

TEST REPORT

Test Report No. : UL-RPT-RP15585693-716A

Customer* : Cisco Systems Norway AS

Model No. / HVIN* : TTC7-29

HMN* : Cisco Desk Pro G2

PMN* : 07100725

Contains FCC ID* : LDKXV2EA2797

Contains IC* : 2461N-XV2EA2797

Technology : WLAN (802.11 a/n/ac/ax)

Test Standard(s) : FCC Parts 15.209(a) & 15.407(b)
Innovation, Science and Economic Development Canada
RSS-247 Issue 3 August 2023, Section 6.2
RSS-Gen Issue 5 February 2021, Section 6.13, 8.2 & 8.9

Test Laboratory : UL International (UK) Ltd, Basingstoke, Hampshire, RG24 8AH,
United Kingdom

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2. The results in this report apply only to the sample(s) tested.
3. The sample tested is in compliance with the above standard(s).
4. The test results in this report are traceable to the national or international standards.
5. All information marked with (*) was provided by the Customer, Applicant or Authorised representative
6. Version 2.0 supersedes all previous versions.

Date of Issue: 08 September 2025

Checked by:



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Customer Information

Company Name*:	Cisco Systems Norway AS
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Manufacturers Information

Manufacturers Name*:	Cisco Systems, Inc.
Address*:	170 West Tasman Drive, San Jose, CA 95134, United States of America

Report Revision History

Version Number	Issue Date	Revision Details	Revised By
1.0	16/06/2025	Initial Version	Ben Mercer
2.0	08/09/2025	TCB feedback addressed	Ben Mercer

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1 Attestation of Test Results





1.1 Description of EUT

The equipment under test (EUT) was a desktop collaboration unit.*

1.2 General Information

Specification Reference:	47CFR15.407
Specification Title:	Code of Federal Regulations Volume 47 (Telecommunication): Part 15 Subpart E (Unlicensed National Information Infrastructure Devices) – Section 15.407
Specification Reference:	47CFR15.209
Specification Title:	Code of Federal Regulations Volume 47 (Telecommunication): Part 15 Subpart C (Intentional Radiators) – Section 15.209
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
Specification Reference:	RSS-Gen Issue 5 February 2021
Specification Title:	General Requirements for Compliance of Radio Apparatus
Site Registration:	FCC: 685609, ISEDC: 20903
FCC Lab. Designation No.:	UK2011
ISEDC CABID:	UK0001
Location of Testing:	Units 3 & 4 Horizon, Wade Road, Kingsland Business Park, Basingstoke, Hampshire, RG24 8AH, United Kingdom
Test Dates:	28 March 2025 to 25 April 2025

1.3 Summary of Test Results

FCC Reference (47CFR)	ISED Canada Reference	Measurement	Result
Part 15.35(c)	RSS-Gen 8.2	Transmitter Duty Cycle	Note 1
Part 15.407(b) & 15.209(a)	RSS-247 6.2 / RSS-Gen 6.13	Transmitter Out of Band Radiated Emissions	
Part 15.407(b) & 15.209(a)	RSS-247 6.2 / RSS-Gen 6.13	Transmitter Band Edge Radiated Emissions	
Key to Results  = Complied  = Did not comply			

Note(s):

1. The measurement was performed to assist in the calculation of emission levels. The EUT cannot transmit continuously and sweep triggering/signal gating cannot be implemented.

1.4 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.

2 Summary of Testing

2.1 Facilities and Accreditation

The test site and measurement facilities used to collect data are located at Units 3 & 4 Horizon, Wade Road, Kingsland Business Park, Basingstoke, Hampshire, RG24 8AH, United Kingdom. The following table identifies which facilities were utilised for radiated emission measurements documented in this report. Specific facilities are also identified in the test results sections.

Site 1	X
Site 17	-
Site 32	-
Site 33	X

UL International (UK) Ltd is accredited by the United Kingdom Accreditation Service (UKAS). UKAS is one of the signatories to the International Laboratory Accreditation Co-operation (ILAC) Arrangement for the mutual recognition of test reports. The tests reported herein have been performed in accordance with its terms of accreditation.

2.2 Methods and Procedures

Reference:	ANSI C63.10-2013
Title:	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices
Reference:	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)

2.3 Calibration and Uncertainty

Measuring Instrument Calibration

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

Measurement Uncertainty & Decision Rule

Overview

No measurement or test can ever be perfect and the imperfections give rise to error of measurement in the results. Consequently the result of a measurement is only an approximation to the value of the measurand (the specific quantity subject to measurement) and is only complete when accompanied by a statement of the uncertainty of the approximation.

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

Decision Rule

Measurement system instrumentation shall be used with an accuracy specification meeting the accuracy specification limits according to IEC/IECEE OD-5014.

As applicable, unless specified otherwise in this quotation, the compliance "Decision Rule" is based on Simple Acceptance. If the measured value is on the limit, the result is defined as a pass. In this case the risk of a false positive is 50%. For further information regarding risk assessment refer to ILAC G8:09/2019.

Measurement Uncertainty

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	Range	Confidence Level (%)	Calculated Uncertainty
Duty Cycle	5.15 GHz to 5.850 GHz	95%	±1.14 dB
Radiated Spurious Emissions	9 kHz to 30 MHz	95%	±5.44 dB
Radiated Spurious Emissions	30 MHz to 1 GHz	95%	±2.98 dB
Radiated Spurious Emissions	1 GHz to 40 GHz	95%	±3.64 dB

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.

2.4 Test and Measurement Equipment

Test Equipment Used for Transmitter Radiated Emissions Tests

Asset No.	Instrument	Manufacturer	Type No.	Serial No.	Date Calibration Due	Cal. Interval (Months)
M2040	Thermohygrometer	Testo	608-H1	45124934	23 Dec 2025	12
K0001	3m RSE Chamber	MVG Industries	N/A	N/A	11 Sep 2025	12
M227313	Test Receiver	Rohde & Schwarz	FSW43	102471	20 Sep 2025	12
M236226	Test Receiver	Rohde & Schwarz	ESW26	103134	06 May 2025	12
A3154	Pre-Amplifier	Com-Power	PAM-103	18020012	28 Aug 2025	12
A3112	Attenuator	AtlanTecRF	AN18-06	219706#2	27 Aug 2025	12
A3083	Low Pass Filter	AtlanTecRF	AFL-01000	18010900076	16 Sep 2025	12
A553	Antenna	Chase	CBL6111A	1593	27 Aug 2025	12
A3165	Antenna	ETS-Lindgren	6502	00224383	25 Mar 2026	12
A221643	Attenuator	Atlantic Microwave	ATT06KXP-483034-N4N5	#3	16 Sep 2025	12
A3093	High Pass Filter	AtlanTecRF	AFH-03000	18051800077	16 Sep 2025	12
A3179	Pre-Amplifier	Hewlett Packard	HPS207228449B	3008A00934	30 Aug 2025	12
A3138	Antenna	Schwarzbeck	BBHA 9120 B	00702	06 Sep 2025	12
A3139	Antenna	Schwarzbeck	HWRD750	00027	06 Sep 2025	12
A212041	High Pass Filter	Micro-Tronics	HPS20723	001	16 Sep 2025	12
A227131	High Pass Filter	Micro-Tronics	HPS20722	005	16 Sep 2025	12
A222867	Pre-Amplifier	Atlantic Microwave	A-LNAKX-380116-S5S5	220705002	24 Feb 2026	12
A3265	Pre-Amplifier	Schwarzbeck	BBV 9721	9721-069	31 Dec 2025	12
A2892	Antenna	Schwarzbeck	BBHA 9170	9170-727	02 Jan 2026	12

Test Equipment Used for Transmitter Duty Cycle & Band Edge Radiated Emissions Tests

Asset No.	Instrument	Manufacturer	Type No.	Serial No.	Date Calibration Due	Cal. Interval (Months)
M226556	Thermohygrometer	Testo	608-H1	83800306	20 Dec 2025	12
K226203	3m RSE Chamber	Albatross Projects	N/A	N/A	10 May 2025	12
A231864	Pre Amplifier	Schwarzbeck	A-LNAKX-380116-S5S5	221044002	25 Apr 2025	12
M1874	Test Receiver	Rohde & Schwarz	ESU26	100553	26 Jun 2025	12
A231044	Antenna	Schwarzbeck	BBHA 9120 B	00835	29 Apr 2025	12
A230451	Attenuator	Atlantic Microwave	ATT10KXP-483034-N4N5	#3	10 Jun 2025	12

3 Equipment Under Test (EUT)

3.1 Identification of Equipment Under Test (EUT)

Brand Name*:	Cisco
Model Name or Number / HVIN*:	TTC7-29
HMN*:	Cisco Desk Pro G2
PMN*:	07100725
Test Sample Serial Number*:	FOC2845HUBH (<i>Radiated sample #1</i>)
Hardware Version*:	DVb modified with rev. D main board and camera base board.
Software Version*:	s01874-1.2.0.dev
Firmware Version / FVIN*:	Type-2EA rev2.4.3 NVRAM updated
Contains FCC ID*:	LDKXV2EA2797
Contains IC*:	2461N-XV2EA2797
Date of Receipt:	10 January 2025 (enclosure) 20 March 2025 (mainboard and top camera module)

3.2 Modifications Incorporated in the EUT

No modifications were applied to the EUT during testing.

3.3 Additional Information Related to Testing

Technology Tested:	WLAN (IEEE 802.11a,n,ac,ax) / Digital Transmission System	
Type of Unit:	Transceiver	
Modulation Type:	BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM	
Data Rates*:	802.11a	6, 9, 12, 18, 24, 36, 48 & 54 Mbps (SISO, or MIMO with CDD)
	802.11n HT20	MCS0 to MCS7 (1 spatial stream), with or without CDD MCS8 to MCS15 (2 spatial streams)
	802.11n HT40	MCS0 to MCS7 (1 spatial stream), with or without CDD MCS8 to MCS15 (2 spatial streams)
	802.11ac VHT20	MCS0 to MCS8 (1 or 2 spatial streams) MCS0 to MCS8 (up to 2 spatial streams) with or without CDD
	802.11ac VHT40	MCS0 to MCS9 (1 or 2 spatial streams) MCS0 to MCS9 (up to 2 spatial streams) with or without CDD
	802.11ac VHT80	MCS0 to MCS9 (1 or 2 spatial streams) MCS0 to MCS9 (up to 2 spatial streams) with or without CDD
	802.11ax HE20	MCS0 to MCS11 (1 or 2 spatial streams) (SISO, or MIMO with CDD/STBC/SDM) SU 242, RU 26/52/106/242
	802.11ax HE40	MCS0 to MCS11 (1 or 2 spatial streams) (SISO, or MIMO with CDD/STBC/SDM) SU 484, RU 26/52/106/242/484
	802.11ax HE80	MCS0 to MCS11 (1 or 2 spatial streams) (SISO, or MIMO with CDD/STBC/SDM) SU 996, RU 26/52/106/242/484/996
Power Supply Requirement(s)*:	20 VDC via 120 VAC 60 Hz AC/DC supply	

Additional Information Related to Testing (continued)

Channel Spacing:	20 MHz		
Transmit Frequency Band:	5150 MHz to 5250 MHz		
Transmit Channels Tested:	Channel ID	Channel Number	Channel Frequency (MHz)
	Bottom	36	5180
	Middle	44	5220
	Top	48	5240
Transmit Frequency Band:	5250 MHz to 5350 MHz		
Transmit Channels Tested:	Channel ID	Channel Number	Channel Frequency (MHz)
	Bottom	52	5260
	Middle	56	5280
	Top	64	5320
Transmit Frequency Band:	5470 MHz to 5725 MHz		
Transmit Channels Tested:	Channel ID	Channel Number	Channel Frequency (MHz)
	Bottom	100	5500
	-	108	5540
	Middle	116	5580
	-	136	5680
	Top	140	5700
Transmit Frequency Band:	Channels that straddle the U-NII-2C and U-NII-3 bands at 5725 MHz		
Transmit Channel Tested#:	Channel ID	Channel Number	Channel Frequency (MHz)
	Single	144	5720
Transmit Frequency Band:	5725 MHz to 5850 MHz		
Transmit Channels Tested:	Channel ID	Channel Number	Channel Frequency (MHz)
	Bottom	149	5745
	Middle	157	5785
	Top	165	5825

#Tests were not performed on channel 144. Compliance with Transmitter Out-of-Band Emissions requirements is inferred by compliant measurements on channels 140 and 149. Compliance with Band Edge emissions is inferred by compliant measurements on channels 108 and 157.

Additional Information Related to Testing (continued)

Channel Spacing:	40 MHz		
Transmit Frequency Band:	5150 MHz to 5250 MHz		
Transmit Channels Tested:	Channel ID	Channel Number	Channel Frequency (MHz)
	Bottom	38	5190
	Top	46	5230
Transmit Frequency Band:	5250 MHz to 5350 MHz		
Transmit Channels Tested:	Channel ID	Channel Number	Channel Frequency (MHz)
	Bottom	54	5270
	Top	62	5310
Transmit Frequency Band:	5470 MHz to 5725 MHz		
Transmit Channels Tested:	Channel ID	Channel Number	Channel Frequency (MHz)
	Bottom	102	5510
	Middle	110	5550
	-	126	5630
	Top	134	5670
Transmit Frequency Band:	5725 MHz to 5850 MHz		
Transmit Channels Tested:	Channel ID	Channel Number	Channel Frequency (MHz)
	Bottom	151	5755
	Top	159	5795

Additional Information Related to Testing (continued)

Channel Spacing:	80 MHz		
Transmit Frequency Band:	5150 MHz to 5250 MHz		
Transmit Channels Tested:	Channel ID	Channel Number	Channel Frequency (MHz)
	Single	42	5210
Transmit Frequency Band:	5250 MHz to 5350 MHz		
Transmit Channels Tested:	Channel ID	Channel Number	Channel Frequency (MHz)
	Single	58	5290
Transmit Frequency Band:	5470 MHz to 5725 MHz		
Transmit Channels Tested:	Channel ID	Channel Number	Channel Frequency (MHz)
	Bottom	106	5530
	Top	122	5610
Transmit Frequency Band:	5725 MHz to 5850 MHz		
Transmit Channels Tested:	Channel ID	Channel Number	Channel Frequency (MHz)
	Single	155	5775

3.4 Description of Available Antennas

The radio utilizes two integrated antennas, with the following maximum gain:

Frequency Range (MHz)	Antenna Gain (dBi)*
5150 to 5350	5.0
5470 to 5725	4.0
5725 to 5850	4.0

3.5 Power Settings Per Antenna Port

5150 MHz to 5250 MHz

Data Rate	Channel	Power Setting	
		SISO	MIMO
802.11a (6 Mbps)	36	13	-
	44	16	-
802.11n HT20 (MCS0)	36	11	-
	44	14	-
802.11n HT20 (MCS8)	36	-	8
	44	-	11
802.11n HT40 (MCS0)	38	11	-
	46	14	-
802.11n HT40 (MCS8)	38	-	8
	46	-	11
802.11ac VHT80 (MCS0x1)	42	11	8
802.11ax HE20 (MCS0x1)	36	9	6
	44	12	9
802.11ax HE40 (MCS0x1)	38	9	6
	46	12	9
802.11ax HE80 (MCS0x1)	42	9	6

5250 MHz to 5350 MHz

Data Rate	Channel	Power Setting	
		SISO	MIMO
802.11a (6 Mbps)	56	16	-
	64	13	-
802.11n HT20 (MCS8)	56	-	11
	64	-	8
802.11n HT40 (MCS0)	54	14	-
	62	7	-
802.11n HT40 (MCS8)	54	-	11
	62	-	5
802.11ac VHT80 (MCS0x1)	58	7	4

Power Setting Per Antenna Port (continued)**5470 MHz to 5725 MHz**

Data Rate	Channel	Power Setting	
		SISO	MIMO
802.11a (6 Mbps)	100	13	-
	108	16	-
	136	16	-
	140	9	-
802.11n HT20 (MCS8)	100	-	8
	108	-	11
	136	-	11
	140	-	8
802.11n HT40 (MCS0)	102	7	-
	110	14	-
	126	14	-
	134	12	-
802.11n HT40 (MCS8)	102	-	7
	110	-	11
	126	-	11
	134	-	9
802.11ac VHT80 (MCS0x1)	106	6	5
	122	14	11

Channels that straddle the U-NII-2C and U-NII-3 bands

Data Rate	Channel	Power Setting	
		SISO	MIMO
802.11a (6 Mbps)	149	16	-
802.11n HT20 (MCS8)	149	-	11

Power Setting Per Antenna Port (continued)**5725 MHz to 5850 MHz**

Data Rate	Channel	Power Setting	
		SISO	MIMO
802.11a (6 Mbps)	149	16	-
	157	16	-
	165	13	-
802.11n HT20 (MCS8)	149	-	11
	157	-	11
	165	-	8
802.11n HT40 (MCS0)	151	14	-
	159	11	-
802.11n HT40 (MCS8)	151	-	11
	159	-	8
802.11ac VHT80 (MCS0x1)	155	11	8

3.6 Description of Test Setup

Support Equipment

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

Customer Supplied*:

Description	Brand Name	Model Name or Number	Serial Number
Switching Power Adaptor	FSP	FSP230-A20C14	FST2841MBJQ

Laboratory Supplied:

Description	Brand Name	Model Name or Number	Serial Number
Laptop	Lenovo	Thinkpad	PF1EHZQQ
USB to Micro USB Cable	Not marked or stated	Not marked or stated	Not marked or stated
ThinkPad USB-C Dock Gen 2	Lenovo	LDC-G2	Not marked or stated
ThinkPad USB-C Dock Gen 2	Lenovo	LDC-G2	Not marked or stated
Ethernet Cable. Quantity 2.	Not marked or stated	Not marked or stated	Not marked or stated
HDMI Cable. Quantity 2.	Not marked or stated	Not marked or stated	Not marked or stated
USB-A Cable. Quantity 3.	Not marked or stated	Not marked or stated	Not marked or stated
Micro USB Cable. Quantity 3.	Not marked or stated	Not marked or stated	Not marked or stated

Operating Modes

The EUT was tested in the following operating mode(s):

- Continuously transmitting with a modulated carrier at maximum power, configured with the power settings as stated in section 3.5, on the relevant channels as required using the supported data rates/modulation types.

Configuration and Peripherals

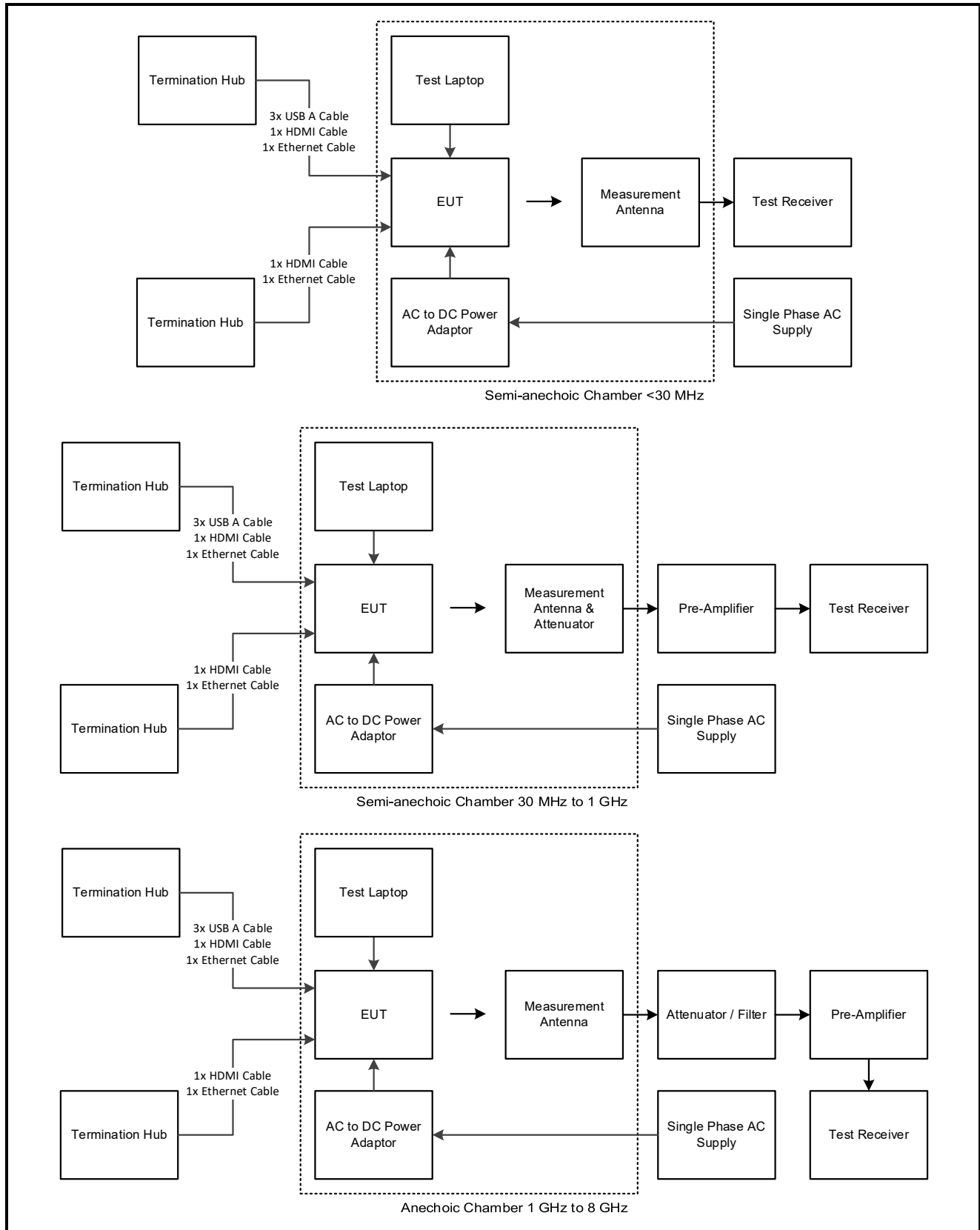
The EUT was tested in the following configuration(s):

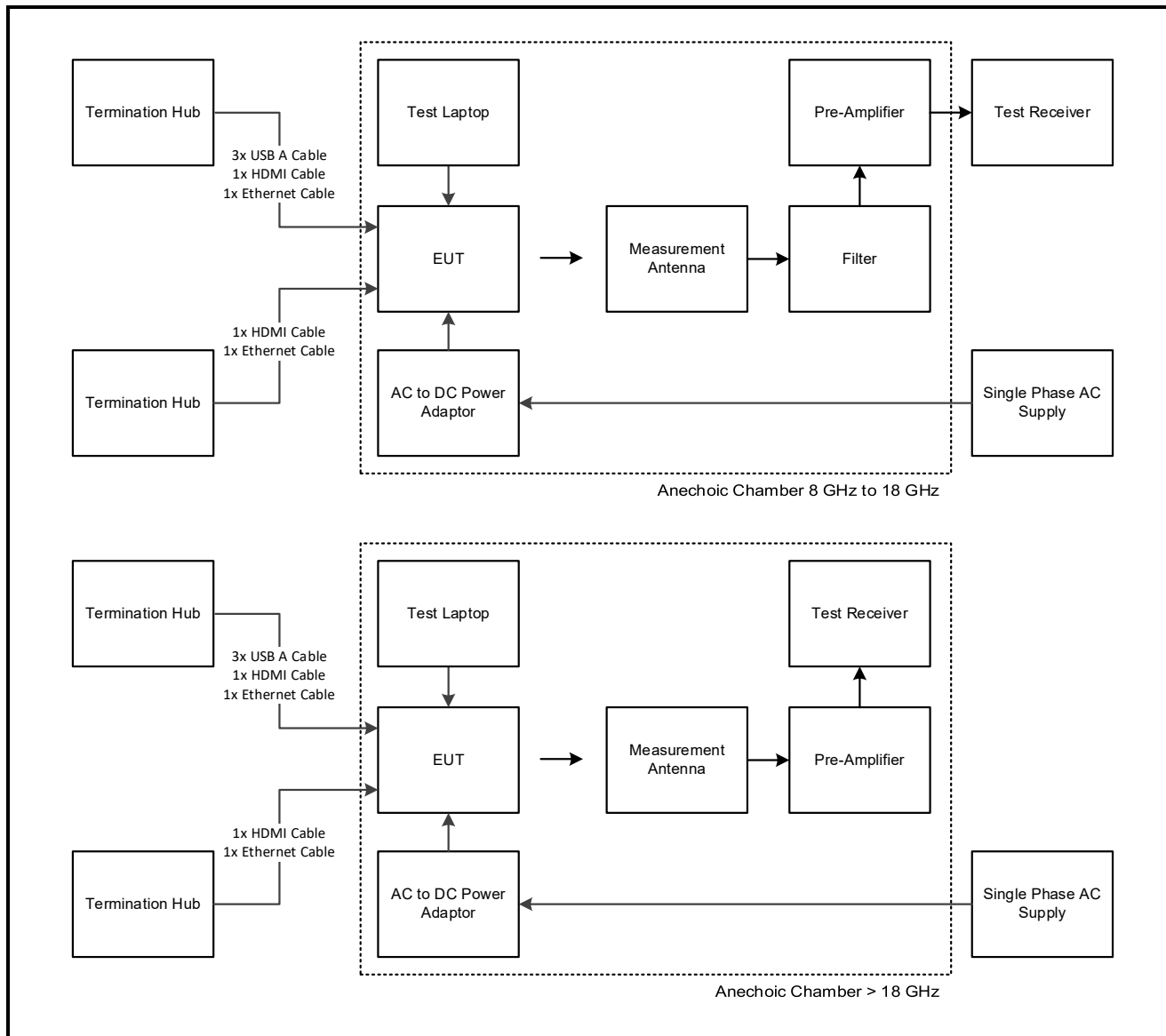
- Controlled using a terminal application on the test laptop connected to the EUT via the USB cable. The application was used to enable continuous transmission and to select the test channels as required.
- The EUT was powered from an AC to DC Power Supply. The input was connected to a 120 VAC 60 Hz single phase mains supply.
- Transmitter spurious emissions were performed with the EUT transmitting with a data rate of 802.11a / 6 Mbps.
- Transmitter radiated band edge emissions were performed with the EUT configured at worst-case power settings detailed in section 3.5.
- Measurements were performed on all 802.11 modes in the 5.15-5.25 GHz band. 802.11n/ac modes were found to be marginally worse than 802.11ax modes, therefore measurements in all other bands were limited to 802.11a/n/ac. 802.11a was found to be worse than 802.11n HT20 SISO, therefore 20 MHz SISO measurements in all other bands were limited to 802.11a.
- Where channels at the band edges used a lower power setting than channels further in band, measurements were also performed on the channels with higher power settings.
- Tests were performed with the EUT in its normal orientation.
- All active ports were terminated using appropriate terminations.

Test Setup Diagrams

Radiated Tests:

Test Setup for Transmitter Out of Band Radiated Emissions



Test Setup Diagrams (continued)**Test Setup for Transmitter Out of Band Radiated Emissions (continued)**

4 Radiated Test Results

4.1 Transmitter Duty Cycle

Test Summary:

Test Engineer:	Nick Steele	Test Date:	17 April 2025
Test Sample Serial Number:	FOC2845HUBH		

FCC Reference:	Part 15.35(c)
ISED Canada Reference:	RSS-Gen 8.2
Test Method Used:	KDB 789033 D02 Section II.B.2.b)

Environmental Conditions:

Temperature (°C):	20
Relative Humidity (%):	39

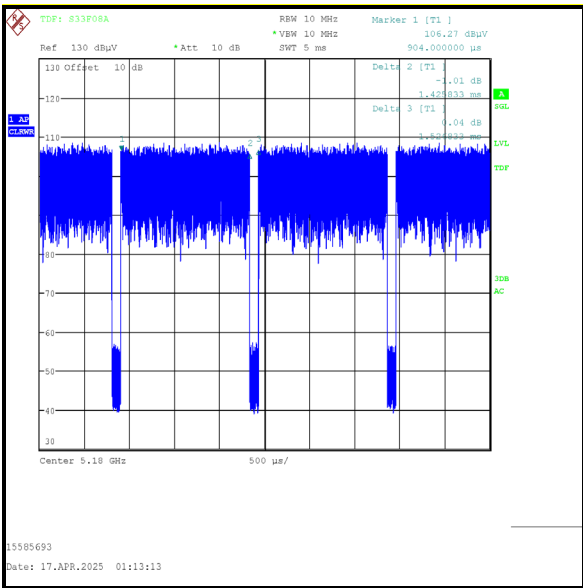
Note(s):

1. In order to assist with the determination of the average level of fundamental and spurious emissions field strength, measurements were made of duty cycle to determine the transmission duration and the silent period time of the transmitter. The transmitter duty cycle was measured using a spectrum analyser in the time domain and calculated by using the following calculation:

$$10 \log (1 / (On \; Time / [Period \; or \; 100 \; ms \; whichever \; is \; the \; lesser]))).$$

Results: 802.11a / 20 MHz / SISO / 6 Mbps / Ant 1

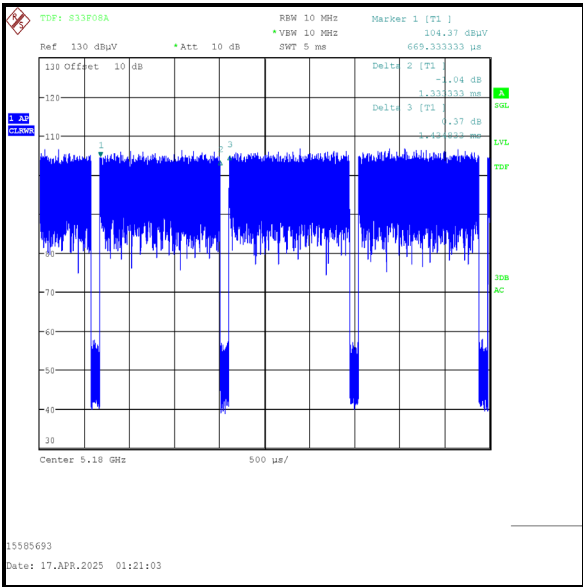
Pulse Duration (ms)	Period (ms)	Duty Cycle (dB)
1.426	1.527	0.3



Transmitter Duty Cycle (continued)

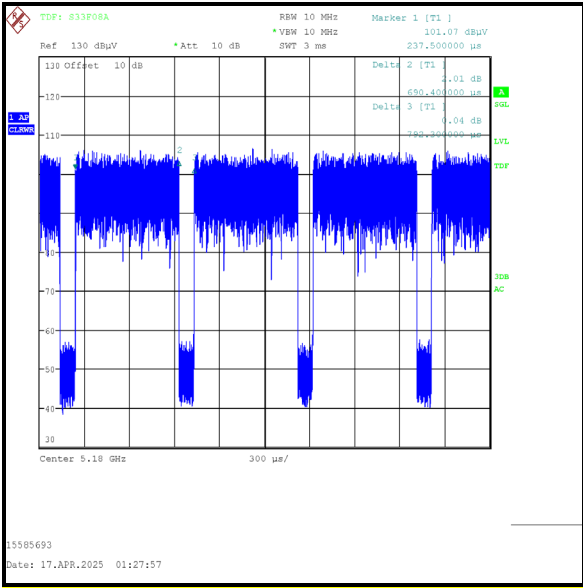
Results: 802.11n / HT20 / SISO / MCS0 / Ant 1

Pulse Duration (ms)	Period (ms)	Duty Cycle (dB)
1.333	1.435	0.3



Results: 802.11n / HT20 / MIMO / MCS8

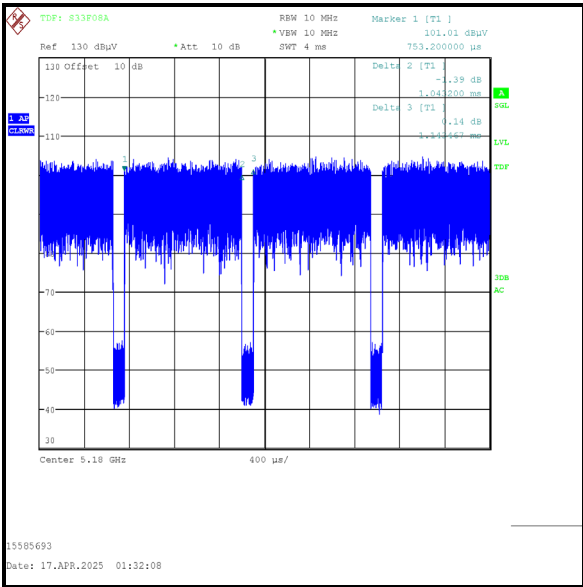
Pulse Duration (ms)	Period (ms)	Duty Cycle (dB)
0.690	0.792	0.6



Transmitter Duty Cycle (continued)

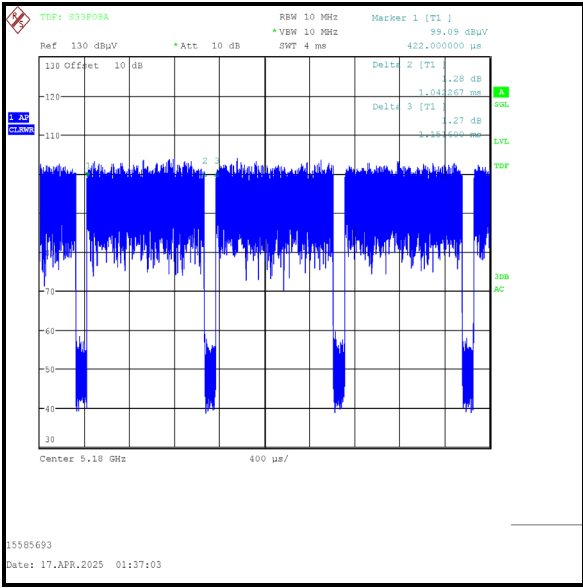
Results: 802.11ax / HE20 / SISO / MCS0x1 / Ant 1

Pulse Duration (ms)	Period (ms)	Duty Cycle (dB)
1.043	1.143	0.4



Results: 802.11ax / HE20 / MIMO / MCS0x1

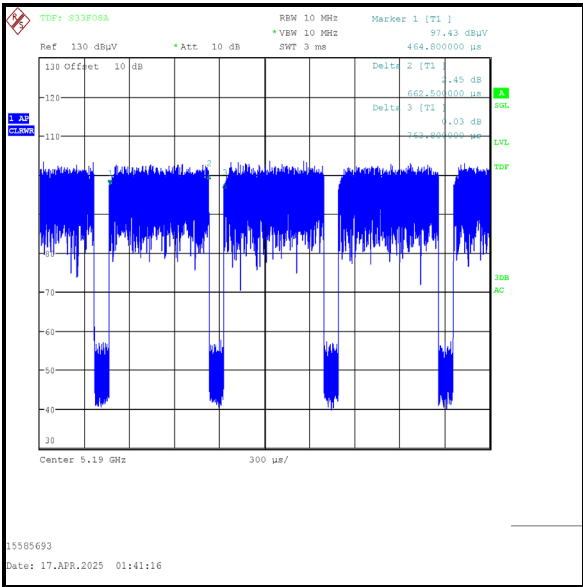
Pulse Duration (ms)	Period (ms)	Duty Cycle (dB)
1.042	1.152	0.4



Transmitter Duty Cycle (continued)

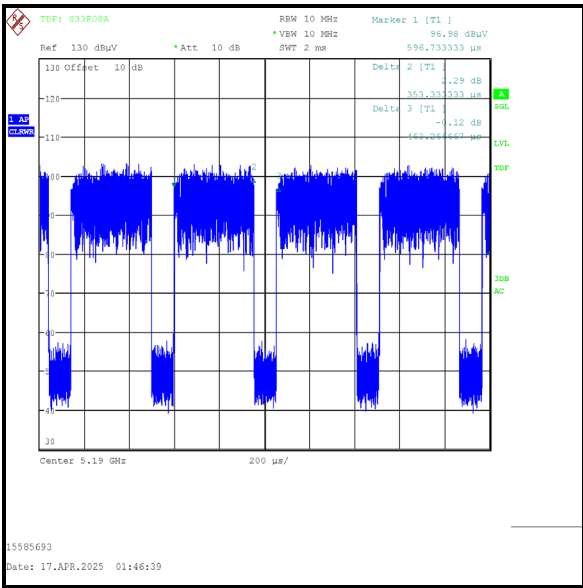
Results: 802.11n / HT40 / SISO / MCS0 / Ant 1

Pulse Duration (ms)	Period (ms)	Duty Cycle (dB)
0.663	0.764	0.6



Results: 802.11n / HT40 / MIMO / MCS8

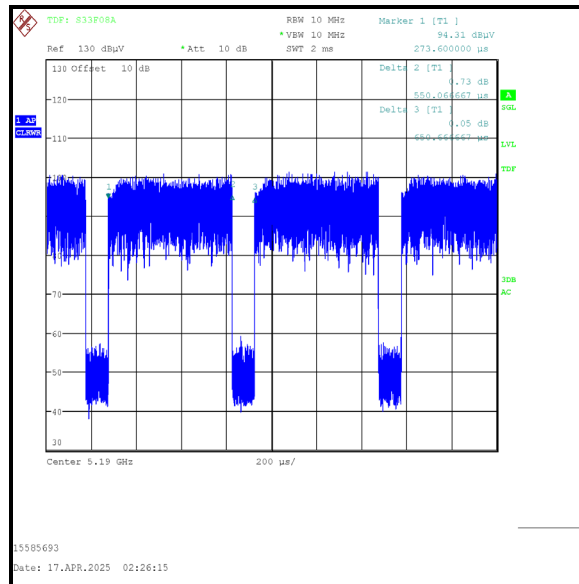
Pulse Duration (ms)	Period (ms)	Duty Cycle (dB)
0.353	0.463	1.2



Transmitter Duty Cycle (continued)

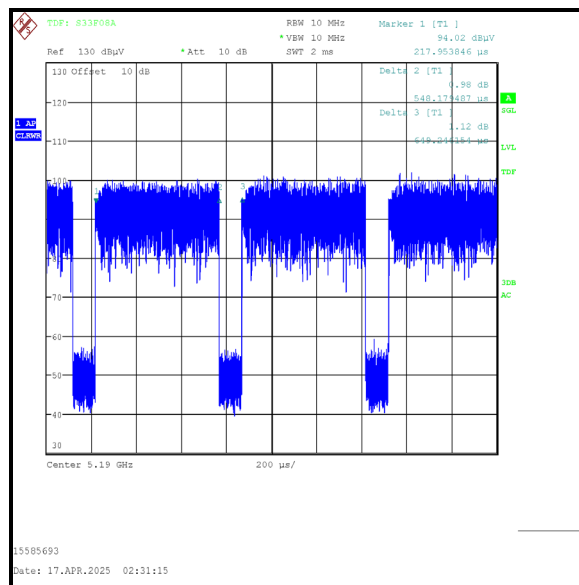
Results: 802.11ax / HE40 / SISO / MCS0x1 / Ant 1

Pulse Duration (ms)	Period (ms)	Duty Cycle (dB)
0.550	0.651	0.7



Results: 802.11ax / HE40 / MIMO / MCS0x1

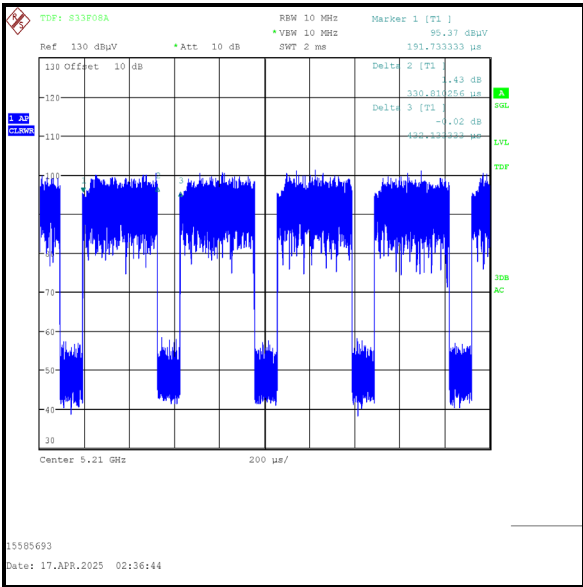
Pulse Duration (ms)	Period (ms)	Duty Cycle (dB)
0.548	0.649	0.7



Transmitter Duty Cycle (continued)

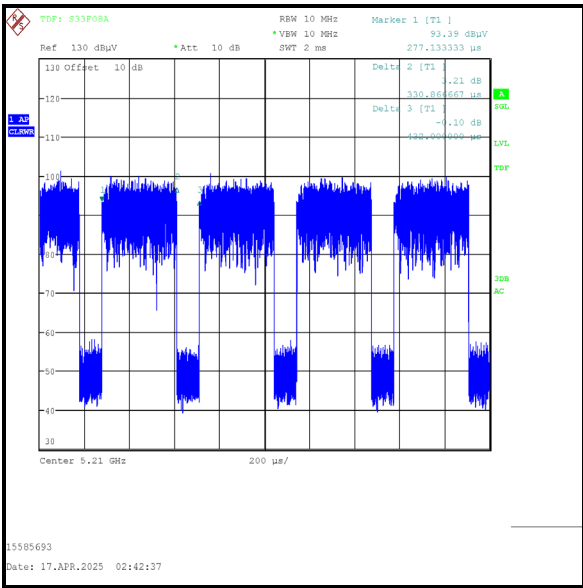
Results: 802.11ac / VHT80 / SISO / MCS0x1 / Ant 1

Pulse Duration (ms)	Period (ms)	Duty Cycle (dB)
0.331	0.432	1.2



Results: 802.11ac / VHT80 / MIMO / MCS0x1

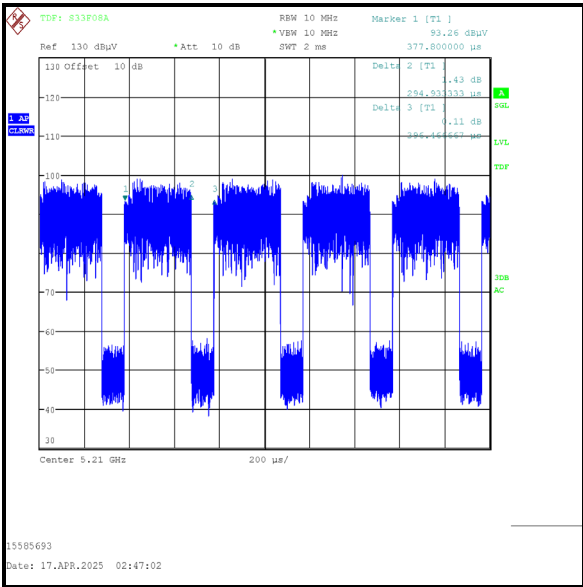
Pulse Duration (ms)	Period (ms)	Duty Cycle (dB)
0.331	0.432	1.2



Transmitter Duty Cycle (continued)

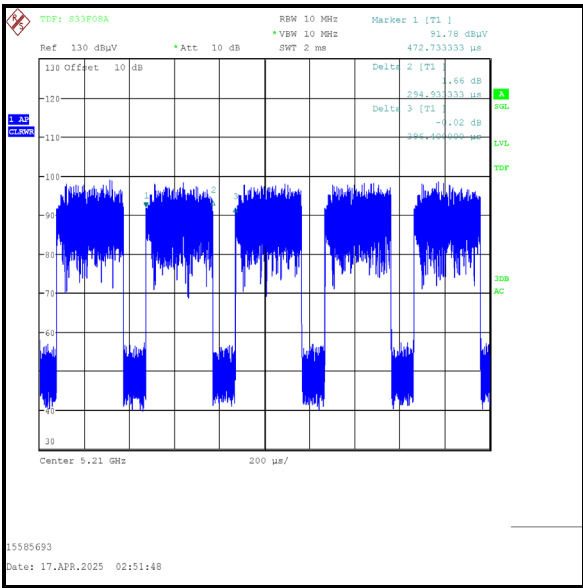
Results: 802.11ax / HE80 / SISO / MCS0x1 / Ant 1

Pulse Duration (ms)	Period (ms)	Duty Cycle (dB)
0.295	0.396	1.3



Results: 802.11ax / HE80 / MIMO / MCS0x1

Pulse Duration (ms)	Period (ms)	Duty Cycle (dB)
0.295	0.396	1.3



4.2 Transmitter Out of Band Radiated Emissions <1 GHz**Test Summary:**

Test Engineers:	John Ferdinand & Nick Steele	Test Dates:	22 April 2025 & 23 April 2025
Test Sample Serial Number:	FOC2845HUBH		

FCC Reference:	Parts 15.407(b)(2)(9)(10) & 15.209(a)
ISED Canada Reference:	RSS-247 6.2.2.2 / RSS-Gen 6.13 & 8.9
Test Method Used:	KDB 789033 II.G. & ANSI C63.10 Sections 6.3, 6.4 and 6.5
Frequency Range	9 kHz to 1000 MHz

Environmental Conditions:

Temperature (°C):	20
Relative Humidity (%):	38 to 39

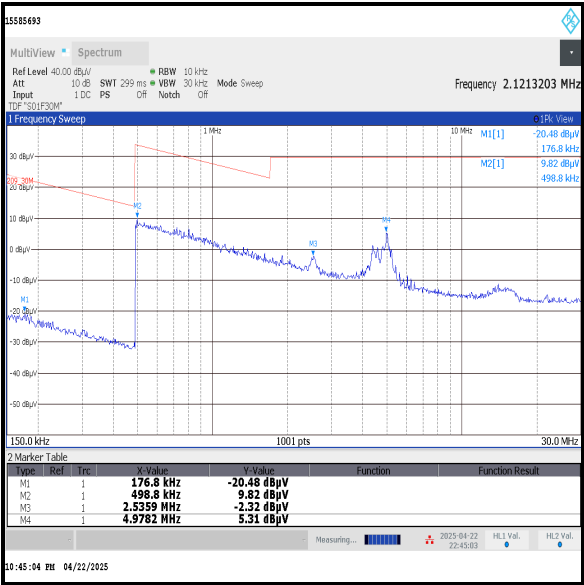
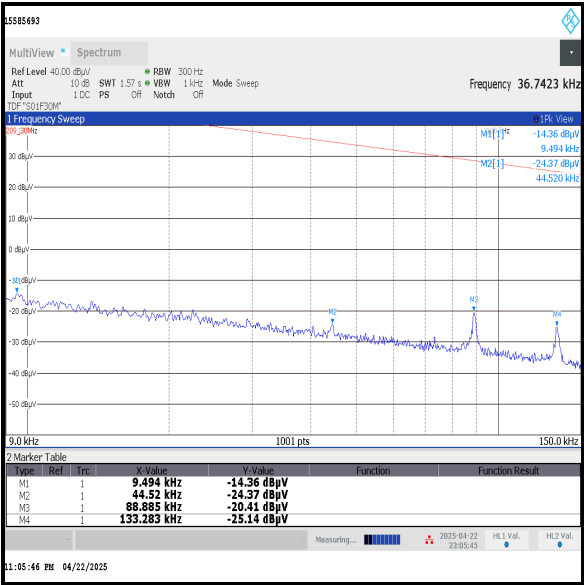
Transmitter Out of Band Radiated Emissions (continued)**Note(s):**

1. The final measured value, for the given emission, in the table below incorporates the calibrated antenna factor and cable loss.
2. Filters and/or attenuators were used as appropriate. The insertion loss was added to the test receiver as a reference level offset.
3. The preliminary scans showed similar emission levels below 1 GHz, for each channel of operation and each radio technology. Therefore final radiated emissions measurements were performed with the EUT set to 2.4 GHz WLAN middle channel only.
4. All other emissions were > 20 dB below the appropriate limit or below the noise floor of the measurement system.
5. Measurements below 30 MHz were performed in a semi-anechoic chamber (Asset Number K0001) at a distance of 3 metres. The EUT was placed at a height of 80 cm above the reference ground plane in the centre of the chamber turntable. As allowed by ANSI C63.10 clause 5.2; an alternative test site that can demonstrate equivalence to an open area test site may be used for measurements below 30 MHz. Therefore, measurements were performed in a semi-anechoic chamber. The correlation data between semi-anechoic chamber and an open field test site is available upon request.
6. The measured values at 3 metres were extrapolated to the required measurement distances of 300 metres and 30 metres and compared to the specified limits at those distances:
 - 9 kHz to 490 kHz: measured value extrapolated from 3 metres to 300 metres by subtracting 80 dB at 40 dB / decade
 - 490 kHz to 30 MHz: measured value extrapolated from 3 metres to 30 metres by subtracting 40 dB at 40 dB / decade
7. The limits in CFR 47, Part 15, Subpart C, paragraph 15.209 (a), are identical to those in RSS-GEN Section 8.9, Table 6, since the measurements are performed in terms of magnetic field strength and converted to electric field strength levels (as reported in the table) using the free space impedance of 377Ω. For example, the measurement frequency X kHz resulted in a level of Y dBuV/m, which is equivalent to $Y - 51.5 = Z$ dBuA/m, which has the same margin, W dB, to the corresponding RSS-GEN Table 6 limit as it has to the 15.209(a) limit.
8. Measurements from 30 MHz to 1 GHz were performed in a semi-anechoic chamber (Asset Number K0001) at a distance of 3 metres. 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 metre to 4 metres.
9. Pre-scans were performed and markers placed on the highest measured levels. The test receiver was configured as follows: For 9 kHz to 150 kHz, the resolution bandwidth was set to 300 Hz and video bandwidth 1 kHz. A peak detector was used and trace mode was Max Hold. For 150 kHz to 30 MHz, the resolution bandwidth was set to 10 kHz and video bandwidth 30 kHz, trace mode was Max Hold. For 30 MHz to 1 GHz, the resolution bandwidth was set to 120 kHz and video bandwidth 500 kHz. A peak detector was used, sweep time was set to auto and trace mode was Max Hold.
10. Final measurements were performed on the marker frequencies and the results entered into the table below. The test receiver resolution bandwidth was set to 120 kHz, using a CISPR quasi-peak detector and measurement time set to 15 seconds.

Transmitter Out of Band Radiated Emissions (continued)

Results: Quasi-Peak / Channel 56 / 802.11a / 6 Mbps

Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
37.522	Vertical	39.0	40.0	1.0	Complied
127.570	Horizontal	35.7	43.5	7.8	Complied
162.032	Horizontal	42.7	43.5	0.8	Complied
168.808	Horizontal	37.3	43.5	6.2	Complied
240.875	Horizontal	38.2	46.0	7.8	Complied
270.004	Horizontal	34.8	46.0	11.2	Complied



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

4.3 Transmitter Out of Band Radiated Emissions >1 GHz**4.3.1 5.15-5.25 GHz band (U-NII-1)****Transmitter Out of Band Radiated Emissions (U-NII-1)****Test Summary:**

Test Engineer:	Nick Steele	Test Dates:	28 March 2025 to 25 April 2025
Test Sample Serial Number:	FOC2845HUBH		

FCC Reference:	Part 15.407(b)(1),(10) & 15.209(a)
ISED Canada Reference:	RSS-247 6.2.1.2 / RSS-Gen 6.13 & 8.9
Test Method Used:	KDB 789033 II.G. & ANSI C63.10 Sections 6.3 and 6.6
Frequency Range	1 GHz to 40 GHz

Environmental Conditions:

Temperature (°C):	22
Relative Humidity (%):	35 to 40

Transmitter Out of Band Radiated Emissions (U-NII-1) (continued)**Note(s):**

1. FCC Part 15.407(b)(1) states for transmitters operating in the band 5.15 to 5.25 GHz: all emissions outside of the 5.15 to 5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz. Part(b)(10) states the provisions of 15.205 apply e.g. restricted bands of operation.
2. RSS-247 6.2.1.2 states for transmitters operating in the band 5150-5250 MHz: all emissions outside the band 5150 to 5350 MHz shall not exceed -27 dBm/MHz e.i.r.p. Any unwanted emissions that fall into the band 5250 to 5350 MHz shall be attenuated below the channel power by at least 26 dB, when measured using a resolution bandwidth between 1 and 5% of the occupied channel (99%), above 5250 MHz. RSS-Gen Section 8.9 states the limits for restricted bands of operation.
3. Pre-scans were performed with the EUT transmitting in the band 5.25 to 5.35 GHz band with a data rate of 802.11a / 6 Mbps on middle channel in this band as it produced the highest power spectral density and was therefore deemed worst case. An inquiry was made to the FCC and the response was pre-scans could be performed in the band with the highest power spectral density and all final measurements should be performed on any emissions seen in each band.
4. The final measured value, for the given emission, in the table below incorporates the calibrated antenna factor and cable loss.
5. All other emissions shown on the pre-scans were investigated and found to be ambient, or > 20 dB below the appropriate limit or below the noise floor of the measurement system.
6. Appropriate RF filters and attenuators were used during pre-scans and final measurements. Insertion losses were entered on the spectrum analyser as RF level offsets.
7. In accordance with KDB 789033 Section II.G.1.c) if the peak measurement is below the average limit, it is not necessary to perform a separate average measurement.
8. Measurements above 1 GHz were performed in a fully anechoic chamber (Asset Number K0001) at a distance of 3 metres. 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 metre to 4 metres.
9. Measurements were performed across the two restricted bands closest to the bands of operation with the EUT transmitting on the bottom channel in the 5.15 to 5.25 GHz band and top channel 5.25 to 5.35 GHz range. Plots are included in the 5.25 GHz to 5.35 GHz section of the test report. Peak and average measurements were made.

Results: Bottom Channel / Field Strength

Frequency (MHz)	Antenna Polarity	Peak Level (dB μ V/m)	Average Limit (dB μ V/m)	Margin (dB)	Result
1023.030	Horizontal	53.4	54.0	0.6	Complied

Results: Middle Channel / Field Strength

Frequency (MHz)	Antenna Polarity	Peak Level (dB μ V/m)	Average Limit (dB μ V/m)	Margin (dB)	Result
1023.030	Horizontal	53.4	54.0	0.6	Complied

Results: Top Channel / Field Strength

Frequency (MHz)	Antenna Polarity	Peak Level (dB μ V/m)	Average Limit (dB μ V/m)	Margin (dB)	Result
1023.030	Horizontal	53.4	54.0	0.6	Complied

4.3.2 5.25-5.35 GHz band (U-NII-2A)**Transmitter Out of Band Radiated Emissions (U-NII-2A)****Test Summary:**

Test Engineer:	Nick Steele	Test Dates:	28 March 2025 to 25 April 2025
Test Sample Serial Number:	FOC2845HUBH		

FCC Reference:	Part 15.407(b)(2),(10) & 15.209(a)
ISED Canada Reference:	RSS-247 6.2.2.2 / RSS-Gen 6.13 & 8.9
Test Method Used:	KDB 789033 II.G. & ANSI C63.10 Sections 6.3 and 6.6
Frequency Range	1 GHz to 40 GHz

Environmental Conditions:

Temperature (°C):	22
Relative Humidity (%):	35 to 40

Note(s):

1. FCC Part 15.407(b)(2) states for transmitters operating in the band 5.25 to 5.35 GHz: all emissions outside of the 5.15 to 5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz. Part(b)(10) states the provisions of 15.205 apply e.g. restricted bands of operation.
2. RSS-247 6.2.2.2 states: all emissions outside the band 5250 to 5350 MHz band shall not exceed -27 dBm/MHz e.i.r.p. RSS-Gen Section 8.9 states the limits for restricted bands of operation.
3. Pre-scans were performed with the EUT transmitting in this band with a data rate of 802.11a / 6 Mbps on middle channel in this band as it produced the highest power spectral density and was therefore deemed worst case. An inquiry was made to the FCC and the response was pre-scans could be performed in the band with the highest power spectral density and all final measurements should be performed on any emissions seen in each band.
4. The final measured value, for the given emission, in the table below incorporates the calibrated antenna factor and cable loss.
5. All other emissions shown on the pre-scans were investigated and found to be ambient, or > 20 dB below the appropriate limit or below the noise floor of the measurement system.
6. The emission shown on the 1 GHz to 6 GHz plot is the EUT fundamental.
7. Appropriate RF filters and attenuators were used during pre-scans and final measurements. Insertion losses were entered on the spectrum analyser as RF level offsets.
8. In accordance with KDB 789033 Section II.G.1.c) if the peak measurement is below the average limit, it is not necessary to perform a separate average measurement.
9. Measurements above 1 GHz were performed in a fully anechoic chamber (Asset Number K0001) at a distance of 3 metres. 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 metre to 4 metres.
10. Measurements were performed across the two restricted bands closest to the bands of operation with the EUT transmitting on the bottom channel in the 5.15 to 5.25 GHz band and top channel 5.25 to 5.35 GHz range. Plots are included in this section of the test report. Peak and average measurements were made.

Transmitter Out of Band Radiated Emissions (U-NII-2A) (continued)**Results: Bottom Channel / Field Strength**

Frequency (MHz)	Antenna Polarity	Peak Level (dB μ V/m)	Average Limit (dB μ V/m)	Margin (dB)	Result
1023.030	Horizontal	53.4	54.0	0.6	Complied

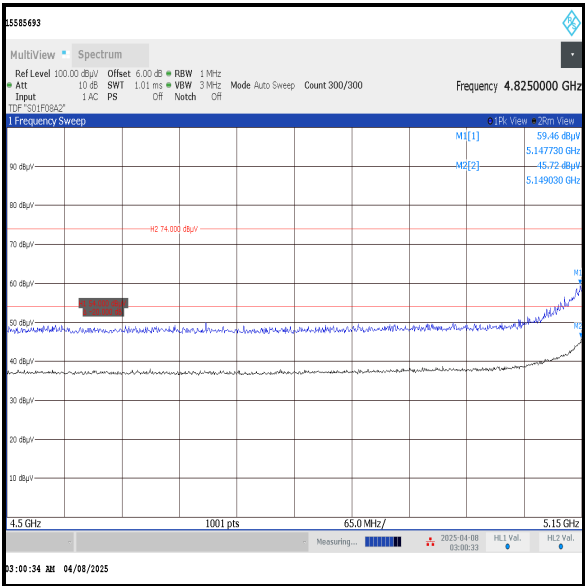
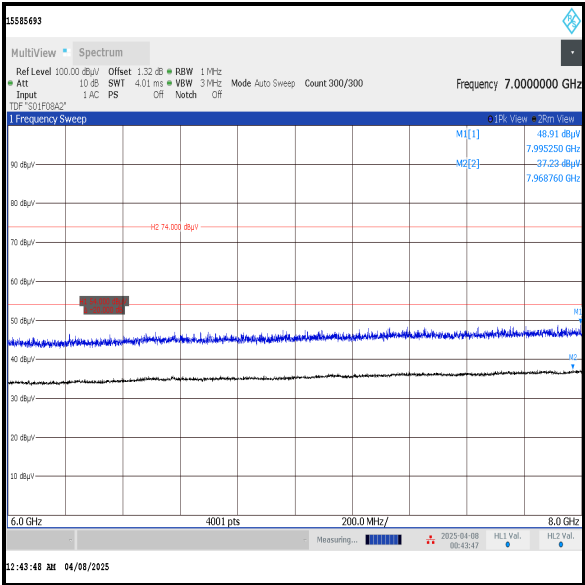
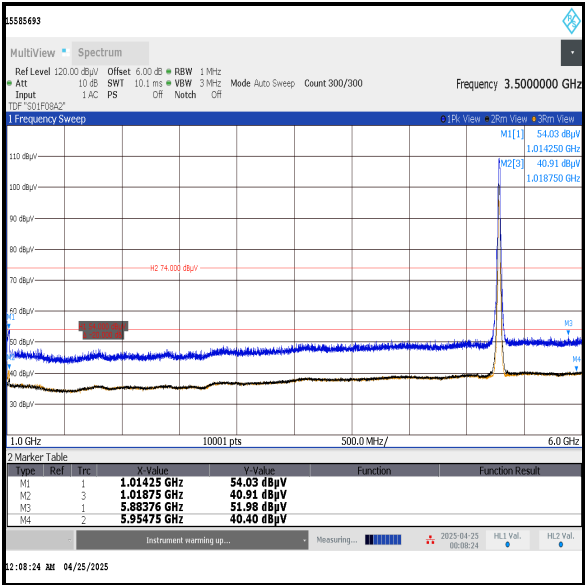
Results: Middle Channel / Field Strength

Frequency (MHz)	Antenna Polarity	Peak Level (dB μ V/m)	Average Limit (dB μ V/m)	Margin (dB)	Result
1023.030	Horizontal	53.4	54.0	0.6	Complied

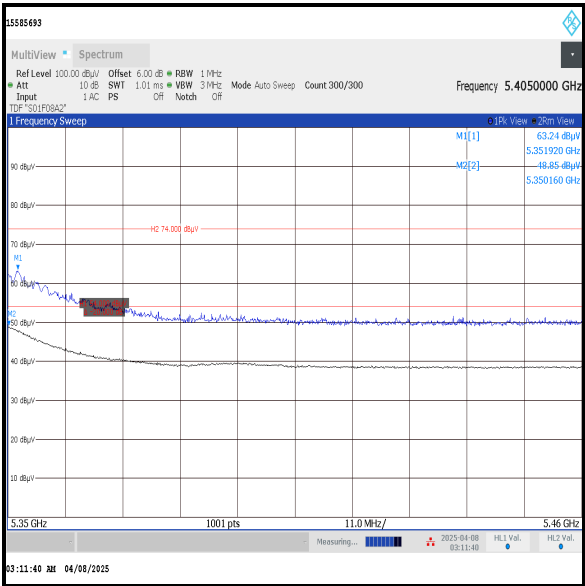
Results: Top Channel / Field Strength

Frequency (MHz)	Antenna Polarity	Peak Level (dB μ V/m)	Average Limit (dB μ V/m)	Margin (dB)	Result
1023.030	Horizontal	53.4	54.0	0.6	Complied

Transmitter Out of Band Radiated Emissions (U-NII-2A) (continued)

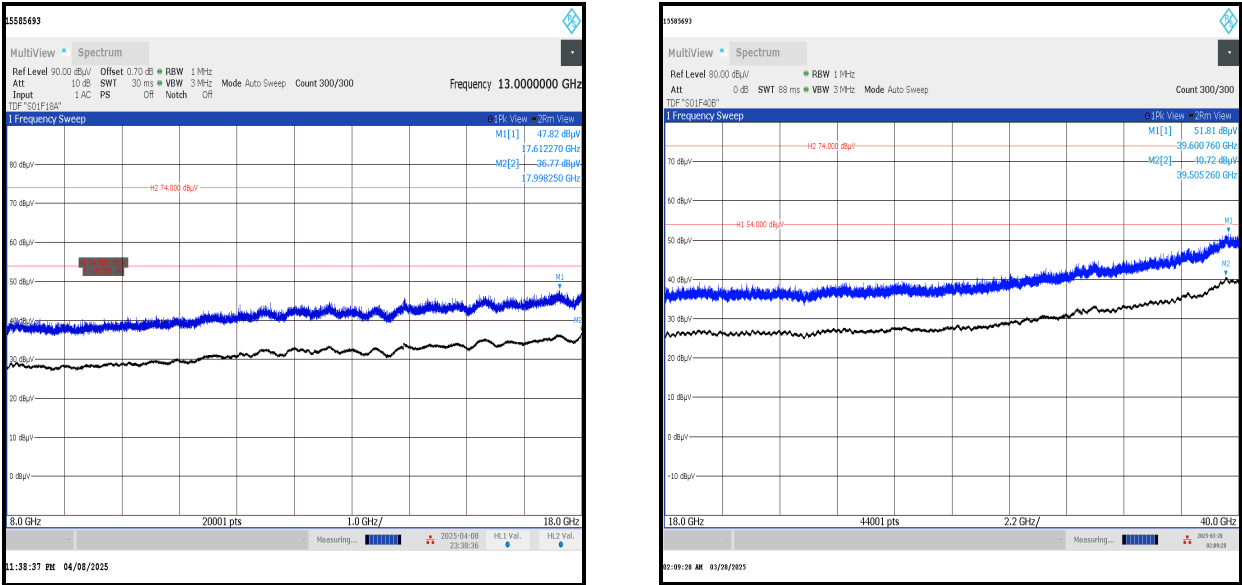


Restricted Band 4.5 GHz to 5.15 GHz



Restricted Band 5.35 GHz to 5.46 GHz

Transmitter Out of Band Radiated Emissions (U-NII-2A) (continued)



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

4.3.3 5.47-5.725 GHz band (U-NII-2C)**Transmitter Out of Band Radiated Emissions (U-NII-2C)****Test Summary:**

Test Engineer:	Nick Steele	Test Dates:	28 March 2025 to 25 April 2025
Test Sample Serial Number:	FOC2845HUBH		

FCC Reference:	Part 15.407(b)(3),(10) & 15.209(a)
ISED Canada Reference:	RSS-247 6.2.3.2 / RSS-Gen 6.13 & 8.9
Test Method Used:	KDB 789033 II.G. & ANSI C63.10 Sections 6.3 and 6.6
Frequency Range	1 GHz to 40 GHz

Environmental Conditions:

Temperature (°C):	22
Relative Humidity (%):	35 to 40

Note(s):

1. FCC Part 15.407(b)(3) states for transmitters operating in the band 5.47 to 5.725 GHz: all emissions outside of the 5.47 to 5.725 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz. Part(b)(10) states the provisions of 15.205 apply e.g. restricted bands of operation.
2. RSS-247 6.2.3.2 states: emissions outside the band 5470 to 5725 MHz band shall not exceed -27 dBm/MHz e.i.r.p. However, devices with bandwidth overlapping the band edge of 5725 MHz can meet the emission limit of -27 dBm/MHz e.i.r.p. at 5850 MHz instead of 5725 MHz. RSS-Gen Section 8.9 states the limits for restricted bands of operation.
3. Pre-scans were performed with the EUT transmitting in the band 5.25 to 5.35 GHz band with a data rate of 802.11a / 6 Mbps on middle channel in this band as it produced the highest power spectral density and was therefore deemed worst case. An inquiry was made to the FCC and the response was pre-scans could be performed in the band with the highest power spectral density and all final measurements should be performed on any emissions seen in each band.
4. The final measured value, for the given emission, in the table below incorporates the calibrated antenna factor and cable loss.
5. All other emissions shown on the pre-scans were investigated and found to be ambient, or > 20 dB below the appropriate limit or below the noise floor of the measurement system.
6. Appropriate RF filters and attenuators were used during pre-scans and final measurements. Insertion losses were entered on the spectrum analyser as RF level offsets.
7. In accordance with KDB 789033 Section II.G.1.c) if the peak measurement is below the average limit, it is not necessary to perform a separate average measurement.
8. Measurements above 1 GHz were performed in a fully anechoic chamber (Asset Number K0001) at a distance of 3 metres. 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 metre to 4 metres.

Transmitter Out of Band Radiated Emissions (U-NII-2C) (continued)**Results: Bottom Channel / Field Strength**

Frequency (MHz)	Antenna Polarity	Peak Level (dB μ V/m)	Average Limit (dB μ V/m)	Margin (dB)	Result
1023.030	Horizontal	53.4	54.0	0.6	Complied

Results: Middle Channel / Field Strength

Frequency (MHz)	Antenna Polarity	Peak Level (dB μ V/m)	Average Limit (dB μ V/m)	Margin (dB)	Result
1023.030	Horizontal	53.4	54.0	0.6	Complied

Results: Top Channel / Field Strength

Frequency (MHz)	Antenna Polarity	Peak Level (dB μ V/m)	Average Limit (dB μ V/m)	Margin (dB)	Result
1023.030	Horizontal	53.4	54.0	0.6	Complied

4.3.4 5.725-5.85 GHz band (U-NII-3)**Transmitter Out of Band Radiated Emissions (U-NII-3)****Test Summary:**

Test Engineer:	Nick Steele	Test Dates:	28 March 2025 to 25 April 2025
Test Sample Serial Number:	FOC2845HUBH		

FCC Reference:	Part 15.407(b)(4)(i),(10) & 15.209(a)
ISED Canada Reference:	RSS-247 6.2.4.3 / RSS-Gen 6.13 & 8.9
Test Method Used:	KDB 789033 II.G. & ANSI C63.10 Sections 6.3 and 6.6
Frequency Range	1 GHz to 40 GHz

Environmental Conditions:

Temperature (°C):	22
Relative Humidity (%):	35 to 40

Transmitter Out of Band Radiated Emissions (U-NII-3) (continued)**Note(s):**

1. FCC Part 15.407(b)(4)(i) states for transmitters operating in the band 5.725 to 5.85 GHz: 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. Part(b)(10) states the provisions of 15.205 apply e.g. restricted bands of operation.
2. RSS-247 6.2.4.3 states: emissions outside the band 5725 to 5850 MHz band shall comply with the following e.i.r.p. spectral density limits: a. 27 dBm/MHz at frequencies from the band edges decreasing linearly to 15.6 dBm/MHz at 5 MHz above or below the band edges, b. 15.6 dBm/MHz at 5 MHz above or below the band edges decreasing linearly to 10 dBm/MHz at 25 MHz above or below the band edges, c. 10 dBm/MHz at 25 MHz above or below the band edges decreasing linearly to -27 dBm/MHz at 75 MHz or more above or below the band edges and -27 dBm/MHz at frequencies more than 75 MHz above or below the band edges. RSS-Gen Section 8.9 states the limits for restricted bands of operation.
3. Pre-scans were performed with the EUT transmitting in the band 5.25 to 5.35 GHz band with a data rate of 802.11a / 6 Mbps on middle channel in this band as it produced the highest power spectral density and was therefore deemed worst case. An inquiry was made to the FCC and the response was pre-scans could be performed in the band with the highest power spectral density and all final measurements should be performed on any emissions seen in each band.
4. The final measured value, for the given emission, in the table below incorporates the calibrated antenna factor and cable loss.
5. All other emissions shown on the pre-scans were investigated and found to be ambient, or > 20 dB below the appropriate limit or below the noise floor of the measurement system.
6. Appropriate RF filters and attenuators were used during pre-scans and final measurements. Insertion losses were entered on the spectrum analyser as RF level offsets.
7. In accordance with KDB 789033 Section II.G.1.c) if the peak measurement is below the average limit, it is not necessary to perform a separate average measurement.
8. Measurements above 1 GHz were performed in a fully anechoic chamber (Asset Number K0001) at a distance of 3 metres. 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 metre to 4 metres.

Results: Bottom Channel / Field Strength

Frequency (MHz)	Antenna Polarity	Peak Level (dB μ V/m)	Average Limit (dB μ V/m)	Margin (dB)	Result
1023.030	Horizontal	53.4	54.0	0.6	Complied

Results: Middle Channel / Field Strength

Frequency (MHz)	Antenna Polarity	Peak Level (dB μ V/m)	Average Limit (dB μ V/m)	Margin (dB)	Result
1023.030	Horizontal	53.4	54.0	0.6	Complied

Results: Top Channel / Field Strength

Frequency (MHz)	Antenna Polarity	Peak Level (dB μ V/m)	Average Limit (dB μ V/m)	Margin (dB)	Result
1023.030	Horizontal	53.4	54.0	0.6	Complied

4.4 Transmitter Band Edge Radiated Emissions

4.4.1 5.15-5.25 GHz band (U-NII-1)

Test Summary:

Test Engineers:	John Ferdinand & Nick Steele	Test Dates:	15 April 2025 & 16 April 2025
Test Sample Serial Number:	FOC2845HUBH		

FCC Reference:	Part 15.407(b)(1),(10), 15.205 & 15.209(a)
ISED Canada Reference:	RSS-247 6.2.1.2 / RSS-Gen 6.13, 8.9 & 8.10
Test Method Used:	ANSI C63.10 Section 6.10 & KDB 789033 II.G.

Environmental Conditions:

Temperature (°C):	20 to 21
Relative Humidity (%):	39 to 40

Note(s):

1. 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 / RSS-Gen 8.10 apply. Tests were performed for these restricted bands of operation with the results included in the 5.25-5.325 GHz band radiated spurious emissions section of this test report.
2. Field strength measurements using peak and average detectors were performed in the restricted bands below 5.15 GHz and above 5.35 GHz. Field strength and EIRP results were found to be compliant with the restricted band limits and Part 15.407 / RSS-247 out-of-band limits.
3. For all average measurements in this section, 300 sweeps were used. This satisfies the requirement for the minimum number of sweeps, as stated in KDB 789033 Section II.G.6.c) Method AD (vi).
4. In accordance with KDB 789033 Section II.G.6.c) Method AD (vii), for average measurements, data rates where the EUT was transmitting < 98% duty cycle, the duty cycle correction factor calculated in section 4.1 was added to the measured result.
5. Filters and/or attenuators were used as appropriate. The insertion loss was added to the test receiver as a reference level offset.

Transmitter Band Edge Radiated Emissions (U-NII-1) (continued)

Results: 802.11a / 20 MHz / SISO / 6 Mbps / Ant 1

Results: Lower Band Edge / Channel 36 / Peak

Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5146.800	55.2	74.0	18.8	Complied
5150	53.7	74.0	20.3	Complied

Results: Lower Band Edge / Channel 36 / Average

Frequency (MHz)	Level (dBμV/m)	Duty Cycle correction (dB)	Corrected Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5150	43.3	0.3	43.6	54.0	10.4	Complied

Results: Lower Band Edge / Channel 44 / Peak

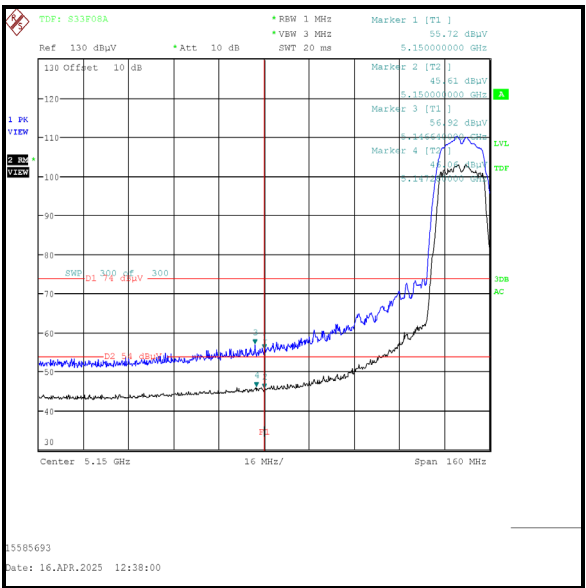
Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5146.640	56.9	74.0	17.1	Complied
5150	55.7	74.0	18.3	Complied

Results: Lower Band Edge / Channel 44 / Average

Frequency (MHz)	Level (dBμV/m)	Duty Cycle correction (dB)	Corrected Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5147.280	46.1	0.3	46.4	54.0	7.6	Complied
5150	45.6	0.3	45.9	54.0	8.1	Complied



Lower Band Edge / Channel 36



Lower Band Edge / Channel 44

Transmitter Band Edge Radiated Emissions (U-NII-1) (continued)

Results: 802.11n / 20 MHz / SISO / MCS0 / Ant 1

Results: Lower Band Edge / Channel 36 / Peak

Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5147.920	54.3	74.0	19.7	Complied
5150	53.1	74.0	20.9	Complied

Results: Lower Band Edge / Channel 36 / Average

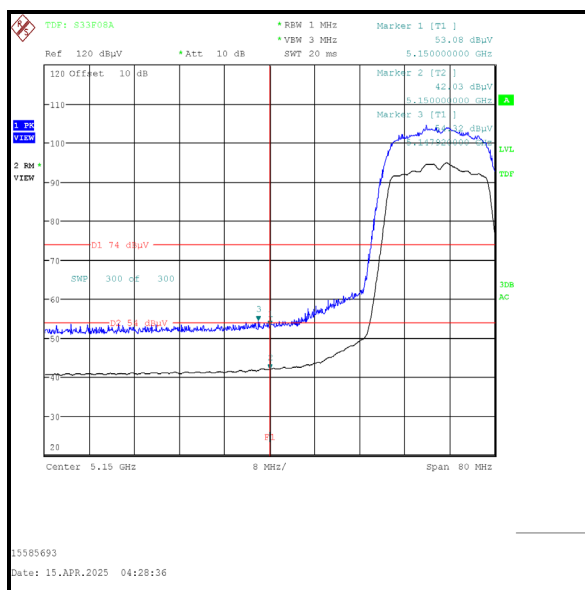
Frequency (MHz)	Level (dBμV/m)	Duty Cycle correction (dB)	Corrected Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5150	42.0	0.3	42.3	54.0	11.7	Complied

Results: Lower Band Edge / Channel 44 / Peak

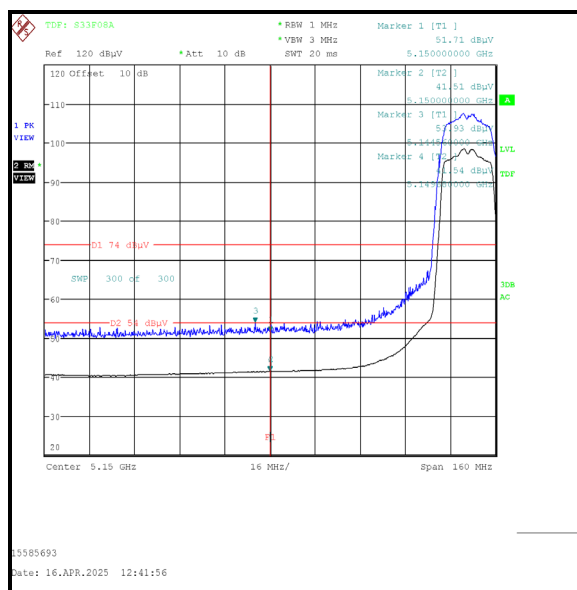
Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5144.560	53.9	74.0	20.1	Complied
5150	51.7	74.0	22.3	Complied

Results: Lower Band Edge / Channel 44 / Average

Frequency (MHz)	Level (dBμV/m)	Duty Cycle correction (dB)	Corrected Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5150	41.5	0.3	41.8	54.0	12.2	Complied



Lower Band Edge / Channel 36



Lower Band Edge / Channel 44

Transmitter Band Edge Radiated Emissions (U-NII-1) (continued)

Results: 802.11n / 40 MHz / SISO / MCS0 / Ant 1

Results: Lower Band Edge / Channel 38 / Peak

Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5148.680	54.8	74.0	19.2	Complied
5150	54.2	74.0	19.8	Complied

Results: Lower Band Edge / Channel 38 / Average

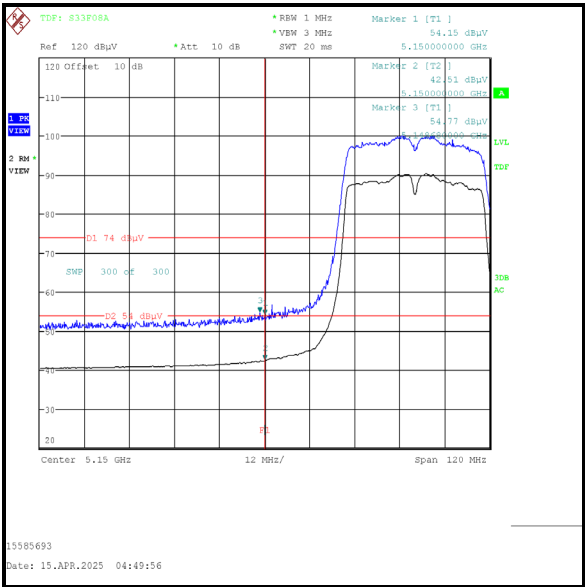
Frequency (MHz)	Level (dBμV/m)	Duty Cycle correction (dB)	Corrected Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5150	42.5	0.6	43.1	54.0	10.9	Complied

Results: Lower Band Edge / Channel 46 / Peak

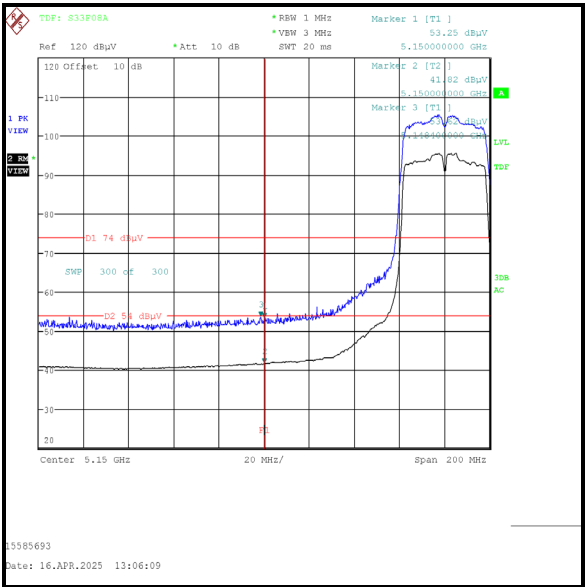
Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5148.400	53.6	74.0	20.4	Complied
5150	53.3	74.0	20.7	Complied

Results: Lower Band Edge / Channel 46 / Average

Frequency (MHz)	Level (dBμV/m)	Duty Cycle correction (dB)	Corrected Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5150	41.8	0.6	42.4	54.0	11.6	Complied



Lower Band Edge / Channel 38



Lower Band Edge / Channel 46

Transmitter Band Edge Radiated Emissions (U-NII-1) (continued)

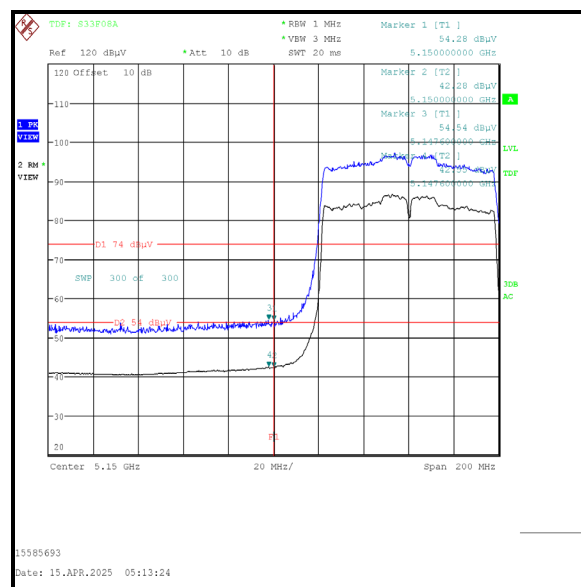
Results: 802.11ac / 80 MHz / SISO / MCS0x1 / Ant 1

Results: Lower Band Edge / Channel 42 / Peak

Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5147.600	54.5	74.0	19.5	Complied
5150	54.3	74.0	19.7	Complied

Results: Lower Band Edge / Channel 42 / Average

Frequency (MHz)	Level (dBμV/m)	Duty Cycle correction (dB)	Corrected Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5147.600	42.6	1.2	43.8	54.0	10.2	Complied
5150	42.3	1.2	43.5	54.0	10.5	Complied



Lower Band Edge / Channel 42

Transmitter Band Edge Radiated Emissions (U-NII-1) (continued)

Results: 802.11ax / 20 MHz / SISO / MCS0x1 / Ant 1

Results: Lower Band Edge / Channel 36 / Peak

Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5141.520	53.7	74.0	20.4	Complied
5150	52.4	74.0	21.6	Complied

Results: Lower Band Edge / Channel 36 / Average

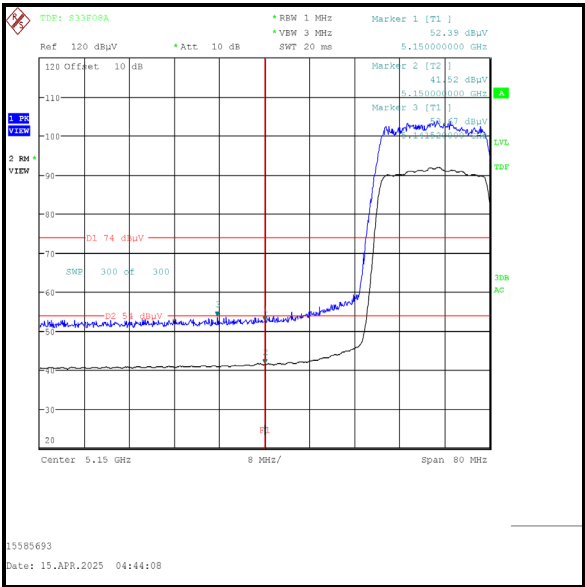
Frequency (MHz)	Level (dBμV/m)	Duty Cycle correction (dB)	Corrected Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5150	41.5	0.4	41.9	54.0	12.1	Complied

Results: Lower Band Edge / Channel 44 / Peak

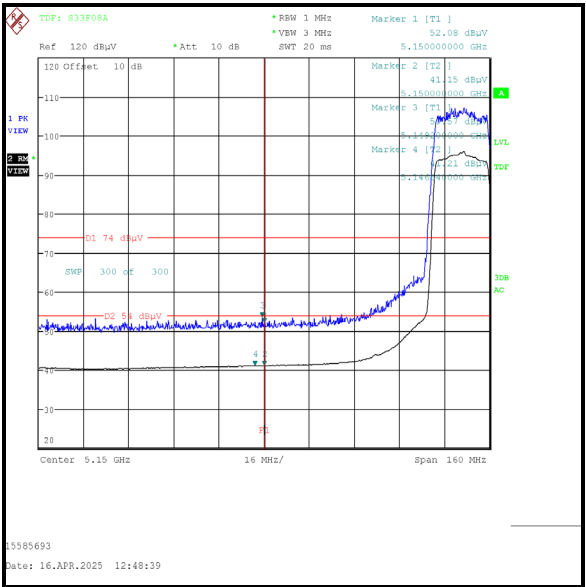
Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5149.200	53.6	74.0	20.4	Complied
5150	52.1	74.0	21.9	Complied

Results: Lower Band Edge / Channel 44 / Average

Frequency (MHz)	Level (dBμV/m)	Duty Cycle correction (dB)	Corrected Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5150	41.2	0.4	41.6	54.0	12.4	Complied



Lower Band Edge / Channel 36



Lower Band Edge / Channel 44

Transmitter Band Edge Radiated Emissions (U-NII-1) (continued)

Results: 802.11ax / 40 MHz / SISO / MCS0x1 / Ant 1

Results: Lower Band Edge / Channel 38 / Peak

Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5148.440	54.1	74.0	19.9	Complied
5150	52.3	74.0	21.7	Complied

Results: Lower Band Edge / Channel 38 / Average

Frequency (MHz)	Level (dBμV/m)	Duty Cycle correction (dB)	Corrected Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5150	41.9	0.7	42.6	54.0	11.4	Complied

Results: Lower Band Edge / Channel 46 / Peak

Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5135.400	53.1	74.0	20.9	Complied
5150	50.8	74.0	23.2	Complied

Results: Lower Band Edge / Channel 46 / Average

Frequency (MHz)	Level (dBμV/m)	Duty Cycle correction (dB)	Corrected Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5148.000	41.4	0.7	42.1	54.0	11.9	Complied
5150	41.2	0.7	41.9	54.0	12.1	Complied



Lower Band Edge / Channel 38



Lower Band Edge / Channel 46

Transmitter Band Edge Radiated Emissions (U-NII-1) (continued)

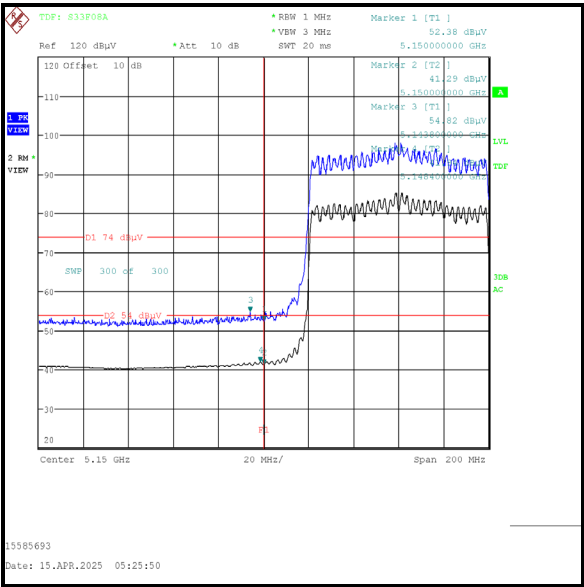
Results: 802.11ax / 80 MHz / SISO / MCS0x1 / Ant 1

Results: Lower Band Edge / Channel 42 / Peak

Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5143.800	54.8	74.0	19.2	Complied
5150	52.4	74.0	21.6	Complied

Results: Lower Band Edge / Channel 42 / Average

Frequency (MHz)	Level (dBμV/m)	Duty Cycle correction (dB)	Corrected Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5148.400	41.9	1.3	43.2	54.0	10.8	Complied
5150	41.3	1.3	42.6	54.0	11.4	Complied



Lower Band Edge / Channel 42

Transmitter Band Edge Radiated Emissions (U-NII-1) (continued)**Results: 802.11n / 20 MHz / MIMO / 2Tx / MCS8 / Ant 0 + Ant 1****Results: Lower Band Edge / Channel 36 / Peak**

Frequency (MHz)	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
5149.280	53.4	74.0	20.6	Complied
5150	52.5	74.0	21.5	Complied

Results: Lower Band Edge / Channel 36 / Average

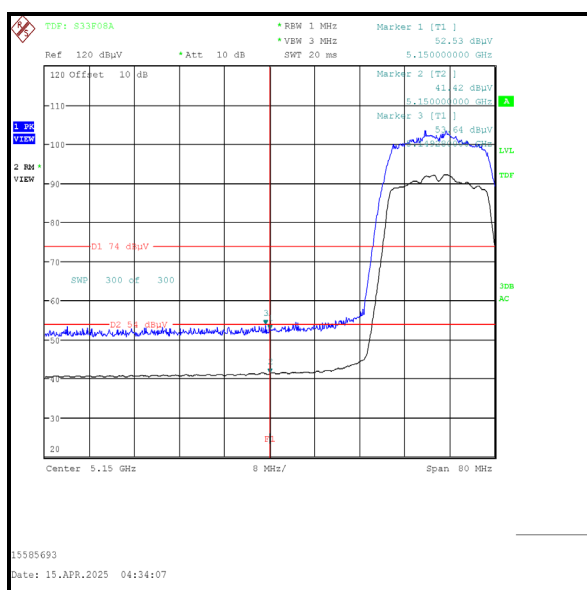
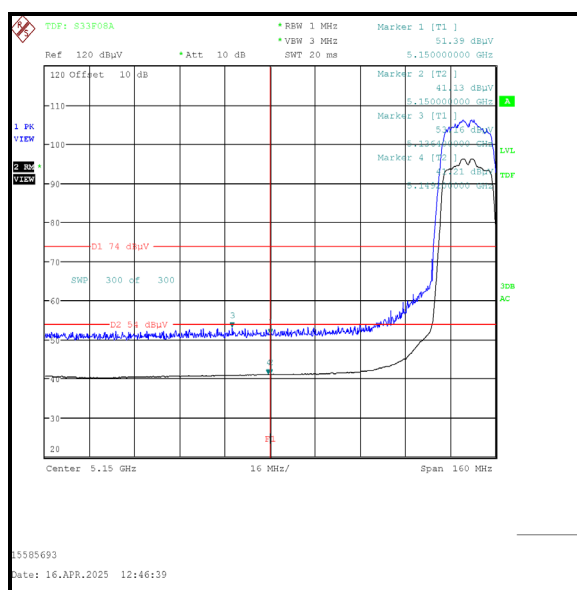
Frequency (MHz)	Level (dB μ V/m)	Duty Cycle correction (dB)	Corrected Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
5150	41.4	0.6	42.0	54.0	12.0	Complied

Results: Lower Band Edge / Channel 44 / Peak

Frequency (MHz)	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
5136.400	53.2	74.0	20.8	Complied
5150	51.4	74.0	22.6	Complied

Results: Lower Band Edge / Channel 44 / Average

Frequency (MHz)	Level (dB μ V/m)	Duty Cycle correction (dB)	Corrected Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
5149.200	41.2	0.6	41.8	54.0	12.2	Complied
5150	41.1	0.6	41.7	54.0	12.3	Complied

**Lower Band Edge / Channel 36****Lower Band Edge / Channel 44**

Transmitter Band Edge Radiated Emissions (U-NII-1) (continued)

Results: 802.11n / 40 MHz / MIMO / 2Tx / MCS8 / Ant 0 + Ant 1

Results: Lower Band Edge / Channel 38 / Peak

Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5149.160	55.0	74.0	19.0	Complied
5150	53.5	74.0	20.5	Complied

Results: Lower Band Edge / Channel 38 / Average

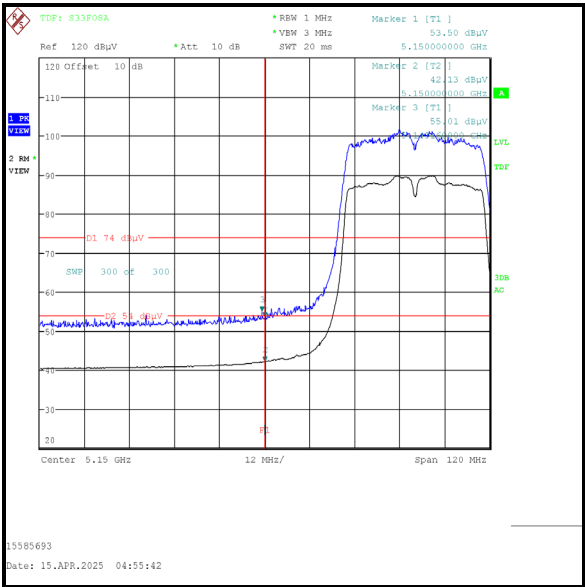
Frequency (MHz)	Level (dBμV/m)	Duty Cycle correction (dB)	Corrected Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5150	42.1	1.2	43.3	54.0	10.7	Complied

Results: Lower Band Edge / Channel 46 / Peak

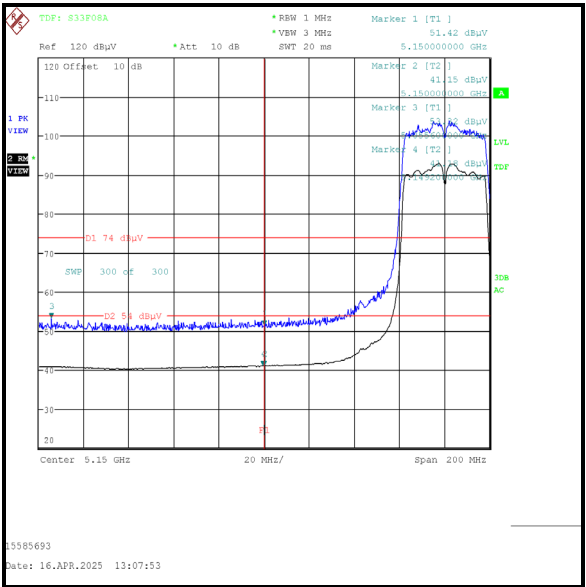
Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5055.600	53.2	74.0	20.8	Complied
5150	51.4	74.0	22.6	Complied

Results: Lower Band Edge / Channel 46 / Average

Frequency (MHz)	Level (dBμV/m)	Duty Cycle correction (dB)	Corrected Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5150	41.2	1.2	42.4	54.0	11.6	Complied



Lower Band Edge / Channel 38



Lower Band Edge / Channel 46

Transmitter Band Edge Radiated Emissions (U-NII-1) (continued)

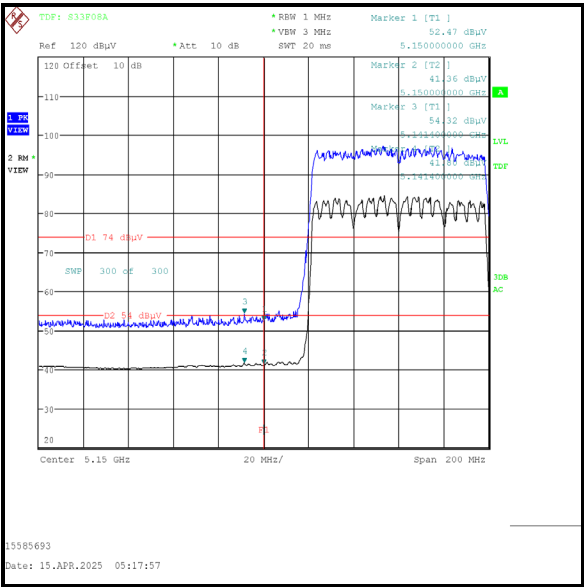
Results: 802.11ac / 80 MHz / MIMO / 2Tx / MCS0x1 / Ant 0 + Ant 1

Results: Lower Band Edge / Channel 42 / Peak

Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5141.400	54.3	74.0	19.7	Complied
5150	52.5	74.0	21.5	Complied

Results: Lower Band Edge / Channel 42 / Average

Frequency (MHz)	Level (dBμV/m)	Duty Cycle correction (dB)	Corrected Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5141.400	41.8	1.2	43.0	54.0	11.0	Complied
5150	41.4	1.2	42.6	54.0	11.4	Complied



Lower Band Edge / Channel 42

Transmitter Band Edge Radiated Emissions (U-NII-1) (continued)

Results: 802.11ax / 20 MHz / MIMO / 2Tx / MCS0x1 / Ant 0 + Ant 1

Results: Lower Band Edge / Channel 36 / Peak

Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5129.600	53.4	74.0	20.6	Complied
5150	51.1	74.0	22.9	Complied

Results: Lower Band Edge / Channel 36 / Average

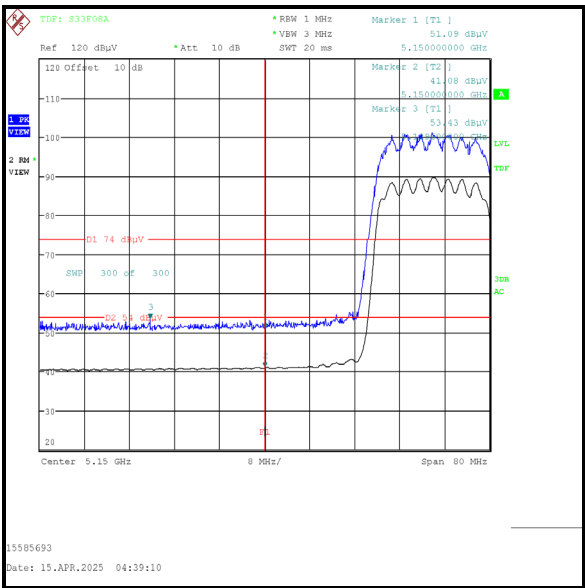
Frequency (MHz)	Level (dBμV/m)	Duty Cycle correction (dB)	Corrected Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5150	41.1	0.4	41.5	54.0	12.5	Complied

Results: Lower Band Edge / Channel 44 / Peak

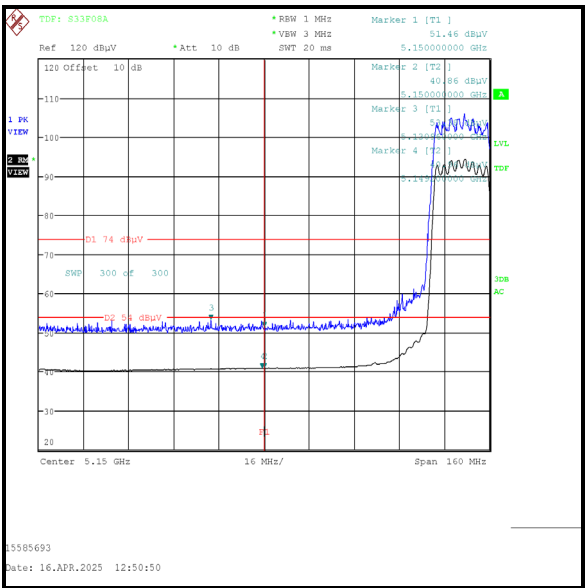
Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5130.960	53.4	74.0	20.6	Complied
5150	51.5	74.0	22.5	Complied

Results: Lower Band Edge / Channel 44 / Average

Frequency (MHz)	Level (dBμV/m)	Duty Cycle correction (dB)	Corrected Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5149.200	41.0	0.4	41.4	54.0	12.6	Complied
5150	40.9	0.4	41.3	54.0	12.7	Complied



Lower Band Edge / Channel 36



Lower Band Edge / Channel 44

Transmitter Band Edge Radiated Emissions (U-NII-1) (continued)**Results: 802.11ax / 40 MHz / MIMO / 2Tx / MCS0x1 / Ant 0 + Ant 1****Results: Lower Band Edge / Channel 38 / Peak**

Frequency (MHz)	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
5138.360	53.8	74.0	20.2	Complied
5150	52.8	74.0	21.2	Complied

Results: Lower Band Edge / Channel 38 / Average

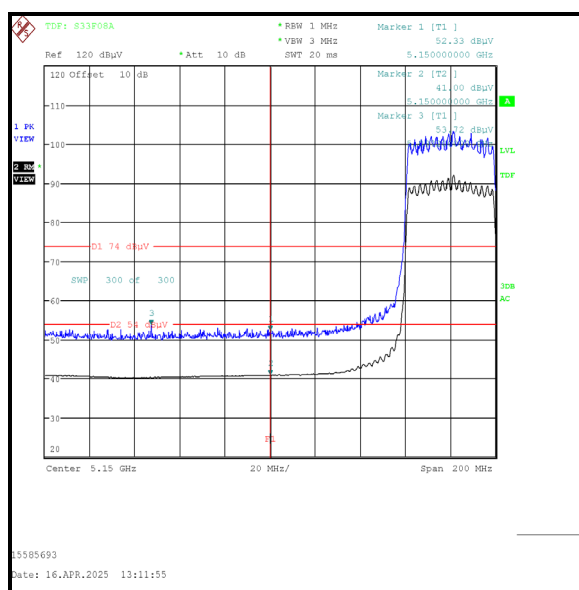
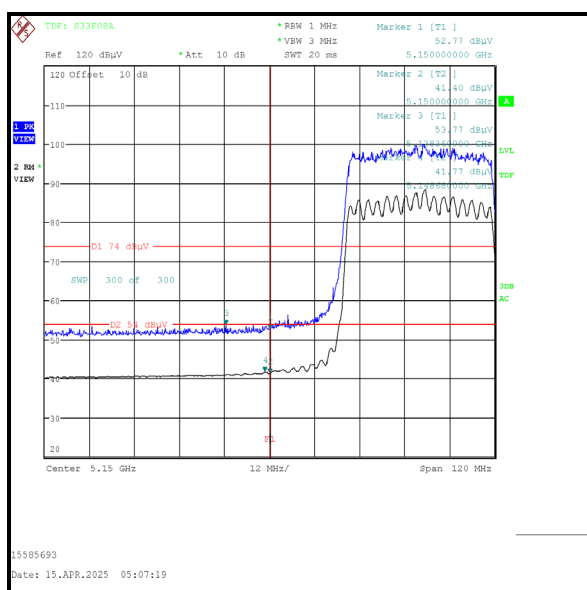
Frequency (MHz)	Level (dB μ V/m)	Duty Cycle correction (dB)	Corrected Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
5148.680	41.8	0.7	42.5	54.0	11.5	Complied
5150	41.4	0.7	42.1	54.0	11.9	Complied

Results: Lower Band Edge / Channel 46 / Peak

Frequency (MHz)	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
5097.200	53.7	74.0	20.3	Complied
5150	52.3	74.0	21.7	Complied

Results: Lower Band Edge / Channel 46 / Average

Frequency (MHz)	Level (dB μ V/m)	Duty Cycle correction (dB)	Corrected Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
5150	41.0	0.7	41.7	54.0	12.3	Complied



Transmitter Band Edge Radiated Emissions (U-NII-1) (continued)

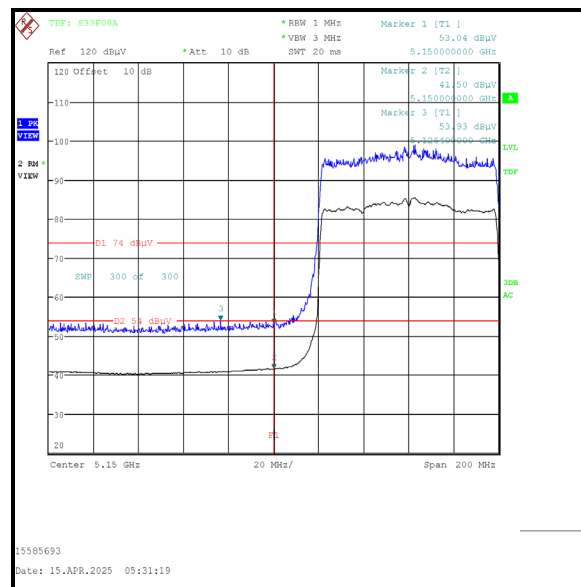
Results: 802.11ax / 80 MHz / MIMO / 2Tx / MCS0x1 / Ant 0 + Ant 1

Results: Lower Band Edge / Channel 42 / Peak

Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5126.400	53.9	74.0	20.1	Complied
5150	53.0	74.0	21.0	Complied

Results: Lower Band Edge / Channel 42 / Average

Frequency (MHz)	Level (dBμV/m)	Duty Cycle correction (dB)	Corrected Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5150	41.5	1.3	42.8	54.0	11.2	Complied



Lower Band Edge / Channel 42

4.4.2 5.25-5.35 GHz band (U-NII-2A)**Test Summary:**

Test Engineers:	John Ferdinand & Nick Steele	Test Dates:	15 April 2025 & 16 April 2025
Test Sample Serial Number:	FOC2845HUBH		

FCC Reference:	Part 15.407(b)(2),(10), 15.205 & 15.209(a)
ISED Canada Reference:	RSS-247 6.2.2.2 / RSS-Gen 6.13, 8.9 & 8.10
Test Method Used:	ANSI C63.10 Section 6.10 & KDB 789033 II.G.

Environmental Conditions:

Temperature (°C):	20 to 21
Relative Humidity (%):	39 to 40

Note(s):

1. For transmitters operating in the 5.25-5.35 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 / RSS-Gen 8.10 apply. Tests were performed for these restricted bands of operation with the results included in the 5.25-5.325 GHz band radiated spurious emissions section of this test report.
2. Field strength measurements using peak and average detectors were performed in the restricted bands below 5.15 GHz and above 5.35 GHz. Field strength and EIRP results were found to be compliant with the restricted band limits and Part 15.407 / RSS-247 out-of-band limits.
3. For all average measurements in this section, 300 sweeps were used. This satisfies the requirement for the minimum number of sweeps, as stated in KDB 789033 Section II.G.6.c) Method AD (vi).
4. In accordance with KDB 789033 Section II.G.6.c) Method AD (vii), for average measurements, data rates where the EUT was transmitting < 98% duty cycle, the duty cycle correction factor calculated in section 4.1 was added to the measured result.
5. Filters and/or attenuators were used as appropriate. The insertion loss was added to the test receiver as a reference level offset.

Transmitter Band Edge Radiated Emissions (U-NII-2A) (continued)

Results: 802.11a / 20 MHz / SISO / 6 Mbps / Ant 1

Results: Upper Band Edge / Channel 56 / Peak

Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5350	53.3	74.0	20.7	Complied
5408.400	54.9	74.0	19.1	Complied

Results: Upper Band Edge / Channel 56 / Average

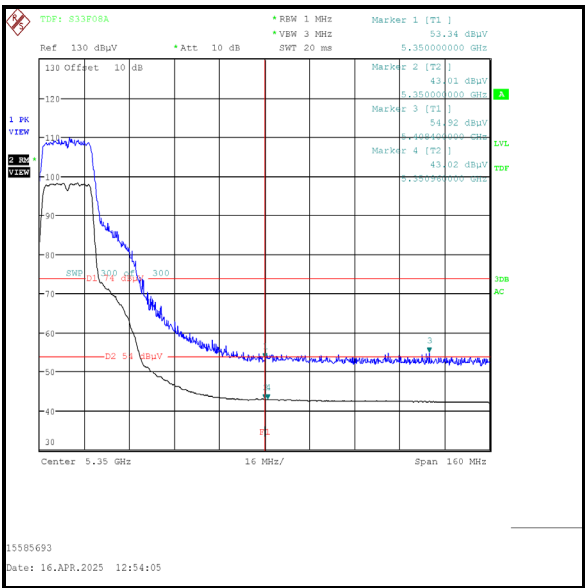
Frequency (MHz)	Level (dBμV/m)	Duty Cycle correction (dB)	Corrected Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5350	43.0	0.3	43.3	54.0	10.7	Complied

Results: Upper Band Edge / Channel 64 / Peak

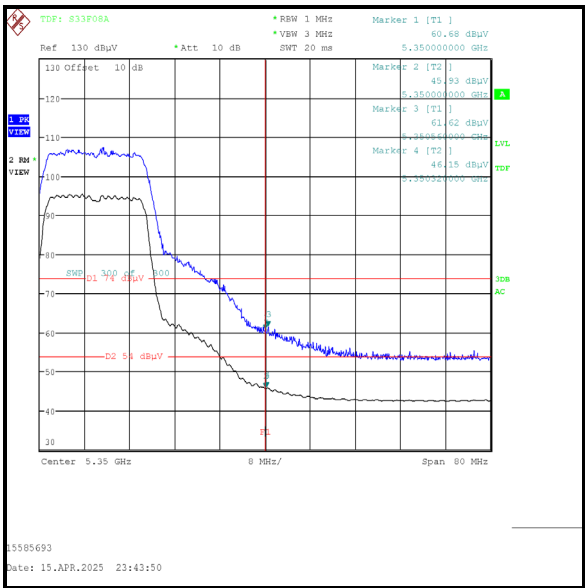
Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5350	60.7	74.0	13.3	Complied
5350.560	61.6	74.0	12.4	Complied

Results: Upper Band Edge / Channel 64 / Average

Frequency (MHz)	Level (dBμV/m)	Duty Cycle correction (dB)	Corrected Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5350	45.9	0.3	46.2	54.0	7.8	Complied
5350.320	46.2	0.3	46.5	54.0	7.5	Complied



Upper Band Edge / Channel 56



Upper Band Edge / Channel 64

Transmitter Band Edge Radiated Emissions (U-NII-2A) (continued)

Results: 802.11n / 40 MHz / SISO / MCS0 / Ant 1

Results: Upper Band Edge / Channel 54 / Peak

Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5350	52.3	74.0	21.7	Complied
5362.800	54.1	74.0	19.9	Complied

Results: Upper Band Edge / Channel 54 / Average

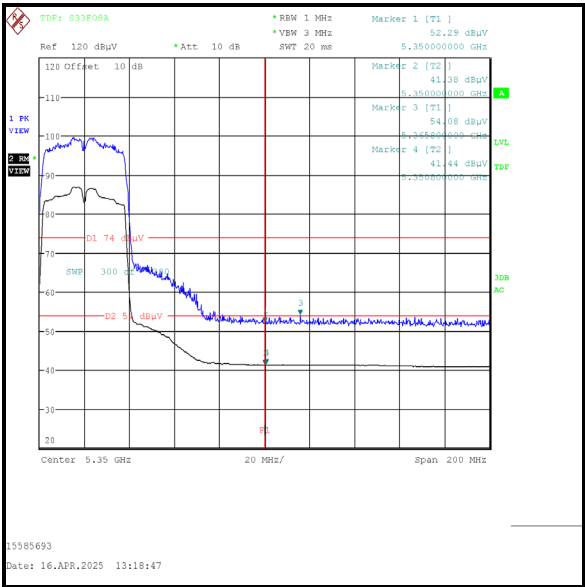
Frequency (MHz)	Level (dBμV/m)	Duty Cycle correction (dB)	Corrected Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5350	41.4	0.6	42.0	54.0	12.0	Complied

Results: Upper Band Edge / Channel 62 / Peak

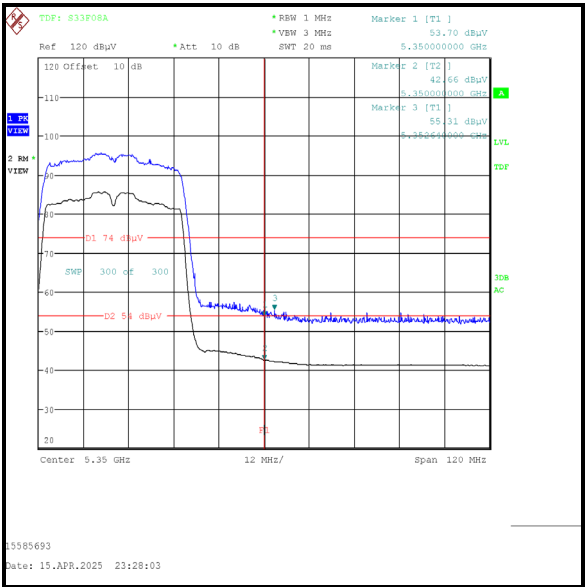
Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5350	53.7	74.0	20.3	Complied
5352.640	55.3	74.0	18.7	Complied

Results: Upper Band Edge / Channel 62 / Average

Frequency (MHz)	Level (dBμV/m)	Duty Cycle correction (dB)	Corrected Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5350	42.7	0.6	43.3	54.0	10.7	Complied



Upper Band Edge / Channel 54



Upper Band Edge / Channel 62

Transmitter Band Edge Radiated Emissions (U-NII-2A) (continued)

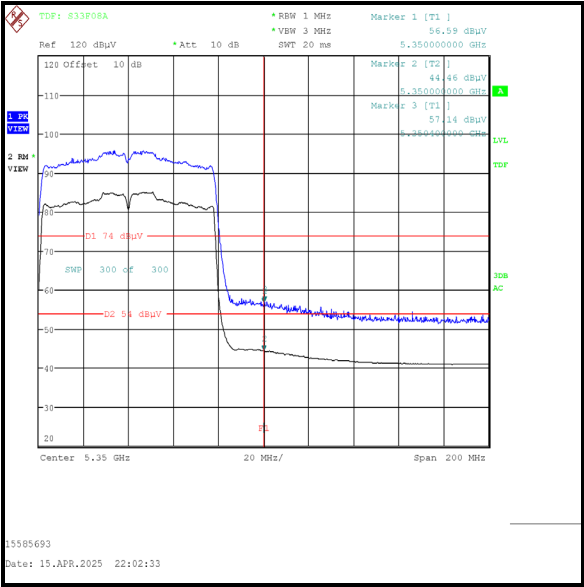
Results: 802.11ac / 80 MHz / SISO / MCS0x1 / Ant 1

Results: Upper Band Edge / Channel 58 / Peak

Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5350	56.6	74.0	17.4	Complied
5350.400	57.1	74.0	16.9	Complied

Results: Upper Band Edge / Channel 58 / Average

Frequency (MHz)	Level (dBμV/m)	Duty Cycle correction (dB)	Corrected Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5350	44.5	1.2	45.7	54.0	8.3	Complied



Upper Band Edge / Channel 58