TEST REPORT

Test Report No. : UL-RPT-RP14705831-916A

Customer	:	Raspberry Pi LTD
Model No. / HVIN	:	V2.0
PMN	:	Raspberry Pi 5
FCC ID	:	2ABCB-RPI5
ISED Certification No.	:	IC: 20953-RPI5
Technology	:	*Bluetooth* – BDR & EDR
Test Standard(s)	:	FCC Parts 15.209(a) & 15.247 Innovation, Science and Economic Development Canada RSS-247 Issue 2 February 2017 RSS-Gen Issue 5 February 2021
Test Laboratory	:	UL International (UK) Ltd, Basingstoke, Hampshire, RG24 8AH, United Kingdom

1. This test report shall not be reproduced except in full, without the written approval of UL International (UK) Ltd.
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. Version 4.0 supersedes all previous versions.

Date of Issue: 17 October 2023

Checked by:

Ben Mercer
Lead Project Engineer, Radio Laboratory

Company Signatory:

Sarah Williams
RF Operations Leader, Radio Laboratory

5772

Customer Information

Company Name:	Raspberry Pi LTD
Address:	Maurice Wilkes Building, St. John's Innovation Park, Cambridge, CB4 0DS, United Kingdom

Report Revision History

Version Number	Issue Date	Revision Details	Revised By
1.0	13/09/2023	Initial Version	Ben Mercer
2.0	18/09/2023	Admin update	Ben Mercer
3.0	13/10/2023	Admin update	Ben Mercer
4.0	17/10/2023	FVIN removed	Ben Mercer

Table of Contents

1 Attestation of Test Results

1.1 Description of EUT

The equipment under test was a single board computer with Bluetooth, 2.4 GHz WLAN and 5 GHz WLAN transceivers.

1.2 General Information

Specification Reference:	47CFR15.247
Specification Title:	Code of Federal Regulations Volume 47 (Telecommunications): Part 15 Subpart C (Intentional Radiators) – Section 15.247
Specification Reference:	47CFR15.209
Specification Title:	Code of Federal Regulations Volume 47 (Telecommunications): Part 15 Subpart C (Intentional Radiators) – Section 15.209
Specification Reference:	RSS-Gen Issue 5 February 2021
Specification Title:	General Requirements for Compliance of Radio Apparatus
Specification Reference:	RSS-247 Issue 2 February 2017
Specification Title:	Digital Transmission Systems (DTSs), Frequency Hopping Systems (FHSs) and Licence-Exempt Local Area Network (LE-LAN) Devices
Site Registration:	FCC: 685609, ISEDC: 20903
FCC Lab. Designation No.:	UK2011
ISEDC CABID:	UK0001
Location of Testing:	Unit 3 Horizon, Wade Road, Kingsland Business Park, Basingstoke, Hampshire, G24 8AH, United Kingdom
Test Dates:	05 June 2023 to 12 September 2023

1.3 Summary of Test Results

FCC Reference (47CFR)	ISED Canada Reference	Measurement	Result
N/A	RSS-Gen 6.7	Transmitter 99% Occupied Bandwidth	✓
Part 15.247(a)(1)	RSS-Gen 6.7 / RSS-247 5.1(a)	Transmitter 20 dB Bandwidth	✓
Part 15.247(a)(1)	RSS-247 5.1(b)	Transmitter Carrier Frequency Separation	✓
Part 15.247(a)(1)(iii)	RSS-247 5.1(d)	Transmitter Number of Hopping Frequencies and Average Time of Occupancy	✓
Part 15.247(b)(1)	RSS-Gen 6.12 / RSS-247 5.4(b)	Transmitter Maximum Peak Output Power	✓
Part 15.247(d) & 15.209(a)	RSS-Gen 6.13 / RSS-247 5.5	Transmitter Radiated Emissions	✓
Part 15.247(d) & 15.209(a)	RSS-Gen 6.13 / RSS-247 5.5	Transmitter Band Edge Radiated Emissions	✓

Key to Results

✓ = Complied ✗ = Did not comply

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 Unit 3 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 2	-
Site 17	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 558074 D01 15.247 Meas Guidance v05r02, April 2, 2019
Title:	Guidance for Compliance Measurements on Digital Transmission System, Frequency Hopping Spread Spectrum System, and Hybrid System Devices Operating Under Section 15.247 of the FCC Rules

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

The decision rule applied is based upon the accuracy method criteria. The measurement uncertainty is met and the result is considered in conformance with the requirement criteria if the observed value is within the prescribed limit.

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
99% Occupied Bandwidth	2.4 GHz to 2.4835 GHz	95%	±3.92 %
20 dB Bandwidth	2.4 GHz to 2.4835 GHz	95%	±4.59 %
Carrier Frequency Separation	2.4 GHz to 2.4835 GHz	95%	±4.59 %
Average Time of Occupancy	2.4 GHz to 2.4835 GHz	95%	±3.53 ns
Conducted Maximum Peak Output Power	2.4 GHz to 2.4835 GHz	95%	±0.58 dB
Radiated Spurious Emissions	9 kHz to 30 MHz	95%	±5.32 dB
Radiated Spurious Emissions	30 MHz to 1 GHz	95%	±3.30 dB
Radiated Spurious Emissions	1 GHz to 25 GHz	95%	±3.16 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 Conducted Tests

Asset No.	Instrument	Manufacturer	Type No.	Serial No.	Date Calibration Due	Cal. Interval (Months)
M2071	Thermohygrometer	Testo	608-H1	45258132	08 Dec 2023	12
M231908	Signal Analyser	Keysight	N9020B	MY63430180	20 Dec 2023	12
A220120	Attenuator	Pasternack	PE7013-10	#1	Calibrated before use	-
M215596	Power Sensor	Boonton	RTP5008	11819	24 Mar 2024	12
231995	Switching Unit	Mini-Circuits	ZT-400	12211020020	Calibrated before use	-
E235134	Environmental Chamber	Espec	PU-1J	15020642	Calibrated before use	-
M226925	Thermometer	Fluke	52II	51980008WS	25 Oct 2023	12
M1725	Network Analyser	Keysight	E5071C	MY46316169	09 Nov 2023	12

Test Measurement Software/Firmware Used for Transmitter Conducted Tests

Name	Version	Release Date
Phoenix Unlicensed	1.0.18 beta 11	05/06/2023

Test and Measurement Equipment (continued)

Test Equipment Used for Transmitter Radiated Emissions Tests

Asset No.	Instrument	Manufacturer	Type No.	Serial No.	Date Calibration Due	Cal. Interval (Months)
M2003	Thermohygrometer	Testo	608-H1	45046641	09 Dec 2023	12
K0017	3m RSE Chamber	MVG Industries UK Ltd.	N/A	N/A	08 Nov 2023	12
M1995	Test Receiver	Rohde & Schwarz	ESU40	100428	02 Nov 2023	12
A2863	Pre-Amplifier	Keysight Technologies Inc	8449B	3008A02100	07 Nov 2023	12
A2889	Horn Antenna	Schwarzbeck	BBHA 9120 B	00653	02 Nov 2023	12
A2916	Attenuator	AtlanTecRF	AN18W5-10	832827#2	25 Jan 2024	12
A2914	High Pass Filter	AtlanTecRF	AFH-03000	2155	25 Jan 2024	12
A2890	Horn Antenna	Schwarzbeck	HWRD 750	014	02 Nov 2023	12
A223628	Pre-Amplifier	Atlantic Microwave	A-LNAKX-380116-S5S5	210837001	03 Nov 2023	12
A2947	High Pass Filter	AtlanTecRF	AFH-07000	1601900001	25 Jan 2024	12
A3265	Pre-Amplifier	Schwarzbeck	BBV 9721	9721-069	31 Oct 2023	12
A2892	Horn Antenna	Schwarzbeck	BBHA 9170	9170-727	31 Oct 2023	12
M2040	Thermohygrometer	Testo	608-H1	45124934	09 Dec 2023	12
K0001	3m RSE Chamber	MVG Industries UK Ltd.	N/A	N/A	05 Sep 2023	12
M236226	Test Receiver	Rohde & Schwarz	ESW26	103134	21 Apr 2024	12
A3165	Loop Antenna	ETS-Lindgren	6502	00224383	13 Apr 2024	12
A3036	Low Pass Filter	AtlanTecRF	AFL-02000	15062902848	25 Jan 2024	12
A3167	Pre-Amplifier	Com-Power Corporation	PAM-103	18020010	02 Nov 2023	12
A2148	Attenuator	Atlan TecRF	AN18-06	090202-06	06 Oct 2023	12
A490	Bi-Log Antenna	Chase EMC Ltd	CBL6111A	1590	06 Oct 2023	12

Test Equipment Used for Transmitter Band Edge Radiated Emissions Tests

Asset No.	Instrument	Manufacturer	Type No.	Serial No.	Date Calibration Due	Cal. Interval (Months)
M2003	Thermohygrometer	Testo	608-H1	45046641	09 Dec 2023	12
K0017	3m RSE Chamber	MVG Industries UK Ltd.	N/A	N/A	08 Nov 2023	12
M1995	Test Receiver	Rohde & Schwarz	ESU40	100428	02 Nov 2023	12
A2863	Pre-Amplifier	Keysight Technologies Inc	8449B	3008A02100	07 Nov 2023	12
A2889	Horn Antenna	Schwarzbeck	BBHA 9120 B	00653	02 Nov 2023	12
A2916	Attenuator	AtlanTecRF	AN18W5-10	832827#2	25 Jan 2024	12

3 Equipment Under Test (EUT)

3.1 Identification of Equipment Under Test (EUT)

Brand Name:	Raspberry Pi
Model Name or Number / HVIN:	V2.0
PMN:	Raspberry Pi 5
Test Sample Serial Number:	C9 *(Conducted sample #1)*
Hardware Version:	V2.0
Software Version:	V1.0
FCC ID:	2ABCB-RPI5
ISED Canada Certification Number:	IC: 20953-RPI5

Brand Name:	Raspberry Pi
Model Name or Number / HVIN:	V2.0
PMN:	Raspberry Pi 5
Test Sample Serial Number:	R29 *(Radiated sample #1)*
Hardware Version:	V2.0
Software Version:	V1.0
FCC ID:	2ABCB-RPI5
ISED Canada Certification Number:	IC: 20953-RPI5

3.2 Modifications Incorporated in the EUT

No modifications were applied to the EUT during testing.

3.3 Additional Information Related to Testing

Tested Technology:	*Bluetooth*		
Power Supply Requirement:	Nominal	5.1 VDC	
Type of Unit:	Transceiver		
Channel Spacing:	1 MHz		
Mode:	Basic Rate	Enhanced Data Rate	
Modulation:	GFSK	π/4-DQPSK	8DPSK
Packet Type: (Maximum Payload)	DH5	2DH5	3DH5
Data Rate (Mbps):	1	2	3
Maximum Conducted Output Power:	6.9 dBm		
Transmit Frequency Range:	2402 MHz to 2480 MHz		
Transmit Channels Tested:	**Channel ID**	**Channel Number**	**Channel Frequency (MHz)**
	Bottom	0	2402
	Middle	39	2441
	Top	78	2480

3.4 Description of Available Antennas

The radio utilizes an integrated antenna, with the following maximum gain:

Frequency Range (MHz)	Antenna Gain (dBi)
2400-2480	3.50

3.5 Description of Test Setup

Support Equipment

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

Description:	Laptop
Brand Name:	Lenovo
Model Name or Number:	L480
Serial Number:	PF1EJ3BY

Description:	AC to DC USB-C Power Supply
Brand Name:	Raspberry Pi
Model Name or Number:	KSA-15E-051300HK
Serial Number:	Not Marked or Stated

Description:	Docking Station
Brand Name:	Lenovo
Model Name or Number:	40AT
Serial Number:	ZAFOLGYW

Description:	USB-A Cables. Qty 4. 1.5m
Brand Name:	Not Marked or Stated
Model Name or Number:	Not Marked or Stated
Serial Number:	Not Marked or Stated

Description:	Mini HDMI to HDMI Cables. Qty 2. 1.5m
Brand Name:	Raspberry Pi
Model Name or Number:	Not Marked or Stated
Serial Number:	Not Marked or Stated

Description:	Ethernet Cable. 3m
Brand Name:	Not Marked or Stated
Model Name or Number:	Not Marked or Stated
Serial Number:	Not Marked or Stated

Operating Modes

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

- Continuously transmitting at maximum power on bottom, middle and top channels in BDR (DH5 packets) or EDR (2DH5 or 3DH5 packets) as required.
- Continuously transmitting at maximum power in hopping mode on all channels in BDR (DH5 packets) or EDR (2DH5 or 3DH5 packets) as required.

Configuration and Peripherals

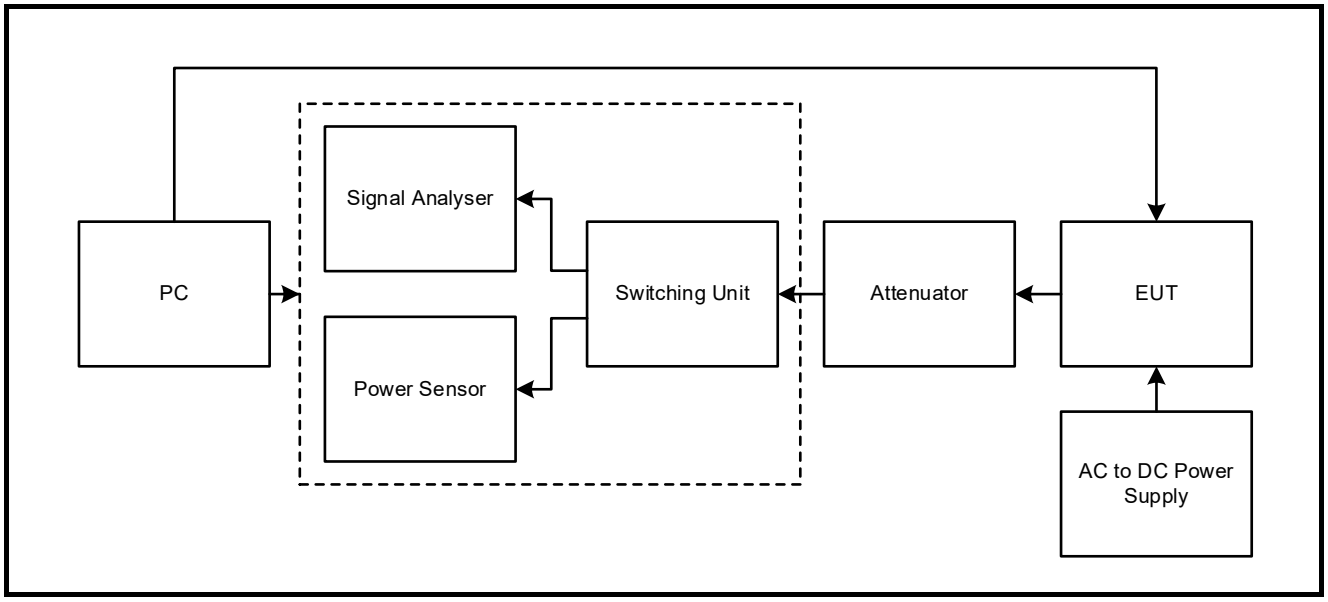
The EUT was tested in the following configuration(s):

- The customer's test application and supplied instructions were used to place the EUT into *Bluetooth* test mode. The supplied commands were entered into the console menu on the EUT. Test commands stated in the BT_Commands.txt file located on the /home/pi drive of the EUT were used to configure the EUT to enable a continuous transmission and to select the test channels as required.
- The EUT was powered from an AC to DC USB-C Power Supply. The input was connected to a 120 VAC 60 Hz single phase mains supply.
- Transmitter radiated spurious emissions tests were performed with the EUT in the worst-case orientation with respect to emissions. The Ethernet port was terminated into a test laptop via an Ethernet cable. The test laptop was placed in the antechamber. The 2 HDMI ports and 4 USB ports were terminated into a docking station via HDMI and USB cables. The docking station was placed under the turntable.

Test Setup Diagrams

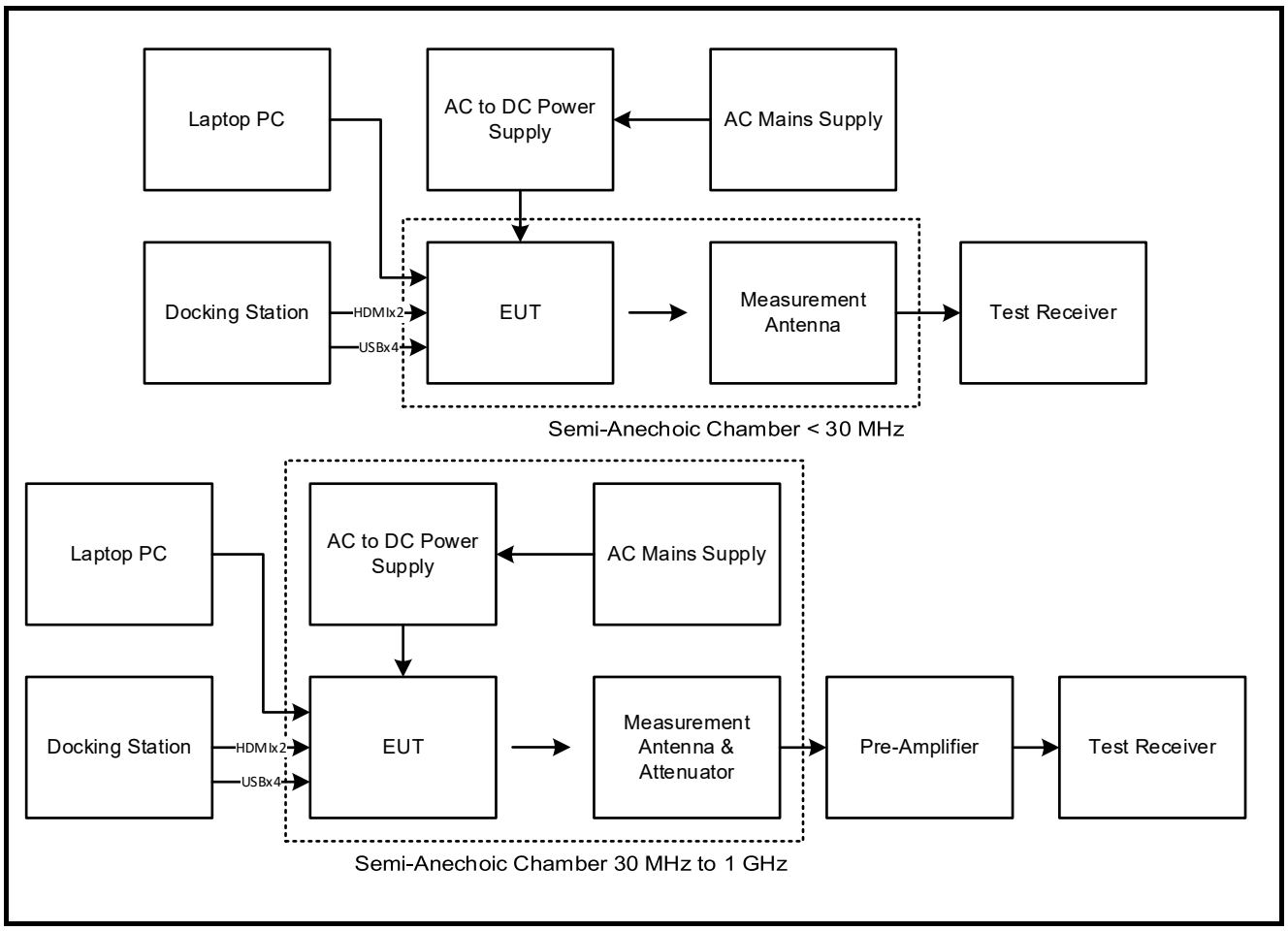
Conducted Tests:

Test Setup for Transmitter Conducted Tests



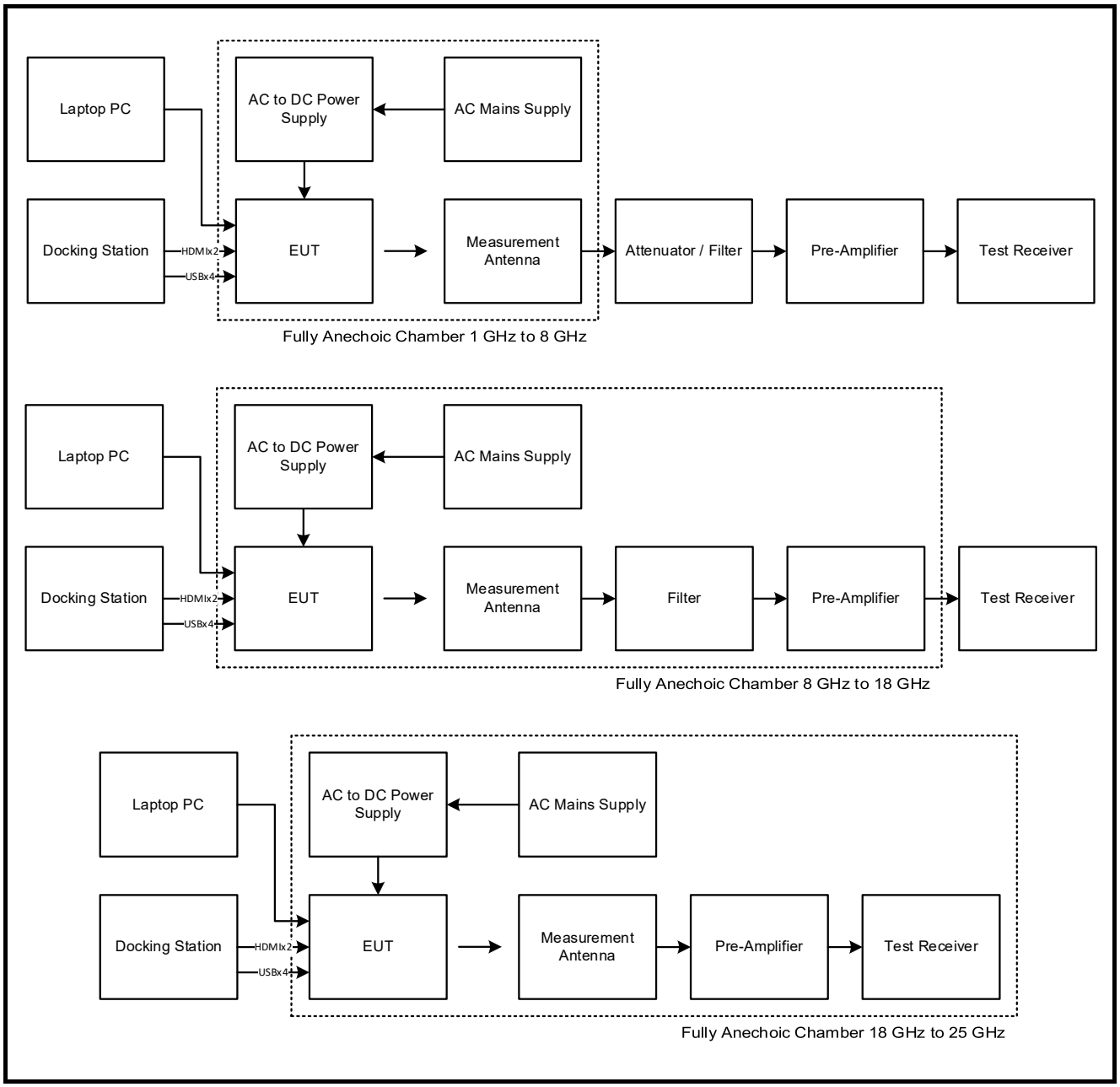
Radiated Tests:

Test Setup for Transmitter Radiated Emissions



Test Setup Diagrams (continued)

Test Setup for Transmitter Radiated Emissions (continued)



4 Antenna Port Test Results

4.1 Transmitter 99% Emission Bandwidth

Test Summary:

Test Engineers:	Miriam Thompson & Matthew Botfield	**Test Date:**	12 September 2023
Test Sample Serial Number:	C9		

FCC Reference:	N/A
ISED Canada Reference:	RSS-Gen 6.7
Test Method Used:	RSS-Gen 6.7 and Notes below

Environmental Conditions:

Temperature (°C):	20
Relative Humidity (%):	59

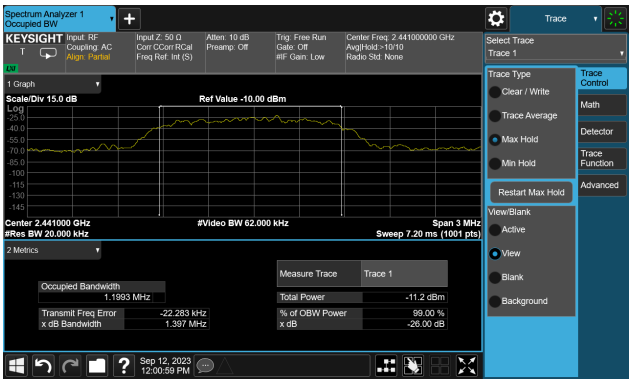
Note(s):

1. The 99% emission bandwidth was measured using the signal analyser occupied bandwidth function. The resolution bandwidth was set in the range of 1% to 5% of the occupied bandwidth and the video bandwidth set to 3 times the resolution bandwidth. The span was set to capture all products of the modulation process including emission skirts.
2. The signal analyser resolution bandwidth was set to 20 kHz and video bandwidth 62 kHz. A peak detector was used, sweep time was set to auto and the trace mode was Max Hold. The span was set to 3 MHz. The signal analyser function set the measurements to be made at 99% of the emission bandwidth. The results are given in the tables below.
3. The test system was connected to the RF port on the EUT using suitable attenuation and RF cable.

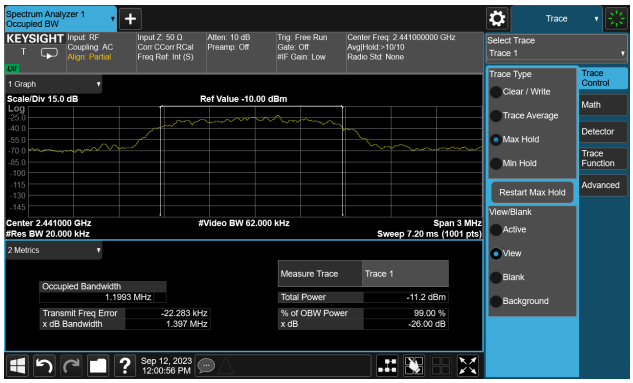
Transmitter 99% Emission Bandwidth (continued)

Results: DH5

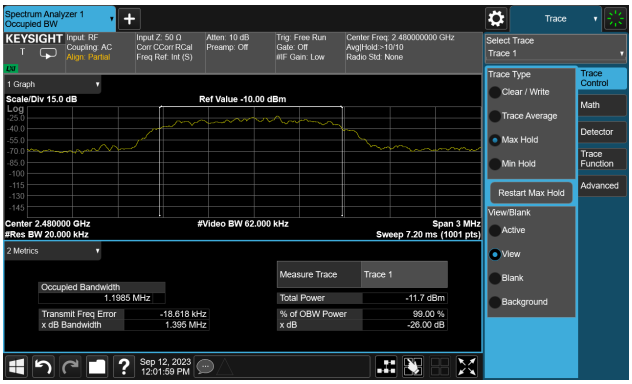
Channel	99% Emission Bandwidth (kHz)
Bottom	1199.300
Middle	1199.300
Top	1198.500



Bottom Channel



Middle Channel

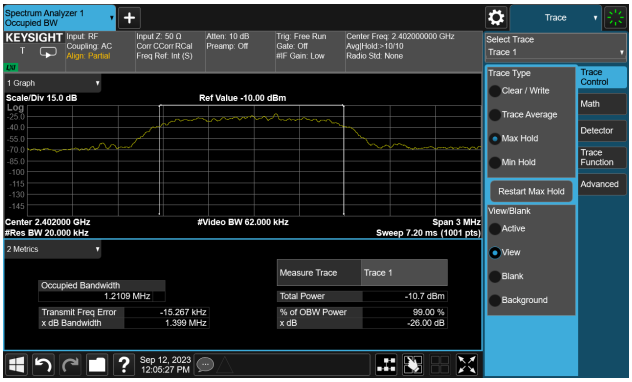


Top Channel

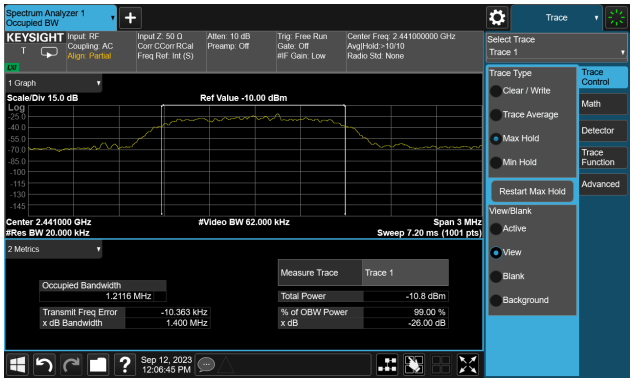
Transmitter 99% Emission Bandwidth (continued)

Results: 2DH5

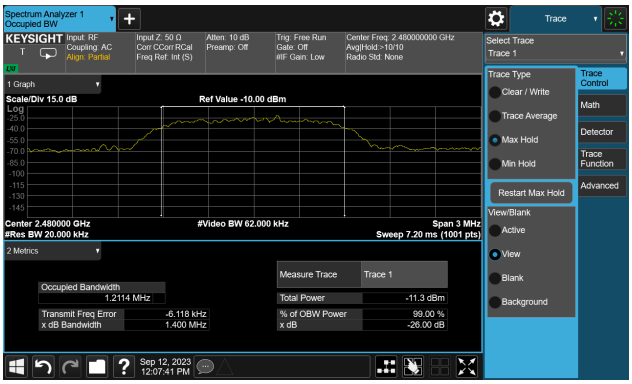
Channel	99% Emission Bandwidth (kHz)
Bottom	1210.900
Middle	1211.600
Top	1211.400



Bottom Channel



Middle Channel

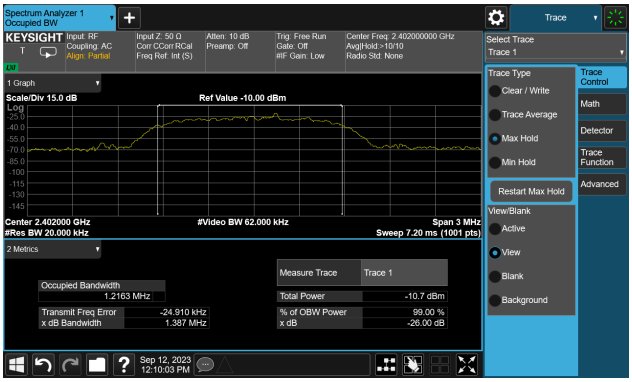


Top Channel

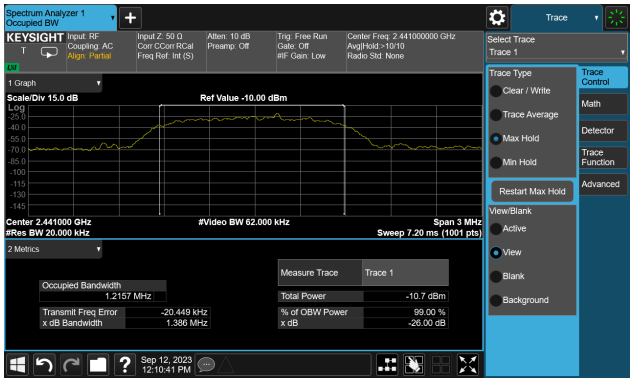
Transmitter 99% Emission Bandwidth (continued)

Results: 3DH5

Channel	99% Emission Bandwidth (kHz)
Bottom	1216.300
Middle	1215.700
Top	1215.900



Bottom Channel



Middle Channel

Top Channel

4.2 Transmitter 20 dB Bandwidth

Test Summary:

Test Engineer:	Luis Pazos Perez	**Test Date:**	05 June 2023
Test Sample Serial Number:	C9		

Environmental Conditions:

Temperature (°C):	23
Relative Humidity (%):	50

Note(s):

1. The signal analyser resolution bandwidth was set to 20 kHz and video bandwidth 100 kHz. A Peak detector was used, sweep time was set to auto and the trace mode was Max Hold. The span was set to 3 MHz for DH5 and 5 MHz for 2-DH5 and 3-DH5. Normal and delta markers were placed 20 dB down from the peak of the carrier.
2. The test system was connected to the RF port on the EUT using suitable attenuation and RF cable.

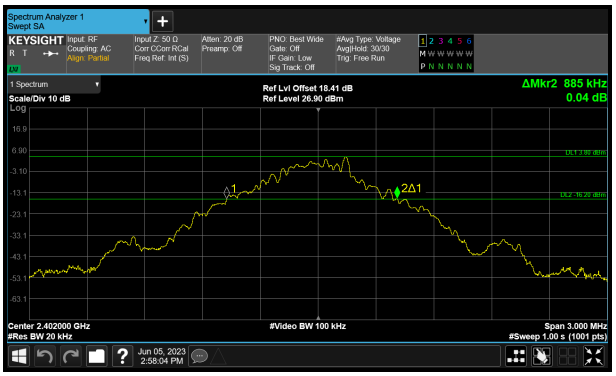
Transmitter 20 dB Bandwidth (continued)

Results:

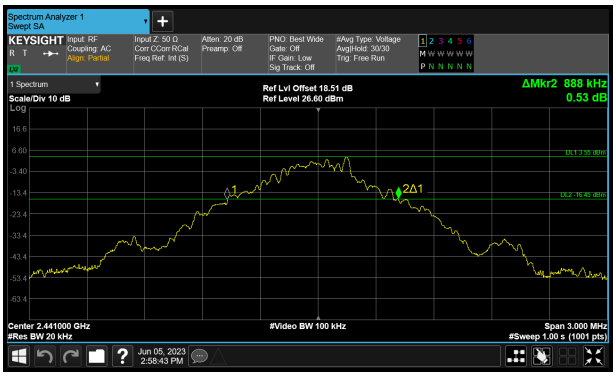
Frequency Range:	2400-2483.5 MHz	**Band:**	2.4 GHz
Limit Clause(s):	FCC 15.247 (a)(1) RSS-247 5.1	**Test Method(s):**	C63.10 6.9.2

Antenna Configuration:	SISO	**Mode:**	C9
Test Port:	1 (BT1)	**Modulation/Rate:**	DH5 (GFSK)

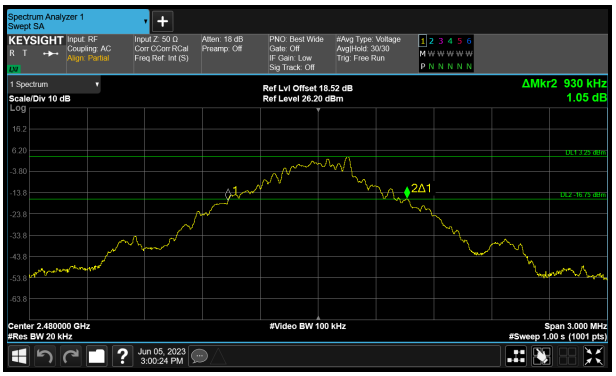
Test Frequency (MHz)	**20 dB Bandwidth (MHz)**			
	1	**2**	**3**	**4**
2402 (CH0)	0.885	-	-	-
2441 (CH39)	0.888	-	-	-
2480 (CH78)	0.930	-	-	-



BT1 (1) 2402 MHz (CH0) 20 dB Bandwidth



BT1 (1) 2441 MHz (CH39) 20 dB Bandwidth



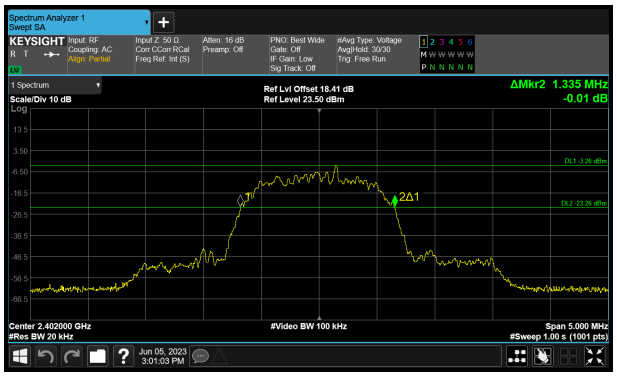
BT1 (1) 2480 MHz (CH78) 20 dB Bandwidth

Transmitter 20 dB Bandwidth (continued)

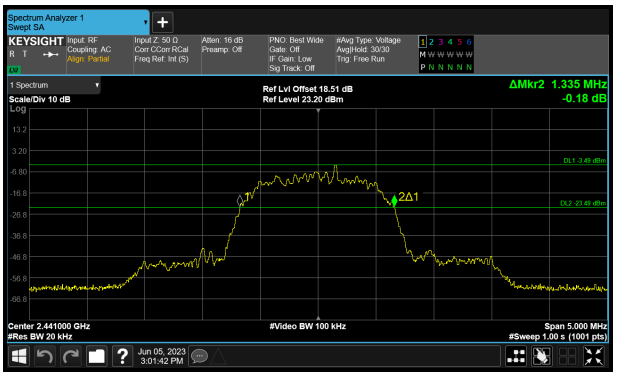
Frequency Range:	2400-2483.5 MHz	**Band:**	2.4 GHz
Limit Clause(s):	FCC 15.247 (a)(1) RSS-247 5.1	**Test Method(s):**	C63.10 6.9.2

Antenna Configuration:	SISO	**Mode:**	C9
Test Port:	1 (BT1)	**Modulation/Rate:**	2-DH5 (π/4 DQPSK)

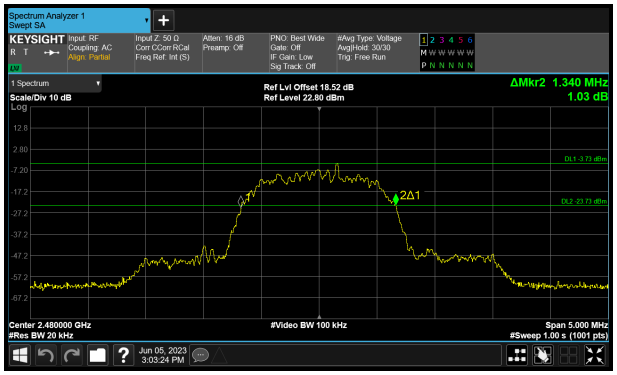
Test Frequency (MHz)	**20 dB Bandwidth (MHz)**			
	1	**2**	**3**	**4**
2402 (CH0)	1.335	-	-	-
2441 (CH39)	1.335	-	-	-
2480 (CH78)	1.340	-	-	-



BT1 (1) 2402 MHz (CH0) 20 dB Bandwidth



BT1 (1) 2441 MHz (CH39) 20 dB Bandwidth



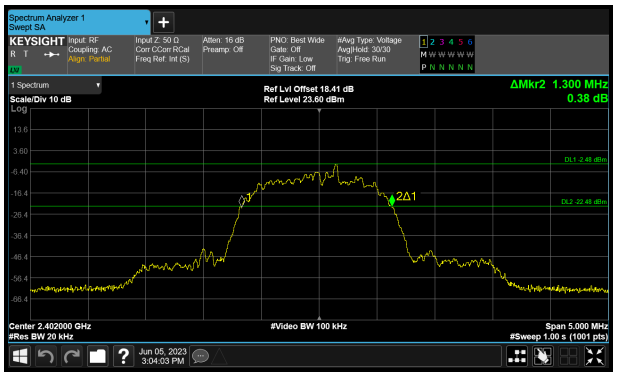
BT1 (1) 2480 MHz (CH78) 20 dB Bandwidth

Transmitter 20 dB Bandwidth (continued)

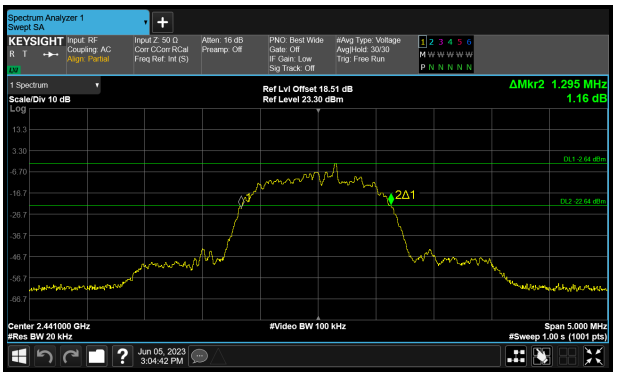
Frequency Range:	2400-2483.5 MHz	**Band:**	2.4 GHz
Limit Clause(s):	FCC 15.247 (a)(1) RSS-247 5.1	**Test Method(s):**	C63.10 6.9.2

Antenna Configuration:	SISO	**Mode:**	C9
Test Port:	1 (BT1)	**Modulation/Rate:**	3-DH5 (8-DPSK)

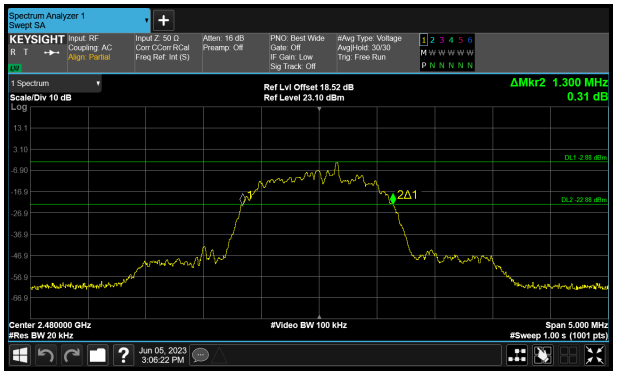
Test Frequency (MHz)	**20 dB Bandwidth (MHz)**			
	1	**2**	**3**	**4**
2402 (CH0)	1.300	-	-	-
2441 (CH39)	1.295	-	-	-
2480 (CH78)	1.300	-	-	-



BT1 (1) 2402 MHz (CH0) 20 dB Bandwidth



BT1 (1) 2441 MHz (CH39) 20 dB Bandwidth



BT1 (1) 2480 MHz (CH78) 20 dB Bandwidth

4.3 Transmitter Carrier Frequency Separation

Test Summary:

Test Engineer:	Luis Pazos Perez	**Test Date:**	05 June 2023
Test Sample Serial Number:	C9		

Environmental Conditions:

Temperature (°C):	23
Relative Humidity (%):	50

Note(s):

1. The 20 dB bandwidth measured for the middle channel operating at 2441 MHz was used to calculate the limit.
2. The signal analyser resolution bandwidth was set to 30 kHz and video bandwidth 100 kHz for DH5. The resolution bandwidth was set to 51 kHz and video bandwidth 200 kHz for 2-DH5 and 3-DH5. A peak detector was used, sweep time was set to auto and trace mode was Max Hold. The span was set to 3 MHz for DH5 and 4 MHz for 2-DH5 and 3-DH5. A marker was placed at the centre of one signal and then a delta marker was placed in the same place on the second signal.
3. The test system was connected to the RF port on the EUT using suitable attenuation and RF cable.

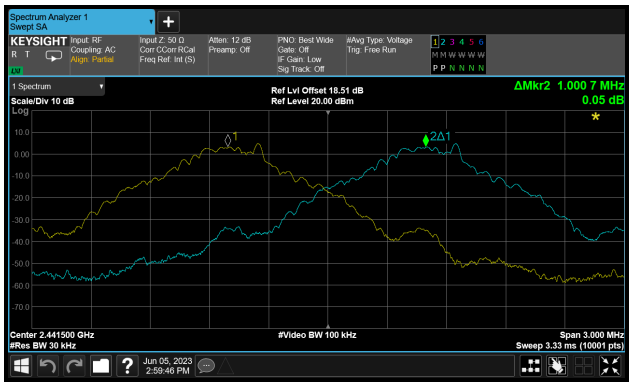
Transmitter Carrier Frequency Separation (continued)

Results:

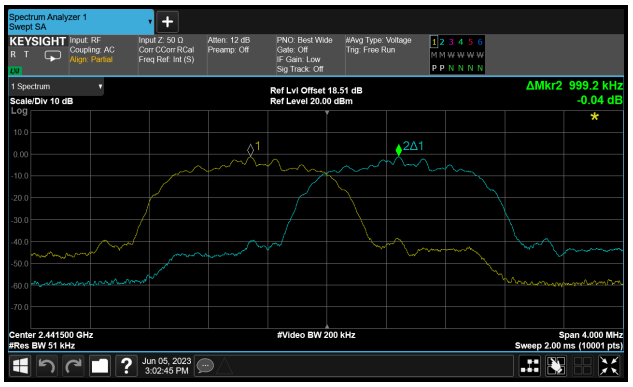
Frequency Range:	2400-2483.5 MHz	**Band:**	2.4 GHz
Limit Clause:	FCC 15.247(a)(1) RSS-247 5.1 d)	**Test Method:**	C63.10 7.8.2

Antenna Configuration:	SISO	**Mode:**	C9
Test Port:	1 (BT1)	**Modulation/Rate:**	-

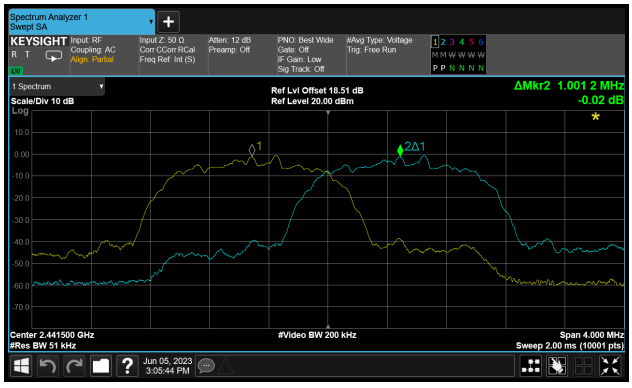
Packet Type / Modulation	Hopping Frequency (MHz)		FHS (MHz)	20 dB Bandwidth (MHz)	Limit (MHz)	Margin (MHz)
	F1	F2				
DH5 (GFSK)	2440.995	2441.996	1.001	0.888	0.592	0.409
2-DH5 (π/4 DQPSK)	2440.986	2441.985	0.999	1.335	0.890	0.109
3-DH5 (8-DPSK)	2440.989	2441.991	1.002	1.295	0.863	0.139



2441 MHz (CH39) DH5 (GFSK)



2441 MHz (CH39) 2-DH5 (π/4 DQPSK)



2441 MHz (CH39) 3-DH5 (8-DPSK)

4.4 Transmitter Number of Hopping Frequencies and Average Time of Occupancy

Test Summary:

Test Engineer:	Luis Pazos Perez	**Test Date:**	05 June 2023
Test Sample Serial Number:	C9		

Environmental Conditions:

Temperature (°C):	23
Relative Humidity (%):	50

Note(s):

1. Tests were performed to identify the average time of occupancy in number of channels (79) x 0.4 seconds. The calculated period is 31.6 seconds.
2. The signal analyser was set up for the Number of Hopping Frequencies measurement as follows: the resolution bandwidth was set to 100 kHz and video bandwidth of 300 kHz. A peak detector was used, sweep time was set to auto and trace mode was Max Hold. The span was set to 83.5 MHz.
3. The signal analyser was set up for the Average Time of Occupancy measurement as follows: the resolution bandwidth was set to 100 kHz and video bandwidth of 300 kHz. A peak detector was used and sweep time was set to 31.6 seconds. The EUT was set to transmit in a hopping mode with zero span. The total number of hopping frequencies were recorded in the table below.
4. The test system was connected to the RF port on the EUT using suitable attenuation and RF cable.

Transmitter Number of Hopping Frequencies and Average Time of Occupancy (continued)

Results:

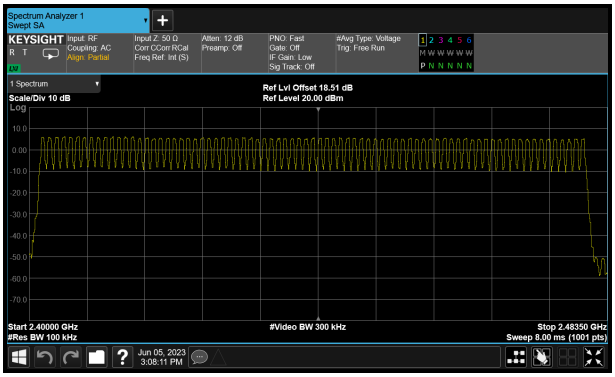
Frequency Range:	2400-2483.5 MHz	**Band:**	2.4 GHz
Limit Clause:	FCC 15.247(a)(1) RSS-247 5.1 d)	**Test Method:**	C63.10 7.8.3 C63.10 7.8.4

Antenna Configuration:	SISO	**Mode:**	C9
Test Port:	1 (BT1)	**Modulation/Rate:**	DH5 (GFSK)

Burst Tx	Stability: < ±2%	Duty Cycle (%): 77.00	Period (ms): 3.750	Width (ms): 2.887

Number of Hopping Frequencies	Limit
79	≥ 15

Hopping Frequency Investigated (MHz)	Emission Width (ms)	Number of Hops	Average Time of Occupancy (ms)	Limit (ms)	Margin (ms)
2402	2.887	96	277.2	≤ 400.0	122.8



DH5 (GFSK) Hopping Sequence

DH5 (GFSK) Time of Occupancy

Transmitter Number of Hopping Frequencies and Average Time of Occupancy (continued)

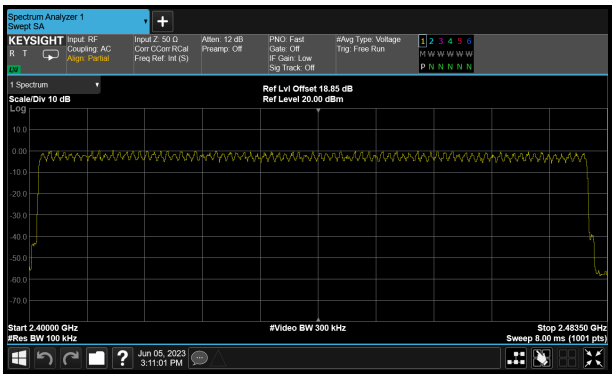
Frequency Range:	2400-2483.5 MHz	**Band:**	2.4 GHz
Limit Clause:	FCC 15.247(a)(1) RSS-247 5.1 d)	**Test Method:**	C63.10 7.8.3 C63.10 7.8.4

Antenna Configuration:	SISO	**Mode:**	C9
Test Port:	1 (BT1)	**Modulation/Rate:**	2-DH5 (π/4 DQPSK)

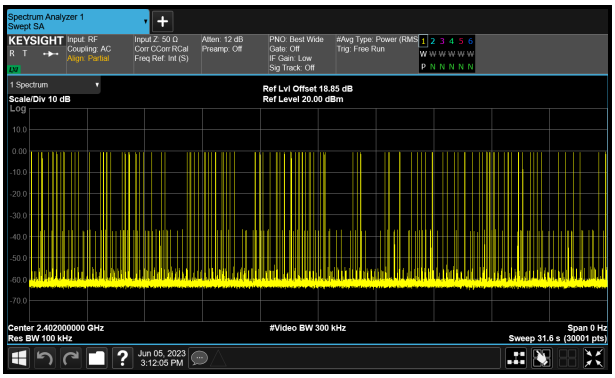
Burst Tx	Stability: < ±2%	Duty Cycle (%): 77.05	Period (ms): 3.750	Width (ms): 2.889

Number of Hopping Frequencies	Limit
79	≥ 15

Hopping Frequency Investigated (MHz)	Emission Width (ms)	Number of Hops	Average Time of Occupancy (ms)	Limit (ms)	Margin (ms)
2402	2.889	114	329.4	≤ 400.0	70.6



2-DH5 (π/4 DQPSK) Hopping Sequence



2-DH5 (π/4 DQPSK) Time of Occupancy

Transmitter Number of Hopping Frequencies and Average Time of Occupancy (continued)

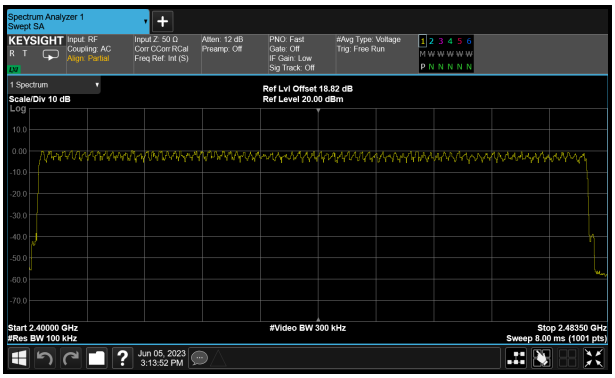
Frequency Range:	2400-2483.5 MHz	**Band:**	2.4 GHz
Limit Clause:	FCC 15.247(a)(1) RSS-247 5.1 d)	**Test Method:**	C63.10 7.8.3 C63.10 7.8.4

Antenna Configuration:	SISO	**Mode:**	C9
Test Port:	1 (BT1)	**Modulation/Rate:**	3-DH5 (8-DPSK)

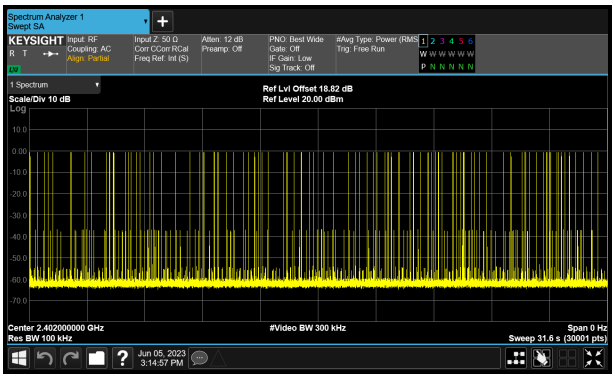
Burst Tx	Stability: < ±2%	Duty Cycle (%): 77.10	Period (ms): 3.750	Width (ms): 2.891

Number of Hopping Frequencies	Limit
79	≥ 15

Hopping Frequency Investigated (MHz)	Emission Width (ms)	Number of Hops	Average Time of Occupancy (ms)	Limit (ms)	Margin (ms)
2402	2.891	102	294.9	≤ 400.0	105.1



3-DH5 (8-DPSK) Hopping Sequence



3-DH5 (8-DPSK) Time of Occupancy

4.5 Transmitter Maximum Peak Output Power

Test Summary:

Test Engineer:	Luis Pazos Perez	**Test Date:**	05 June 2023
Test Sample Serial Number:	C9		

Environmental Conditions:

Temperature (°C):	23
Relative Humidity (%):	50

Note(s):

1. Tests were performed using a peak power sensor.
2. The declared antenna gain was added to the conducted peak power to obtain the EIRP.
3. The test system was connected to the RF port on the EUT using suitable attenuation and RF cable.

Transmitter Maximum Peak Output Power (continued)

Results:

Frequency Range:	2400-2483.5 MHz	**Band:**	2.4 GHz
Limit Clause:	15.247 (b)(1) RSS-247 5.4 b)	**Test Method:**	C63.10 7.8.5

Antenna Configuration:	SISO	**Mode:**	C9
Test Port:	1 (BT1)	**Modulation/Rate:**	DH5 (GFSK)

Burst Tx	Stability: < ±2%	Duty Cycle (%): 77.00	Period (ms): 3.750	Width (ms): 2.887

Test Frequency (MHz)	**Maximum Conducted Output Power (dBm)**					**Gain (dBi)**	**Limit (dBm)**	**Margin (dB)**
	1	**2**	**3**	**4**	∑			
2402 (CH0)	6.90	-	-	-	-	3.50	30.00	23.10
2441 (CH39)	6.60	-	-	-	-	3.50	30.00	23.40
2480 (CH78)	6.17	-	-	-	-	3.50	30.00	23.83

FCC Maximum Conducted (peak) Output Power Results

Test Frequency (MHz)	**Maximum Conducted Output Power (dBm)**					**Limit (dBm)**	**Margin (dB)**	**Gain (dBi)**	**EIRP (dBm)**	**EIRP Limit (dBm)**	**EIRP Margin (dB)**
	1	**2**	**3**	**4**	∑						
2402 (CH0)	6.90	-	-	-	-	30.00	23.10	3.50	10.40	36.00	25.60
2441 (CH39)	6.60	-	-	-	-	30.00	23.40	3.50	10.10	36.00	25.90
2480 (CH78)	6.17	-	-	-	-	30.00	23.83	3.50	9.67	36.00	26.33

ISED Maximum Conducted (average) Output Power Results

Transmitter Maximum Peak Output Power (continued)

Frequency Range:	2400-2483.5 MHz	**Band:**	2.4 GHz
Limit Clause:	15.247 (b)(1) RSS-247 5.4 b)	**Test Method:**	C63.10 7.8.5

Antenna Configuration:	SISO	**Mode:**	C9
Test Port:	1 (BT1)	**Modulation/Rate:**	2-DH5 (π/4 DQPSK)

Burst Tx	Stability: < ±2%	Duty Cycle (%): 77.04	Period (ms): 3.750	Width (ms): 2.889

Test Frequency (MHz)	**Maximum Conducted Output Power (dBm)**					**Gain (dBi)**	**Limit (dBm)**	**Margin (dB)**
	1	**2**	**3**	**4**	∑			
2402 (CH0)	3.45	-	-	-	-	3.50	30.00	26.55
2441 (CH39)	3.23	-	-	-	-	3.50	30.00	26.77
2480 (CH78)	2.76	-	-	-	-	3.50	30.00	27.24

FCC Maximum Conducted (peak) Output Power Results

Test Frequency (MHz)	**Maximum Conducted Output Power (dBm)**					**Limit (dBm)**	**Margin (dB)**	**Gain (dBi)**	**EIRP (dBm)**	**EIRP Limit (dBm)**	**EIRP Margin (dB)**
	1	**2**	**3**	**4**	∑						
2402 (CH0)	3.45	-	-	-	-	30.00	26.55	3.50	6.95	36.00	29.05
2441 (CH39)	3.23	-	-	-	-	30.00	26.77	3.50	6.73	36.00	29.27
2480 (CH78)	2.76	-	-	-	-	30.00	27.24	3.50	6.26	36.00	29.74

ISED Maximum Conducted (average) Output Power Results

Transmitter Maximum Peak Output Power (continued)

Frequency Range:	2400-2483.5 MHz	**Band:**	2.4 GHz
Limit Clause:	15.247 (b)(1) RSS-247 5.4 b)	**Test Method:**	C63.10 7.8.5

Antenna Configuration:	SISO	**Mode:**	C9
Test Port:	1 (BT1)	**Modulation/Rate:**	3-DH5 (8-DPSK)

Burst Tx	Stability: < ±2%	Duty Cycle (%): 77.10	Period (ms): 3.750	Width (ms): 2.891

Test Frequency (MHz)	**Maximum Conducted Output Power (dBm)**					**Gain (dBi)**	**Limit (dBm)**	**Margin (dB)**
	1	**2**	**3**	**4**	∑			
2402 (CH0)	3.58	-	-	-	-	3.50	30.00	26.42
2441 (CH39)	3.33	-	-	-	-	3.50	30.00	26.67
2480 (CH78)	3.06	-	-	-	-	3.50	30.00	26.94

FCC Maximum Conducted (peak) Output Power Results

Test Frequency (MHz)	**Maximum Conducted Output Power (dBm)**					**Limit (dBm)**	**Margin (dB)**	**Gain (dBi)**	**EIRP (dBm)**	**EIRP Limit (dBm)**	**EIRP Margin (dB)**
	1	**2**	**3**	**4**	∑						
2402 (CH0)	3.58	-	-	-	-	30.00	26.42	3.50	7.08	36.00	28.92
2441 (CH39)	3.33	-	-	-	-	30.00	26.67	3.50	6.83	36.00	29.17
2480 (CH78)	3.06	-	-	-	-	30.00	26.94	3.50	6.56	36.00	29.44

ISED Maximum Conducted (peak) Output Power Results

5 Radiated Test Results

5.1 Transmitter Radiated Emissions <1 GHz

Test Summary:

Test Engineers:	Rob English & John Ferdinand	**Test Dates:**	06 June 2023 & 07 June 2023
Test Sample Serial Number:	R29		

FCC Reference:	Parts 15.247(d) & 15.209(a)
ISED Canada Reference:	RSS-Gen 6.13 & 8.9 / RSS-247 5.5
Test Method Used:	ANSI C63.10 Sections 6.3, 6.4 and 6.5
Frequency Range	9 kHz to 1000 MHz

Environmental Conditions:

Temperature (°C):	23
Relative Humidity (%):	38 to 40

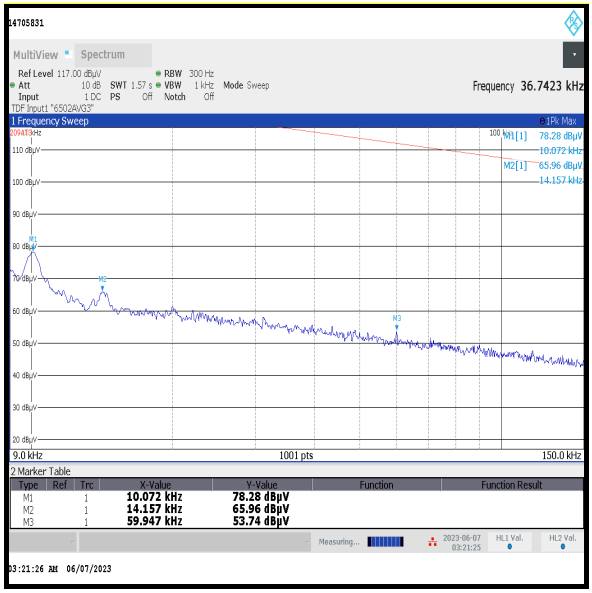
Note(s):

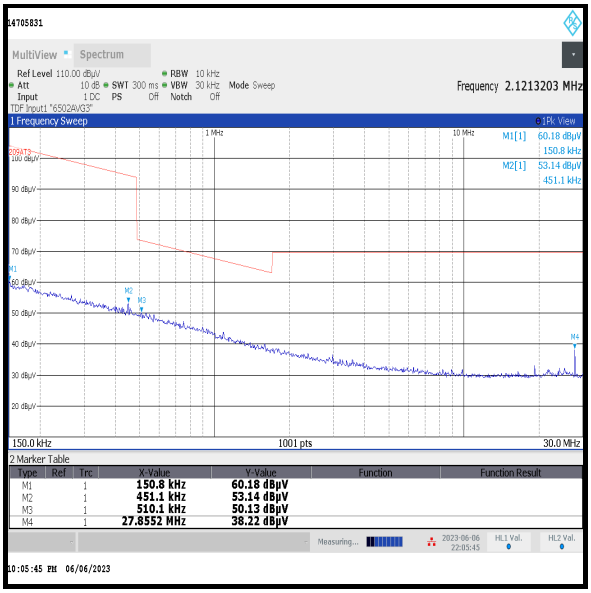
1. The final measured value, for the given emission, in the table below incorporates the calibrated antenna factor and cable loss.
2. All other emissions shown on the pre-scans were investigated and found to be ambient, >20 dB below the appropriate limit or below the noise floor of the measurement system.
3. The preliminary scans showed similar emission levels below 1 GHz, for each channel of operation. Therefore final radiated emissions measurements were performed with the EUT set to the middle channel only.
4. Measurements below 1 GHz were performed in a semi-anechoic chamber (Asset Numbers K0017/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.
5. 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 dBµV/m, which is equivalent to Y - 51.5 = Z dBµA/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.
6. 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.
7. 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 span wide enough to see the whole emission.

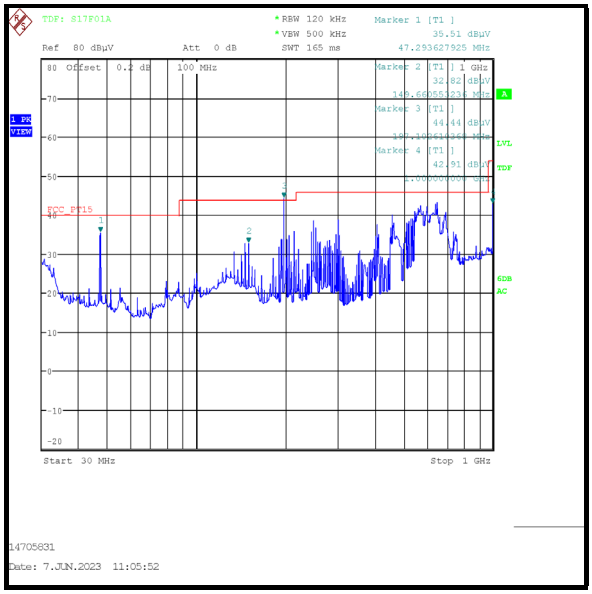
Transmitter Radiated Emissions (continued)

Results: Quasi-Peak / Middle Channel / DH5

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
149.679	Horizontal	31.5	43.0	11.5	Complied
248.392	Horizontal	36.5	46.0	9.5	Complied
252.148	Horizontal	34.4	46.0	11.6	Complied
405.831	Vertical	35.9	46.0	10.1	Complied
607.191	Horizontal	36.6	46.0	9.4	Complied
999.003	Vertical	39.3	54.0	14.7	Complied







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

5.2 Transmitter Radiated Emissions >1 GHz

Test Summary:

Test Engineer:	John Ferdinand	**Test Dates:**	05 June 2023 & 06 June 2023
Test Sample Serial Number:	R29		

FCC Reference:	Parts 15.247(d) & 15.209(a)
ISED Canada Reference:	RSS-Gen 6.13 / RSS-247 5.5
Test Method Used:	ANSI C63.10 Sections 6.3 and 6.6
Frequency Range	1 GHz to 25 GHz

Environmental Conditions:

Temperature (°C):	23 to 24
Relative Humidity (%):	36

Note(s):

1. Transmitter radiated spurious emissions tests were performed with the EUT transmitting in DH5 mode as this was found to transmit the highest power and therefore deemed worst case.
2. The final measured value, for the given emission, in the table below incorporates the calibrated antenna factor and cable loss.
3. All other emissions shown on the pre-scans were investigated and found to be ambient, >20 dB below the appropriate limit or below the noise floor of the measurement system.
4. The emission shown on the 1 GHz to 4 GHz plot is the EUT fundamental.
5. *In accordance with ANSI C63.10 Section 6.6.4.3, Note 1, if the peak measured value complies with the average limit, it is unnecessary to perform an average measurement.
6. Pre-scans above 1 GHz were performed in a fully anechoic chamber (Asset Number K0001/K0017) at a distance of 3 metres. The EUT was placed at a height of 1.5 metres above the test chamber floor in the centre of the chamber turntable. All measurement antennas were placed at a fixed height of 1.5 metres above the test chamber floor, in line with the EUT.
7. Final measurements above 1 GHz were performed in a semi-anechoic chamber (Asset Number K0001/K0017) 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.
8. 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. Peak and average measurements were performed with their own appropriate detectors during the pre-scan measurements.

Transmitter Radiated Emissions (continued)

Results: Peak / Bottom Channel / DH5

Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
3843.274	Vertical	47.8	54.0*	6.2	Complied
7694.476	Vertical	50.9	54.0*	3.1	Complied
18798.900	Vertical	46.2	54.0*	7.8	Complied
19980.042	Vertical	42.5	54.0*	11.5	Complied

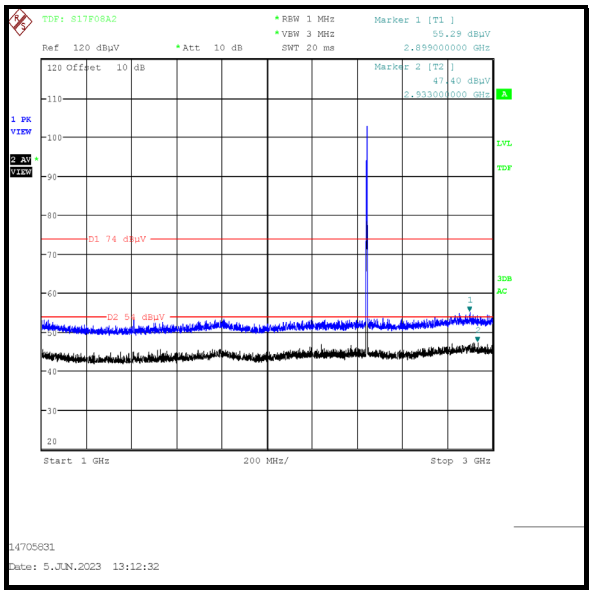
Results: Peak / Middle Channel / DH5

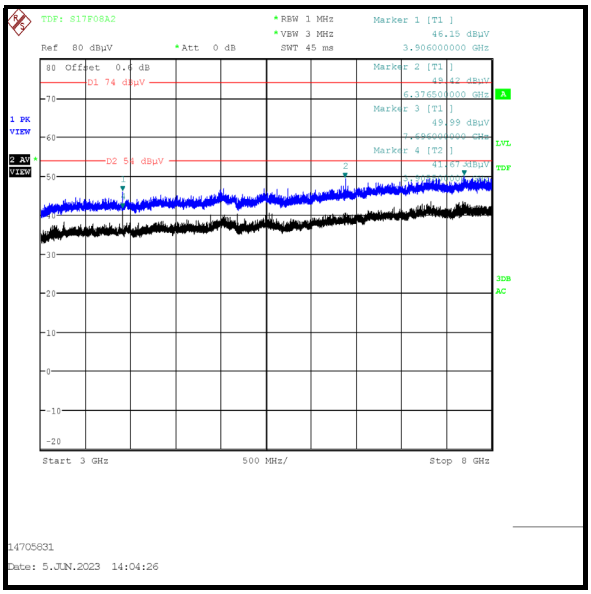
Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
3905.752	Vertical	47.9	54.0*	6.1	Complied
7694.476	Vertical	50.9	54.0*	3.1	Complied
18798.900	Vertical	46.2	54.0*	7.8	Complied
19980.042	Vertical	42.5	54.0*	11.5	Complied

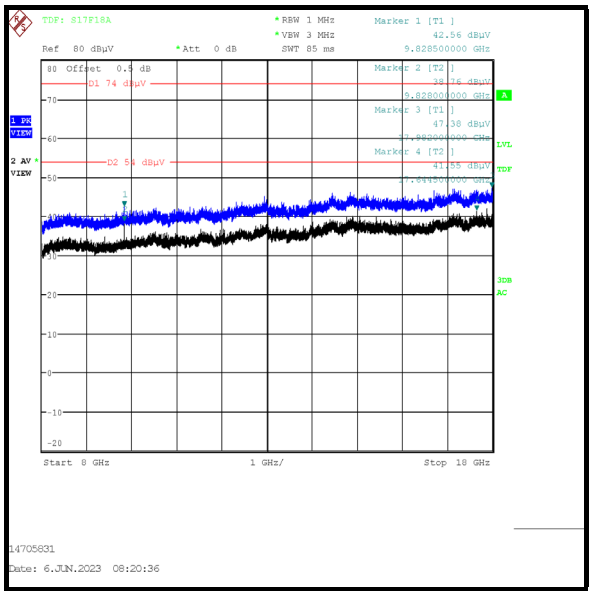
Results: Peak / Top Channel / DH5

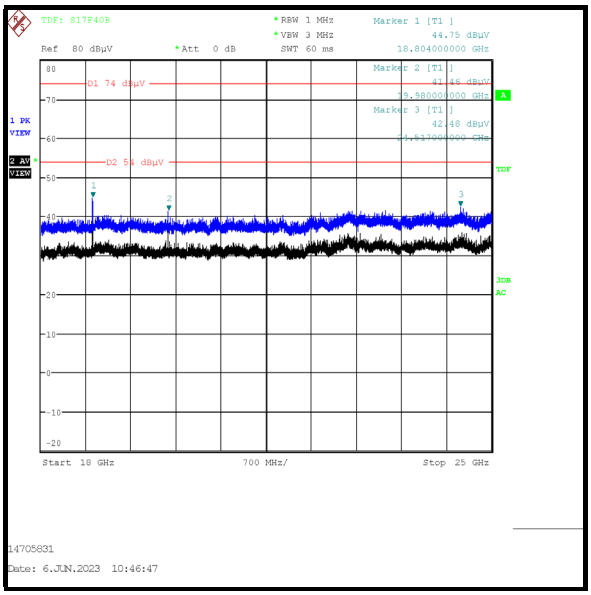
Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
7694.476	Vertical	50.9	54.0*	3.1	Complied
18798.900	Vertical	46.2	54.0*	7.8	Complied
19980.042	Vertical	42.5	54.0*	11.5	Complied
7694.476	Vertical	50.9	54.0*	3.1	Complied

Transmitter Radiated Emissions (continued)









5.3 Transmitter Band Edge Radiated Emissions

Test Summary:

Test Engineer:	John Ferdinand	**Test Date:**	05 June 2023
Test Sample Serial Number:	R29		

FCC Reference:	Parts 15.247(d) & 15.209(a)
ISED Canada Reference:	RSS-Gen 6.13 / RSS-247 5.5
Test Method Used:	ANSI C63.10 Section 6.10

Environmental Conditions:

Temperature (°C):	24
Relative Humidity (%):	36

Note(s):

1. The final measured value, for the given emission, in the table below incorporates the calibrated antenna factor and cable loss.
2. As the lower band edge is adjacent to a non-restricted band, only peak measurements are required. In accordance with ANSI C63.10 Section 11.11.1, the test method in Section 11.11.3 was followed: 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. The test receiver was left to sweep for a sufficient length of time in order to maximise the carrier level and out-of-band emissions. A marker and corresponding reference level line were placed on the peak of the carrier. As the maximum peak conducted output power was measured using an peak detector in accordance with ANSI C63.10 Section 11.9.1.1 an out-of-band limit line was placed 20 dB (ANSI C63.10 Section 11.11.1(a)) below the peak level. A marker was placed on the band edge spot frequencies. Marker frequency and levels were recorded.
3. As the upper band edge is adjacent to a restricted band, both peak and average measurements were recorded by placing a marker at the edge of the band. For peak measurements the test receiver resolution bandwidth was set to 1 MHz and the video bandwidth 3 MHz. A peak detector was used, sweep time was set to auto and trace mode was Max Hold. For average measurements the test receiver resolution bandwidth was set to 1 MHz and the video bandwidth 3 MHz. An RMS detector was used, sweep time was set to auto and trace mode was Max Hold. A marker was placed on the band edge spot frequencies and a second marker placed on the highest emission level in the adjacent restricted band of operation (where a higher level emission was present). Marker frequencies and levels were recorded.
4. There is a restricted band 10 MHz below the lower band edge. The test receiver was set up as follows: the RBW set to 1 MHz, the VBW set to 3 MHz, with the sweep time set to auto couple. Peak and average measurements were performed with peak and RMS detectors respectively. Markers were placed on the highest point on each trace.
5. * -20 dBc limit.
6. ** In accordance with ANSI C63.10 Section 6.6.4.3, Note 1, if the peak measured value complies with the average limit, it is unnecessary to perform an average measurement.

Transmitter Band Edge Radiated Emissions (continued)

Results: Static Mode / DH5

Frequency (MHz)	Peak Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2399.920	45.9	80.3*	34.4	Complied
2400.0	45.6	80.3*	34.7	Complied
2483.5	52.0	54.0**	2.0	Complied
2483.740	53.1	54.0**	0.9	Complied

Results: 2310 MHz to 2390 MHz Restricted Band / Peak

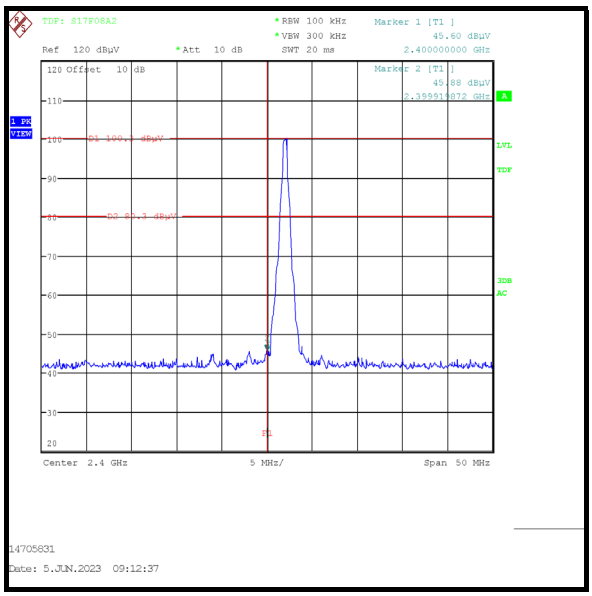
Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2370.000	53.2	74.0	20.8	Complied

Results: 2310 MHz to 2390 MHz Restricted Band / Average

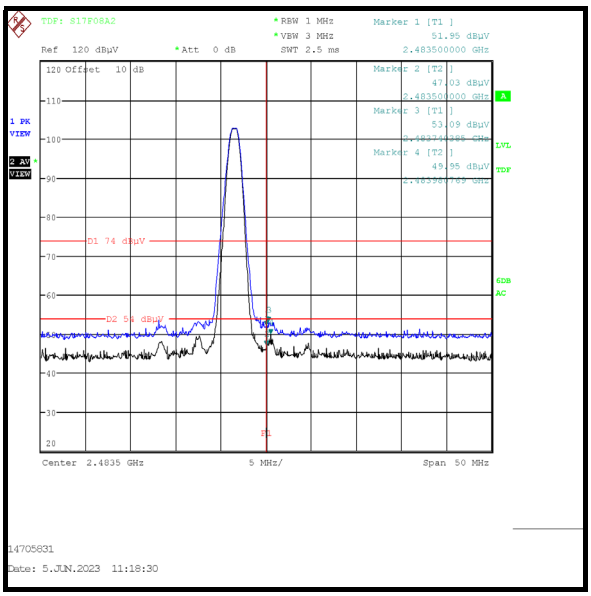
Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2381.154	47.1	54.0	6.9	Complied

Transmitter Band Edge Radiated Emissions (continued)

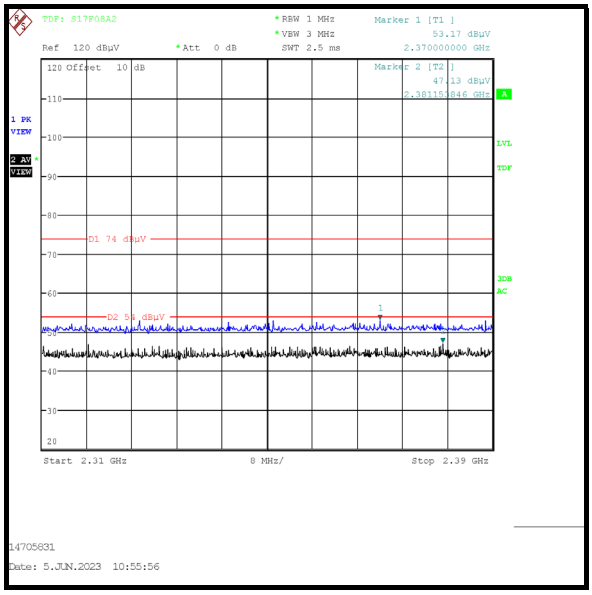
Results: Static Mode / DH5



Lower Band Edge



Upper Band Edge



2310 MHz to 2390 MHz Restricted Band

Transmitter Band Edge Radiated Emissions (continued)

Results: Hopping Mode / DH5

Frequency (MHz)	Peak Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2377.724	45.2	80.6*	35.4	Complied
2400.0	43.7	80.6*	36.9	Complied
2483.5	51.8	54.0**	2.2	Complied
2488.548	52.2	54.0**	1.8	Complied

Results: 2310 MHz to 2390 MHz Restricted Band / Peak

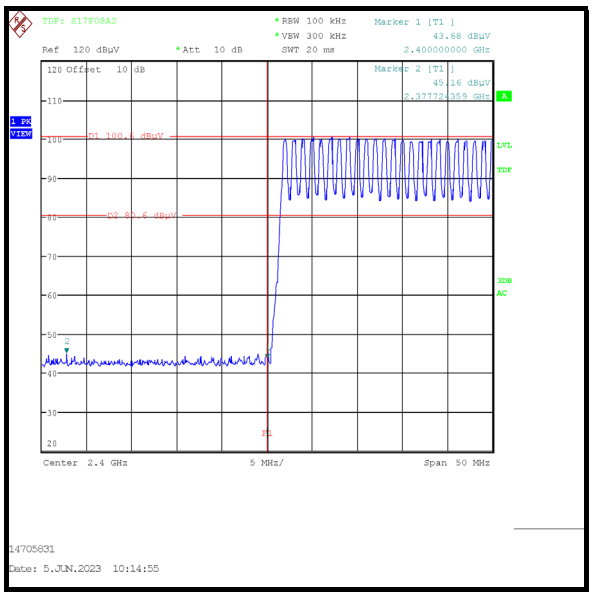
Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2377.821	52.3	74.0	21.7	Complied

Results: 2310 MHz to 2390 MHz Restricted Band / Average

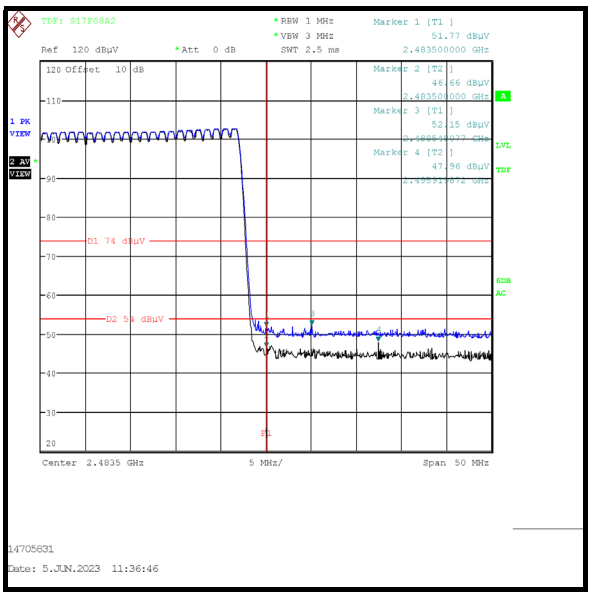
Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2357.949	46.8	54.0	7.2	Complied

Transmitter Band Edge Radiated Emissions (continued)

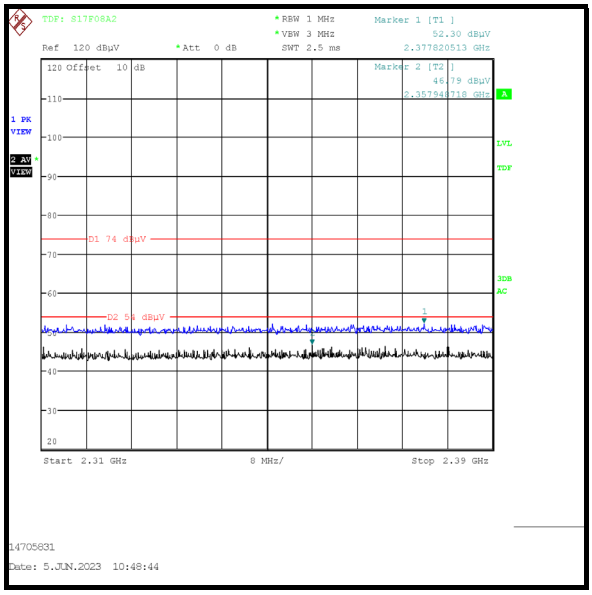
Results: Hopping Mode / DH5



Lower Band Edge



Upper Band Edge



2310 MHz to 2390 MHz Restricted Band

Transmitter Band Edge Radiated Emissions (continued)

Results: Static Mode / 2DH5

Frequency (MHz)	Peak Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2399.359	44.7	73.8*	29.1	Complied
2400.0	43.3	73.8*	30.5	Complied
2483.5	51.8	54.0**	2.2	Complied
2483.901	52.2	54.0**	1.8	Complied

Results: 2310 MHz to 2390 MHz Restricted Band / Peak

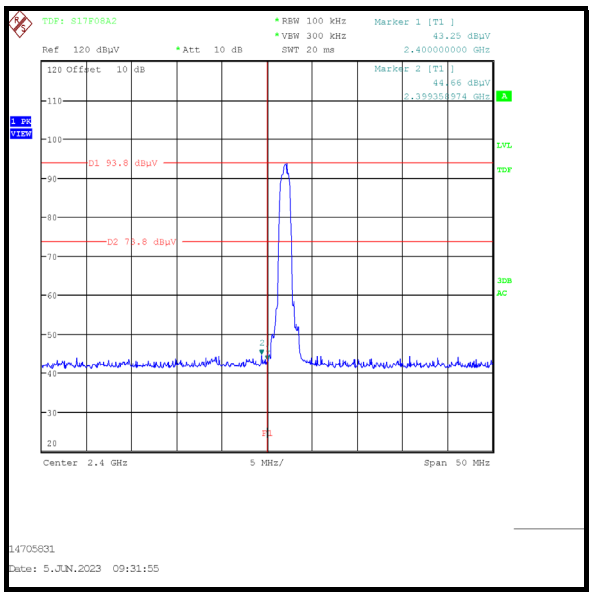
Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2374.487	53.1	74.0	20.9	Complied

Results: 2310 MHz to 2390 MHz Restricted Band / Average

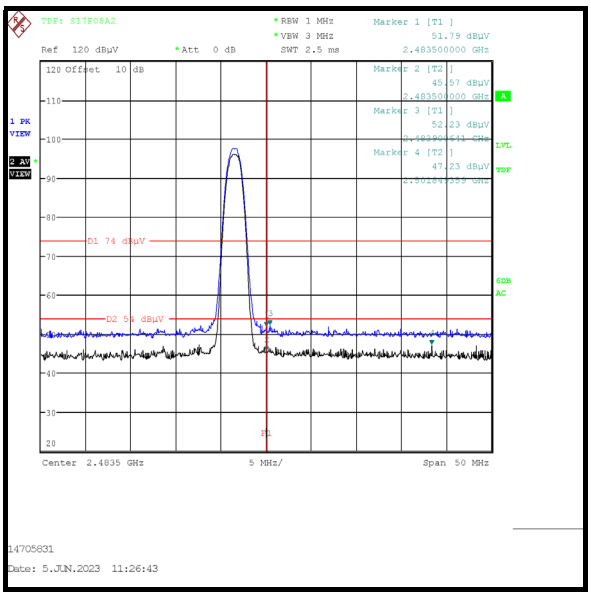
Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2366.026	47.6	54.0	6.4	Complied

Transmitter Band Edge Radiated Emissions (continued)

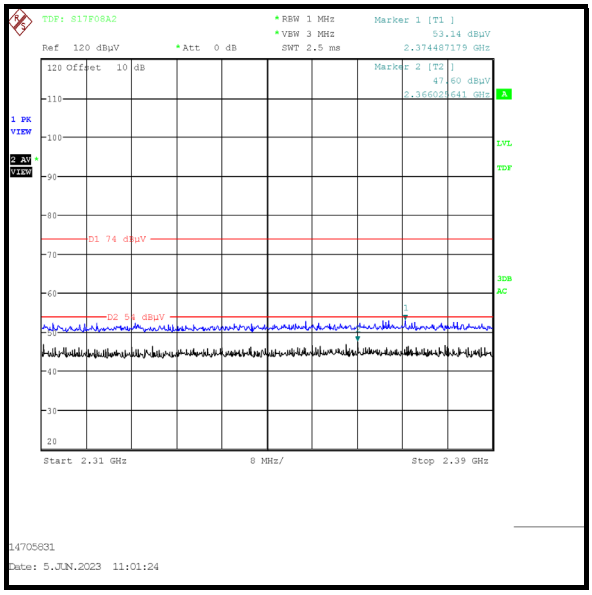
Results: Static Mode / 2DH5



Lower Band Edge



Upper Band Edge



2310 MHz to 2390 MHz Restricted Band

Transmitter Band Edge Radiated Emissions (continued)

Results: Hopping Mode / 2DH5

Frequency (MHz)	Peak Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2384.455	44.5	73.9*	29.4	Complied
2400.0	42.6	73.9*	31.3	Complied
2483.5	50.3	54.0**	3.7	Complied
2489.429	51.8	54.0**	2.2	Complied

Results: 2310 MHz to 2390 MHz Restricted Band / Peak

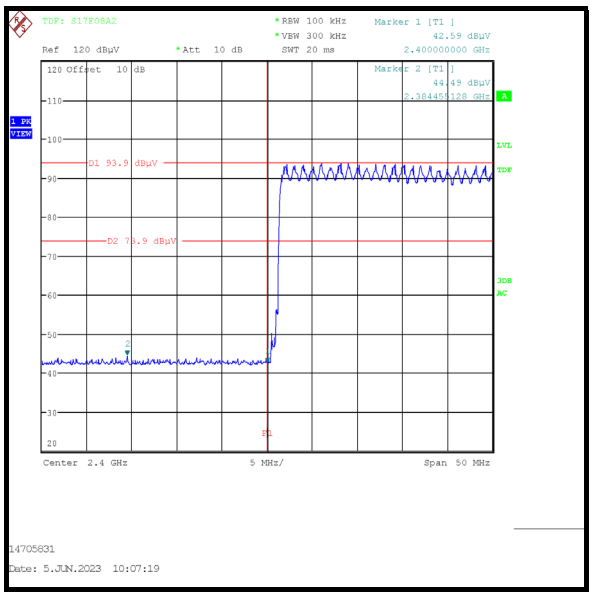
Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2364.872	52.2	74.0	21.8	Complied

Results: 2310 MHz to 2390 MHz Restricted Band / Average

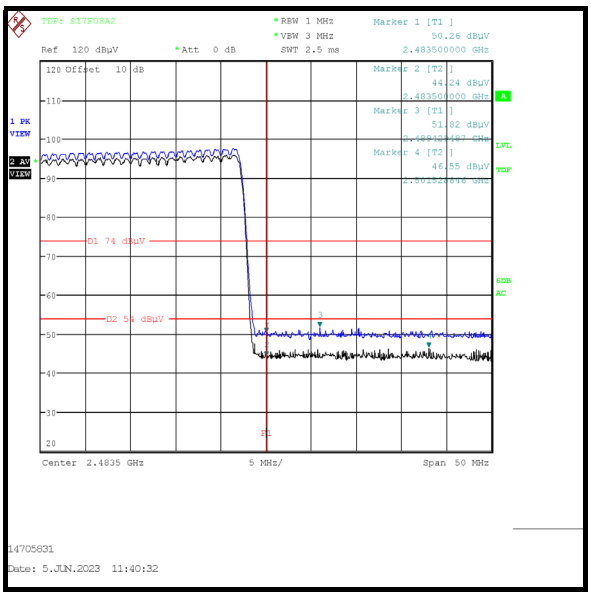
Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2374.359	46.9	54.0	7.1	Complied

Transmitter Band Edge Radiated Emissions (continued)

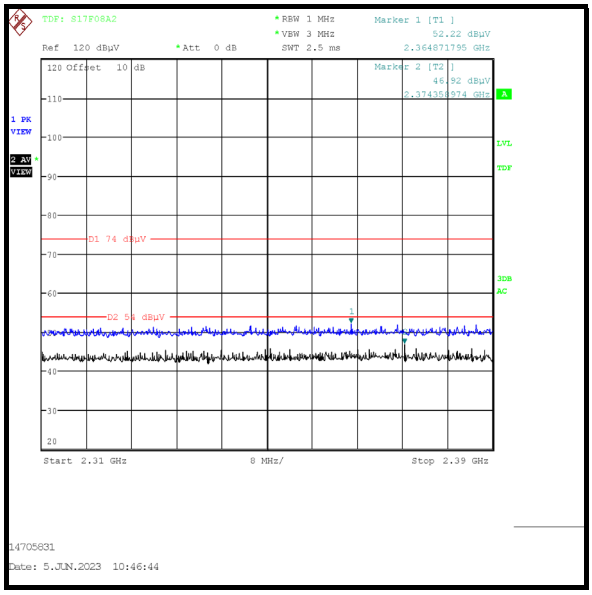
Results: Hopping Mode / 2DH5



Lower Band Edge



Upper Band Edge



2310 MHz to 2390 MHz Restricted Band

Transmitter Band Edge Radiated Emissions (continued)

Results: Static Mode / 3DH5

Frequency (MHz)	Peak Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2388.061	44.5	74.0*	29.5	Complied
2400.0	43.5	74.0*	30.5	Complied
2483.5	52.8	54.0**	1.2	Complied

Results: 2310 MHz to 2390 MHz Restricted Band / Peak

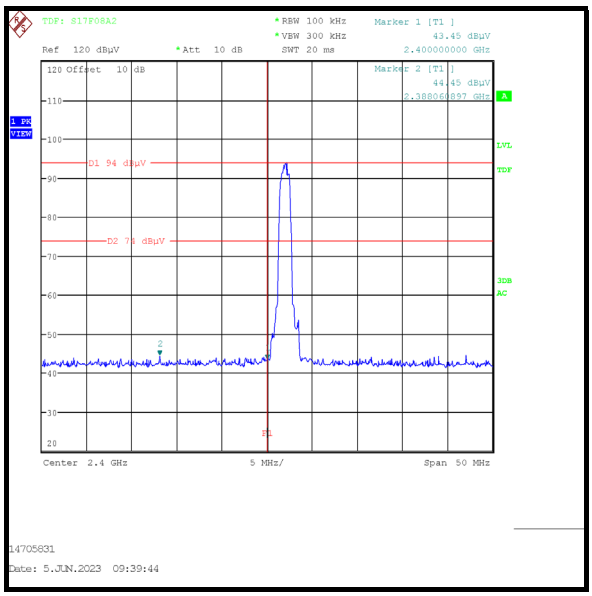
Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2319.231	52.9	74.0	21.1	Complied

Results: 2310 MHz to 2390 MHz Restricted Band / Average

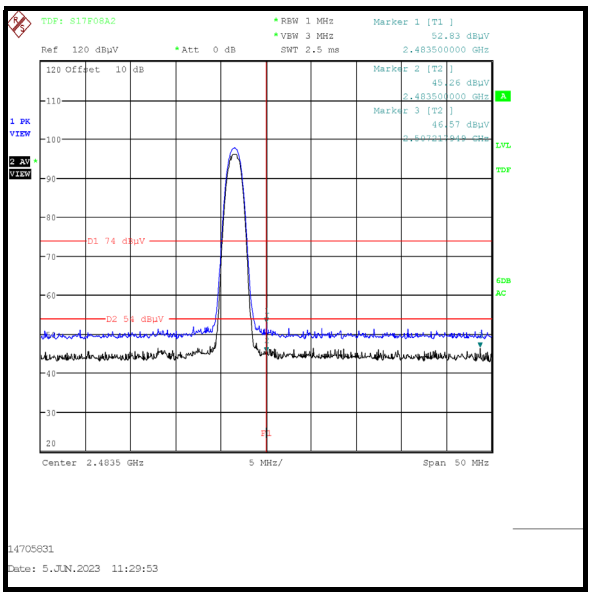
Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2367.436	46.8	54.0	7.2	Complied

Transmitter Band Edge Radiated Emissions (continued)

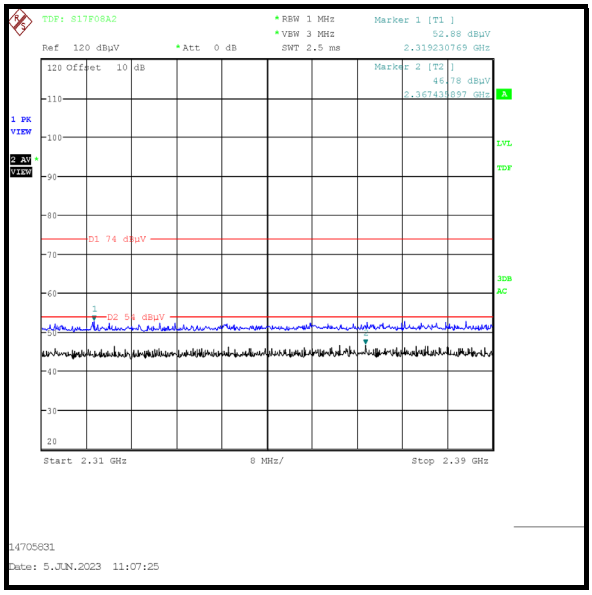
Results: Static Mode / 3DH5



Lower Band Edge



Upper Band Edge



2310 MHz to 2390 MHz Restricted Band

Transmitter Band Edge Radiated Emissions (continued)

Results: Hopping Mode / 3DH5

Frequency (MHz)	Peak Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2379.487	45.0	73.7*	28.7	Complied
2400.0	42.6	73.7*	31.1	Complied
2483.5	50.0	54.0**	4.0	Complied
2492.635	53.5	54.0**	0.5	Complied

Results: 2310 MHz to 2390 MHz Restricted Band / Peak

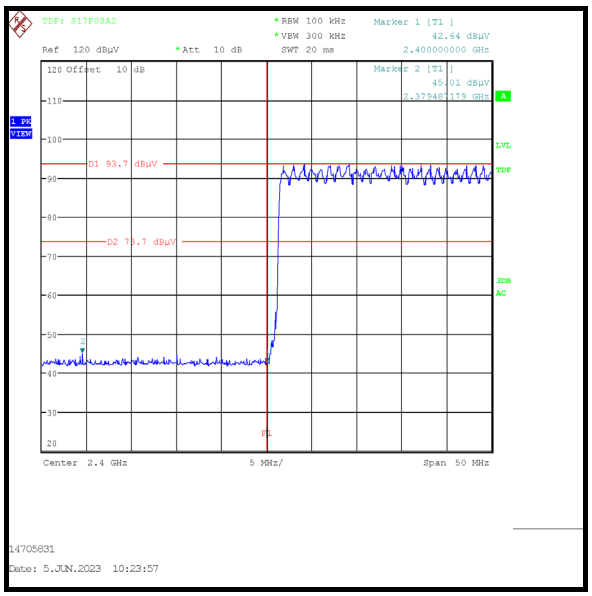
Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2366.154	52.7	74.0	21.3	Complied

Results: 2310 MHz to 2390 MHz Restricted Band / Average

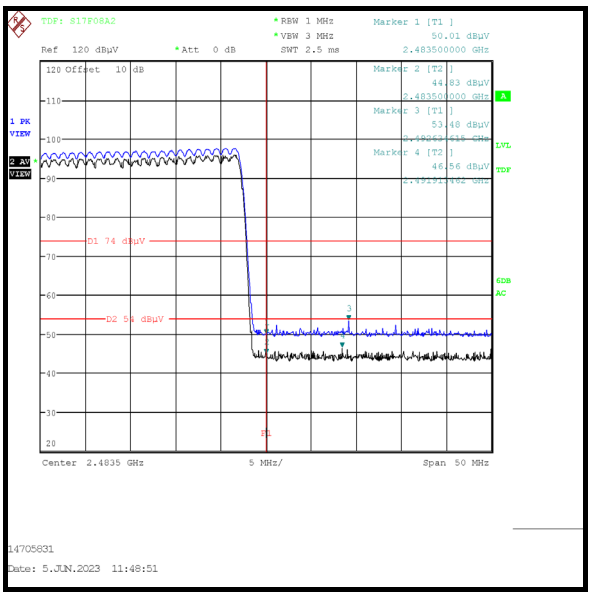
Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2368.077	47.1	54.0	6.9	Complied

Transmitter Band Edge Radiated Emissions (continued)

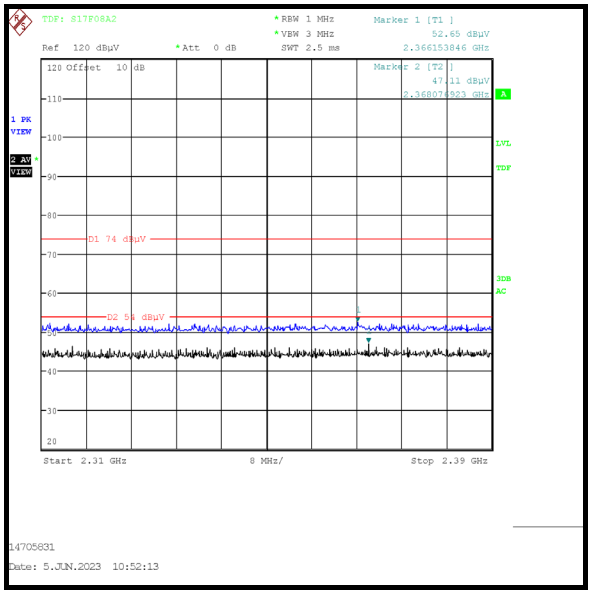
Results: Hopping Mode / 3DH5



Lower Band Edge



Upper Band Edge



2310 MHz to 2390 MHz Restricted Band

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