

TEST REPORT

Test Report No. : UL-RPT-RP15796127-316A

Customer* : Sportable Technologies Ltd

Model No.* : FIFM0001

FCC ID* : 2A929-718572


Technology : Wideband


Test Standard(s) : FCC Parts 15.207,15.209(a) & 15.250

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: 05 September 2025

Checked by: 
Sarah Williams
Staff Engineer, Radio Laboratory

Company Signatory: 
Ben Mercer
Lead Test Engineer, Radio Laboratory



Customer Information

Company Name*:	Sportable Technologies Ltd
Address*:	Unit C, The Cube Building, 17-21 Wenlock Road, London N1 7GT United Kingdom

Report Revision History

Version Number	Issue Date	Revision Details	Revised By
1.0	20/06/2025	Initial Version	Sarah Williams
2.0	05/09/2025	Implemented TCB feedback	Ben Mercer

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1 Attestation of Test Results










1.1 Description of EUT

The equipment under test (EUT) was a standalone, battery-powered UWB radio tracker designed for real-time ball location monitoring in professional sports.*

1.2 General Information

Specification Reference:	47CFR15.250
Specification Title:	Code of Federal Regulations Volume 47 (Telecommunication): Part 15 Subpart C (Intentional Radiators) – Section 15.250
Specification Reference:	47CFR15.207 and 47CFR15.209
Specification Title:	Code of Federal Regulations Volume 47 (Telecommunication): Part 15 Subpart C (Intentional Radiators) – Sections 15.207 and 15.209
Site Registration:	685609
FCC Lab. Designation No.:	UK2011
Location of Testing:	Units 3 & 4 Horizon, Wade Road, Kingsland Business Park, Basingstoke, Hampshire, RG24 8AH, United Kingdom
Test Dates:	27 May 2025 to 06 June 2025

1.3 Summary of Test Results

FCC Reference (47CFR)	Measurement	Result
Part 15.250(a)	Transmitter Frequency Stability	
Part 15.250(a) & (b)	Transmitter -10 dB Bandwidth	
Part 15.250(d)(1)	Transmitter Emission Average Level	
Part 15.250(d)(3)	Transmitter Emission Peak Level	
Parts 15.250(d)(4) & 15.209(a)	Transmitter Radiated Emissions Below 960 MHz	
Part 15.250(d)(1) & (2)	Transmitter Radiated Emissions Above 960 MHz	
Part 15.207	Transmitter AC Conducted 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 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	-
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 174176 D01 Line Conducted FAQ v01r01 June 3, 2015
Title:	AC Power-Line Conducted Emissions Frequently Asked Questions

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
Transmitter -10 dB Bandwidth	5.925 GHz to 7.250 GHz	95%	±3.27 %
Frequency Stability	5.925 GHz to 7.250 GHz	95%	±3.27 %
Transmitter Emissions Average/Peak Level	5.925 GHz to 7.250 GHz	95%	±3.64 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
AC Conducted Spurious Emissions	0.15 MHz to 30 MHz	95%	±1.88 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 Frequency Stability Test

Asset No.	Instrument	Manufacturer	Type No.	Serial No.	Date Calibration Due	Cal. Interval (Months)
M2072	Thermohygrometer	Testo	608-H1	45257961	20 Dec 2025	12
M1873	Signal Analyser	Rohde & Schwarz	FSV30	103074	02 Oct 2025	12
M256182	Thermometer	Fluke Corporation	51 II	66740043WS	08 Jan 2026	12
M1251	Multimeter	Fluke Corporation	175	89170179	21 Jun 2025	12
E1674	Environmental Chamber	Espec	SU-241	92013139	Calibrated before use	-
S0557	Power supply	TTI	EL303R	395819	Calibrated before use	-

Test Equipment Used for Transmitter -10 dB Bandwidth & Peak Level 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	29 Apr 2026	12
M227313	Signal Analyser	Rohde & Schwarz	FSW43	102471	20 Sep 2025	12
A231864	Pre-Amplifier	Atlantic Microwave	A-LNAKX-380116-S5S5	221044002	28 Apr 2026	12
A231044	Antenna	Schwarzbeck	BBHA 9120 B	00835	28 Apr 2026	12

Test Equipment Used for Transmitter Emission Average Level Test

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	29 Apr 2026	12
M1995	Test Receiver	Rohde & Schwarz	ESU40	100428	19 Mar 2026	12
A231864	Pre-Amplifier	Atlantic Microwave	A-LNAKX-380116-S5S5	221044002	28 Apr 2026	12
A231044	Antenna	Schwarzbeck	BBHA 9120 B	00835	28 Apr 2026	12

Test and Measurement Equipment (continued)**Test Equipment Used for Transmitter AC Conducted Spurious Emissions Tests**

Asset No.	Instrument	Manufacturer	Type No.	Serial No.	Date Calibration Due	Cal. Interval (Months)
M2073	Thermohygrometer	Testo	608-H1	45258165	20 Dec 2025	12
M1124	Test Receiver	Rohde & Schwarz	ESIB26	100046	15 Oct 2025	12
A649	LISN	Rohde & Schwarz	ESH3-Z5	825562/008	07 Aug 2025	12
A1830	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100668	15 Jul 2025	12

Test Measurement Software/Firmware Used:

Name	Version	Release Date
Rohde & Schwarz EMC32	6.30.0	2018

Test Equipment Used for Transmitter 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	29 Apr 2026	12
M1995	Test Receiver	Rohde & Schwarz	ESU40	100428	19 Mar 2026	12
A231567	Pre-Amplifier	RF Bay	LNA-1070	2	28 Apr 2026	12
A231864	Pre-Amplifier	Atlantic Microwave	A-LNAKX-380116-S5S5	221044002	28 Apr 2026	12
A230567	Pre-Amplifier	Atlantic Microwave	A-HPAKX-380143-K5K5	VJ3601001	14 Apr 2026	12
A3198	Magnetic Loop Antenna	ETS-Lindgren	6502	00221887	05 Nov 2025	12
A225134	Antenna	Teseq	CBL6111D	62222	13 Mar 2026	12
A231044	Antenna	Schwarzbeck	BBHA 9120 B	00835	28 Apr 2026	12
A231045	Antenna	Schwarzbeck	HWRD 750	00064	28 Apr 2026	12
A231050	Antenna	Schwarzbeck	BBHA 9170	01280	14 Apr 2026	12
A3115	Attenuator	AtlanTecRF	AN18-06	219706#5	13 Mar 2026	12
A212032	Low Pass Filter	Micro-Tronics	LPS20721	001	06 May 2026	12
A227129	High Pass Filter	Micro-Tronics	HPS20722	003	06 May 2026	12

3 Equipment Under Test (EUT)

3.1 Identification of Equipment Under Test (EUT)

Brand Name*:	Sportable
Model Number*:	FIFM0001
Test Sample Serial Number*:	M004DX (<i>Radiated sample #1</i>)
Hardware Version*:	HW01.03
Firmware Version*:	Zephyr_04498a6
FCC ID*:	2A929-718572
Date of Receipt:	27 May 2025

Brand Name*:	Sportable
Model Number*:	FIFM0001
Test Sample Serial Number*:	M004DY (<i>Radiated sample #2</i>)
Hardware Version*:	HW01.03
Firmware Version*:	Zephyr_04498a6
FCC ID*:	2A929-718572
Date of Receipt:	27 May 2025

Brand Name*:	Sportable
Model Name or Number*:	FIFM0001
Test Sample Serial Number*:	UL ID: 8554545 (<i>Conducted sample</i>)
Hardware Version*:	HW01.03
Firmware Version*:	Zephyr_04498a6
FCC ID*:	2A929-718572
Date of Receipt:	05 June 2025

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:	Wideband	
Type of Unit:	Transceiver	
Modulation*:	Burst Position Modulation (BPM) - Binary Phase shift keying (BPSK)	
Duty Cycle*:	15%	
Power Supply Requirement(s)*:	3.8 VDC	
Transmit Frequency Range*:	6240 MHz to 6739.2 MHz	
Transmit Channel Tested:	Channel ID	Channel Frequency (MHz)
	Single	6489.6

3.4 Description of Available Antennas

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

Frequency Range (MHz)	Antenna Gain (dBi)*
6240.0 – 6739.2	3.5

3.5 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
USB-A to Micro USB cable	Not marked or stated	Not marked or stated	Not marked or stated
Debug Adaptor	FINCH	H/W00/01	Not marked or stated

Laboratory Supplied*:

Description	Brand Name	Model Name or Number	Serial Number
Test Laptop	Lenovo	L480	PF1EHZQQ
Test Laptop	Lenovo	L470	PF10T3HL
AC Charger	Lenovo	ADLX45NCC3A	Not marked or stated

Operating Modes

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

- Constantly transmitting at maximum power with a wideband modulated signal with the longest supported burst length.

Configuration and Peripherals

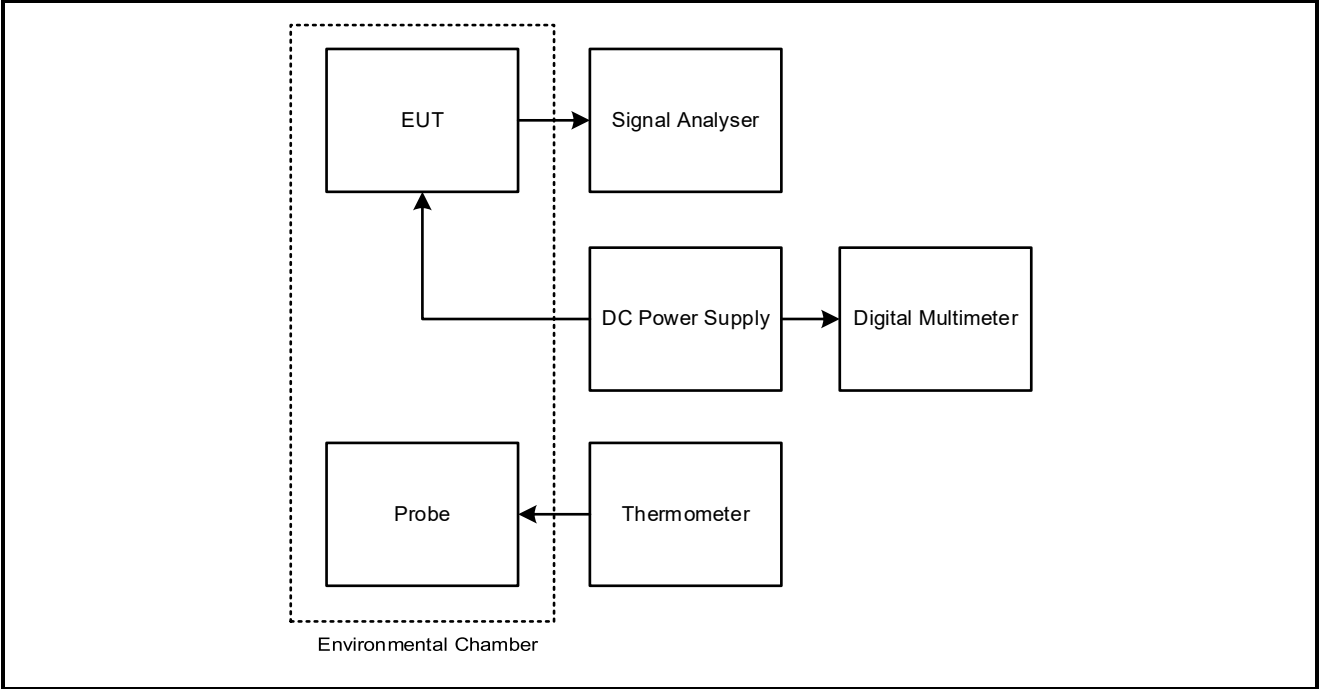
The EUT was tested in the following configuration(s):

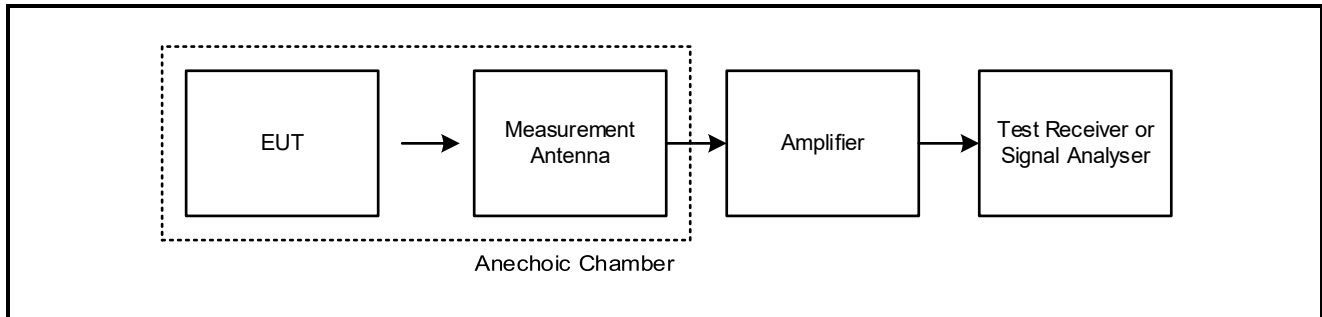
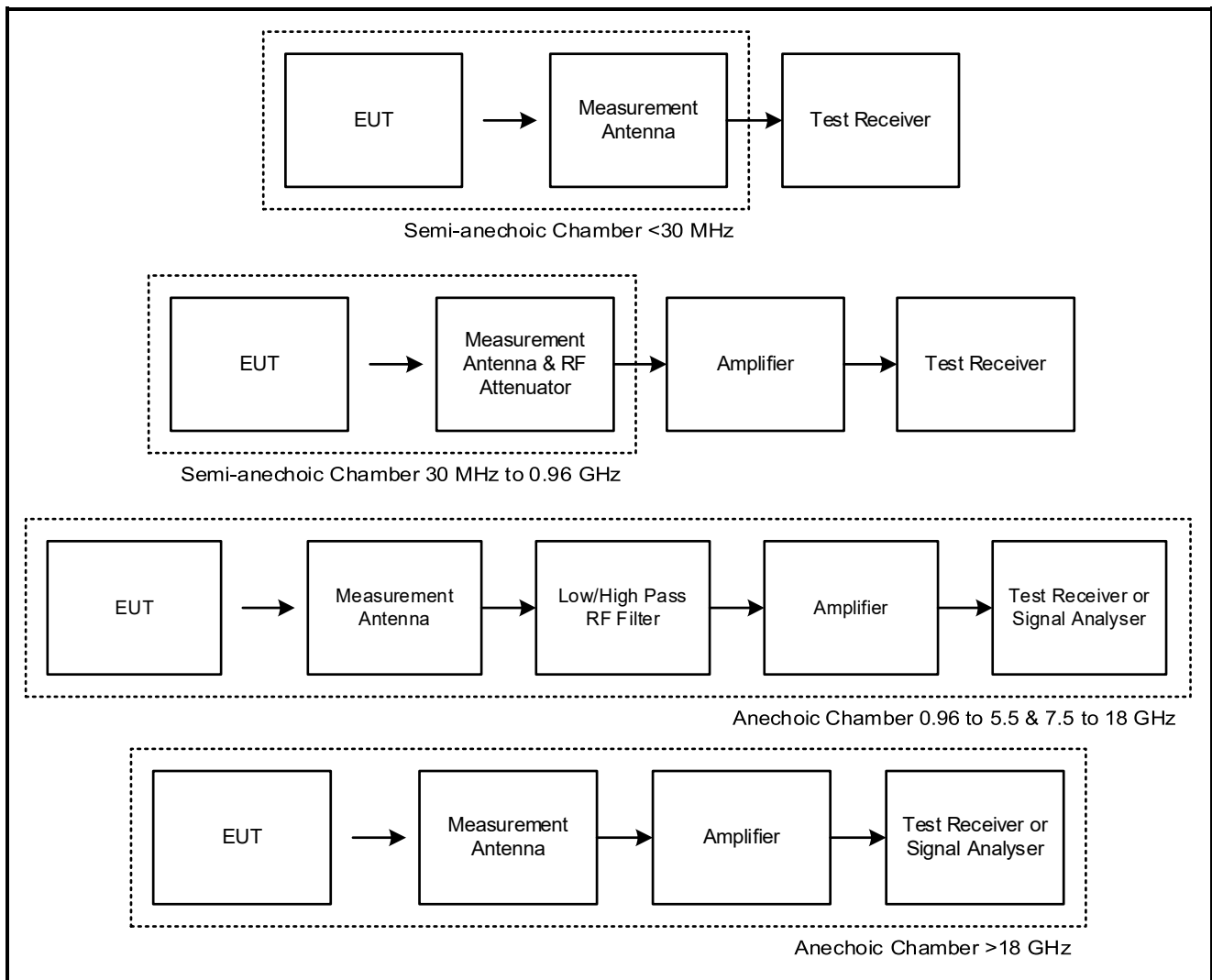
- Controlled in a test mode using a terminal application on a test laptop. The laptop connected the EUT via a USB-A to Micro USB cable to a debugger board. The debugger board was disconnected after the EUT was configured. The terminal commands were used to enable continuous transmission and to set the transmit power setting as required.
- Frequency stability measurements were performed using sample with serial number 8554545. This sample had a retrofitted connector which allowed the EUT to be powered directly from a DC power supply. This DC power supply was monitored throughout the test using a calibrated digital voltmeter. All other measurements were performed using samples with serial numbers M004DX and M004DY.
- Radiated measurements were performed with the EUT in the worst-case orientation with respect to emissions whilst powered by its internal battery.

Test Setup Diagrams

Antenna Port Test:

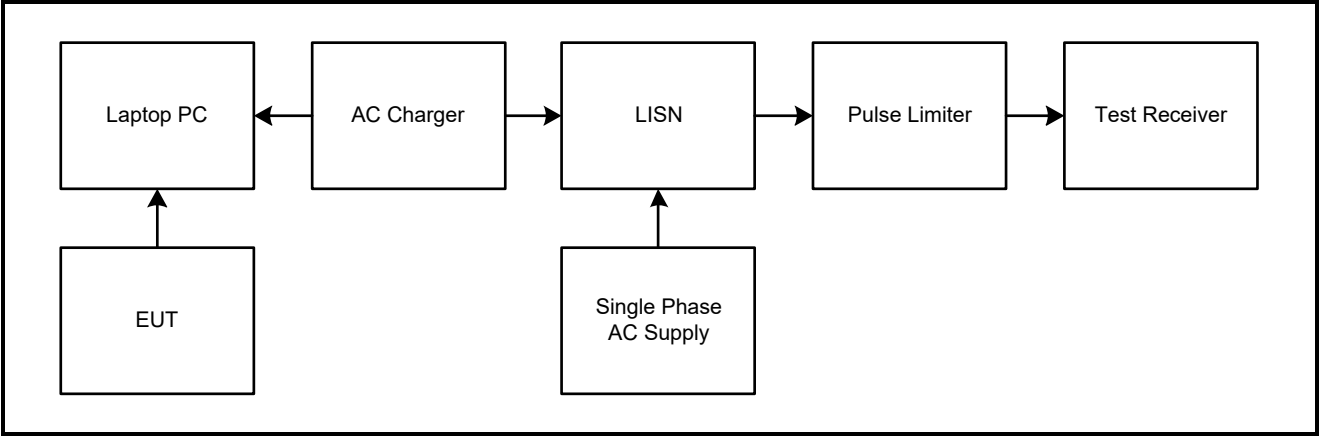
Test Setup for Transmitter Frequency Stability Tests



Test Setup Diagrams (continued)**Radiated Tests:****Test Setup for Transmitter -10 dB Bandwidth Emission, Average & Peak Level Tests****Test Setup for Transmitter Radiated Emissions**

Test Setup Diagrams (continued)

Test Setup for Transmitter AC Conducted Spurious Emissions



4 Antenna Port Test Results

4.1 Transmitter Frequency Stability (Temperature Variation)

Test Summary:

Test Engineer:	Shamraiz Ashiq	Test Date:	05 June 2025
Test Sample Serial Number:	8554545		

FCC Reference:	Part 15.250(a)
Test Method Used:	Part 15.250(e)(4) & ANSI C63.10 Section 6.8 and Notes below

Environmental Conditions:

Temperature (°C):	27
Relative Humidity (%):	48

Note(s):

1. The -10 dB bandwidth was measured using a peak detector in a 1 MHz resolution bandwidth and a video bandwidth greater than or equal to the resolution bandwidth. -10 dB points were measured at the customer's stated minimum and maximum temperatures of -10°C and +50°C. Markers were placed on the lower and upper -10 dB points and the results recorded in the table below.
2. A sufficient stabilisation period was allowed at each temperature level in accordance with ANSI C63.10 Section 6.8.1(f). Result plots are archived on the company IT server and available for inspection if required. The worst-case values are recorded in the table below.
3. Temperature was monitored throughout the test with a calibrated digital thermometer.

Results:

Temperature (°C)	Lower -10 dB Frequency (MHz)	Upper -10 dB Frequency (MHz)	Lower Limit (MHz)	Upper Limit (MHz)	Result
-10	6209.100	6769.900	5925	7250	Complied
0	6210.100	6769.900	5925	7250	Complied
10	6210.100	6769.900	5925	7250	Complied
20	6210.000	6784.900	5925	7250	Complied
30	6210.100	6769.900	5925	7250	Complied
40	6210.100	6769.900	5925	7250	Complied
50	6237.100	6769.900	5925	7250	Complied

4.2 Transmitter Frequency Stability (Voltage Variation)

Test Summary:

Test Engineer:	Shamraiz Ashiq	Test Date:	05 June 2025
Test Sample Serial Number:	8554545		

FCC Reference:	Part 15.250(a)
Test Method Used:	Part 15.250(e)(4) & ANSI C63.10 Section 6.8 and Notes below

Environmental Conditions:

Temperature (°C):	24
Relative Humidity (%):	48

Note(s):

1. The -10 dB bandwidth was measured using a peak detector in a 1 MHz resolution bandwidth and a video bandwidth greater than or equal to the resolution bandwidth. -10 dB points were measured at the customer's stated minimum, nominal and maximum voltages. Markers were placed on the lower and upper -10 dB points and the results recorded in the table below.
2. Voltage was monitored throughout the test with a calibrated digital voltmeter.
3. Result plots are archived on the company IT server and available for inspection if required.

Results:

Voltage (DC)	Lower -10 dB Frequency (MHz)	Upper -10 dB Frequency (MHz)	Lower Limit (MHz)	Upper Limit (MHz)	Result
3.5	6210.100	6769.900	5925	7250	Complied
3.8	6210.000	6784.900	5925	7250	Complied
4.2	6210.100	6769.900	5925	7250	Complied

5 Radiated Test Results

5.1 Transmitter -10 dB Bandwidth

Test Summary:

Test Engineer:	Shamraiz Ashiq	Test Date:	27 May 2025
Test Sample Serial Number:	M004DY		

FCC Reference:	Part 15.250(a) & (b)
Test Method Used:	Part 15.250(e)(4) & ANSI C63.10 Section 10.1

Environmental Conditions:

Temperature (°C):	22
Relative Humidity (%):	47

Note(s):

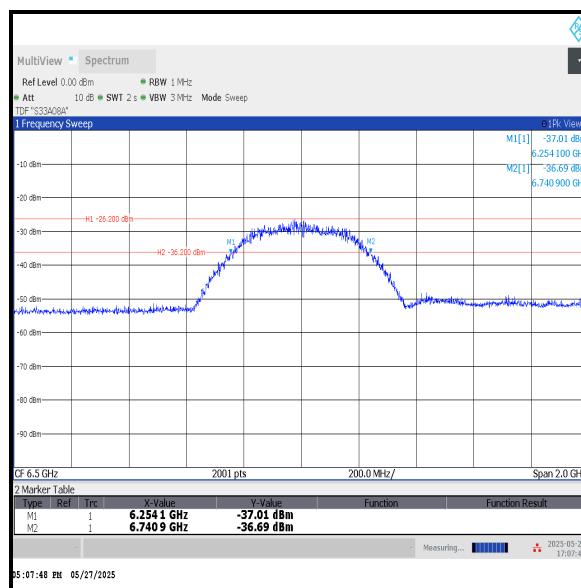
1. The -10 dB bandwidth was measured using a peak detector in a 1 MHz resolution bandwidth and a video bandwidth greater than or equal to the resolution bandwidth. Markers were placed on the lower and upper -10 dB points and the frequencies recorded.
2. The -10 dB Bandwidth was calculated in accordance with ANSI C63.10 section 10.1.

Transmitter -10 dB Bandwidth (continued)**Results: 15.250(a)**

Lower -10 dB Frequency (MHz)	Upper -10 dB Frequency (MHz)	Lower Limit (MHz)	Upper Limit (MHz)	Result
6254.100	6740.900	5925	7250	Complied

Results: 15.250(b)

-10 dB Bandwidth (MHz)	Limit (MHz)	Margin (MHz)	Result
486.800	>50.0	436.800	Complied



5.2 Transmitter Emission Average Level

Test Summary:

Test Engineer:	Shamraiz Ashiq	Test Date:	27 May 2025
Test Sample Serial Number:	M004DY		

FCC Reference:	Part 15.250(d)(1)
Test Method Used:	Part 15.250(e)(1) & ANSI C63.10 Sections 10.3

Environmental Conditions:

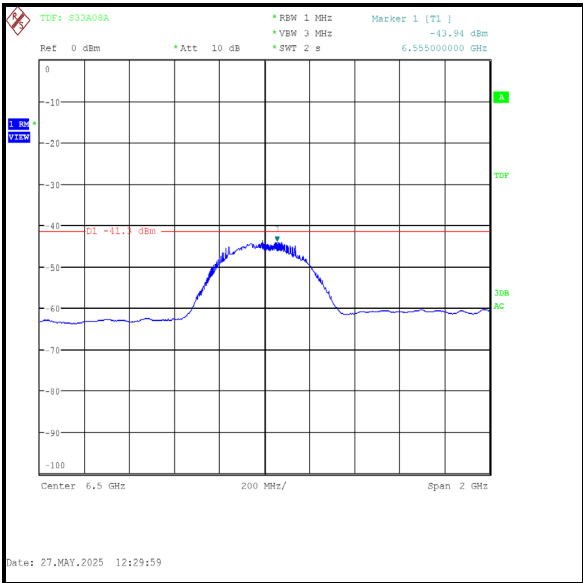
Temperature (°C):	22
Relative Humidity (%):	47

Note(s):

1. Measurements were performed in a fully anechoic chamber (Asset Number K226203) 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. Maximum emission levels were determined by height searching the measurement antenna over the range 1 metre to 4 metres.
2. The test receiver was configured with a resolution bandwidth of 1 MHz and video bandwidth of 3 MHz the measurement span was set to 2 GHz and a sweep time of 2 seconds with 2001 sweep points were used. The test receiver was set to the centre frequency of the peak signal. An RMS detector and max hold function were used.

Results:

Frequency (MHz)	Antenna Polarity	Level (dBm)	Limit (dBm)	Margin (dB)	Result
6555.000	Horizontal	-43.9	-41.3	2.6	Complied



5.3 Transmitter Emission Peak Level

Test Summary:

Test Engineer:	Shamraiz Ashiq	Test Date:	27 May 2025
Test Sample Serial Number:	M004DY		

FCC Reference:	Part 15.250(d)(3)
Test Method Used:	Part 15.250(e)(2) & ANSI C63.10 Section 10.3.6

Environmental Conditions:

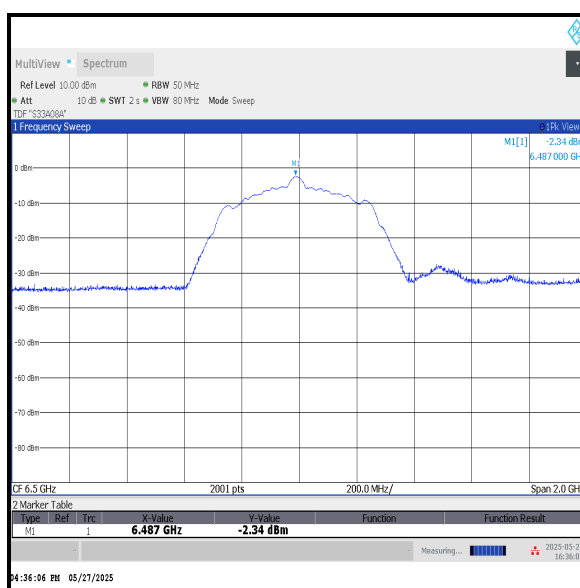
Temperature (°C):	22
Relative Humidity (%):	47

Note(s):

- Measurements were performed in a fully anechoic chamber (Asset Number K226203) 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. Maximum emission levels were determined by height searching the measurement antenna over the range 1 metre to 4 metres.
- The test receiver was configured with a resolution bandwidth of 50 MHz and video bandwidth of 80 MHz the measurement span was set to 2 GHz and a sweep time of 2 seconds with 2001 sweep points were used. The test receiver was set to the centre frequency of the peak signal. A peak detector and max hold function were used.

Results:

Frequency FM (MHz)	Antenna Polarity	Level (dBm/50 MHz)	Limit (dBm/50 MHz)	Margin (dB)	Result
6487.000	Horizontal	-2.3	0.0	2.3	Complied



5.4 Transmitter Radiated Emissions Below 960 MHz

Test Summary:

Test Engineers:	Shamraiz Ashiq & Andrew Edwards	Test Dates:	29 May 2025 & 02 June 2025
Test Sample Serial Numbers:	M004DY		

FCC Reference:	Parts 15.250(d)(4) & 15.209(a)
Test Method Used:	ANSI C63.10 Sections 6.3, 6.4 and 6.5
Frequency Range	9 kHz to 960 MHz

Environmental Conditions:

Temperature (°C):	22
Relative Humidity (%):	46 to 48

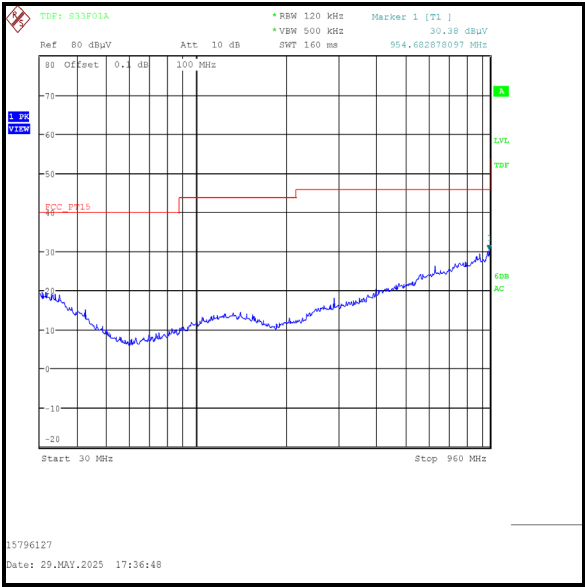
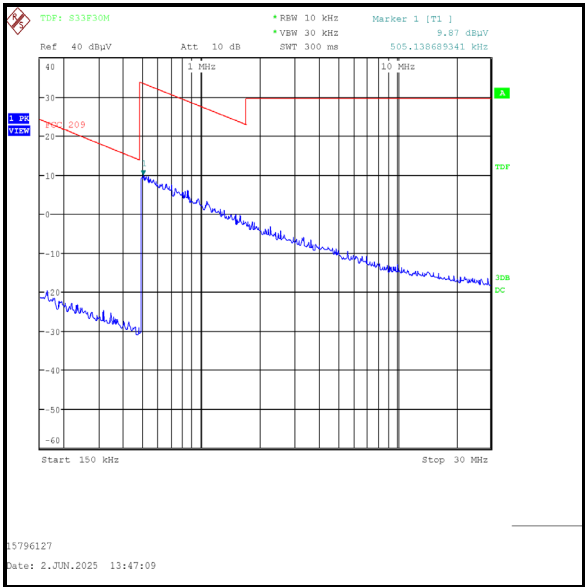
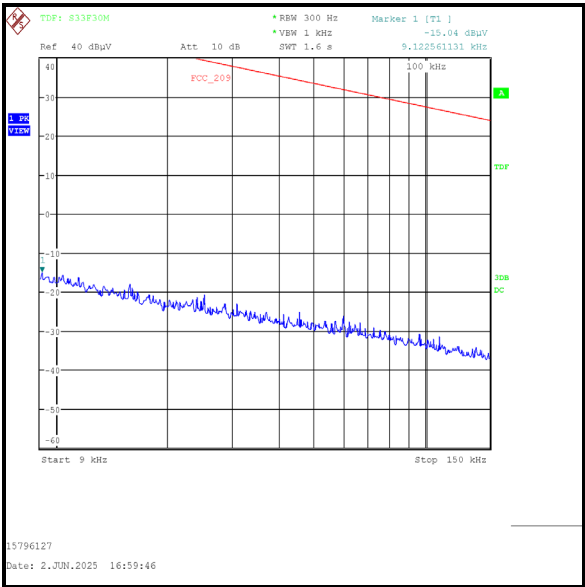
Note(s):

1. All 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. Therefore, the highest peak noise floor reading of the measuring receiver was recorded in the table below.
2. Measurements below 30 MHz were performed in a semi-anechoic chamber (Asset Number K226203) 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.
3. 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
4. Measurements from 30 MHz to 960 MHz were performed in a semi-anechoic chamber (Asset Number K226203) 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. 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 960 MHz, 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.

Transmitter Radiated Emissions (continued)

Results: Peak

Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
954.683	Horizontal	30.4	46.0	15.6	Complied



5.5 Transmitter Radiated Emissions Above 960 MHz

Test Summary:

Test Engineer:	Shamraiz Ashiq	Test Dates:	28 May 2025 & 29 May 2025
Test Sample Serial Number:	M004DX & M004DY		

FCC Reference:	Part 15.250(d)(1)(2)
Test Method Used:	Part 15.250(e)(1) & ANSI C63.10 Sections 6.3, 6.6 & 10.3
Frequency Range	960 MHz to 40 GHz

Environmental Conditions:

Temperature (°C):	22
Relative Humidity (%):	47 & 48

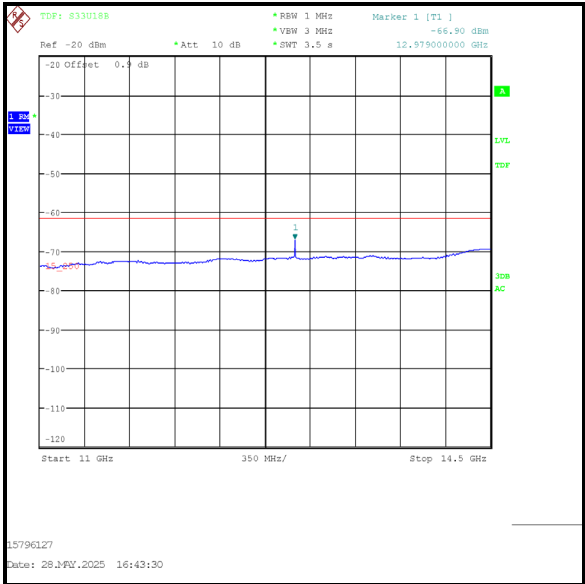
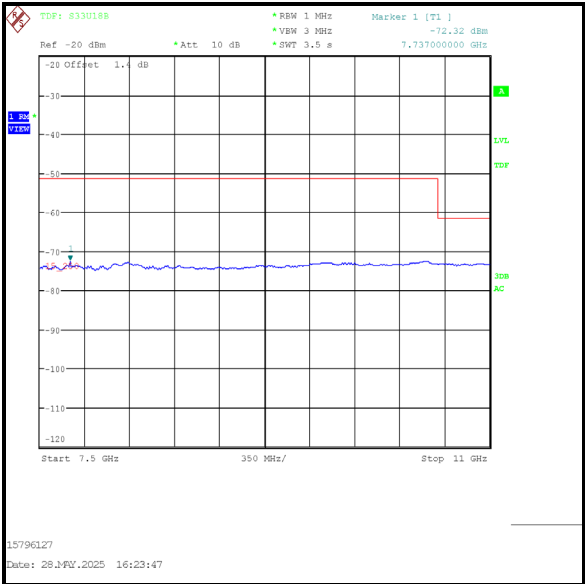
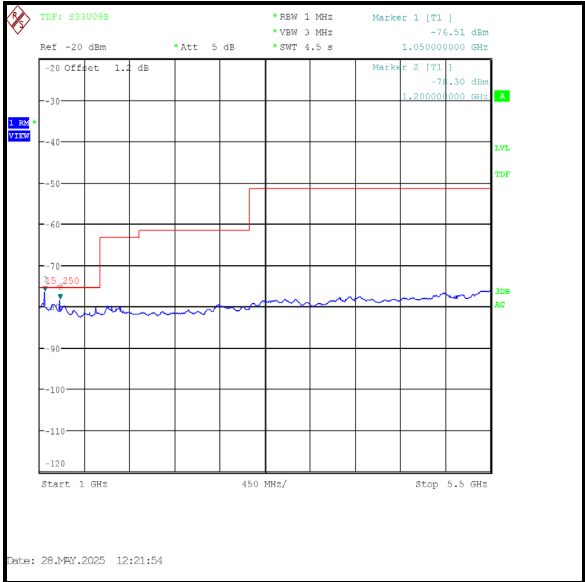
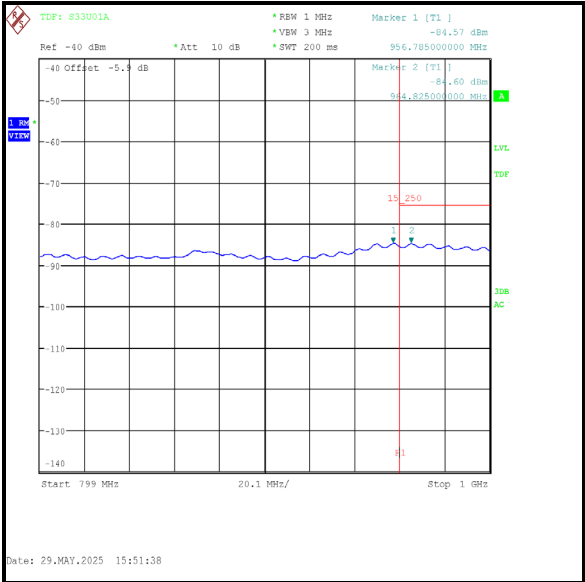
Note(s):

1. The final measured value, for the given emission, in the table below incorporates the calibrated antenna factor and cable loss.
2. Part 15.250(d)(1): 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.
3. Part 15.250(d)(2): The emissions shown on the pre-scans at approximately 1200 MHz, 1560 MHz, 1580 MHz and 1600 MHz were investigated and found to be ambient. No other spurious emissions were detected above the noise floor of the measuring receiver therefore the highest peak noise floor reading of the measuring receiver was recorded in the table below.
4. Measurements between 5.5 GHz to 7.5 GHz showing the fundamental can be found in section 5.2.
5. In certain frequency ranges it was not possible to perform the measurements at the required distance due to the level of the measurement system noise floor compared with the limit. Therefore, the test distance was reduced and a correction offset was applied to the measurements.
6. Pre-scans above 960 MHz were performed in a fully anechoic chamber (Asset Number K226203) at a distance of between 0.4 to 1 metre. The EUT was placed at a height of 1.5 metres above the reference ground plane in the centre of the chamber turntable. For emissions measured at ≤1 metre test distance, it was not possible to maximise the emission using height search, therefore in accordance with ANSI C63.10 section 6.6.5.4 the alternative method was used (elevating the EUT in 30° increments from 0° to 150°).
7. Pre-scans were performed and a marker placed on the highest measured level of the appropriate plot. Part 15.250(d)(1): The test receiver resolution bandwidth was set to 1 MHz and video bandwidth 3 MHz the sweep time was set in accordance with FCC Part 15.250(e)(1). An RMS detector was used, and trace mode was Max Hold. Part 15.250(d)(2): The test receiver resolution bandwidth was set to 30 kHz and video bandwidth 1 MHz the sweep time was set in accordance with FCC Part 15.250(e)(1). An RMS detector was used, and trace mode was Max Hold.
8. Due to limitations of the test receiver, it was necessary to overlap the start and stop frequencies of pre-scan measurement ranges to satisfy the sweep point requirement in FCC Part 15.250(e)(1). Pre-scan measurements < 1 GHz were performed between 799 MHz to 1 GHz; A frequency line has been placed at 960 MHz to indicate the actual measurement start frequency. Appendix 1 of this report details the frequency range, sweep points and sweep time used.

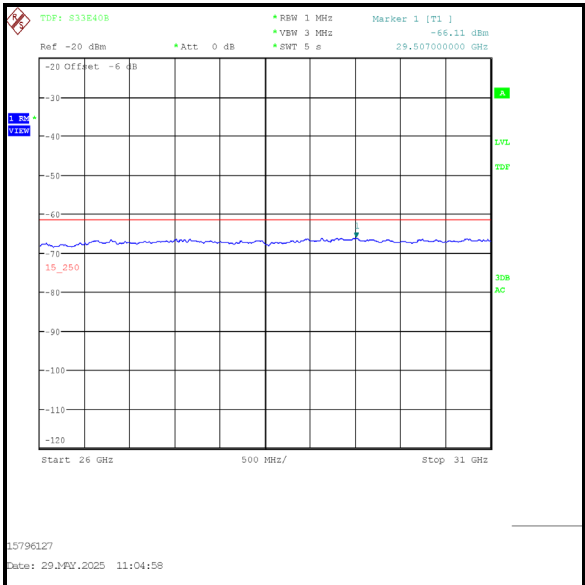
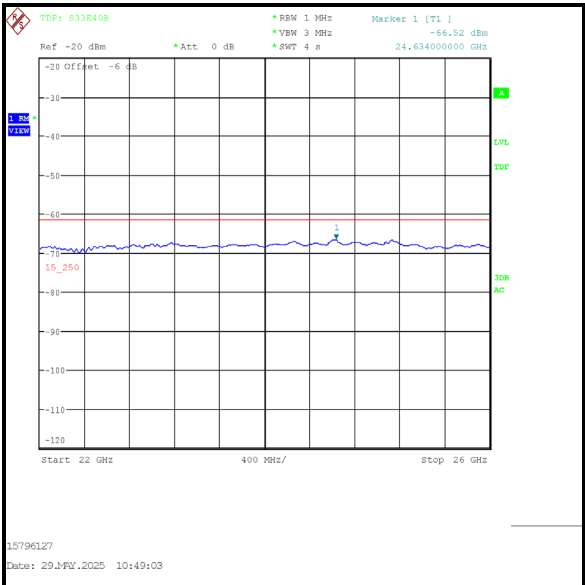
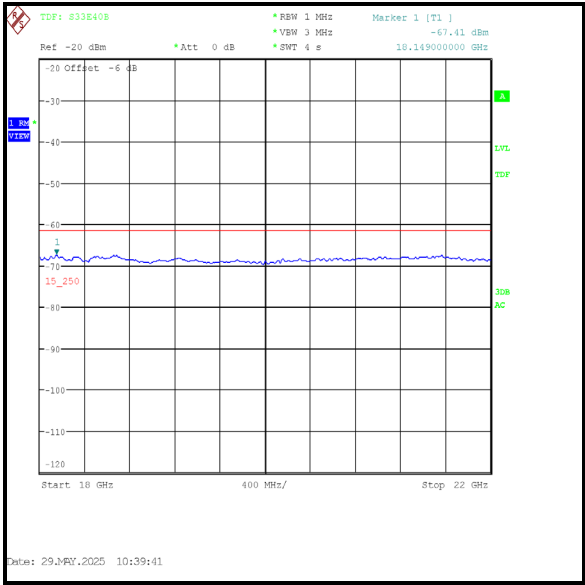
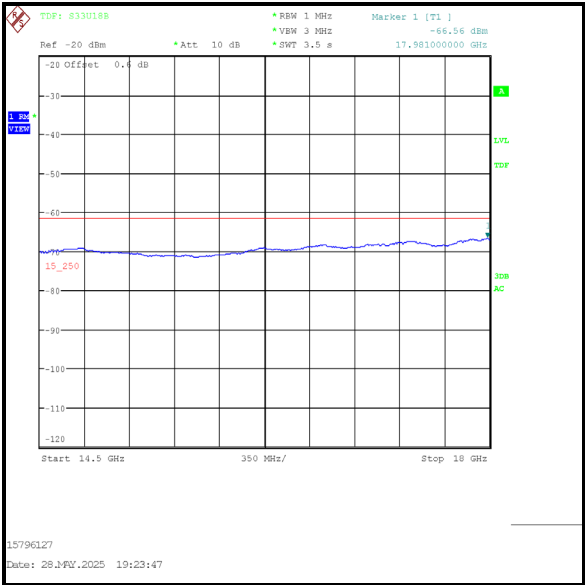
Transmitter Radiated Emissions (continued)

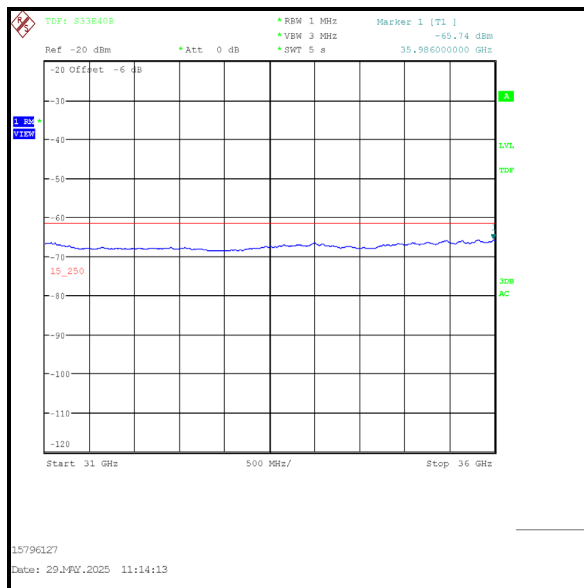
Results: Part 15.250(d)(1)

Frequency (MHz)	Antenna Polarity	RMS Level (dBm)	Limit (dBm)	Margin (dB)	Result
12979.000	Vertical	-63.1	-61.3	1.8	Complied



Transmitter Radiated Emissions (continued)

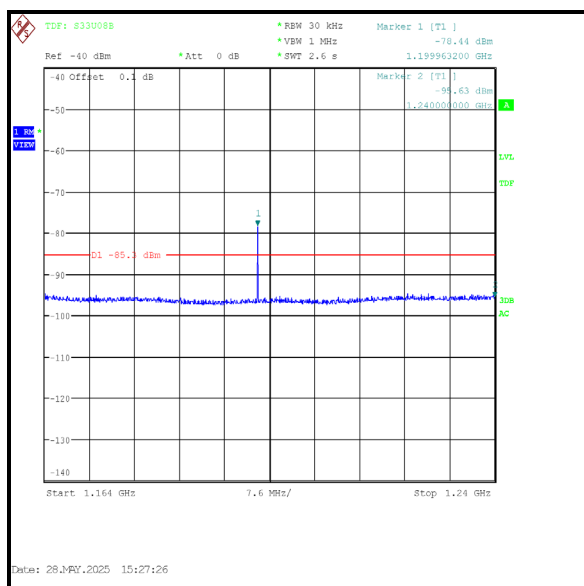


Transmitter Radiated Emissions (continued)

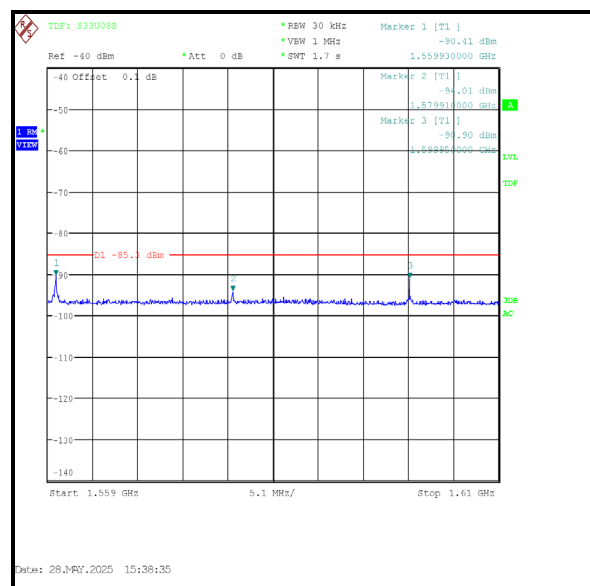
Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying table.

Results: Part 15.250(d)(2)

Frequency (MHz)	Antenna Polarity	RMS Level (dBm)	Limit (dBm)	Margin (dB)	Result
1240.000	Horizontal	-95.6	-85.3	10.3	Complied



1164 to 1240 MHz
-85.3 dBm limit / 30 kHz resolution bandwidth



1559 to 1610 MHz
-85.3 dBm limit / 30 kHz resolution bandwidth

6 AC Power Line Conducted Emissions Test Results

6.1 Transmitter AC Conducted Spurious Emissions

Test Summary:

Test Engineers:	Alison Johnston & Andrew Edwards	Test Date:	06 June 2025
Test Sample Serial Number:	M004DY		

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

Environmental Conditions:

Temperature (°C):	25
Relative Humidity (%):	48

Note(s):

1. The EUT was connected to a Laptop via a USB cable, which was then connected to an AC Charger. The AC charger was connected to 120 VAC 60 Hz single phase supply via a LISN.
2. In accordance with FCC KDB 174176 Q4, tests were performed with a 240 VAC 60 Hz single phase supply as this was within the voltage range marked on the USB AC to DC power supply.
3. Preliminary measurements were performed at both 50 Hz and 60 Hz supply frequencies. There was no change to the observed emissions.
4. A pulse limiter was fitted between the LISN and the test receiver.
5. Pre-scans were performed and markers placed on the highest live and neutral measured levels. Final measurements were performed on the marker frequencies and the results entered into the tables below.

Transmitter AC Conducted Spurious Emissions (continued)**Results: Live / Quasi Peak / 120 VAC 60 Hz**

Frequency (MHz)	Line	Level (dB μ V)	Limit (dB μ V)	Margin (dB)	Result
0.497	Live	32.5	56.1	23.6	Complied
1.784	Live	28.8	56.0	27.2	Complied
2.297	Live	28.2	56.0	27.8	Complied
3.084	Live	25.1	56.0	30.9	Complied
4.614	Live	32.1	56.0	23.9	Complied
5.649	Live	29.2	60.0	30.8	Complied

Results: Live / Average / 120 VAC 60 Hz

Frequency (MHz)	Line	Level (dB μ V)	Limit (dB μ V)	Margin (dB)	Result
4.236	Live	23.7	46.0	22.3	Complied
4.623	Live	21.6	46.0	24.4	Complied
5.676	Live	24.8	50.0	25.2	Complied
7.395	Live	20.7	50.0	29.3	Complied
10.338	Live	20.4	50.0	29.6	Complied
11.841	Live	23.2	50.0	26.8	Complied

Results: Neutral / Quasi Peak / 120 VAC 60 Hz

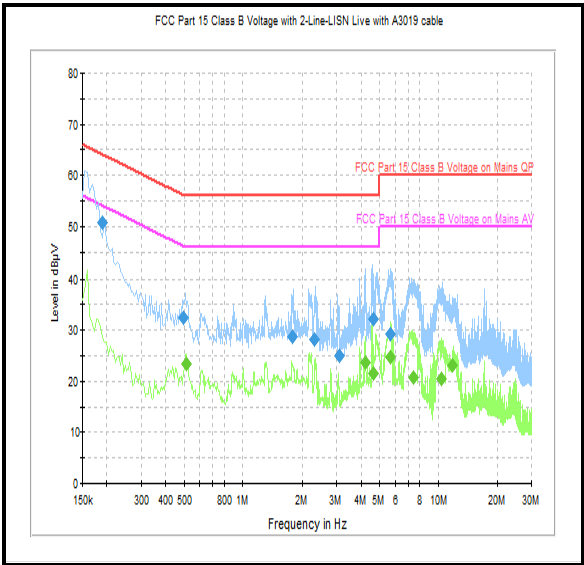
Frequency (MHz)	Line	Level (dB μ V)	Limit (dB μ V)	Margin (dB)	Result
0.182	Neutral	50.8	64.4	13.6	Complied
2.513	Neutral	30.0	56.0	26.0	Complied
2.787	Neutral	28.6	56.0	27.4	Complied
3.692	Neutral	31.8	56.0	24.2	Complied
4.070	Neutral	33.8	56.0	22.2	Complied
4.385	Neutral	29.1	56.0	26.9	Complied

Results: Neutral / Average / 120 VAC 60 Hz

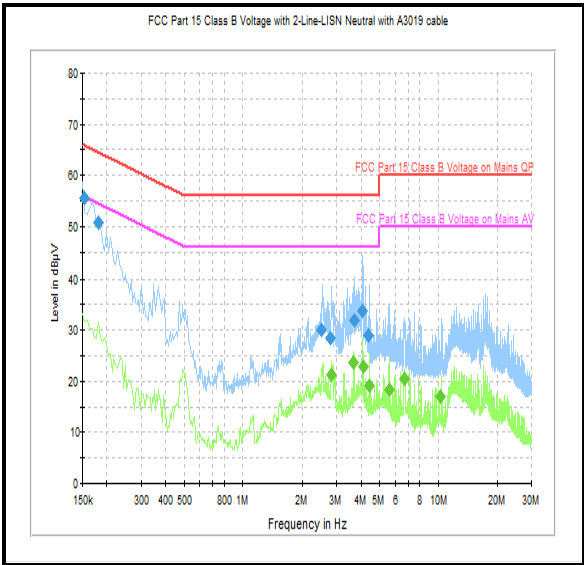
Frequency (MHz)	Line	Level (dB μ V)	Limit (dB μ V)	Margin (dB)	Result
3.638	Neutral	23.6	46.0	22.4	Complied
4.092	Neutral	22.8	46.0	23.2	Complied
4.421	Neutral	19.1	46.0	26.9	Complied
5.573	Neutral	18.4	50.0	31.6	Complied
6.666	Neutral	20.4	50.0	29.6	Complied
10.239	Neutral	17.0	50.0	33.0	Complied

Transmitter AC Conducted Spurious Emissions (continued)

Results: 120 VAC 60 Hz



Live



Neutral

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

Transmitter AC Conducted Spurious Emissions (continued)**Results: Live / Quasi Peak / 240 VAC 60 Hz**

Frequency (MHz)	Line	Level (dB μ V)	Limit (dB μ V)	Margin (dB)	Result
0.236	Live	43.6	62.3	18.7	Complied
0.524	Live	34.1	56.0	21.9	Complied
2.225	Live	27.4	56.0	28.6	Complied
2.877	Live	28.5	56.0	27.5	Complied
4.187	Live	33.7	56.0	22.3	Complied
21.084	Live	32.7	60.0	27.3	Complied

Results: Live / Average / 240 VAC 60 Hz

Frequency (MHz)	Line	Level (dB μ V)	Limit (dB μ V)	Margin (dB)	Result
0.515	Live	28.4	46.0	17.6	Complied
1.604	Live	22.6	46.0	23.4	Complied
2.715	Live	21.5	46.0	24.5	Complied
4.232	Live	23.6	46.0	22.4	Complied
7.067	Live	21.9	50.0	28.1	Complied
21.341	Live	23.0	50.0	27.0	Complied

Results: Neutral / Quasi Peak / 240 VAC 60 Hz

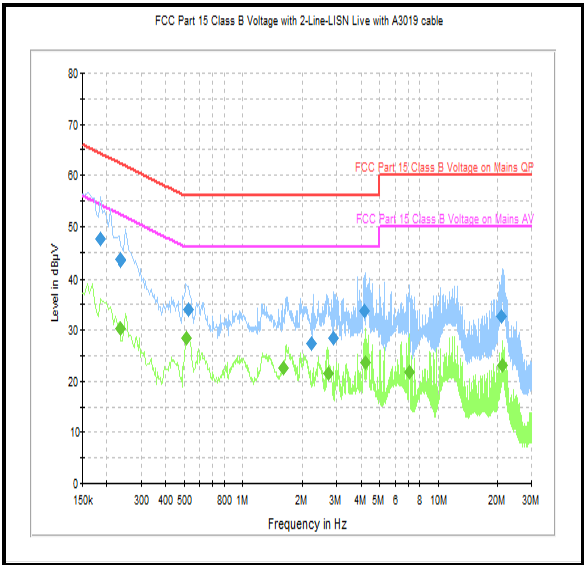
Frequency (MHz)	Line	Level (dB μ V)	Limit (dB μ V)	Margin (dB)	Result
0.209	Neutral	46.8	63.3	16.5	Complied
2.415	Neutral	32.7	56.0	23.3	Complied
3.602	Neutral	30.3	56.0	25.7	Complied
3.939	Neutral	31.7	56.0	24.3	Complied
4.506	Neutral	29.8	56.0	26.2	Complied
21.512	Neutral	31.3	60.0	28.7	Complied

Results: Neutral / Average / 240 VAC 60 Hz

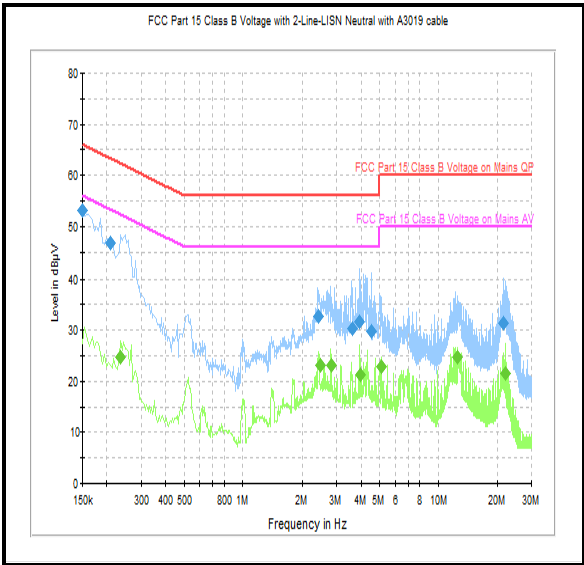
Frequency (MHz)	Line	Level (dB μ V)	Limit (dB μ V)	Margin (dB)	Result
2.468	Neutral	23.0	46.0	23.0	Complied
2.810	Neutral	23.2	46.0	22.8	Complied
3.953	Neutral	21.2	46.0	24.8	Complied
5.087	Neutral	22.9	50.0	27.1	Complied
12.485	Neutral	24.8	50.0	25.2	Complied
21.939	Neutral	21.4	50.0	28.6	Complied

Transmitter AC Conducted Spurious Emissions (continued)

Results: 240 VAC 60 Hz



Live



Neutral

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

Appendix 1

In accordance with FCC 15.250(e)(1), the test receiver span, sweep time and sweep points must be set to achieve a 1 ms dwell time over each 1 MHz segment. The test receiver settings used during testing are detailed in the table below.

Using a 1 MHz Bandwidth

Frequency Range (GHz)	Span (MHz)	Sweep Points	Sweep Time (s)	Test Distance (m)
0.799 to 1	201	201	0.2	1.5
1 to 5.5	4500	4001	4.5	1.0
7.5 to 11	3500	3501	3.5	1.0
11 to 14.5	3500	3501	3.5	1.0
14.5 to 18	3500	3501	3.5	1.0
18 to 22	4000	4001	4.0	0.5
22 to 26	4000	4001	4.0	0.5
26 to 31	5000	5001	5.0	0.5
31 to 36	5000	5001	5.0	0.5
36 to 40	4000	4001	4.0	0.4

Using a 30 kHz Bandwidth

Frequency Range (GHz)	Span (MHz)	Sweep Points	Sweep Time (s)	Test Distance (m)
1.164 to 1.24	76	2534	2.53	1.0
1.559 to 1.61	51	1701	1.7	1.0

--- END OF REPORT ---