TEST REPORT

Test Report No. : UL-RPT-RP-15158661-1216

Applicant *	:	EUROTECH SPA
Model No. *	:	RC1032
FCC ID / ISED IC: *	:	FCC ID: UKMRC1032 IC: 21442-RC1032
Technology *	:	WLAN 5 GHz (802.11 a, n, ac)
Test Standard(s)	:	**FCC Parts 15.207, 15.209(a) & 15.407** **ISED RSS-247 Issue 3 August 2023** **RSS-Gen Issue 5, April 2018 Amendment 2 (February 2021)** For details of applied tests refer to test result summary

1. This test report shall not be reproduced in full or partial, without the written approval of UL International Germany GmbH.
2. The results in this report apply only to the sample tested.
3. The test results in this report are traceable to the national or international standards.
4. **Test Report Version 1.4 supersede Version 1.4 with immediate effect**
   Test Report No. UL-RPT-RP-15158661-1216 Version 1.4, Issue Date 7 March 2025 replaces
   Test Report No. UL-RPT-RP-15158661-1216 Version 1.3, Issue Date 20 February 2025, which is no longer valid.
5. Result of the tested sample: **Pass**
6. All information marked with a (*) were provided by customer / applicant or authorized representative

Prepared by: Yixiang Lin
Title: Project Engineer
Date: 7 March 2025

Approved by: Muhammad Faiq Khan
Title: Project Engineer
Date: 7 March 2025

Deutsche Akkreditierungsstelle D-PL-19381-02-00

This laboratory is accredited by DAkkS.
The tests reported herein have been performed in accordance with its' terms of accreditation.

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1. Customer Information *

1.1.Applicant Information

Company Name:	EUROTECH SPA
Address:	Via FRATELLI SOLARI 3/A AMARO, Udine 33020 Italy

2. Summary of Testing

2.1. General Information

Applied Standards

Specification Reference:	47CFR15.407 and 47CFR15.403
Specification Title:	Code of Federal Regulations Volume 47 (Telecommunications): Part 15 Subpart E (Unlicensed National Information Infrastructure Devices) – Sections 15.403 and 15.407
Specification Reference:	47CFR15.207 and 47CFR15.209
Specification Title:	Code of Federal Regulations Volume 47 (Telecommunications): Part 15 Subpart C (Intentional Radiators) - Sections 15.207 and 15.209
Specification Reference:	RSS-Gen Issue 5, April 2018 Amendment 2 (February 2021)
Specification Title:	General Requirements for Compliance of Radio Apparatus
Specification Reference:	RSS-247 Issue 3 August 2023
Specification Title:	Digital Transmission Systems (DTSs), Frequency Hopping Systems (FHSs) and Licence-Exempt Local Area Network (LE-LAN) Devices

Location

Location of Testing:	UL International Germany GmbH Hedelfinger Strasse. 61, 70327 Stuttgart, GERMANY
Site Registration:	FCC: 399704, ISEDC: 22511
FCC Lab. Designation No.:	DE0019
ISEDC CABID:	DE0008

Date information

Order Date:	26 January 2024
EUT arrived:	15 July 2024
Test Dates:	18 July 2024 to 30 July 2024
EUT returned:	-/-

2.2. Summary of Test Results

FCC Clause	ISED Clause	Measurement	Result
Part 15.207	RSS-GEN 8.8	Transmitter AC Conducted Emissions	✓
None	RSS-247 6.2.1.2	Transmitter 26 dB Emission Bandwidth(2)	N.P.
Part 15.407(e)	RSS-247 6.2.1.2	Transmitter Minimum 6 dB Bandwidth (5.725-5.85 GHz band) (2)	N.P.
Part 15.35(c)	Reporting purpose	Transmitter Duty Cycle (1)	Note 1
Part 15.407(a)(1)(iv), (2), (3)	RSS-247 6.2	Transmitter Maximum Conducted Output Power(2)	N.P.
Part 15.407(a)(1)(iv), (2), (3)	RSS-247 6.2	Transmitter Peak Power Spectral Density(2)	N.P.
Part 15.407(b)/15.209(a)	RSS-247 6.2	Transmitter Out of Band Radiated Emissions	✓
Part 15.407(b)/15.209(a)	RSS-247 6.2	Transmitter Band Edge Radiated Emissions	✓
Part 15.407(g)	None	Transmitter Frequency Stability (2) (Temperature & Voltage Variation)	N.P.
FCC Part 15.407 (h)	RSS-247 6.3	Dynamic Frequency Selection (2)	N.P.

✓ = Complied ✗ = Did not comply N.P. = NOT PERFORMED N.A. = NOT APPLICABLE

Note(s):

1. The measurement was performed to assist in the calculation of the level of emissions.
2. The test was performed partially because the module is already certified and the tests were performed for the C which concerns the antenna change and installation on a specific host.

2.3. Methods and Procedures

Reference:	ANSI C63.10-2013
Title:	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices
Reference:	FCC KDB 789033 D02 General U-NII Test Procedures New Rules v02r01 December 14, 2017
Title:	Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices – Part 15, Subpart E
Reference:	FCC KDB 174176 D01 Line Conducted FAQ v01r01June 3, 2015
Title:	AC Power-Line Conducted Emissions Frequently Asked Questions

2.4. Deviations from the Test Specification

For the measurements contained within this test report, there were no deviations from, additions to, or exclusions from the test specification identified above.

3. Equipment Under Test (EUT)

3.1. Identification of Equipment Under Test (EUT) *

Brand Name:	EUROTECH
Model Name or Number:	RC1032
Serial Number:	B54292 900002
HMN:	RECELL-10-32
HVIN:	RC1032
FVIN:	/
FCC ID:	UKMRC1032
ISED ID:	21442-RC1032

3.2. Description of EUT *

The EUT is the BT/WiFi Module installed in specific host (ReliaCELL 10-32).

3.3. Modifications Incorporated in the EUT

No modifications were applied to the EUT during testing.

3.4. Additional Information Related to Testing

Technology Tested:	WLAN (IEEE 802.11a,n,ac) / Digital Transmission System			
Type of Unit:	Transceiver			
Supported Modulation Types:	OFDM			
Supported Data rates:	802.11a	6,9,12,18,24,36,48,54 Mbit/s		
	802.11n	MCS0 to MCS7 (MIMO)		
	802.11ac	MCS0 to MCS9 (MIMO)		
Power Supply Requirement(s): *	5V DC			
Maximum Conducted Output Power:	20.90 dBm			
Nominal Channel Bandwidth *	20 MHz, 40 MHz, 80 MHz			
Transceiver Frequency Band:	5150 MHz to 5250 MHz [U-NII-1 Band]			
Transmit Channels Tested: 20 MHz	**Channel ID**	**Channel Number**	**Frequency (MHz)**	
	Bottom	36	5180	
Transceiver Frequency Band:	5250 MHz to 5350 MHz [U-NII-2a Band]			
Transmit Channels Tested: 20 MHz	**Channel ID**	**Channel Number**	**Frequency (MHz)**	
	Bottom	52	5260	
Transceiver Frequency Band:	5470 MHz to 5725 MHz [U-NII-2c Band]			
Transmit Channels Tested: 20 MHz	**Channel ID**	**Channel Number**	**Frequency (MHz)**	
	Bottom	100	5500	
Transceiver Frequency Band:	5725 MHz to 5850 MHz [U-NII-3 Band]			
Transmit Channels Tested: 20 MHz	**Channel ID**	**Channel Number**	**Frequency (MHz)**	
	Bottom	149	5745	
Declared Antenna Gain:	UNII-1	UNII-2A	UNII-2C	UNII-3
	4.41 dBi	4.47 dBi	4.28 dBi	4.33 dBi
Antenna Type:	External Dipole Antenna			
Antenna Details:	Quectel YEWN001AA			
Number of Antenna:	1			

3.5. Support Equipment

The following support equipment was used to exercise the EUT during testing:

A. Support Equipment (In-house)

Item	Description	Brand Name	Model Name or Number	Serial Number
1	-/-	-/-	-/-	-/-

B. Support Equipment (Manufacturer supplied) *

Item	Description	Brand Name	Model Name or Number	Serial Number
1	Host CPU Unit	Eurotech	ReliaGATE-15a-14 Rev.A	Host CPU-1

2	AC/DC Adaptor	Sunny	SYS1541-2424 Input: 100-240 VAC, 50-60 Hz, 1.0 A Output: 24 VDC, 1.0 A	-/-
3	Extension Card for ReliaCELL-10-32	Eurotech	BRD3123_001A1	Extension Card-0R2
4	8-port Gb LAN switch	Netgear	GS608	-/-
5	Laptop with QRCT	HP	HP ZBook 15U G6 (Intel Core i7; 8th Gen)	CAM02WKS452/5CG9518S1M

4. Operation and Monitoring of the EUT during Testing

4.1. Operating Modes

The EUT was tested in the following operating mode(s):				
Continuously transmitting modulated carrier with maximum power setting and a combination of: *(1) • 802.11a-Mode | 6, 9, 12, 18, 24, 36, 48, 54 Mbps • 802.11n-Mode | HT 20/40 | MCS0 to MCS7 • 802.11ac-Mode | VHT 20/40/80 | MCS0 to MCS9				
*(1) According to the RF output power following data rates were determined to be the worst cases per mode and therefore, all further measurements were performed only with these worst-case modes.				
	UNII-1	UNII-2A	UNII-2C	UNII-3
a-mode	6 Mbps	6 Mbps	6 Mbps	6 Mbps

As a C2PC application, tests were performed on bottom channel only, based on worst case result from pre-scan.

4.2. Configuration and Peripherals

- The customer supplied document containing the setup instructions “RC1032-RF-TEST-FCC-B03.pdf’’ was used for configuration.

EUT Power Supply:

- The host was powered with 120 V AC 60 Hz, and EUT powered by the host.
- For AC conducted line emissions measurement the EUT was powered via AC/DC power adapter The measurements were carried out with 120 VAC /60 Hz & 240 VAC/60 Hz.

Test Mode Activation:

- The EUT can be installed into a host unit and a test laptop via ethernet cable supplied by the customer is used to control the EUT.
- The test modes were activated by Qualcomm Radio Control Tool.

Radiated Measurements:

- Before starting final radiated spurious emission measurements “worst case verification” with the EUT in Standing-position & Laying-position was performed by Lab.
- The EUT in Standing-position was found to be the worst case, with horizontal antennas orientation.
- The radiated measurements below 30 MHz were performed with the EUT positioned on the turn table and rotating 360 degrees while the loop antenna height was set to 80 cm.
- The radiated measurements above 30 MHz were performed with the EUT positioned on the turn table and rotating 360 degrees while the antenna height varies from 1 to 4 m over the measurement frequency range.
- R&S® EMC32 V11.30.00 Software was used for the Radiated spurious emission measurements.
- The continuous transmission of the EUT (D ≥ 98%) cannot be achieved and EUT was transmitting with different duty cycles w.r.t to different modes. Duty Cycle Correction Factors were added to all average measurements respectively according to the modes used to compensate as if it was transmitting with 100% duty cycle.

5. Measurements, Examinations and Derived Results

5.1. General Comments

Measurement uncertainties are evaluated in accordance with current best practice. Our reported expanded uncertainties are based on standard uncertainties, which are multiplied by an appropriate coverage factor to provide a statistical confidence level of approximately 95%. Please refer to Section 6 *Measurement Uncertainty* for details.

In accordance with DAkkS requirements all the measurement equipment is on a calibration schedule. All equipment was within the calibration period on the date of testing.

5.2. Test Results

5.2.1. Transmitter AC Conducted Spurious Emissions

Test Summary:

Test Engineers:	Abbas Al-Hussainy	**Test Dates:**	18 July 2024
Test Sample Serial Number:	B54292 900002		
Test Site Identification	SR 7/8		

FCC Reference:	Part 15.207
ISED Reference:	RSS-GEN 8.8
Test Method Used:	ANSI C63.10 Section 6.2 / FCC KDB 174176 and notes below

Environmental Conditions:

Temperature (°C):	22.2
Relative Humidity (%):	42.6

Settings of the Instrument

Detector	Quasi Peak/ Average

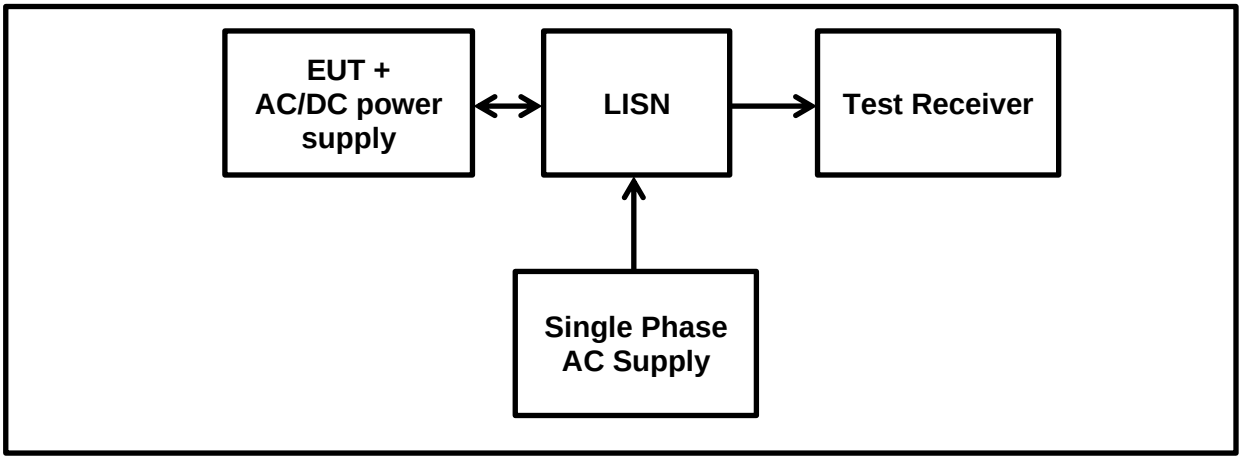
Note(s):

1. The EUT was plugged into an AC/DC switching adaptor. The switching Adaptor was connected to 120 VAC / 60 Hz single phase supply via a LISN.
2. In accordance with FCC KDB 174176 Q4, tests were performed with a 240 VAC 60 Hz single phase supply as this was within the voltage range marked on the 100-240 VAC~50/60 Hz power supply.
3. The EUT was configured with the following modes w.r.t output power:

   a-Mode | 6Mbps | Power Level 15 | UNII-1 | Channel 48: 5240 MHz
4. Pre-scans were performed, and markers placed on the highest live and neutral measured levels. Final measurements were performed on the marker frequencies and the results entered into the tables below.
5. The final measured value, for the given emission, in the table below incorporates the cable loss.
6. All other emissions shown on the pre-scan plot were investigated and found to be ambient or >20 dB below the applicable limit or below the measurement system noise floor.
7. Measurements were performed in shielded room (SR7/ 8 Asset Number 1603671). The EUT was placed at a height of 80 cm above the reference ground plane and in a distance of 40 cm from the vertical ground plane at the edge of the table.
8. Measurement software used: Toyo EMI Software; CE measurement software EP5/CE Ver 4.0.1.

Transmitter AC Conducted Spurious Emissions (continued)

Test Setup:



Transmitter AC Conducted Spurious Emissions (continued)

Results: 802.11a / 20 MHz /6Mbps / PWR 15 / UNII-1 / CH36

Results: Live / Quasi Peak / 120 VAC 60 Hz

Frequency (MHz)	Line	Level (dBµV)	Limit (dBµV)	Margin (dB)	Result
0.15656	Live	56.30	65.60	9.30	Complied
0.2037	Live	48.70	63.50	14.80	Complied
0.35714	Live	39.70	58.80	19.10	Complied
0.8535	Live	20.50	56.00	35.50	Complied
2.09874	Live	18.40	56.00	37.60	Complied
6.63373	Live	24.80	60.00	35.20	Complied

Results: Live / Average / 120 VAC 60 Hz

Frequency (MHz)	Line	Level (dBµV)	Limit (dBµV)	Margin (dB)	Result
0.15656	Live	37.00	55.60	18.60	Complied
0.2037	Live	32.70	53.50	20.80	Complied
0.35714	Live	31.50	48.80	17.30	Complied
0.8535	Live	14.70	46.00	31.30	Complied
2.09874	Live	11.70	46.00	34.30	Complied
6.63373	Live	19.00	50.00	31.00	Complied

Transmitter AC Conducted Spurious Emissions (continued)

Results: 802.11a / 20 MHz /6Mbps / PWR 15 / UNII-1 / CH48

Results: Neutral / Quasi Peak / 120 VAC 60 Hz

Frequency (MHz)	Line	Level (dBµV)	Limit (dBµV)	Margin (dB)	Result
0.15131	Neutral	54.30	65.90	11.60	Complied
0.20303	Neutral	48.70	63.50	14.80	Complied
0.24128	Neutral	44.00	62.10	18.10	Complied
0.27057	Neutral	39.00	61.10	22.10	Complied
0.38771	Neutral	30.70	58.10	27.40	Complied
2.88383	Neutral	21.40	56.00	34.60	Complied

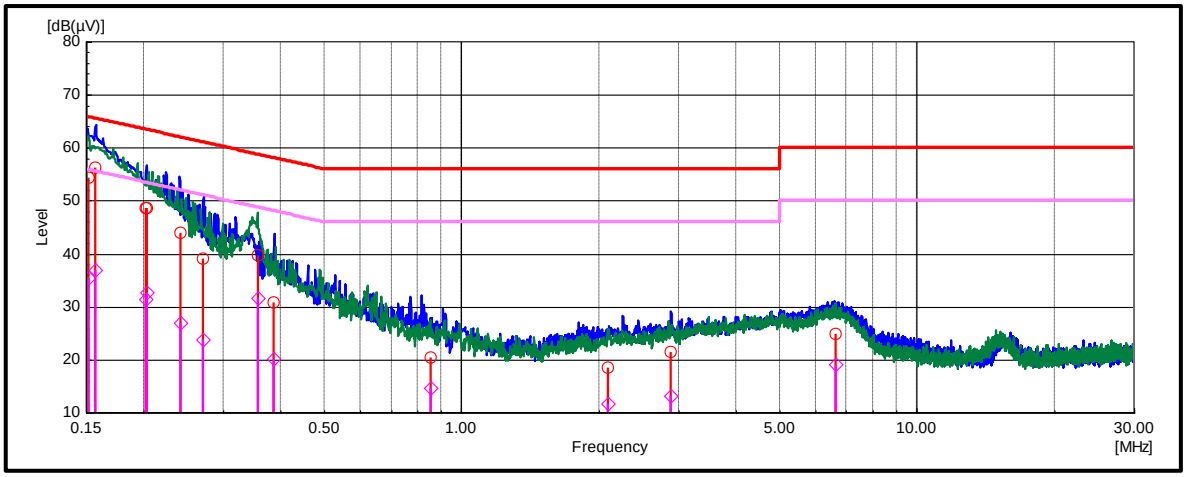
Results: Neutral / Average / 120 VAC 60 Hz

Frequency (MHz)	Line	Level (dBµV)	Limit (dBµV)	Margin (dB)	Result
0.15131	Neutral	35.40	55.90	20.50	Complied
0.20303	Neutral	31.30	53.50	22.20	Complied
0.24128	Neutral	27.00	52.10	25.10	Complied
0.27057	Neutral	23.80	51.10	27.30	Complied
0.38771	Neutral	20.10	48.10	28.00	Complied
2.88383	Neutral	13.20	46.00	32.80	Complied

Transmitter AC Conducted Spurious Emissions (continued)

Results: 802.11a / 20 MHz / 6Mbps / PWR 15 / UNII-1 / CH48

Plot: Live & Neutral Line / 120 VAC 60 Hz



Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.

Result: Pass

Transmitter AC Conducted Spurious Emissions (continued)

Results: 802.11a / 20 MHz / 6Mbps / PWR 15 / UNII-1 / CH48

Results: Live / Quasi Peak / 240 VAC 60 Hz

Frequency (MHz)	Line	Level (dBµV)	Limit (dBµV)	Margin (dB)	Result
0.3043	Live	44.70	60.10	15.40	Complied
0.55085	Live	29.90	56.00	26.10	Complied
0.66306	Live	26.10	56.00	29.90	Complied
1.408	Live	19.20	56.00	36.80	Complied
6.07969	Live	29.60	60.00	30.40	Complied
13.38062	Live	14.10	60.00	45.90	Complied

Results: Live / Average / 240 VAC 60 Hz

Frequency (MHz)	Line	Level (dBµV)	Limit (dBµV)	Margin (dB)	Result
0.3043	Live	24.10	50.10	26.00	Complied
0.55085	Live	19.60	46.00	26.40	Complied
0.66306	Live	17.00	46.00	29.00	Complied
1.408	Live	12.70	46.00	33.30	Complied
6.07969	Live	23.00	50.00	27.00	Complied
13.38062	Live	10.40	50.00	39.60	Complied

Results: Neutral / Quasi Peak / 240 VAC 60 Hz

Frequency (MHz)	Line	Level (dBµV)	Limit (dBµV)	Margin (dB)	Result
0.23355	Neutral	51.60	62.30	10.70	Complied
0.43365	Neutral	33.50	57.20	23.70	Complied
0.96819	Neutral	23.70	56.00	32.30	Complied
2.57685	Neutral	21.80	56.00	34.20	Complied
14.31408	Neutral	14.60	60.00	45.40	Complied
22.01661	Neutral	12.50	60.00	47.50	Complied

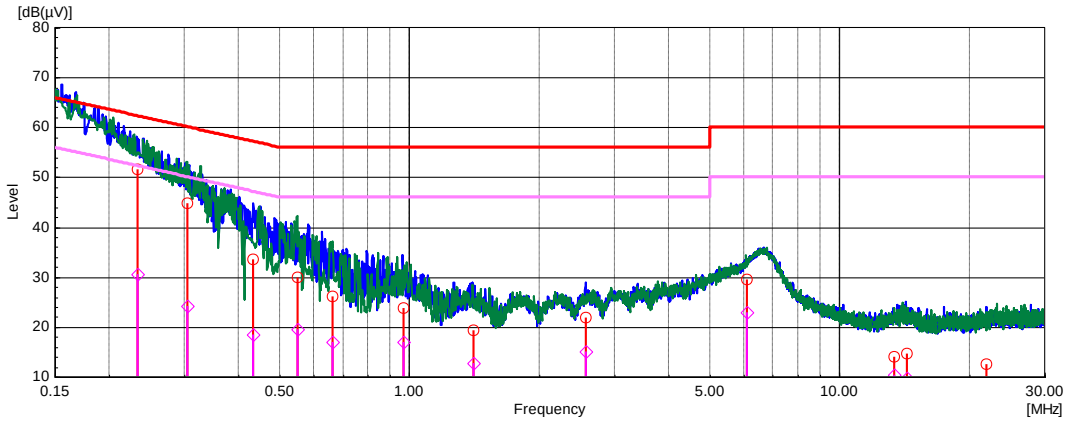
Transmitter AC Conducted Spurious Emissions (continued)

Results: 802.11a / 20 MHz / 6Mbps / PWR 15 / UNII-1 / CH48

Results: Neutral / Average / 240 VAC 60 Hz

Frequency (MHz)	Line	Level (dBµV)	Limit (dBµV)	Margin (dB)	Result
0.23355	Neutral	30.50	52.30	21.80	Complied
0.43365	Neutral	18.60	47.20	28.60	Complied
0.96819	Neutral	16.90	46.00	29.10	Complied
2.57685	Neutral	15.20	46.00	30.80	Complied
14.31408	Neutral	9.80	50.00	40.20	Complied
22.01661	Neutral	7.90	50.00	42.10	Complied

Plot: Live & Neutral Line / 240VAC 60 Hz



Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.

Result: Pass

5.2.2. Transmitter Duty Cycle

Test Summary:

Test Engineer:	Abbas Al-Hussainy	**Test Date:**	25 July 2024
Test Sample Serial Number:	B54292 900002		
Test Site Identification	SR 1/2		

FCC Reference:	Part 15.35(c)
Test Method Used:	FCC KDB 789033 D02 Section II.B.2.b)

Environmental Conditions:

Temperature (°C):	24.9
Relative Humidity (%):	49

Notes:

1. The transmitter duty cycle was measured using a spectrum analyser in the time domain and calculated by using the following calculation:

   Duty Cycle (%) = 100 X [On Time (T_{ON})] / [Period(T_{ON}+ T_{OFF}) or 100ms whichever is the lesser]

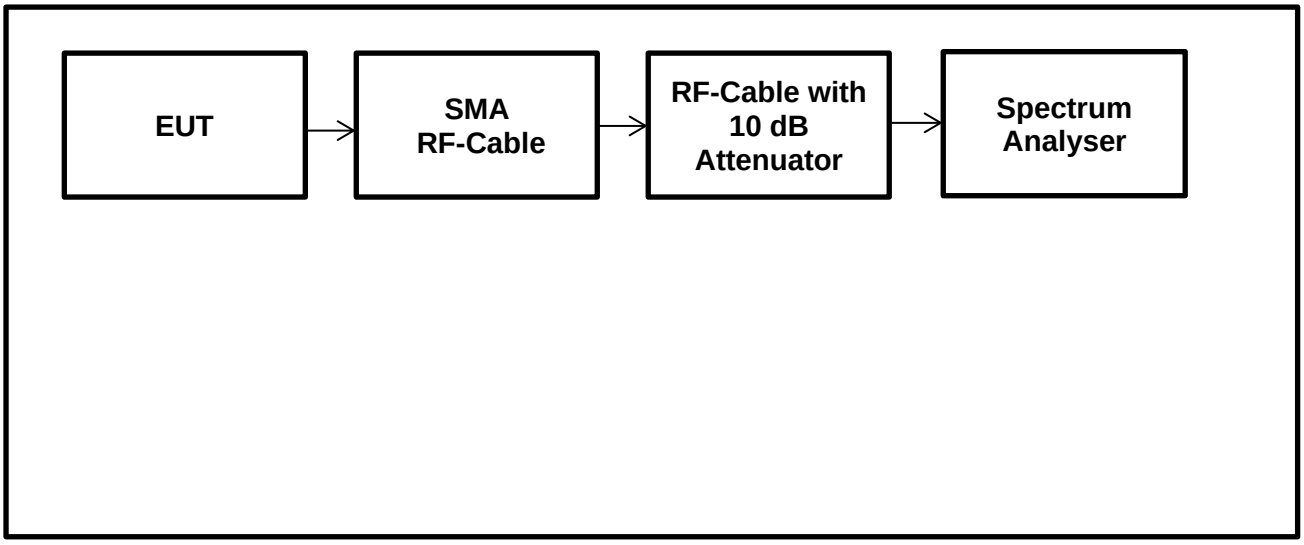
   Duty Cycle Correction Factor= 10 log 1 / [On Time (T_{ON})] / [Period(T_{ON}+ T_{OFF}) or 100ms whichever is the lesser]

	UNII-1	DCCF	UNII-2A	DCCF	UNII-2C	DCCF	UNII-3	DCCF
a-mode	6 Mbps	1.16	6 Mbps	1.46	6 Mbps	1.69	6 Mbps	1.76

2. The duty cycle was measured with radiated method, total a reference level offset 13.10 dB was added to each of the at the tested frequencies plots.

Transmitter Duty Cycle (continued)

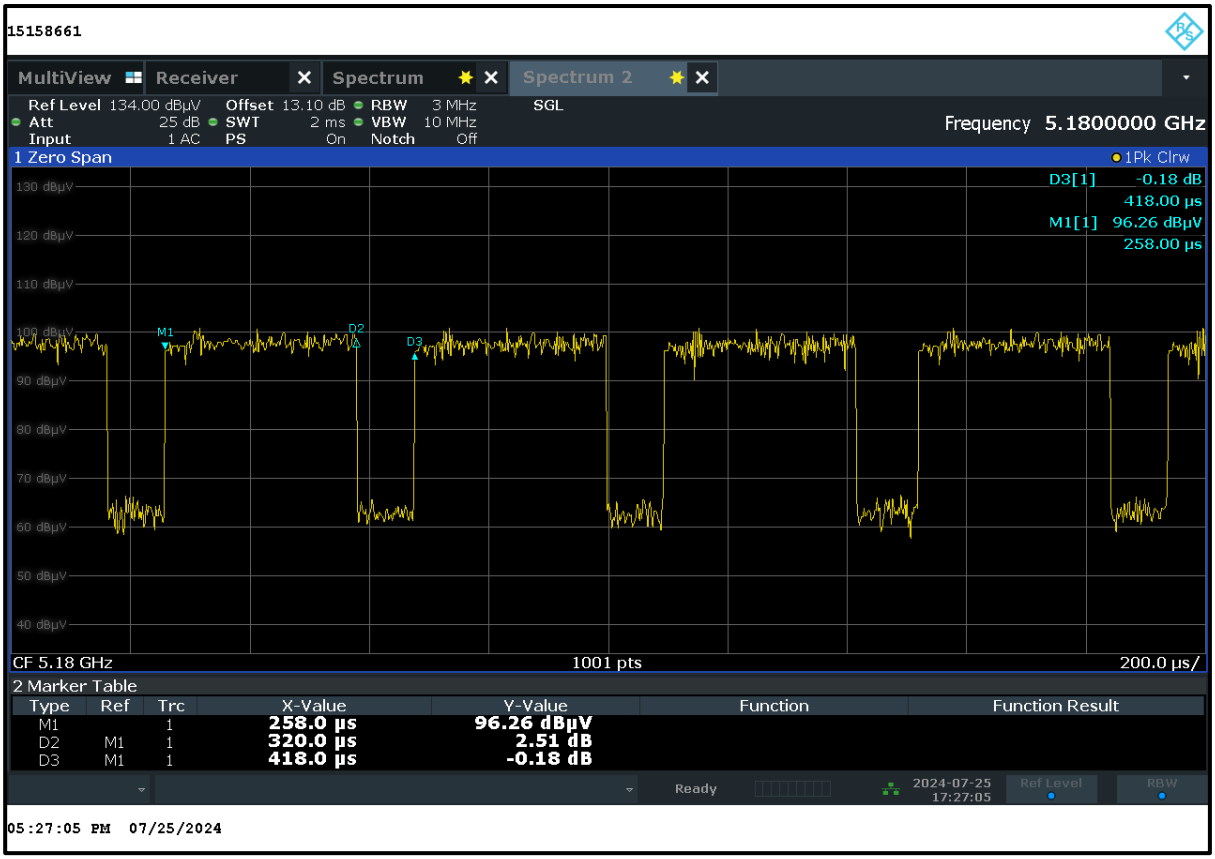
Test Setup:



Transmitter Duty Cycle (continued)

Results: AC Power Supply / UNII-1 / 802.11a / 20 MHz / 6 Mbps / PWR 15

Pulse On Time (T_{ON}) (ms)	Pulse Period (T_{ON} +T_{OFF}) (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)
0.32	0.418	76.56	1.16

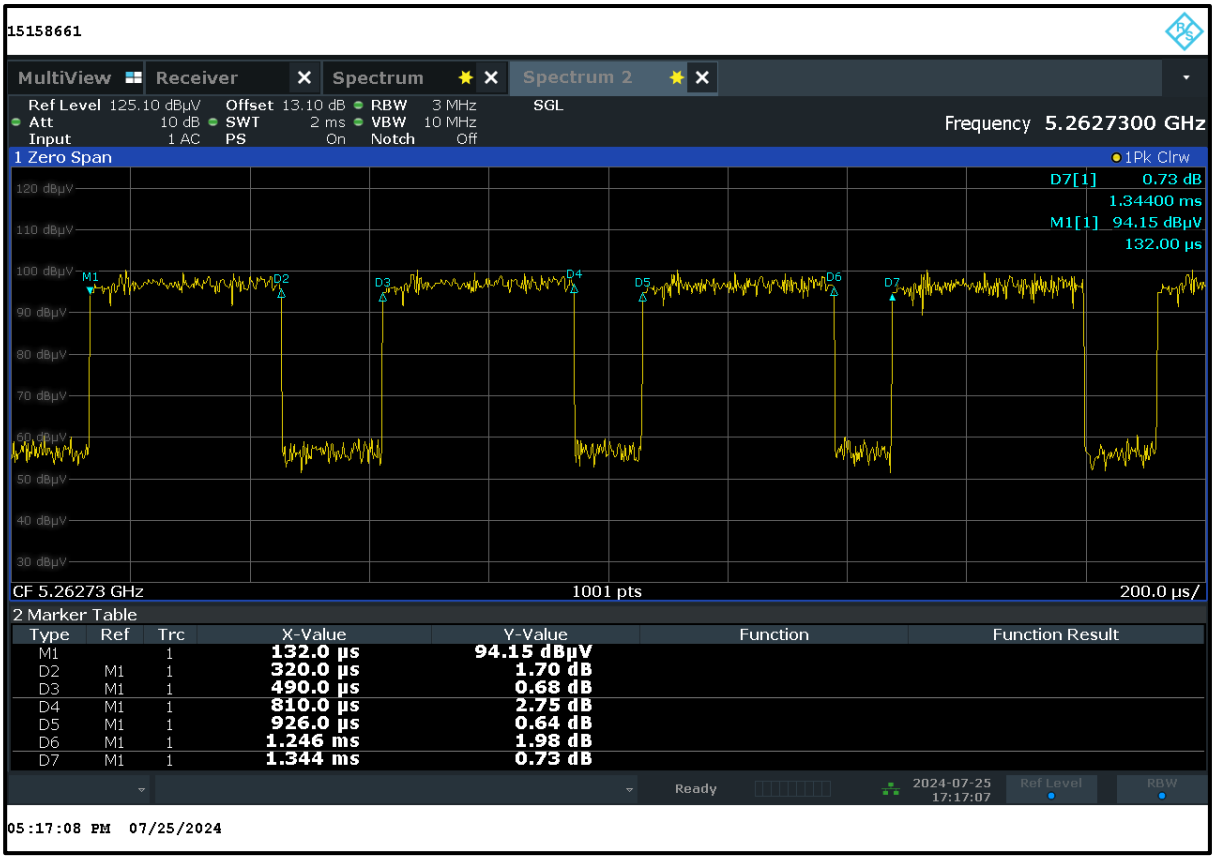


Result: Pass

Transmitter Duty Cycle (continued)

Results: AC Power Supply / UNII-2A / 802.11a / 20 MHz / 6Mbps / PWR 15

Pulse On Time (T_{ON}) (ms)	Pulse Period (T_{ON} +T_{OFF}) (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)
0.96	1.344	71.43	1.46

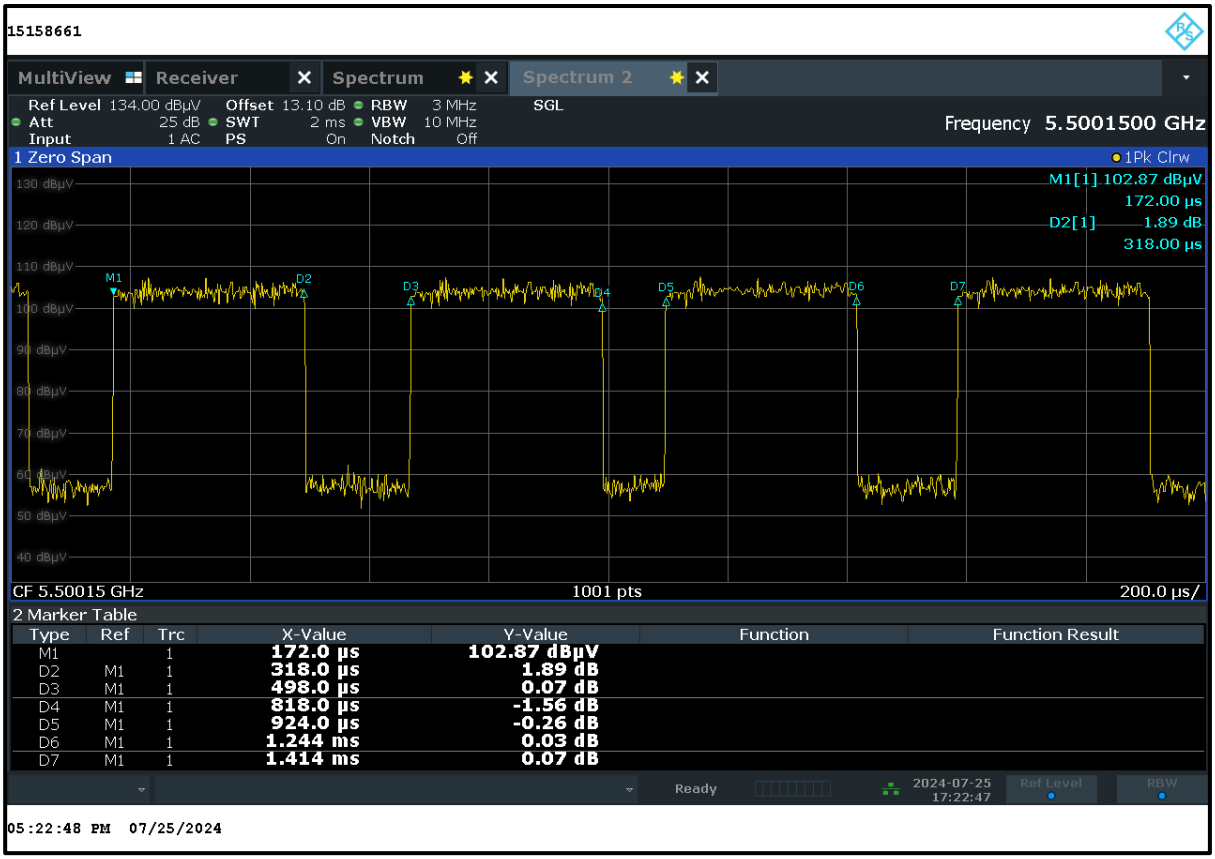


Result: Pass

Transmitter Duty Cycle (continued)

Results: AC Power Supply / UNII-2C / 802.11a / 20 MHz / 6Mbps / PWR 15

Pulse On Time (T_{ON}) (ms)	Pulse Period (T_{ON} +T_{OFF}) (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)
0.958	1.414	67.75	1.69

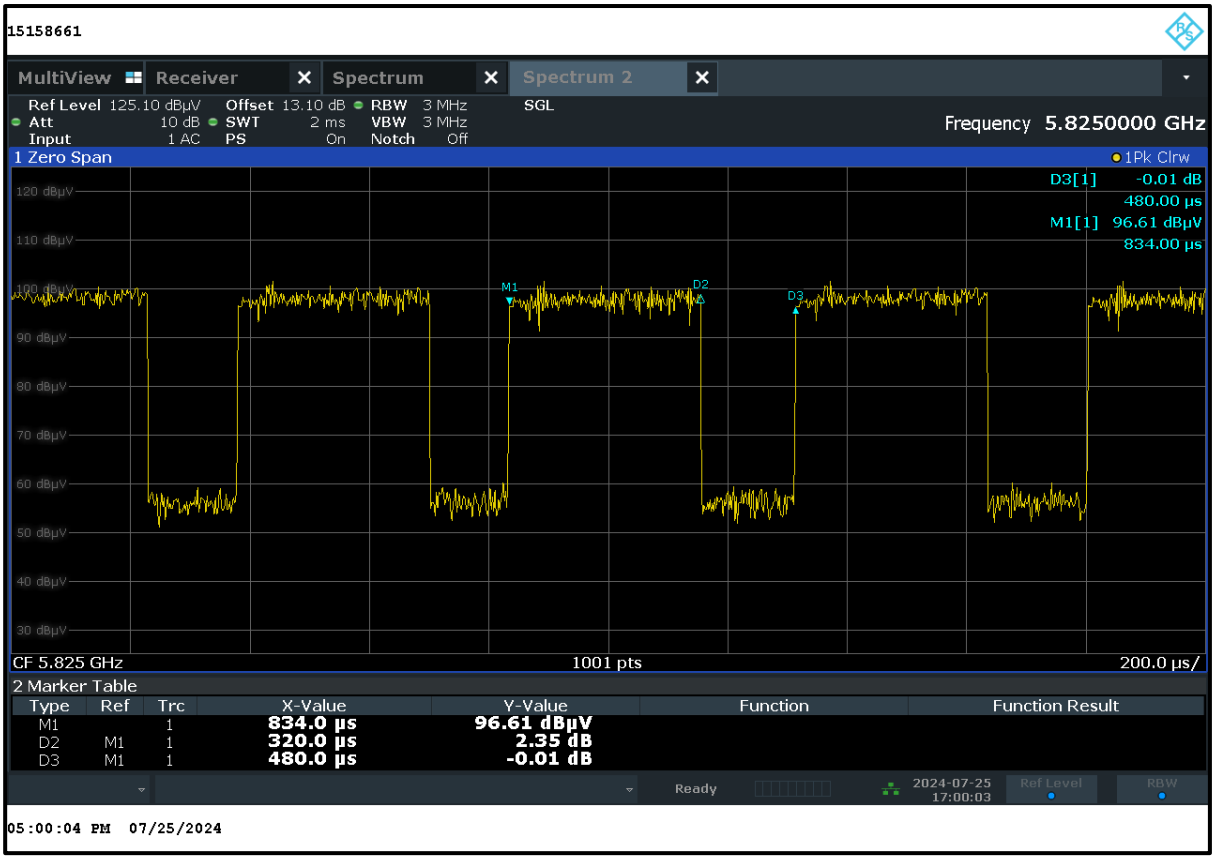


Result: Pass

Transmitter Duty Cycle (continued)

Results: AC Power Supply / UNII-1 / 802.11a / 20 MHz / 6Mbps / PWR 15

Pulse On Time (T_{ON}) (ms)	Pulse Period (T_{ON} +T_{OFF}) (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)
0.32	0.48	66.67	1.76



Result: Pass

5.2.3. Transmitter Out of Band Radiated Emissions (5.15-5.25 GHz band operation)

Test Summary:

Test Engineer:	Abbas Al-Hussainy	**Test Date:**	23 July 2024
Test Sample Serial Number:	B54292 900002		
Test Site Identification	SR 1/2		

FCC Reference:	Parts 15.407(b)(1),(9) & 15.209(a)
ISED Reference:	RSS-247 6.2
Test Method Used:	FCC KDB 789033 II .G.1, II .G.2, II .G.3 & II .G.4. & ANSI C63.10 Sections 6.3 and 6.4
Frequency Range:	9 kHz to 30 MHz

Environmental Conditions:

Temperature (°C):	24.9
Relative Humidity (%):	49

Note(s):

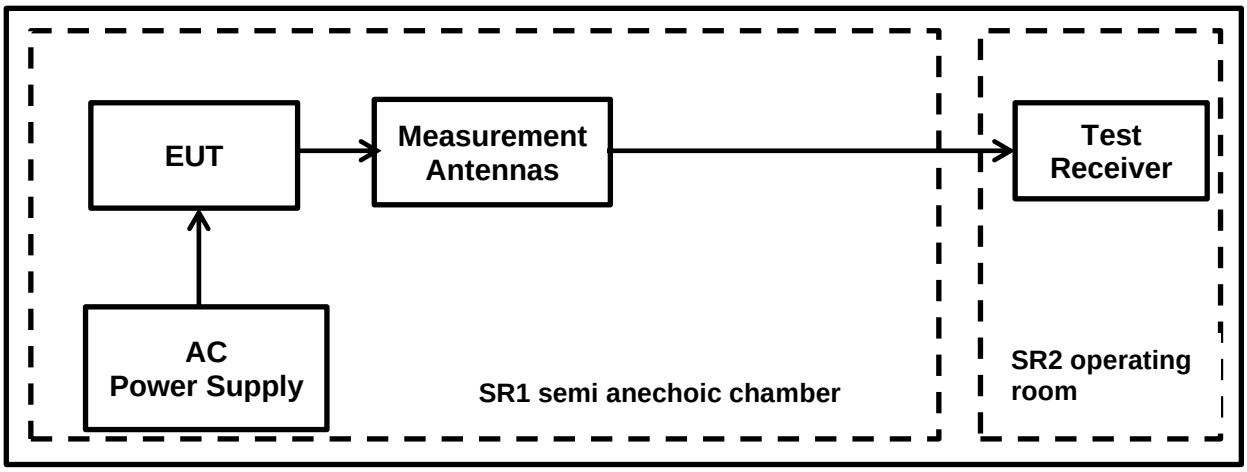
1. In accordance with FCC KDB 414788 D01 Radiated Test Site & ANSI C63.10 clause 5.2 an alternative test site that can demonstrate equivalence to a open area test site may be used. Therefore, the measurement was performed in a Semi Anechoic Chamber. (The OATS / SAC comparison data is available upon request).
2. The limits are specified at test distances of 30 and 300 metres. However, as specified in FCC Section 15.31 (f)(2) & ANSI C63.10 clause 6.4.3, measurements may be performed at a closer distance and the measured level extrapolated to the specified measurement distance using the method described in clauses 6.4.4, specifically sub-clause 6.4.4.1 which specifies that the measured level shall be extrapolated to the specified distance by conservatively presuming that the field strength decays at 40 dB/decade.
3. The measured values at 3 m were extrapolated to the required measurement distances of 300 m and 30 m and compared the specified limits at those distances as follows:

   • 9 kHz- 490 kHz: measured value extrapolated from 3 m to 300 m by subtracting 80 dB at 40 dB /decade.

   • 490 kHz-30 MHz: measured value extrapolated from 3 m to 30 m by subtracting 40 dB at 40 dB /decade.
4. The measurement was performed with the following worst-case mode w.r.t output power.
   - WLAN 5 GHz / 802.11 a / 20 MHz / 6Mbps / Bottom Channel / PWR 15
5. All emissions shown on the pre-scan plots were investigated and found to be below system noise floor.
6. Measurements below 30 MHz were performed in a semi-anechoic chamber SR1/ 2 (Asset Number 1603665) at a distance of 3 m. The EUT was placed at a height of 80 cm above the reference ground plane in the centre of the chamber turntable. The measurement loop antenna height was 1000 cm.
7. Pre-scans were performed, and markers placed on highest measured levels. Test receiver was set to:
   - Frequency range: 9 kHz-150 kHz: RBW: 300 Hz /VBW: 1 kHz
   - Frequency range: 150 kHz – 30 MHz: RBW: 10 kHz /VBW: 30 kHz
   - Detector: Peak detector
   - Trace Mode: Max Hold

Transmitter Out of Band Radiated Emissions (continued) (5.15-5.25 GHz band operation)

Test Setup:

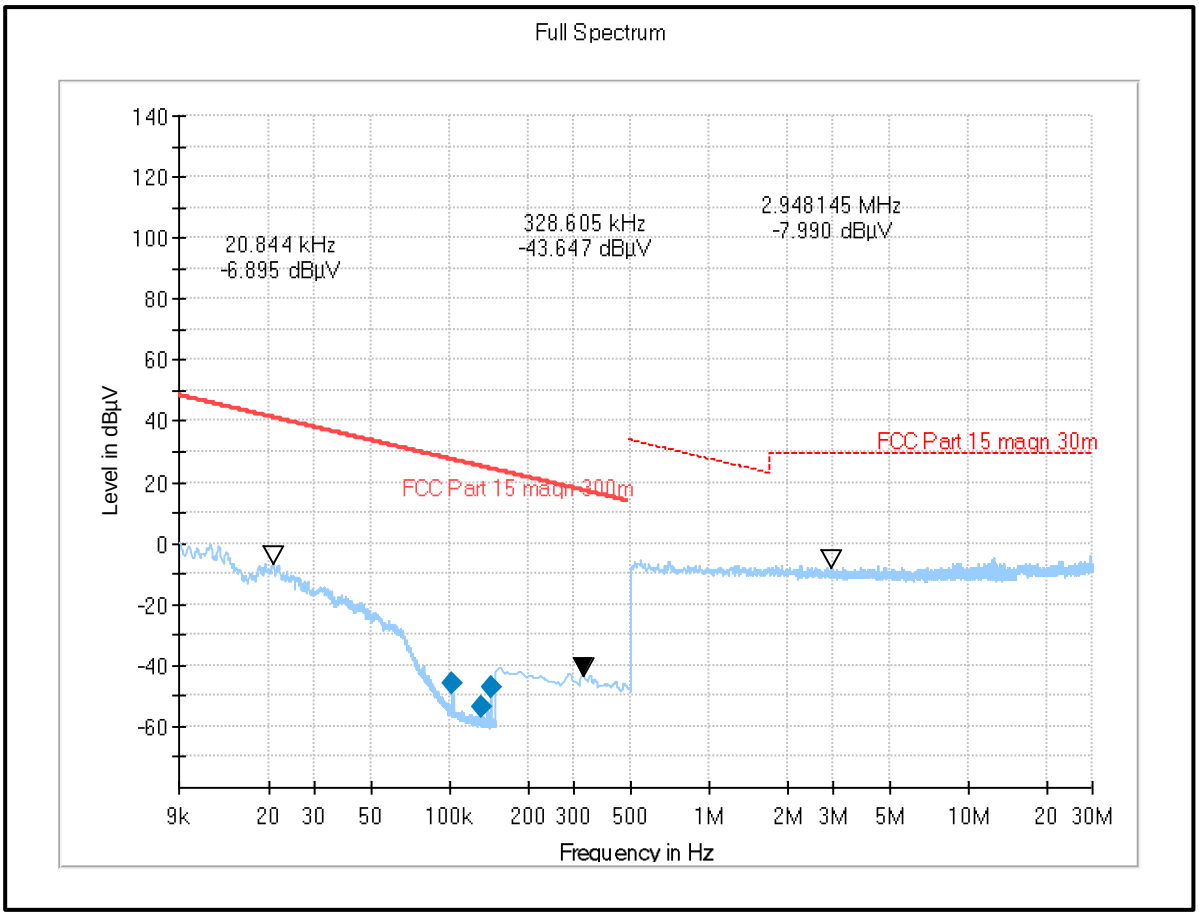


Transmitter Out of Band Radiated Emissions (continued) (5.15-5.25 GHz band operation)

Results: AC Power Supply/ UNII-1 / 802.11a / 20 MHz / 6Mbps / PWR 15 / Bottom Channel

Frequency (MHz)	Loop Antenna Orientation	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
No critical emissions were detected					

Plot: Radiated Transmitter spurious emission from 9 kHz – 30 MHz



Result: Pass

Transmitter Out of Band Radiated Emissions (continued) (5.15-5.25 GHz band operation)

Test Summary:

Test Engineer:	Abbas Al-Hussainy	**Test Date:**	23 July 2024
Test Sample Serial Number:	B54292 900002		
Test Site Identification	SR 1/2		

FCC Reference:	Parts 15.407(b)(1),(9) & 15.209(a)
Test Method Used:	FCC KDB 789033 II .G.1, II .G.2, II .G.3 & II .G.4 & ANSI C63.10 Sections 6.3 and 6.5
Frequency Range:	30 MHz to 1000 MHz

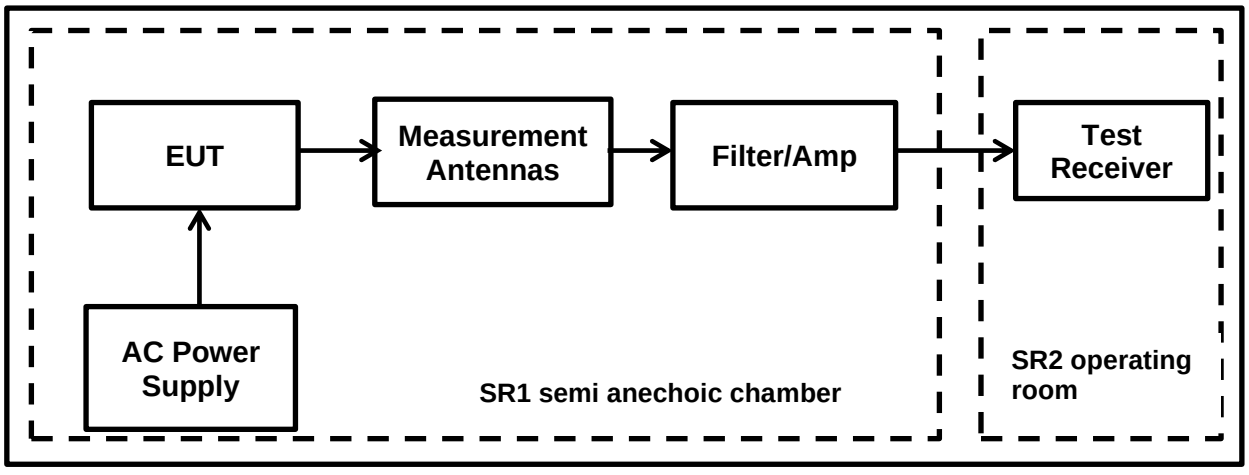
Environmental Conditions:

Temperature (°C):	24.9
Relative Humidity (%):	49

Note(s):

1. Measurements below 1 GHz were performed in a semi-anechoic chamber SR1/ 2 (Asset Number 1603665) at a distance of 3 m. The EUT was placed at a height of 80 cm above the reference ground plane in the centre of the chamber turntable. Maximum emission levels were determined by height searching the measurement antenna over the range 1 m to 4 m.
2. Pre-scans were performed, and markers placed on the highest measured levels. The test receiver resolution bandwidth was set to 100 kHz and video bandwidth 300 kHz. A peak detector was used, sweep time was set to auto and trace mode was Max Hold.
3. The measurement was performed with the following worst-case mode w.r.t output power.
    - WLAN 5 GHz / 802.11 a / 20 MHz / 6Mbps / Bottom Channel / PWR 15
4. Final measurements were performed on the marker frequencies. The results entered in the table below incorporates the calibrated antenna factor and cable loss. The test receiver resolution bandwidth was set to 120 kHz, using a CISPR quasi-peak detector and span big enough to see the whole emission.

Test Setup:

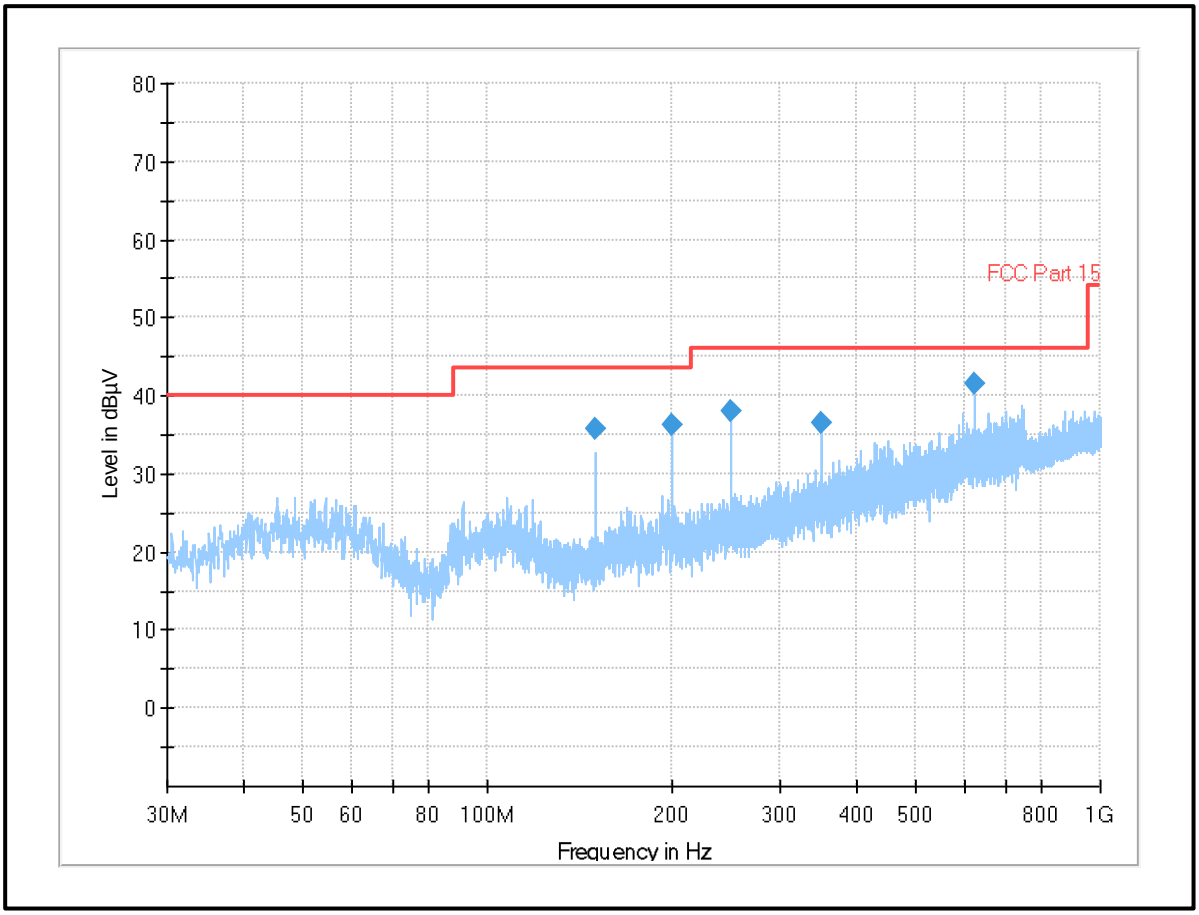


Transmitter Out of Band Radiated Emissions (continued) (5.15-5.25 GHz band operation)

Results: AC Power Supply/ UNII-1 / 802.11a / 20 MHz / 6Mbps / PWR 15 / Bottom Channel

Frequency (MHz)	Antenna Polarization	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
150.015000	Horizontal	35.68	43.50	7.82	Complied
200.010000	Horizontal	36.34	43.50	7.16	Complied
250.005000	Horizontal	38.14	46.00	7.86	Complied
350.000000	Horizontal	36.58	46.00	9.42	Complied
625.000000	Horizontal	41.50	46.00	4.50	Complied

Plot: Radiated Transmitter spurious emission from 30 MHz – 1 GHz



Result: Pass

Transmitter Out of Band Radiated Emissions (continued) (5.15-5.25 GHz band operation)

Test Summary:

Test Engineer:	Abbas Al-Hussainy	**Test Date:**	25 July 2024
Test Sample Serial Number:	B54292 900002		
Test Site Identification	SR 1/2		

FCC Reference:	Parts 15.407(b)(1),(8) & 15.209(a)
Test Method Used:	FCC KDB 789033 II .G.1, II .G.2, II .G.3, II .G.5 &, II .G.6 ANSI C63.10:2013 Sections 6.3 and 6.6
Frequency Range	1 GHz to 18 GHz

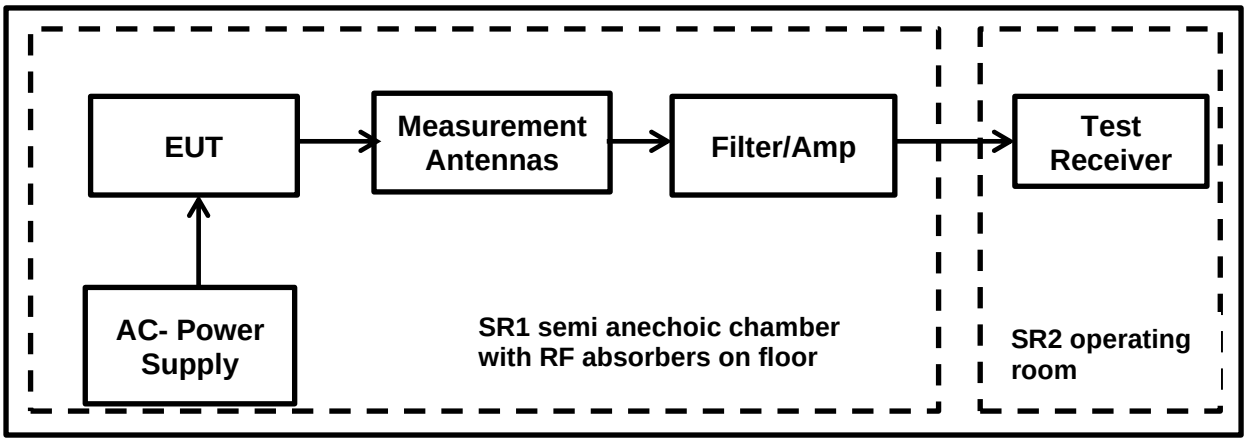
Environmental Conditions:

Temperature (°C):	24.9
Relative Humidity (%):	49

Note(s):

1. Pre-scans above 1 GHz were performed in a semi-anechoic chamber SR1/ 2 (Asset Number 1603665) with absorber on the floor at a distance of 3 m. The EUT was placed at a height of 1.5 m above the test chamber floor in the centre of the chamber turntable. All measurement antennas were placed at a fixed height of 1.5 m above the test chamber floor, in line with the EUT. Final measurements above 1 GHz were performed in a semi-anechoic chamber SR1/ 2 (Asset Number 1603665) with absorber on the floor at a distance of 3 m. The EUT was placed at a height of 1.5 m above the reference ground plane in the centre of the chamber turntable. Maximum emission levels were determined by height searching the measurement antenna over the range 1 m to 4 m.
2. Pre-scans were performed, and a marker placed on the highest measured level of the appropriate plot. The test receiver resolution bandwidth was set to 1 MHz and video bandwidth 3 MHz. The sweep time was set to auto.
3. The measurement was performed with the following worst-case mode w.r.t output power.
    - WLAN 5 GHz / 802.11 a / 20 MHz / 6Mbps / Bottom Channel / PWR 15

Test Setup:

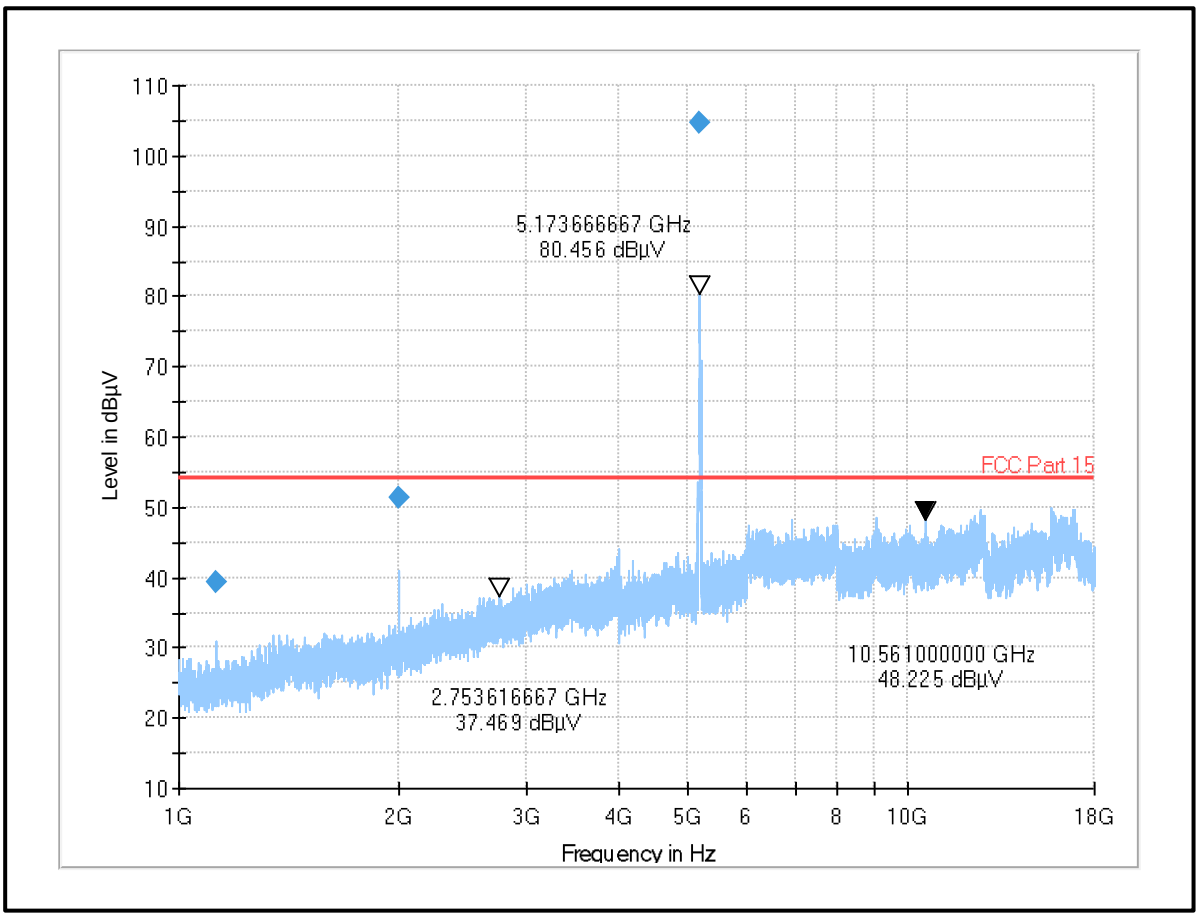


Transmitter Out of Band Radiated Emissions (continued) (5.15-5.25 GHz band operation)

Results: AC Power Supply/ UNII-1 / 802.11a / 20 MHz / 6Mbps / PWR 15 / Bottom Channel

Frequency (MHz)	Antenna Polarization	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
1125.016667	Vertical	39.21	54.00	14.79	Complied
2000.133333	Horizontal	51.32	54.00	2.68	Complied

Plot: Radiated Transmitter spurious emission from 1 GHz – 18 GHz



Note: This plot is a pre-scan and for indication purposes only.
For final measurements, see accompanying table.

Result: Pass

Transmitter Out of Band Radiated Emissions (continued) (5.15-5.25 GHz band operation)

Test Summary:

Test Engineer:	Abbas Al-Hussainy	**Test Date:**	25 July 2024
Test Sample Serial Number:	B54292 900002		
Test Site Identification	SR 1/2		

FCC Reference:	Parts 15.407(b)(1),(8) & 15.209(a)
Test Method Used:	FCC KDB 789033 II .G.1, II .G.2, II .G.3, II .G.5 &, II .G.6 ANSI C63.10:2013 Sections 6.3 and 6.6
Frequency Range	18 GHz to 40 GHz

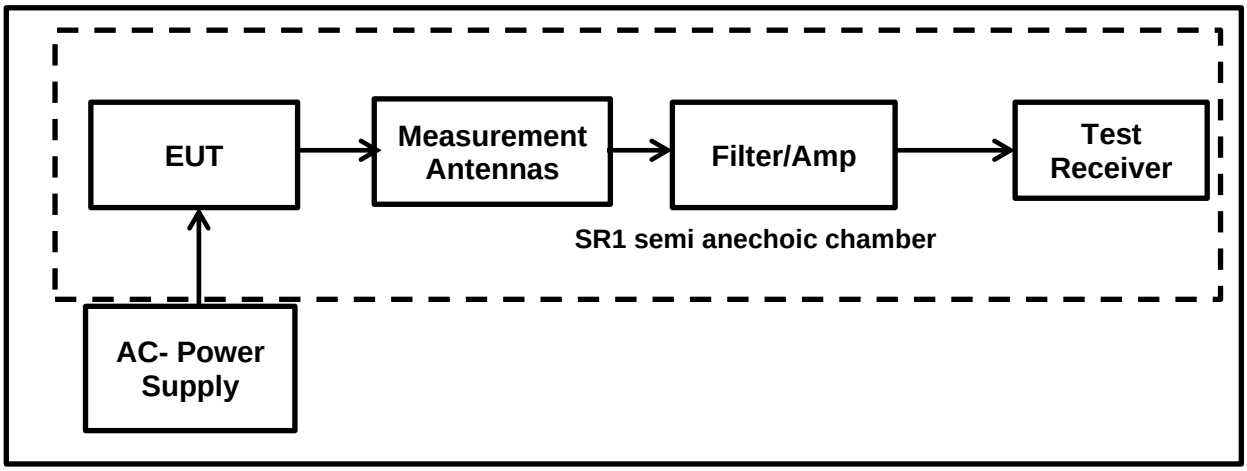
Environmental Conditions:

Temperature (°C):	24.9
Relative Humidity (%):	49

Note(s):

1. Pre-scans above 1 GHz were performed in a semi-anechoic chamber SR1/ 2 (Asset Number 1603665. The EUT was placed at a height of 1.5 m above the test chamber floor in the centre of the chamber turntable. All measurement antennas were placed at a fixed height of 1.5 m above the test chamber floor, in line with the EUT. Final measurements above 1 GHz were performed in a semi-anechoic chamber SR1/ 2 (Asset Number 1603665). The EUT was placed at a height of 1.5 m above the reference ground plane in the centre of the chamber turntable.
2. The measurement was performed with the following worst-case mode w.r.t output power.
   - WLAN 5 GHz / 802.11 a / 20 MHz / 6Mbps / Bottom Channel / PWR 15

Test Setup:

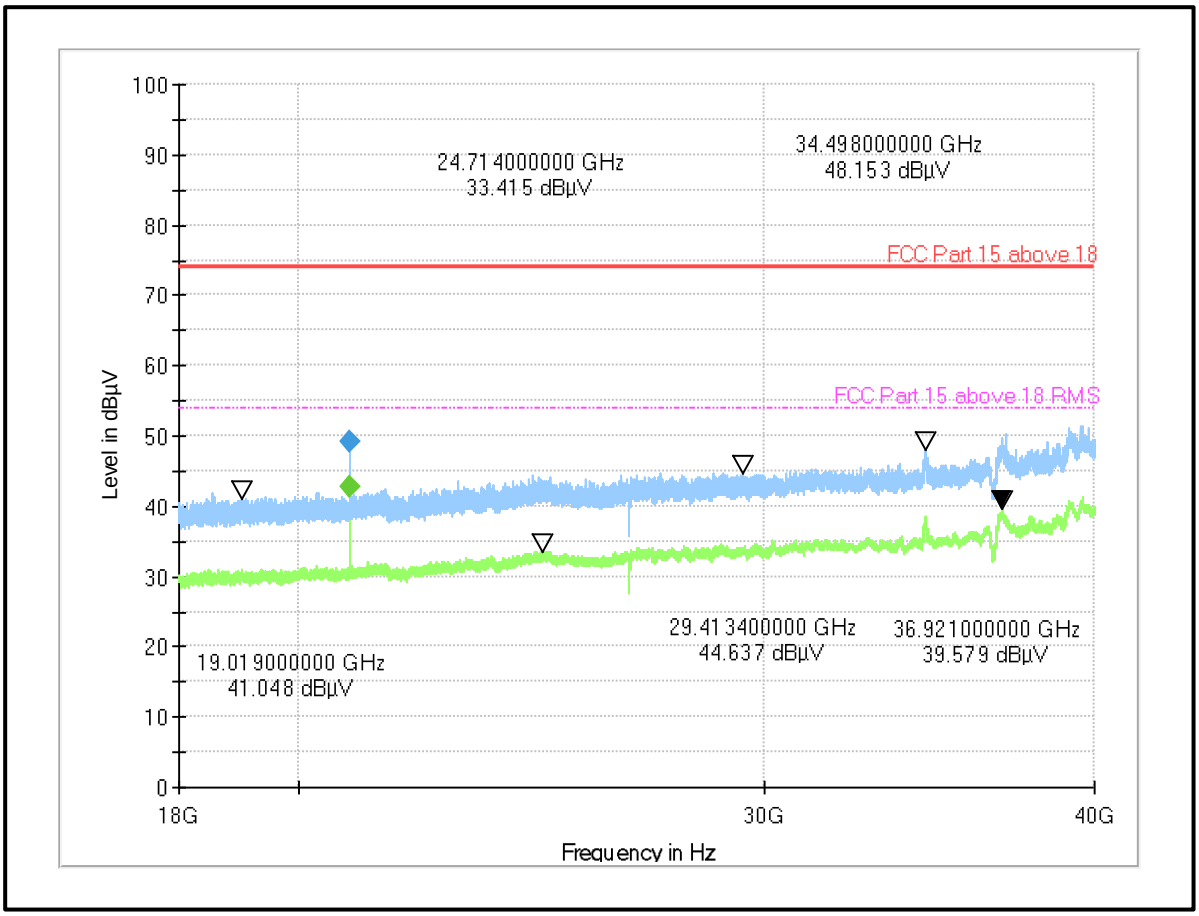


Transmitter Out of Band Radiated Emissions (continued) (5.15-5.25 GHz band operation)

Results: AC Power Supply/ UNII-1 / 802.11a / 20 MHz / 6Mbps / PWR 15 / Top Channel

Frequency (MHz)	Antenna Polarization	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
20880.000000	Vertical	49.27	74.00	24.73	Complied
20880.000000	Vertical	42.83	54.00	11.17	Complied

Plot: Radiated Transmitter spurious emission from 18 GHz – 40 GHz



Note: This plot is a pre-scan and for indication purposes only.
For final measurements, see accompanying table.

Result: Pass

5.2.4. Transmitter Out of Band Radiated Emissions (5.25-5.35 GHz band operation)

Test Summary:

Test Engineer:	Abbas Al-Hussainy	**Test Date:**	23 July 2024
Test Sample Serial Number:	B54292 900002		
Test Site Identification	SR 1/2		

FCC Reference:	Parts 15.407(b)(1),(9) & 15.209(a)
ISED Reference:	RSS-247 6.2
Test Method Used:	FCC KDB 789033 II .G.1, II .G.2, II .G.3 & II .G.4. & ANSI C63.10 Sections 6.3 and 6.4
Frequency Range:	9 kHz to 30 MHz

Environmental Conditions:

Temperature (°C):	24.9
Relative Humidity (%):	49

Note(s):

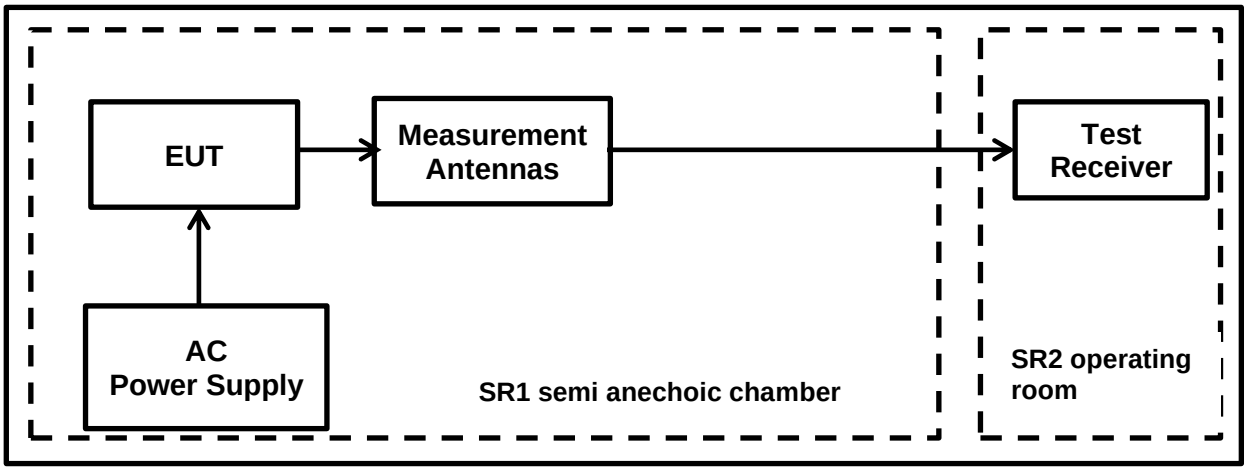
1. In accordance with FCC KDB 414788 D01 Radiated Test Site & ANSI C63.10 clause 5.2 an alternative test site that can demonstrate equivalence to a open area test site may be used. Therefore, the measurement was performed in a Semi Anechoic Chamber. (The OATS / SAC comparison data is available upon request).
2. The limits are specified at test distances of 30 and 300 metres. However, as specified in FCC Section 15.31 (f)(2) & ANSI C63.10 clause 6.4.3, measurements may be performed at a closer distance and the measured level extrapolated to the specified measurement distance using the method described in clauses 6.4.4, specifically sub-clause 6.4.4.1 which specifies that the measured level shall be extrapolated to the specified distance by conservatively presuming that the field strength decays at 40 dB/decade.
3. The measured values at 3 m were extrapolated to the required measurement distances of 300 m and 30 m and compared the specified limits at those distances as follows:

   • 9 kHz- 490 kHz: measured value extrapolated from 3 m to 300 m by subtracting 80 dB at 40 dB /decade.

   • 490 kHz-30 MHz: measured value extrapolated from 3 m to 30 m by subtracting 40 dB at 40 dB /decade.
4. The measurement was performed with the following worst-case mode w.r.t output power.
   - WLAN 5 GHz / 802.11 a / 20 MHz / 6Mbps / Bottom Channel / PWR 15
5. All emissions shown on the pre-scan plots were investigated and found to be below system noise floor.
6. Measurements below 30 MHz were performed in a semi-anechoic chamber SR1/ 2 (Asset Number 1603665) at a distance of 3 m. The EUT was placed at a height of 80 cm above the reference ground plane in the centre of the chamber turntable. The measurement loop antenna height was 80 cm.
7. Pre-scans were performed, and markers placed on highest measured levels. Test receiver was set to:
   - Frequency range: 9 kHz-150 kHz: RBW: 300 Hz /VBW: 1 kHz
   - Frequency range: 150 kHz – 30 MHz: RBW: 10 kHz /VBW: 30 kHz
   - Detector: Peak detector
   - Trace Mode: Max Hold

Transmitter Out of Band Radiated Emissions (continued) (5.25-5.35 GHz band operation)

Test Setup:

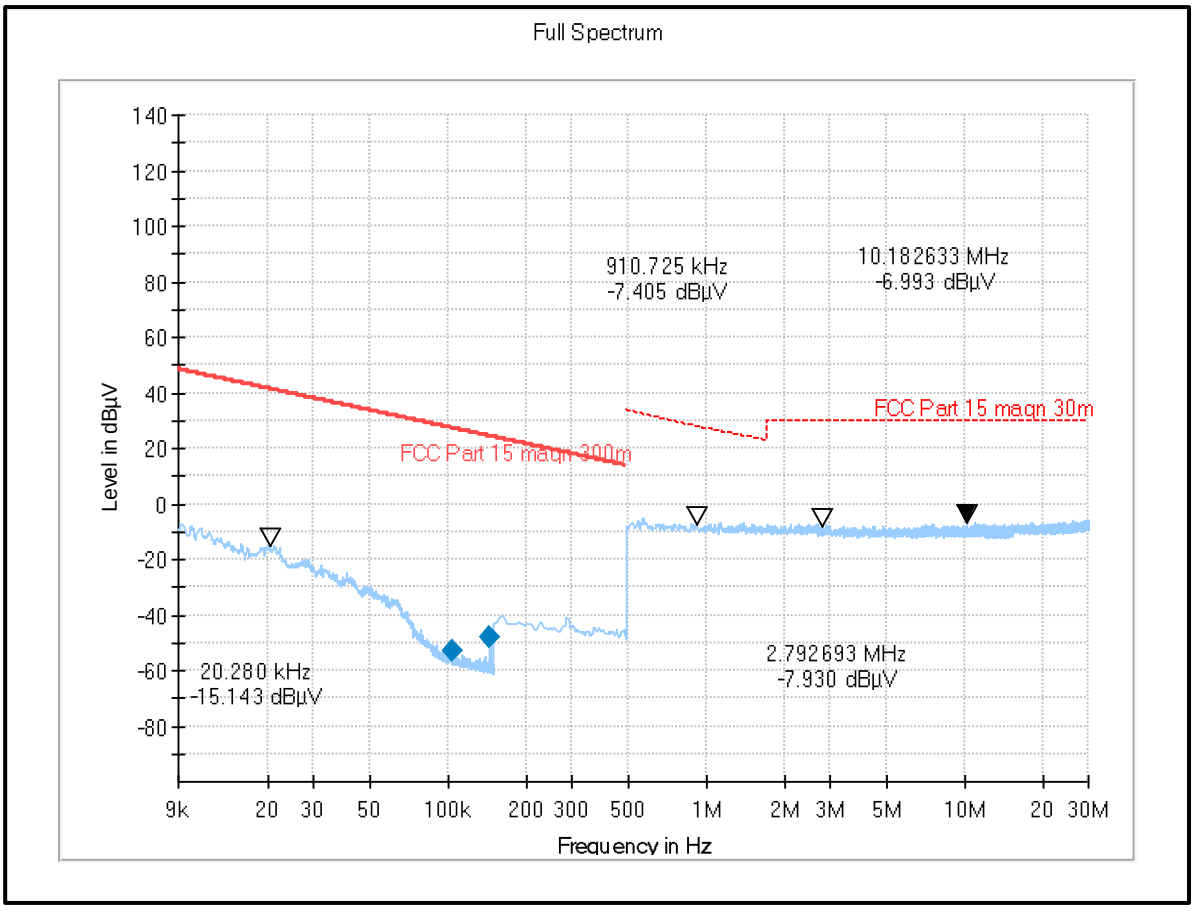


Transmitter Out of Band Radiated Emissions (continued) (5.25-5.35 GHz band operation)

Results: AC Power Supply/ UNII-2A / 802.11a / 20 MHz / 6Mbps / PWR 15 / Bottom Channel

Frequency (MHz)	Loop Antenna Orientation	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
No critical emissions were detected					

Plot: Radiated Transmitter spurious emission from 9 kHz – 30 MHz



Note: This plot is a pre-scan and for indication purposes only.
For final measurements, see accompanying table.

Result: Pass

Transmitter Out of Band Radiated Emissions (continued) (5.25-5.35 GHz band operation)

Test Summary:

Test Engineer:	Abbas Al-Hussainy	**Test Date:**	23 July 2024
Test Sample Serial Number:	B54292 900002		
Test Site Identification	SR 1/2		

FCC Reference:	Parts 15.407(b)(1),(9) & 15.209(a)
Test Method Used:	FCC KDB 789033 II .G.1, II .G.2, II .G.3 & II .G.4 & ANSI C63.10 Sections 6.3 and 6.5
Frequency Range:	30 MHz to 1000 MHz

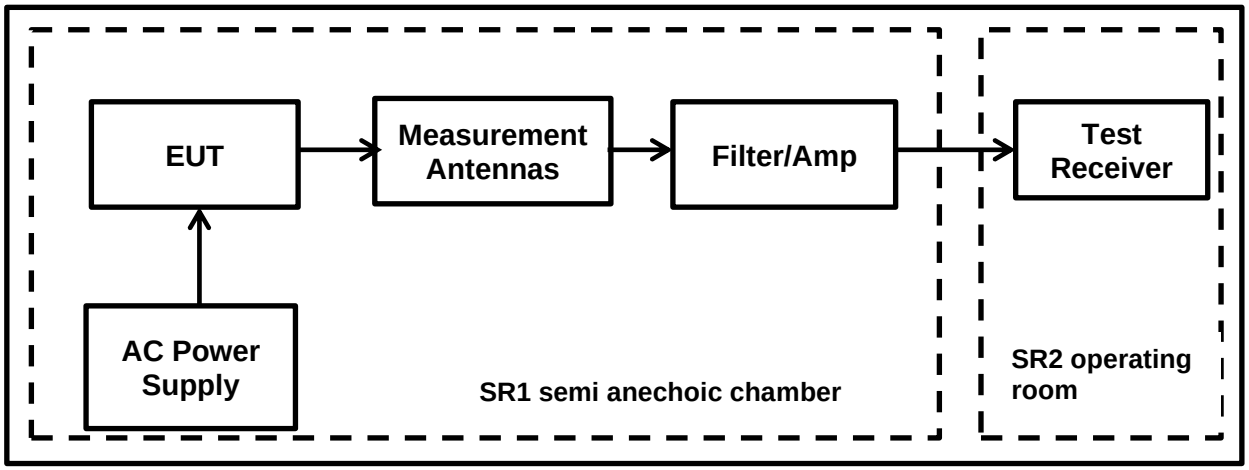
Environmental Conditions:

Temperature (°C):	24.9
Relative Humidity (%):	49

Note(s):

1. Measurements below 1 GHz were performed in a semi-anechoic chamber SR1/ 2 (Asset Number 1603665) at a distance of 3 m. The EUT was placed at a height of 80 cm above the reference ground plane in the centre of the chamber turntable. Maximum emission levels were determined by height searching the measurement antenna over the range 1 m to 4 m.
2. Pre-scans were performed, and markers placed on the highest measured levels. The test receiver resolution bandwidth was set to 100 kHz and video bandwidth 300 kHz. A peak detector was used, sweep time was set to auto and trace mode was Max Hold.
3. The measurement was performed with the following worst-case mode w.r.t output power.
    - WLAN 5 GHz / 802.11 a / 20 MHz / 6Mbps / Bottom Channel / PWR 15
4. Final measurements were performed on the marker frequencies. The results entered in the table below incorporates the calibrated antenna factor and cable loss. The test receiver resolution bandwidth was set to 120 kHz, using a CISPR quasi-peak detector and span big enough to see the whole emission.

Test Setup:

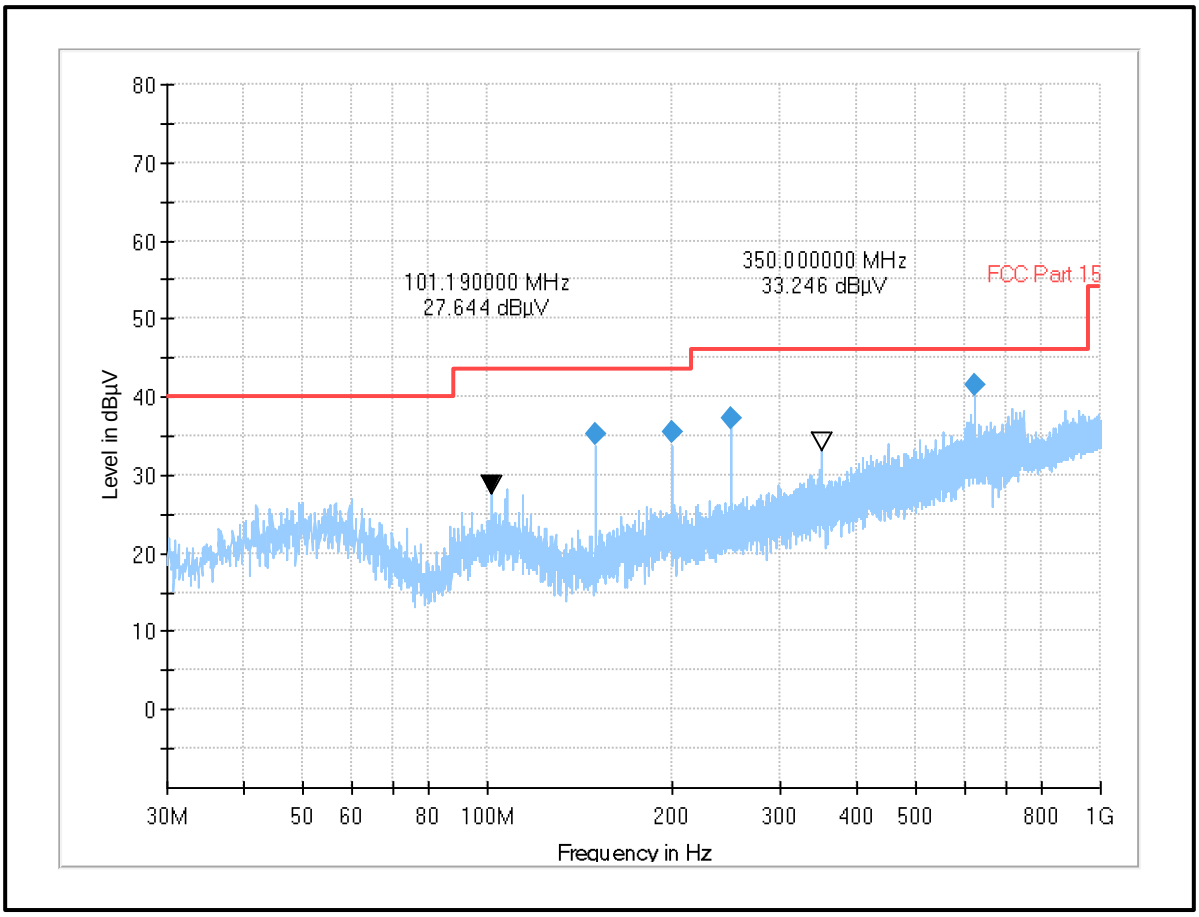


Transmitter Out of Band Radiated Emissions (continued) (5.25-5.35 GHz band operation)

Results: AC Power Supply/ UNII-2A / 802.11a / 20 MHz / 6Mbps / PWR 15 / Bottom Channel

Frequency (MHz)	Antenna Polarization	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
149.970000	Horizontal	35.18	43.50	8.32	Complied
199.965000	Horizontal	35.54	43.50	7.96	Complied
250.005000	Horizontal	37.27	46.00	8.73	Complied
624.958333	Horizontal	41.63	46.00	4.37	Complied

Plot: Radiated Transmitter spurious emission from 30 MHz – 1 GHz



Note: This plot is a pre-scan and for indication purposes only.
For final measurements, see accompanying table.

Result: Pass

Transmitter Out of Band Radiated Emissions (continued) (5.25-5.35 GHz band operation)

Test Summary:

Test Engineer:	Abbas Al-Hussainy	**Test Date:**	23 July 2024
Test Sample Serial Number:	B54292 900002		
Test Site Identification	SR 1/2		

FCC Reference:	Parts 15.407(b)(1), (8) & 15.209(a)
Test Method Used:	FCC KDB 789033 II.G.1, II.G.2, II .G.3, II .G.5 &, II .G.6 ANSI C63.10:2013 Sections 6.3 and 6.6
Frequency Range	1 GHz to 18 GHz

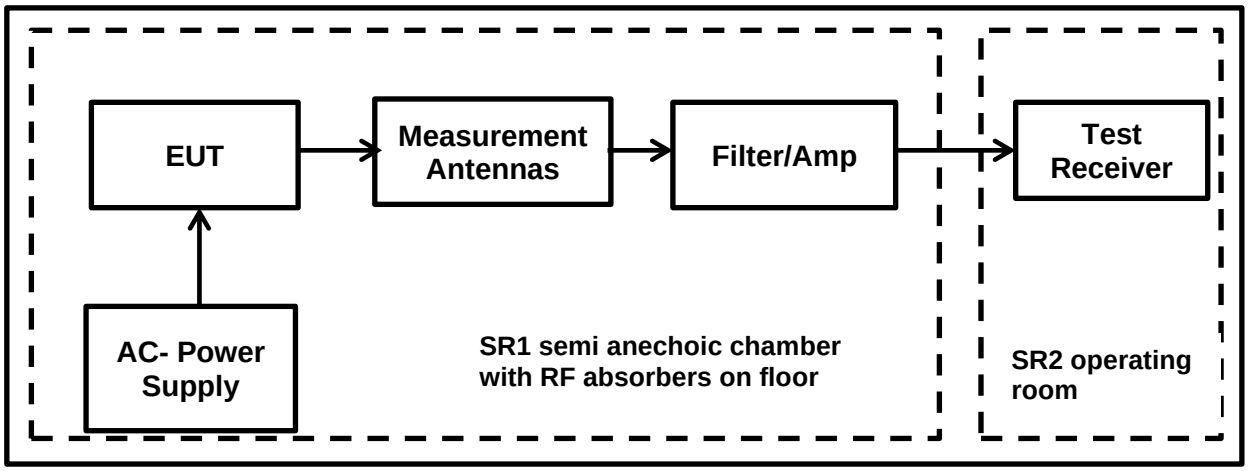
Environmental Conditions:

Temperature (°C):	24.9
Relative Humidity (%):	49

Note(s):

1. Pre-scans above 1 GHz were performed in a semi-anechoic chamber SR1/ 2 (Asset Number 1603665) with absorber on the floor at a distance of 3 m. The EUT was placed at a height of 1.5 m above the test chamber floor in the centre of the chamber turntable. All measurement antennas were placed at a fixed height of 1.5 m above the test chamber floor, in line with the EUT. Final measurements above 1 GHz were performed in a semi-anechoic chamber SR1/ 2 (Asset Number 1603665) with absorber on the floor at a distance of 3 m. The EUT was placed at a height of 1.5 m above the reference ground plane in the centre of the chamber turntable. Maximum emission levels were determined by height searching the measurement antenna over the range 1 m to 4 m.
2. Pre-scans were performed, and a marker placed on the highest measured level of the appropriate plot. The test receiver resolution bandwidth was set to 1 MHz and video bandwidth 3 MHz. The sweep time was set to auto.
3. The measurement was performed with the following worst-case mode w.r.t output power.
    - WLAN 5 GHz / 802.11 a / 20 MHz / 6Mbps / Bottom Channel / PWR 15

Test Setup:

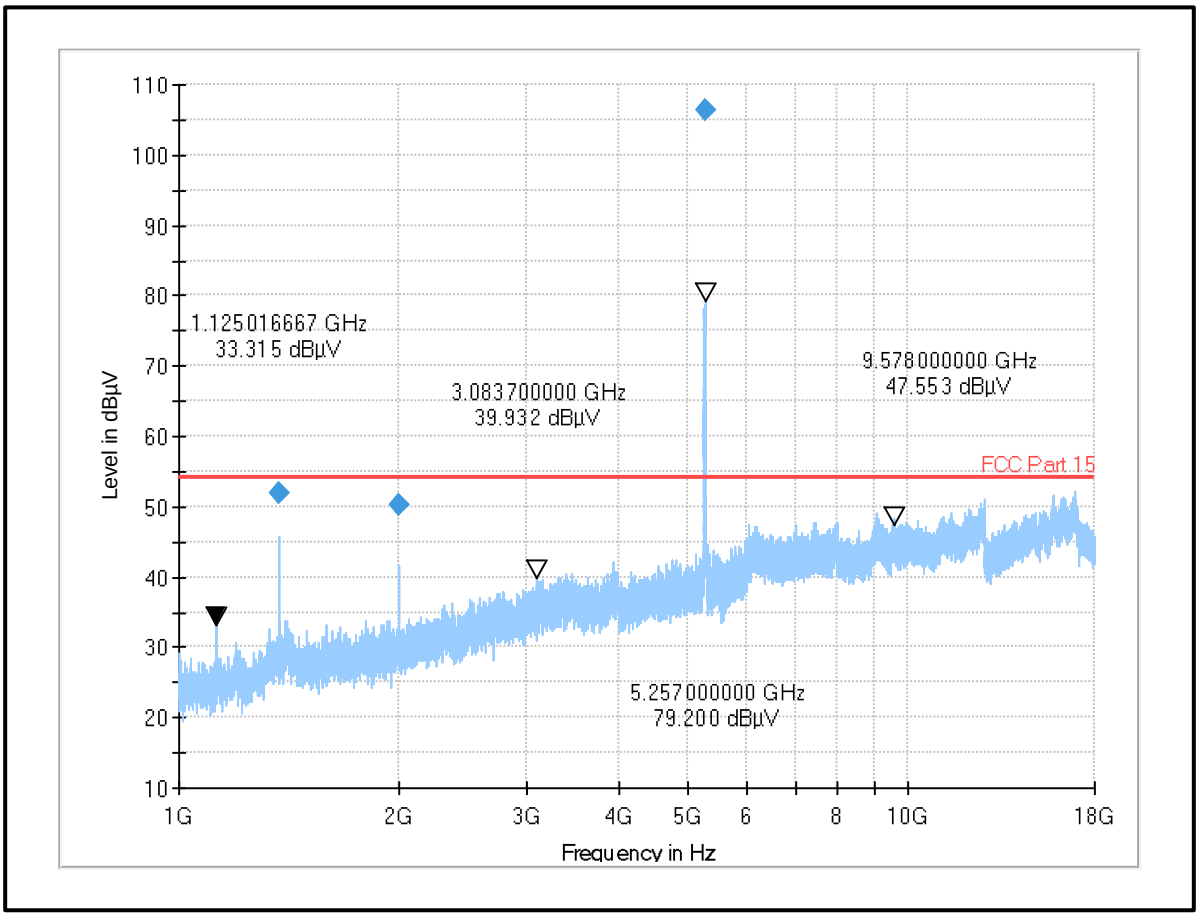


Transmitter Out of Band Radiated Emissions (continued) (5.25-5.35 GHz band operation)

Results: AC Power Supply/ UNII-2A / 802.11a / 20 MHz / 6Mbps / PWR 15 / Bottom Channel

Frequency (MHz)	Antenna Polarization	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
1375.050000	Vertical	51.76	54.00	2.24	Complied
2000.133333	Horizontal	50.18	54.00	3.82	Complied

Plot: Radiated Transmitter spurious emission from 1 GHz – 18 GHz



Note: This plot is a pre-scan and for indication purposes only.
For final measurements, see accompanying table.

Result: Pass

Transmitter Out of Band Radiated Emissions (continued) (5.25-5.35 GHz band operation)

Test Summary:

Test Engineer:	Abbas Al-Hussainy	**Test Date:**	23 July 2024
Test Sample Serial Number:	B54292 900002		
Test Site Identification	SR 1/2		

FCC Reference:	Parts 15.407(b)(1),(8) & 15.209(a)
Test Method Used:	FCC KDB 789033 II .G.1, II .G.2, II .G.3, II .G.5 &, II .G.6 ANSI C63.10:2013 Sections 6.3 and 6.6
Frequency Range	18 GHz to 40 GHz

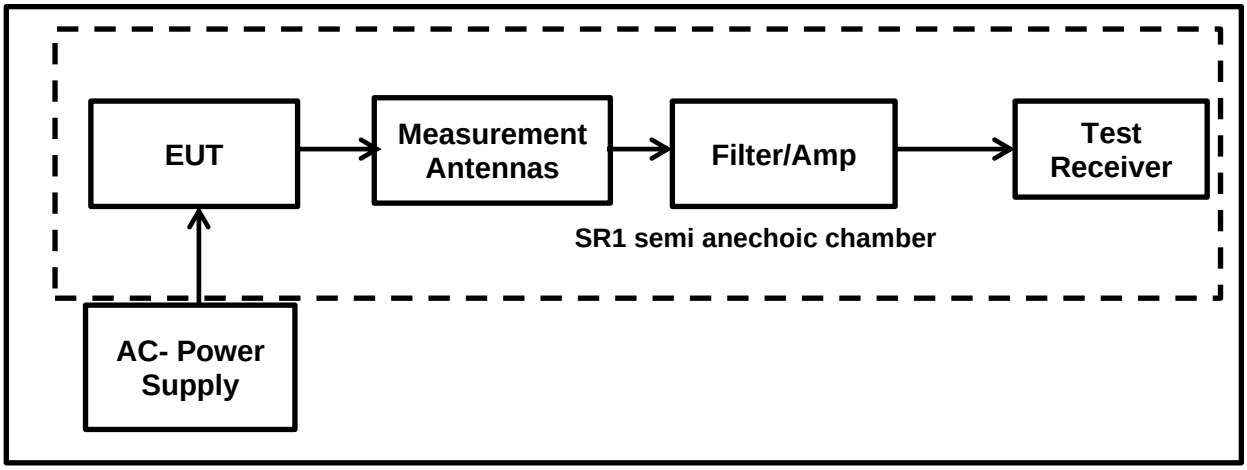
Environmental Conditions:

Temperature (°C):	24.9
Relative Humidity (%):	49

Note(s):

1. Pre-scans above 1 GHz were performed in a semi-anechoic chamber SR1/ 2 (Asset Number 1603665. The EUT was placed at a height of 1.5 m above the test chamber floor in the centre of the chamber turntable. All measurement antennas were placed at a fixed height of 1.5 m above the test chamber floor, in line with the EUT. Final measurements above 1 GHz were performed in a semi-anechoic chamber SR1/ 2 (Asset Number 1603665). The EUT was placed at a height of 1.5 m above the reference ground plane in the centre of the chamber turntable.
2. The measurement was performed with the following worst-case mode w.r.t output power.
   - WLAN 5 GHz / 802.11 a / 20 MHz / 6Mbps / Bottom Channel / PWR 15

Test Setup:

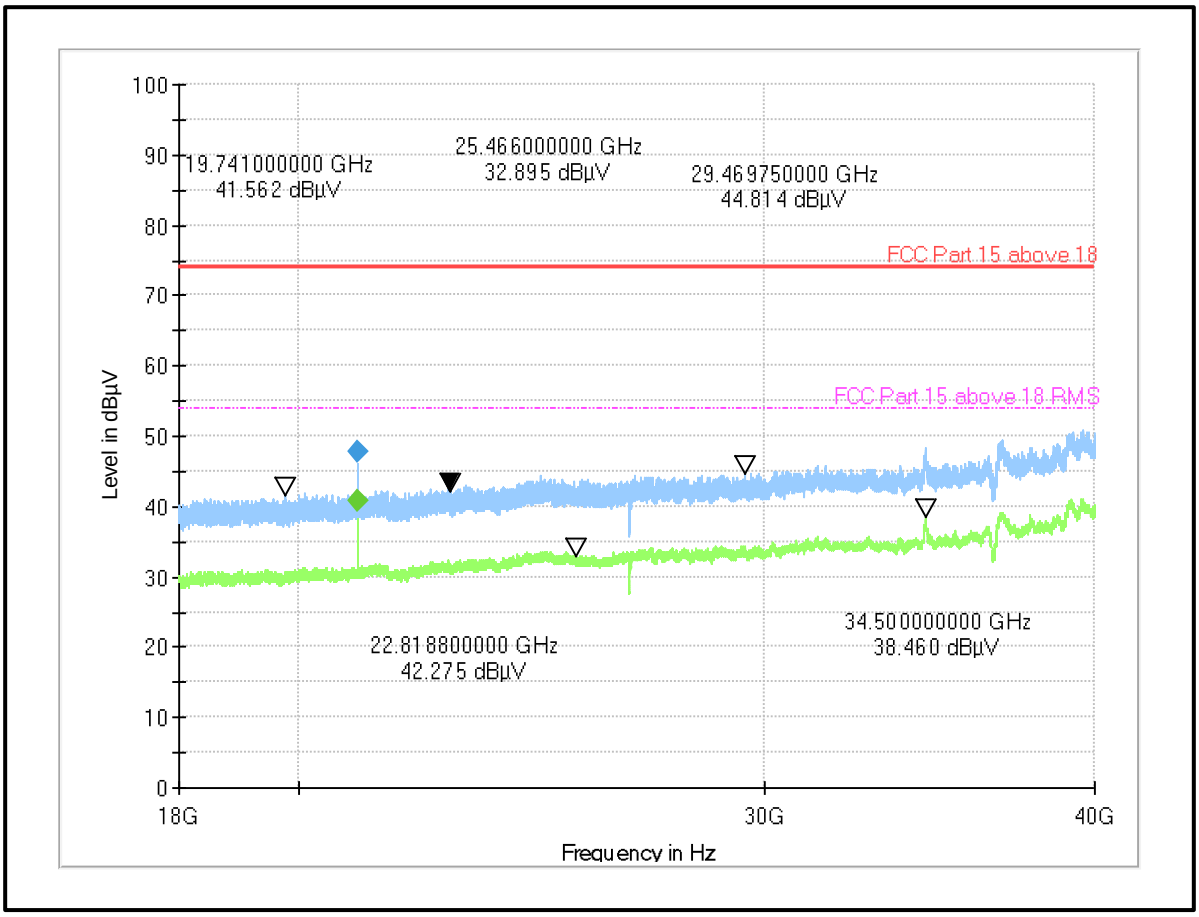


Transmitter Out of Band Radiated Emissions (continued) (5.25-5.35 GHz band operation)

Results: AC Power Supply/ UNII-2A / 802.11a / 20 MHz / 6Mbps / PWR 15 / Bottom Channel

Frequency (MHz)	Antenna Polarization	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
21039.800000	Vertical	47.69	74	26.31	Complied
21040.000000	Vertical	40.86	54	13.14	Complied

Plot: Radiated Transmitter spurious emission from 18 GHz – 40 GHz



Note: This plot is a pre-scan and for indication purposes only.
For final measurements, see accompanying table.

Result: Pass

5.2.5. Transmitter Out of Band Radiated Emissions (5.47-5.725 GHz band operation)

Test Summary:

Test Engineer:	Abbas Al-Hussainy	**Test Date:**	23 July 2024
Test Sample Serial Number:	B54292 900002		
Test Site Identification	SR 1/2		

FCC Reference:	Parts 15.407(b)(1),(9) & 15.209(a)
ISED Reference:	RSS-247 6.2
Test Method Used:	FCC KDB 789033 II .G.1, II .G.2, II .G.3 & II .G.4. & ANSI C63.10 Sections 6.3 and 6.4
Frequency Range:	9 kHz to 30 MHz

Environmental Conditions:

Temperature (°C):	24.9
Relative Humidity (%):	49

Note(s):

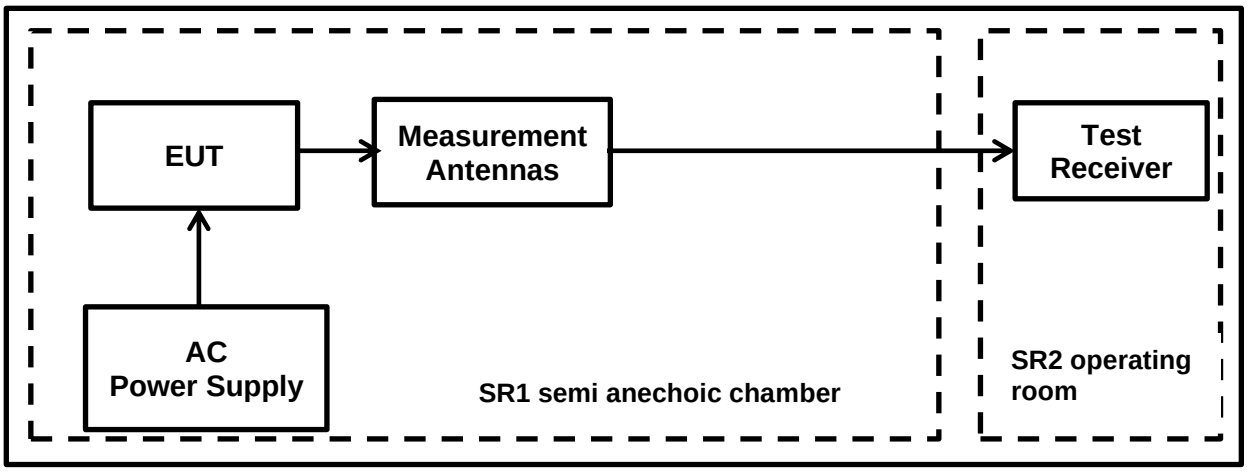
1. In accordance with FCC KDB 414788 D01 Radiated Test Site & ANSI C63.10 clause 5.2 an alternative test site that can demonstrate equivalence to a open area test site may be used. Therefore, the measurement was performed in a Semi Anechoic Chamber. (The OATS / SAC comparison data is available upon request).
2. The limits are specified at test distances of 30 and 300 metres. However, as specified in FCC Section 15.31 (f)(2) & ANSI C63.10 clause 6.4.3, measurements may be performed at a closer distance and the measured level extrapolated to the specified measurement distance using the method described in clauses 6.4.4, specifically sub-clause 6.4.4.1 which specifies that the measured level shall be extrapolated to the specified distance by conservatively presuming that the field strength decays at 40 dB/decade.
3. The measured values at 3 m were extrapolated to the required measurement distances of 300 m and 30 m and compared the specified limits at those distances as follows:

   • 9 kHz- 490 kHz: measured value extrapolated from 3 m to 300 m by subtracting 80 dB at 40 dB /decade.

   • 490 kHz-30 MHz: measured value extrapolated from 3 m to 30 m by subtracting 40 dB at 40 dB /decade.
4. The measurement was performed with the following worst-case mode w.r.t output power.
   a. WLAN 5 GHz / 802.11 a / 20 MHz / 6Mbps / Bottom Channel / PWR 15
5. All emissions shown on the pre-scan plots were investigated and found to be below system noise floor.
6. Measurements below 30 MHz were performed in a semi-anechoic chamber SR1/ 2 (Asset Number 1603665) at a distance of 3 m. The EUT was placed at a height of 80 cm above the reference ground plane in the centre of the chamber turntable. The measurement loop antenna height was 100 cm.
7. Pre-scans were performed, and markers placed on highest measured levels. Test receiver was set to:
   - Frequency range: 9 kHz-150 kHz: RBW: 300 Hz /VBW: 1 kHz
   - Frequency range: 150 kHz – 30 MHz: RBW: 10 kHz /VBW: 30 kHz
   - Detector: Peak detector
   - Trace Mode: Max Hold

Transmitter Out of Band Radiated Emissions (continued) (5.47-5.725 GHz band operation)

Test Setup:

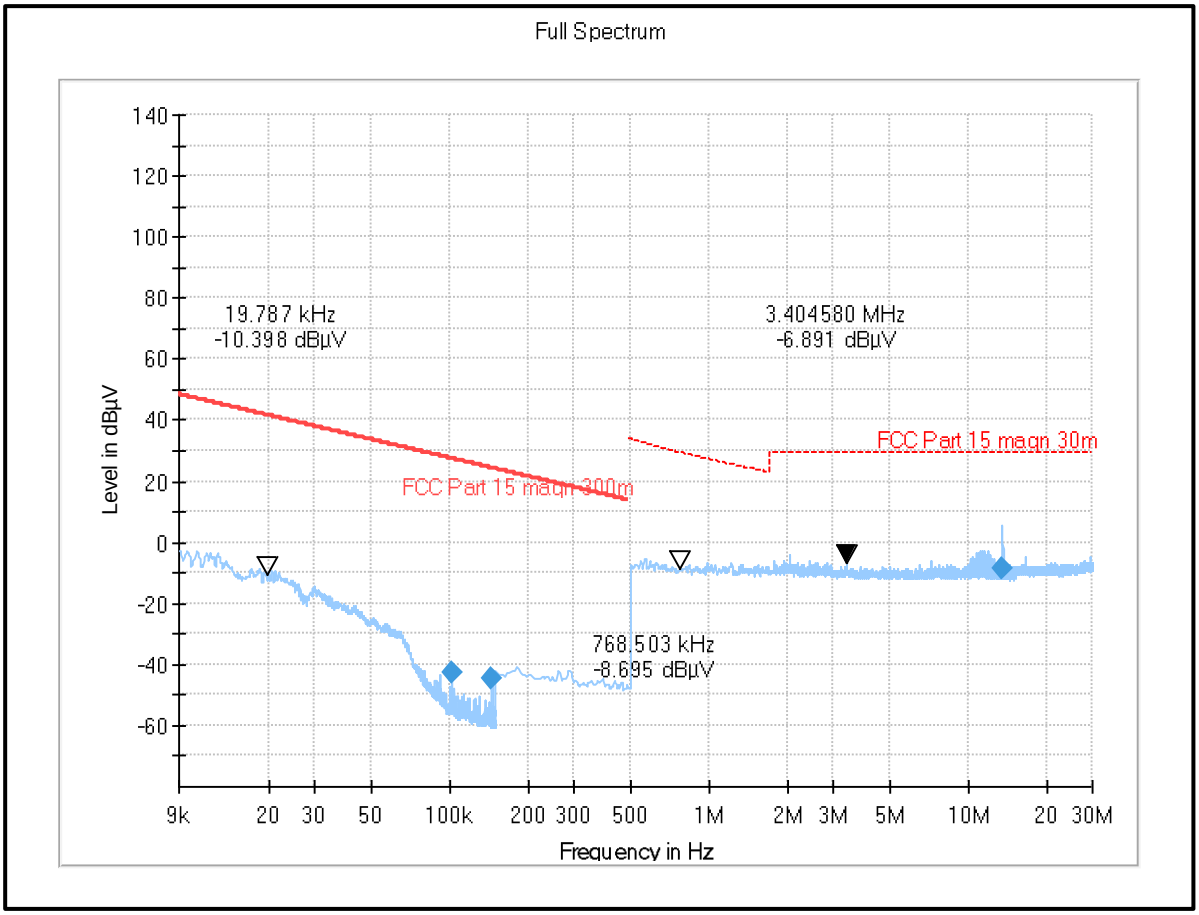


Transmitter Out of Band Radiated Emissions (continued) (5.47-5.725 GHz band operation)

Results: AC Power Supply/ UNII-2C / 802.11a / 20 MHz / 6Mbps / PWR 15 / Bottom Channel

Frequency (MHz)	Loop Antenna Orientation	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
0.101708	90	-2.71	27.45	30.16	Complied
0.144854	0	-4.68	24.38	29.06	Complied
13.559500	0	-8.31	29.50	37.81	Complied

Plot: Radiated Transmitter spurious emission from 9 kHz – 30 MHz



Note: This plot is a pre-scan and for indication purposes only.
For final measurements, see accompanying table.

Result: Pass

Transmitter Out of Band Radiated Emissions (continued) (5.47-5.725 GHz band operation)

Test Summary:

Test Engineer:	Abbas Al-Hussainy	**Test Date:**	30 July 2024
Test Sample Serial Number:	B54292 900002		
Test Site Identification	SR 1/2		

FCC Reference:	Parts 15.407(b)(1),(9) & 15.209(a)
Test Method Used:	FCC KDB 789033 II .G.1, II .G.2, II .G.3 & II .G.4 & ANSI C63.10 Sections 6.3 and 6.5
Frequency Range:	30 MHz to 1000 MHz

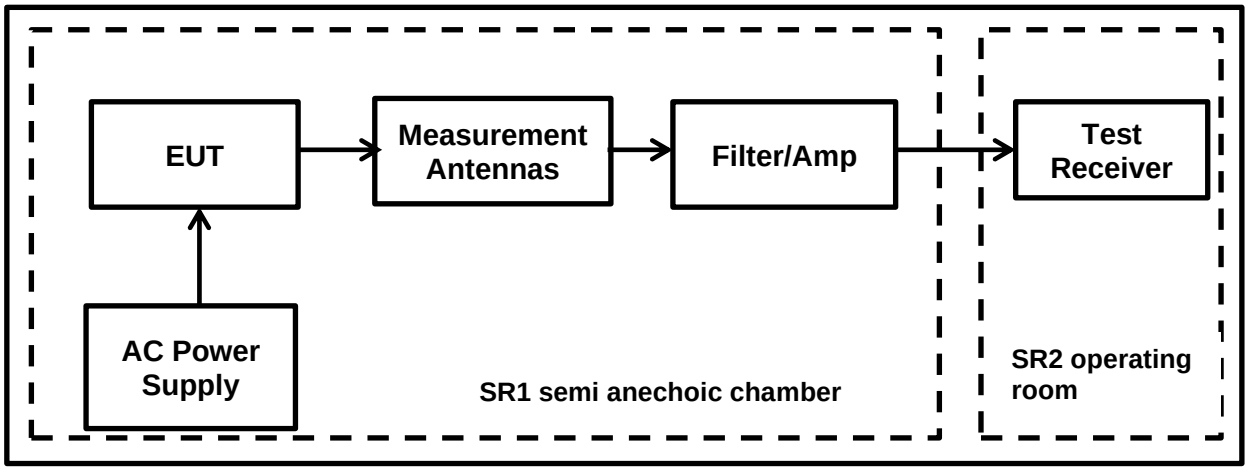
Environmental Conditions:

Temperature (°C):	24.9
Relative Humidity (%):	49

Note(s):

1. Measurements below 1 GHz were performed in a semi-anechoic chamber SR1/ 2 (Asset Number 1603665) at a distance of 3 m. The EUT was placed at a height of 80 cm above the reference ground plane in the centre of the chamber turntable. Maximum emission levels were determined by height searching the measurement antenna over the range 1 m to 4 m.
2. Pre-scans were performed, and markers placed on the highest measured levels. The test receiver resolution bandwidth was set to 100 kHz and video bandwidth 300 kHz. A peak detector was used, sweep time was set to auto and trace mode was Max Hold.
3. The measurement was performed with the following worst-case mode w.r.t output power.
    - WLAN 5 GHz / 802.11 a / 20 MHz / 6Mbps / Bottom Channel / PWR 15
4. Final measurements were performed on the marker frequencies. The results entered in the table below incorporates the calibrated antenna factor and cable loss. The test receiver resolution bandwidth was set to 120 kHz, using a CISPR quasi-peak detector and span big enough to see the whole emission.

Test Setup:

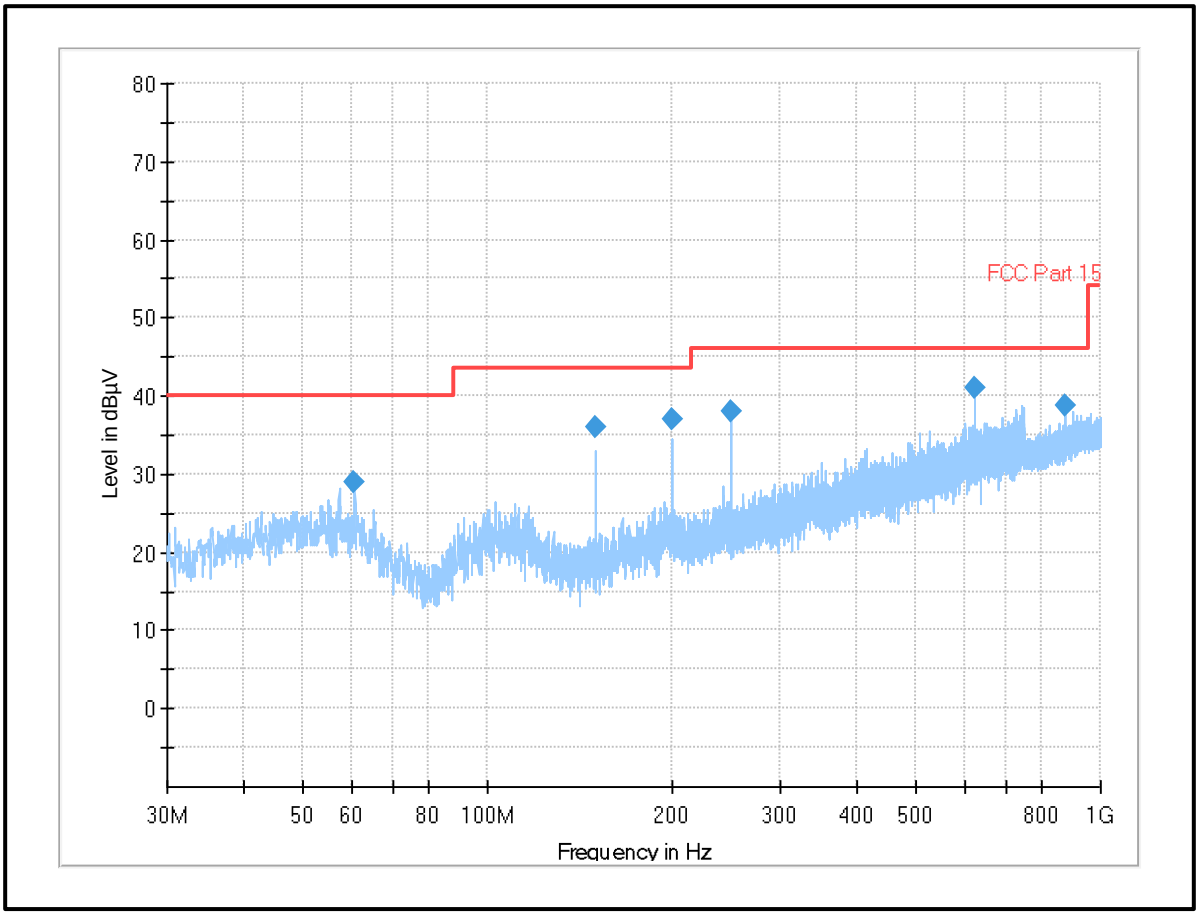


Transmitter Out of Band Radiated Emissions (continued) (5.47-5.725 GHz band operation)

Results: AC Power Supply/ UNII-2C / 802.11a / 20 MHz / 6Mbps / PWR 15 / Bottom Channel

Frequency (MHz)	Antenna Polarization	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
60.645000	Vertical	29.00	40.00	11.00	Complied
150.015000	Horizontal	35.89	43.50	7.61	Complied
200.010000	Horizontal	36.91	43.50	6.59	Complied
250.005000	Horizontal	38.06	46.00	7.94	Complied
625.000000	Horizontal	40.99	46.00	5.01	Complied
874.958333	Horizontal	38.65	46.00	7.35	Complied

Plot: Radiated Transmitter spurious emission from 30 MHz – 1 GHz



Note: This plot is a pre-scan and for indication purposes only.
For final measurements, see accompanying table.

Result: Pass

Transmitter Out of Band Radiated Emissions (continued) (5.47-5.725 GHz band operation)

Test Summary:

Test Engineer:	Abbas Al-Hussainy	**Test Date:**	30 July 2024
Test Sample Serial Number:	B54292 900002		
Test Site Identification	SR 1/2		

FCC Reference:	Parts 15.407(b)(1),(8) & 15.209(a)
Test Method Used:	FCC KDB 789033 II .G.1, II .G.2, II .G.3, II .G.5 &, II .G.6 ANSI C63.10:2013 Sections 6.3 and 6.6
Frequency Range	1 GHz to 18 GHz

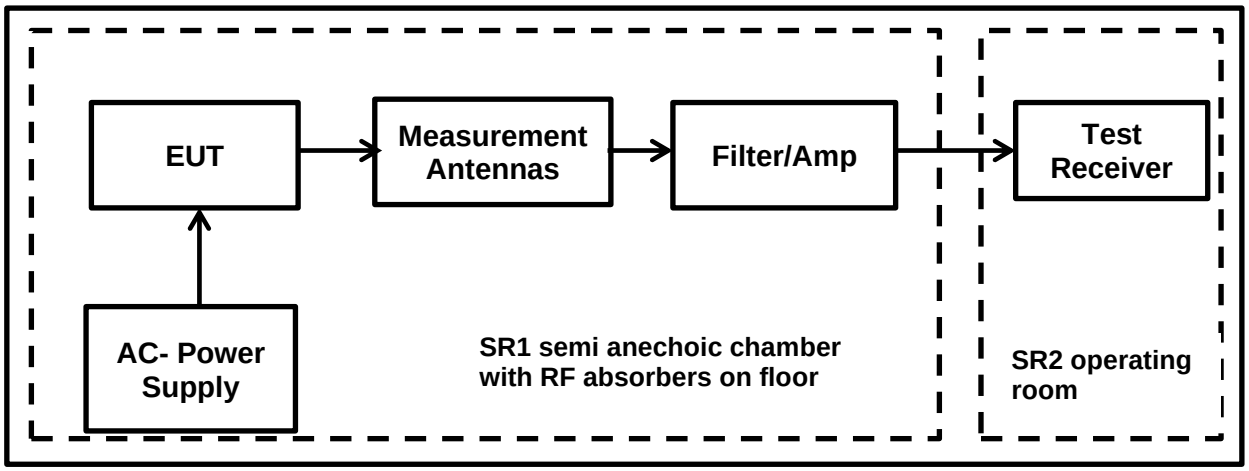
Environmental Conditions:

Temperature (°C):	24.9
Relative Humidity (%):	49

Note(s):

1. Pre-scans above 1 GHz were performed in a semi-anechoic chamber SR1/ 2 (Asset Number 1603665) with absorber on the floor at a distance of 3 m. The EUT was placed at a height of 1.5 m above the test chamber floor in the centre of the chamber turntable. All measurement antennas were placed at a fixed height of 1.5 m above the test chamber floor, in line with the EUT. Final measurements above 1 GHz were performed in a semi-anechoic chamber SR1/ 2 (Asset Number 1603665) with absorber on the floor at a distance of 3 m. The EUT was placed at a height of 1.5 m above the reference ground plane in the centre of the chamber turntable. Maximum emission levels were determined by height searching the measurement antenna over the range 1 m to 4 m.
2. Pre-scans were performed, and a marker placed on the highest measured level of the appropriate plot. The test receiver resolution bandwidth was set to 1 MHz and video bandwidth 3 MHz. The sweep time was set to auto.
3. The measurement was performed with the following worst-case mode w.r.t output power.
    a. WLAN 5 GHz / 802.11 a / 20 MHz / 6Mbps / Bottom Channel / PWR 15

Test Setup:



Transmitter Out of Band Radiated Emissions (continued) (5.47-5.725 GHz band operation)

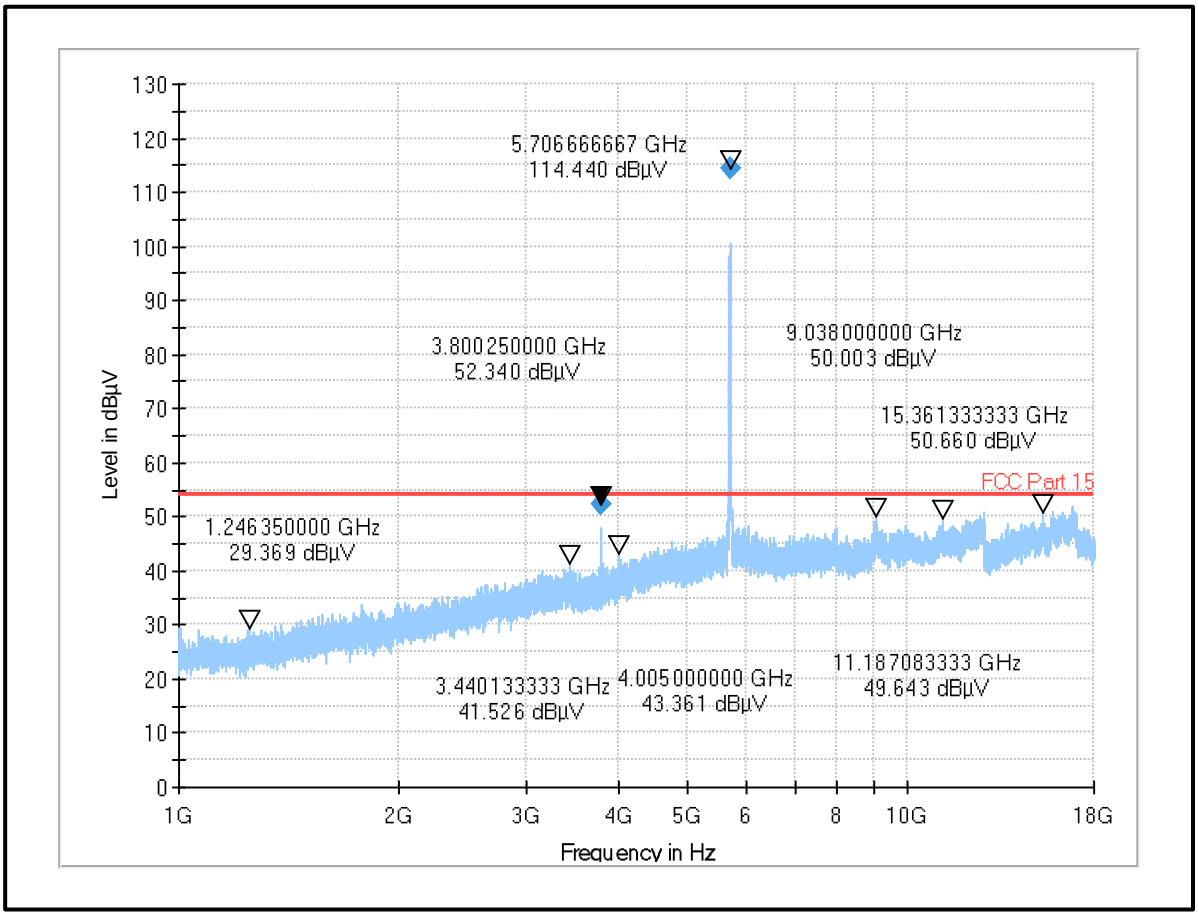
Results: AC Power Supply/ UNII-2C / 802.11a / 20 MHz / 6Mpbs / PWR 15 / Bottom Channel

Restricted Band:

Frequency (MHz)	Antenna Polarization	Peak Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
1999.916667	Vertical	50.14	74.00	23.86	Complied
4000.000000	Vertical	51.62	74.00	22.38	Complied

Frequency (MHz)	Antenna Polarization	Average Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
-	-	-	-	-	-

Plot: Radiated Transmitter spurious emission from 1 GHz – 18 GHz



Note: This plot is a pre-scan and for indication purposes only.
For final measurements, see accompanying table.

Result: Pass

Transmitter Out of Band Radiated Emissions (continued) (5.47-5.725 GHz band operation)

Test Summary:

Test Engineer:	Abbas Al-Hussainy	**Test Date:**	25 July 2024
Test Sample Serial Number:	B54292 900002		
Test Site Identification	SR 1/2		

FCC Reference:	Parts 15.407(b)(1),(8) & 15.209(a)
Test Method Used:	FCC KDB 789033 II .G.1, II .G.2, II .G.3, II .G.5 &, II .G.6 ANSI C63.10:2013 Sections 6.3 and 6.6
Frequency Range	18 GHz to 40 GHz

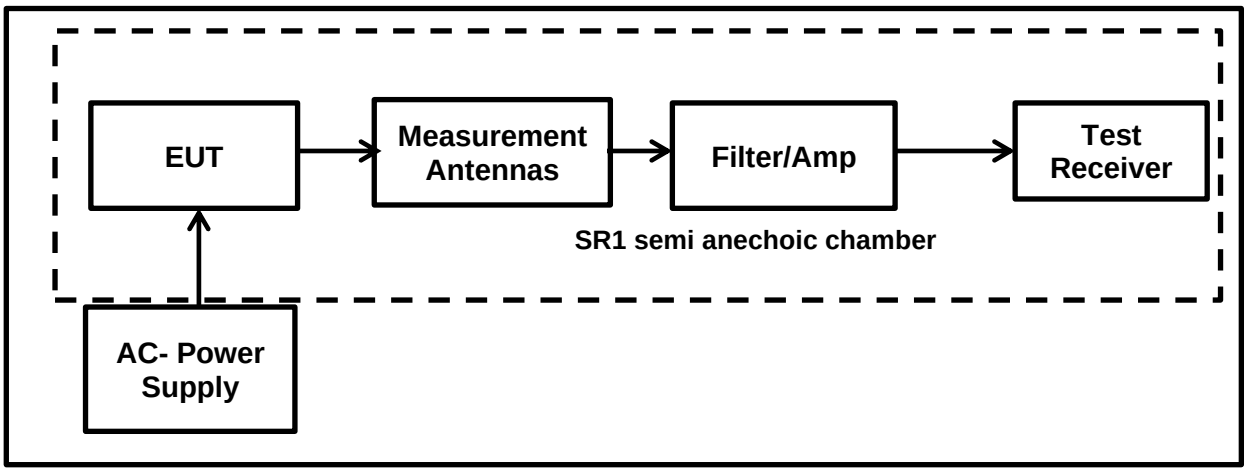
Environmental Conditions:

Temperature (°C):	24.9
Relative Humidity (%):	49

Note(s):

1. Pre-scans above 1 GHz were performed in a semi-anechoic chamber SR1/ 2 (Asset Number 1603665. The EUT was placed at a height of 1.5 m above the test chamber floor in the centre of the chamber turntable. All measurement antennas were placed at a fixed height of 1.5 m above the test chamber floor, in line with the EUT. Final measurements above 1 GHz were performed in a semi-anechoic chamber SR1/ 2 (Asset Number 1603665). The EUT was placed at a height of 1.5 m above the reference ground plane in the centre of the chamber turntable.
2. The measurement was performed with the following worst-case mode w.r.t output power.
    a. WLAN 5 GHz / 802.11 a / 20 MHz / 6Mbps / Bottom Channel / PWR 15

Test Setup:



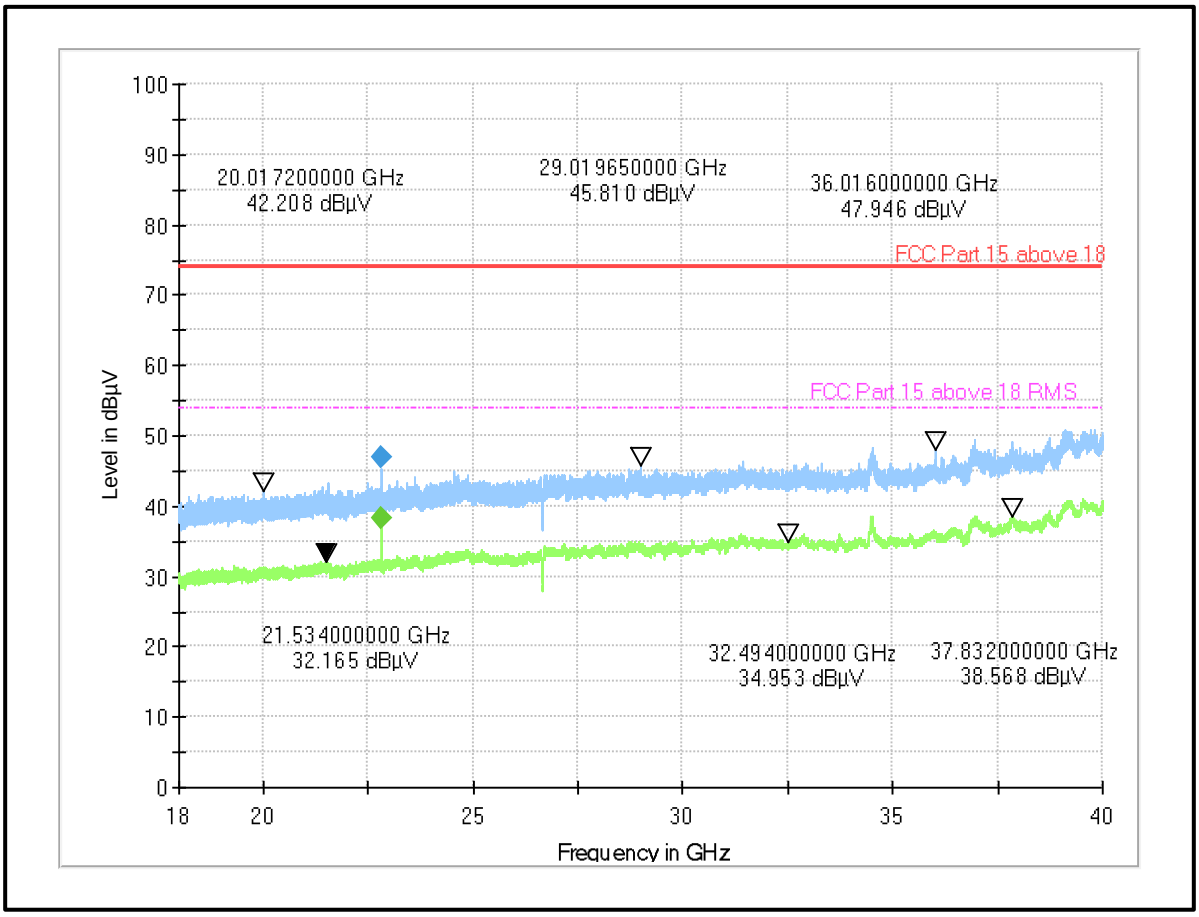
Transmitter Out of Band Radiated Emissions (continued) (5.47-5.725 GHz band operation)

Results: AC Power Supply/ UNII-2C / 802.11a / 20 MHz / 6Mbps / PWR 15 / Bottom Channel

Frequency (MHz)	Antenna Polarization	Peak Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
22799.800000	Vertical	46.81	74.00	27.19	Complied

Frequency (MHz)	Antenna Polarization	Average Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
22800.000000	Vertical	38.35	54.00	15.65	Complied

Plot: Radiated Transmitter spurious emission from 18 GHz – 40 GHz



Note: This plot is a pre-scan and for indication purposes only.
For final measurements, see accompanying table.

Result: Pass

5.2.6. Transmitter Out of Band Radiated Emissions (5.725-5.85 GHz band operation)

Test Summary:

Test Engineer:	Abbas Al-Hussainy	**Test Date:**	25 July 2024
Test Sample Serial Number:	B54292 900002		
Test Site Identification	SR 1/2		

FCC Reference:	Parts 15.407(b)(1),(9) & 15.209(a)
ISED Reference:	RSS-247 6.2
Test Method Used:	FCC KDB 789033 II .G.1, II .G.2, II .G.3 & II .G.4. & ANSI C63.10 Sections 6.3 and 6.4
Frequency Range:	9 kHz to 30 MHz

Environmental Conditions:

Temperature (°C):	22.2
Relative Humidity (%):	47.2

Note(s):

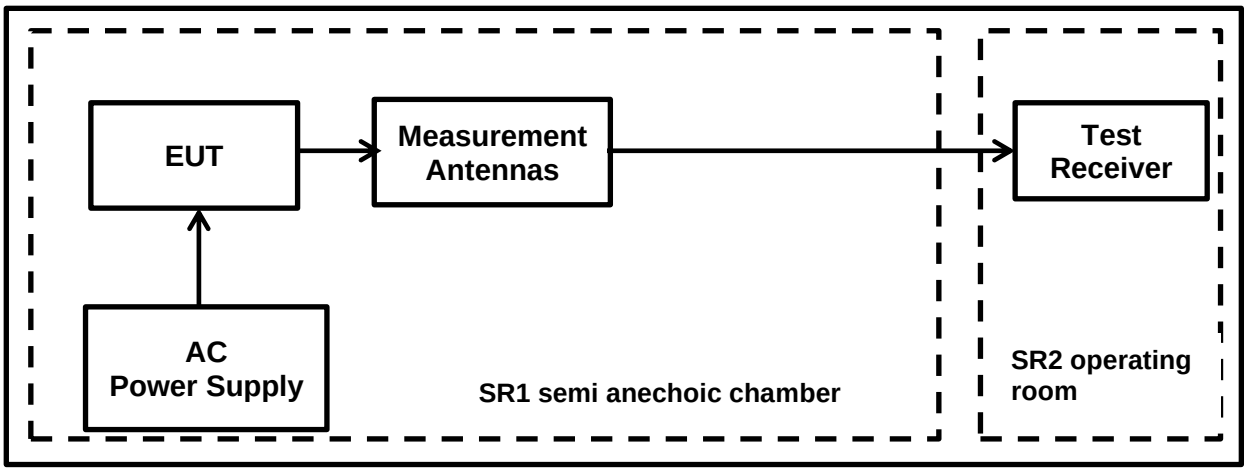
1. In accordance with FCC KDB 414788 D01 Radiated Test Site & ANSI C63.10 clause 5.2 an alternative test site that can demonstrate equivalence to a open area test site may be used. Therefore, the measurement was performed in a Semi Anechoic Chamber. (The OATS / SAC comparison data is available upon request).
2. The limits are specified at test distances of 30 and 300 metres. However, as specified in FCC Section 15.31 (f)(2) & ANSI C63.10 clause 6.4.3, measurements may be performed at a closer distance and the measured level extrapolated to the specified measurement distance using the method described in clauses 6.4.4, specifically sub-clause 6.4.4.1 which specifies that the measured level shall be extrapolated to the specified distance by conservatively presuming that the field strength decays at 40 dB/decade.
3. The measured values at 3 m were extrapolated to the required measurement distances of 300 m and 30 m and compared the specified limits at those distances as follows:

   • 9 kHz- 490 kHz: measured value extrapolated from 3 m to 300 m by subtracting 80 dB at 40 dB /decade.

   • 490 kHz-30 MHz: measured value extrapolated from 3 m to 30 m by subtracting 40 dB at 40 dB /decade.
4. The measurement was performed with the following worst-case mode w.r.t output power.
   a. WLAN 5 GHz / 802.11 a / 20 MHz / 6 Mbps / Bottom Channel / PWR 15
5. All emissions shown on the pre-scan plots were investigated and found to be below system noise floor.
6. Measurements below 30 MHz were performed in a semi-anechoic chamber SR1/ 2 (Asset Number 1603665) at a distance of 3 m. The EUT was placed at a height of 80 cm above the reference ground plane in the centre of the chamber turntable. The measurement loop antenna height was 80 cm.
7. Pre-scans were performed, and markers placed on highest measured levels. Test receiver was set to:
   - Frequency range: 9 kHz-150 kHz: RBW: 300 Hz /VBW: 1 kHz
   - Frequency range: 150 kHz – 30 MHz: RBW: 10 kHz /VBW: 30 kHz
   - Detector: Peak detector
   - Trace Mode: Max Hold

Transmitter Out of Band Radiated Emissions (continued) (5.725-5.85 GHz band operation)

Test Setup:

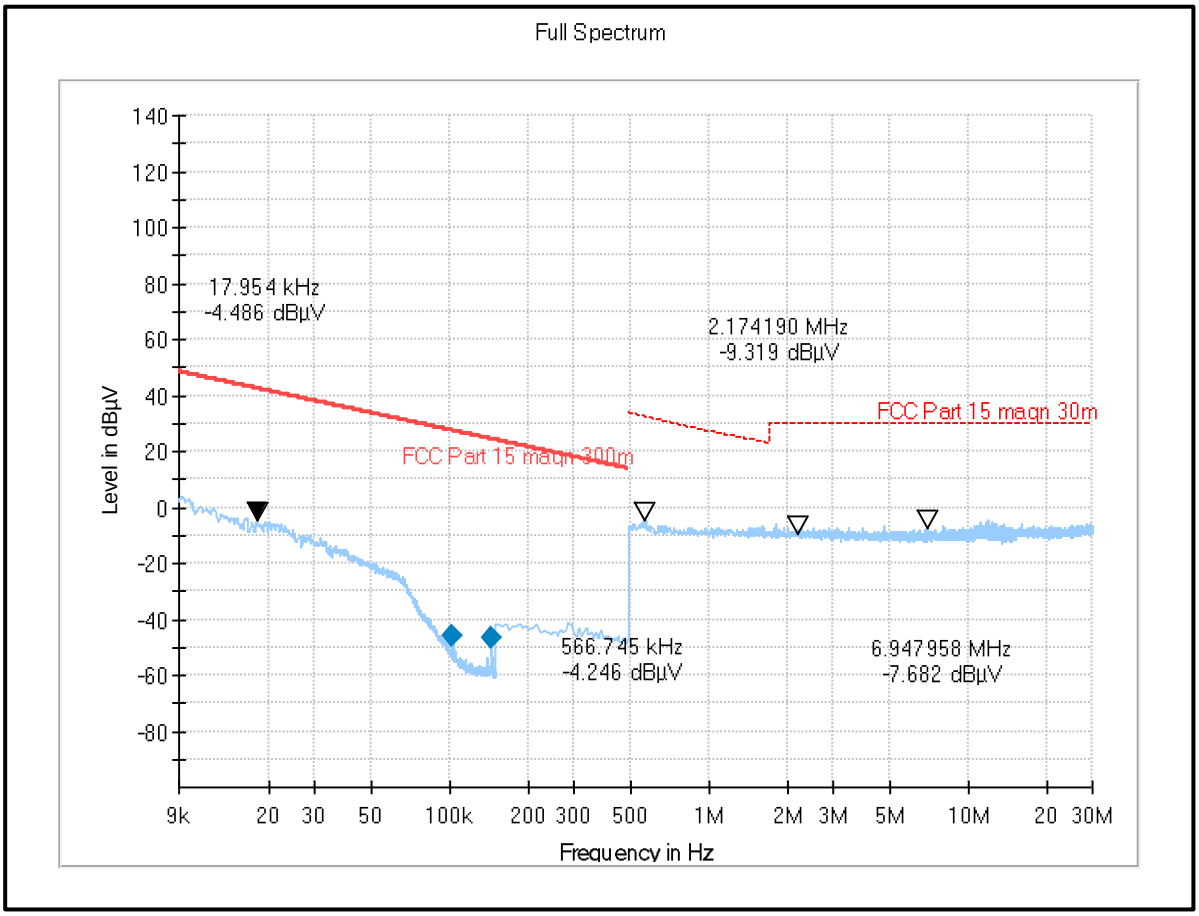


Transmitter Out of Band Radiated Emissions (continued) (5.725-5.85 GHz band operation)

Results: AC Power Supply/ UNII-3 / 802.11a / 20 MHz / 6 Mbps / PWR 15 / Bottom Channel

Frequency (MHz)	Loop Antenna Orientation	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
0.101919	90	-5.70	27.45	33.15	Complied
0.144572	0	-6.94	24.38	31.32	Complied

Plot: Radiated Transmitter spurious emission from 9 kHz – 30 MHz



Note: This plot is a pre-scan and for indication purposes only.
For final measurements, see accompanying table.

Result: Pass

Transmitter Out of Band Radiated Emissions (continued) (5.725-5.85 GHz band operation)

Test Summary:

Test Engineer:	Abbas Al-Hussainy	**Test Date:**	30 July 2024
Test Sample Serial Number:	B54292 900002		
Test Site Identification	SR 1/2		

FCC Reference:	Parts 15.407(b)(1),(9) & 15.209(a)
Test Method Used:	FCC KDB 789033 II .G.1, II .G.2, II .G.3 & II .G.4 & ANSI C63.10 Sections 6.3 and 6.5
Frequency Range:	30 MHz to 1000 MHz

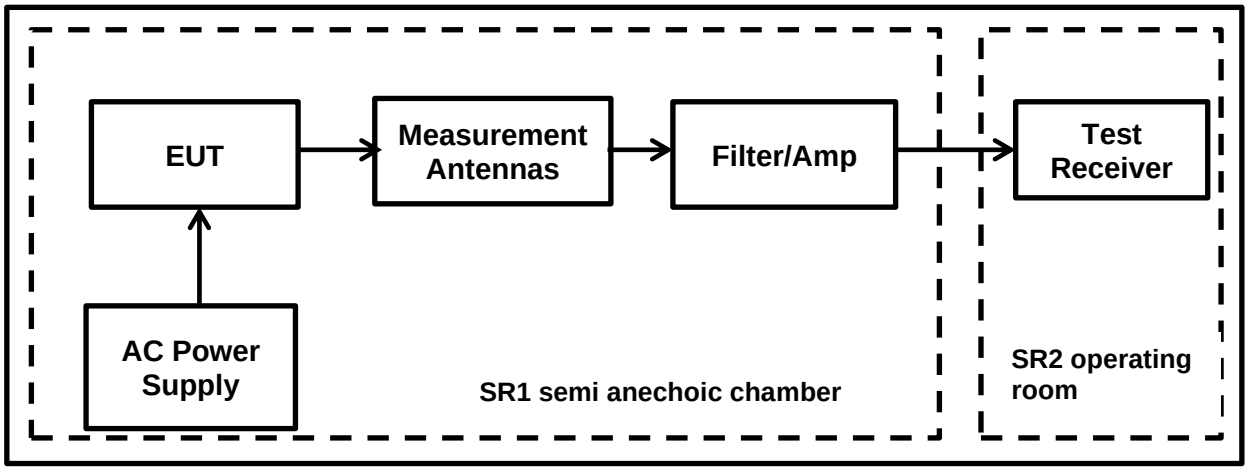
Environmental Conditions:

Temperature (°C):	24.9
Relative Humidity (%):	49

Note(s):

1. Measurements below 1 GHz were performed in a semi-anechoic chamber SR1/ 2 (Asset Number 1603665) at a distance of 3 m. The EUT was placed at a height of 80 cm above the reference ground plane in the centre of the chamber turntable. Maximum emission levels were determined by height searching the measurement antenna over the range 1 m to 4 m.
2. Pre-scans were performed, and markers placed on the highest measured levels. The test receiver resolution bandwidth was set to 100 kHz and video bandwidth 300 kHz. A peak detector was used, sweep time was set to auto and trace mode was Max Hold.
3. The measurement was performed with the following worst-case mode w.r.t output power.
    - WLAN 5 GHz / 802.11 a / 20 MHz / 6 Mbps / Bottom Channel / PWR 15
4. Final measurements were performed on the marker frequencies. The results entered in the table below incorporates the calibrated antenna factor and cable loss. The test receiver resolution bandwidth was set to 120 kHz, using a CISPR quasi-peak detector and span big enough to see the whole emission.

Test Setup:

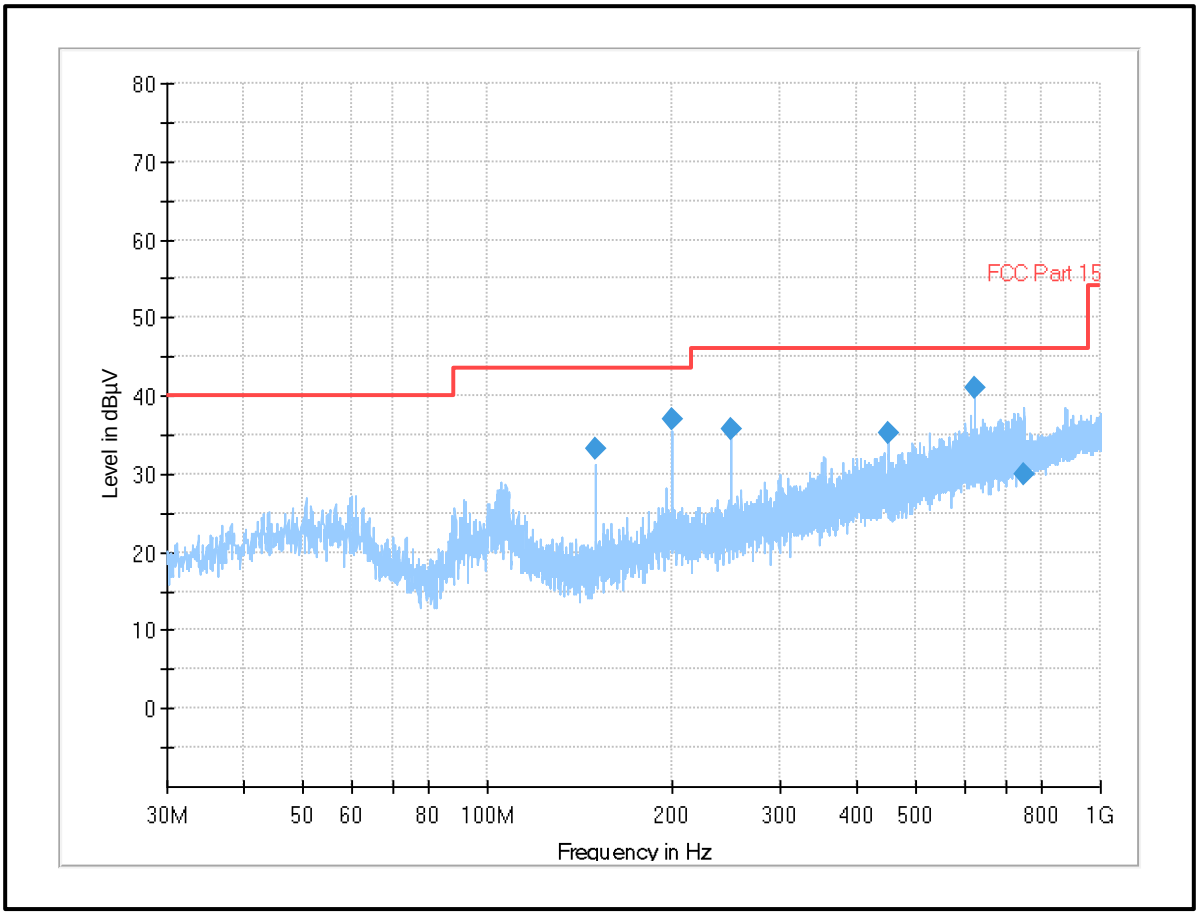


Transmitter Out of Band Radiated Emissions (continued) (5.725-5.85 GHz band operation)

Results: AC Power Supply/ UNII-3 / 802.11a / 20 MHz / 6 Mbps / PWR 15 / Bottom Channel

Frequency (MHz)	Antenna Polarization	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
149.970000	Horizontal	33.18	43.50	10.32	Complied
200.010000	Horizontal	37.07	43.50	6.43	Complied
250.005000	Horizontal	35.71	46.00	10.29	Complied
449.966667	Horizontal	35.20	46.00	10.80	Complied
625.000000	Horizontal	41.06	46.00	4.94	Complied
747.333333	Horizontal	29.88	46.00	16.12	Complied

Plot: Radiated Transmitter spurious emission from 30 MHz – 1 GHz



Note: This plot is a pre-scan and for indication purposes only.
For final measurements, see accompanying table.

Result: Pass

Transmitter Out of Band Radiated Emissions (continued) (5.725-5.85 GHz band operation)

Test Summary:

Test Engineer:	Abbas Al-Hussainy	**Test Date:**	30 July 2024
Test Sample Serial Number:	B54292 900002		
Test Site Identification	SR 1/2		

FCC Reference:	Parts 15.407(b)(1),(8) & 15.209(a)
Test Method Used:	FCC KDB 789033 II .G.1, II .G.2, II .G.3, II .G.5 &, II .G.6 ANSI C63.10:2013 Sections 6.3 and 6.6
Frequency Range	1 GHz to 18 GHz

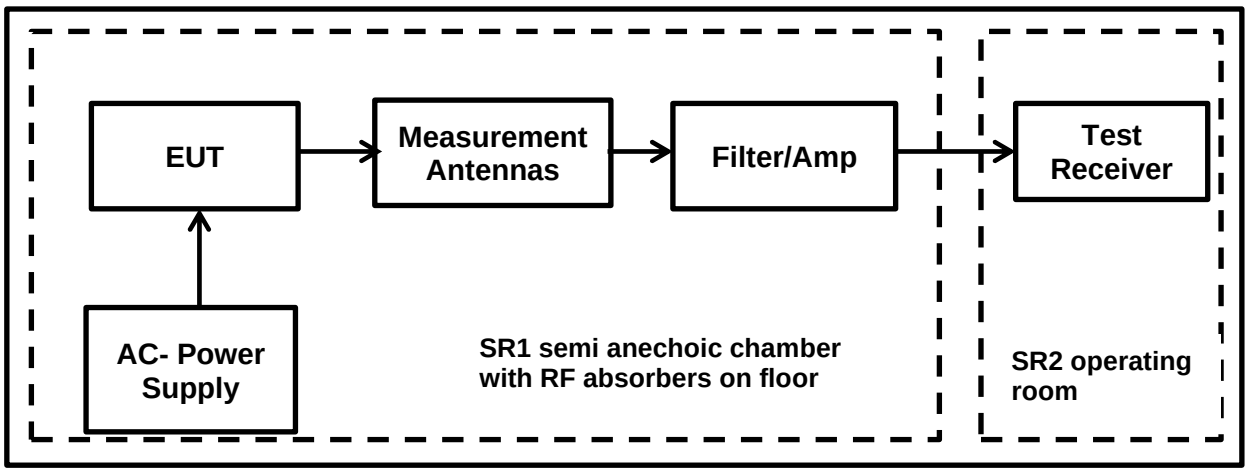
Environmental Conditions:

Temperature (°C):	24.9
Relative Humidity (%):	49

Note(s):

1. Pre-scans above 1 GHz were performed in a semi-anechoic chamber SR1/ 2 (Asset Number 1603665) with absorber on the floor at a distance of 3 m. The EUT was placed at a height of 1.5 m above the test chamber floor in the centre of the chamber turntable. All measurement antennas were placed at a fixed height of 1.5 m above the test chamber floor, in line with the EUT. Final measurements above 1 GHz were performed in a semi-anechoic chamber SR1/ 2 (Asset Number 1603665) with absorber on the floor at a distance of 3 m. The EUT was placed at a height of 1.5 m above the reference ground plane in the centre of the chamber turntable. Maximum emission levels were determined by height searching the measurement antenna over the range 1 m to 4 m.
2. Pre-scans were performed, and a marker placed on the highest measured level of the appropriate plot. The test receiver resolution bandwidth was set to 1 MHz and video bandwidth 3 MHz. The sweep time was set to auto.
3. The measurement was performed with the following worst-case mode w.r.t output power.
    - WLAN 5 GHz / 802.11 a / 20 MHz / 6 Mbps / Bottom Channel / PWR 15

Test Setup:



Transmitter Out of Band Radiated Emissions (continued) (5.725-5.85 GHz band operation)

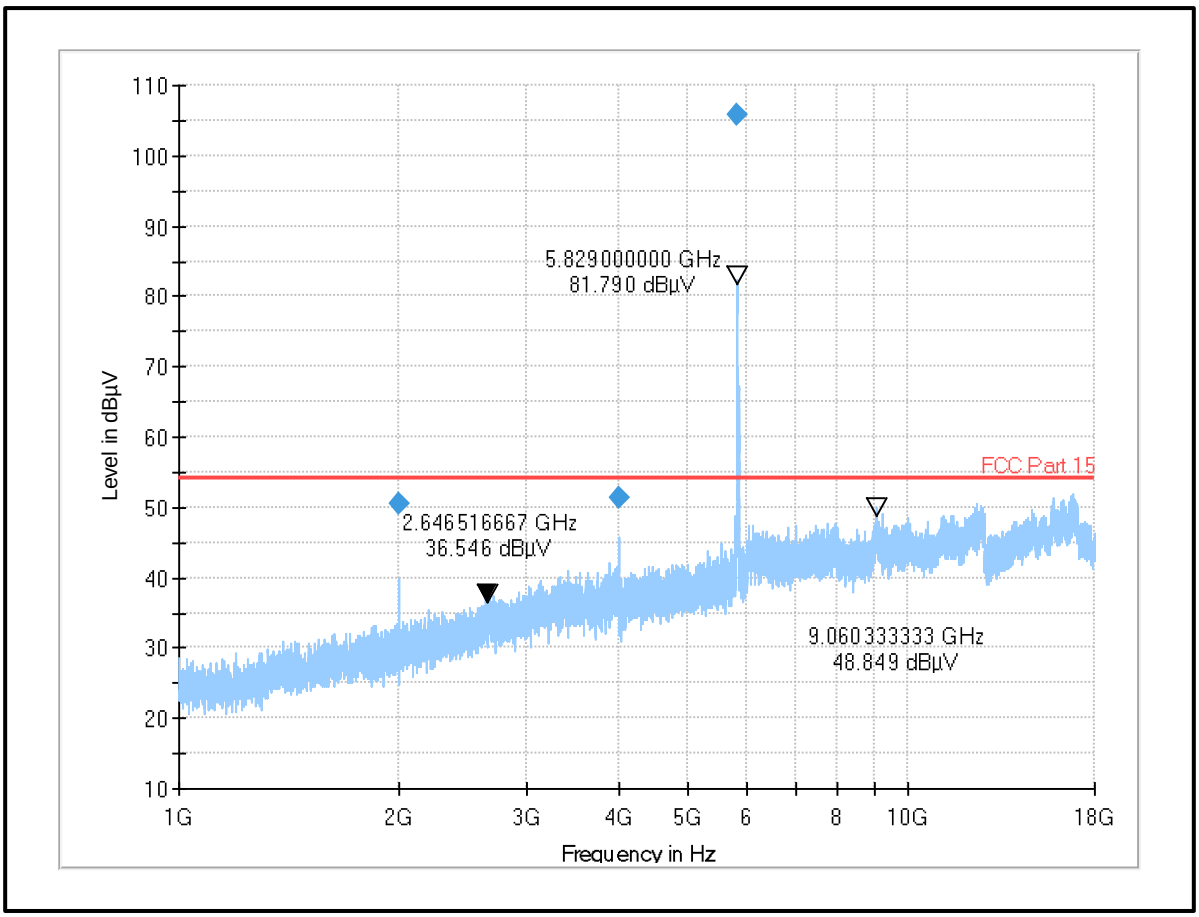
Results: AC Power Supply/ UNII-3 / 802.11a / 20 MHz / 6 Mbps / PWR 15 / Bottom Channel

Restricted Band:

Frequency (MHz)	Antenna Polarization	Peak Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2000.133333	Horizontal	50.64	74.00	20.21	Complied
4000.000000	Vertical	51.47	74.00	22.53	Complied

Frequency (MHz)	Antenna Polarization	Average Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
-	-	-	-	-	-

Plot: Radiated Transmitter spurious emission from 1 GHz – 18 GHz



Note: This plot is a pre-scan and for indication purposes only.
For final measurements, see accompanying table.

Result: Pass

Transmitter Out of Band Radiated Emissions (continued) (5.725-5.85 GHz band operation)

Test Summary:

Test Engineer:	Abbas Al-Hussainy	**Test Date:**	30 July 2024
Test Sample Serial Number:	B54292 900002		
Test Site Identification	SR 1/2		

FCC Reference:	Parts 15.407(b)(1),(8) & 15.209(a)
Test Method Used:	FCC KDB 789033 II .G.1, II .G.2, II .G.3, II .G.5 &, II .G.6 ANSI C63.10:2013 Sections 6.3 and 6.6
Frequency Range	18 GHz to 40 GHz

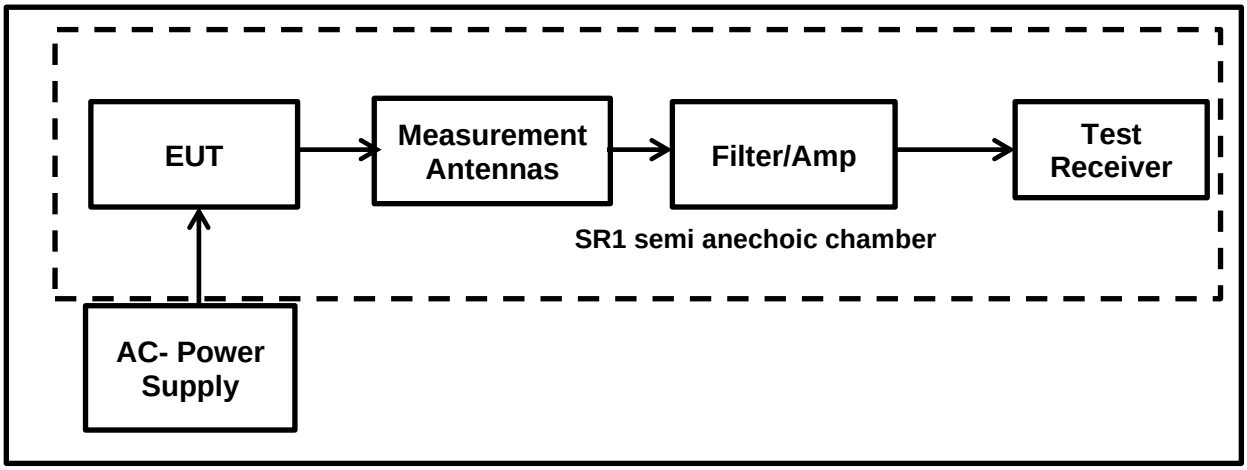
Environmental Conditions:

Temperature (°C):	24.9
Relative Humidity (%):	49

Note(s):

1. Pre-scans above 1 GHz were performed in a semi-anechoic chamber SR1/ 2 (Asset Number 1603665. The EUT was placed at a height of 1.5 m above the test chamber floor in the centre of the chamber turntable. All measurement antennas were placed at a fixed height of 1.5 m above the test chamber floor, in line with the EUT. Final measurements above 1 GHz were performed in a semi-anechoic chamber SR1/ 2 (Asset Number 1603665). The EUT was placed at a height of 1.5 m above the reference ground plane in the centre of the chamber turntable.
2. The measurement was performed with the following worst-case mode w.r.t output power.
   - WLAN 5 GHz / 802.11 a / 20 MHz / 6 Mbps / Bottom Channel / PWR 15

Test Setup:



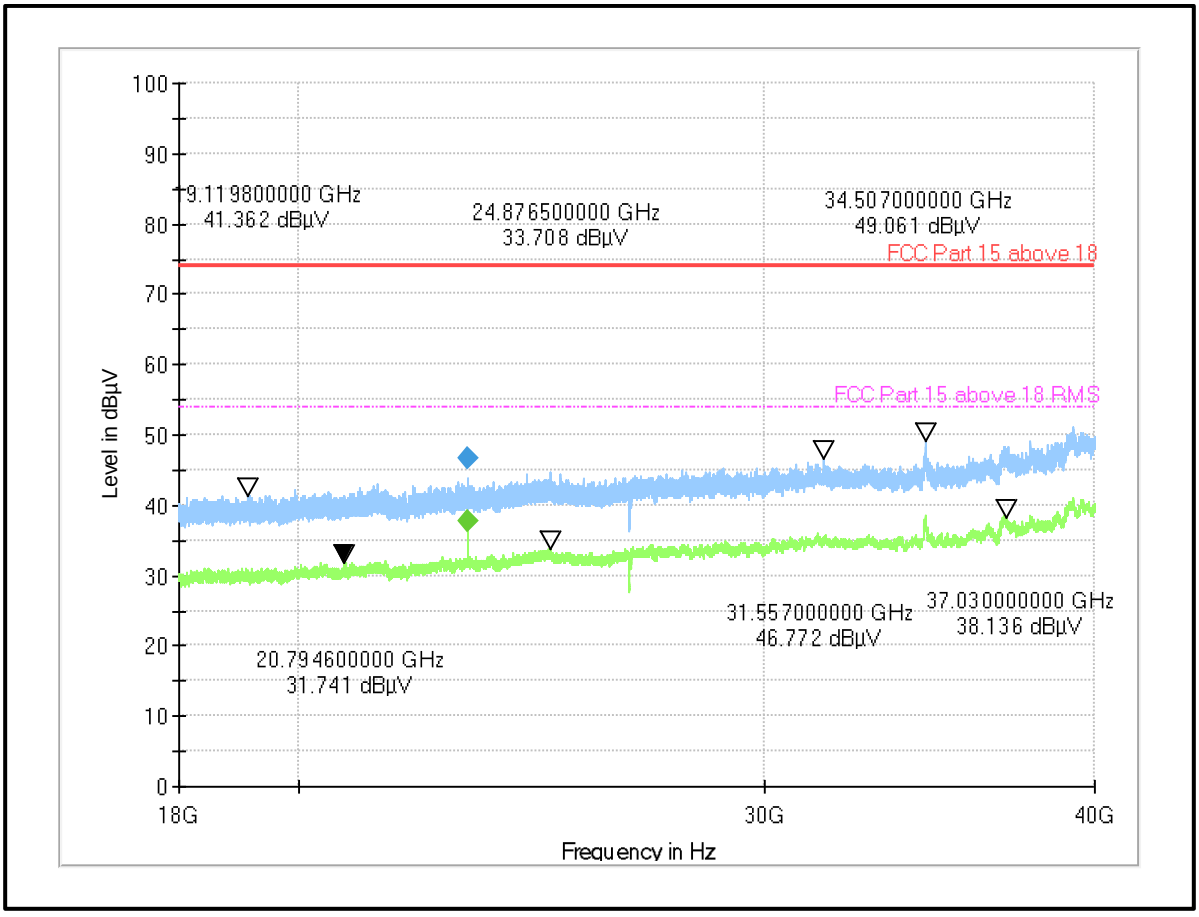
Transmitter Out of Band Radiated Emissions (continued) (5.725-5.85 GHz band operation)

Results: AC Power Supply/ UNII-3 / 802.11a / 20 MHz / 6 Mbps / PWR 15 / Bottom Channel

Frequency (MHz)	Antenna Polarization	Level Peak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
23139.800000	Vertical	46.61	74.00	27.39	Complied

Frequency (MHz)	Antenna Polarization	Level RMS (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
23139.800000	Vertical	37.64	54.00	16.36	Complied

Plot: Radiated Transmitter spurious emission from 18 GHz – 40 GHz



Note: This plot is a pre-scan and for indication purposes only.
For final measurements, see accompanying table.

Result: Pass

5.2.7. Transmitter Band Edge Radiated Emissions

Test Summary:

Test Engineer:	Abbas Al-Hussainy	**Test Date:**	30 July 2024
Test Sample Serial Number:	B54292 900002		
Test Site Identification	SR 1/2		

FCC Reference:	Parts 15.407(b)(1), (2), (3), (4), (8), 15.205 & 15.209(a)
ISED Reference:	RSS-247 6.2
Test Method Used:	FCC KDB 789033 D02 Section II.G.1, II.G.2, II.G.3, II.G.5 & II.G.6 ANSI C63.10 Sections 6.3 and 6.6

Environmental Conditions:

Temperature (°C):	24.9
Relative Humidity (%):	49

Notes:

1. According to FCC KDB 789033 D02 Section II.G.5 & II.G.6 Transmitter Band Edge Radiated Emissions were performed.)
2. The test receiver was set to RBW: 1 MHz | VBW: 3 MHz | Sweep time: Auto | Trace mode: max hold | Span: large enough to capture unwanted band edge emissions with trace stabilizations.
3. In accordance with KDB 789033 Section II.D.v), Method AD (vi), the average measurements were performed using an increased number of sweeps A value of 300 was used for all measurements as this number ensured that the requirement Sweep ≥ 2 × Span / RBW is met.
4. Transmitter Band Edge Radiated Emissions were performed in a semi-anechoic chamber SR1/ 2 (Asset Number 1603665) with absorbers on the ground at a distance of 3 meters. The EUT was placed at a height of 1.5 meters above the test chamber floor in the centre of the chamber turntable. Maximum emission levels were determined by height searching the measurement antenna with tilting function enabled over the range 1 meter to 4 meters above the test chamber floor, in line with the EUT.
5. The maximum emissions around band edges were searched & are indicated with a marker placed on them.
6. For transmitters operating in the 5.15-5.25 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz. However, there are restricted bands of operation below the lower band edge at 4.5-5.15 GHz and also above the upper band edge at 5.35-5.46 GHz therefore the provisions of FCC Part 15.205 apply.
7. As all radiated band edge measurements have been performed with R.B.W. 1 MHz; the limits in dBm / MHz can be converted to dBµV/m by adding a conversion factor of 95.2 (in accordance with KDB 789033 G.2.d)(iii)).
8. Field strength measurements using peak and average detectors were performed in the restricted bands below 5.15 GHz and above 5.35 GHz.
9. In accordance with KDB 789033 Section II.G.1.c) If all peak measurements satisfy the average limit, then average measurements are not required.
10. For unwanted emissions measured with Peak detector there are two limit possibilities:
    - According to FCC 15.209 peak limit (above 1 GHz) is 74 dBµV/m (restricted band limit)
    - According to FCC 15.407(b) peak limit is 68.2 dBµV/m (non-restricted band limit)

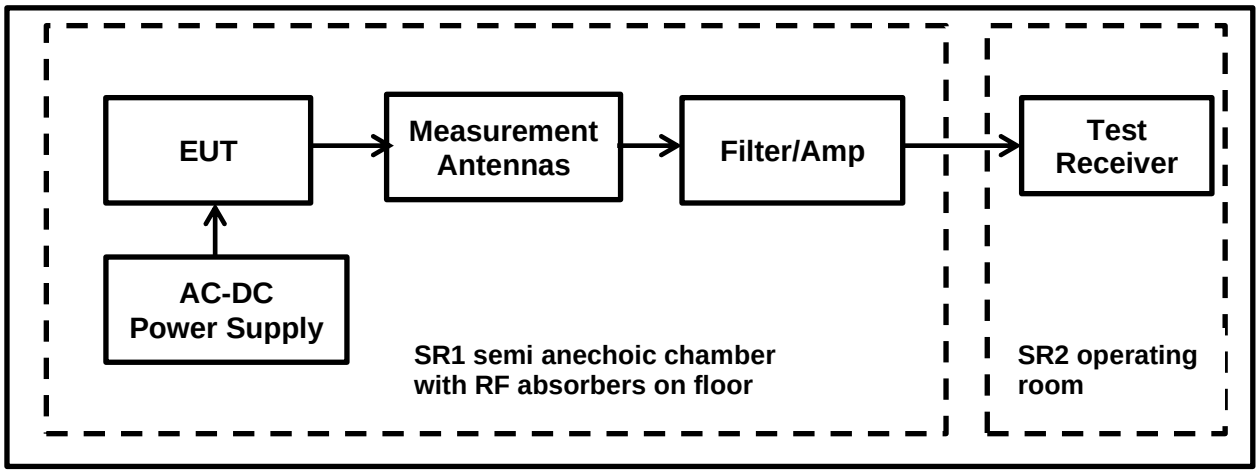
Transmitter Band Edge Radiated Emissions (continued)

Notes:

11. Therefore, for UNII-1unwanted emissions in restricted as well non restricted bands, measured with Peak detector lowest limit 68.2 dBµV/m has been applied.
12. For transmitters operating in the 5.725-5.850GHz band: All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.
13. In accordance with ANSI C63.10 Section 12.7.7.2 Method AD g), for average measurements, data rates where the EUT was transmitting < 98% duty cycle, the duty cycle correction factor calculated in section 5.2.3 was added to the measured result.
14. As the continuous transmission of the EUT (D ≥ 98%) cannot be achieved and EUT was transmitting with different duty cycles w.r.t to different modes. Duty Cycle Correction Factors were added to all average measurements respectively according to the modes used to compensate as if it was transmitting with 100% duty cycle.

Mode	UNII-1	DCCF	UNII-2A	DCCF	UNII-2C	DCCF	UNII-3	DCCF
a-mode	6 Mbps	1.16	6 Mbps	1.46	6 Mbps	1.69	6 Mbps	1.76

Test Setup:



Transmitter Band Edge Radiated Emissions (continued)

Results: AC Power Supply/ UNII-1&2A / 802.11a / 20 MHz / 6 Mbps / PWR 15

Results: CH36 / Lower Band Edge / Peak

Frequency (MHz)	Peak Level (dBµV/m)	Peak Limit (dBµV/m)	Margin (dB)	Result
5148.56	60.99	68.20	7.21	Complied
5150.00	59.38	68.20	8.82	Complied

Results: CH36 / Lower Band Edge / Average

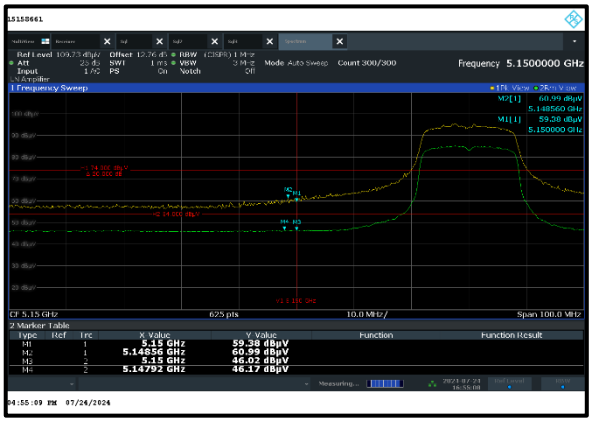
Frequency (MHz)	Average Level (dBµV/m)	Duty Cycle Correction Factor (dB)	Corrected Average Level (dBµV/m)	Average Limit (dBµV/m)	Margin (dB)	Result
5147.92	46.17	1.16	47.33**	54.00	6.67	Complied
5150.00	46.02	1.16	47.18**	54.00	6.82	Complied

Results: CH64 / Upper Band Edge / Peak

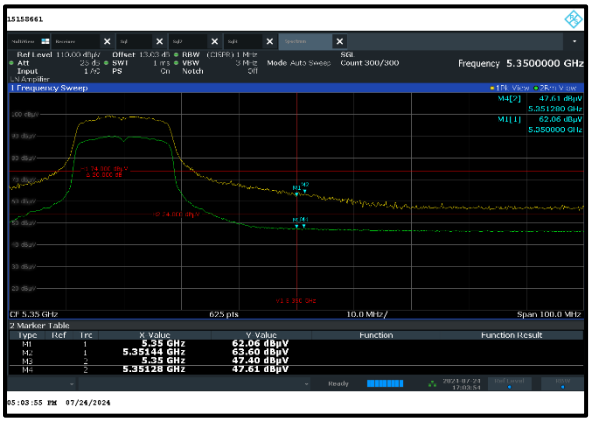
Frequency (MHz)	Peak Level (dBµV/m)	Peak Limit (dBµV/m)	Margin (dB)	Result
5350.00	62.06	68.20	6.14	Complied
5351.44	63.60	68.20	4.60	Complied

Results: CH64 / Upper Band Edge / Average

Frequency (MHz)	Average Level (dBµV/m)	Duty Cycle Correction Factor (dB)	Corrected Average Level (dBµV/m)	Average Limit (dBµV/m)	Margin (dB)	Result
5350.00	47.40	1.46	48.86**	54.00	5.14	Complied
5351.28	47.61	1.46	49.07**	54.00	4.93	Complied



Lower Band Edge Measurement



Upper Band Edge Measurement

Result: Pass

Transmitter Band Edge Radiated Emissions (continued)

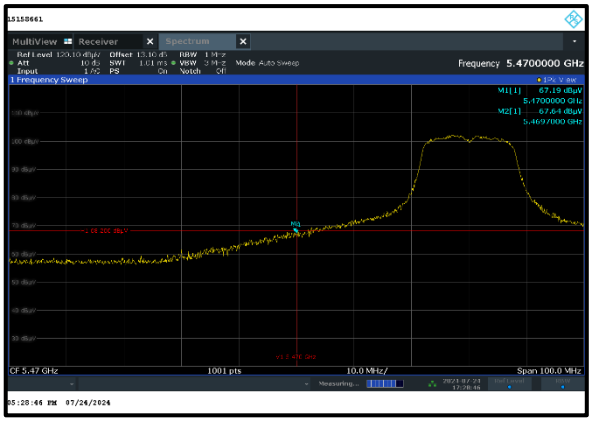
Results: AC Power Supply/ UNII-2C/ 802.11a / 20 MHz / 6 Mbps

Results: CH100 / PWR 15 / Lower Band Edge / Peak

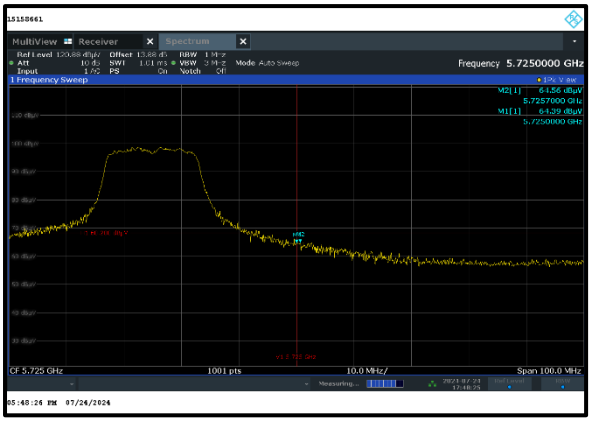
Frequency (MHz)	Peak Level (dBµV/m)	Peak Limit (dBµV/m)	Margin (dB)	Result
5466.30	67.25	68.20	0.95	Complied
5470.00	66.52	68.20	1.68	Complied

Results: CH140 / PWR 15 / Upper Band Edge / Peak

Frequency (MHz)	Peak Level (dBµV/m)	Peak Limit (dBµV/m)	Margin (dB)	Result
5725.00	64.39	68.20	3.81	Complied
5725.57	64.56	68.20	3.64	Complied



Lower Band Edge Measurement



Upper Band Edge Measurement

Result: Pass

Transmitter Band Edge Radiated Emissions (continued)

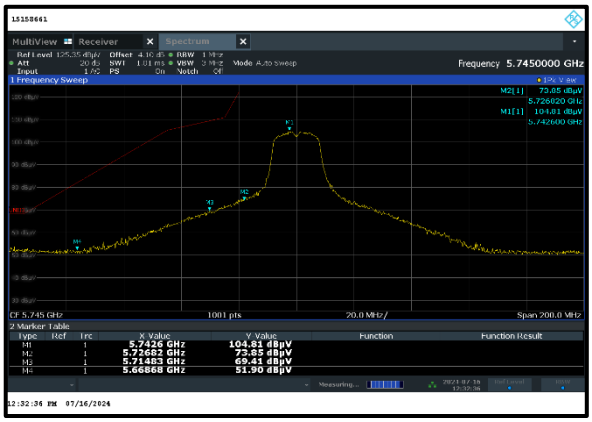
Results: AC Power Supply/ UNII-3 / 802.11a / 20 MHz / 6 Mbps

Results: CH149 / PWR 15 / Lower Band Edge / Peak

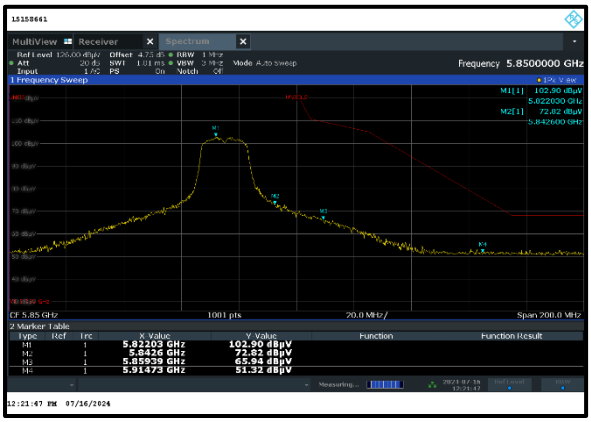
Frequency (MHz)	Peak Level (dBµV/m)	Peak Limit (dBµV/m)	Margin (dB)	Result
5668.68	51.90	82.02	30.12	Complied
5714.83	69.41	109.35	39.94	Complied
5726.82	73.85	122.20	48.35	Complied

Results: CH165 / PWR 15 / Upper Band Edge / Peak

Frequency (MHz)	Peak Level (dBµV/m)	Peak Limit (dBµV/m)	Margin (dB)	Result
5859.39	65.94	109.571	43.63	Complied
5914.73	51.32	75.80	24.48	Complied



Lower Band Edge Measurement



Upper Band Edge Measurement

Result: Pass

6. Measurement Uncertainty

The expression of uncertainty of a measurement result allows realistic comparison of results with reference values and limits given in specifications and standards.

The uncertainty of the result may need to be taken into account when interpreting the measurement results.

The reported expanded uncertainties below are based on a standard uncertainty multiplied by an appropriate coverage factor such that a confidence level of approximately 95% is maintained. For the purposes of this document “approximately” is interpreted as meaning “effectively” or “for most practical purposes”.

Measurement Type	Confidence Level (%)	Calculated Uncertainty
AC Conducted Spurious Emissions	95%	±2.49 dB
Conducted Maximum Peak Output Power	95%	±0.59 dB
Conducted Maximum Power Spectral Density	95%	±0.59 dB
Radiated Spurious Emissions	95%	±3.10 dB
Band Edge Radiated Emissions	95%	±3.10 dB
Transmitter Duty Cycle	95%	±3.4%
26 dB Bandwidth	95%	±0.87 %

The methods used to calculate the above uncertainties are in line with those recommended within the various measurement specifications. Where measurement specifications do not include guidelines for the evaluation of measurement uncertainty the published guidance of the appropriate accreditation body is followed.

7. Used equipment

Test site: SR 1/2

ID	Manufacturer	Type	Model	Serial	Calibration Date	Cal. Cycle (months)
1	Rohde & Schwarz	Antenna, Loop	HFH2-Z2	831247/012	18/07/2023	36
377	BONN Elektronik	Amplifier, Low Noise Pre	BLMA 0118-1A	025294B	18/07/2023	24
423	Bonn Elektronik	Amplifier, Low Noise Pre	BLMA 1840-1A	55929	18/07/2022	24
460	Deisel	Turntable	DT 4250 S	n/a	n/a	n/a
495	Schwarzbeck	Antenna, Trilog Broadband	VULB 9163	01691	30/11/2023	36
496	Rohde & Schwarz	Antenna, log. - periodical	HL050	100297	16/08/2022	36
588	Maturo	Controller	NCD	029/7180311	n/a	n/a
591	Rohde & Schwarz	Receiver	ESU 40	100244/040	09/07/2024	12
669	Rohde & Schwarz	EMI Test Receiver	ESW 44	103087	13/07/2023	24
607	Schwarzbeck	Antenna broadband horn antenna	BBHA 9170	9170-561	13/05/2024	36
608	Rohde & Schwarz	Switch Matrix	OSP 120	101227	lab verification	n/a
628	Maturo	Antenna mast	CAM 4.0-P	224/19590716	n/a	n/a
629	Maturo	Kippeinrichtung	KE 2.5-R-M	MAT002	n/a	n/a
-/-	Testo	Thermo-Hygrometer	608-H1	01	lab verification	n/a
328	SPS	AC/DC power distribution system	PAS 5000	A2464 00/2 0200	lab verification	n/a
1603665	Siemens Matsushita Components	semi-anechoic chamber SR1/ 2	-/-	B83117-A1421-T161	n/a	n/a
681	Maturo	Antenna mast, tilting	BAM4.5-P	402/0718.1	n/a	n/a

Test site: SR 7/8

ID	Manufacturer	Type	Model	Serial No.	Calibration Date	Cal. Cycle
22	Rohde & Schwarz	Artificial Mains	ESH3-Z5	831767/014	09.07.2024	12
23	Rohde & Schwarz	Artificial Mains	ESH3-Z5	831767/013	09.07.2024	12
349	Rohde & Schwarz	Receiver, EMI Test	ESIB7	836697/009	09.07.2024	12

8. Report Revision History

Version Number	Revision Details		
	Page No(s)	**Clause**	**Details**
1.0	-	-	Initial Version
1.1	1	Cover	Model No. updated
	6	2.2	Notes updated
	8	3.1	EUT information updated
	10	4.1, 4.2	Notes updated
	67	7	Equipment list updated
1.2	**Page No(s)**	**Clause**	**Details**
	8	3.1	EUT information updated
	10	4.1	Notes updated
	17	5.2.1	Typo corrected
1.3	5	2.1	Location table updated
Test Report Version 1.4 supersede Version 1.3 with immediate effect Test Report No. UL-RPT-RP-15158661-1216 Version 1.4, Issue Date 7 March 2025 replaces Test Report No. UL-RPT-RP-15158661-1216 Version 1.3, Issue 20 February 2025, which is no longer valid.			
1.4	**Page No(s)**	**Clause**	**Details**
	14-16	5.2.1	Conducted emission result updated

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