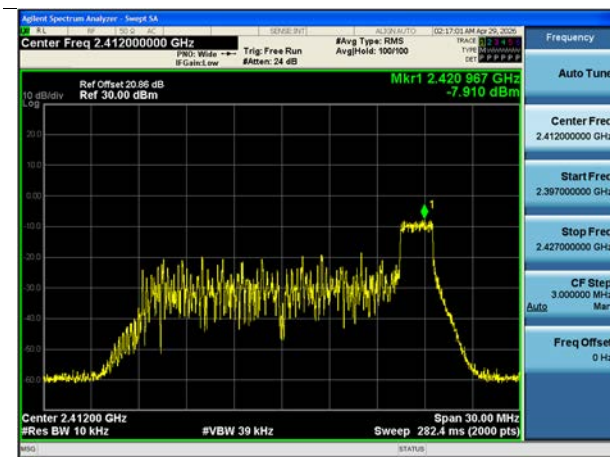


[MIMO_CDD(Ant.1+Ant.2)]

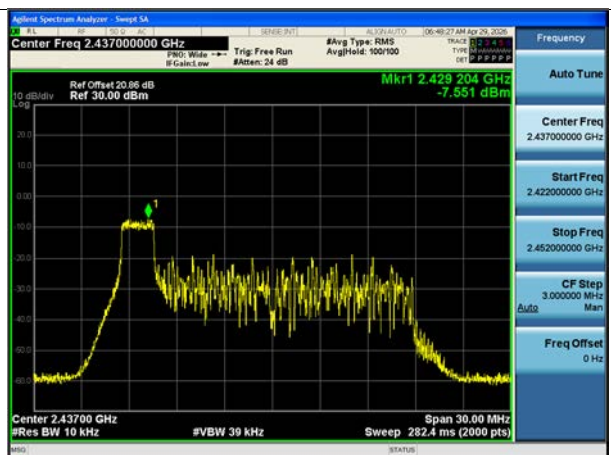
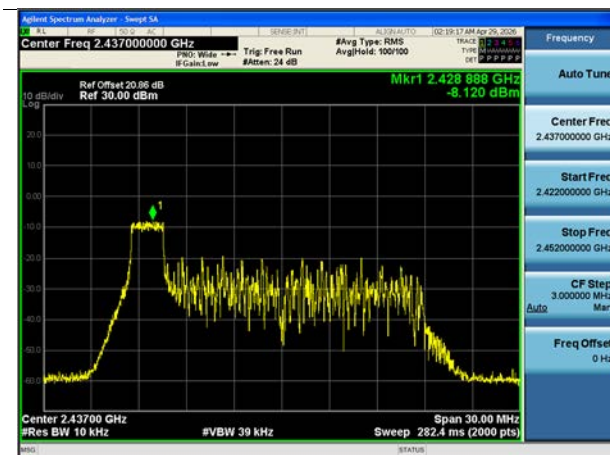
ANT.1

ANT.2

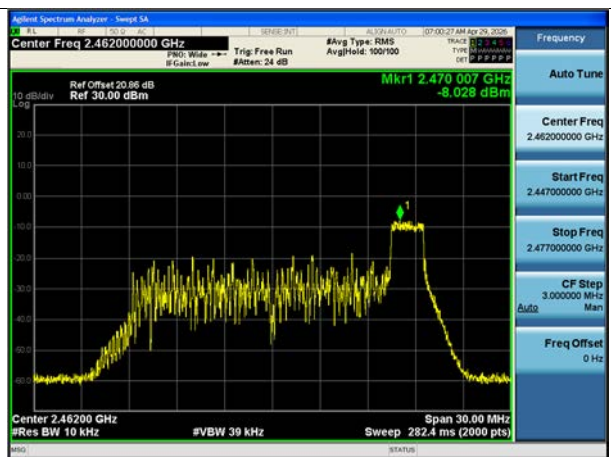
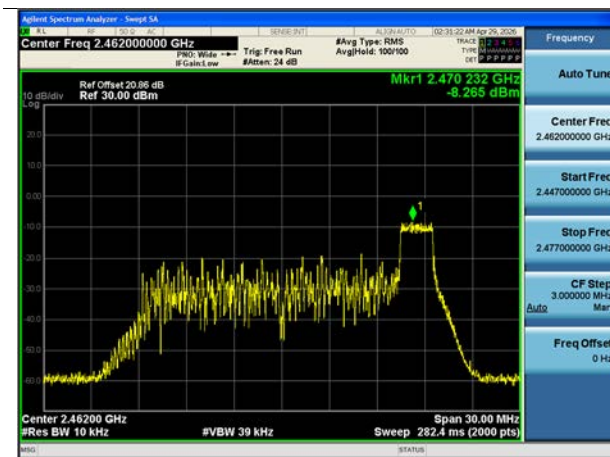
Ch.1 26 Tones RU 8



Ch.6 26 Tones RU 0



Ch.11 26 Tones RU 8



9.5 BAND EDGE / CONDUCTED SPURIOUS EMISSIONS

Band Edge

Limit : 20 dBc

[ANT.1]

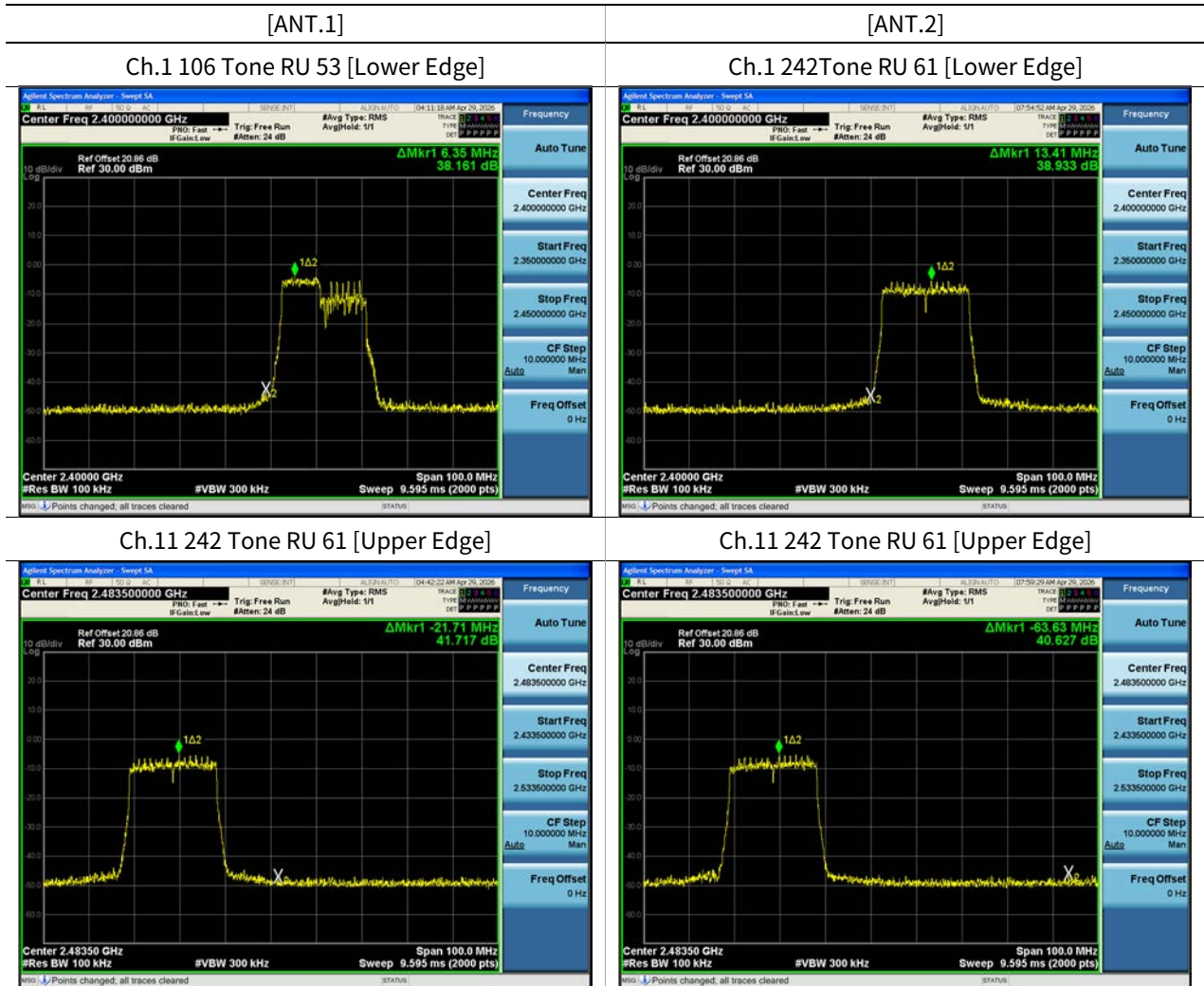
Mode	Freq. [MHz]	CH.	RU Index	Measured Position	Band edge [dB]
HE20	2412	1	Low	Lowest Bandedge	46.079
26T	2462	11	High	Highest Bandedge	47.013
HE20	2412	1	Low	Lowest Bandedge	42.518
52T	2462	11	High	Highest Bandedge	44.591
HE20	2412	1	Low	Lowest Bandedge	38.161
106T	2462	11	High	Highest Bandedge	43.184
HE20	2412	1	Low	Lowest Bandedge	38.805
242T	2462	11	High	Highest Bandedge	41.717
HE20	2412	1	Low	Lowest Bandedge	42.663
SU	2462	11	High	Highest Bandedge	45.107

[ANT.2]

Mode	Freq. [MHz]	CH.	RU Index	Measured Position	Band edge [dB]
HE20	2412	1	Low	Lowest Bandedge	45.016
26T	2462	11	High	Highest Bandedge	47.505
HE20	2412	1	Low	Lowest Bandedge	42.632
52T	2462	11	High	Highest Bandedge	42.489
HE20	2412	1	Low	Lowest Bandedge	39.146
106T	2462	11	High	Highest Bandedge	42.449
HE20	2412	1	Low	Lowest Bandedge	38.933
242T	2462	11	High	Highest Bandedge	40.627
HE20	2412	1	Low	Lowest Bandedge	41.741
SU	2462	11	High	Highest Bandedge	44.965

Test Plots(BAND EDGE)

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



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
			ANT.1	ANT.1	ANT.1
HE20 26T	2412	1	37.025	36.954	36.585
	2437	6	36.380	36.511	35.279
	2462	11	34.586	37.863	36.427
HE20 52T	2412	1	33.762	32.458	33.187
	2437	6	33.772	33.015	33.658
	2462	11	34.417	32.906	32.638
HE20 106T	2412	1	32.700	-	33.993
	2437	6	33.255	-	31.741
	2462	11	31.829	-	33.161
HE20 242T	2412	1	-	30.067	-
	2437	6	-	31.743	-
	2462	11	-	31.422	-
HE20 SU	2412	1	-	36.152	-
	2437	6	-	38.855	-
	2462	11	-	35.590	-

[ANT.2]

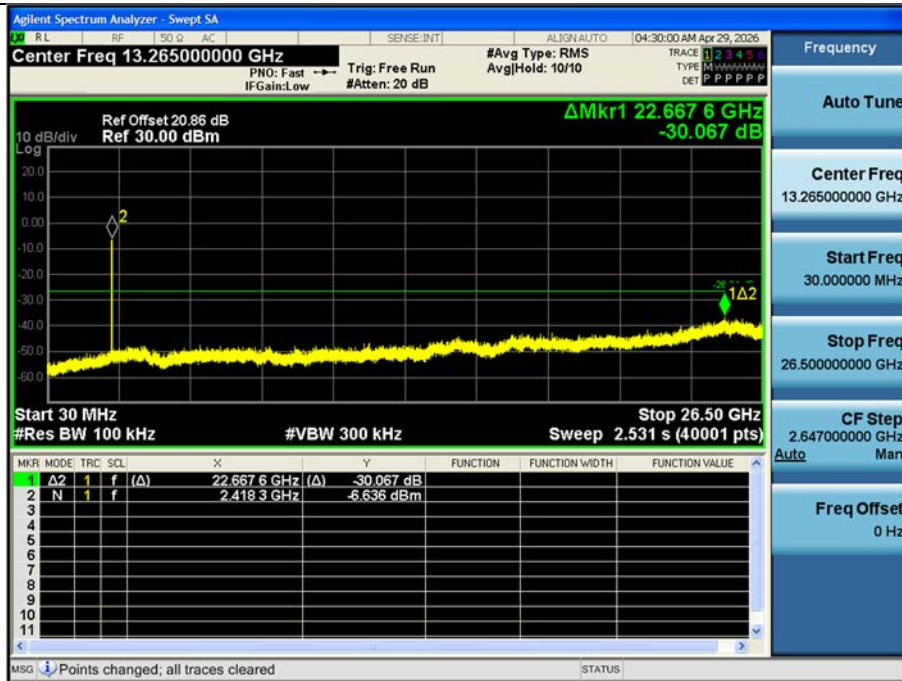
Mode	Freq. [MHz]	CH.	Conducted Spurious Emissions [dB]		
			RU Index : Low	RU Index : Mid	RU Index : High
			ANT.2	ANT.2	ANT.2
HE20 26T	2412	1	35.568	36.611	36.765
	2437	6	36.603	36.540	36.061
	2462	11	34.651	36.458	37.051
HE20 52T	2412	1	31.563	32.752	33.644
	2437	6	32.748	33.779	33.309
	2462	11	33.287	33.190	33.937
HE20 106T	2412	1	30.820	-	32.064
	2437	6	33.058	-	31.196
	2462	11	32.209	-	33.090
HE20 242T	2412	1	-	31.044	-
	2437	6	-	29.304	-
	2462	11	-	31.508	-
HE20 SU	2412	1	-	36.249	-
	2437	6	-	37.971	-
	2462	11	-	35.046	-

Test Plots(CONDUCTED SPURIOUS EMISSIONS)

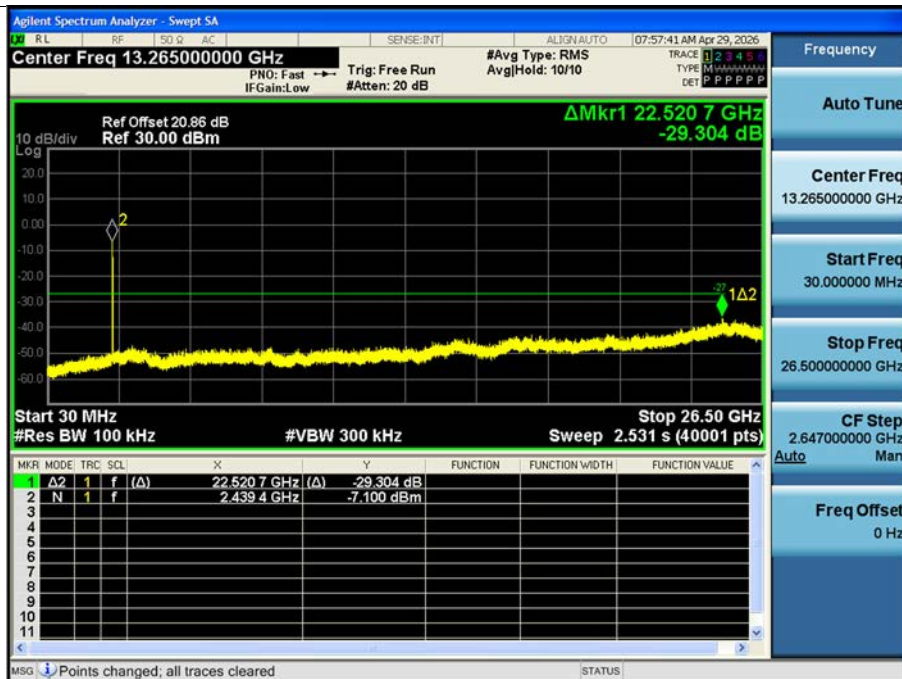
Note:

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

[ANT.1] BW 20M Ch.1 242T RU 61



[ANT.2] BW 20M Ch.6 242T RU 61



Limit

ANT.1 : -26.636 dBm, ANT.2 : -27.100 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 = $40\log(\text{specific distance} / \text{test distance})$ (dB)
3. Limit line = specific Limits (dBμV) + Distance extrapolation factor

Frequency Range : Below 1 GHz

Frequency	Measured Value	A.F+C.L	POL	Total	Limit	Margin
[MHz]	[dBμV/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

[SISO(Ant.1)]

[802.11ax(HE20), SU]

Band : DTS			Operation Mode :		802.11ax_HE20 SU			
CH.1 2412 MHz			Transfer Rate :		MCS 0			
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	45.14	0.00	4.92	V	50.06	73.98	23.92	PK
4824	36.29	1.24	4.92	V	42.45	53.98	11.53	AV
7236	41.28	0.00	10.59	V	51.87	73.98	22.11	PK
7236	30.11	1.24	10.59	V	41.94	53.98	12.04	AV
4824	45.23	0.00	4.92	H	50.15	73.98	23.83	PK
4824	36.49	1.24	4.92	H	42.65	53.98	11.33	AV
7236	41.60	0.00	10.59	H	52.19	73.98	21.79	PK
7236	30.36	1.24	10.59	H	42.19	53.98	11.79	AV

Band : DTS			Operation Mode :		802.11ax_HE20 SU			
CH.6 2437 MHz			Transfer Rate :		MCS 0			
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	43.89	0.00	5.42	V	49.31	73.98	24.67	PK
4874	34.40	1.24	5.42	V	41.06	53.98	12.92	AV
7311	43.26	0.00	11.49	V	54.75	73.98	19.23	PK
7311	30.40	1.24	11.49	V	43.13	53.98	10.85	AV
4874	44.15	0.00	5.42	H	49.57	73.98	24.41	PK
4874	34.45	1.24	5.42	H	41.11	53.98	12.87	AV
7311	43.39	0.00	11.49	H	54.88	73.98	19.10	PK
7311	30.42	1.24	11.49	H	43.15	53.98	10.83	AV

Band : DTS			Operation Mode :		802.11ax_HE20 SU			
CH.11 2462 MHz			Transfer Rate :		MCS 0			
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	44.25	0.00	5.00	V	49.25	73.98	24.73	PK
4924	36.14	1.24	5.00	V	42.38	53.98	11.60	AV
7386	41.99	0.00	12.28	V	54.27	73.98	19.71	PK
7386	30.28	1.24	12.28	V	43.80	53.98	10.18	AV
4924	44.47	0.00	5.00	H	49.47	73.98	24.51	PK
4924	36.23	1.24	5.00	H	42.47	53.98	11.51	AV
7386	42.19	0.00	12.28	H	54.47	73.98	19.51	PK
7386	30.36	1.24	12.28	H	43.88	53.98	10.10	AV

[SISO(Ant.2)]
[802.11ax(HE20), SU]

Band : DTS			Operation Mode :		802.11ax_HE20 SU			
CH.1 2412 MHz			Transfer Rate :		MCS 0			
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	45.03	0.00	4.92	V	49.95	73.98	24.03	PK
4824	36.19	1.24	4.92	V	42.35	53.98	11.63	AV
7236	41.99	0.00	10.59	V	52.58	73.98	21.40	PK
7236	30.16	1.24	10.59	V	41.99	53.98	11.99	AV
4824	45.14	0.00	4.92	H	50.06	73.98	23.92	PK
4824	36.69	1.24	4.92	H	42.85	53.98	11.13	AV
7236	42.53	0.00	10.59	H	53.12	73.98	20.86	PK
7236	30.23	1.24	10.59	H	42.06	53.98	11.92	AV

Band : DTS			Operation Mode :		802.11ax_HE20 SU			
CH.6 2437 MHz			Transfer Rate :		MCS 0			
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	44.09	0.00	5.42	V	49.51	73.98	24.47	PK
4874	34.29	1.24	5.42	V	40.95	53.98	13.03	AV
7311	42.71	0.00	11.49	V	54.20	73.98	19.78	PK
7311	30.33	1.24	11.49	V	43.06	53.98	10.92	AV
4874	44.11	0.00	5.42	H	49.53	73.98	24.45	PK
4874	34.40	1.24	5.42	H	41.06	53.98	12.92	AV
7311	42.75	0.00	11.49	H	54.24	73.98	19.74	PK
7311	30.40	1.24	11.49	H	43.13	53.98	10.85	AV

Band : DTS			Operation Mode :		802.11ax_HE20 SU			
CH.11 2462 MHz			Transfer Rate :		MCS 0			
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	44.63	0.00	5.00	V	49.63	73.98	24.35	PK
4924	35.28	1.24	5.00	V	41.52	53.98	12.46	AV
7386	41.87	0.00	12.28	V	54.15	73.98	19.83	PK
7386	30.04	1.24	12.28	V	43.56	53.98	10.42	AV
4924	44.75	0.00	5.00	H	49.75	73.98	24.23	PK
4924	35.37	1.24	5.00	H	41.61	53.98	12.37	AV
7386	41.92	0.00	12.28	H	54.20	73.98	19.78	PK
7386	30.16	1.24	12.28	H	43.68	53.98	10.30	AV

[MIMO_CDD(Ant.1+Ant.2)]
[802.11ax(HE20), 26 Tone]

Band : DTS			Operation Mode :		802.11ax_HE20 26T 4RU			
CH.1 2412 MHz			Transfer Rate :		MCS 0			
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	46.16	0.00	4.92	V	51.08	73.98	22.90	PK
4824	37.59	0.17	4.92	V	42.68	53.98	11.30	AV
7236	42.89	0.00	10.59	V	53.48	73.98	20.50	PK
7236	30.18	0.17	10.59	V	40.94	53.98	13.04	AV
4824	46.18	0.00	4.92	H	51.10	73.98	22.88	PK
4824	37.85	0.17	4.92	H	42.94	53.98	11.04	AV
7236	42.96	0.00	10.59	H	53.55	73.98	20.43	PK
7236	30.32	0.17	10.59	H	41.08	53.98	12.90	AV

Band : DTS			Operation Mode :		802.11ax_HE20 26T 4RU			
CH.6 2437 MHz			Transfer Rate :		MCS 0			
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	44.58	0.00	5.42	V	50.00	73.98	23.98	PK
4874	35.99	0.17	5.42	V	41.58	53.98	12.40	AV
7311	42.80	0.00	11.49	V	54.29	73.98	19.69	PK
7311	30.16	0.17	11.49	V	41.82	53.98	12.16	AV
4874	44.70	0.00	5.42	H	50.12	73.98	23.86	PK
4874	36.01	0.17	5.42	H	41.60	53.98	12.38	AV
7311	42.85	0.00	11.49	H	54.34	73.98	19.64	PK
7311	30.44	0.17	11.49	H	42.10	53.98	11.88	AV

Band : DTS			Operation Mode :		802.11ax_HE20 26T 4RU			
CH.11 2462 MHz			Transfer Rate :		MCS 0			
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	44.98	0.00	5.00	V	49.98	73.98	24.00	PK
4924	36.48	0.17	5.00	V	41.65	53.98	12.33	AV
7386	41.99	0.00	12.28	V	54.27	73.98	19.71	PK
7386	30.16	0.17	12.28	V	42.61	53.98	11.37	AV
4924	45.07	0.00	5.00	H	50.07	73.98	23.91	PK
4924	36.68	0.17	5.00	H	41.85	53.98	12.13	AV
7386	42.13	0.00	12.28	H	54.41	73.98	19.57	PK
7386	30.25	0.17	12.28	H	42.70	53.98	11.28	AV

[802.11ax(HE20), SU]

Band : DTS			Operation Mode :		802.11ax_HE20 SU			
CH.1 2412 MHz			Transfer Rate :		MCS 0			
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	47.26	0.00	4.92	V	52.18	73.98	21.80	PK
4824	36.80	1.24	4.92	V	42.96	53.98	11.02	AV
7236	44.28	0.00	10.59	V	54.87	73.98	19.11	PK
7236	31.99	1.24	10.59	V	43.82	53.98	10.16	AV
4824	47.47	0.00	4.92	H	52.39	73.98	21.59	PK
4824	36.85	1.24	4.92	H	43.01	53.98	10.97	AV
7236	44.37	0.00	10.59	H	54.96	73.98	19.02	PK
7236	32.11	1.24	10.59	H	43.94	53.98	10.04	AV

Band : DTS			Operation Mode :		802.11ax_HE20 SU			
CH.6 2437 MHz			Transfer Rate :		MCS 0			
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	44.99	0.00	5.42	V	50.41	73.98	23.57	PK
4874	35.40	1.24	5.42	V	42.06	53.98	11.92	AV
7311	44.58	0.00	11.49	V	56.07	73.98	17.91	PK
7311	31.60	1.24	11.49	V	44.33	53.98	9.65	AV
4874	45.09	0.00	5.42	H	50.51	73.98	23.47	PK
4874	35.67	1.24	5.42	H	42.33	53.98	11.65	AV
7311	44.87	0.00	11.49	H	56.36	73.98	17.62	PK
7311	31.67	1.24	11.49	H	44.40	53.98	9.58	AV

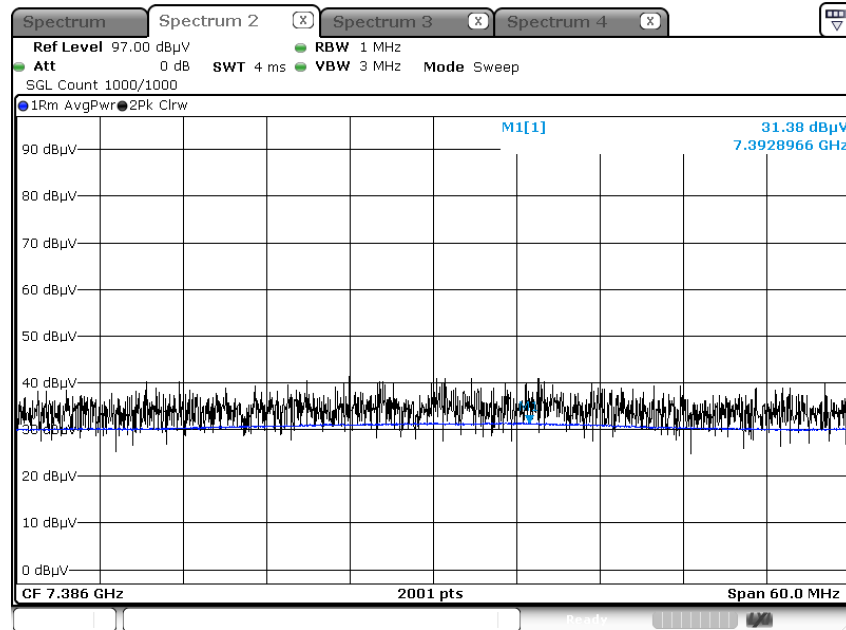
Band : DTS			Operation Mode :		802.11ax_HE20 SU			
CH.11 2462 MHz			Transfer Rate :		MCS 0			
Frequency [MHz]	Measured value [dBμV]	D.C.F [dB]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
4924	46.08	0.00	5.00	V	51.08	73.98	22.90	PK
4924	36.11	1.24	5.00	V	42.35	53.98	11.63	AV
7386	43.90	0.00	12.28	V	56.18	73.98	17.80	PK
7386	31.28	1.24	12.28	V	44.80	53.98	9.18	AV
4924	46.16	0.00	5.00	H	51.16	73.98	22.82	PK
4924	36.32	1.24	5.00	H	42.56	53.98	11.42	AV
7386	44.05	0.00	12.28	H	56.33	73.98	17.65	PK
7386	31.38	1.24	12.28	H	44.90	53.98	9.08	AV

Test Plots(RADIATED SPURIOUS EMISSIONS)

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

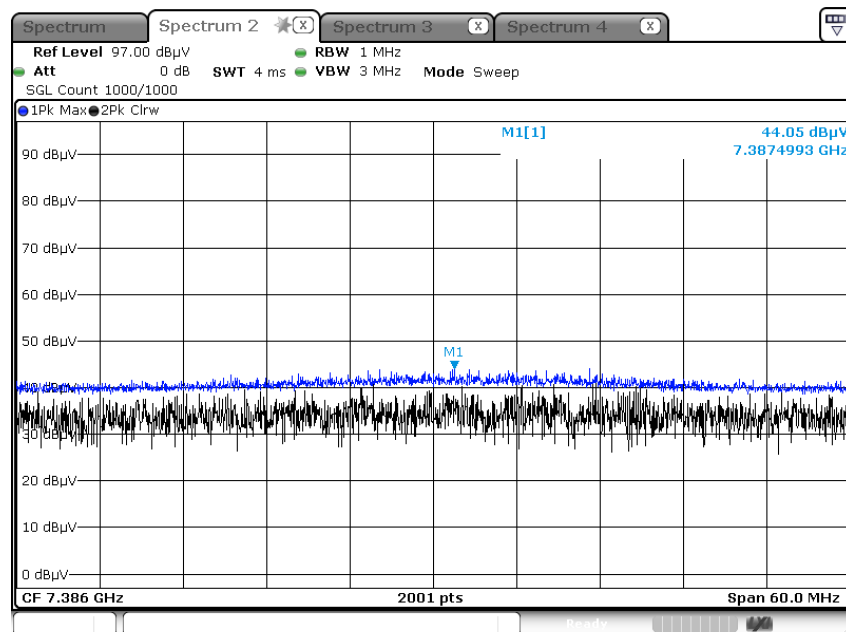
Note: In order to simplify, Plots of worst case are only reported.

Radiated Spurious Emissions plot – Average result (802.11ax(HE20) SU, Ch.11 3rd Harmonic, X-H)



Date: 22.APR.2026 11:23:12

Radiated Spurious Emissions plot – Peak result (802.11ax(HE20) SU, Ch.11 3rd Harmonic, X-H)



Date: 22.APR.2026 11:22:33

9.7 RADIATED RESTRICTED BAND EDGES

[SISO ANT.1]

[802.11ax20, SU]

[DTS Lower Edge]

Operation Mode :		802.11ax_20	Tone & RU Index :		SU		MCS index :		MCS0
Channel No. :		1	Frequency :		2412 MHz		Band :		DTS
Frequency	Measured Value	Duty Cycle Factor	ANT. POL	Total	Limit	Margin	Measurement		
[MHz]	[dBμV]	[dB]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type		
2310 - 2390	59.02	0.00	V	59.02	73.98	14.96	PK		
2310 - 2390	47.67	1.24	V	48.91	53.98	5.07	AV		

[DTS Upper Edge]

Operation Mode : 802.11ax_20		Tone & RU Index : SU		MCS index : MCS0			
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	58.50	0.00	V	58.50	73.98	15.48	PK
2483.5 - 2500	47.46	1.24	V	48.70	53.98	5.28	AV

[SISO ANT.2]

[802.11ax20, SU]

[DTS Lower Edge]

Operation Mode :		802.11ax_20	Tone & RU Index :		SU		MCS index :		MCS0
Channel No. :		1	Frequency :		2412 MHz		Band :		DTS
Frequency	Measured Value	Duty Cycle Factor	ANT. POL	Total	Limit	Margin	Measurement		
[MHz]	[dBμV]	[dB]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type		
2310 - 2390	59.62	0.00	V	59.62	73.98	14.36	PK		
2310 - 2390	47.54	1.24	V	48.78	53.98	5.20	AV		

[DTS Upper Edge]

Operation Mode : 802.11ax_20		Tone & RU Index : SU		MCS index : MCS0			
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	65.68	0.00	V	65.68	73.98	8.30	PK
2483.5 - 2500	49.40	1.24	V	50.64	53.98	3.34	AV

[MIMO CDD(ANT.1+ANT.2)]
[DTS Lower Edge]
[802.11ax20, 26 Tone]

Operation Mode :		802.11ax_20		Tone & RU Index :		26T & 0		MCS index :		MCS0	
Channel No. :		1		Frequency :		2412 MHz		Band :		DTS	
Frequency	Measured Value	Duty Cycle Factor	ANT. POL	Total	Limit	Margin	Measurement				
[MHz]	[dBμV]	[dB]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type				
2310 - 2390	57.42	0.00	V	57.42	73.98	16.56	PK				
2310 - 2390	45.58	0.17	V	45.75	53.98	8.23	AV				

[802.11ax20, 52 Tone]

Operation Mode :		802.11ax_20		Tone & RU Index :		52T & 37		MCS index :		MCS0	
Channel No. :		1		Frequency :		2412 MHz		Band :		DTS	
Frequency	Measured Value	Duty Cycle Factor	ANT. POL	Total	Limit	Margin	Measurement				
[MHz]	[dBμV]	[dB]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type				
2310 - 2390	57.03	0.00	V	57.03	73.98	16.95	PK				
2310 - 2390	45.65	0.33	V	45.98	53.98	8.00	AV				

[802.11ax20, 106 Tone]

Operation Mode :		802.11ax_20		Tone & RU Index :		106T & 53		MCS index :		MCS0	
Channel No. :		1		Frequency :		2412 MHz		Band :		DTS	
Frequency	Measured Value	Duty Cycle Factor	ANT. POL	Total	Limit	Margin	Measurement				
[MHz]	[dBμV]	[dB]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type				
2310 - 2390	57.15	0.00	V	57.15	73.98	16.83	PK				
2310 - 2390	45.84	0.57	V	46.41	53.98	7.57	AV				

[802.11ax20, 242 Tone]

Operation Mode : 802.11ax_20		Tone & RU Index : 242T & 61		MCS index : MCS0			
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	61.30	0.00	V	61.30	73.98	12.68	PK
2310 - 2390	47.34	1.13	V	48.47	53.98	5.51	AV

[802.11ax20, SU Tone]

Operation Mode : 802.11ax_20		Tone & RU Index : SU			MCS index : MCS0		
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	61.22	0.00	V	61.22	73.98	12.76	PK
2310 - 2390	48.60	1.24	V	49.84	53.98	4.14	AV

[DTS Upper Edge]
[802.11ax20, 26 Tone]

Operation Mode :		802.11ax_20		Tone & RU Index :		26T & 8		MCS index :		MCS0	
Channel No. :		11		Frequency :		2462 MHz		Band :		DTS	
Frequency	Measured Value	Duty Cycle Factor	ANT. POL	Total	Limit	Margin	Measurement				
[MHz]	[dBμV]	[dB]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type				
2483.5 - 2500	57.57	0.00	V	57.57	73.98	16.41	PK				
2483.5 - 2500	45.43	0.17	V	45.60	53.98	8.38	AV				

[802.11ax20, 52 Tone]

Operation Mode :		802.11ax_20		Tone & RU Index :		52T & 40		MCS index :		MCS0					
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		57.16		0.00		V		57.16		73.98		16.82		PK	
2483.5 - 2500		45.37		0.33		V		45.70		53.98		8.28		AV	

[802.11ax20, 106 Tone]

Operation Mode : 802.11ax_20		Tone & RU Index : 106T & 54		MCS index : MCS0			
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	57.36	0.00	V	57.36	73.98	16.62	PK
2483.5 - 2500	45.50	0.57	V	46.07	53.98	7.91	AV

[802.11ax20, 242 Tone]

Operation Mode : 802.11ax_20		Tone & RU Index : 242T & 61				MCS index : MCS0	
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	63.15	0.00	V	63.15	73.98	10.83	PK
2483.5 - 2500	46.76	1.13	V	47.89	53.98	6.09	AV

[802.11ax20, SU]

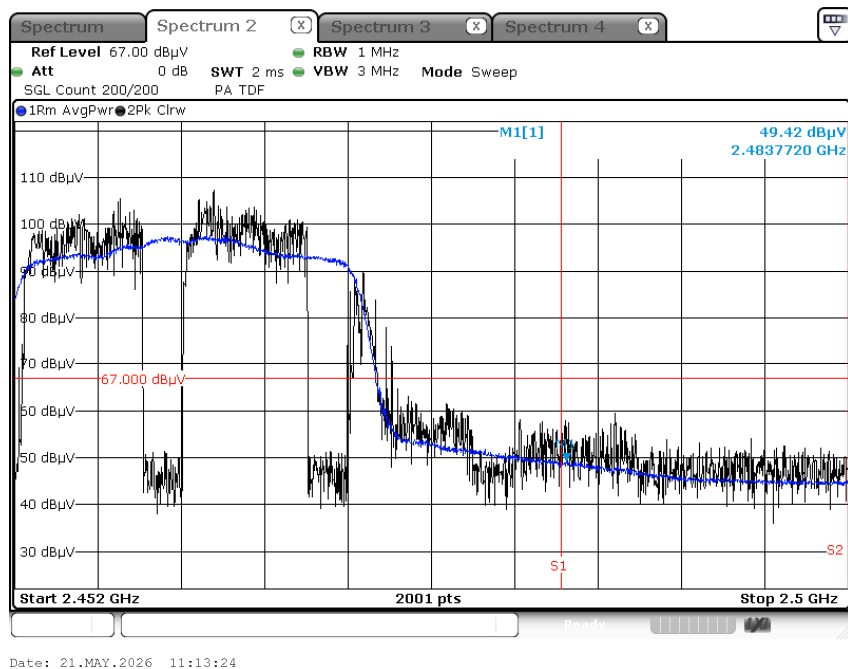
Operation Mode : 802.11ax_20		Tone & RU Index : SU			MCS index : MCS0		
Channel No. : 11		Frequency : 2462 MHz			Band : DTS		
Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
2483.5 - 2500	67.29	0.00	V	67.29	73.98	6.69	PK
2483.5 - 2500	49.42	1.24	V	50.66	53.98	3.32	AV

Test Plots (RADIATED RESTRICTED BAND EDGES)

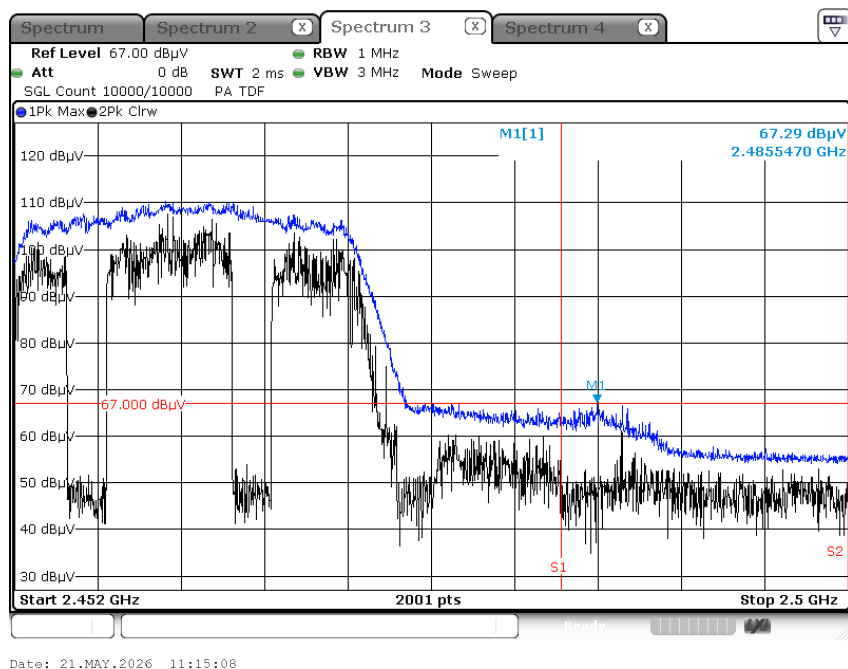
[MIMO_CDD(Ant.1+Ant.2)]

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

Radiated Restricted Band Edges plot – Average result(802.11ax(HE20) SU, MCS0, ch.11, X-V)



Radiated Restricted Band Edges plot – Peak result(802.11ax(HE20) SU, MCS0, ch.11, X-V)



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	ESR7	Rohde & Schwarz	101910	08/20/2026	Annual
Chamber	SU-642	ESPEC	93008124	02/04/2027	Annual
PXA Signal Analyzer	N9030A	Agilent	MY49432108	02/09/2027	Annual
Open Switch and Control Platform	OSP 120	Rohde & Schwarz	100935	07/24/2026	Annual
Power Meter	N1911A	Agilent	MY45100523	02/13/2027	Annual
WIDEBAND POWER SENSOR	N1921A	Keysight	MY57820067	01/26/2027	Annual
Directional Coupler	87300B	Agilent	3116A03621	10/14/2026	Annual
Power Splitter	11667B	Hewlett Packard	10545	01/15/2027	Annual
DC Power Supply	E3632A	Hewlett Packard	KR40010370	07/07/2026	Annual
Attenuator	8493C-010	Keysight	07560	04/29/2027	Annual
Attenuator	8493C-010	HP	08285	05/08/2027	Annual
Attenuator	18N-20dB	Rohde & Schwarz	8	02/09/2027	Annual
Software	EMC32	Rohde & Schwarz	N/A	N/A	N/A
Bluetooth Tester	CBT	Rohde & Schwarz	100752	12/22/2026	Annual
Automation Software	FCC WLAN Conducted	HCT CO., LTD	N/A	N/A	N/A
Automation Software	FCC Bluetooth Conducted	HCT CO., LTD	N/A	N/A	N/A

Note:

1. Equipment whose calibration due date was updated during the test period was not used between the previous due date and the update.

All reported measurements were performed using equipment within valid calibration.

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

Radiated Test

Equipment	Model	Manufacturer	Serial No.	Due to Calibration	Calibration Interval
Antenna Mast Controller	CO3000	Innco system GmbH	CO3000/842/35030115/L	N/A	N/A
Antenna Mast	MA4640/800-XP-EP	Innco system GmbH	S3AM	07/25/2026	Annual
Turn Table	DS1500-S-1t	Innco system GmbH	6290425	N/A	N/A
Loop Antenna	FMZB 1513	Schwarzbeck Mess-Elektronik OHG	1513-175	06/24/2027	Biennial
Trilog Broadband Antenna	VULB 9168	Schwarzbeck Mess-Elektronik OHG	01135	08/19/2026	Biennial
Horn Antenna	BBHA 9120D	Schwarzbeck Mess-Elektronik OHG	9120D-1191	10/21/2027	Biennial
Horn Antenna	BBHA 9170	Schwarzbeck Mess-Elektronik OHG	BBHA9170124	03/23/2027	Biennial
Band Reject Filter	WRCJV2400/2483.5-2370/2520-60/12SS	Wainwright Instruments GmbH	2	12/11/2026	Annual
Band Reject Filter	WRCJV12-4900-5100-5900-6100-50SS	Wainwright Instruments GmbH	5	03/19/2027	Annual
Band Reject Filter	WRCJV12-4900-5100-5900-6100-50SS	Wainwright Instruments GmbH	6	03/19/2027	Annual
Band Reject Filter	WRCJV5100/5850-40/50-8EEK	Wainwright Instruments GmbH	1	01/07/2027	Annual
RF Switching System	FBSR-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
RF Switching System	FBSR-03A (Thru)	T&M SYSTEM	S3L5	10/20/2026	Annual
DC Power Supply	E3632A	Hewlett Packard	KR75305528	12/12/2026	Annual
Automation Software	FCC WLAN Radiated	HCT CO., LTD.	-	-	-
Broadband LNA	CBL18265035	CERNEX	22966	10/21/2026	Annual
Broadband LNA	CBL26405040	CERNEX	25956	02/09/2027	Annual
Bluetooth Tester	TC-3000C	TESCOM	3000C000175	03/03/2027	Annual
Spectrum Analyzer	FSV40	Rohde & Schwarz	100900	04/14/2027	Annual

Note:

1. Equipment whose calibration due date was updated during the test period was not used between the previous due date and the update.

All reported measurements were performed using equipment within valid calibration.

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

11. ANNEX A_ TEST SETUP PHOTO

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

No.	Description
1	HCT-RF-2605-FC026-P