Accreditation
N°1-7429
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Template : May 4th, 2026

TEST REPORT

N°: **32173710-823887-A (FILE#13683292)** Version: **02**

Subject	**Electromagnetic compatibility tests according to the standards:** **FCC CFR 47 Part 15, Subpart B** **ANSI C63.4 / ANSI C63.4a** **ICES-003**
Issued to	**Schneider Electric USA Inc** 3700 6TH ST SW Cedar Rapidslowa United State
Apparatus under test	
Product	**EDGE CONTROLLER NAM**
Trade mark	**SCHNEIDER ELECTRIC**
Manufacturer	**SCHNEIDER ELECTRIC INDUSTRIES SAS**
Model under test	**SAH211111**
Serial number	**MP2**
FCCID	**2BWOYSAH211111**
IC	**36030-SAH211111**
Conclusion	See Test Program chapter
Test date	June 11, 2026
Test location	LCIE Grenoble – Site de Moirans
FCC Test site	FR0008 - 918017 (MOI)
ISED Test site	6500A – FR0008 (MOI)
Sample receipt date	June 09, 2026
Composition of document	27 pages
Document issued on	September 14, 2026

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PUBLICATION HISTORY

Version	Date	Author	Modification
01	June 15, 2026	Jonathan SARTO	Creation of the document
02	September 14, 2026	Marlon BOUBY	Change applicant information and Add informations FCC ID and IC on page 1 In §2.1, add the FCC ID and IC number of the Wi-Fi module.

Each new edition of this test report replaces and cancels the previous edition. The control of the old editions of report is under responsibility of client.

SUMMARY

1. TEST PROGRAM

1.1. FCC PART15B

Standard:

- ✓ **FCC Part 15, Subpart B (Digital Devices)**
- ✓ **ANSI C63.4 (2014) / ANSI C63.4a (2017)**

1.1.1. Requirements for disturbance emissions – Class B

EMISSION TEST	LIMITS			RESULTS (Comments)
Conducted emission 150kHz-30MHz **FCC §15.107**	**Access: AC power**			**PASS**
	Frequency	**Quasi-peak**	**Average**	
	150-500kHz	66 to 56 dBµV	56 to 46 dBµV	
	0.5-5MHz	56 dBµV	46 dBµV	
	5-30MHz	60 dBµV	50 dBµV	
Radiated emission 30MHz-1GHz **FCC §15.109**	**Access: Enclosure port of ancillary equipment**			**PASS**
	Frequency	**Quasi-peak @3m**		
	30MHz-88MHz	40.0 dBµV/m		
	88MHz-216MHz	43.5 dBµV/m		
	216MHz-960MHz	46.0 dBµV/m		
	Above 960MHz	54.0 dBµV/m		
Radiated emission 1GHz-14GHz* **FCC §15.109**	**Access: Enclosure port of ancillary equipment**			**PASS**
	Frequency	**Peak @3m**	**Average @3m**	
	1- 14GHz	74.0 dBµV/m	54.0 dBµV/m	

NA: Not Applicable / NP: Not Performed, not requested by the customer (It cannot be taken into account for the declaration of conformity)
[D]: Divergence, the last version is used to make it possible to test the product with the standard which describes the current state of the art and thus to answer as well as possible his environment of final use. If this test is covered by the COFRAC accreditation, the declaration of conformity for product standard only are carried out outside the framework of accreditation.
***§15.33:** The highest internal source of a testing device is defined like more the highest frequency generated or used in the testing device or on which the testing device works or agrees.
- If the highest frequency of the internal sources of the testing device is lower than 108 MHz, measurement must be only performed until 1GHz.
- If the highest frequency of the internal sources of the testing device ranges between 108 MHz and 500 MHz, measurement must be only performed until 2GHz.
- If the highest frequency of the internal sources of the testing device ranges between 500 MHz and 1 GHz, measurement must be only performed until 5GHz.

If the highest frequency of the internal sources of the testing device is above 1 GHz, measurement must be only performed until 5 times the highest frequency or 40 GHz, while taking smallest of both.
Special condition for intentional radiator:

- For a composite system comprised of a digital device using a clock frequency of 1 GHz as the highest frequency for the digital logic and an intentional radiator operating at 2.4 GHz, the composite is required to be investigated to the upper frequency of 24 GHz (in this case, 10 times the intentional radiator frequency is the higher frequency).

- For a composite system comprised of a digital device using a clock frequency of 2 GHz as the highest frequency for the digital logic and an intentional radiator operating at 913 MHz, the composite is required to be investigated to the upper frequency of 10 GHz (in this case, 5 times the unintentional radiator clock frequency is the higher frequency).

1.2. ICES-003 (2020)

Standard:

- ✓ **ANSI C63.4 (2014) / ANSI C63.4a (2017)**
- ✓ **ICES-003 (2020)**

1.2.1. Requirements for disturbance emissions – Class B

EMISSION TEST	LIMITS			RESULTS (Comments)
Conducted emission 150kHz-30MHz **ICES-003 §3.2.1**	**Access: AC power**			**PASS**
	Frequency	**Quasi-peak**	**Average**	
	150-500kHz	66 to 56 dBµV	56 to 46 dBµV	
	0.5-5MHz	56 dBµV	46 dBµV	
	5-30MHz	60 dBµV	50 dBµV	
Radiated emission 30MHz-1GHz **ICES-003 §3.2.2**	**Access: Enclosure port of ancillary equipment**			**PASS**
	Frequency	**Quasi-peak @10m**	**Quasi-peak @3m**	
	30MHz-88MHz	30.0 dBµV/m	40.0 dBµV/m	
	88MHz-216MHz	33.1 dBµV/m	43.5 dBµV/m	
	216MHz-230MHz	35.6 dBµV/m	46.0 dBµV/m	
	230MHz-960MHz	37.0 dBµV/m	47.0 dBµV/m	
	Above 960MHz	43.5 dBµV/m	54.0 dBµV/m	
Radiated emission 1GHz-14GHz* **ICES-003 §3.2.2**	**Access: Enclosure port of ancillary equipment**			**PASS**
	Frequency	**Peak @3m**	**Average @3m**	
	1- 14GHz	74.0 dBµV/m	54.0 dBµV/m	

NA: Not Applicable / NP: Not Performed, not requested by the customer (It cannot be taken into account for the declaration of conformity)

[D]: Divergence, the last version is used to make it possible to test the product with the standard which describes the current state of the art and thus to answer as well as possible his environment of final use. If this test is covered by the COFRAC accreditation, the declaration of conformity for product standard only are carried out outside the framework of accreditation.

*The highest internal source of a testing device is defined like more the highest frequency generated or used in the testing device or on which the testing device works or agrees.

- If the highest frequency of the internal sources of the testing device is lower than 108 MHz, measurement must be only performed until 1GHz.
- If the highest frequency of the internal sources of the testing device ranges between 108 MHz and 500 MHz, measurement must be only performed until 2GHz.
- If the highest frequency of the internal sources of the testing device ranges between 500 MHz and 1 GHz, measurement must be only performed until 5GHz.

If the highest frequency of the internal sources of the testing device is above 1 GHz, measurement must be only performed until 5 times the highest frequency or 40 GHz, while taking smallest of both.

Special condition for intentional radiator:

- For a composite system comprised of a digital device using a clock frequency of 1 GHz as the highest frequency for the digital logic and an intentional radiator operating at 2.4 GHz, the composite is required to be investigated to the upper frequency of 24 GHz (in this case, 10 times the intentional radiator frequency is the higher frequency).

- For a composite system comprised of a digital device using a clock frequency of 2 GHz as the highest frequency for the digital logic and an intentional radiator operating at 913 MHz, the composite is required to be investigated to the upper frequency of 10 GHz (in this case, 5 times the unintentional radiator clock frequency is the higher frequency).

1.2.2. ISED Requirements for user manual/labelling

Labelling and user manual requirements			
Clause	**Requirement**	**Result – Remark**	**Verdict**
§4.2 ICES-003	The instruction for use or label shall include:		
	CAN ICES-003 (B) / NMB-003 (B)	Latest_safety_sheet_12_06_JPT34405	**PASS**

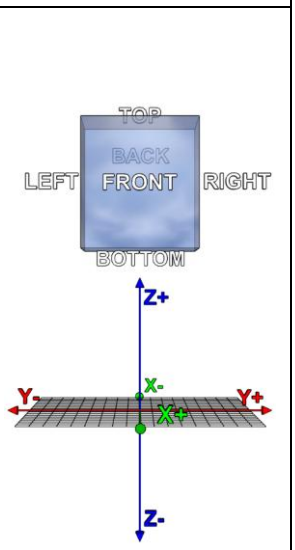
2. EQUIPMENT UNDER TEST: CONFIGURATION (DECLARED BY PROVIDER)

2.1. INFORMATION

Energy Intelligence Control Unit Contains FCC ID QOQWFM200 and contains IC 5123A-WFM200

2.2. HARDWARE IDENTIFICATION (EUT AND AUXILIARIES)

Equipment under test (EUT):

Model under test :	**SAH211111**
Serial Number:	**MP2**
	 
Dimensions:	6.3cm x 8.5cm x 7cm (Length x Width x Height)
Type :	Table-Top

Power supply:
During all the tests, EUT is supplied by V_{nom}: **5VDC**
For measurement with different voltage, it will be presented in test method.

Name	Type	Rating	Reference / Sn	Comments
Supply1	DC	5VDC 0.3A	I.T.E POWER SUPPLY MU05C2050100-A1	AC/DC adapter

NC: Not communicated by provider

Earth:

Access	Type	Length (m)	Width (m)	Thickness (m)	Under test	Comments
None						

NC: Not communicated by provider

Inputs/outputs - Cable:

Access	Type	Length used (m)	Declared <3m	Shielded	Under test	Comments
Supply1	USB-C	1	Yes	No	Yes	/
LAN1	RJ45	10	No	Yes	Yes	/
Up Link/WAN	RJ45	10	No	Yes	Yes	/

NC: Not communicated by provider

Auxiliary equipment used during test:

Type	Reference	Sn	Comments
Access point	MIKROTIC HAP ax^3	/	/
Wiser	SCHNEIDER ELECTRIC	/	/

NC: Not communicated by provider

2.3. EQUIPMENT LABELLING

Label

2.4. EUT CONFIGURATION

Hardware information			
Highest internal frequency (PLL, Quartz, Clock, Microprocessor…):	**$F_{Highest}$:**	**50**	**MHz**
Firmware (if applicable):	**V. :**	HW TEAM 0.8.2	
Software (if applicable):	**V. :**	N/A	

NC: Not communicated by provider

Running mode n°1:

Setup:

EUT is powered and communication on the 2 RJ45 with the access point is performed.

2.5. EQUIPMENT MODIFICATIONS DURING THE TESTS

None

3. LABORATORY EQUIPMENT AND METHODOLOGY

3.1. CALIBRATION DATE

The calibration intervals are extended at +4 months. This extended interval is based on the fact that there is sufficient calibration data to statistically establish a trend or based on experience of use of the test equipment to assure good measurement results for a longer period. The symbol -/- replaces the date for equipment checking before test or that have none impact on the test or that have no calibration required by the standard.

3.2. FIELD STRENGTH CALCULATION

The field strength is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain (if any) from the measured reading. The basic equation with a sample calculation is as follow:

$$FS = RA + AF + CF - AG$$

Where:
FS = Field Strength
RA = Receiver Amplitude
AF = Antenna Factor
CF = Cable Factor
AG = Amplifier Gain

Example:
Assume a receiver reading of 52.5dBµV is obtained. The antenna factor of 7.4 and a cable factor of 1.1 are added. The amplifier gain of 29dB is subtracted, giving a field strength of 32 dBµV/m.
FS = 52.5 + 7.4 + 1.1 – 29 = 32 dBµV/m
The 32 dBµV/m value can be mathematically converted to its corresponding level in µV/m.
Level in µV/m = Common Antilogarithm [(32dBµV/m)/20] = 39.8 µV/m.

3.3. TEST DISTANCE EXTRAPOLATION – FCC/ISED

The field strength is extrapolated to the new measurement distance using formula from FCC Part15.31 (f) and §6.5-6.6 RSS-GEN:

Below 30MHz,

$$FS_{\text{limit}} = FS_{\text{max}} - 40\log\left(\frac{d_{\text{limit}}}{d_{\text{measure}}}\right)$$

Above 30MHz,

$$FS_{\text{limit}} = FS_{\text{max}} - 20\log\left(\frac{d_{\text{limit}}}{d_{\text{measure}}}\right)$$

Where:
FS_{limit} is the calculation of field strength at the limit distance, expressed in dBµV/m
FS_{max} is the measured field strength, expressed in dBµV/m
$d_{measure}$ is the distance of the measurement point from the EUT
d_{limit} is the reference limit distance

4. MEASUREMENT OF CONDUCTED EMISSION

4.1. TEST CONDITIONS

Date of test	:	June 11, 2026
Test performed by	:	Jonathan SARTO
Atmospheric pressure (hPa)	:	1002
Relative humidity (%)	:	43
Ambient temperature (°C)	:	23

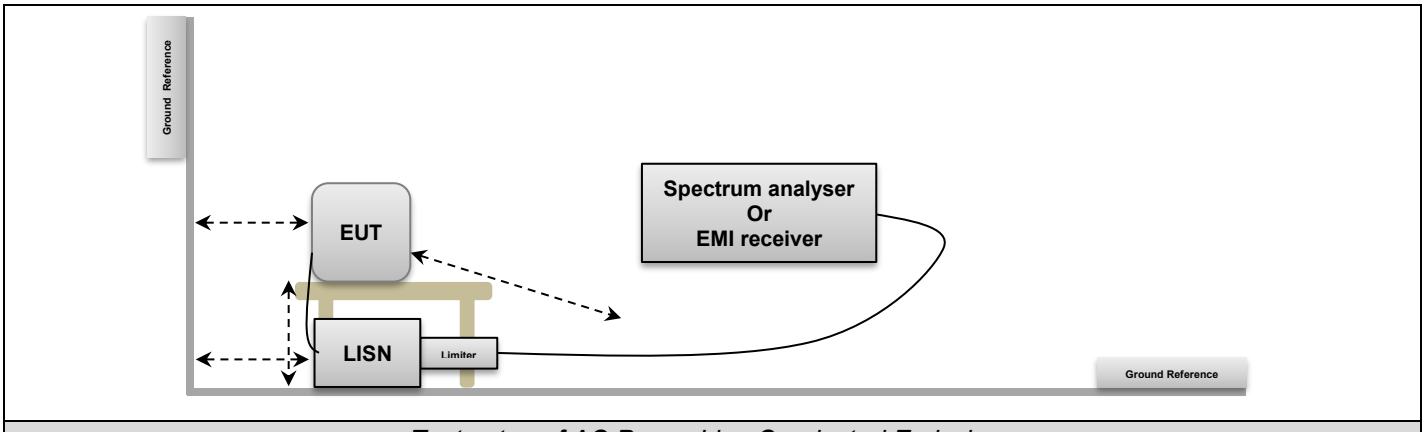
4.2. TEST SETUP

FCC - Test procedure: ANSI C63.10 / C63.4 & FCC Part 15 subpart B/C
ISED - Test procedure: ANSI C63.4 & ICES-003

The EUT and auxiliaries are set 80cm above the ground on the non-conducting table (Table-top equipment) at 80cm from the LISN, the cable has been shorted to 1meter length. The distance between the EUT and the vertical ground plane is 40cm. Measurement is made with a receiver in peak mode. This was followed by a Quasi-Peak, i.e. CISPR measurement for any strong signal. If the average limit is met when using a Quasi-Peak detector, the EUT shall be deemed to meet both limits and measurement with the average detector is unnecessary. Interconnecting cables and equipment were moved to position that maximized emission. The EUT is powered like specified in following table, through a LISN (measure); if auxiliaries used, they are powered by another LISN.

Frequency range:	**150kHz to 30MHz**	
Test:	**Pre-Characterization**	**Qualification**
RBW Filter:	10kHz	9kHz
Detector:	Peak & Average	QPeak & Cispr Average
Mode:	Linear Scan	

Type	**Measurement performed:**	
☑ AC / ☑ DC (Auxiliary used)	☑ 120VAC/60Hz	☑ 240VAC/50Hz
☐ USB (Laptop auxiliary)	☐ 120VAC/60Hz (Laptop auxiliary)	☐ 240VAC/50Hz (Laptop auxiliary)



Test setup of AC Power Line Conducted Emissions

Photo of AC Power Line Conducted Emissions

4.3. TEST EQUIPMENT LIST

TEST EQUIPMENT USED					
Description	**Manufacturer**	**Model**	**Identifier**	**Cal_Date**	**Cal_Due**
EMC comb generator	LCIE SUD EST	_	A3169098	NA	NA
Receiver 20Hz – 8GHz	ROHDE & SCHWARZ	ESU8	A2642019	11/2025	11/2027
LISN	ROHDE & SCHWARZ	ENV216	C2320291	08/2025	08/2026
Thermo-hygrometer (PM1/2/3)	KIMO	HQ 210	B4206022	12/2025	12/2027
BAT EMC	NEXIO	v3.21.0.32	L1000115-MOI	-/-	-/-
Cable + self	_	_	A5329585	05/2024	06/2026
Transient limiter	ROHDE & SCHWARZ	ESH3-Z2	A7122204	07/2024	07/2026
LISN	ROHDE & SCHWARZ	ESH3-Z5	C2320314	08/2025	08/2026
Load 50Ω - BNC	AEROFLEX	_	A7152074	09/2025	09/2026

4.4. DIVERGENCE, ADDITION OR SUPPRESSION ON THE TEST SPECIFICATION

None

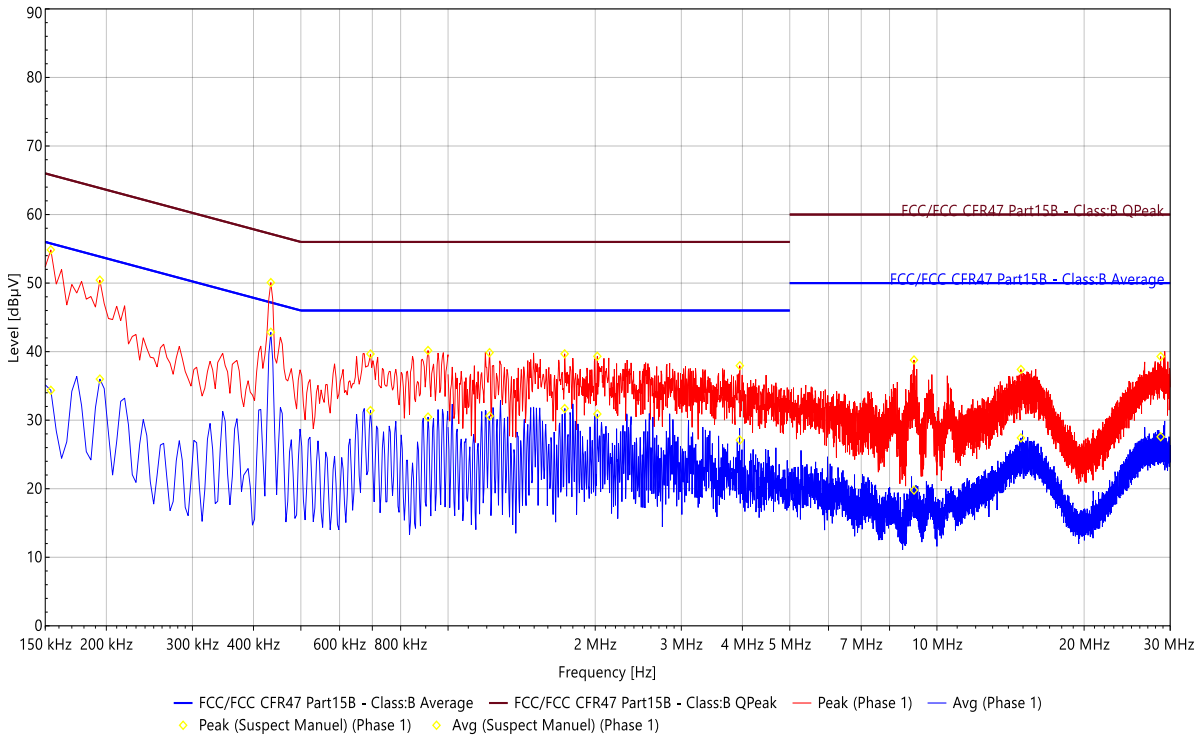
4.5. TEST RESULTS – RUNNING MODE N°1

Mains terminals:

SUPPLY1
Measurements are performed on the phase (L1) and neutral (N) of the power line.

Graph identifier		Line	Comments	
Emc#	1	Phase	120VAC/60Hz	See below
Emc#	2	Neutral	120VAC/60Hz	See below
Emc#	3	Phase	240VAC/50Hz	See below
Emc#	4	Neutral	240VAC/50Hz	See below

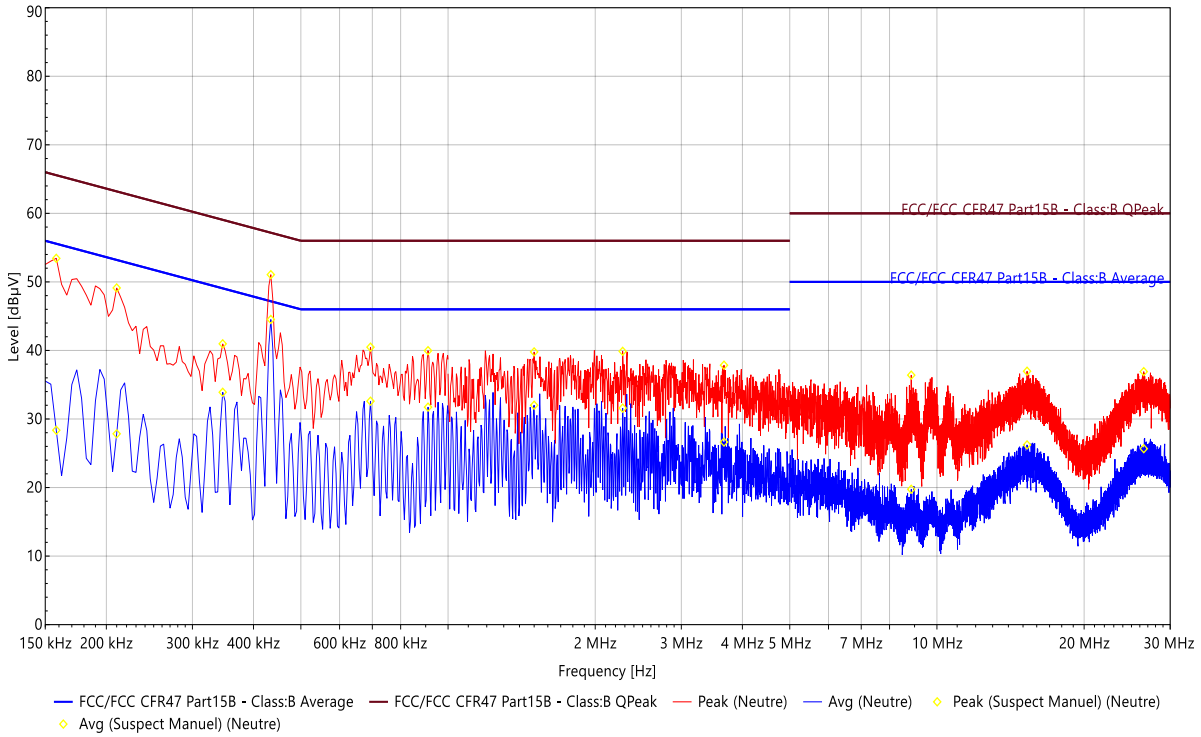
Conducted Emissions	
Graph name:	Emc#1
Frequency range:	150 kHz to 30 MHz



Qualification:

Frequency	QP Level (dBµV)	Lim.QP (dBµV)	QP-Lim.QP (dB)	CAVG Level (dBµV)	Lim.CAVG (dBµV)	CAVG-Lim.CAVG (dB)	Correction (dB)
154.000 kHz	44.87	65.78	**-20.91**	34.03	55.78	**-21.75**	19.44
194.000 kHz	44.13	63.86	**-19.73**	36.02	53.86	**-17.84**	19.41
434.000 kHz	47.64	57.18	**-9.54**	42.92	47.18	**-4.25**	19.43
694.000 kHz	37.02	56.00	**-18.98**	31.42	46.00	**-14.58**	19.44
910.000 kHz	36.07	56.00	**-19.93**	30.71	46.00	**-15.29**	19.47
1.216 MHz	37.28	56.00	**-18.72**	31.83	46.00	**-14.17**	19.49
1.732 MHz	36.44	56.00	**-19.56**	29.00	46.00	**-17.00**	19.54
2.020 MHz	35.73	56.00	**-20.27**	28.74	46.00	**-17.26**	19.56
3.952 MHz	32.78	56.00	**-23.22**	24.37	46.00	**-21.63**	19.71
8.976 MHz	29.77	60.00	**-30.23**	17.42	50.00	**-32.58**	20.04
14.852 MHz	32.08	60.00	**-27.92**	24.04	50.00	**-25.96**	20.55
28.684 MHz	35.73	60.00	**-24.27**	28.44	50.00	**-21.56**	21.05

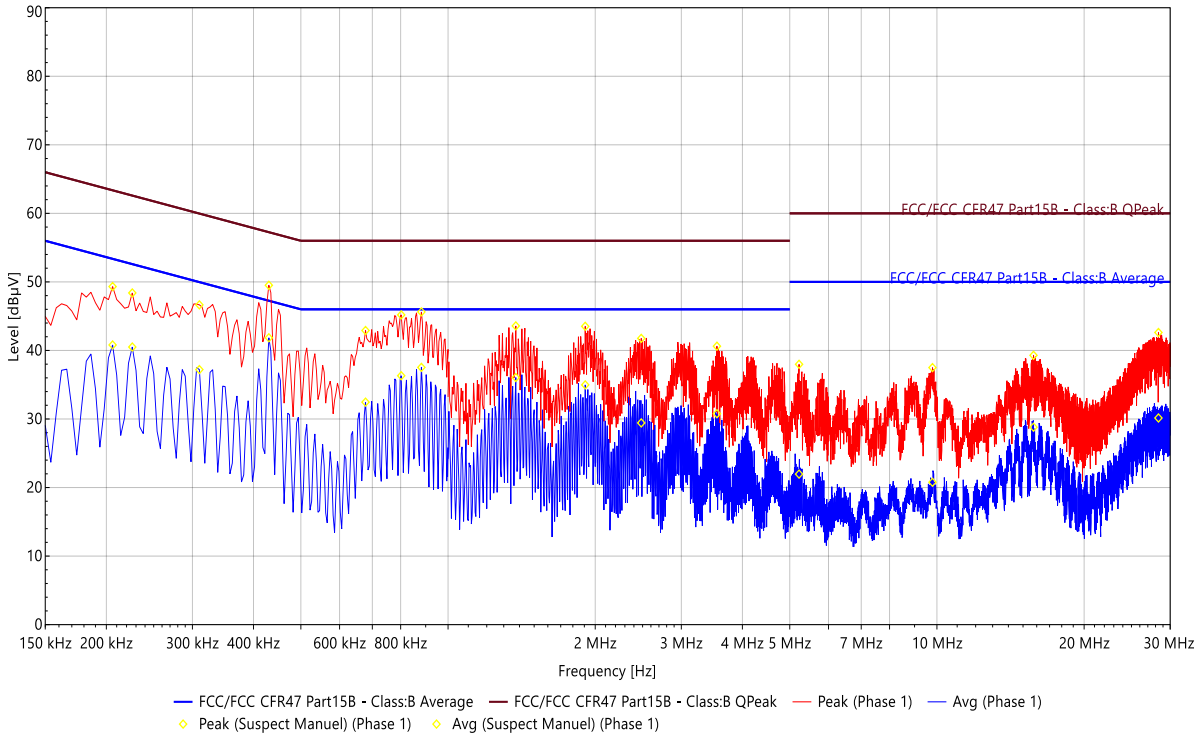
Conducted Emissions	
Graph name:	Emc#2
Frequency range:	150 kHz to 30 MHz



Qualification:

Frequency	QP Level (dBµV)	Lim.QP (dBµV)	QP-Lim.QP (dB)	CAVG Level (dBµV)	Lim.CAVG (dBµV)	CAVG-Lim.CAVG (dB)	Correction (dB)
158.000 kHz	40.53	65.57	**-25.04**	27.41	55.57	**-28.16**	19.45
210.000 kHz	38.20	63.20	**-25.01**	26.17	53.20	**-27.04**	19.44
346.000 kHz	38.93	59.06	**-20.13**	33.84	49.06	**-15.22**	19.41
434.000 kHz	48.62	57.18	**-8.56**	44.65	47.18	**-2.53**	19.44
694.000 kHz	37.56	56.00	**-18.44**	32.46	46.00	**-13.54**	19.45
910.000 kHz	36.45	56.00	**-19.55**	31.61	46.00	**-14.39**	19.47
1.500 MHz	36.02	56.00	**-19.98**	29.54	46.00	**-16.46**	19.52
2.276 MHz	36.76	56.00	**-19.24**	30.39	46.00	**-15.61**	19.58
3.668 MHz	33.46	56.00	**-22.54**	25.62	46.00	**-20.38**	19.69
8.860 MHz	28.12	60.00	**-31.88**	16.50	50.00	**-33.50**	20.04
15.288 MHz	31.52	60.00	**-28.48**	23.55	50.00	**-26.45**	20.60
26.488 MHz	33.42	60.00	**-26.58**	25.99	50.00	**-24.01**	21.01

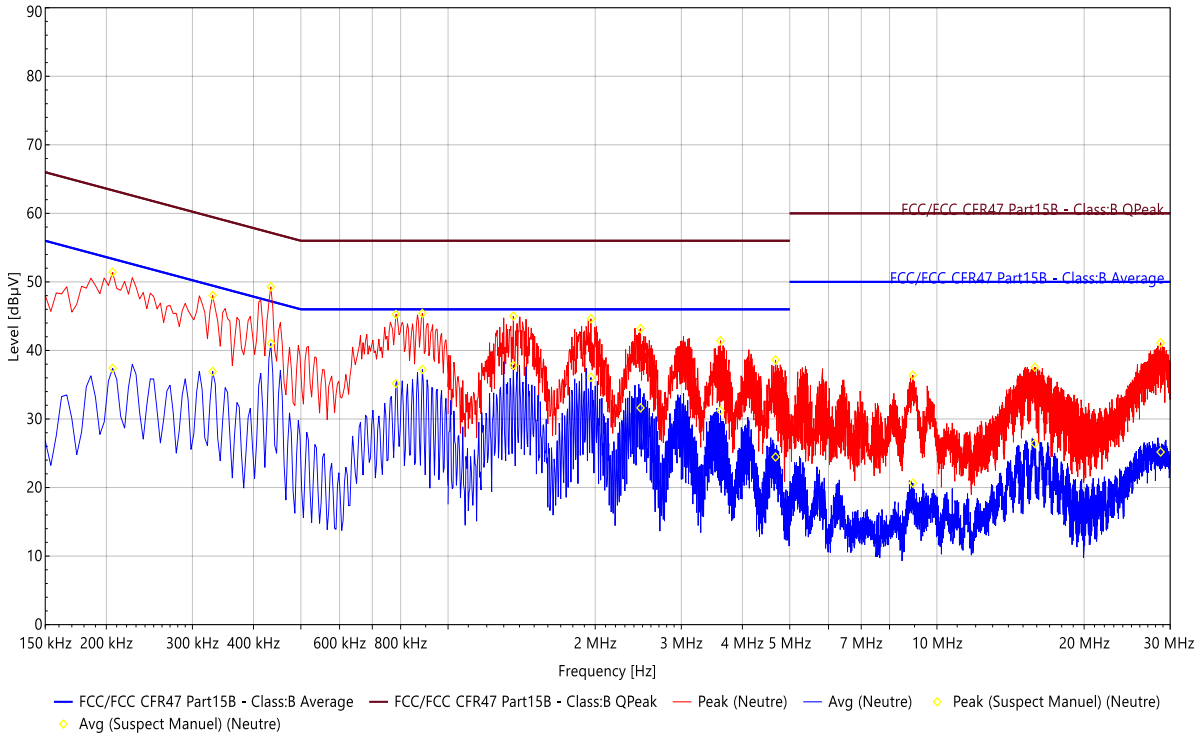
Conducted Emissions	
Graph name:	Emc#3
Frequency range:	150 kHz to 30 MHz



Qualification:

Frequency	QP Level (dBµV)	Lim.QP (dBµV)	QP-Lim.QP (dB)	CAVG Level (dBµV)	Lim.CAVG (dBµV)	CAVG-Lim.CAVG (dB)	Correction (dB)
206.000 kHz	45.92	63.36	**-17.44**	36.48	53.36	**-16.89**	19.44
225.999 kHz	46.01	62.60	**-16.59**	36.83	52.60	**-15.77**	19.44
310.000 kHz	43.39	59.97	**-16.58**	34.06	49.97	**-15.91**	19.47
430.000 kHz	47.53	57.25	**-9.73**	40.57	47.25	**-6.68**	19.43
678.000 kHz	39.04	56.00	**-16.96**	29.88	46.00	**-16.12**	19.44
802.000 kHz	40.44	56.00	**-15.56**	31.44	46.00	**-14.56**	19.48
882.000 kHz	42.84	56.00	**-13.16**	34.45	46.00	**-11.55**	19.47
1.376 MHz	38.76	56.00	**-17.24**	30.17	46.00	**-15.83**	19.52
1.908 MHz	37.74	56.00	**-18.26**	28.55	46.00	**-17.45**	19.56
2.484 MHz	34.74	56.00	**-21.26**	24.19	46.00	**-21.81**	19.58
3.548 MHz	34.00	56.00	**-22.00**	22.72	46.00	**-23.28**	19.68
5.224 MHz	31.68	60.00	**-28.32**	19.96	50.00	**-30.04**	19.93
9.792 MHz	28.96	60.00	**-31.04**	18.15	50.00	**-31.85**	20.08
15.760 MHz	30.62	60.00	**-29.38**	24.23	50.00	**-25.77**	20.58
28.384 MHz	35.73	60.00	**-24.27**	26.15	50.00	**-23.85**	21.04

Conducted Emissions	
Graph name:	Emc#4
Frequency range:	150 kHz to 30 MHz



Qualification:

Frequency	QP Level (dBµV)	Lim.QP (dBµV)	QP-Lim.QP (dB)	CAVG Level (dBµV)	Lim.CAVG (dBµV)	CAVG-Lim.CAVG (dB)	Correction (dB)
206.000 kHz	48.69	63.36	**-14.68**	41.23	53.36	**-12.13**	19.45
329.999 kHz	46.19	59.45	**-13.26**	39.80	49.45	**-9.65**	19.43
434.000 kHz	47.97	57.18	**-9.21**	42.75	47.18	**-4.43**	19.44
782.000 kHz	44.38	56.00	**-11.62**	38.08	46.00	**-7.92**	19.48
886.000 kHz	43.84	56.00	**-12.16**	37.27	46.00	**-8.73**	19.47
1.360 MHz	41.80	56.00	**-14.20**	34.55	46.00	**-11.45**	19.52
1.960 MHz	36.27	56.00	**-19.73**	26.63	46.00	**-19.37**	19.56
2.476 MHz	35.88	56.00	**-20.12**	24.39	46.00	**-21.61**	19.59
3.608 MHz	32.48	56.00	**-23.52**	20.67	46.00	**-25.33**	19.69
4.676 MHz	33.61	56.00	**-22.39**	21.95	46.00	**-24.05**	19.87
8.928 MHz	29.74	60.00	**-30.26**	16.95	50.00	**-33.05**	20.05
15.852 MHz	30.45	60.00	**-29.55**	22.98	50.00	**-27.02**	20.61
28.684 MHz	35.77	60.00	**-24.23**	25.73	50.00	**-24.27**	21.12

4.6. CONCLUSION

The sample of the equipment **SAH211111**, Sn : **MP2**, tested in the configuration presented in this test report **satisfies** to requirements of the product family standard applied (See §Test Program) for conducted emissions.

5. MEASUREMENT OF RADIATED EMISSION

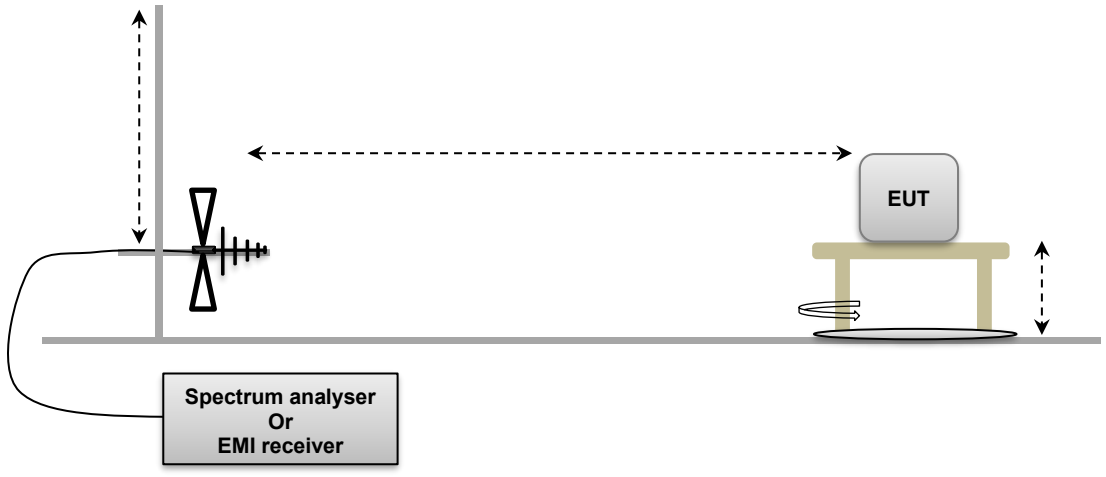
5.1. TEST CONDITIONS

Date of test	:	June 11, 2026
Test performed by	:	Jonathan SARTO
Atmospheric pressure (hPa)	:	1002
Relative humidity (%)	:	43
Ambient temperature (°C)	:	23

5.2. TEST SETUP

FCC - Test procedure: ANSI C63.10 / C63.4 & FCC Part 15 subpart B/C
ISED - Test procedure: ANSI C63.4 & ICES-003

The EUT and auxiliaries are set 80cm above the ground on the non-conducting table (Table-top equipment).
The EUT is powered by V_{nom}.



Test setup of Radiated Emission

Same setup is used in semi anechoic chamber during pre-characterization, with a distance of 3m between EUT and antenna.

5.2.1. FCC – Photo of the test setup

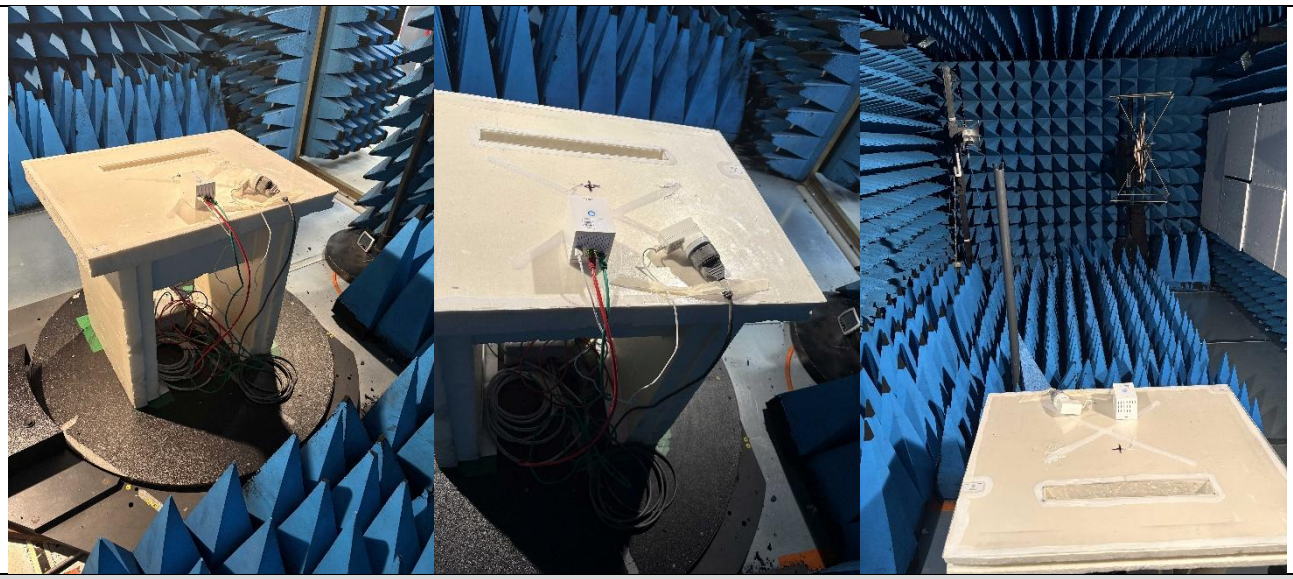


Photo in anechoic chamber

Photo on OATS

5.3. TEST METHOD

During pre-characterization, a pre-scan of all the setup has been performed on all axis of EUT used in normal configuration. The pre-characterization graphs are obtained in PEAK detection, and AVERAGE detection for frequencies above 1GHz. A summary of the worst case emissions found in all test configurations and modes is shown. Spurious or frequency band are measured with qualification detectors to show compliance with limits.
Following frequency ranges, test setup parameters are different and specified in tables below.

5.3.1. 30MHz –1GHz

Frequency range:	**30MHz to 1GHz**	
Test:	**Pre-Characterization**	**Qualification**
Antenna Polarization:	Horizontal and Vertical	
Antenna Height:	Centered on EUT, EUT smaller than the beamwidth of antenna	Varied continously from 1m to 4m
Antenna Type:	Bi-Log	Biconical & Bi-Log
Min. Antenna Beamwidth:	A.H.Systems SAS-521-7 / w@3m - 3.5m<1GHz	Eaton 94455 / w@10m - 2.6m<200MHz Teseq CBL 6111 / w@10m - 14m<1GHz
RBW Filter:	100kHz	120kHz
Maximization:	Turntable rotation of 360 degrees range	
Test site:	Full Anechoic Chamber	Open Aera Test Site
Distance EUT - Antenna:	3m	10m
Detector:	Peak	QPeak
Mode:	Linear Scan	Linear Scan

5.3.2. 1GHz – 14GHz:

Frequency range:	**1GHz to 14GHz**	
Test:	**Pre-Characterization**	**Qualification**
Antenna Polarization:	Horizontal and Vertical	
Antenna Height:	Centered on EUT, EUT smaller than the beamwidth of antenna	Centered on EUT
Antenna Type:	Horn	Horn
Min. Antenna Beamwidth:	A-INFO LB-10180 / w@3m - 2.0m<14GHz / 0.7m<18GHz	EM 6969 / w@3m - 0.7m<14GHz/0.6m<18GHz
RBW Filter:	1MHz	1MHz
Maximization:	Turntable rotation of 360 degrees range	
Test site:	Full Anechoic Chamber	Full Anechoic Chamber
Distance EUT - Antenna:	3m	3m
Detector:	Peak & Average	Peak & Cispr Average
Mode:	Linear Scan	Linear Scan

5.4. TEST EQUIPMENT LIST

TEST EQUIPMENT USED on FAR					
Description	**Manufacturer**	**Model**	**Identifier**	**Cal_Date**	**Cal_Due**
EMR comb generator	BARDET	_	A3169050	NA	NA
HF EMR comb generator	LCIE SUD EST	_	A3169088	NA	NA
Spectrum analyzer	ROHDE & SCHWARZ	FSU 26	A4060058	01/2026	01/2028
Cable 0.75m	-	18GHz	A5329900	08/2025	08/2026
Cable SMA 40cm	WITHWAVE	W101-SM1-0.4M	A5329979	03/2025	07/2026
SMA Cable 18GHz 0.6m	TELEDYNE	18GHz	A5330055	08/2025	08/2026
SMA Cable 18GHz 3.5m	TELEDYNE	18GHz	A5330058	08/2025	08/2026
Amplifier 10MHz - 18GHz	LCIE SUD EST	_	A7102082	03/2025	03/2027
Filter Matrice	LCIE SUD EST	Combined filters	A7484078	08/2025	08/2027
Antenna Bi-log	AH System	SAS-521-7	C2040180	11/2025	11/2027
Horn Antenna	ELECTRO-METRICS	EM-6969	C2040286	06/2025	06/2028
Semi-Anechoic chamber #3 (BF)	SIEPEL	_	D3044017_BF	09/2025	09/2026
Semi-Anechoic chamber #3 (VSWR)	SIEPEL	_	D3044017_VSWR	09/2025	09/2028
Turntable chamber (Cage#3)	ETS Lingren	Model 2165	F2000371	-/-	-/-
Turntable controller (Cage#3)	ETS Lingren	Model 2090	F2000444	-/-	-/-
Table C3	LCIE	_	F2000461	-/-	-/-
Mat Controler	LCIE	MAT Controler	F2000523	-/-	-/-
BAT EMC	NEXIO	v3.21.0.32	L1000115-MOI	-/-	-/-
SMK 6.50m	TELEDYNE	A90-010-6.50MTR	A5330061	08/2025	08/2026
CABLE	TELEDYNE	R82-0404-0.5M	A5330010	08/2025	08/2028
Receiver 20-1000MHz	ROHDE & SCHWARZ	ESVS30	A2642006	10/2024	10/2026
Emission Cable	CABELTEL	6GHz	A5329069	08/2025	08/2026
Cable (OATS)	_	1GHz	A5329623	08/2025	08/2026
Emission Cable	MICRO-COAX	1GHz	A5329656	08/2025	08/2026
Antenna Bi-log	CHASE	CBL6111A	C2040172	07/2024	07/2026
Biconic Antenna	EATON	94455-1	C2040234	11/2025	11/2027
Turntable / Mast controller (OATS)	ETS Lingren	Model 2066	F2000372	-/-	-/-
Antenna Mat (OATS)	ETS Lingren	2071-2	F2000392	-/-	-/-
Turntable (OATS)	ETS Lingren	Model 2187	F2000403	-/-	-/-
OATS	_	_	F2000409	10/2025	10/2026
Table C1/OATS	LCIE	_	F2000445	-/-	-/-
CALCUL_FACTEURS	LCIE SUD EST	v4	L2000035	NA	NA

5.5. DIVERGENCE, ADDITION OR SUPPRESSION ON THE TEST SPECIFICATION

None

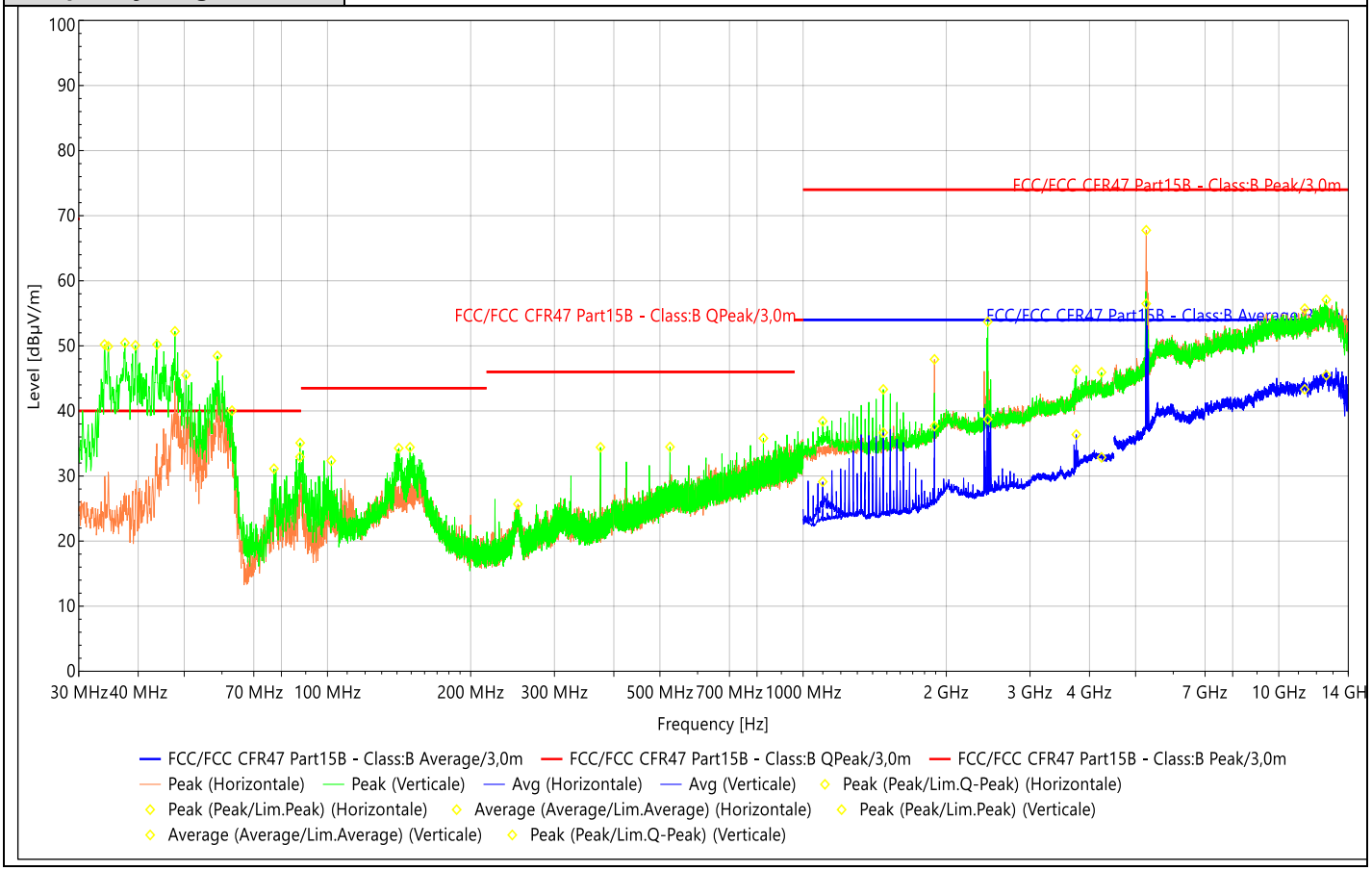
5.6. TEST RESULTS – FCC – RUNNING MODE N°1

5.6.1. 30MHz –14GHz

Pre-qualification measurement

Graph identifier	Polarization	EUT position	Comments
Emr# 1	Horizontal/Vertical	Axis XY	See below

Radiated Emissions	
Graph name:	Emr#1
Frequency range:	30 MHz to 14 GHz



Pre-Characterization:

Frequency	PK Level (dBµV/m)	Lim.QP (dBµV/m)	PK-Lim.QP (dB)	Angle (°)	Heigh (m)	Polar.
33.977 MHz	50.21	40.00	**10.21**	282	1.55	V
34.608 MHz	49.91	40.00	**9.91**	282	1.55	V
37.518 MHz	50.45	40.00	**10.45**	340	1.55	V
39.457 MHz	50.07	40.00	**10.07**	298	1.55	V
43.822 MHz	50.21	40.00	**10.21**	210	1.55	V
47.800 MHz	52.23	40.00	**12.23**	264	1.55	V
50.418 MHz	45.52	40.00	**5.52**	340	1.55	V
58.712 MHz	48.46	40.00	**8.46**	4	1.55	V

Frequency	PK Level (dBµV/m)	Lim.QP (dBµV/m)	PK-Lim.QP (dB)	Angle (°)	Heigh (m)	Polar.
62.980 MHz	40.04	40.00	**0.04**	333	1.55	V
77.190 MHz	31.12	40.00	**-8.88**	61	1.55	V
87.570 MHz	32.94	40.00	**-7.06**	145	1.55	V
87.618 MHz	35.08	40.00	**-4.92**	145	1.55	V
101.877 MHz	32.35	43.50	**-11.15**	192	1.55	V
141.210 MHz	34.27	43.50	**-9.23**	340	1.55	V
149.116 MHz	34.42	43.50	**-9.08**	302	1.55	V
251.402 MHz	25.68	46.00	**-20.32**	349	1.55	H
374.980 MHz	34.42	46.00	**-11.58**	0	1.55	V
524.991 MHz	34.47	46.00	**-11.53**	47	1.55	V
825.012 MHz	35.80	46.00	**-10.20**	292	1.55	V

Frequency	PK Level (dBµV/m)	Lim.PK (dBµV/m)	PK-Lim.PK (dB)	AVG Level (dBµV/m)	Lim.AVG (dBµV/m)	AVG-Lim.AVG (dBµV/m)	Angle (°)	Heigh (m)	Polar.
1.100 GHz	38.41	74.00	**-35.59**				89	1.55	V
1.100 GHz				29.12	54.00	**-24.88**	341	1.55	V
1.474 GHz	43.31	74.00	**-30.69**				341	1.55	V
1.474 GHz				36.66	54.00	**-17.34**	333	1.55	V
1.889 GHz*	47.92	74.00	**-26.08**				307	1.55	H
1.889 GHz*				37.67	54.00	**-16.33**	307	1.55	H
2.445 GHz*	53.72	74.00	**-20.28**				255	1.55	V
2.445 GHz*				38.73	54.00	**-15.27**	255	1.55	V
3.753 GHz	46.31	74.00	**-27.69**				0	1.55	V
3.753 GHz				36.37	54.00	**-17.63**	239	1.55	V
4.241 GHz	45.94	74.00	**-28.06**				270	1.55	V
4.241 GHz				32.86	54.00	**-21.14**	10	1.55	V
5.265 GHz*	67.76	74.00	**-6.24**				51	1.55	H
5.265 GHz*				56.48	54.00	**2.48**	51	1.55	H
11.337 GHz	55.71	74.00	**-18.29**				42	1.55	H
11.337 GHz				43.32	54.00	**-10.68**	42	1.55	H
12.585 GHz	57.08	74.00	**-16.92**				0	1.55	V
12.585 GHz				45.48	54.00	**-8.52**	59	1.55	V

*frequency not due at EUT

Qualification

The frequency list is created from the results obtained during the pre-qualification.

Test Frequency (MHz)	Meter Reading dB(µV)	Detector (Pk/QP/Av)	Polarity (V/H)	Azimuth (Degrees)	Antenna Height (cm)	Transducer Factor (dB)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)
34.0000	22.5	QP	V	0	100	14.4	36.9	40.0	**-3.1**
34.6000	17.7	QP	V	211	100	14.4	32.1	40.0	**-7.9**
37.5000	22.8	QP	V	169	100	14.4	37.2	40.0	**-2.8**
39.5000	22.3	QP	V	68	100	14.3	36.6	40.0	**-3.4**
43.8000	12.5	QP	V	0	165	13.7	26.2	40.0	**-13.8**
47.8000	17.7	QP	V	0	100	12.9	30.6	40.0	**-9.4**
50.4000	12.8	QP	V	284	100	12.3	25.1	40.0	**-14.9**
58.7000	13.1	QP	V	156	136	9.8	22.9	40.0	**-17.1**
63.0000	18.3	QP	V	0	100	8.5	26.8	40.0	**-13.2**
77.2000	9.8	QP	V	150	189	8.8	18.6	40.0	**-21.4**
87.6000	14.6	QP	V	145	100	11.8	26.4	40.0	**-13.6**
101.9000	8.7	QP	V	192	155	13.2	21.9	43.5	**-21.6**
141.2000	8.0	QP	V	0	100	17.8	25.8	43.5	**-17.7**
149.1000	6.8	QP	V	104	100	19.0	25.8	43.5	**-17.7**
375.0000	11.1	QP	V	139	100	19.5	30.6	46.0	**-15.4**
525.0000	9.2	QP	V	55	100	24.2	33.4	46.0	**-12.6**
825.0000	6.5	QP	V	0	100	31.2	37.7	46.0	**-8.3**

For the frequencies >1GHz, no significative frequency observed.

5.7. CONCLUSION

The sample of the equipment **SAH211111**, Sn : **MP2**, tested in the configuration presented in this test report **satisfies** to requirements of the product family standard applied (See §Test Program) for radiated emissions.

6. UNCERTAINTIES CHART

Type de mesure / *Kind of measurement*	Incertitude élargie laboratoire / *Wide uncertainty laboratory* (k=2) ±x	Incertitude limite du CISPR / *CISPR uncertainty limit* ±y
Mesure des perturbations conduites en tension sur le réseau d'énergie ***Measurement of conducted disturbances in voltage on the power port*** **RSIL / *LISN* - 50Ω/50µH**		
9kHz - 150kHz	3.64 dB	3.8 dB
150kHz - 30MHz	3.21 dB	3.4 dB
Mesure des perturbations rayonnées ***Measurement of radiated disturbances*** **OATS & SAC @3m**		
9kHz - 30MHz, Antenne boucle / *Loop antenna*	4.90 dB	-
30MHz - 200MHz, Antenne biconique / *Biconical antenna*	5.74 dB	6.3 dB
30MHz - 1GHz, Antenne hybride / *Hybrid antenna*	5.65 dB	6.3 dB
Mesure des perturbations rayonnées ***Measurement of radiated disturbances*** **OATS @10m**		
9kHz - 30MHz, Antenne boucle / *Loop antenna*	4.90 dB	-
30MHz - 200MHz, Antenne biconique / *Biconical antenna*	5.72 dB	6.3 dB
30MHz - 1GHz, Antenne hybride / *Hybrid antenna*	5.91 dB	6.3 dB
Mesure des perturbations rayonnées ***Measurement of radiated disturbances*** **FAR @3m**		
1GHz - 6GHz, Antenne cornet ou hybride / *Horn or hybrid antenna*	4.77 dB	5.2 dB
1GHz - 6GHz, Antenne cornet ou hybride et préamplificateur / *Horn or hybrid antenna and preamplifier*	5.02 dB	5.2 dB
6GHz - 18GHz, Antenne cornet et préamplificateur / *Horn antenna and preamplifier*	5.41 dB	5.5 dB
18GHz - 40GHz, Antenne cornet et préamplificateur / *Horn antenna and preamplifier*	7.81 dB	-

---------- **END OF REPORT** ----------