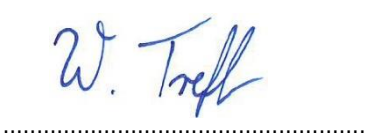


RADIO REPORT FCC 47 CFR Part 15C ISED Canada RSS-247 Digital transmission systems operating within the 2400.0 MHz - 2483.5 MHz band	
Report Reference No	G0M-2404-2541-TFC247BL-V01
Testing Laboratory	Eurofins Product Service GmbH
Address	Storkower Str. 38c 15526 Reichenwalde Germany
Accreditation	    DAkkS - Registration number : D-PL-12092-01-03 (ISED) ISED Testing Laboratory site: 3470A DAkkS - Registration number : D-PL-12092-01-04 (FCC) FCC Filed Test Laboratory, Reg.-No.: 96970
Applicant	Andreas Stihl AG & Co. KG
Address	Badstraße 115 71336 Waiblingen Germany
Test Specification	47 CFR Part 15C RSS-247, Issue 3, 2023-08 RSS-Gen, Issue 5, Amendment 2, 2021-02
Non-Standard Test Method	None
Equipment under Test (EUT):	
Product Description	battery pack 4871 AR
Model(s)	AR 2000 L
Additional Model(s)	None
Brand Name(s)	Andreas Stihl AG & Co. KG
Hardware Version(s)	03.11
Software Version(s)	00.16
FCC ID	2ALP8AR1
IC	23431-AR1
Test Result	PASSED

Possible test case verdicts:		
Required by standard but not tested	N/T	
Not required by standard	N/R	
Not applicable to EUT	N/A	
Test object does meet the requirement	P(PASS)	
Test object does not meet the requirement	F(FAIL)	
Testing:		
Test Lab Temperature	20 °C - 30 °C	
Test Lab Humidity	25 % - 55 %	
Date of receipt of test item	2024-08-09	
Report:		
Compiled by	Ehsan Sohrabi	
Tested by (+ signature) (Responsible for Test)	Ehsan Sohrabi	
Approved by (+ signature) (Test Lab Engineer)	Wilfried Treffke	
Date of Issue	2024-12-10	
Total number of pages	42	
General Remarks:		
The test results presented in this report relate only to the object tested. The results contained in this report reflect the results for this particular model and serial number. It is the responsibility of the manufacturer to ensure that all production models meet the intent of the requirements detailed within this report. This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.		
Additional Comments:		
Testing for integration of certified module. the full test was done by Eurofins Product service GmbH and the reference test report is G0M-2106-9857-TFC247BL-V02 issued on 2021-11-18.		

ADDITIONAL VARIANTS

Additional Variants (not tested and not evaluated variants)		
Not-tested Variant	Description	
1	Product Type Description	Battery pack 4871 AR
	Model name	AR 3000 L
	Brand name	Andreas Stihl AG & Co.KG
	Hardware Version	03.11
	Software Version	00.16
Comment: Those named additional variants above have not been tested. Those additional variants of the series have been declared by the manufacturer. The test report explicitly states that those variants were neither tested nor assessed nor evaluated.		

VERSION HISTORY

Version History			
Version	Issue Date	Remarks	Revised By
01	2024-12-10	Initial Release	--

ABBREVIATIONS AND ACRONYMS

Acronyms	
Acronym	Description
EUT	Equipment Under Test
FCC	Federal Communications Commission
ISED	Innovation, Science and Economic Development Canada
RBW	Resolution bandwidth
RMS	Root mean square
VBW	Video bandwidth
V _{NOM}	Nominal supply voltage

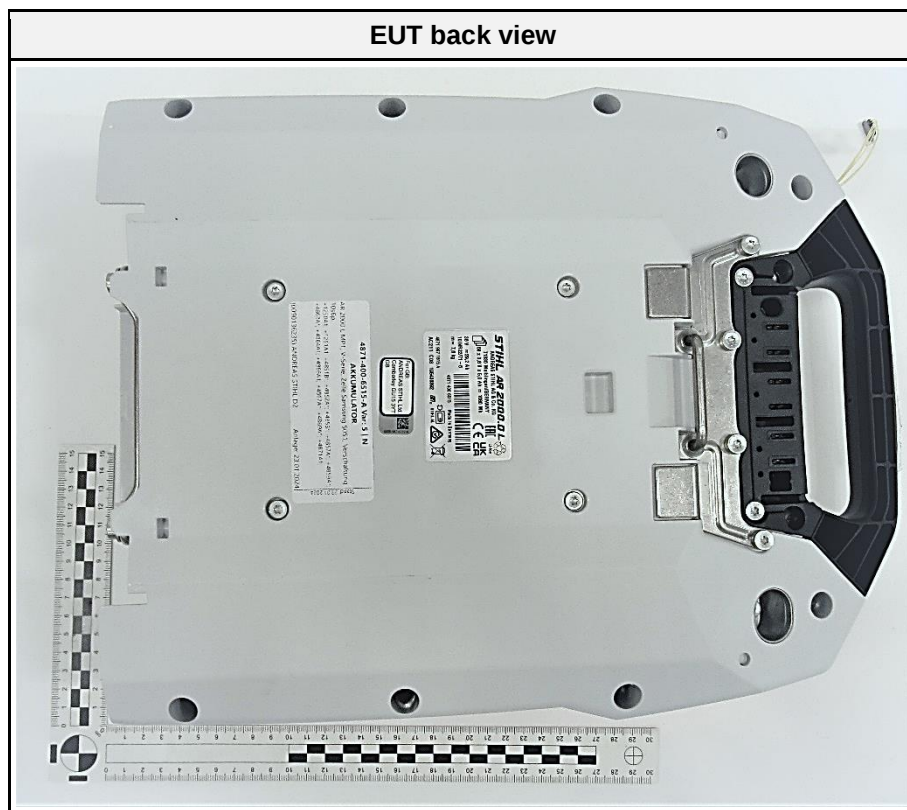
REPORT INDEX

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1 Equipment (Test Item) Under Test

Description	battery pack 4871 AR			
Model	AR 2000 L			
Additional Model(s)	None			
Brand Name(s)	Andreas Stihl AG & Co. KG			
Sample Identification	EUT #	Sample-ID	Serial Number	Date of receipt
	EUT 1	49532	195436392	2024-08-09
Hardware Version(s)	03.11			
Software Version(s)	00.16			
PMN	AR 3000 L			
HVIN	AR 3000 L			
FVIN	N/A			
HMN	N/A			
FCC ID	2ALP8AR1			
IC	23431-AR1			
Equipment type	End Product			
Radio type	Transceiver			
Assigned frequency bands	2400.0 MHz - 2483.5 MHz			
Radio technology	Bluetooth LE 5.0			
Bluetooth Specification	LE 1M PHY			Yes
	LE 2M PHY			No
	LE Coded PHY S=8 (125 kbit)			No
	LE Coded PHY S=2 (500 kbit)			No
	Stable Modulation Index - Transmitter			No
	Stable Modulation Index - Receiver			No
Modulation	GFSK			
Number of antenna ports	1			
Antenna	Type	Integrated antenna		
	Model	Inverted F		
	Manufacturer	PCB Antenna		
	Gain	1.1 dBi		
Supply Voltage	V _{NOM}	36 V DC via external AC/DC charger		
Operating Temperature	T _{NOM}	25°C		
Dedicated AC/DC-Adaptor	Model	STIHL AL 301.0 B		
	Vendor	STIHL		
	Input	120 V / 60 Hz		
	Output	36 V		
Manufacturer	Andreas Stihl AG & Co. KG Badstraße 115 71336 Waiblingen Germany			

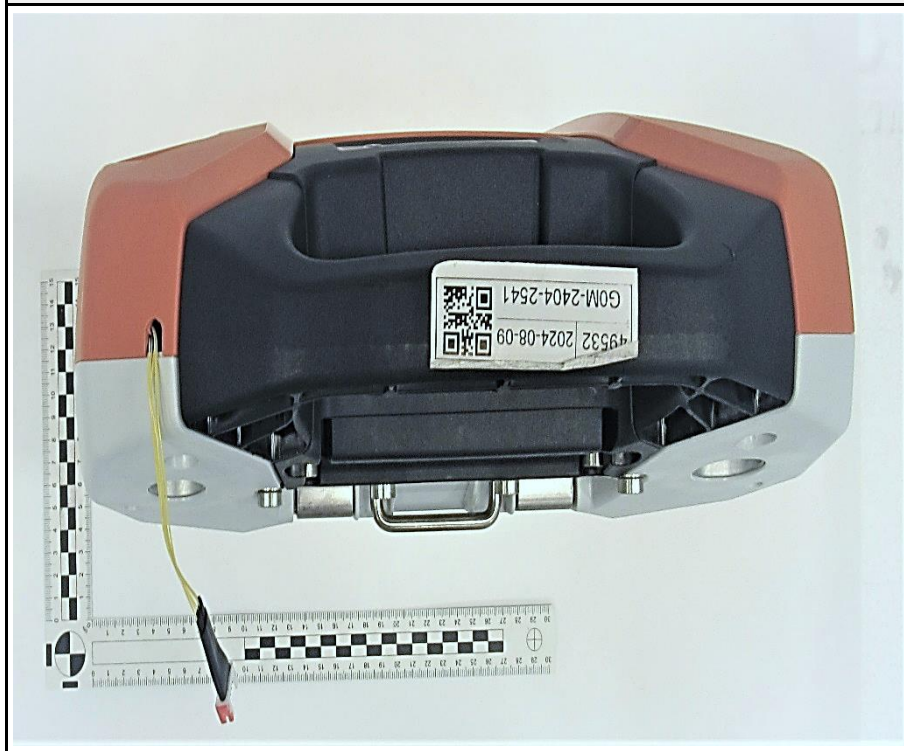
1.1 Photos – Equipment External



Test Report No.: G0M-2404-2541-TFC247BL-V01

Eurofins Product Service GmbH
Storkower Str. 38c, D-15526 Reichenwalde, Germany

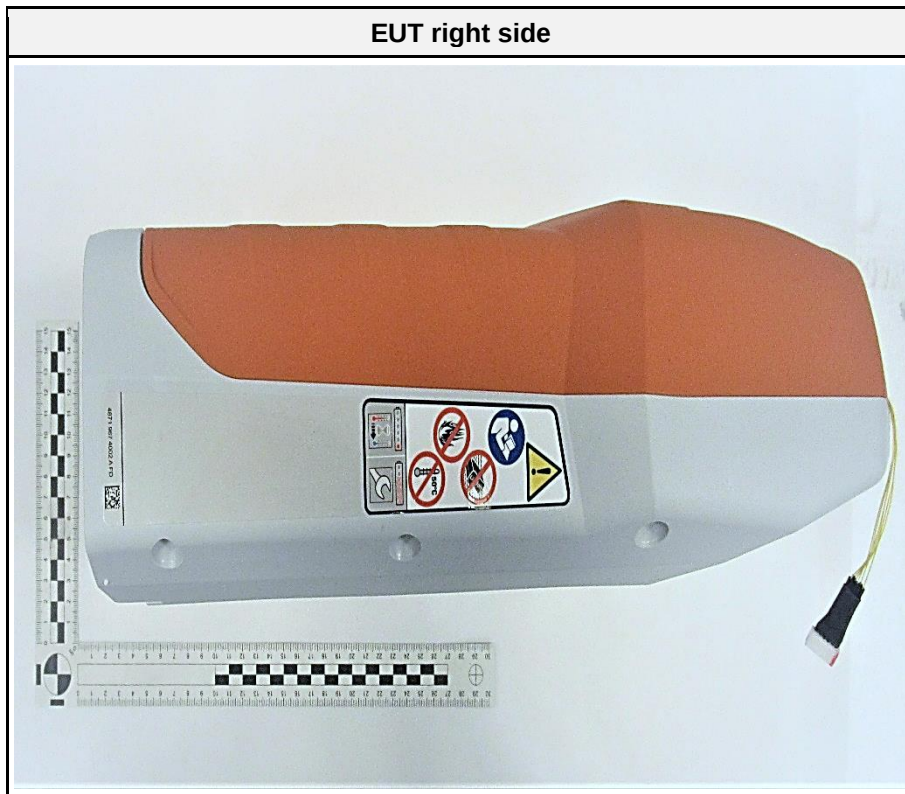
EUT top view



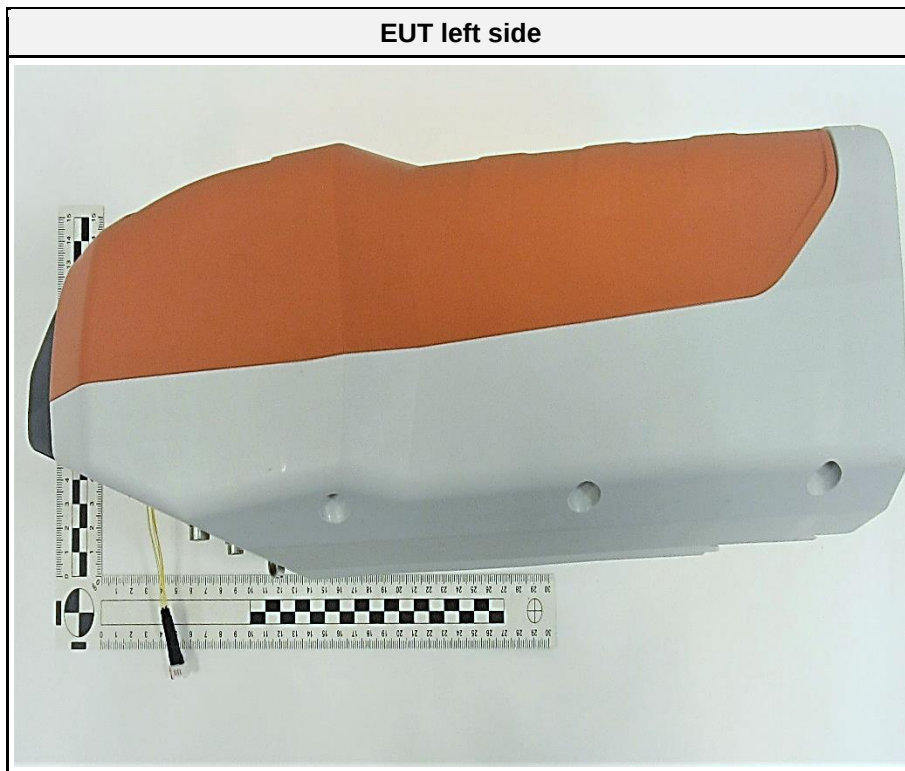
EUT bottom View



EUT right side



EUT left side



AE - AC Charger



AE - Adapter



AE - Cable



1.2 Photos – Equipment Internal

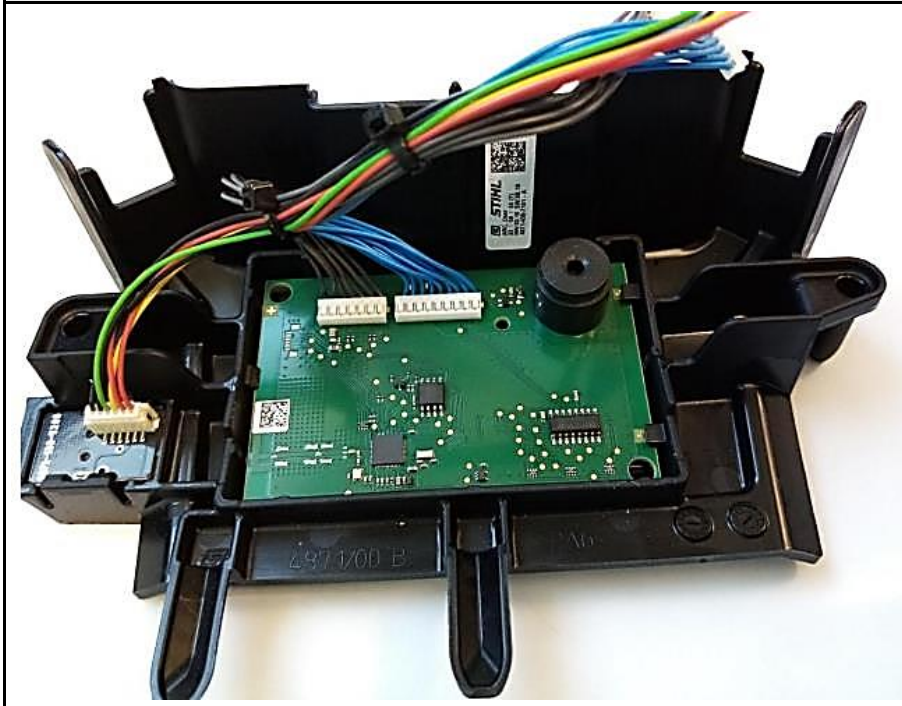
EUT without cover - provided by customer



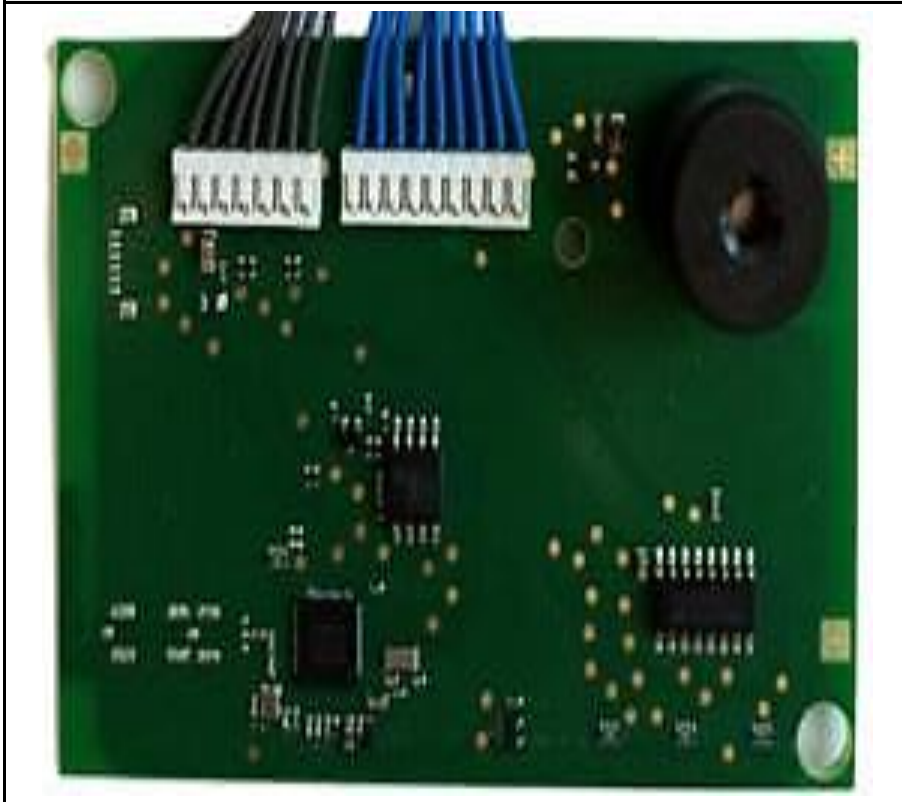
Module back side with potting - provided by customer



Module back side without potting - provided by customer



PCB front side - provided by customer



PCB back side - provided by customer



1.3 Support Equipment

Product Type	Device	Manufacturer	Model	Comment
AE	Laptop	Lenovo	T440	For configuring test modes
AE	AC/DC charger	STIHL	AL 301	For charging the EUT
AE	Adapter	STIHL	--	For charging the EUT
AE	Cable	STIHL	--	For charging the EUT
SFT	Remote control software	nrfconnect	5.0.0	For configuring test modes
CBL	USB cable	---	---	To connect laptop to EUT
Description:				
AE	Auxiliary Equipment			
SIM	Simulator			
CBL	Connecting Cable			
SFT	Software			
Comment: --				

1.4 Test Modes

Mode	Description
GFSK 1 Mbps	Mode = Transmit Modulation = GFSK Spreading = None Payload= 193 Bytes Duty cycle = 87% Power setting = 8 dBm (by software)
Receive	Mode = Receive
Comment: test mode represent worst case scenario.	

1.5 Test Frequencies

Designator	Mode	Channel	Frequency [MHz]
F1	Tx / Rx	19	2440

1.6 Sample emission level calculation

The following is a description of terms and a sample calculation, as appears in the radiated emissions data table. The numbers used in the calculation are for example only. There is no direct correlation to the specific data taken for the product described in this document:

Reading:

This is the reading obtained on the spectrum analyzer in dB μ V. Any external preamplifiers used are taken into account through internal analyzer settings.

A.F.:

This is the antenna factor for the receiving antenna. It is a conversion factor, which converts electric fields strengths to voltages, which can be measured directly on the spectrum analyzer. It is treated as a loss in dB. Cable losses have been included with the A.F. to simplify the calculations. The antenna factor is used in calculations as follows:

$$\text{Reading on Analyzer (dB}\mu\text{V)} + \text{A.F. (dB/m)} = \text{Net field strength (dB}\mu\text{V/m)}$$

Net:

This is the net field strength measurement (as shown above).

Margin:

This is the margin of compliance below the FCC limit. The units are given in dB. A negative margin indicates the emission was below the limit. A positive margin indicates that the emission exceeds the limit.

Field strength limit:

This is the FCC Class B radiated emission limit (in units of dB μ V/m). The FCC limits are given in units of μ V/m. The following formula is used to convert the units of μ V/m to dB μ V/m:

$$\text{Field strength limit (dB}\mu\text{V/m)} = 20 \cdot \log (\mu\text{V/m})$$

Example only for radiated field strength:

Reading + AF	= Net Reading	:	Net reading	- Field strength limit	= Margin
+21.5 dB μ V	+ 26 dB/m	:	47.5 dB μ V/m	- 57.0 dB μ V/m	= -9.5

2 Result Summary

FCC 47 CFR Part 15C, ISED RSS-247				
Product Standard Reference	Requirement	Reference Method	Result	Remarks
ISED RSS-Gen, Issue 5 A2 (section 6.7)	Occupied Bandwidth	ANSI C63.10-2013	N/T	Note 1
FCC § 15.247(a)(2) ISED RSS-247, Issue 3 (section 5.2)	6 dB Bandwidth	ANSI C63.10-2013	N/T	Note 1
FCC § 15.247(b) ISED RSS-247, Issue 3 (section 5.4)	Maximum peak conducted power	ANSI C63.10-2013	N/T	Note 1
FCC § 15.247(e) ISED RSS-247, Issue 3 (section 5.2)	Power spectral density	ANSI C63.10-2013	N/T	Note 1
FCC § 15.207 ISED RSS-247, Issue 3 (section 3.1)	AC power line conducted emissions	ANSI C63.10-2013	PASS	--
FCC § 15.247(d) ISED RSS-247, Issue 3 (section 5.5)	Band edge compliance	ANSI C63.10-2013	N/T	Note 1
FCC § 15.247(d) ISED RSS-247, Issue 3 (section 5.5)	Conducted spurious emissions	ANSI C63.10-2013	N/T	Note 1
FCC § 15.247(d) FCC § 15.209 ISED RSS-Gen, Issue 5 A2 (section 6.13)	Transmitter radiated spurious emissions	ANSI C63.10-2013	PASS	--
ISED RSS-247, Issue 3 (section 3.1)	Receiver radiated spurious emissions	ANSI C63.4-2014	PASS	--
Note 1: Testing for integration of certified module. the full test was done by Eurofins Product service GmbH and the reference test report is G0M-2106-9857-TFC247BL-V02 issued on 2021-11-18.				
Comment: The Decision Rule is applied on the basis of ETSI TR 102 273 and ETSI TR 100 028. These standards provide guidance on how to calculate and apply measurement uncertainty whilst providing maximum uncertainties allowance. In all cases due consideration will be given to ILAC-G8:09/2019. Where a result is considered conditional in respect of its proximity to the limit line, the customer would be made aware of situation so that they can make an informed decision on how to proceed.				

Possible Test Case Verdicts	
PASS	Test object does meet the requirements
FAIL	Test object does not meet the requirements
N/T	Required by standard but not tested
N/R	Not required by standard for the test object

3 Test Conditions and Results

3.1 Test Conditions and Results - AC powerline conducted emissions

3.1.1 Information

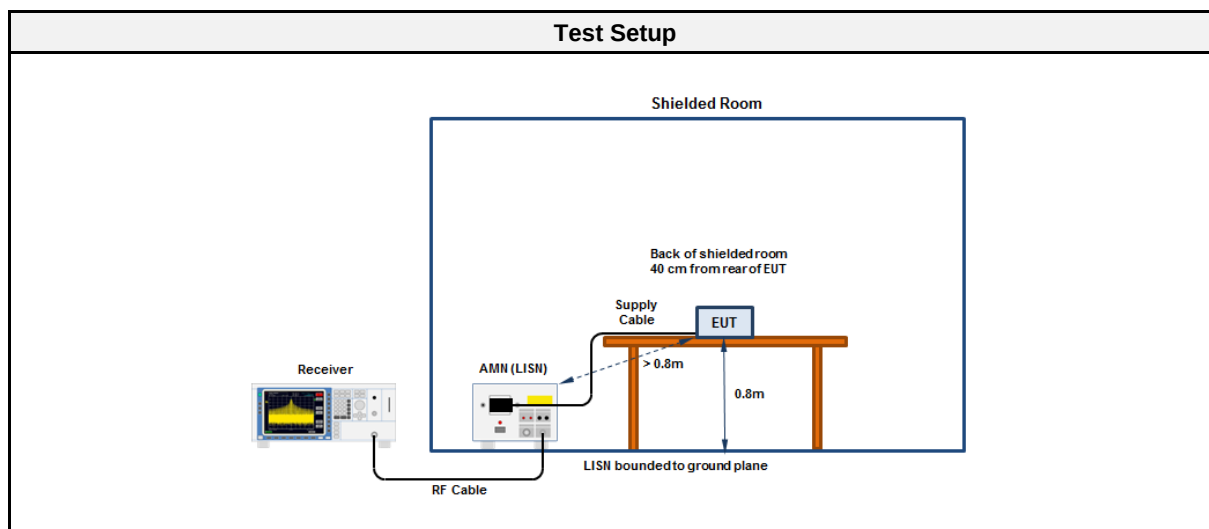
Test Information	
Reference	FCC § 15.207; ISED RSS-247, Issue 3 (section 3.1)
Measurement Method	ANSI C63.10 6.2
Measurement Uncertainty	± 3.82 dB
Operator	Ehsan Sohrabi
Date	2024-09-03

3.1.2 Limits

Limits		
Frequency [MHz]	Quasi-Peak [dBμV]	Average [dBμV]
0.15 - 0.5	66 - 56*	56 - 46*
0.5 - 5	56	46
5 - 30	60	50

* Limit decreases linearly with the logarithm of the frequency

3.1.3 Setup



3.1.4 Equipment

Test Software			
Description	Manufacturer	Name	Version
EMC Software	DARE Instruments	RadiMation	2023.2.6

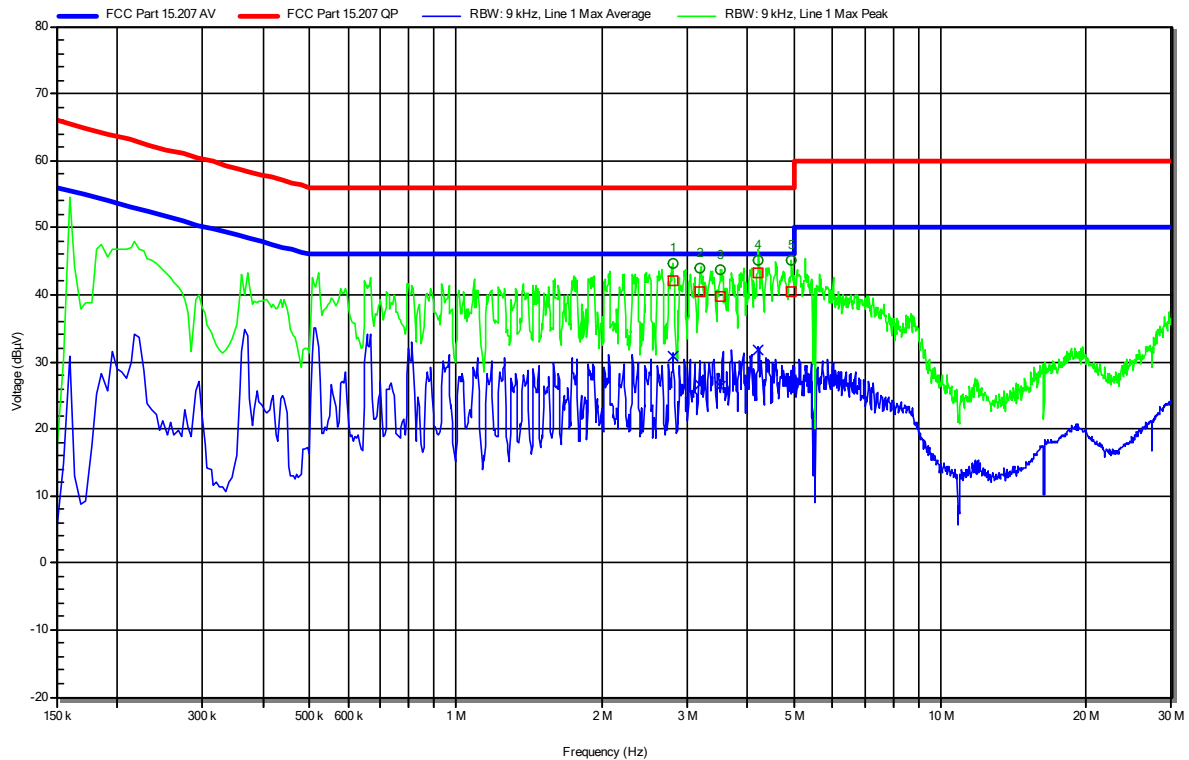
Test Equipment					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
EMI Test Receiver	R&S	ESU26	EF00887	2024-01	2025-01
Pulse Limiter	R&S	ESH3-Z2	EF01222	2023-08	2025-08
LISN	Schwarzbeck	NSLK 8127 RC	EF01592	2024-07	2026-07

Conducted emissions at the mains power port according to FCC Part C 15.207, ISSED RSS-247, Issue 3

Project Number: G0M-2404-2541
 Applicant: ANDREAS STIHL AG & Co. KG
 Model Description: battery pack 4871 AR-C
 Model: AR 2000 L
 Test Sample ID: 49532
 Test Site: Eurofins Product Service GmbH
 Operator: Ehsan Sohrabi
 Test Date & Time: 2024-09-03
 Operating Conditions: ambient temperature: 23 °Celsius
 power input: 36 V DC
 AMN: Schwarzbeck NSLK 8127
 Operational Mode: Tx, BLE 5.0, 2440 MHz, PRBS9_193 Bytes, 1 Mbps, P = Max
 DUT Configuration:
 Applied to Port: 120 VAC / 60 Hz

Index 8

RadiMation



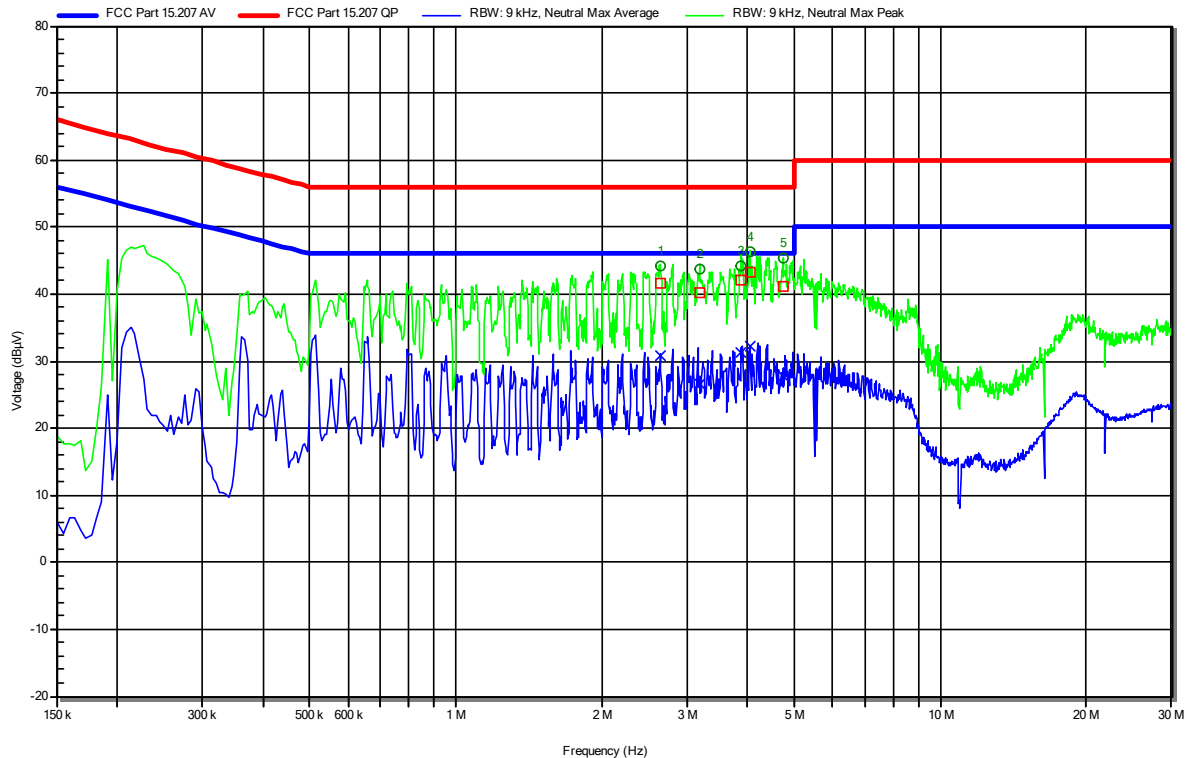
Peak Number	Frequency (MHz)	Quasi-Peak (dBμV)	Quasi-Peak Limit (dBμV)	Quasi-Peak Difference (dB)	Quasi-Peak Status	LISN
1	2.811	41.98	56	-14.02	Pass	Line 1
2	3.197	40.44	56	-15.56	Pass	Line 1
3	3.521	39.73	56	-16.27	Pass	Line 1
4	4.214	43.36	56	-12.64	Pass	Line 1
5	4.929	40.41	56	-15.59	Pass	Line 1

Peak Number	Frequency (MHz)	Average (dBμV)	Average Limit (dBμV)	Average Difference (dB)	Average Status	LISN
1	2.811	30.93	46	-15.07	Pass	Line 1
2	3.197	26.48	46	-19.52	Pass	Line 1
3	3.521	26.37	46	-19.63	Pass	Line 1
4	4.214	31.74	46	-14.26	Pass	Line 1
5	4.929	27.34	46	-18.66	Pass	Line 1

Conducted emissions at the mains power port according to FCC Part C 15.207, ISSED RSS-247, Issue 3

Project Number: G0M-2404-2541
 Applicant: ANDREAS STIHL AG & Co. KG
 Model Description: battery pack 4871 AR-C
 Model: AR 2000 L
 Test Sample ID: 49532
 Test Site: Eurofins Product Service GmbH
 Operator: Ehsan Sohrabi
 Test Date & Time: 2024-09-03
 Operating Conditions: ambient temperature: 23 °Celsius
 power input: 36 V DC
 AMN: Schwarzbeck NSLK 8127
 Operational Mode: Tx, BLE 5.0, 2440 MHz, PRBS9_193 Bytes, 1 Mbps, P = Max
 DUT Configuration:
 Applied to Port: 120 VAC / 60 Hz

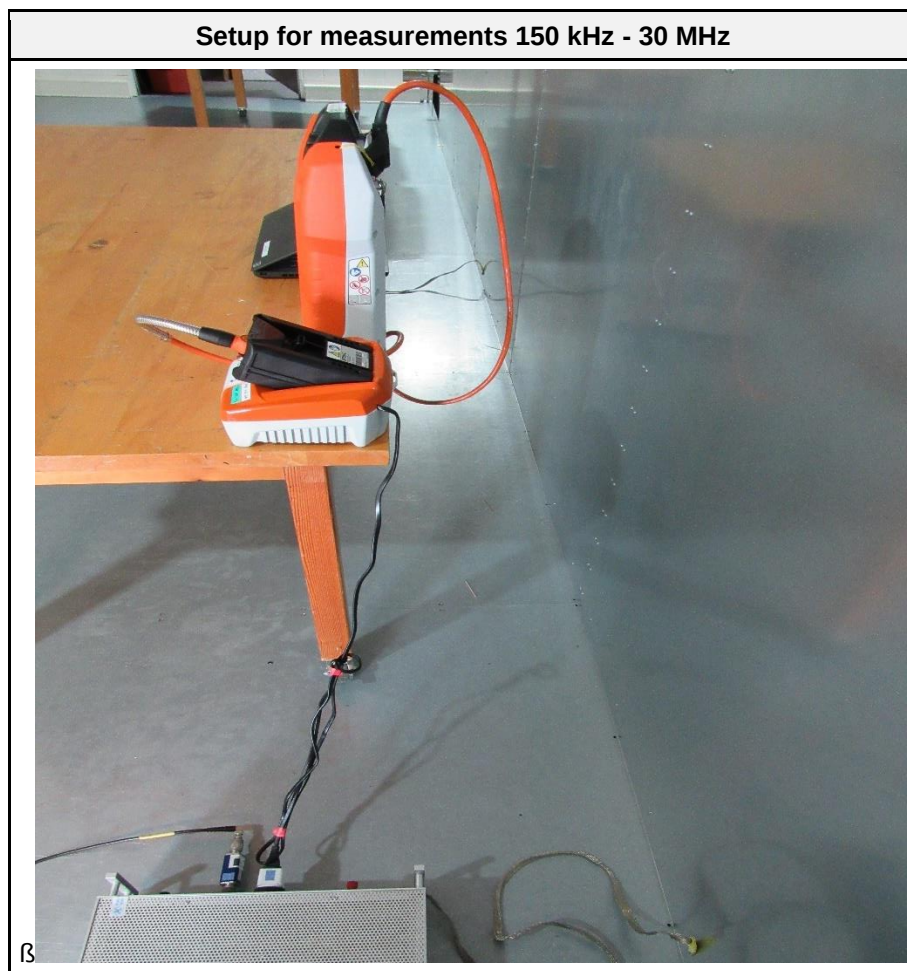
Index 9
RadiMation



Peak Number	Frequency (MHz)	Quasi-Peak (dBµV)	Quasi-Peak Limit (dBµV)	Quasi-Peak Difference (dB)	Quasi-Peak Status	LISN
1	2.644	41.71	56	-14.29	Pass	Neutral
2	3.183	40.23	56	-15.77	Pass	Neutral
3	3.885	42.11	56	-13.89	Pass	Neutral
4	4.038	43.2	56	-12.8	Pass	Neutral
5	4.745	41.06	56	-14.94	Pass	Neutral

Peak Number	Frequency (MHz)	Average (dBµV)	Average Limit (dBµV)	Average Difference (dB)	Average Status	LISN
1	2.644	30.75	46	-15.25	Pass	Neutral
2	3.183	26.61	46	-19.39	Pass	Neutral
3	3.885	31.19	46	-14.81	Pass	Neutral
4	4.038	32.2	46	-13.8	Pass	Neutral
5	4.745	27.66	46	-18.34	Pass	Neutral

3.1.5 Setup Photos



3.2 Test Conditions and Results - Transmitter radiated emissions

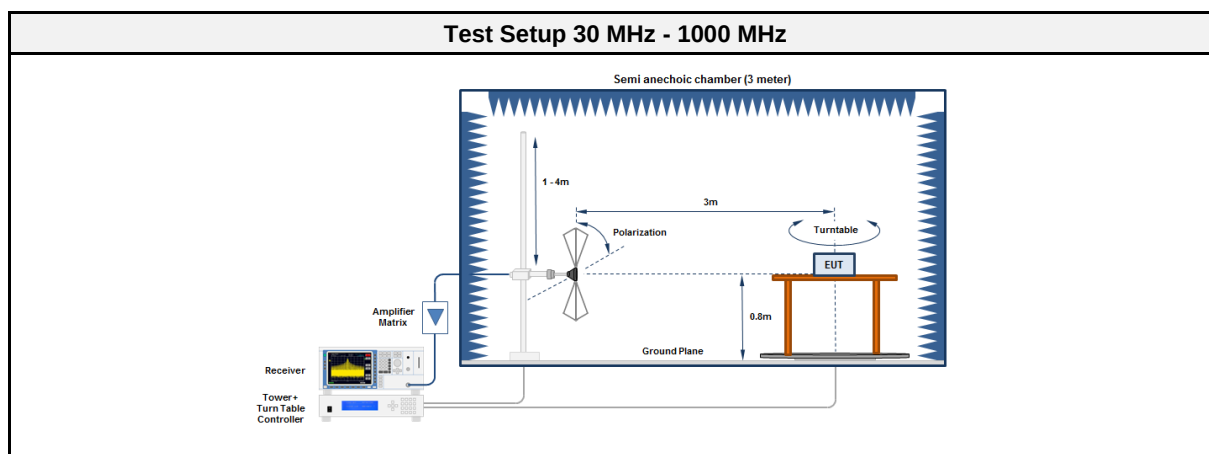
3.2.1 Information

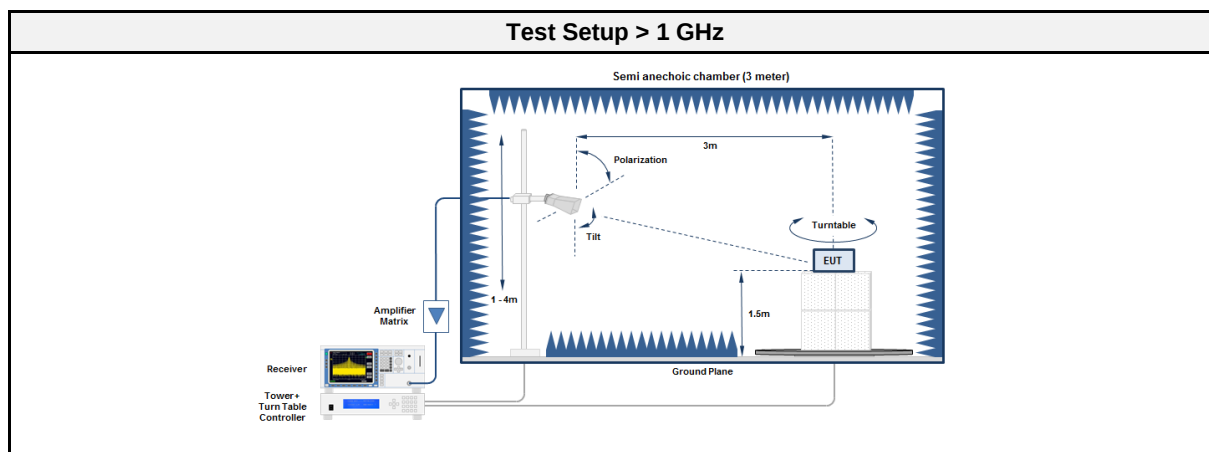
Test Information	
Reference	FCC § 15.247(d); FCC § 15.209; ISSED RSS-Gen, Issue 5 A2 (section 6.13)
Measurement Uncertainty	± 5.95 dB
Measurement Method	ANSI C63.10 6.4, 6.5, 6.6, 11.12
Operator	Ehsan Sohrabi
Date	2024-09-02 – 2024-09-03

3.2.2 Limits

Limits			
Frequency range [MHz]	Detector	Field strength [$\mu\text{V/m}$]	Measurement distance [m]
0.009 - 0.09	Average	2400/F[kHz]	300
0.09 - 0.110	Quasi-Peak	2400/F[kHz]	300
0.110 - 0.490	Average	2400/F[kHz]	300
0.490 - 1.705	Quasi-Peak	24000/F[kHz]	30
1.705 - 30.0	Quasi-Peak	30	30
30 - 88	Quasi-Peak	100	3
88 - 216	Quasi-Peak	150	3
216 - 960	Quasi-Peak	200	3
960 - 1000	Quasi-Peak	500	3
>1000	Average	500	3

3.2.3 Setup





3.2.4 Equipment

Test Software			
Description	Manufacturer	Name	Version
EMC Software	DARE Instruments	RadiMation	2023.2.6
EMC Software	DARE Instruments	RadiMation	2024.1.3

Test Equipment 30 MHz - 1000 MHz					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Anechoic Chamber	Frankonia	AC1	EF00062	2024-07	2027-07
Test Receiver	R&S	ESW44	EF01856	2024-04	2025-04
Antenna	Schwarzbeck	VULB 9168	EF01824	2022-10	2025-10

Test Equipment > 1 GHz					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Anechoic Chamber	Frankonia	AC2	EF01616	2024-07	2025-07
Spectrum Analyzer	Frankonia	FSW 43	EF00896	2024-07	2025-07
Antenna	Schwarzbeck	BBHA 9120B	EF01678	2024-05	2027-05
Antenna	Schwarzbeck	HWRD 650	EF01679	2024-05	2027-05
Antenna	Amplifier Research	AT4560	EF00302	2023-09	2025-09

3.2.5 Procedure

Test Procedure 30 MHz - 1000 MHz	
- EUT is placed on a non conducting support at the center of a turn table 0.8 m above the ground - EUT set to test mode - The receiver is set to peak detection with max hold - The EUT is rotated through 360° and the height of the antenna is varied from 1 m to 4 m - All significant emissions are measured again using the corresponding final detector	

Test Procedure > 1 GHz	
- EUT is placed on a non conducting support at the center of a turn table 1.5 m above the ground - EUT set to test mode - The receiver is set to peak detection with max hold - The EUT is rotated through 360° and the height of the antenna is varied from 1 m to 4 m - All significant emissions are measured again using the corresponding final detector	

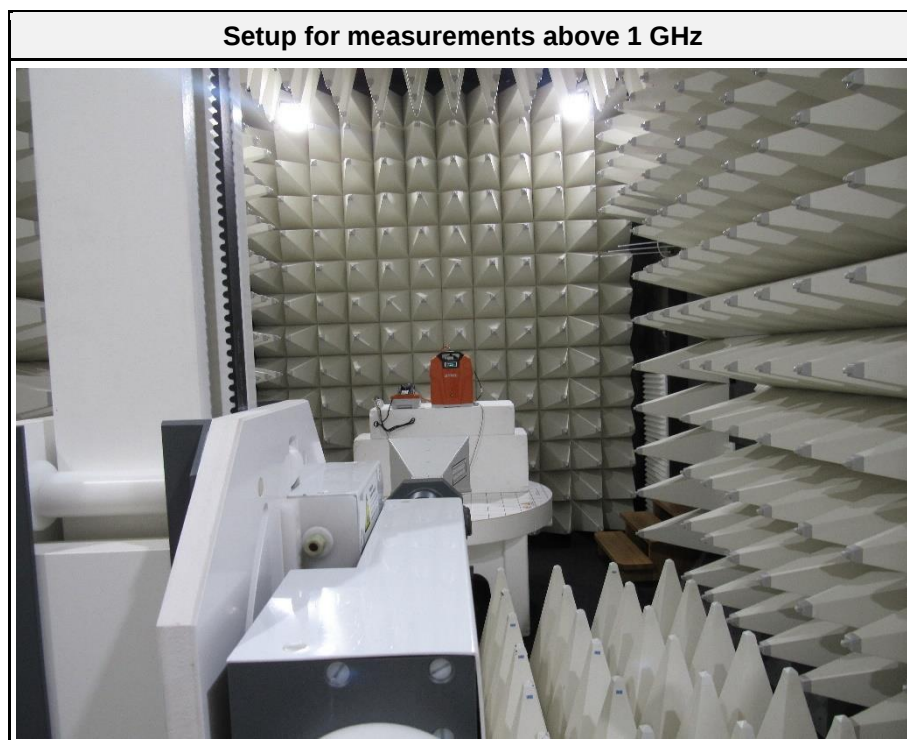
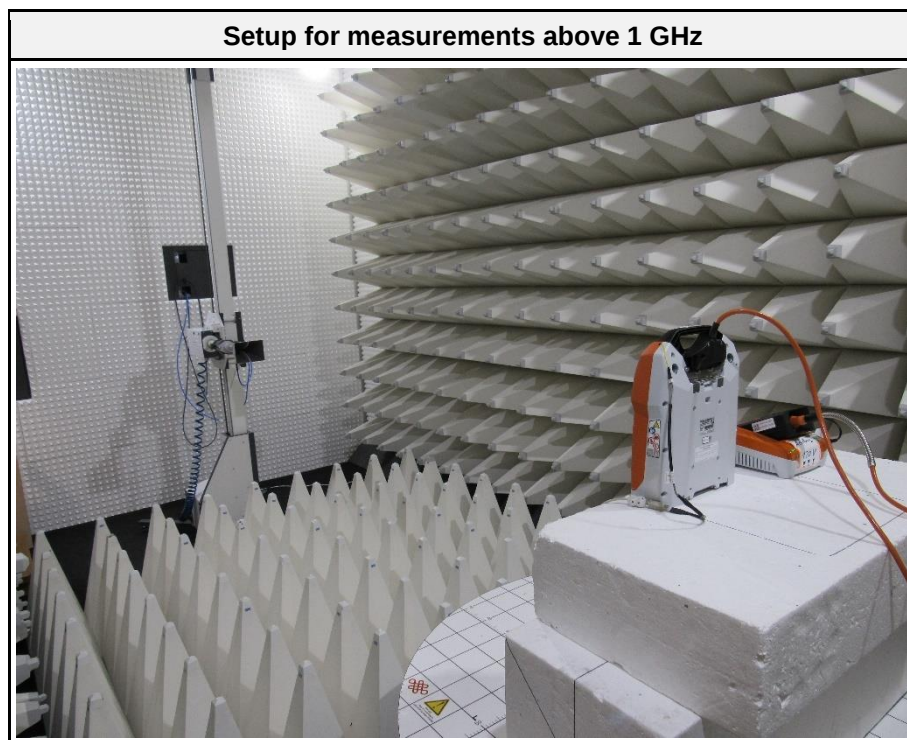
3.2.6 Results

Test Report No.: G0M-2404-2541-TFC247BL-V01

Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Test Results						
Channel [MHz]	Emission [MHz]	Level [dBμV/m]	Det.	Pol.	Limit [dBμV/m]	Margin [dB]
2440	38.0833	29.3	pk	ver	40	-10.72
2440	127	33.4	pk	hor	43.5	-10.12
2440	407.6619	36	qpk	hor	46	-10.01
2440	2312.2667	56.45	pk	ver	74	-17.55
2440	2312.2667	53.53	avg	ver	54	-0.47
2440	2349.3667	55.87	pk	ver	74	-18.13
2440	2349.3667	53.47	avg	ver	54	-0.53
2440	2489.6166	50.48	pk	ver	74	-23.52
2440	2489.6166	40.14	avg	ver	54	-13.86
2440	4879.7333	41.73	pk	ver	74	-32.27
2440	4879.7333	35.67	avg	ver	54	-18.33
2440	7319.7333	55.04	pk	ver	74	-18.96
2440	7319.7333	48.42	avg	ver	54	-5.58
2440	7320.9333	55.83	pk	ver	74	-18.17
2440	7320.9333	48.55	avg	ver	54	-5.45
2440	12198.667	44.74	pk	ver	74	-29.26
2440	12198.667	36.55	avg	ver	54	-17.45

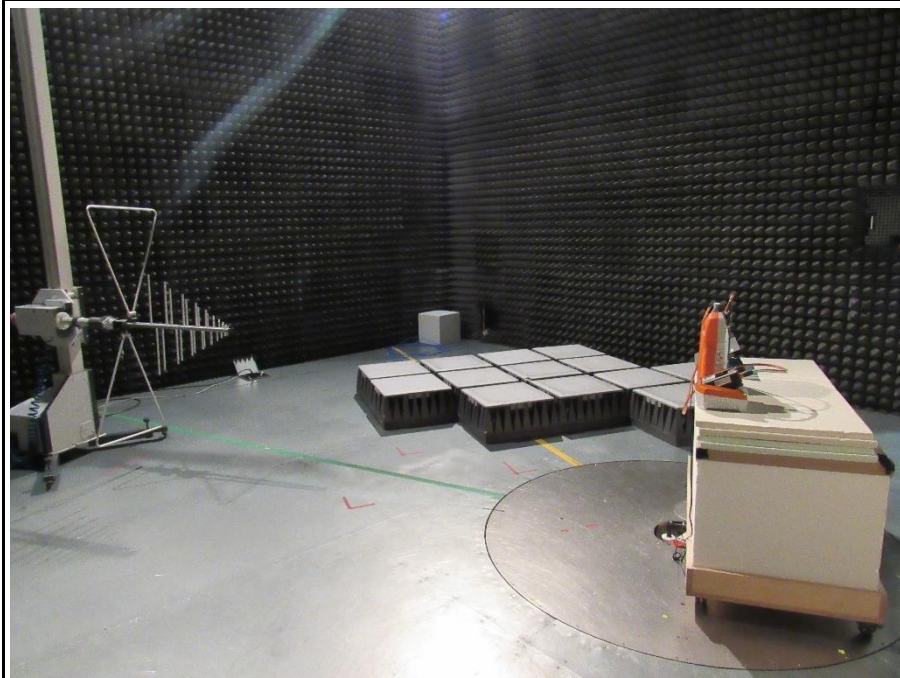
3.2.7 Setup Photos



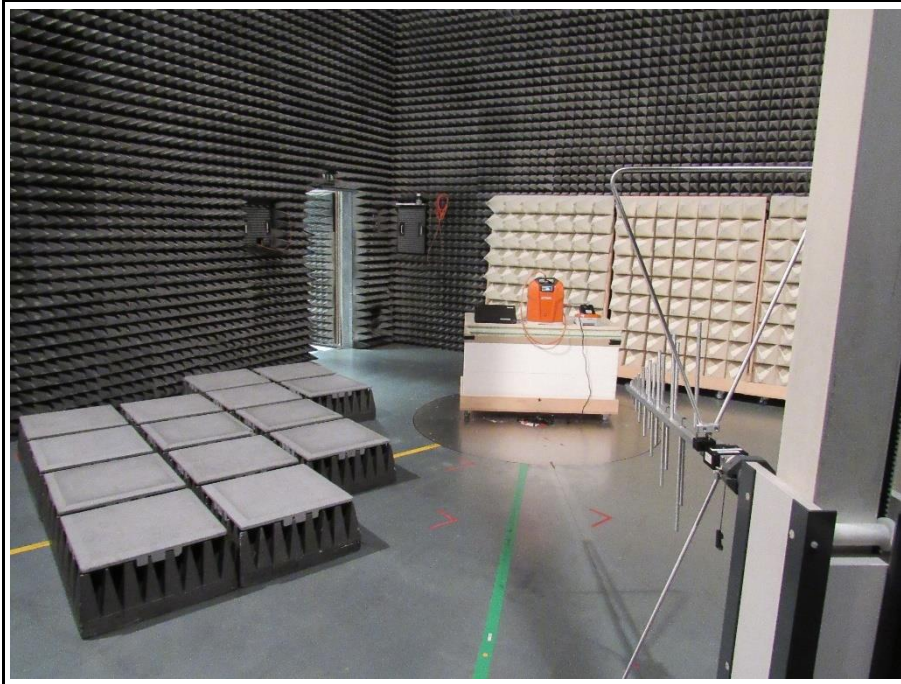
EUT test setup above 1 GHz



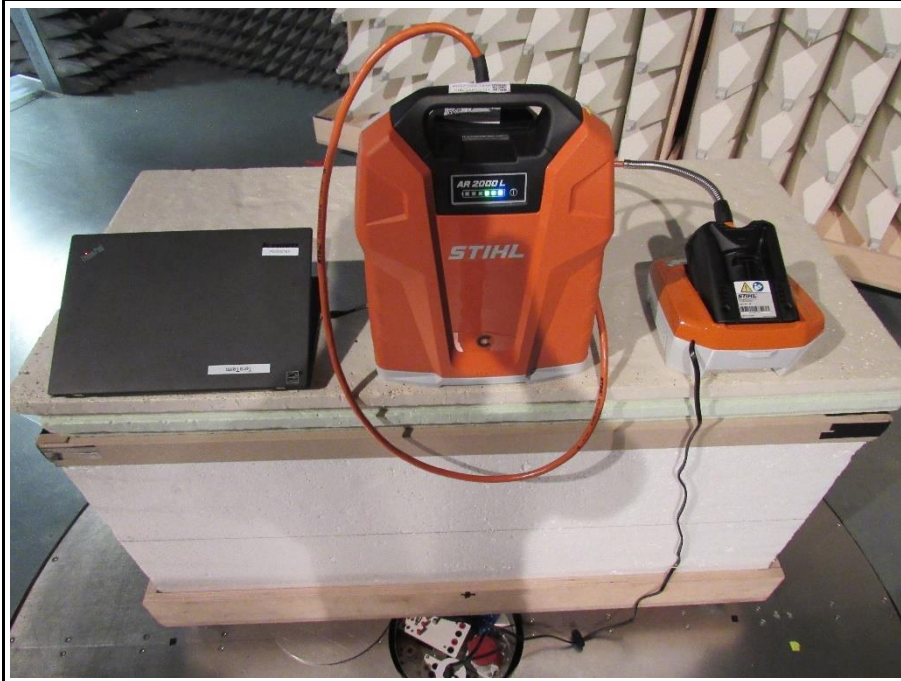
Setup for measurements below 1 GHz



Setup for measurements below 1 GHz



EUT test setup below 1 GHz



3.3 Test Conditions and Results - Receiver radiated emissions

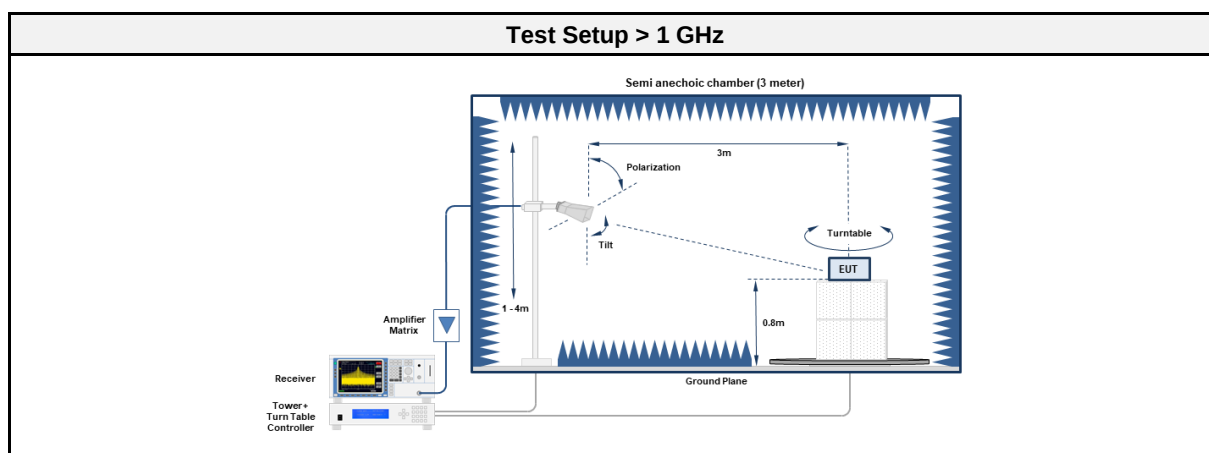
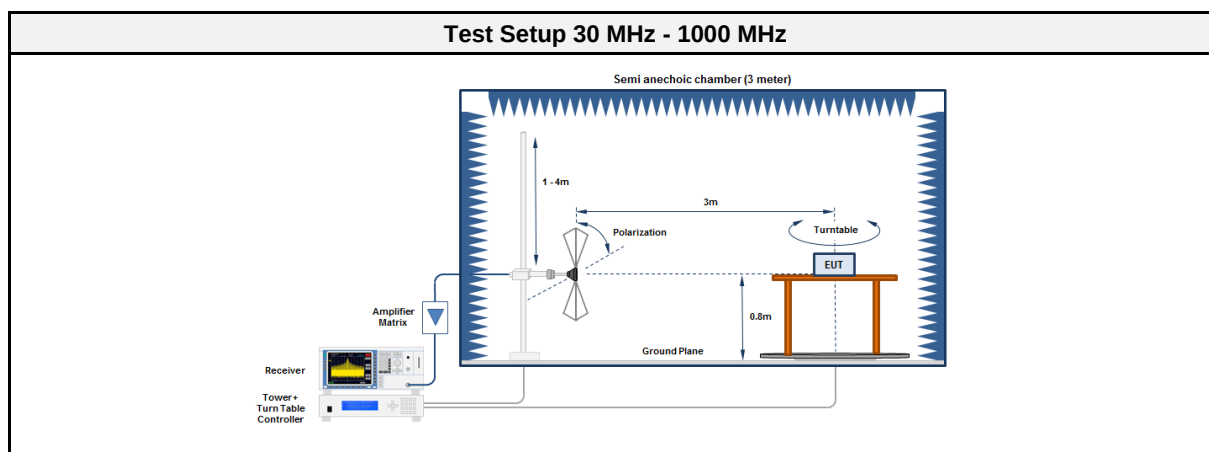
3.3.1 Information

Test Information	
Reference	ISED RSS-247, Issue 3 (section 3.1)
Measurement Uncertainty	± 5.95 dB
Measurement Method	ANSI C63.4-2014 8.1-8.3
Operator	Ehsan Sohrabi
Date	2024-09-03

3.3.2 Limits

Limits			
Frequency range [MHz]	Detector	Field strength [$\mu\text{V/m}$]	Measurement distance [m]
30 - 88	Quasi-Peak	100	3
88 - 216	Quasi-Peak	150	3
216 - 960	Quasi-Peak	200	3
960 - 1000	Quasi-Peak	500	3
>1000	Average	500	3

3.3.3 Setup



3.3.4 Equipment

Test Software			
Description	Manufacturer	Name	Version
EMC Software	DARE Instruments	RadiMation	2023.2.6

Test Equipment 30 MHz - 1000 MHz					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Anechoic Chamber	Frankonia	AC1	EF00062	2024-07	2027-07
Test Receiver	R&S	ESW44	EF01856	2024-04	2025-04
Antenna	Schwarzbeck	VULB 9168	EF01824	2022-10	2025-10

Test Equipment > 1 GHz					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Anechoic Chamber	Frankonia	AC1	EF00062	2024-07	2027-07
Test Receiver	R&S	ESW44	EF01856	2024-04	2025-04
Antenna	Schwarzbeck	BBHA 9120D	EF01561	2021-11	2024-11
Antenna	Schwarzbeck	HWRD 650	EF01679	2024-05	2027-05

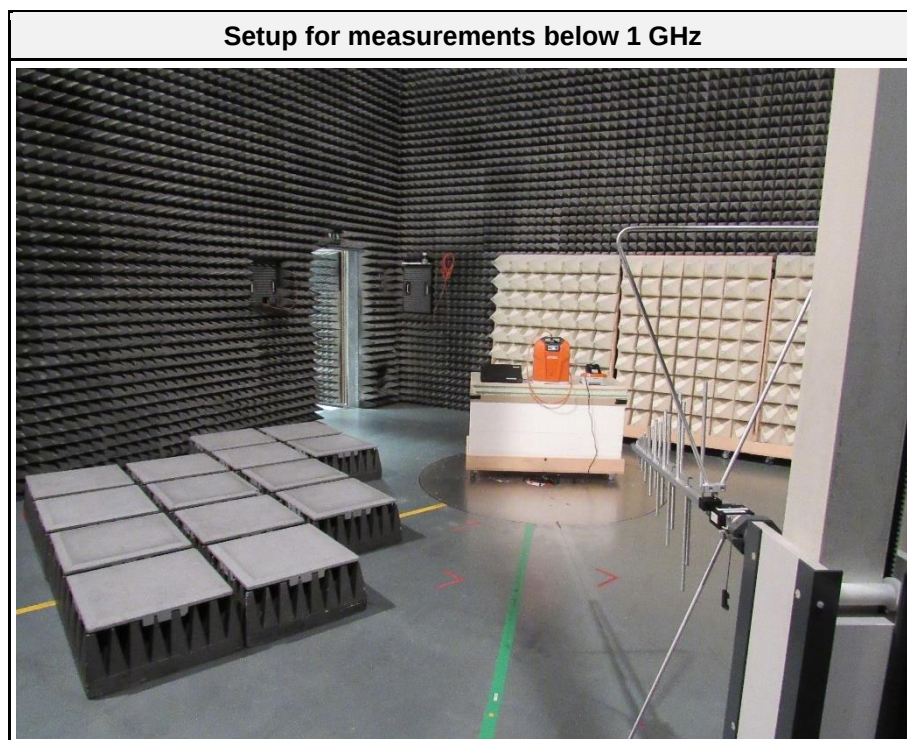
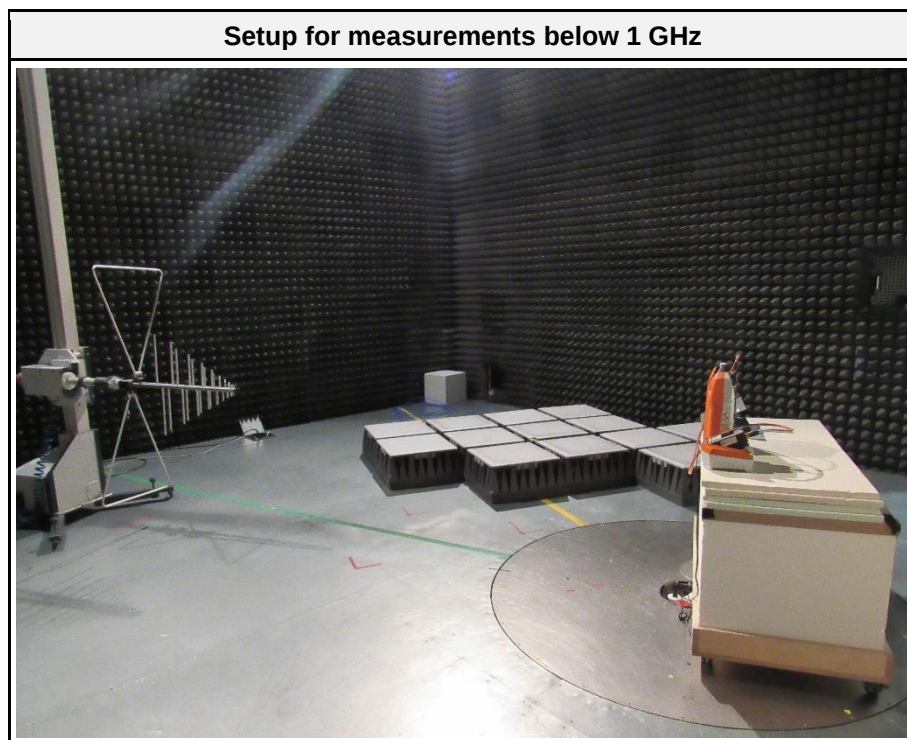
3.3.5 Procedure

Test Procedure
1. EUT is placed on a non conducting support at the center of a turn table 0.8 m above the ground 2. EUT is set to test mode 3. The receiver is set to peak detection with max hold 4. The EUT is rotated through 360° and the height of the antenna is varied from 1 m to 4 m 5. All significant emissions are measured again using the corresponding final detector

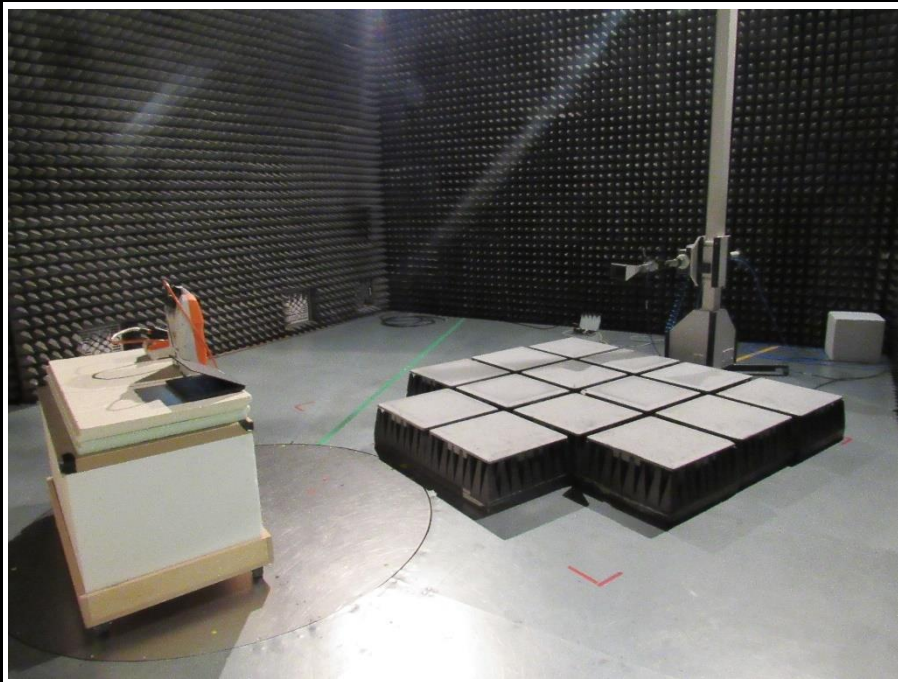
3.3.6 Results

Test Results						
Channel [MHz]	Emission [MHz]	Level [dBμV/m]	Det.	Pol.	Limit [dBμV/m]	Margin [dB]
2440	450.1026	42.5	qpk	ver	46	-3.51
2440	504.421	34.1	qpk	hor	46	-11.85
2440	1015.033	47.82	pk	ver	74	-26.18
2440	1015.033	37.36	avg	ver	53.98	-16.62
2440	1597.85	43.05	pk	ver	74	-30.95
2440	1597.85	25.57	avg	ver	53.98	-28.41
2440	1992.567	46	pk	hor	74	-28
2440	1992.567	28.77	avg	hor	53.98	-25.21
2440	3191.567	48.06	pk	ver	74	-25.94
2440	3191.567	30.16	avg	ver	53.98	-23.82
2440	4878.05	43.83	pk	ver	74	-30.17
2440	4878.05	39.5	avg	ver	53.98	-14.48

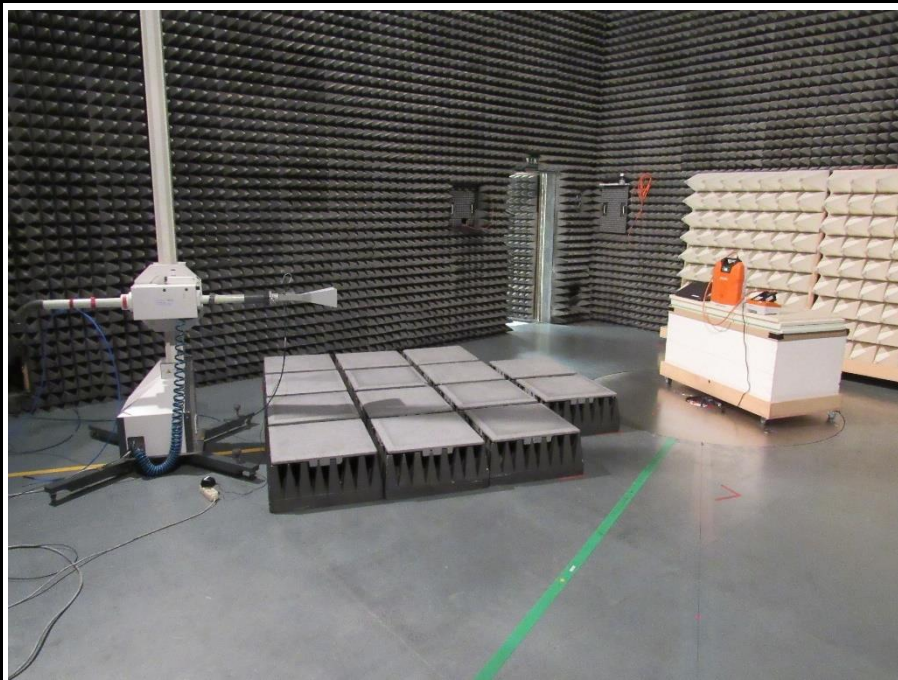
3.3.7 Setup Photos

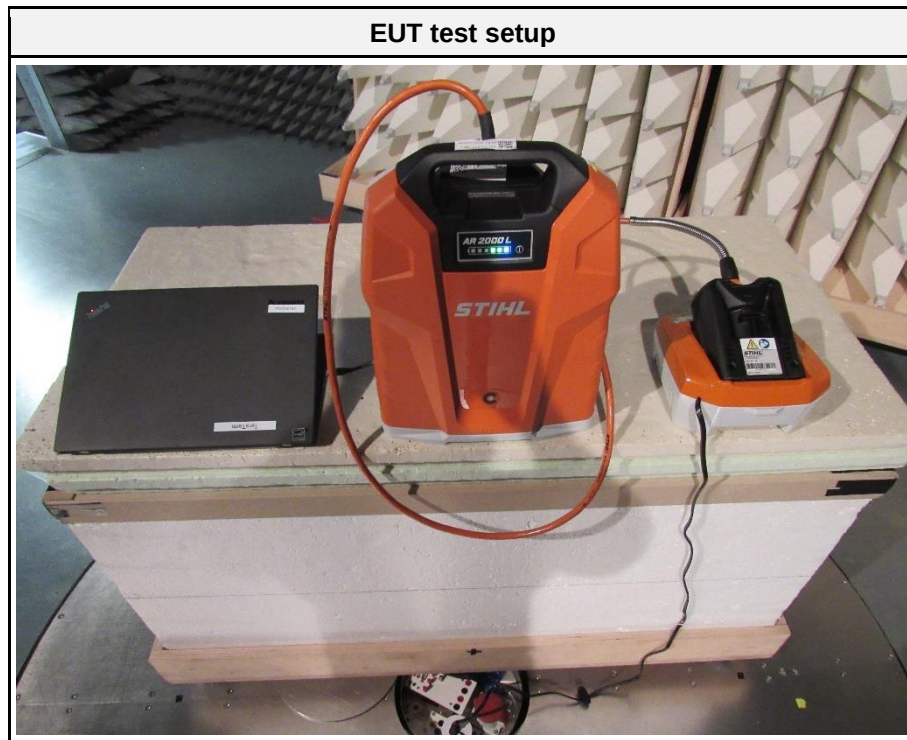


Setup for measurements above 1 GHz



Setup for measurements above 1 GHz

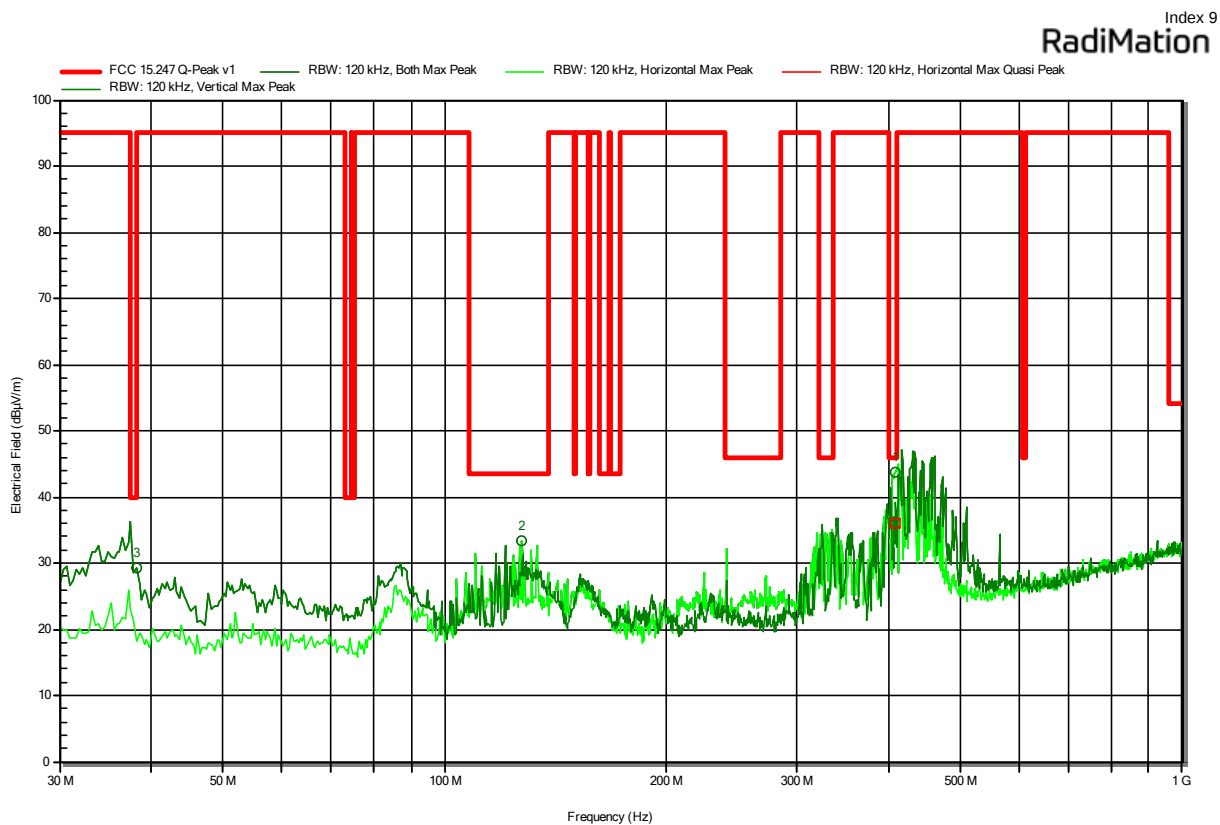




ANNEX A Transmitter spurious emissions

Radiated Spurious Emissions according to 47 CFR Part 15.247, RSS-247, Issue 3

Project Number: G0M-2404-2541
 Applicant: ANDREAS STIHL AG & Co. KG
 Model Description: battery pack 4871 AR-C
 Model: AR 2000 L
 Test Sample ID: 49532
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Sohrabi
 Measurement software: RadiMation, version 2023.2.6
 Test Conditions: Tnom: 23 °Celsius, Vnom: 36 V DC
 Antenna: Schwarzbeck VULB 9168
 Measurement distance: 3 m
 Mode: Tx; BLE 5.0, 2440 MHz, PRBS9_193 Bytes, 1 Mbps, P = Max
 Test Date: 2024-09-03



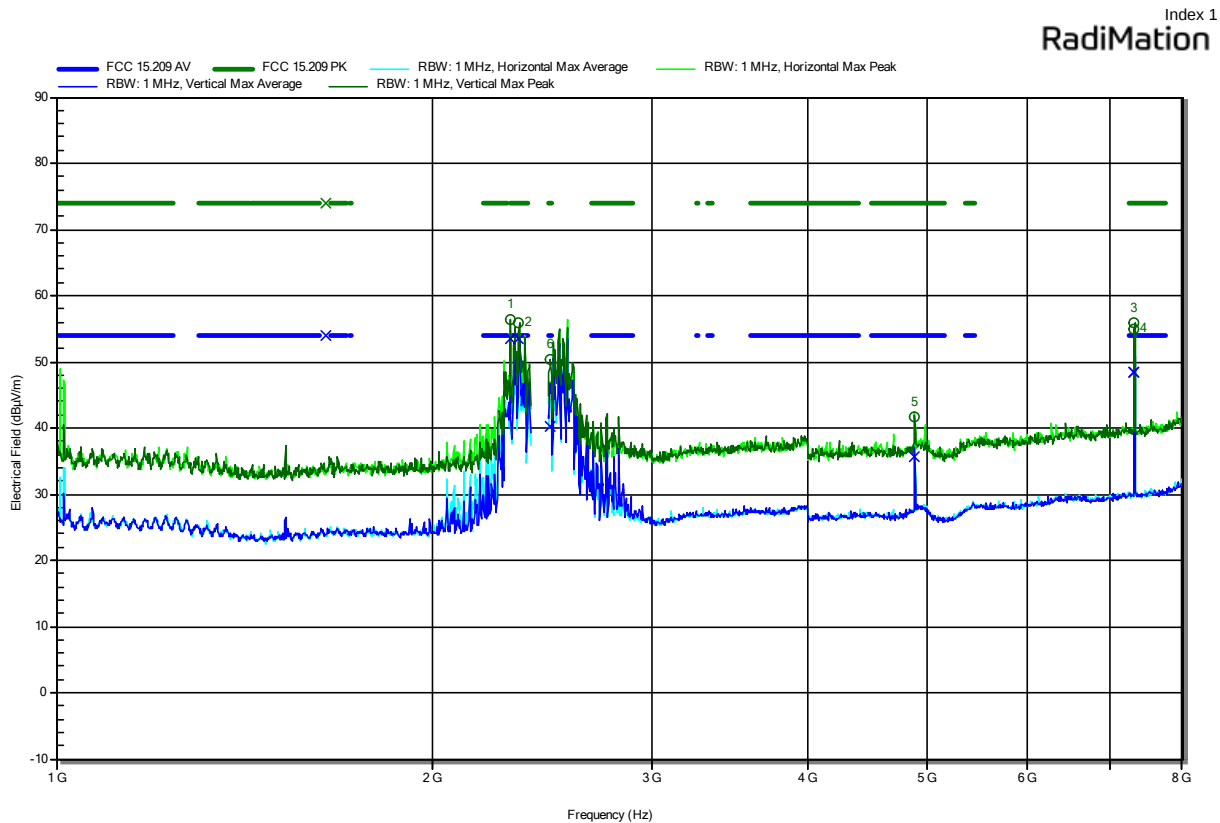
Peak Number	Frequency (MHz)	Peak (dBµV/m)	Peak Limit (dBµV/m)	Peak Difference (dB)	Peak Status	Polarization
2	127	33.4	43.5	-10.12	Pass	Horizontal
3	38.0833	29.3	40	-10.72	Pass	Vertical
Peak Number	Frequency (MHz)	Quasi-Peak (dBµV/m)	Quasi-Peak Limit (dBµV/m)	Quasi-Peak Difference (dB)	Quasi-Peak Status	Polarization
1	407.6619	36	46	-10.01	Pass	Horizontal

Test Report No.: G0M-2404-2541-TFC247BL-V01

Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Radiated Spurious Emissions according to 47 CFR Part 15.247, RSS-247, Issue 3

Project Number: G0M-2404-2541
 Applicant: ANDREAS STIHL AG & Co. KG
 Model Description: battery pack 4871 AR-C
 Model: AR 2000 L
 Test Sample ID: 49532
 Test Site: Eurofins Product Service GmbH
 Operator: Ehsan Sohrabi
 Measurement software: RadiMation, version 2024.1.3
 Test Conditions: Tnom: 23 °Celsius, Vnom: 36 V DC
 Antenna: Schwarzbeck BBHA 9120B
 Measurement distance: 3 m
 Mode: Tx; BLE 5.0, 2440 MHz, PRBS9_193 Bytes, 1 Mbps, P = Max
 Test Date: 2024-09-02



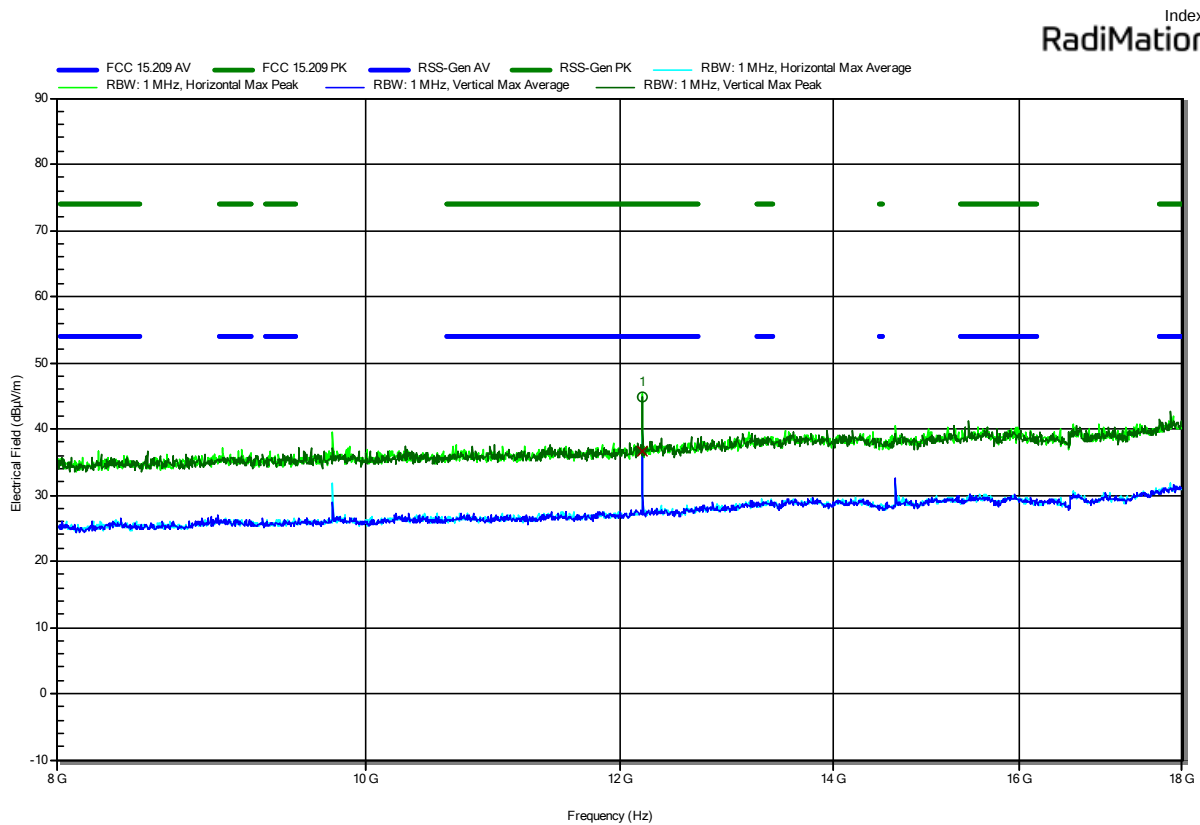
Peak Number	Frequency (MHz)	Peak (dBµV/m)	Peak Limit (dBµV/m)	Peak Difference (dB)	Peak Status	Polarization
1	2312.2667	56.45	74	-17.55	Pass	Vertical
2	2349.3667	55.87	74	-18.13	Pass	Vertical
3	7320.9333	55.83	74	-18.17	Pass	Vertical
4	7319.7333	55.04	74	-18.96	Pass	Vertical
5	4879.7333	41.73	74	-32.27	Pass	Vertical
6	2489.6166	50.48	74	-23.52	Pass	Vertical
Peak Number	Frequency (MHz)	Average (dBµV/m)	Average Limit (dBµV/m)	Average Difference (dB)	Average Status	Polarization
1	2312.2667	53.53	54	-0.47	Pass	Vertical
2	2349.3667	53.47	54	-0.53	Pass	Vertical
3	7320.9333	48.55	54	-5.45	Pass	Vertical
4	7319.7333	48.42	54	-5.58	Pass	Vertical
5	4879.7333	35.67	54	-18.33	Pass	Vertical
	2489.6166	40.14	54	-13.86	Pass	Vertical

Test Report No.: G0M-2404-2541-TFC247BL-V01

Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Radiated Spurious Emissions according to 47 CFR Part 15.247, RSS-247, Issue 3

Project Number: G0M-2404-2541
 Applicant: ANDREAS STIHL AG & Co. KG
 Model Description: battery pack 4871 AR-C
 Model: AR 2000 L
 Test Sample ID: 49532
 Test Site: Eurofins Product Service GmbH
 Operator: Ehsan Sohrabi
 Measurement software: RadiMation, version 2024.1.3
 Test Conditions: Tnom: 23 °Celsius, Vnom: 36 V DC
 Antenna: Schwarzbeck HWRD 650
 Measurement distance: 3 m
 Mode: Tx; BLE 5.0, 2440 MHz, PRBS9_193 Bytes, 1 Mbps, P = Max
 Test Date: 2024-09-02



Peak Number	Frequency (MHz)	Peak (dBµV/m)	Peak Limit (dBµV/m)	Peak Difference (dB)	Peak Status	Polarization
1	12198.667	44.74	74	-29.26	Pass	Vertical

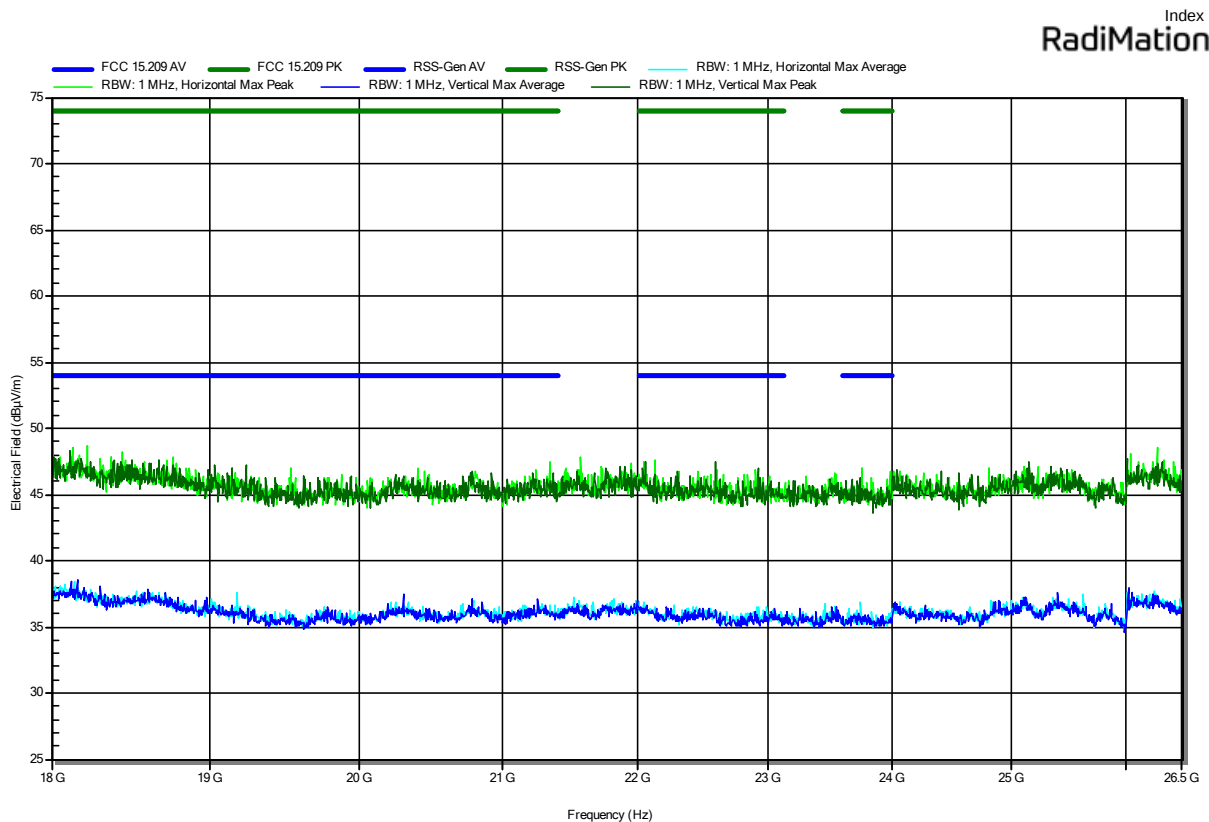
Peak Number	Frequency (MHz)	Average (dBµV/m)	Average Limit (dBµV/m)	Average Difference (dB)	Average Status	Polarization
1	12198.667	36.55	54	-17.45	Pass	Vertical

Test Report No.: G0M-2404-2541-TFC247BL-V01

Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Radiated Spurious Emissions according to 47 CFR Part 15.247, RSS-247, Issue 3

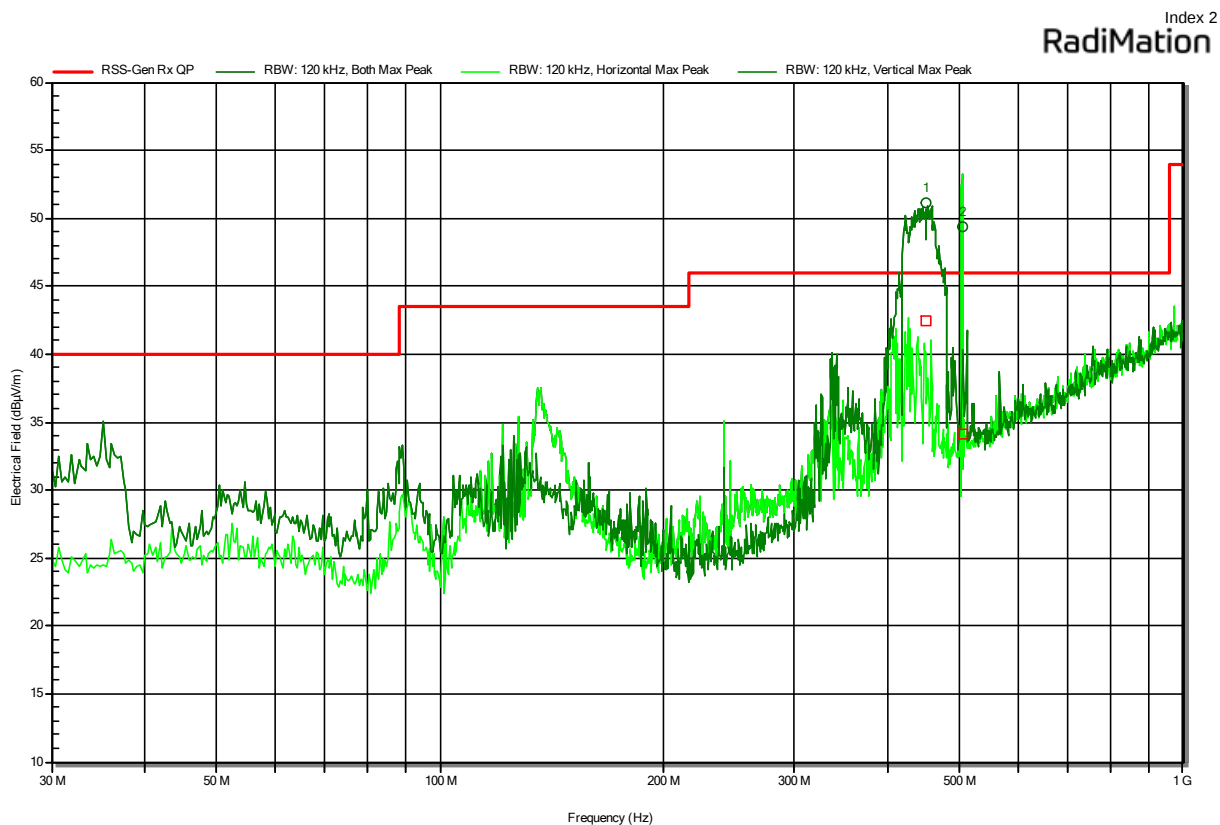
Project Number: G0M-2404-2541
 Applicant: ANDREAS STIHL AG & Co. KG
 Model Description: battery pack 4871 AR-C
 Model: AR 2000 L
 Test Sample ID: 49532
 Test Site: Eurofins Product Service GmbH
 Operator: Ehsan Sohrabi
 Measurement software: RadiMation, version 2024.1.3
 Test Conditions: Tnom: 23 °Celsius, Vnom: 36 V DC
 Antenna: Amplifier Research AT4560
 Measurement distance: 3 m
 Mode: Tx; BLE 5.0, 2440 MHz, PRBS9_193 Bytes, 1 Mbps, P = Max
 Test Date: 2024-09-02



ANNEX B Receiver spurious emissions

Radiated Spurious Emissions according to FCC 15.247, RSS-247 Issue 3

Project Number: G0M-2404-2541
 Applicant: ANDREAS STIHL AG & Co. KG
 Model Description: battery pack 4871 AR-C
 Model: AR 2000 L
 Test Sample ID: 49532
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Sohrabi
 Measurement software: RadiMation, version 2023.2.6
 Test Conditions: Tnom: 23 °Celsius, Vnom: 36 V DC
 Antenna: Schwarzbeck VULB 9168
 Measurement distance: 3 m
 Mode: Rx; BLE 5.0, 2440 MHz, Receive mode
 Test Date: 2024-09-03



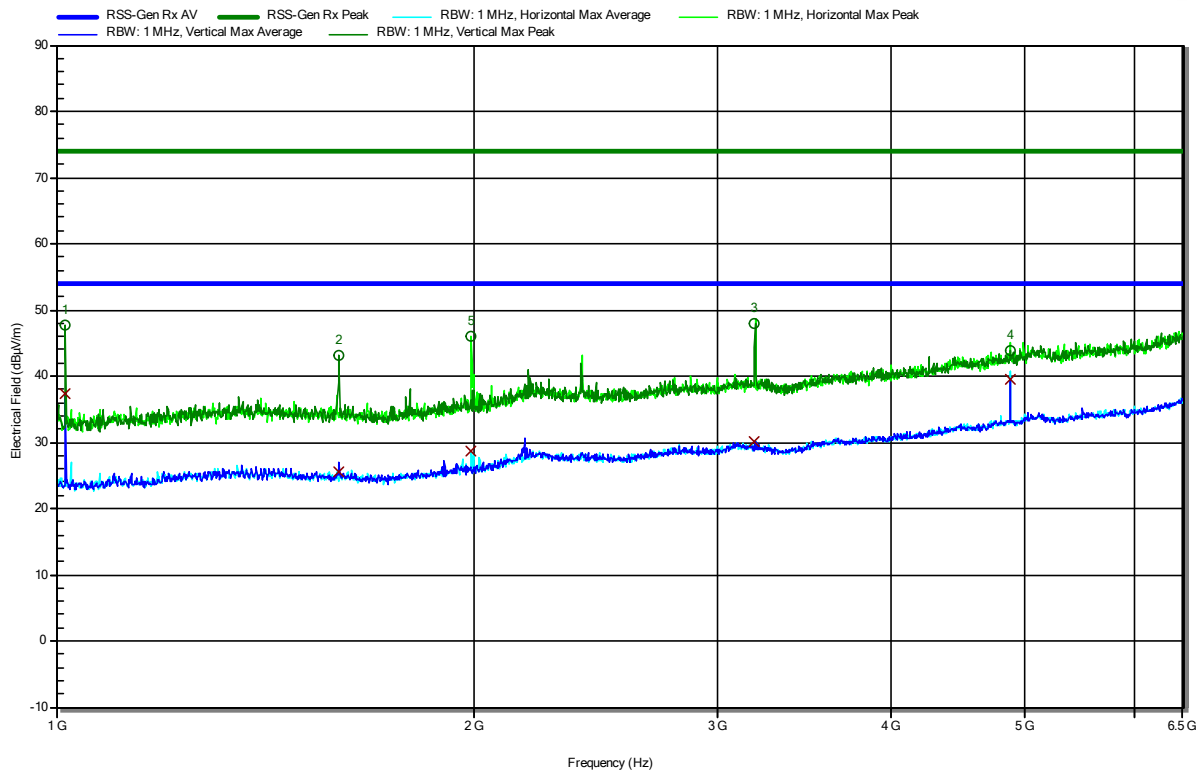
Peak Number	Frequency (MHz)	Quasi-Peak (dBμV/m)	Quasi-Peak Limit (dBμV/m)	Quasi-Peak Difference (dB)	Quasi-Peak Status	Polarization
1	450.1026	42.5	46	-3.51	Pass	Vertical
2	504.421	34.1	46	-11.85	Pass	Horizontal

Radiated Spurious Emissions according to FCC 15.247, RSS-247 Issue 3

Project Number: G0M-2404-2541
 Applicant: ANDREAS STIHL AG & Co. KG
 Model Description: battery pack 4871 AR-C
 Model: AR 2000 L
 Test Sample ID: 49532
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Sohrabi
 Measurement software: RadiMation, version 2023.2.6
 Test Conditions: Tnom: 23 °Celsius, Vnom: 36 V DC
 Antenna: Schwarzbeck BBHA 9120D
 Measurement distance: 3 m
 Mode: Rx; BLE 5.0, 2440 MHz, Receive mode
 Test Date: 2024-09-03

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RadiMation



Peak Number	Frequency (MHz)	Peak (dBμV/m)	Peak Limit (dBμV/m)	Peak Difference (dB)	Peak Status	Polarization
1	1015.033	47.82	74	-26.18	Pass	Vertical
2	1597.85	43.05	74	-30.95	Pass	Vertical
3	3191.567	48.06	74	-25.94	Pass	Vertical
4	4878.05	43.83	74	-30.17	Pass	Vertical
5	1992.567	46	74	-28	Pass	Horizontal

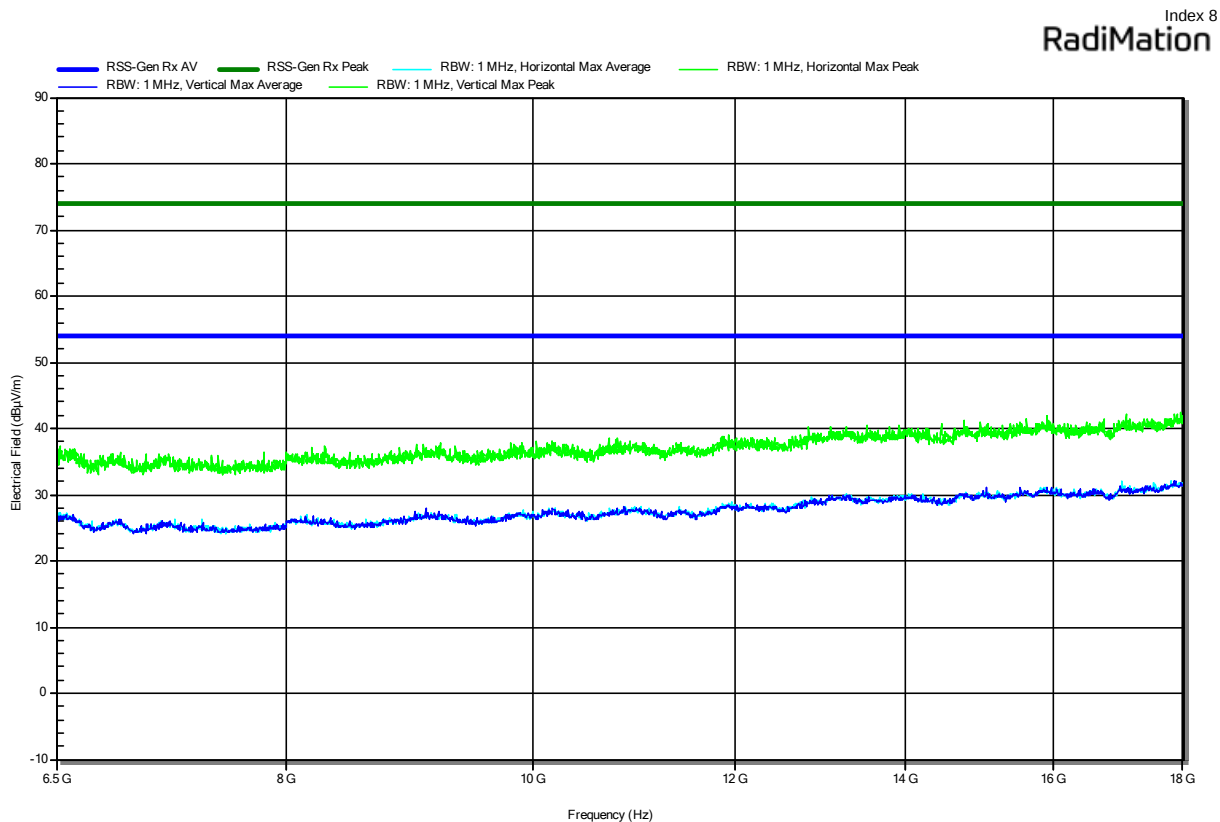
Peak Number	Frequency (MHz)	Average (dBμV/m)	Average Limit (dBμV/m)	Average Difference (dB)	Average Status	Polarization
1	1015.033	37.36	53.98	-16.62	Pass	Vertical
2	1597.85	25.57	53.98	-28.41	Pass	Vertical
3	3191.567	30.16	53.98	-23.82	Pass	Vertical
4	4878.05	39.5	53.98	-14.48	Pass	Vertical
5	1992.567	28.77	53.98	-25.21	Pass	Horizontal

Test Report No.: G0M-2404-2541-TFC247BL-V01

Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Radiated Spurious Emissions according to FCC 15.247, RSS-247 Issue 3

Project Number: G0M-2404-2541
 Applicant: ANDREAS STIHL AG & Co. KG
 Model Description: battery pack 4871 AR-C
 Model: AR 2000 L
 Test Sample ID: 49532
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Sohrabi
 Measurement software: RadiMation, version 2023.2.6
 Test Conditions: Tnom: 23 °Celsius, Vnom: 36 V DC
 Antenna: Schwarzbeck HWRD 650
 Measurement distance: 3 m
 Mode: Rx; BLE 5.0, 2440 MHz, Receive mode
 Test Date: 2024-09-03



=== End of test report ===