EMC Test Report	
For:	**Senceive Limited**
Product:	**GeoWAN 2.0 NGN node with LoRa Module**
Model:	**L3N1-IXH (902)**
FCC ID:	**2AMFBLR3N**
	
Project Engineer:	**Graeme Lawler**
	
Approval Signatory:	**Dan Tiroke**

Document Reference:	**H5631 FR**

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Contents

1.0 OVERVIEW

1.1 Introduction

The equipment under test (EUT) as described within this document was submitted for testing as agreed with the customer.

1.2 Objective

The purpose of the test was to measure and report the EUT against limits and methods of the requested standards as listed in section 2.0 Test Summary.

1.3 Product Modifications

None to sample submitted.

1.4 Conclusion

The EUT met the emission requirements of the tests defined in section 2.0 Test Summary.

This report relates to the sample tested and may not represent the entire population. It is valid only for the product identified, either in part or in full, to the standards and/or tests covered in this document.

1.5 EMC Test Lab Reference

Eurofins Electrical & Electronic UK Ltd File Ref: H5631

1.6 Test Deviations

None.

2.0 TEST SUMMARY

2.1 Summary

The EUT, as described and reported within this document, complies with the applied requested sections of the standards listed below.

The EUT met the **emissions** test requirements of the following standards:			
Description	**General Standard**	**Referenced Standard**	**Status**
Radiated Emissions (30 MHz to 10 GHz)	FCC/CFR 47: Part 15C, 15.247 and 15.209	ANSI C63.10: 2013	Pass
	RSS-247 Issue 3†	RSS-GEN Issue 5 and ANSI C63.10: 2013	
Radiated H-Field Emissions (9 kHz to 30 MHz)	FCC/CFR 47: Part 15C, 15.209	ANSI C63.10: 2013	Pass

Note(s):

- The highest internal operating frequency declared by the manufacturer is 928 MHz.

†This test standard is not currently included in the UKAS Accreditation Schedule for Eurofins Electrical & Electronic UK Ltd.

3.0 EQUIPMENT AND TEST DETAILS

3.1 General

Product (EUT):	GeoWAN 2.0 NGN node with LoRa Module	
Item	**Model:**	**Serial Number:**
L3N1-IXH	L3N1-IXH (902)	0026FC
Sample Build:	Production Sample	
EUT Power:	Battery Powered	
Customer Test Plan:	SC_SEN_TP23_A	
Alternate Models:	Not Applicable	
EUT Manufacturer:	Senceive Limited	
Company Name:	Senceive Limited	
Company Address:	Scorpio House Rockingham Drive Linford Wood Milton Keynes MK14 6LY United Kingdom	
Test Commissioned By:	Charlie Blackham, Sulis Consultants Limited	
Date EUT Received:	21st October 2024	
Test Date(s):	21st and 22nd October 2024	
EMC Measurement Site:	Eurofins Electrical & Electronic UK Ltd | Hursley Laboratory Trafalgar Close, Chandlers Ford, Hampshire, United Kingdom	
Product Category:	IT and Multimedia Electrical Equipment	

3.2 EUT Description

The EUT is a GeoWAN 2.0 NGN node with LoRa Module.

The Senceive GeoWAN Radio Modules have been certified by the FCC and ISED Canada with certification numbers:

FCC ID: 2AMFBLR3N

IC ID: 24373-LR3N

3.3 Support Equipment

Description	Manufacturer	Model	Serial Number
Not Applicable	Not Applicable	Not Applicable	Not Applicable

3.4 EUT Test Exerciser

For the purposes of FCC testing, the radio module within the Node is set to a 100% duty cycle transmit mode as follows:

Radio Nominal Channel Bandwidth	Channel	Frequency (MHz)	Transmit power setting (dBm)
125 kHz	Bottom	902.3	20
	Middle	915.1	20
	Top	927.9	20
500 kHz	Bottom	903.0	20
	Middle	915.1	20
	Top	927.5	20

3.5 EUT Test Configuration #1

L3N1-IXH

3.6 EUT Ports

Port	Type	Length	Shielded
Enclosure	Not Applicable	Not Applicable	Not Applicable

4.0 TEST RESULTS

4.1 Radiated Emissions; FCC/CFR 47 Part 15.247(d), 125 kHz Band Width

4.1.1 Test Parameters

A profile scan was taken using an EMI receiver at a distance of three metres on eight azimuths of the EUT in both the vertical and horizontal polarisation of the field in a semi-anechoic chamber.

Using the pre-scan results as a guide, each emission from the EUT was maximised. Measurements were carried out at a distance of three metres using the specified detector in a CISPR 16-1-4 compliant semi-anechoic chamber. Antenna and turntable positions were then finally adjusted to produce the maximum emission levels. The worst-case results are reported below.

Test Equipment						
#ID	CP	Manufacturer	Type	Serial Number	Description	Calibration Due Date
652	1	TFA	Weather Station	Jupiter	Weather Station	02/11/2024
750	1	Global	CISPR16	-	11 x 7 x 6.2m, Chamber (Jupiter)	19/12/2024
466	3	Schwarzbeck	BBHA9120B	571	Horn Antenna (1GHz - 10GHz)	04/08/2025
272	1	Sucoflex	106	72467-6	Cable SMA	31/10/2024
788	1	Rohde & Schwarz	ESW44	101799	EMI Test Receiver (44GHz)	05/09/2025
877	1	Huber & Suhner	SUCOTEST_18A	602608/18A	ST_18A/Nm/Nm (3m)	08/11/2024
340	1	Sucoflex	Cable	-	Cable (for #053)	09/11/2024
053	1	HP	8449B	3008A01394	Pre-Amplifier (1GHz - 26.5GHz)	09/11/2024
823	0	York EMC	1.5 to 7GHz	CNE 6507	High Frequency Comparison Noise Emitter	Not Required
821	0	York EMC	CNE	542	Comparison Noise Emitter	Not Required
962	2	RS Components	RS-960	220201672	Multimeter	11/09/2025
Test Equipment Software						
#ID	CP	Manufacturer	Type		Description	Calibration Due Date
856	0	Rohde & Schwarz	Software	0	EMC32 v11.30.0	Not required

Environmental Test Conditions		
Frequency	**Below 1 GHz**	**Above 1 GHz**
Temperature	21.3° Celsius	20.7° Celsius
Relative Humidity	60 %	62 %
Atmospheric Pressure	1031.5 millibars	1024.4 millibars
Test Date:	22nd October 2024	21st October 2024
Test Engineer:	Graeme Lawler	Graeme Lawler

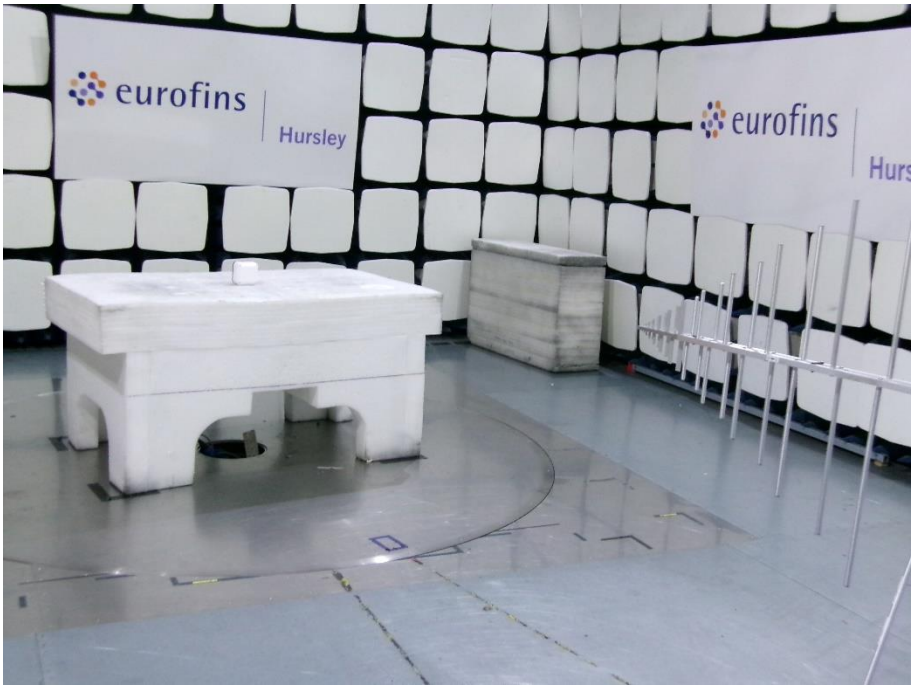
Note: “Calibration due date” means the instrument is certified within UKAS or traceable calibration certificate. “Internal” means the instrument is calibrated using Eurofins E&E UK procedures. “Not required” means the asset does not require calibration. “CP” is the interval period [year] prescribed for external calibration.

4.1.2 Test Configuration

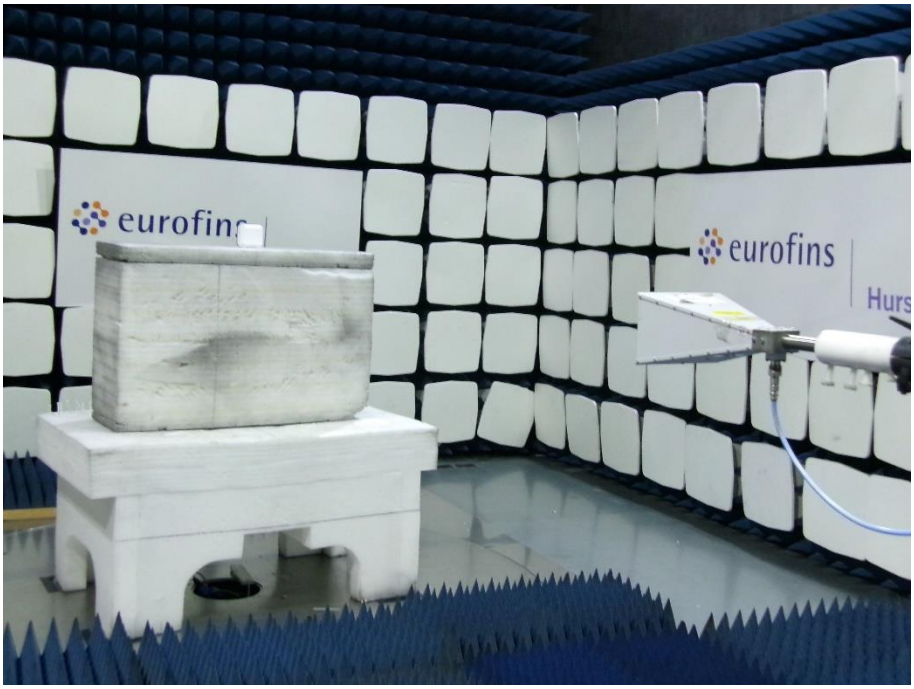
Please refer to EUT Test Configuration #1.

4.1.3 Set-up Photos

Radiated Emissions; Below 1.0 GHz
X-Orientation



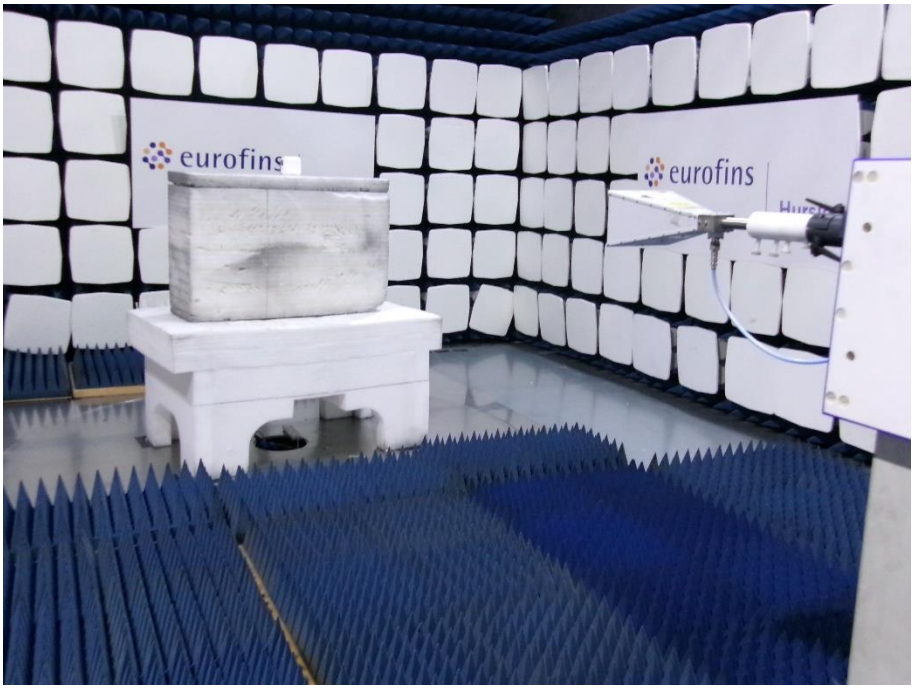
Radiated Emissions; Above 1.0 GHz
X-Orientation



4.1.4 Set-up Photos

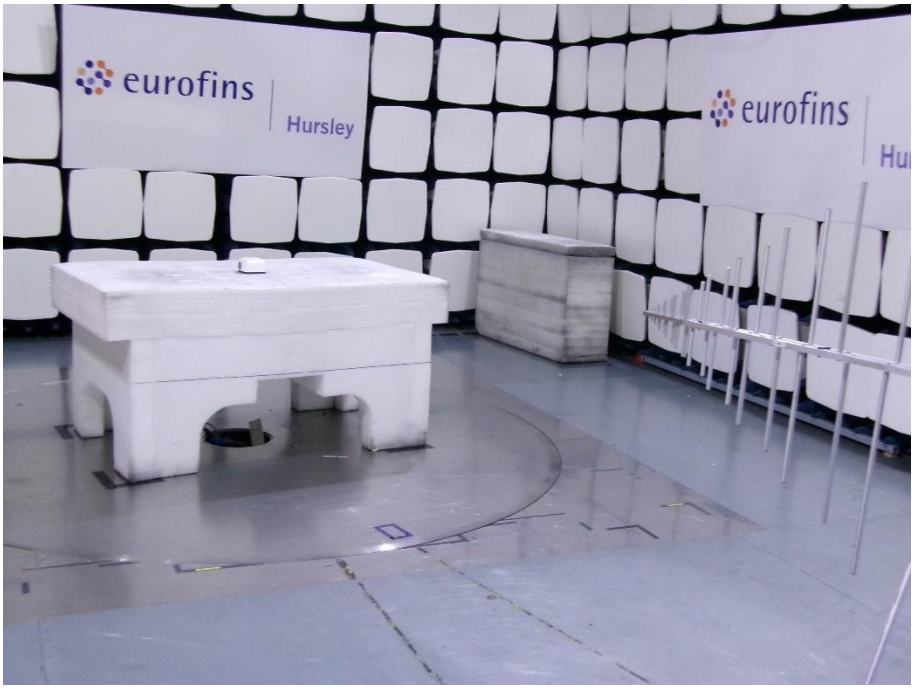
Radiated Emissions; Below 1.0 GHz
Y-Orientation

Radiated Emissions; Above 1.0 GHz
Y-Orientation

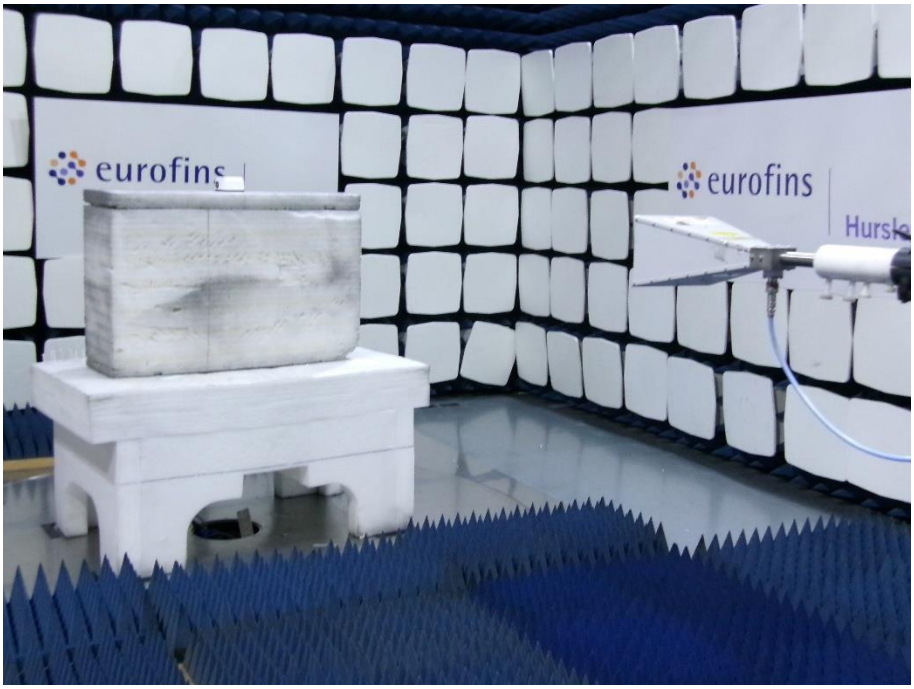


4.1.5 Set-up Photos (Continued)

Radiated Emissions; Below 1.0 GHz
Z-Orientation



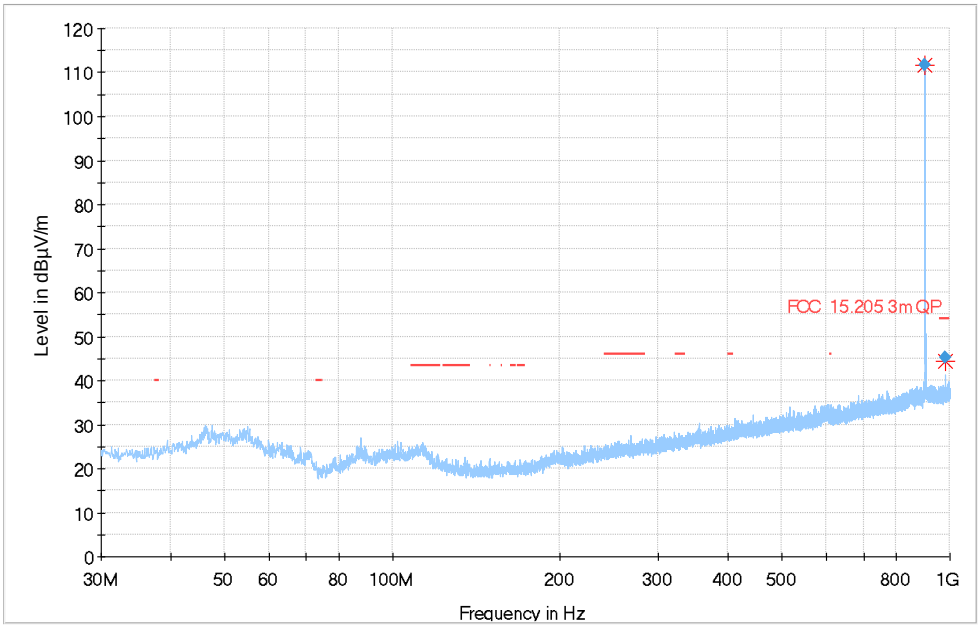
Radiated Emissions; Above 1.0 GHz
Z-Orientation



4.1.6 Profile; 30 MHz to 1 GHz, 125 kHz Band Width, X-Orientation_902.3 MHz, Bottom Channel

Maximum peak hold trace with peak values (◆)
Peak measurements (✳)

30 MHz to 1 GHz



4.1.7 Data; 30 MHz to 1 GHz, 125 kHz Band Width, X-Orientation_902.3 MHz, Bottom Channel

Emission Frequency	Measured Peak Value	Specified Quasi-Peak Limit	Pass Margin	Antenna Polarisation	Antenna Height	Turntable Azimuth	
MHz	dBµV/m	dBµV/m	dB	H/V	cm	deg	Status
902.273114	111.62	---	---	V	117.0	193.0	Pass
982.939500	45.08	54.00	8.92	V	100.0	268.0	Pass

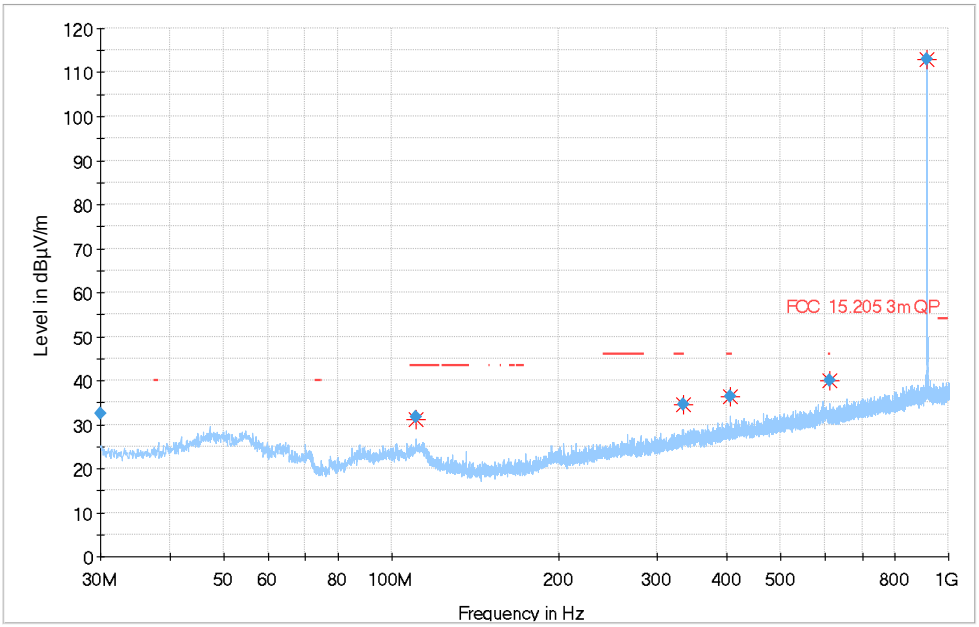
V = Vertical / H = Horizontal

The measurements reported are the highest emissions relative to the FCC/CISPR limits and take into account the correction factor*.
Measurements made according to the CISPR test standard and Eurofins E&E UK test procedure RAD-03.
*Correction factor (dB) = cable and antenna losses as summed positive values (dB) – pre-amp gain where applicable (dB).
The recorded measured value (dB) = measured receiver value (dB) + correction factor (dB).
Note: Path losses are factored into the limit value, and given by the test standard. Chamber calibration data contributes to the measurement uncertainty figure.

4.1.8 Profile; 30 MHz to 1 GHz, 125 kHz Band Width, Y-Orientation_915.1 MHz, Middle Channel, Middle Channel

Maximum peak hold trace with peak values (◆)
Peak measurements (✳)

30 MHz to 1 GHz



4.1.9 Data; 30 MHz to 1 GHz, 125 kHz Band Width, Y-Orientation_915.1 MHz, Middle Channel

Emission Frequency	Measured Peak Value	Specified Quasi-Peak Limit	Pass Margin	Antenna Polarisation	Antenna Height	Turntable Azimuth	
MHz	dBµV/m	dBµV/m	dB	H/V	cm	deg	Status
30.000000	32.42	---	---	H	163.0	209.0	Pass
110.521500	31.58	43.50	11.92	H	111.0	183.0	Pass
333.583220	34.55	46.00	11.45	H	145.0	333.0	Pass
404.744360	36.49	46.00	9.51	V	308.0	306.0	Pass
612.815840	40.08	46.00	5.92	H	197.0	296.0	Pass
915.087434	113.10	---	---	H	156.0	168.0	Pass

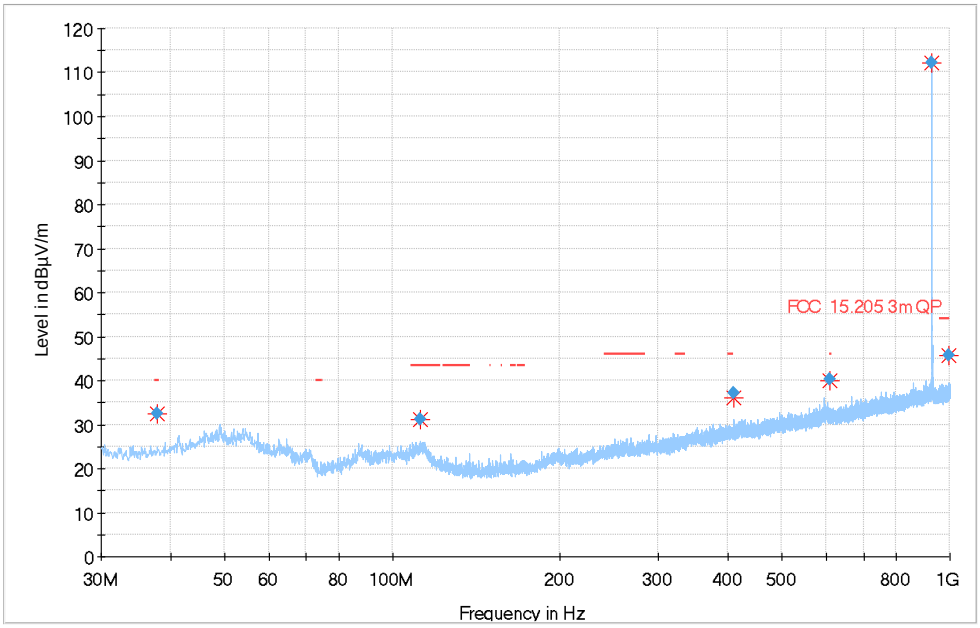
V = Vertical / H = Horizontal

The measurements reported are the highest emissions relative to the FCC/CISPR limits and take into account the correction factor*.
Measurements made according to the CISPR test standard and Eurofins E&E UK test procedure RAD-03.
*Correction factor (dB) = cable and antenna losses as summed positive values (dB) – pre-amp gain where applicable (dB).
The recorded measured value (dB) = measured receiver value (dB) + correction factor (dB).
Note: Path losses are factored into the limit value, and given by the test standard. Chamber calibration data contributes to the measurement uncertainty figure.

4.1.10 Profile; 30 MHz to 1 GHz, 125 kHz Band Width, Y-Orientation_927.9 MHz, Top Channel

Maximum peak hold trace with peak values (◆)
Peak measurements (✳)

30 MHz to 1 GHz



4.1.11 Data; 30 MHz to 1 GHz, 125 kHz Band Width, Y-Orientation_927.9 MHz, Top Channel

Emission Frequency	Measured Peak Value	Specified Quasi-Peak Limit	Pass Margin	Antenna Polarisation	Antenna Height	Turntable Azimuth	
MHz	dBµV/m	dBµV/m	dB	H/V	cm	deg	Status
37.896840	32.35	40.00	7.65	V	343.0	306.0	Pass
112.315886	31.25	43.50	12.25	H	400.0	74.0	Pass
409.741914	37.03	46.00	8.97	H	220.0	38.0	Pass
608.205614	40.31	46.00	5.69	H	287.0	301.0	Pass
927.856246	112.23	---	---	H	161.0	169.0	Pass
995.381114	45.69	54.00	8.31	V	319.0	168.0	Pass

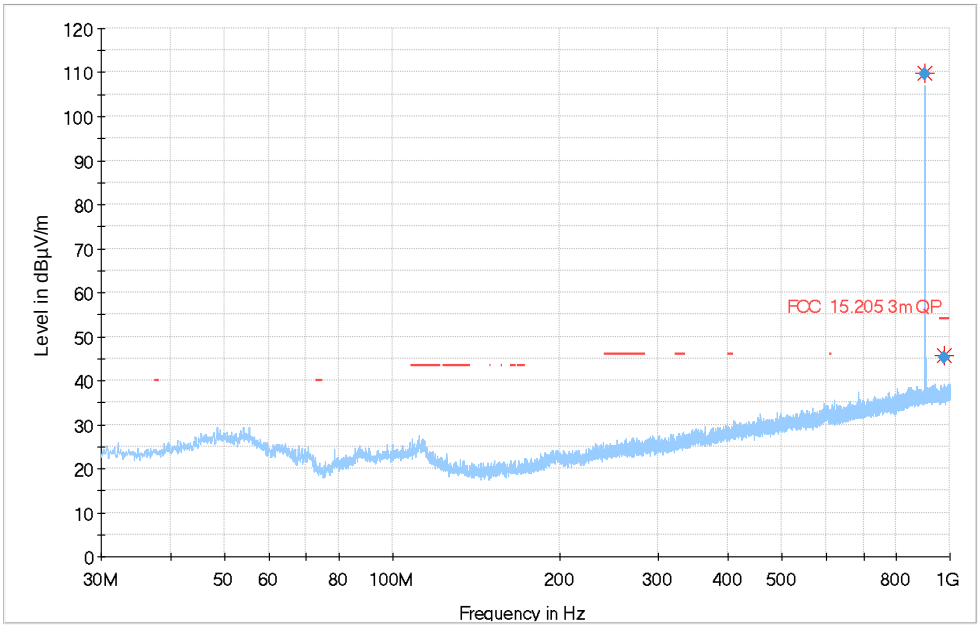
V = Vertical / H = Horizontal

The measurements reported are the highest emissions relative to the FCC/CISPR limits and take into account the correction factor*.
Measurements made according to the CISPR test standard and Eurofins E&E UK test procedure RAD-03.
*Correction factor (dB) = cable and antenna losses as summed positive values (dB) – pre-amp gain where applicable (dB).
The recorded measured value (dB) = measured receiver value (dB) + correction factor (dB).
Note: Path losses are factored into the limit value, and given by the test standard. Chamber calibration data contributes to the measurement uncertainty figure.

4.1.12 Profile; 30 MHz to 1 GHz, 125 kHz Band Width, Z-Orientation_902.3 MHz, Bottom Channel

Maximum peak hold trace with peak values (◆)
Peak measurements (✳)

30 MHz to 1 GHz



4.1.13 Data; 30 MHz to 1 GHz, 125 kHz Band Width, Z-Orientation_902.3 MHz, Bottom Channel

Emission Frequency	Measured Peak Value	Specified Quasi-Peak Limit	Pass Margin	Antenna Polarisation	Antenna Height	Turntable Azimuth	
MHz	dBµV/m	dBµV/m	dB	H/V	cm	deg	Status
902.283434	109.72	---	---	H	154.0	159.0	Pass
977.338006	45.25	54.00	8.75	H	381.0	346.0	Pass

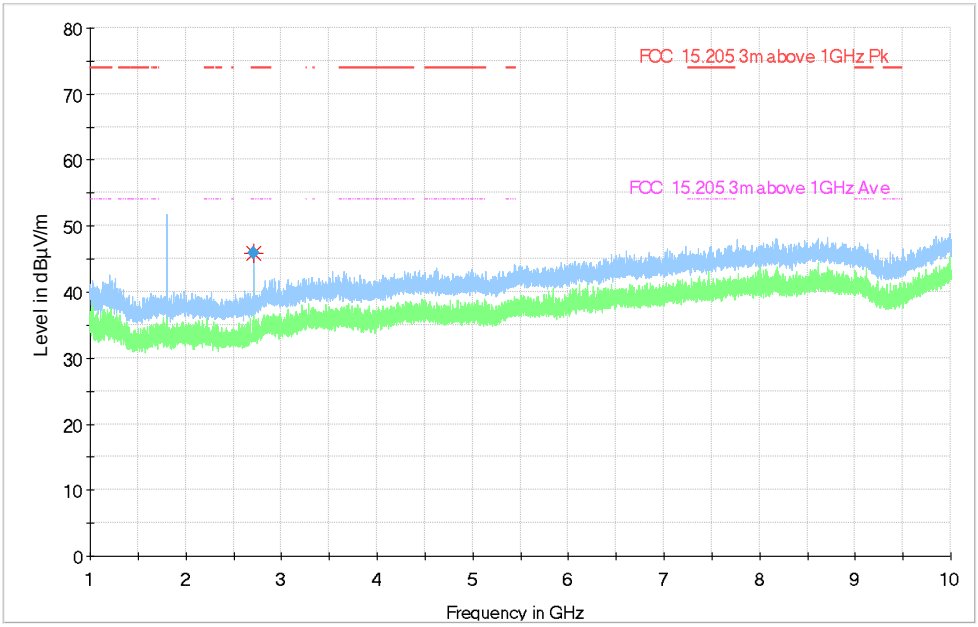
V = Vertical / H = Horizontal

The measurements reported are the highest emissions relative to the FCC/CISPR limits and take into account the correction factor*.
Measurements made according to the CISPR test standard and Eurofins E&E UK test procedure RAD-03.
*Correction factor (dB) = cable and antenna losses as summed positive values (dB) – pre-amp gain where applicable (dB).
The recorded measured value (dB) = measured receiver value (dB) + correction factor (dB).
Note: Path losses are factored into the limit value, and given by the test standard. Chamber calibration data contributes to the measurement uncertainty figure.

4.1.14 Profile; 1 to 10 GHz, 125 kHz Band Width, X-Orientation_902.3 MHz, Bottom Channel

Maximum hold trace with peak values (◆)
Peak measurements (✳)
Average measurements (◆)

1 to 10 GHz



4.1.15 Data; 1 to 10 GHz, 125 kHz Band Width, X-Orientation_902.3 MHz, Bottom Channel

Frequency	Peak	CISPR Average	Limit	Margin	Height	Pol	Azimuth	Corr.	
MHz	dBµV/m	dBµV/m	dBµV/m	dB	cm	H/V	Deg	dB/m	Status
2706.500000	45.97	---	74.00	28.03	145.0	V	25.0	-6.8	Pass

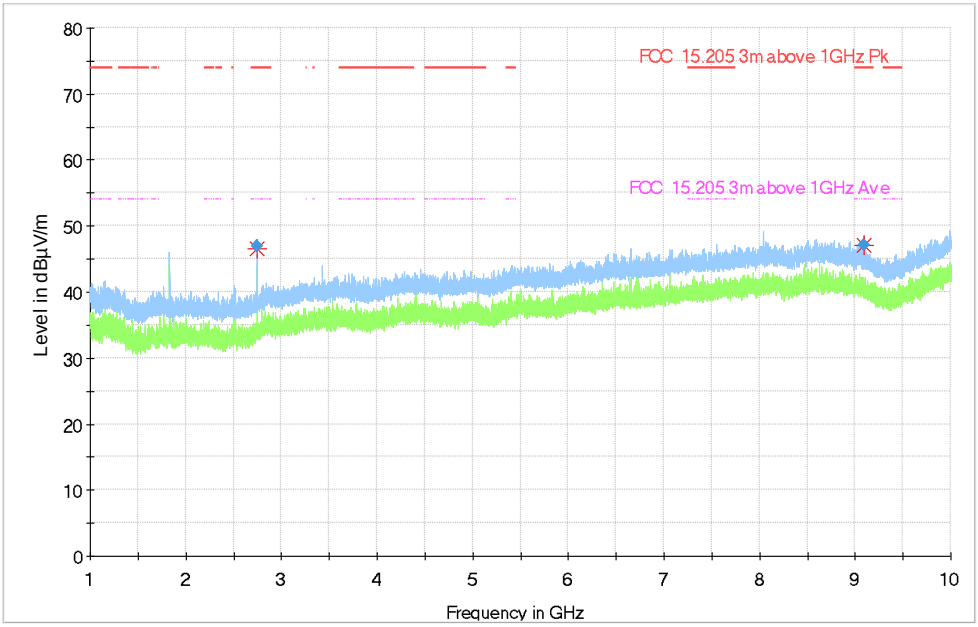
V = Vertical / H = Horizontal

The measurements reported are the highest emissions relative to the FCC/CISPR limits and take into account the correction factor*.
Measurements made according to the CISPR test standard and Eurofins E&E UK test procedure RAD-03.
*Correction factor (dB) = cable and antenna losses as summed positive values (dB) – pre-amp gain where applicable (dB).
The recorded measured value (dB) = measured receiver value (dB) + correction factor (dB).
Note: path losses are factored into the limit value, and given by the test standard. Chamber calibration data contributes to the measurement uncertainty figure.

4.1.16 Profile; 1 to 10 GHz, 125 kHz Band Width, X-Orientation_915.1 MHz, Middle Channel

Maximum hold trace with peak values (◆)
Peak measurements (✳)
Average measurements (◆)

1 to 10 GHz



4.1.17 Data; 1 to 10 GHz, 125 kHz Band Width, X-Orientation_915.1 MHz, Middle Channel

Frequency	Peak	CISPR Average	Limit	Margin	Height	Pol	Azimuth	Corr.	
MHz	dBµV/m	dBµV/m	dBµV/m	dB	cm	H/V	Deg	dB/m	Status
2745.000000	46.87	---	74.00	27.13	219.0	V	40.0	-6.5	Pass
9094.000000	47.02	---	74.00	26.98	363.0	H	112.0	1.6	Pass

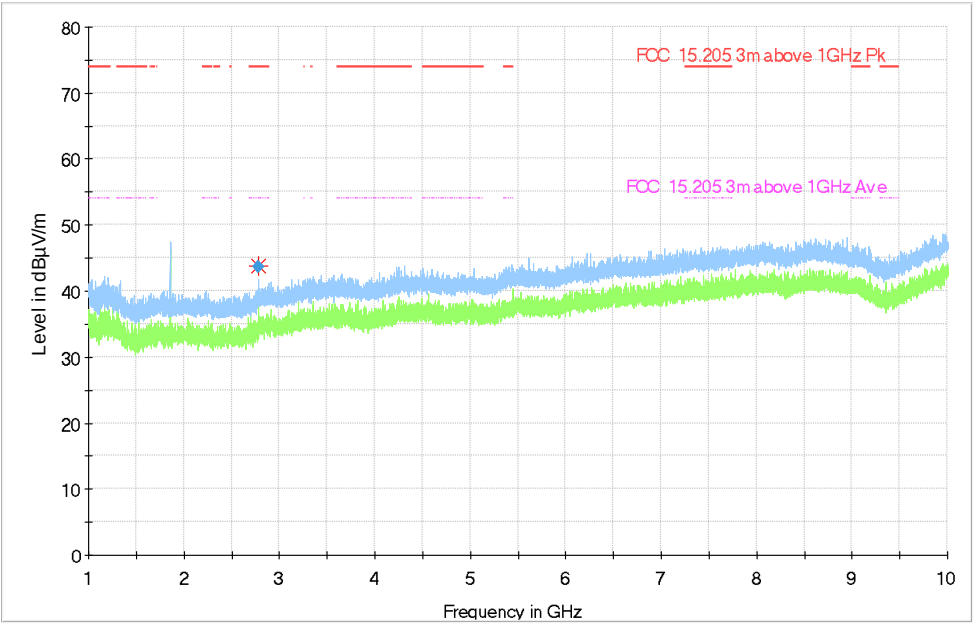
V = Vertical / H = Horizontal

The measurements reported are the highest emissions relative to the FCC/CISPR limits and take into account the correction factor*.
Measurements made according to the CISPR test standard and Eurofins E&E UK test procedure RAD-03.
*Correction factor (dB) = cable and antenna losses as summed positive values (dB) – pre-amp gain where applicable (dB).
The recorded measured value (dB) = measured receiver value (dB) + correction factor (dB).
Note: path losses are factored into the limit value, and given by the test standard. Chamber calibration data contributes to the measurement uncertainty figure.

4.1.18 Profile; 1 to 10 GHz, 125 kHz Band Width, X-Orientation_927.9 MHz, Top Channel

Maximum hold trace with peak values (◆)
Peak measurements (✳)
Average measurements (◆)

1 to 10 GHz



4.1.19 Data; 1 to 10 GHz, 125 kHz Band Width, X-Orientation_927.9 MHz, Top Channel

Frequency	Peak	CISPR Average	Limit	Margin	Height	Pol	Azimuth	Corr.	
MHz	dBµV/m	dBµV/m	dBµV/m	dB	cm	H/V	Deg	dB/m	Status
2783.500000	43.67	---	74.00	30.33	143.0	V	25.0	-6.0	Pass

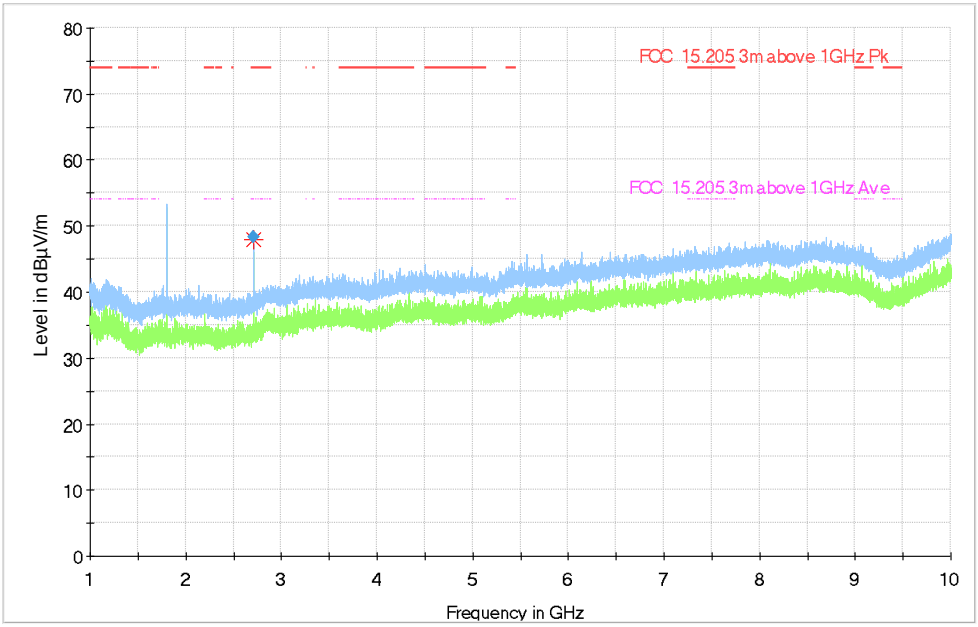
V = Vertical / H = Horizontal

The measurements reported are the highest emissions relative to the FCC/CISPR limits and take into account the correction factor*.
Measurements made according to the CISPR test standard and Eurofins E&E UK test procedure RAD-03.
*Correction factor (dB) = cable and antenna losses as summed positive values (dB) – pre-amp gain where applicable (dB).
The recorded measured value (dB) = measured receiver value (dB) + correction factor (dB).
Note: path losses are factored into the limit value, and given by the test standard. Chamber calibration data contributes to the measurement uncertainty figure.

4.1.20 Profile; 1 to 10 GHz, 125 kHz Band Width, Y-Orientation_902.3 MHz, Bottom Channel

Maximum hold trace with peak values (◆)
Peak measurements (✳)
Average measurements (◆)

1 to 10 GHz



4.1.21 Data; 1 to 10 GHz, 125 kHz Band Width, Y-Orientation_902.3 MHz, Bottom Channel

Frequency	Peak	CISPR Average	Limit	Margin	Height	Pol	Azimuth	Corr.	
MHz	dBµV/m	dBµV/m	dBµV/m	dB	cm	H/V	Deg	dB/m	Status
2706.500000	48.29	---	74.00	25.71	159.0	V	90.0	-6.8	Pass

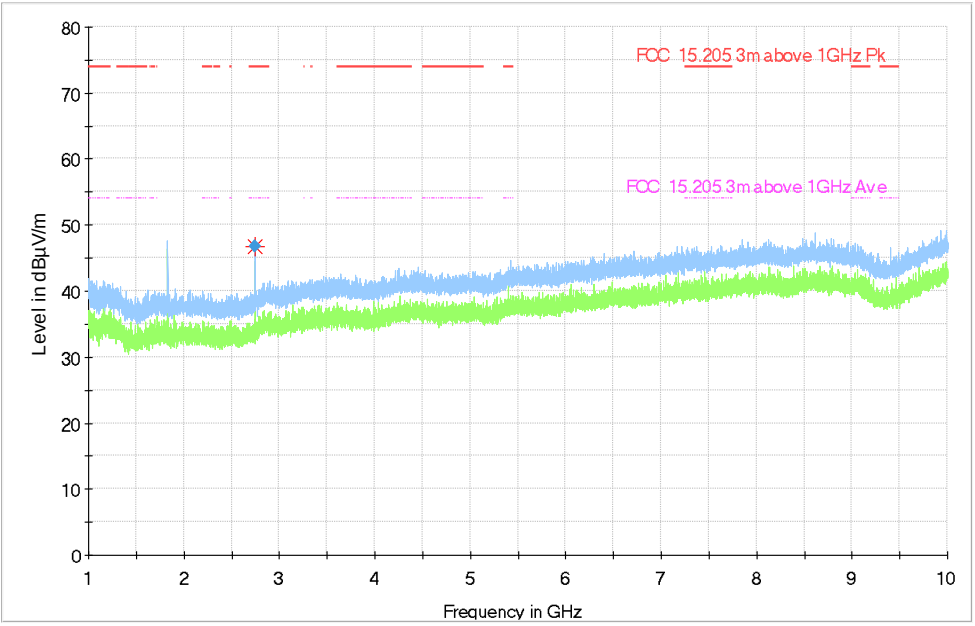
V = Vertical / H = Horizontal

The measurements reported are the highest emissions relative to the FCC/CISPR limits and take into account the correction factor*.
Measurements made according to the CISPR test standard and Eurofins E&E UK test procedure RAD-03.
*Correction factor (dB) = cable and antenna losses as summed positive values (dB) – pre-amp gain where applicable (dB).
The recorded measured value (dB) = measured receiver value (dB) + correction factor (dB).
Note: path losses are factored into the limit value, and given by the test standard. Chamber calibration data contributes to the measurement uncertainty figure.

4.1.22 Profile; 1 to 10 GHz, 125 kHz Band Width, Y-Orientation_915.1 MHz, Middle Channel

Maximum hold trace with peak values (◆)
Peak measurements (✳)
Average measurements (◆)

1 to 10 GHz



4.1.23 Data; 1 to 10 GHz, 125 kHz Band Width, Y-Orientation_915.1 MHz, Middle Channel

Frequency	Peak	CISPR Average	Limit	Margin	Height	Pol	Azimuth	Corr.	
MHz	dBµV/m	dBµV/m	dBµV/m	dB	cm	H/V	Deg	dB/m	Status
2745.500000	46.72	---	74.00	27.28	206.0	V	290.0	-6.5	Pass

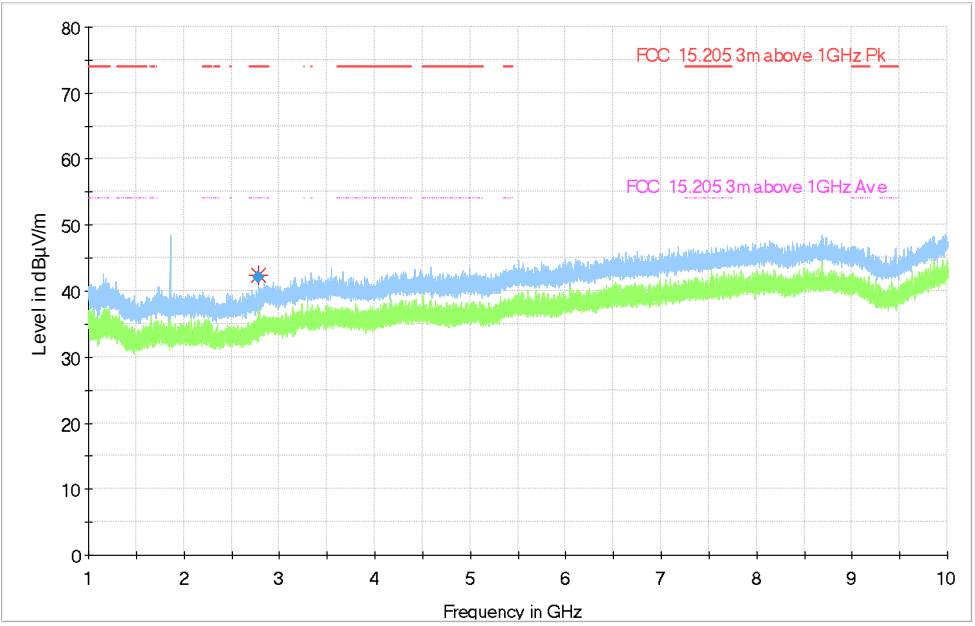
V = Vertical / H = Horizontal

The measurements reported are the highest emissions relative to the FCC/CISPR limits and take into account the correction factor*.
Measurements made according to the CISPR test standard and Eurofins E&E UK test procedure RAD-03.
*Correction factor (dB) = cable and antenna losses as summed positive values (dB) – pre-amp gain where applicable (dB).
The recorded measured value (dB) = measured receiver value (dB) + correction factor (dB).
Note: path losses are factored into the limit value, and given by the test standard. Chamber calibration data contributes to the measurement uncertainty figure.

4.1.24 Profile; 1 to 10 GHz, 125 kHz Band Width, Y-Orientation_927.9 MHz, Top Channel

Maximum hold trace with peak values (◆)
Peak measurements (✳)
Average measurements (◆)

1 to 10 GHz



4.1.25 Data; 1 to 10 GHz, 125 kHz Band Width, Y-Orientation_927.9 MHz, Top Channel

Frequency	Peak	CISPR Average	Limit	Margin	Height	Pol	Azimuth	Corr.	
MHz	dBµV/m	dBµV/m	dBµV/m	dB	cm	H/V	Deg	dB/m	Status
2783.000000	41.99	---	74.00	32.01	155.0	H	14.0	-6.0	Pass

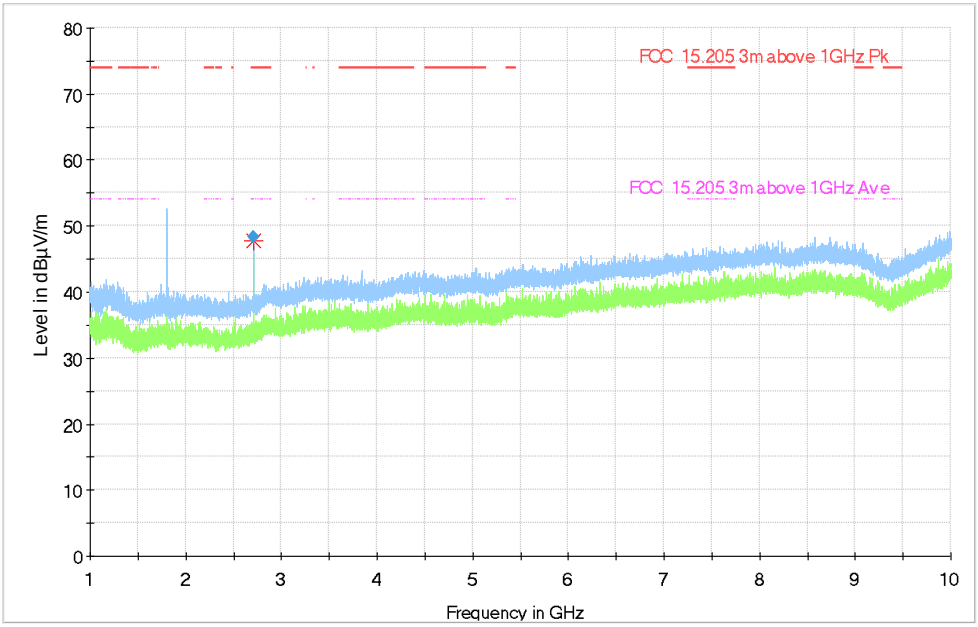
V = Vertical / H = Horizontal

The measurements reported are the highest emissions relative to the FCC/CISPR limits and take into account the correction factor*.
Measurements made according to the CISPR test standard and Eurofins E&E UK test procedure RAD-03.
*Correction factor (dB) = cable and antenna losses as summed positive values (dB) – pre-amp gain where applicable (dB).
The recorded measured value (dB) = measured receiver value (dB) + correction factor (dB).
Note: path losses are factored into the limit value, and given by the test standard. Chamber calibration data contributes to the measurement uncertainty figure.

4.1.26 Profile; 1 to 10 GHz, 125 kHz Band Width, Z-Orientation_902.3 MHz, Bottom Channel

Maximum hold trace with peak values (◆)
Peak measurements (✳)
Average measurements (◆)

1 to 10 GHz



4.1.27 Data; 1 to 10 GHz, 125 kHz Band Width, Z-Orientation_902.3 MHz, Bottom Channel

Frequency	Peak	CISPR Average	Limit	Margin	Height	Pol	Azimuth	Corr.	
MHz	dBµV/m	dBµV/m	dBµV/m	dB	cm	H/V	Deg	dB/m	Status
2706.500000	48.28	---	74.00	25.72	130.0	H	95.0	-6.8	Pass

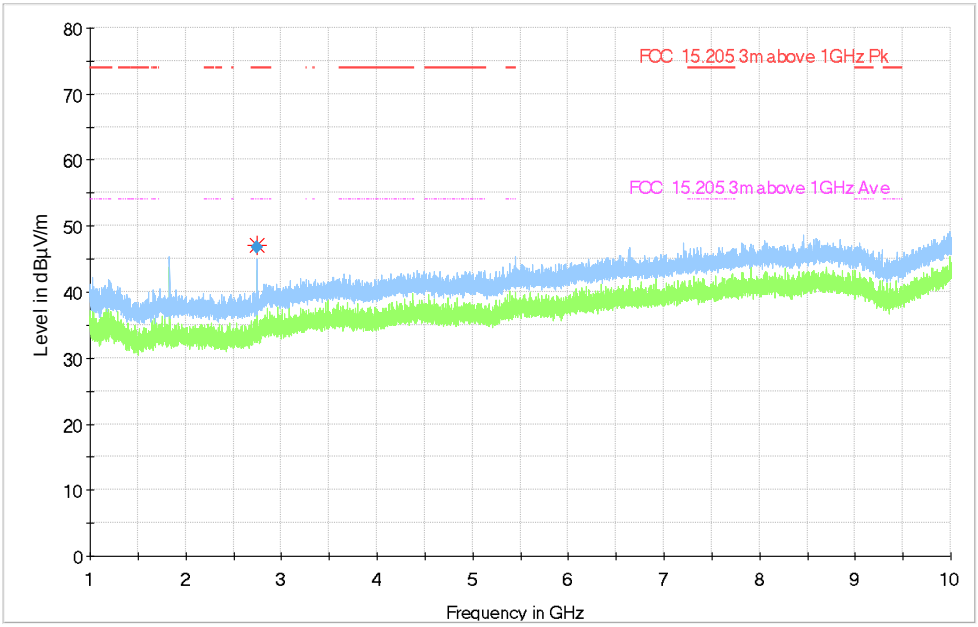
V = Vertical / H = Horizontal

The measurements reported are the highest emissions relative to the FCC/CISPR limits and take into account the correction factor*.
Measurements made according to the CISPR test standard and Eurofins E&E UK test procedure RAD-03.
*Correction factor (dB) = cable and antenna losses as summed positive values (dB) – pre-amp gain where applicable (dB).
The recorded measured value (dB) = measured receiver value (dB) + correction factor (dB).
Note: path losses are factored into the limit value, and given by the test standard. Chamber calibration data contributes to the measurement uncertainty figure.

4.1.28 Profile; 1 to 10 GHz, 125 kHz Band Width, Z-Orientation_915.1 MHz, Middle Channel

Maximum hold trace with peak values (◆)
Peak measurements (✳)
Average measurements (◆)

1 to 10 GHz



4.1.29 Data; 1 to 10 GHz, 125 kHz Band Width, Z-Orientation_915.1 MHz, Middle Channel

Frequency	Peak	CISPR Average	Limit	Margin	Height	Pol	Azimuth	Corr.	
MHz	dBµV/m	dBµV/m	dBµV/m	dB	cm	H/V	Deg	dB/m	Status
2745.000000	46.78	---	74.00	27.22	143.0	H	99.0	-6.5	Pass

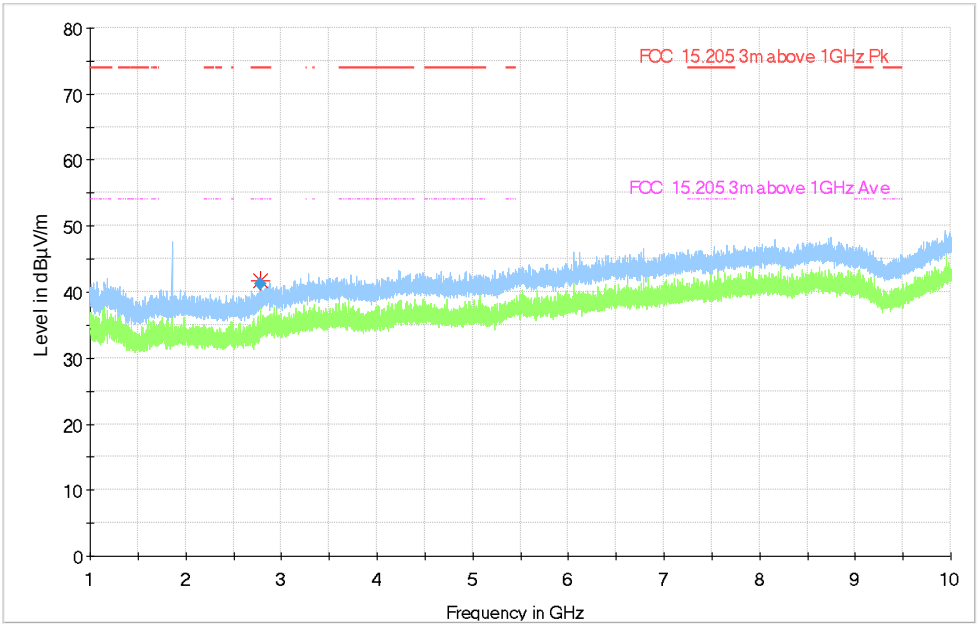
V = Vertical / H = Horizontal

The measurements reported are the highest emissions relative to the FCC/CISPR limits and take into account the correction factor*.
Measurements made according to the CISPR test standard and Eurofins E&E UK test procedure RAD-03.
*Correction factor (dB) = cable and antenna losses as summed positive values (dB) – pre-amp gain where applicable (dB).
The recorded measured value (dB) = measured receiver value (dB) + correction factor (dB).
Note: path losses are factored into the limit value, and given by the test standard. Chamber calibration data contributes to the measurement uncertainty figure.

4.1.30 Profile; 1 to 10 GHz, 125 kHz Band Width, Z-Orientation_927.9 MHz, Top Channel

Maximum hold trace with peak values (◆)
Peak measurements (✳)
Average measurements (◆)

1 to 10 GHz



4.1.31 Data; 1 to 10 GHz, 125 kHz Band Width, Z-Orientation_927.9 MHz, Top Channel

Frequency	Peak	CISPR Average	Limit	Margin	Height	Pol	Azimuth	Corr.	
MHz	dBµV/m	dBµV/m	dBµV/m	dB	cm	H/V	Deg	dB/m	Status
2783.000000	41.22	---	74.00	32.78	296.0	H	112.0	-6.0	Pass

V = Vertical / H = Horizontal

The measurements reported are the highest emissions relative to the FCC/CISPR limits and take into account the correction factor*.
Measurements made according to the CISPR test standard and Eurofins E&E UK test procedure RAD-03.
*Correction factor (dB) = cable and antenna losses as summed positive values (dB) – pre-amp gain where applicable (dB).
The recorded measured value (dB) = measured receiver value (dB) + correction factor (dB).
Note: path losses are factored into the limit value, and given by the test standard. Chamber calibration data contributes to the measurement uncertainty figure.

4.2 Radiated Emissions; FCC/CFR 47 Part 15.247(d), 500 kHz Band Width

4.2.1 Test Parameters

A profile scan was taken using an EMI receiver at a distance of three metres on eight azimuths of the EUT in both the vertical and horizontal polarisation of the field in a semi-anechoic chamber.

Using the pre-scan results as a guide, each emission from the EUT was maximised. Measurements were carried out at a distance of three metres using the specified detector in a CISPR 16-1-4 compliant semi-anechoic chamber. Antenna and turntable positions were then finally adjusted to produce the maximum emission levels. The worst-case results are reported below.

Test Equipment						
#ID	CP	Manufacturer	Type	Serial Number	Description	Calibration Due Date
652	1	TFA	Weather Station	Jupiter	Weather Station	02/11/2024
750	1	Global	CISPR16	-	11 x 7 x 6.2m, Chamber (Jupiter)	19/12/2024
466	3	Schwarzbeck	BBHA9120B	571	Horn Antenna (1GHz - 10GHz)	04/08/2025
272	1	Sucoflex	106	72467-6	Cable SMA	31/10/2024
788	1	Rohde & Schwarz	ESW44	101799	EMI Test Receiver (44GHz)	05/09/2025
877	1	Huber & Suhner	SUCOTEST_18A	602608/18A	ST_18A/Nm/Nm (3m)	08/11/2024
340	1	Sucoflex	Cable	-	Cable (for #053)	09/11/2024
053	1	HP	8449B	3008A01394	Pre-Amplifier (1GHz - 26.5GHz)	09/11/2024
823	0	York EMC	1.5 to 7GHz	CNE 6507	High Frequency Comparison Noise Emitter	Not Required
821	0	York EMC	CNE	542	Comparison Noise Emitter	Not Required
962	2	RS Components	RS-960	220201672	Multimeter	11/09/2025
Test Equipment Software						
#ID	CP	Manufacturer	Type		Description	Calibration Due Date
856	0	Rohde & Schwarz	Software	0	EMC32 v11.30.0	Not required

Environmental Test Conditions		
Frequency	**Below 1 GHz**	**Above 1 GHz**
Temperature	21.3° Celsius	20.7° Celsius
Relative Humidity	60 %	62 %
Atmospheric Pressure	1031.5 millibars	1024.4 millibars
Test Date:	22nd October 2024	21st October 2024
Test Engineer:	Graeme Lawler	Graeme Lawler

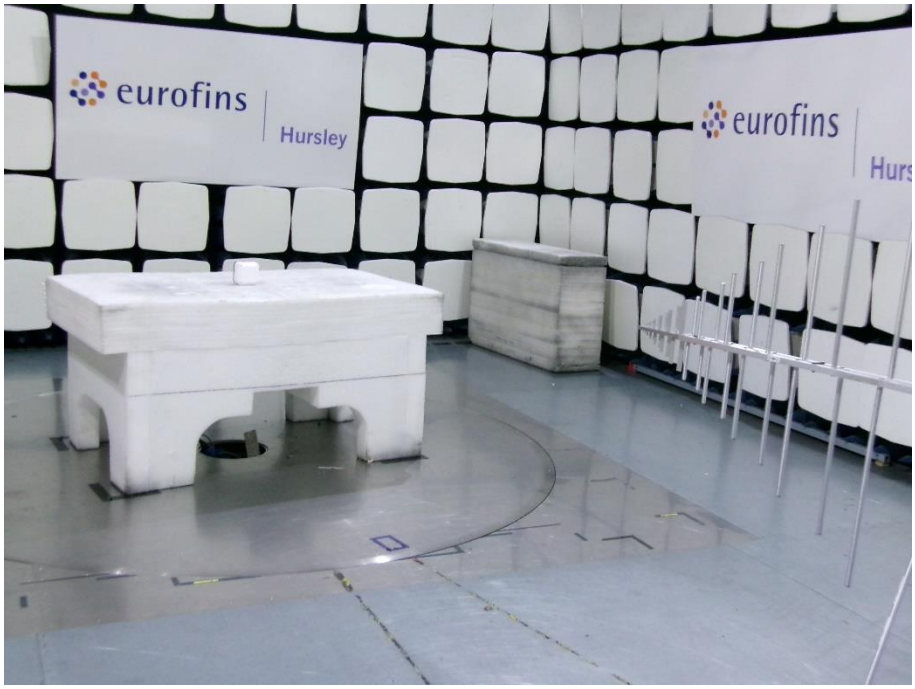
Note: “Calibration due date” means the instrument is certified within UKAS or traceable calibration certificate. “Internal” means the instrument is calibrated using Eurofins E&E UK procedures. “Not required” means the asset does not require calibration. “CP” is the interval period [year] prescribed for external calibration.

4.2.2 Test Configuration

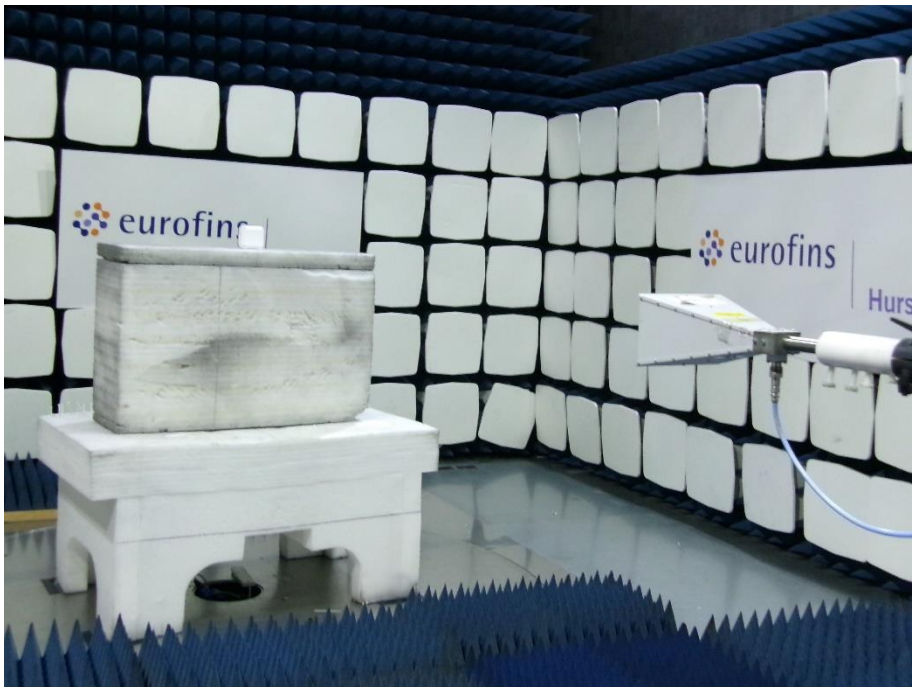
Please refer to EUT Test Configuration #1.

4.2.3 Set-up Photos

Radiated Emissions; Below 1.0 GHz
X-Orientation



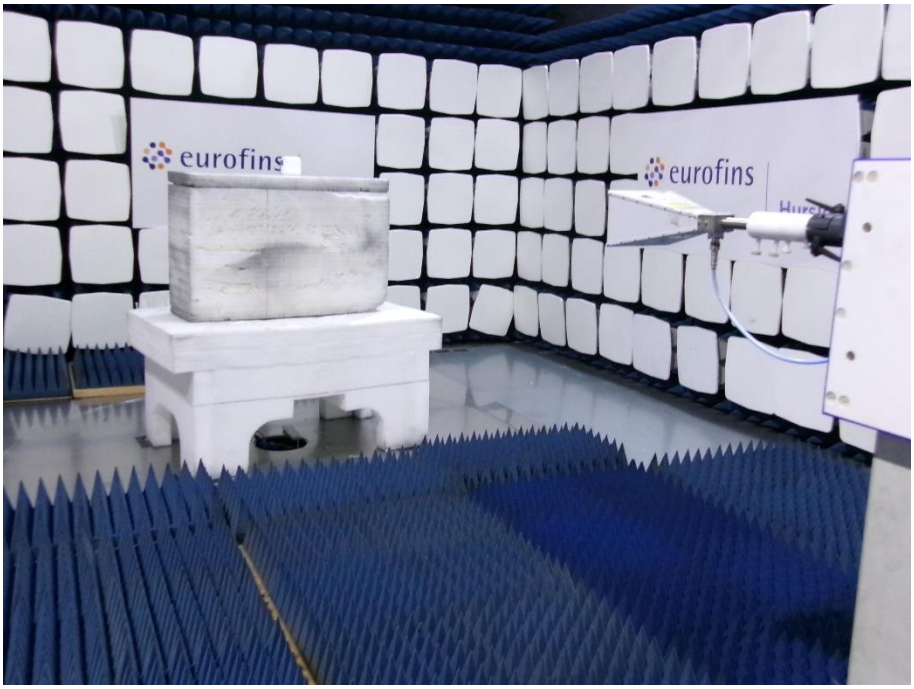
Radiated Emissions; Above 1.0 GHz
X-Orientation



4.2.4 Set-up Photos

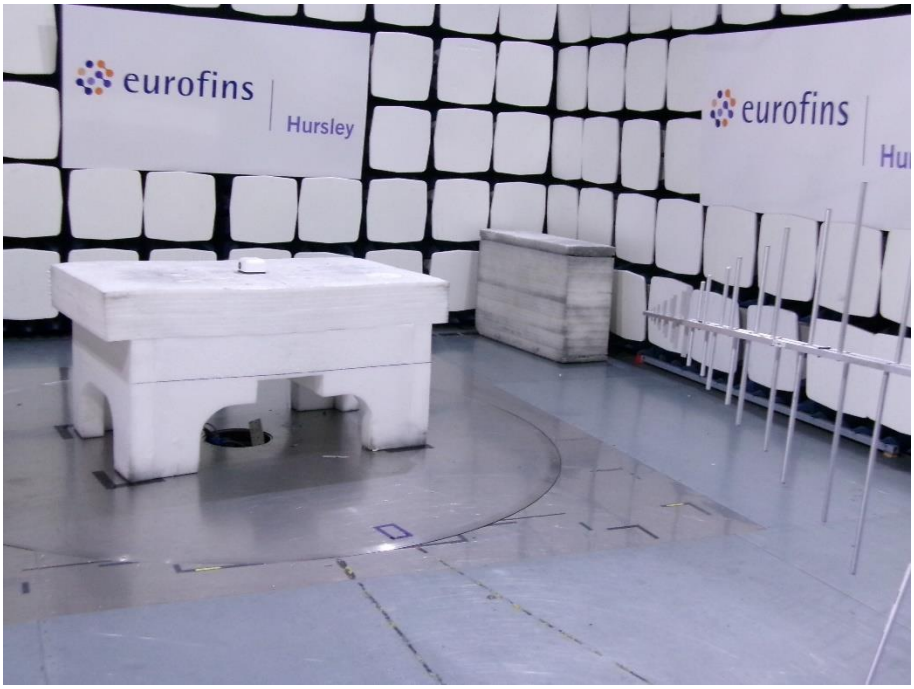
Radiated Emissions; Below 1.0 GHz
Y-Orientation

Radiated Emissions; Above 1.0 GHz
Y-Orientation

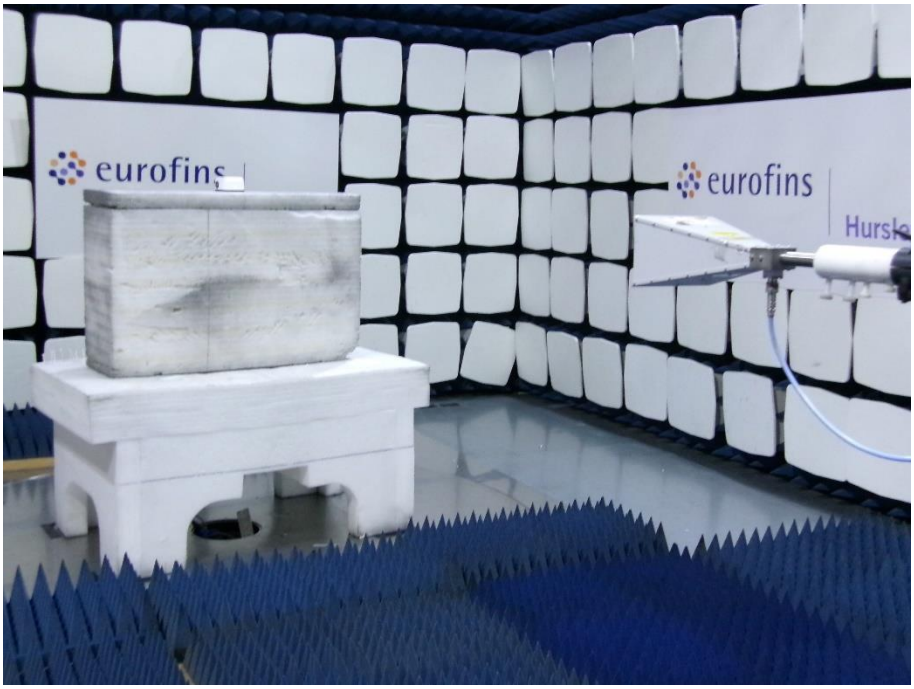


4.2.5 Set-up Photos (Continued)

Radiated Emissions; Below 1.0 GHz
Z-Orientation



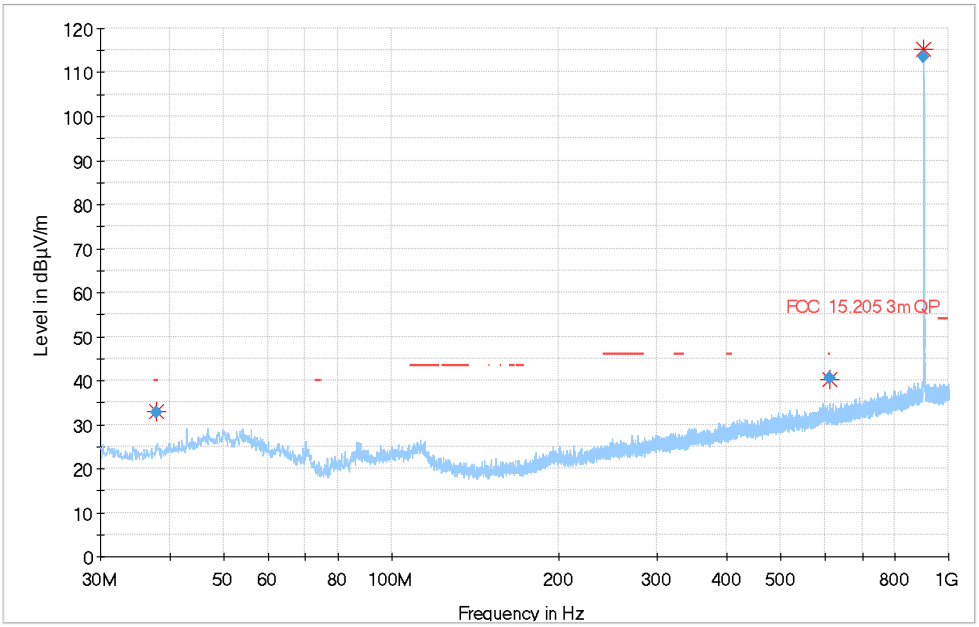
Radiated Emissions; Above 1.0 GHz
Z-Orientation



4.2.6 Profile; 30 MHz to 1 GHz, 500 kHz Band Width, Y-Orientation_903.0 MHz, Bottom Channel

Maximum peak hold trace with peak values (◆)
Peak measurements (✳)

30 MHz to 1 GHz



4.2.7 Data; 30 MHz to 1 GHz, 500 kHz Band Width, Y-Orientation_903.0 MHz, Bottom Channel

Emission Frequency	Measured Peak Value	Specified Quasi-Peak Limit	Pass Margin	Antenna Polarisation	Antenna Height	Turntable Azimuth	
MHz	dBµV/m	dBµV/m	dB	H/V	cm	deg	Status
37.894954	32.71	40.00	7.29	H	207.0	251.0	Pass
611.756800	40.52	46.00	5.48	H	100.0	280.0	Pass
903.033720	113.49	---	---	H	104.0	14.0	Pass

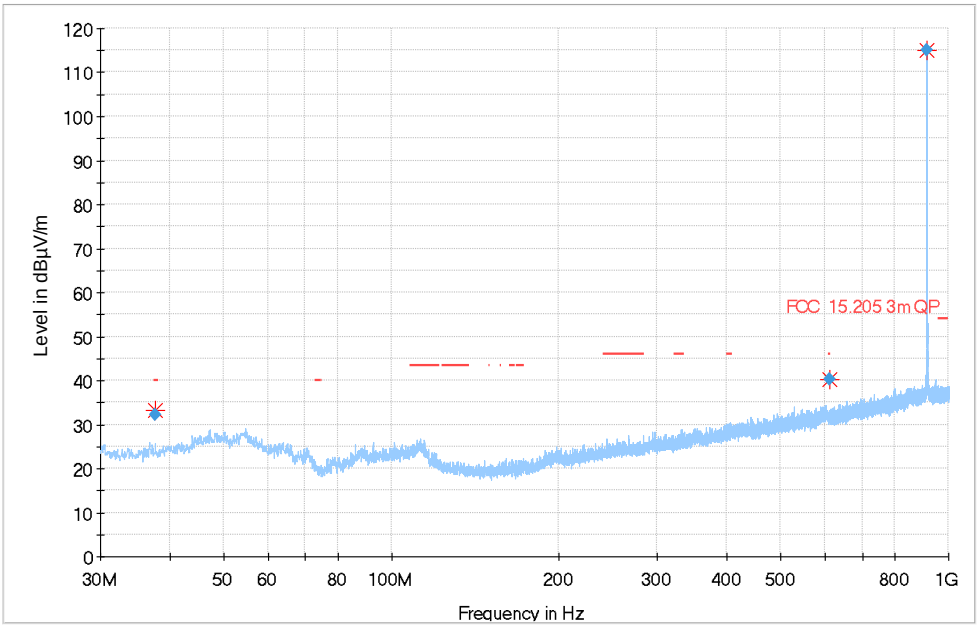
V = Vertical / H = Horizontal

The measurements reported are the highest emissions relative to the FCC/CISPR limits and take into account the correction factor*.
Measurements made according to the CISPR test standard and Eurofins E&E UK test procedure RAD-03.
*Correction factor (dB) = cable and antenna losses as summed positive values (dB) – pre-amp gain where applicable (dB).
The recorded measured value (dB) = measured receiver value (dB) + correction factor (dB).
Note: Path losses are factored into the limit value, and given by the test standard. Chamber calibration data contributes to the measurement uncertainty figure.

4.2.8 Profile; 30 MHz to 1 GHz, 500 kHz Band Width, Y-Orientation_915.1 MHz, Middle Channel

Maximum peak hold trace with quasi-peak values (◆)
Peak measurements (✳)

30 MHz to 1 GHz



4.2.9 Data; 30 MHz to 1 GHz, 500 kHz Band Width, Y-Orientation_915.1 MHz, Middle Channel

Emission Frequency	Measured Peak Value	Specified Quasi-Peak Limit	Pass Margin	Antenna Polarisation	Antenna Height	Turntable Azimuth	
MHz	dBµV/m	dBµV/m	dB	H/V	cm	deg	Status
37.719760	32.33	40.00	7.67	H	239.0	41.0	Pass
611.999400	40.21	46.00	5.79	H	111.0	311.0	Pass
915.094620	115.15	---	---	H	155.0	0.0	Pass

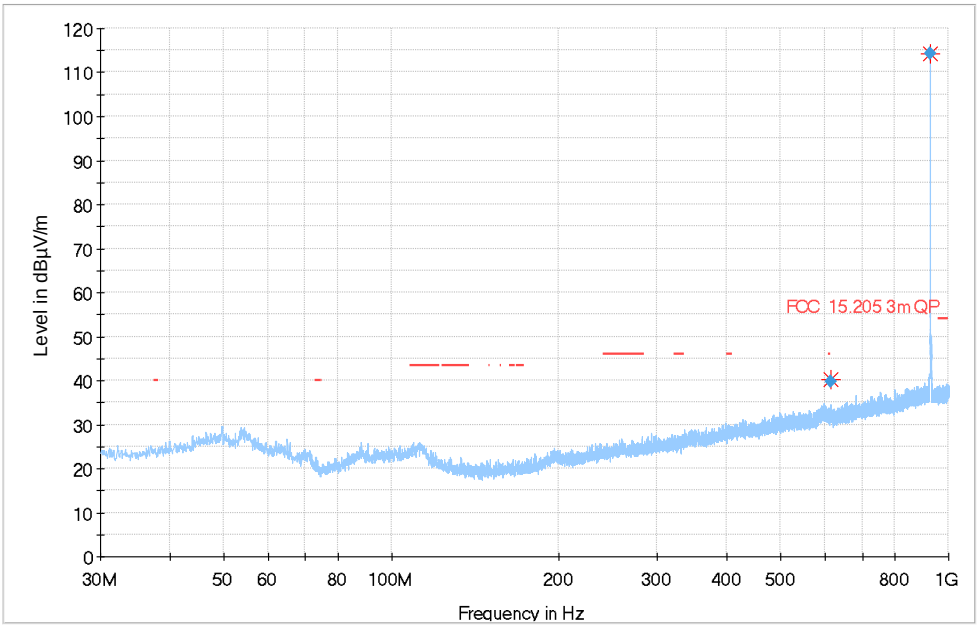
V = Vertical / H = Horizontal

The measurements reported are the highest emissions relative to the FCC/CISPR limits and take into account the correction factor*.
Measurements made according to the CISPR test standard and Eurofins E&E UK test procedure RAD-03.
*Correction factor (dB) = cable and antenna losses as summed positive values (dB) – pre-amp gain where applicable (dB).
The recorded measured value (dB) = measured receiver value (dB) + correction factor (dB).
Note: Path losses are factored into the limit value, and given by the test standard. Chamber calibration data contributes to the measurement uncertainty figure.

4.2.10 Profile; 30 MHz to 1 GHz, 500 kHz Band Width, Y-Orientation_927.5 MHz, Top Channel

Maximum peak hold trace with peak values (◆)
Peak measurements (✳)

30 MHz to 1 GHz



4.2.11 Data; 30 MHz to 1 GHz, 500 kHz Band Width, Y-Orientation_927.5 MHz, Top Channel

Emission Frequency	Measured Peak Value	Specified Quasi-Peak Limit	Pass Margin	Antenna Polarisation	Antenna Height	Turntable Azimuth	
MHz	dBµV/m	dBµV/m	dB	H/V	cm	deg	Status
614.048386	39.87	---	---	V	286.0	178.0	Pass
927.540040	114.18	---	---	H	150.0	12.0	Pass

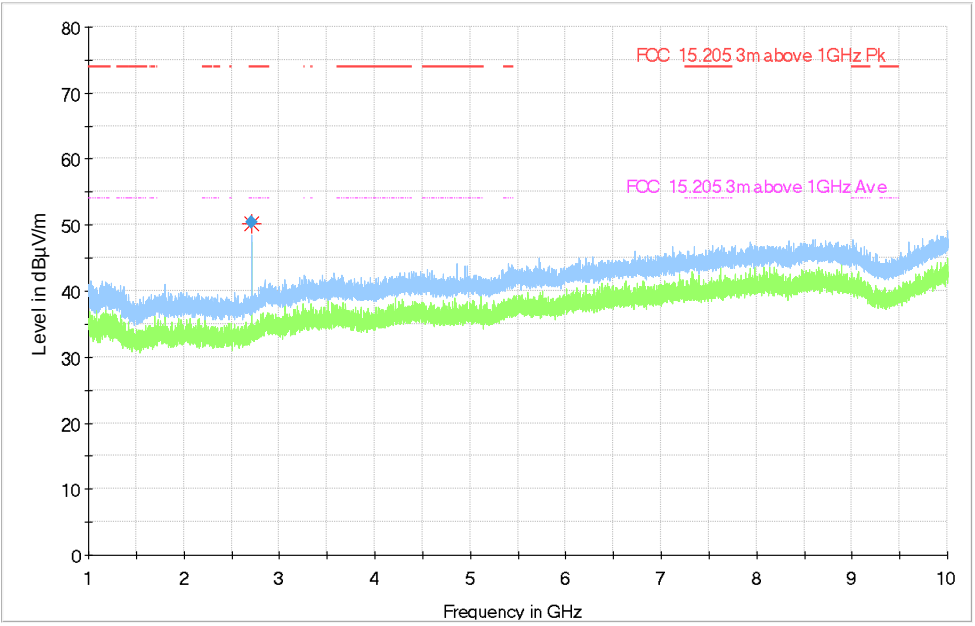
V = Vertical / H = Horizontal

The measurements reported are the highest emissions relative to the FCC/CISPR limits and take into account the correction factor*.
Measurements made according to the CISPR test standard and Eurofins E&E UK test procedure RAD-03.
*Correction factor (dB) = cable and antenna losses as summed positive values (dB) – pre-amp gain where applicable (dB).
The recorded measured value (dB) = measured receiver value (dB) + correction factor (dB).
Note: Path losses are factored into the limit value, and given by the test standard. Chamber calibration data contributes to the measurement uncertainty figure.

4.2.13 Profile; 1 to 10 GHz, 500 kHz Band Width, X-Orientation_903.0 MHz, Bottom Channel

Maximum hold trace with peak values (◆)
Peak measurements (✳)
Average measurements (◆)

1 to 10 GHz



4.2.14 Data; 1 to 10 GHz, 500 kHz Band Width, X-Orientation_903.0 MHz, Bottom Channel

Frequency	Peak	CISPR Average	Limit	Margin	Height	Pol	Azimuth	Corr.	
MHz	dBµV/m	dBµV/m	dBµV/m	dB	cm	H/V	Deg	dB/m	Status
2708.500000	50.35	---	74.00	23.65	198.0	V	32.0	-6.8	Pass

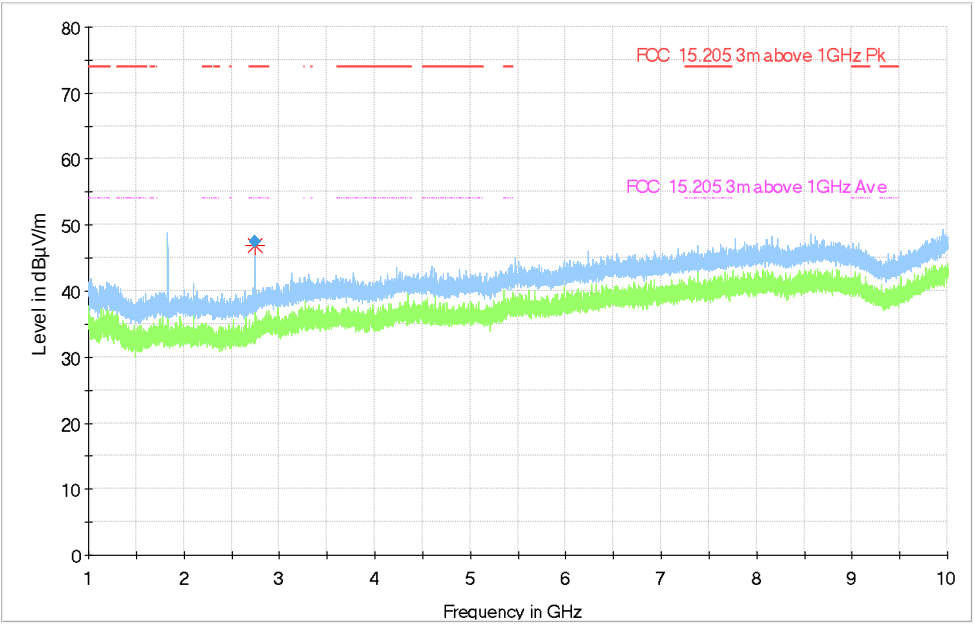
V = Vertical / H = Horizontal

The measurements reported are the highest emissions relative to the FCC/CISPR limits and take into account the correction factor*.
Measurements made according to the CISPR test standard and Eurofins E&E UK test procedure RAD-03.
*Correction factor (dB) = cable and antenna losses as summed positive values (dB) – pre-amp gain where applicable (dB).
The recorded measured value (dB) = measured receiver value (dB) + correction factor (dB).
Note: path losses are factored into the limit value, and given by the test standard. Chamber calibration data contributes to the measurement uncertainty figure.

4.2.15 Profile; 1 to 10 GHz, 500 kHz Band Width, X-Orientation_915.1 MHz, Middle Channel

Maximum hold trace with peak values (◆)
Peak measurements (✳)
Average measurements (◆)

1 to 10 GHz



4.2.16 Data; 1 to 10 GHz, 500 kHz Band Width, X-Orientation_915.1 MHz, Middle Channel

Frequency	Peak	CISPR Average	Limit	Margin	Height	Pol	Azimuth	Corr.	
MHz	dBµV/m	dBµV/m	dBµV/m	dB	cm	H/V	Deg	dB/m	Status
2745.000000	47.36	---	74.00	26.64	274.0	V	21.0	-6.5	Pass

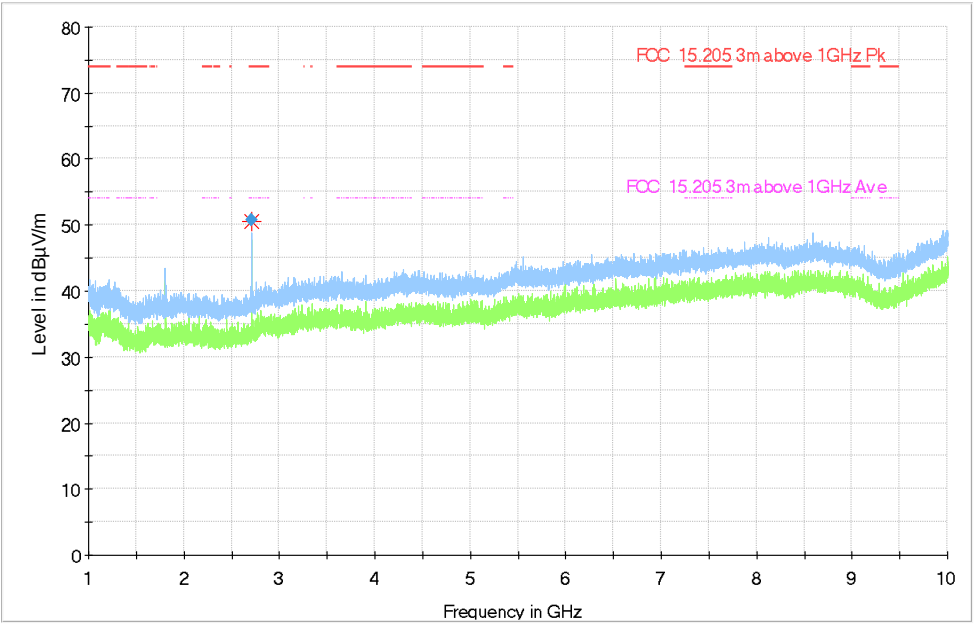
V = Vertical / H = Horizontal

The measurements reported are the highest emissions relative to the FCC/CISPR limits and take into account the correction factor*.
Measurements made according to the CISPR test standard and Eurofins E&E UK test procedure RAD-03.
*Correction factor (dB) = cable and antenna losses as summed positive values (dB) – pre-amp gain where applicable (dB).
The recorded measured value (dB) = measured receiver value (dB) + correction factor (dB).
Note: path losses are factored into the limit value, and given by the test standard. Chamber calibration data contributes to the measurement uncertainty figure.

4.2.17 Profile; 1 to 10 GHz, 500 kHz Band Width, Y-Orientation_903.0 MHz, Bottom Channel

Maximum hold trace with peak values (◆)
Peak measurements (✳)
Average measurements (◆)

1 to 10 GHz



4.2.18 Data; 1 to 10 GHz, 500 kHz Band Width, X-Orientation_903.0 MHz, Bottom Channel

Frequency	Peak	CISPR Average	Limit	Margin	Height	Pol	Azimuth	Corr.	
MHz	dBµV/m	dBµV/m	dBµV/m	dB	cm	H/V	Deg	dB/m	Status
2709.000000	50.81	---	74.00	23.19	104.0	H	25.0	-6.8	Pass

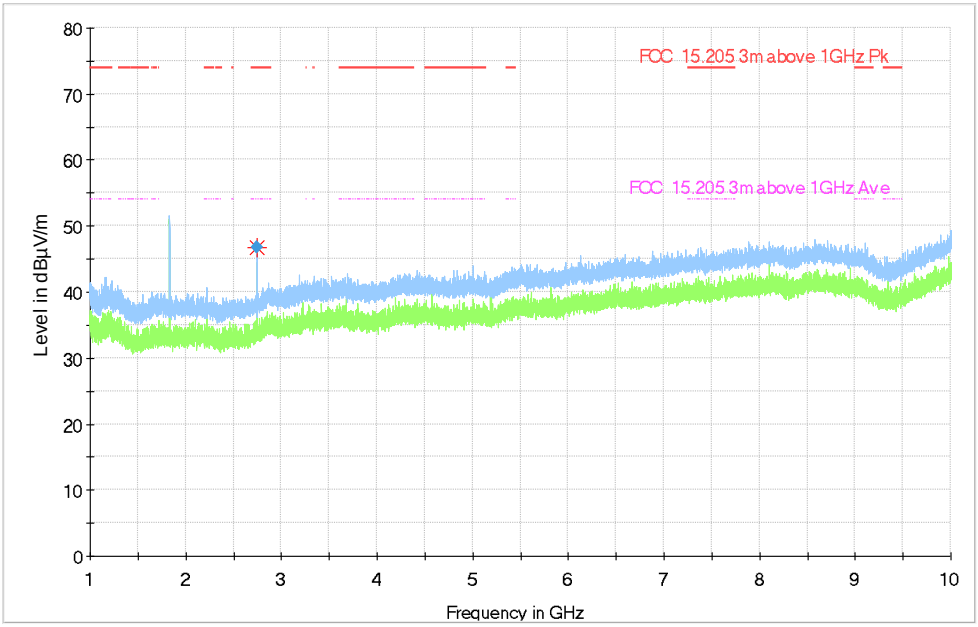
V = Vertical / H = Horizontal

The measurements reported are the highest emissions relative to the FCC/CISPR limits and take into account the correction factor*.
Measurements made according to the CISPR test standard and Eurofins E&E UK test procedure RAD-03.
*Correction factor (dB) = cable and antenna losses as summed positive values (dB) – pre-amp gain where applicable (dB).
The recorded measured value (dB) = measured receiver value (dB) + correction factor (dB).
Note: path losses are factored into the limit value, and given by the test standard. Chamber calibration data contributes to the measurement uncertainty figure.

4.2.19 Profile; 1 to 10 GHz, 500 kHz Band Width, Y-Orientation_915.1 MHz, Middle Channel

Maximum hold trace with peak values (◆)
Peak measurements (✳)
Average measurements (◆)

1 to 10 GHz



4.2.20 Data; 1 to 10 GHz, 500 kHz Band Width, X-Orientation_915.1 MHz, Middle Channel

Frequency	Peak	CISPR Average	Limit	Margin	Height	Pol	Azimuth	Corr.	
MHz	dBµV/m	dBµV/m	dBµV/m	dB	cm	H/V	Deg	dB/m	Status
2745.500000	46.77	---	74.00	27.23	159.0	H	36.0	-6.5	Pass

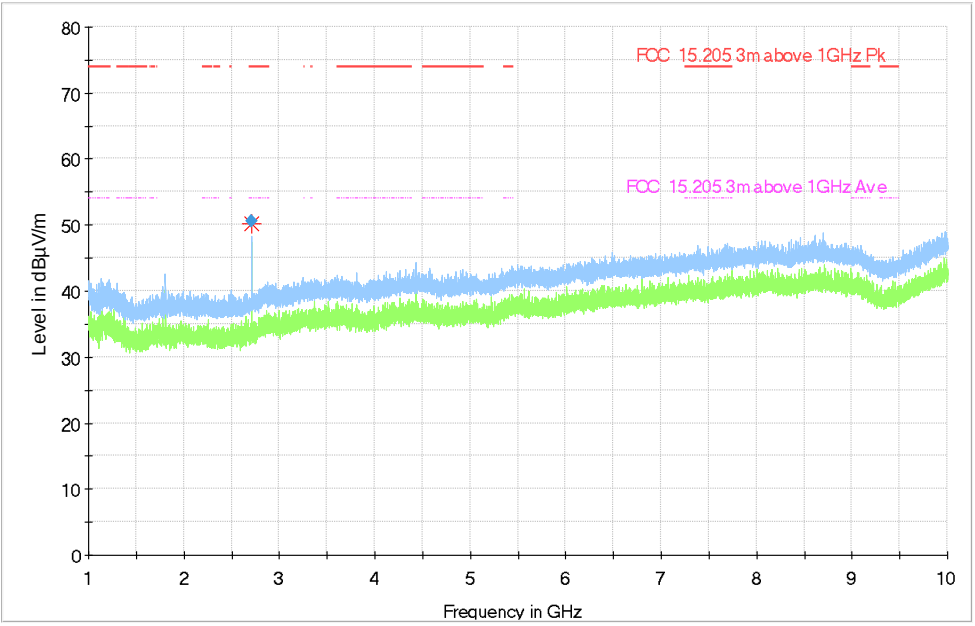
V = Vertical / H = Horizontal

The measurements reported are the highest emissions relative to the FCC/CISPR limits and take into account the correction factor*.
Measurements made according to the CISPR test standard and Eurofins E&E UK test procedure RAD-03.
*Correction factor (dB) = cable and antenna losses as summed positive values (dB) – pre-amp gain where applicable (dB).
The recorded measured value (dB) = measured receiver value (dB) + correction factor (dB).
Note: path losses are factored into the limit value, and given by the test standard. Chamber calibration data contributes to the measurement uncertainty figure.

4.2.21 Profile; 1 to 10 GHz, 500 kHz Band Width, Z-Orientation_903.0 MHz, Bottom Channel

Maximum hold trace with peak values (◆)
Peak measurements (✳)
Average measurements (◆)

1 to 10 GHz



4.2.22 Data; 1 to 10 GHz, 500 kHz Band Width, Z-Orientation_903.0 MHz, Bottom Channel

Frequency	Peak	CISPR Average	Limit	Margin	Height	Pol	Azimuth	Corr.	
MHz	dBµV/m	dBµV/m	dBµV/m	dB	cm	H/V	Deg	dB/m	Status
2709.000000	50.55	---	74.00	23.45	111.0	H	93.0	-6.8	Pass

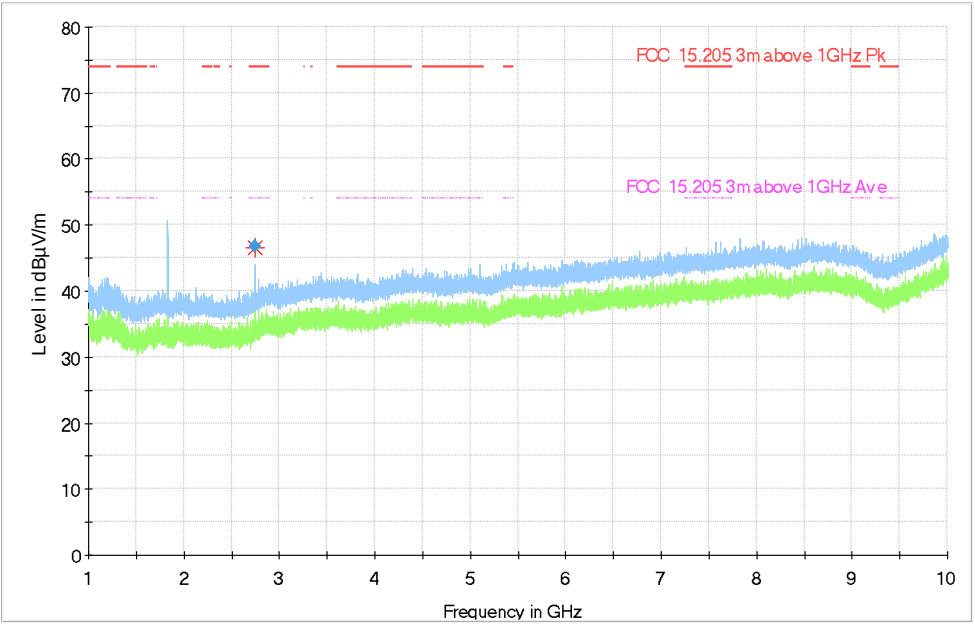
V = Vertical / H = Horizontal

The measurements reported are the highest emissions relative to the FCC/CISPR limits and take into account the correction factor*.
Measurements made according to the CISPR test standard and Eurofins E&E UK test procedure RAD-03.
*Correction factor (dB) = cable and antenna losses as summed positive values (dB) – pre-amp gain where applicable (dB).
The recorded measured value (dB) = measured receiver value (dB) + correction factor (dB).
Note: path losses are factored into the limit value, and given by the test standard. Chamber calibration data contributes to the measurement uncertainty figure.

4.2.23 Profile; 1 to 10 GHz, 500 kHz Band Width, Z-Orientation_915.1 MHz, Middle Channel

Maximum hold trace with peak values (◆)
Peak measurements (✳)
Average measurements (◆)

1 to 10 GHz



4.2.24 Data; 1 to 10 GHz, 500 kHz Band Width, Z-Orientation_915.1 MHz, Middle Channel

Frequency	Peak	CISPR Average	Limit	Margin	Height	Pol	Azimuth	Corr.	
MHz	dBµV/m	dBµV/m	dBµV/m	dB	cm	H/V	Deg	dB/m	Status
2745.500000	46.77	---	74.00	27.23	332.0	H	108.0	-6.5	Pass

V = Vertical / H = Horizontal

The measurements reported are the highest emissions relative to the FCC/CISPR limits and take into account the correction factor*.
Measurements made according to the CISPR test standard and Eurofins E&E UK test procedure RAD-03.
*Correction factor (dB) = cable and antenna losses as summed positive values (dB) – pre-amp gain where applicable (dB).
The recorded measured value (dB) = measured receiver value (dB) + correction factor (dB).
Note: path losses are factored into the limit value, and given by the test standard. Chamber calibration data contributes to the measurement uncertainty figure.

4.3 Radiated H-Field Emissions (9 kHz to 30 MHz); 125 kHz Band Width

4.3.1 Test Parameters

A profile scan was taken at a distance of three metres with a 360° azimuth scan of the EUT in a semi-anechoic chamber. The tests were repeated for two orientations of the loop antenna 90° apart.

The measurements reported are the highest emissions relative to the FCC 15.209 limit and take into account the antenna and cable losses. Measurements were made in accordance with Eurofins E&E UK test procedure MAG-E01.

Test Equipment						
#ID	CP	Manufacturer	Type	Serial Number	Description	Calibration Due Date
750	1	Global	CISPR16	-	11 x 7 x 6.2m, Chamber (Jupiter)	19/12/2024
652	1	TFA	Weather Station	Jupiter	Weather Station	02/11/2024
607	1	Rohde & Schwarz	SMT-03	834665/001	Signal Generator (9kHz - 3.3GHz)	17/11/2021
047	3	Rohde & Schwarz	HFH2-Z2	879021/22	Loop Antenna (9kHz - 30MHz)	15/12/2025
877	1	Huber & Suhner	SUCOTEST_18A	602608/18A	ST_18A/Nm/Nm (3m)	08/11/2024
Test Equipment Software						
#ID	CP	Manufacturer	Type		Description	Calibration Due Date
856	0	Rohde & Schwarz	Software	0	EMC32 v11.30.0	Not required

Environmental Test Conditions	
Temperature	21.3° Celsius
Relative Humidity	60 %
Atmospheric Pressure	1031.5 millibars
Test Date:	22nd October 2024
Test Engineer:	Graeme Lawler

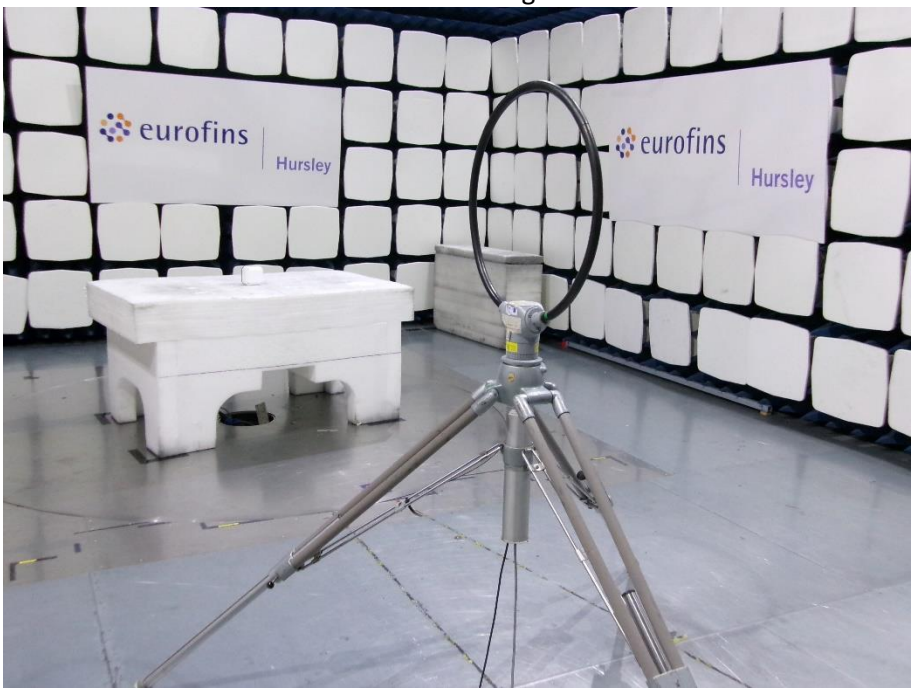
Note: “Calibration due date” means the instrument is certified within UKAS or traceable calibration certificate. “Internal” means the instrument is calibrated using Eurofins E&E UK procedures. “Not required” means the asset does not require calibration. “CP” is the interval period [year] prescribed for external calibration.

4.3.2 Test Configuration

Please refer to EUT Test Configuration #1.

4.3.3 Set-up Photos

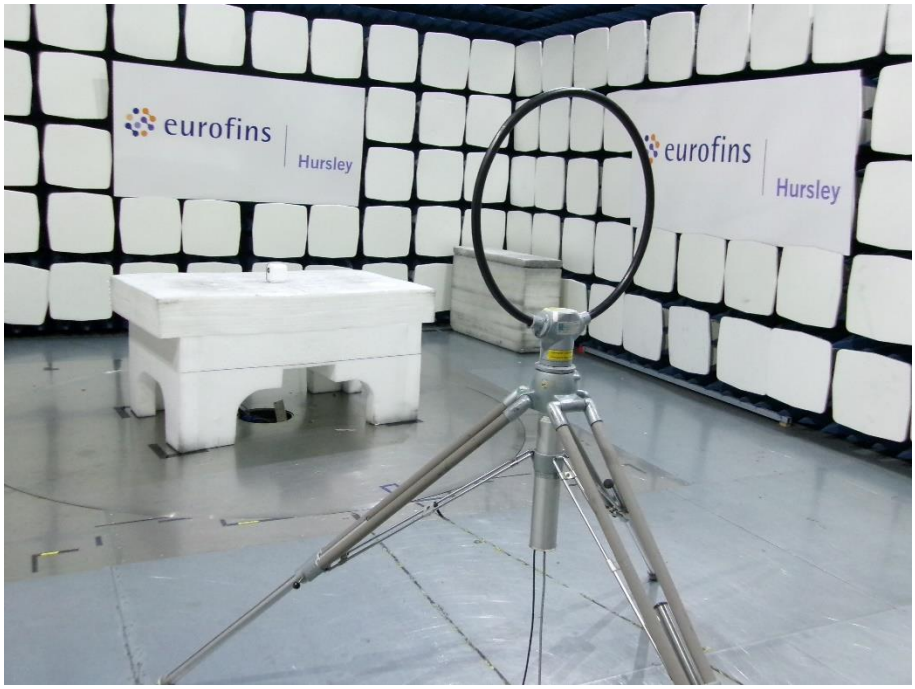
Radiated H-Field Emissions (9 kHz to 30 MHz)
X-Orientation Edge On



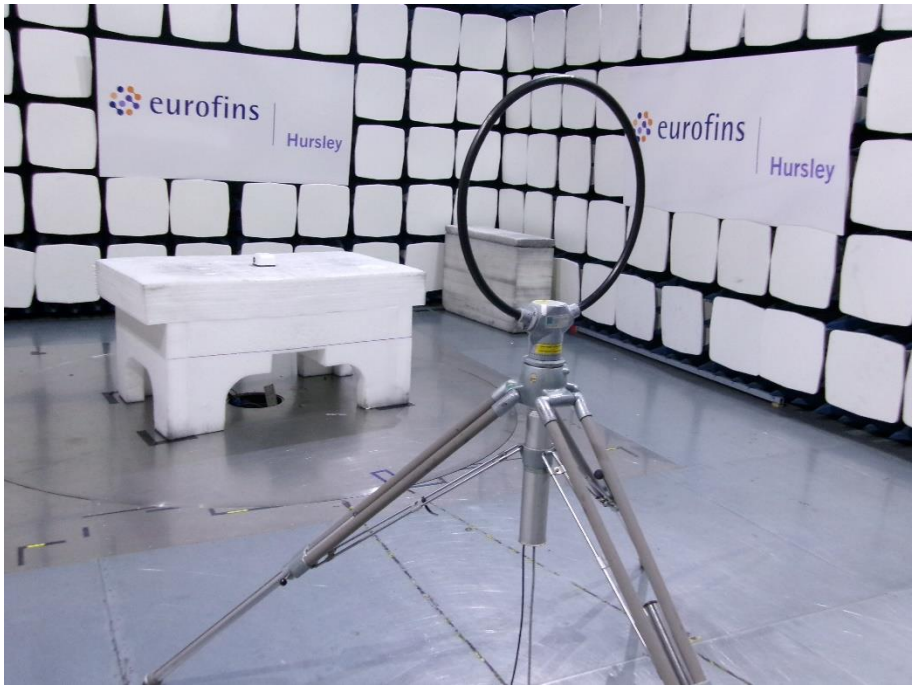
X-Orientation Face On

4.3.4 Set-up Photos (Continued)

Radiated H-Field Emissions (9 kHz to 30 MHz)
Y-Orientation Face On



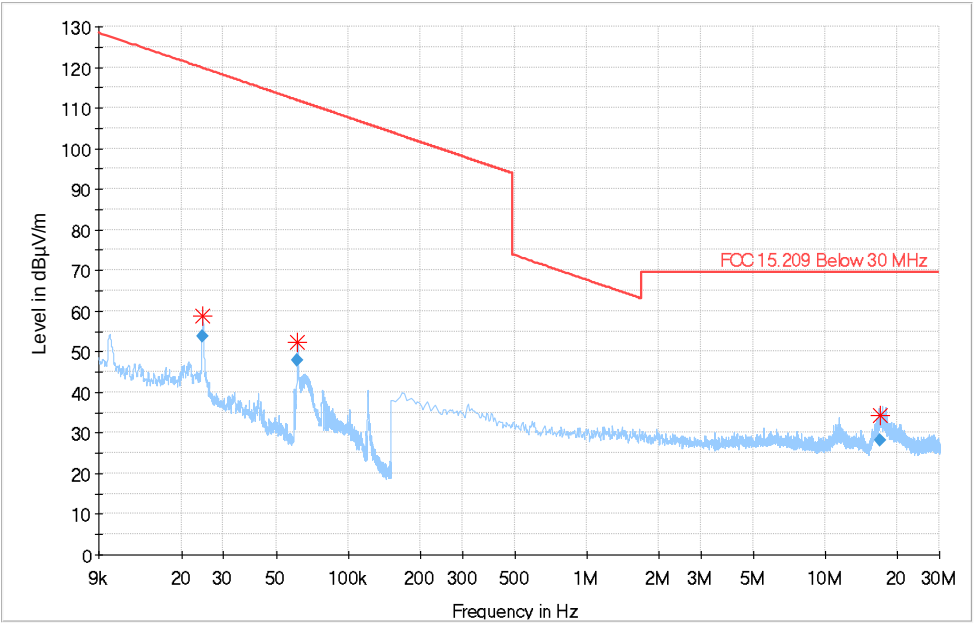
Z-Orientation Face On



4.3.5 Profile; 9 kHz to 30 MHz, 125 kHz Band Width, X-Orientation_902.3 MHz, Bottom Channel

Maximum peak hold trace with quasi-peak values (◆)
Peak measurements (✳)

9 kHz to 30 MHz



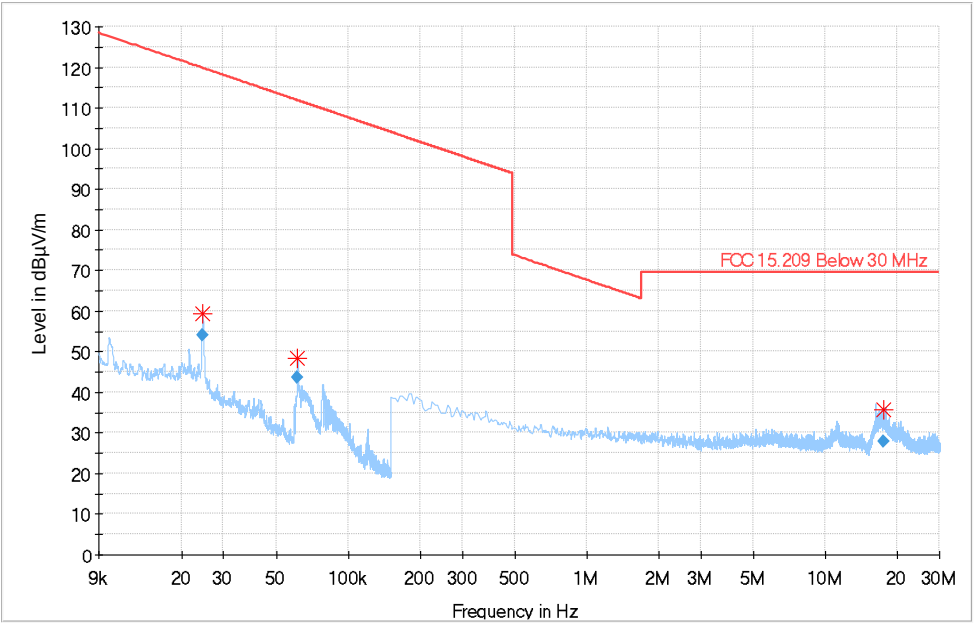
4.3.6 Data; 9 kHz to 30 MHz, 125 kHz Band Width, X-Orientation_902.3 MHz, Bottom Channel

Frequency	Measured	Limit	Margin	Antenna Polarisation	
MHz	dBµV/m	dB	dB	H/V	Status
0.024552	53.72	119.79	66.07	H	Pass
0.061326	47.78	111.84	64.06	H	Pass
16.872743	28.02	69.50	41.48	V	Pass

4.3.7 Profile; 9 kHz to 30 MHz, 125 kHz Band Width, Y-Orientation_902.3 MHz, Bottom Channel

Maximum peak hold trace with quasi-peak values (◆)
Peak measurements (✳)

9 kHz to 30 MHz



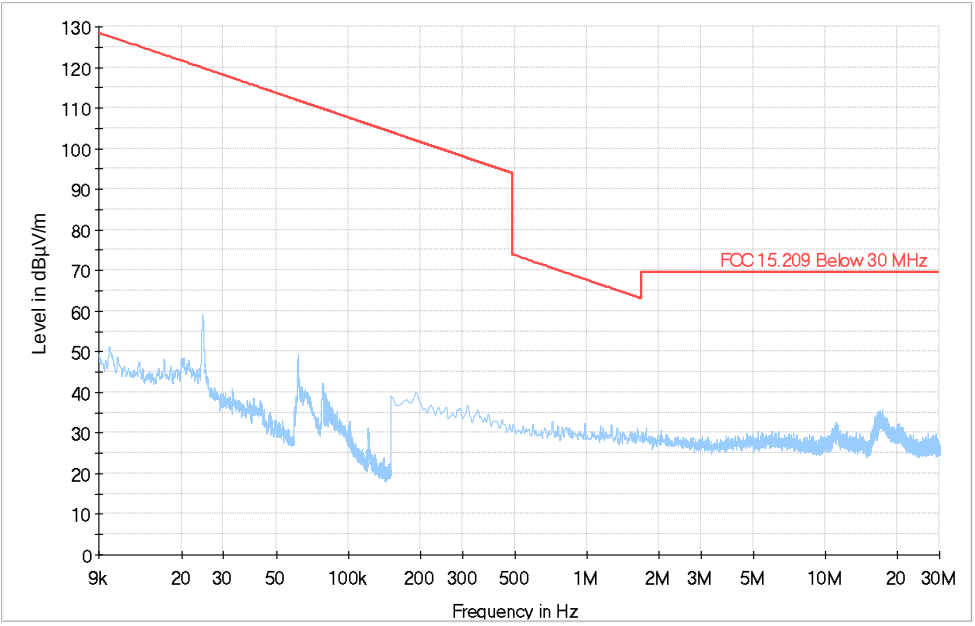
4.3.8 Data; 9 kHz to 30 MHz, 125 kHz Band Width, Y-Orientation_902.3 MHz, Bottom Channel

Frequency	Measured	Limit	Margin	Antenna Polarisation	
MHz	dBµV/m	dB	dB	H/V	Status
0.024542	54.07	119.79	65.71	H	Pass
0.061203	43.73	111.86	68.13	V	Pass
17.457671	27.92	69.50	41.58	V	Pass

4.3.9 Profile; 9 kHz to 30 MHz, 125 kHz Band Width, Y-Orientation_915.1 MHz, Middle Channel

Maximum peak hold trace with quasi-peak values (◆)
Peak measurements (✳)

9 kHz to 30 MHz



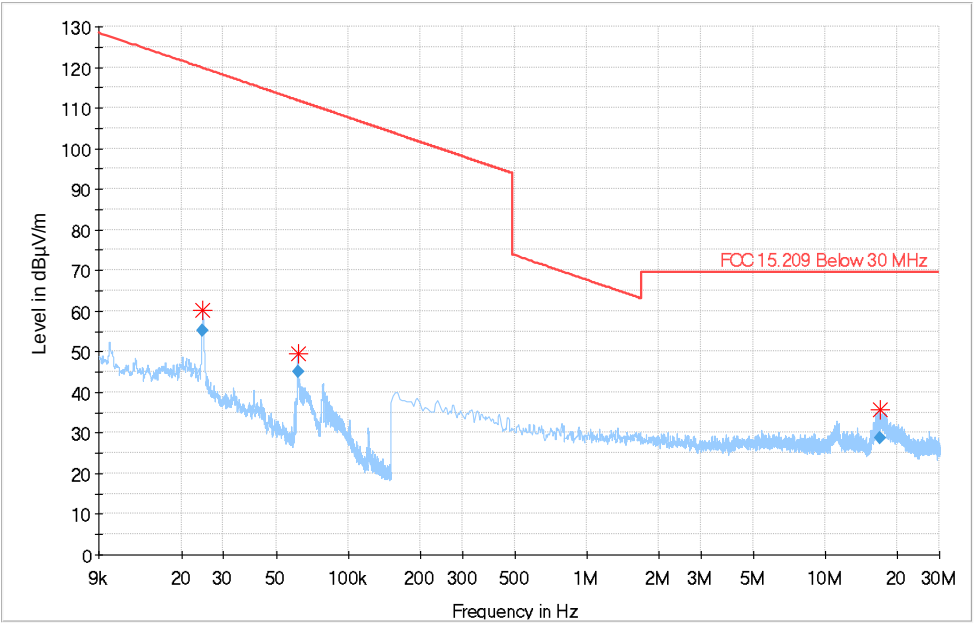
4.3.10 Data; 9 kHz to 30 MHz, 125 kHz Band Width, Y-Orientation_915.1 MHz, Middle Channel

Frequency	Measured	Measured quasi-peak value	Limit	Antenna Polarisation	
MHz	dBµV/m	dBµV/m	dB	H/V	Status
No Significant Peaks Found					Pass

4.3.11 Profile; 9 kHz to 30 MHz, 125 kHz Band Width, Y-Orientation_927.9 MHz, Top Channel

Maximum peak hold trace with quasi-peak values (◆)
Peak measurements (✳)

9 kHz to 30 MHz



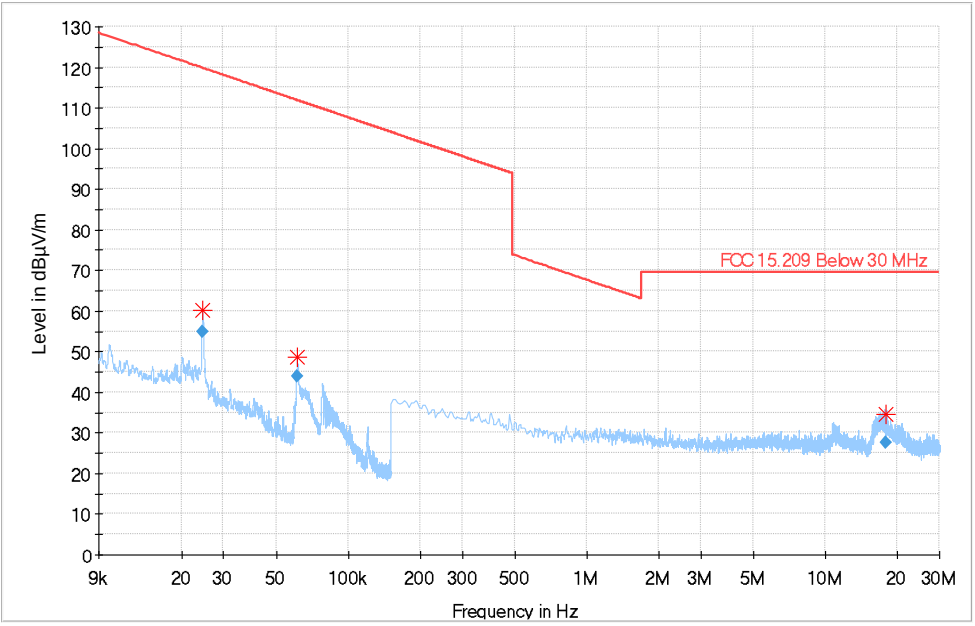
4.3.12 Data; 9 kHz to 30 MHz, 125 kHz Band Width, Y-Orientation_927.9 MHz, Top Channel

Frequency	Measured	Limit	Margin	Antenna Polarisation	
MHz	dBµV/m	dB	dB	H/V	Status
0.024557	55.20	119.79	64.59	V	Pass
0.061468	44.89	111.82	66.93	H	Pass
16.884269	28.57	69.50	40.93	H	Pass

4.3.13 Profile; 9 kHz to 30 MHz, 125 kHz Band Width, Z-Orientation_902.3 MHz, Bottom Channel

Maximum peak hold trace with quasi-peak values (◆)
Peak measurements (✳)

9 kHz to 30 MHz



4.3.14 Data; 9 kHz to 30 MHz, 125 kHz Band Width, Z-Orientation_902.3 MHz, Bottom Channel

Frequency	Measured	Limit	Margin	Antenna Polarisation	
MHz	dBµV/m	dB	dB	H/V	Status
0.024556	54.79	119.79	65.00	H	Pass
0.061406	43.95	111.83	67.88	H	Pass
17.953282	27.47	69.50	42.03	V	Pass

4.4 Radiated H-Field Emissions (9 kHz to 30 MHz); 500 kHz Band Width

4.4.1 Test Parameters

A profile scan was taken at a distance of three metres with a 360° azimuth scan of the EUT in a semi-anechoic chamber. The tests were repeated for two orientations of the loop antenna 90° apart.

The measurements reported are the highest emissions relative to the FCC 15.209 limit and take into account the antenna and cable losses. Measurements were made in accordance with Eurofins E&E UK test procedure MAG-E01.

Test Equipment						
#ID	CP	Manufacturer	Type	Serial Number	Description	Calibration Due Date
750	1	Global	CISPR16	-	11 x 7 x 6.2m, Chamber (Jupiter)	19/12/2024
652	1	TFA	Weather Station	Jupiter	Weather Station	02/11/2024
607	1	Rohde & Schwarz	SMT-03	834665/001	Signal Generator (9kHz - 3.3GHz)	17/11/2021
047	3	Rohde & Schwarz	HFH2-Z2	879021/22	Loop Antenna (9kHz - 30MHz)	15/12/2025
877	1	Huber & Suhner	SUCOTEST_18A	602608/18A	ST_18A/Nm/Nm (3m)	08/11/2024
Test Equipment Software						
#ID	CP	Manufacturer	Type		Description	Calibration Due Date
856	0	Rohde & Schwarz	Software	0	EMC32 v11.30.0	Not required

Environmental Test Conditions	
Temperature	21.3° Celsius
Relative Humidity	60 %
Atmospheric Pressure	1031.5 millibars
Test Date:	22nd October 2024
Test Engineer:	Graeme Lawler

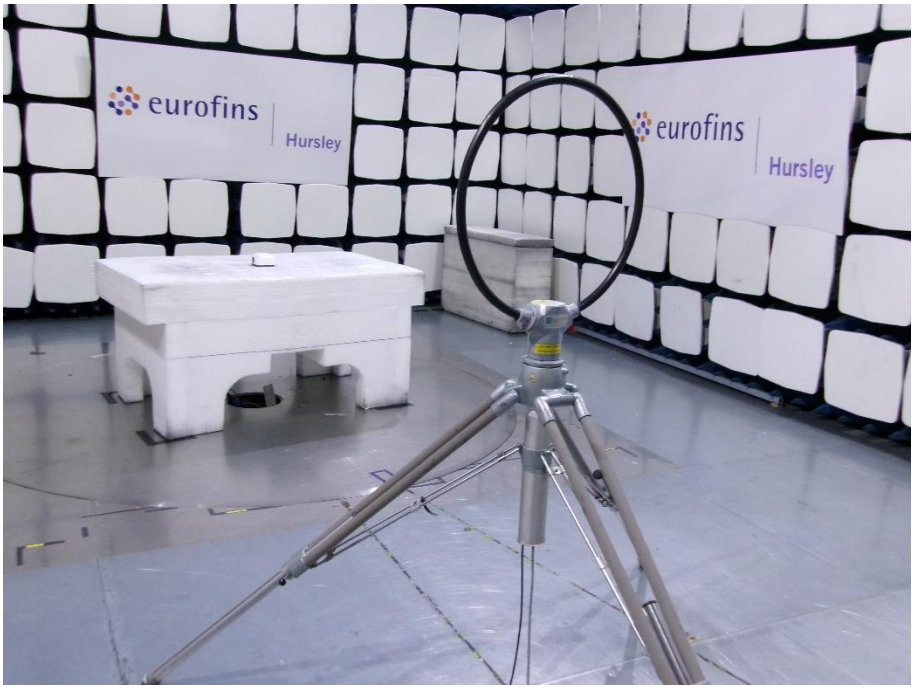
Note: “Calibration due date” means the instrument is certified within UKAS or traceable calibration certificate. “Internal” means the instrument is calibrated using Eurofins E&E UK procedures. “Not required” means the asset does not require calibration. “CP” is the interval period [year] prescribed for external calibration.

4.4.2 Test Configuration

Please refer to EUT Test Configuration #1.

4.4.3 Set-up Photos

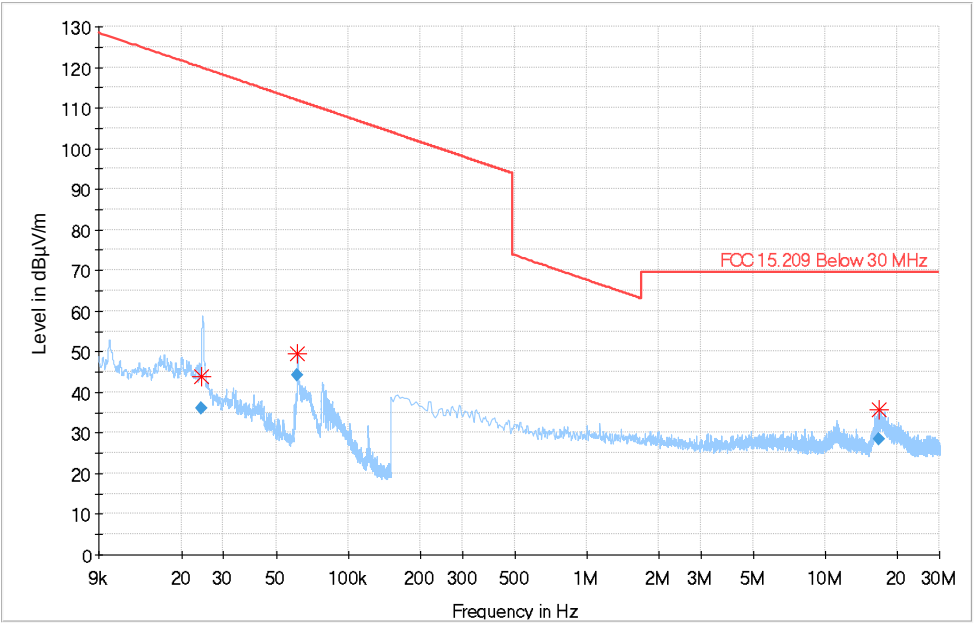
Radiated H-Field Emissions (9 kHz to 30 MHz)
Z-Orientation Face On



4.4.4 Profile; 9 kHz to 30 MHz, 500 kHz Band Width, Z-Orientation_915.1 MHz, Middle Channel

Maximum peak hold trace with quasi-peak values (◆)
Peak measurements (✳)

9 kHz to 30 MHz



4.4.5 Data; 9 kHz to 30 MHz, 500 kHz Band Width, Z-Orientation_915.1 MHz, Middle Channel

Frequency	Measured	Limit	Margin	Antenna Polarisation	
MHz	dBµV/m	dB	dB	H/V	Status
0.024136	35.99	119.94	83.95	V	Pass
0.061332	44.17	111.84	67.67	H	Pass
16.827299	28.54	69.50	40.96	V	Pass

5.0 MEASUREMENT UNCERTAINTIES

Emissions Tests

For all emissions tests, measurement uncertainties have been calculated in line with the requirements of CISPR 16-4-2 to give a confidence level of greater than 95 %. In all cases the laboratories calculated uncertainty values (known as Ulab) are equal to or are less than the expected uncertainty values contained in CISPR 16-4-2 (known as Ucispr). Below is a list of the laboratories calculated measurement uncertainties:

Conducted emissions:

Via AMN/LISN:	±3.27 dB (9 kHz – 150 kHz), ±3.27 dB (150 kHz – 30 MHz)
Via AAN/ISN:	±5.00 dB (150 kHz – 30 MHz)
Via CVP:	±3.47 dB (150 kHz – 30 MHz)
Via CP:	±2.69 dB (150 kHz – 30 MHz)
Via 100 Ω:	±2.68 dB (150 kHz – 30 MHz)
Clicks:	±2.79 dB (150 kHz – 30 MHz)
Harmonics:	±1.50 % (100 Hz – 2 kHz)
Flicker:	±1.24 % (worst case for all parameters)

Radiated emissions:

H-Field:	±2.84 dB (9 kHz – 3 MHz), ±2.92 dB (3 MHz – 3 0 MHz)
D = 3.0 m (Horizontal):	±3.91 dB (30 MHz – 1 GHz SAC), ±3.82 dB (30 MHz – 1 GHz FAC)
D = 3.0 m (Vertical):	±3.92 dB (30 MHz – 1 GHz SAC), ±3.82 dB (30 MHz – 1 GHz FAC)
D = 3.0 m:	±5.04 dB (1 GHz – 6 GHz SAC), ±5.16 dB (1 GHz – 10 GHz SAC), ±3.64dB (10 GHz – 18 GHz SAC), ±3.15 dB (18 GHz – 40 GHz SAC). ±3.05 dB (1 GHz – 6 GHz FAC)

Radiated spurious emissions (RSE): ±1.71 dB (30 MHz – 1 GHz), ±1.81 dB (1 – 12.75 GHz), ±2.07 dB (12.75 – 18 GHz)

Conducted RF Measurements:

±3.11 dB (30 MHz – 40 GHz)

Immunity Tests

Radiated Fields in Close Proximity (EN 61000-4-39): ±1.93 dB (30 kHz & 134.2 kHz)
Radiated Fields in Close Proximity (EN 61000-4-39): ± 2.02 dB (13.56 MHz)

For IEC 61000-4-2, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-8, IEC 61000-4-9, IEC 61000-4-11 tests, the following applies:

Measurement uncertainty has been calculated or calibrated for the various required parameters to provide a confidence level of 95 % (k=2). These parameters have been compared to the basic standard tolerance requirements for each of the various parameters. In all cases the calculated or calibrated uncertainty meets the basic standard requirements.

For IEC 61000-4-3, IEC 61000-4-6 tests, the following applies:

Measurement uncertainty has been calculated to provide a confidence level of 95 %, or k=2, but this has not been applied to the applied test level, therefore the applied test level has an uncertainty of ±50 %. This is in accordance with CENELEC and other international guidance.

In the case of Maritime equipment tested to EN/IEC 60945, there is a specific requirement that the applied test level be increased by the calculated measurement uncertainty. This is done by applying a coverage factor of k=1.64, which provides a 95 % confidence that the applied test level has been achieved.

Test Results - Decision Rules

As the decision is generally inherent in the standard for Commercial EMC a simple acceptance rule can be applied. The following statement will be added to EMC quotes and reports. "The Decision Rule is applied on the basis of CISPR16-4-2 and/or EN61000-4-x (TR61000-1-6) These standards provide guidance on how to calculate and apply measurement uncertainty whilst providing maximum uncertainties allowance. Due consideration will also be given to JCGM 106:2012, ILAC-G8:09/2019 and LAB 48. This laboratory has demonstrated by calibrating its equipment and facilities, and calculating its own uncertainties, that it complies with the above requirements and therefore no allowance of uncertainties has been given to the tolerances." Where a result is considered marginal in respect of its proximity to the limit line, for example, the customer would be made aware of situation so that they can make an informed decision on how to proceed.

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