



LCIE



Accreditation  
N°1-1633  
Scope available on  
[www.cofrac.fr](http://www.cofrac.fr)

Template : March 5<sup>th</sup>, 2024

# TEST REPORT

N°: 21359071-798084-B (FILE#7740639)

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** JAY ELECTRONIQUE  
ZAC La Batie – Rue Champrond  
38330 - ST ISMIER  
FRANCE

**Apparatus under test**

Product RSRG receiver  
Trade mark CONDUCTIX wampfler  
Manufacturer Jay Electronique  
Model under test RSRG5ACU-1  
Serial number 30007721-JAY01-1024-24012345001-WW  
FCCID OQMRSG

**Conclusion** See Test Program chapter

Test date March 06, 2024 to March 22, 2024  
Test location LCIE Grenoble  
FCC Test site FR0008 - 197516 (MOI)  
ISED Test site 6500A (MOI)  
Sample receipt date March 05, 2024  
Composition of document 22 pages  
Document issued on April 29, 2024

**Written by :**  
Jonathan SARTO  
Tests operator

**Approved by :**  
Majid MOURZAGH  
Technical manager



Reproduction of this document is only authorized in its complete form. Any partial reproduction or any insertion of results in an accompanying text with a view to their distribution must receive prior and formal agreement from LCIE. This document results from tests carried out on a specimen, sample or test piece. It does not prejudice the conformity of all the products manufactured to the object tested. Unless otherwise indicated or rule specified by the test method, the decision of conformity does not take into account measurement uncertainty. It in no way prejudices a certification decision. The accreditation of the COFRAC Testing Section attests to the technical competence of the laboratories for the tests covered by the accreditation only. If certain tests mentioned in this report were carried out outside the framework of COFRAC accreditation, they are identified by the symbol

**LCIE**  
Laboratoire Central des Industries Electriques  
Une société Bureau Veritas

Z.I Centr'alp  
170, Rue de Chatagnon  
38430 Moirans  
FRANCE

Tél. + 33 4 76 07 36 36  
[contact@lcie.fr](mailto:contact@lcie.fr)  
[www.lcie.fr](http://www.lcie.fr)



## PUBLICATION HISTORY

Version	Date	Author	Modification
01	April 12, 2024	Jonathan SARTO	Creation of the document
02	April 29, 2024	Jonathan SARTO	Address modification

*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 .....	4
2.	EQUIPMENT UNDER TEST: CONFIGURATION (DECLARED BY PROVIDER) .....	6
3.	MEASUREMENT OF CONDUCTED EMISSION .....	9
4.	MEASUREMENT OF RADIATED EMISSION .....	15
5.	UNCERTAINTIES CHART .....	22



## 1. TEST PROGRAM

### 1.1. FCC PART15B / ICES-003

#### Standard:

- ✓ FCC Part 15, Subpart B (Digital Devices)
- ✓ ANSI C63.4 (2014) / ANSI C63.4a (2017)
- ✓ ICES-003 (2020)

#### 1.1.1. Requirements for disturbance emissions – Class B

EMISSION TEST	LIMITS			RESULTS (Comments)
Limits for conducted disturbance 150kHz-30MHz <b>FCC §15.107 / ICES-003</b>	Access: AC power			<b>PASS</b>
	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 emissions 30MHz-1GHz <b>FCC §15.109</b>	Access: Enclosure port of ancillary equipment			<b>PASS</b>
	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 emissions 30MHz-1GHz <b>ICES-003</b>	Access: Enclosure port of ancillary equipment			<b>PASS</b>
	Frequency	Quasi-peak @3m		
	30MHz-88MHz	40.0 dBµV/m		
	88MHz-216MHz	43.5 dBµV/m		
	216MHz-230MHz	46.0 dBµV/m		
	230MHz-960MHz	47.0 dBµV/m		
	Above 960MHz	54.0 dBµV/m		
Radiated emissions 1GHz-14GHz* <b>FCC §15.109 / ICES-003</b>	Access: Enclosure port of ancillary equipment			<b>PASS</b>
	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)

<sup>D</sup>: 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:

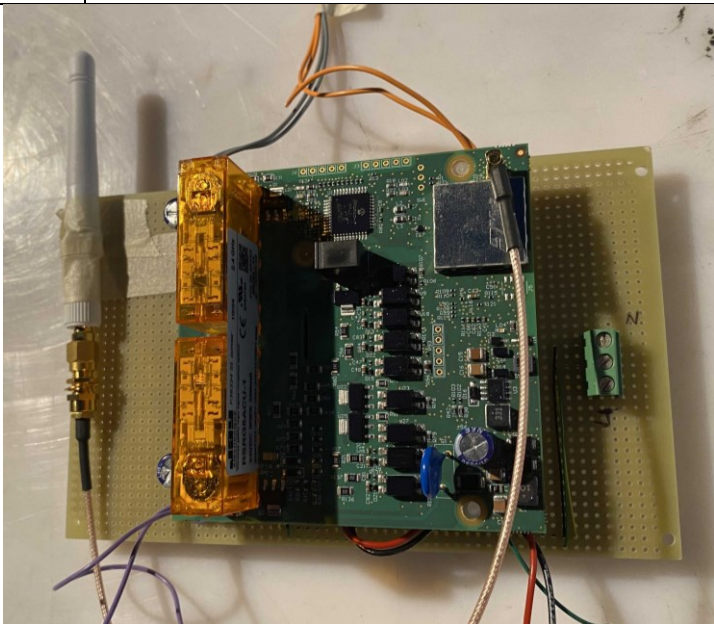
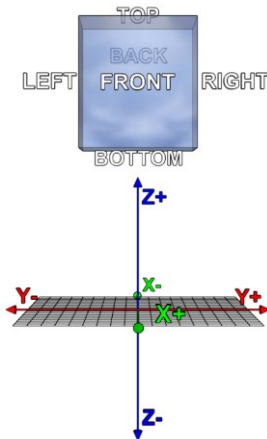


- For a composite system comprised of a digital device using a clock frequency of 1 GHz as the highest frequency for the digital logic and an intentional radiator operating at 2.4 GHz, the composite is required to be investigated to the upper frequency of 24 GHz (in this case, 10 times the intentional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

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

### 2.1. HARDWARE IDENTIFICATION (EUT AND AUXILIARIES)

#### Equipment under test (EUT):

<b>Model under test :</b>	RSRG5ACU-1		
<b>Serial Number:</b>	30007721-JAY01-1024-24012345001-WW		
			
<b>Dimensions:</b>	16cm x 10cm x 5cm (Length x Width x Height)		
<b>Type :</b>	Table-Top		

#### Power supply:

During all the tests, EUT is supplied by  $V_{nom}$ : **24VDC**

For measurement with different voltage, it will be presented in test method.

Name	Type	Rating	Reference / Sn	Comments
Supply1	DC	24VDC	-	-

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	2 wires	2.5	No	No	Yes	/
Access1	Emergency stop button	0.3	No	No	No	/
Access2	Antenna	0.2	No	No	No	/

NC: Not communicated by provider

#### Auxiliary equipment used during test:

Type	Reference	Sn	Comments
None			

NC: Not communicated by provider

### 2.2. EUT CONFIGURATION

Hardware information			
Highest internal frequency (PLL, Quartz, Clock, Microprocessor...):	F <sub>Highest</sub> :	52	MHz
Firmware (if applicable):	V. :	107; 107; 101 (3 µcs)	
Software (if applicable):	V. :	N/A	

NC: Not communicated by provider

#### Running mode n°1:

Setup:

EUT is powered by 24VDC and it's in permanent reception.

### 2.3. EQUIPMENT MODIFICATIONS DURING THE TESTS

None

### 2.4. 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

### 2.5. 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:

$FS_{\text{limit}}$  is the calculation of field strength at the limit distance, expressed in dB $\mu$ V/m

$FS_{\text{max}}$  is the measured field strength, expressed in dB $\mu$ V/m

$d_{\text{measure}}$  is the distance of the measurement point from the EUT

$d_{\text{limit}}$  is the reference limit distance

## 2.6. CALIBRATION DATE

The calibration intervals are extended at 12+2 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



### 3. MEASUREMENT OF CONDUCTED EMISSION

#### 3.1. TEST CONDITIONS

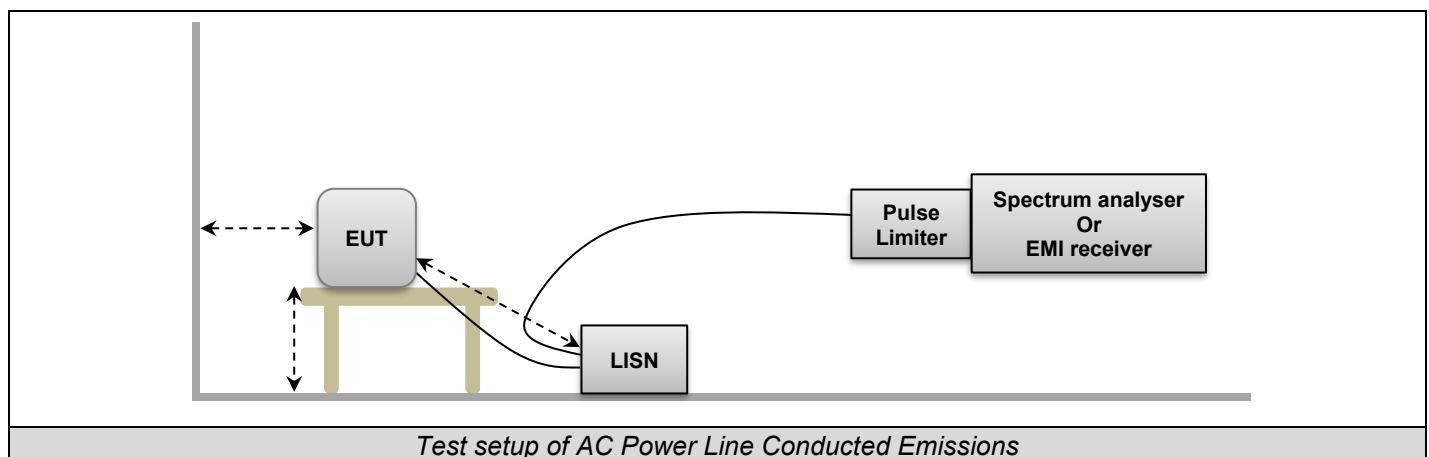
Date of test : March 22, 2024  
 Test performed by : Jonathan SARTO  
 Atmospheric pressure (hPa) : 994  
 Relative humidity (%) : 46  
 Ambient temperature (°C) : 23

#### 3.2. TEST SETUP

Test procedure:  
 ANSI C63.4 & FCC Part 15 subpart B

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's were moved to position that maximized emission. The EUT is powered like specified in following table, through a LISN (measure); auxiliaries are powered by another LISN.

Type	Measurement performed:	
<input type="checkbox"/> AC / <input checked="" type="checkbox"/> DC (Auxiliary used)	<input checked="" type="checkbox"/> 120VAC/60Hz	<input checked="" type="checkbox"/> 240VAC/50Hz
<input type="checkbox"/> USB (Laptop auxiliary)	<input type="checkbox"/> 120VAC/60Hz (Laptop auxiliary)	<input type="checkbox"/> 240VAC/50Hz (Laptop auxiliary)





*Photo of AC Power Line Conducted Emissions*

### 3.3. TEST EQUIPMENT LIST

TEST EQUIPMENT USED					
Description	Manufacturer	Model	Identifier	Cal_Date	Cal_Due
BAT EMC	NEXIO	v3.21.0.32	L1000115		
Cable + self	—	—	A5329578	05/22	05/24
EMC comb generator	LCIE SUD EST	—	A3169098		
LISN	ROHDE & SCHWARZ	ENV216	C2320291	07/23	07/24
Receiver 20Hz – 8GHz	ROHDE & SCHWARZ	ESU8	A2642019	03/23	03/25
Thermo-hygrometer (PM1/2/3)	KIMO	HQ 210	B4206022	05/23	05/25
Transient limiter	ROHDE & SCHWARZ	ESH3-Z2	A7122204	08/22	08/24

### 3.4. DIVERGENCE, ADDITION OR SUPPRESSION ON THE TEST SPECIFICATION

None

### 3.5. TEST RESULTS – RUNNING MODE N°1

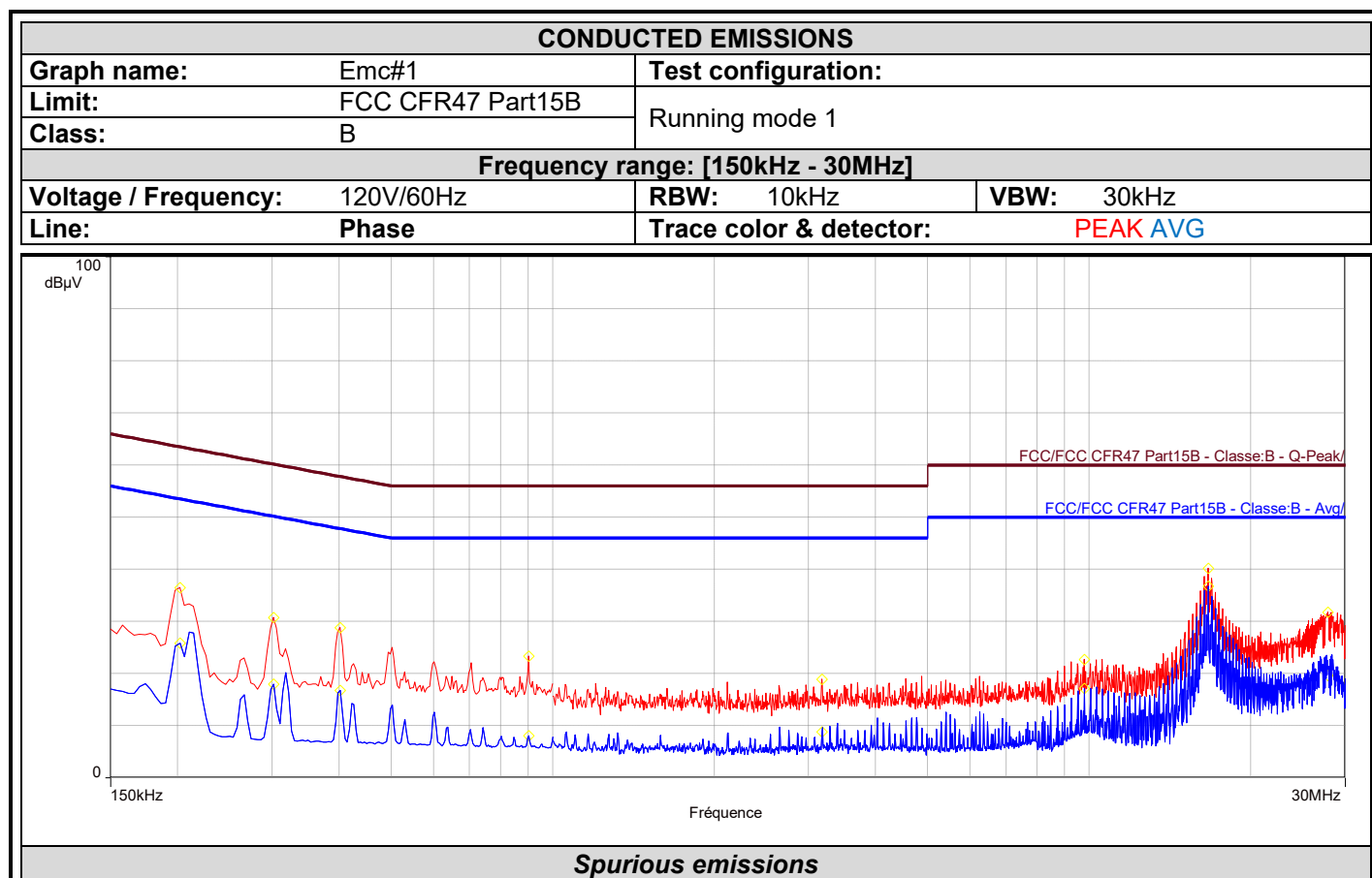
**Mains terminals:**

#### SUPPLY1

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

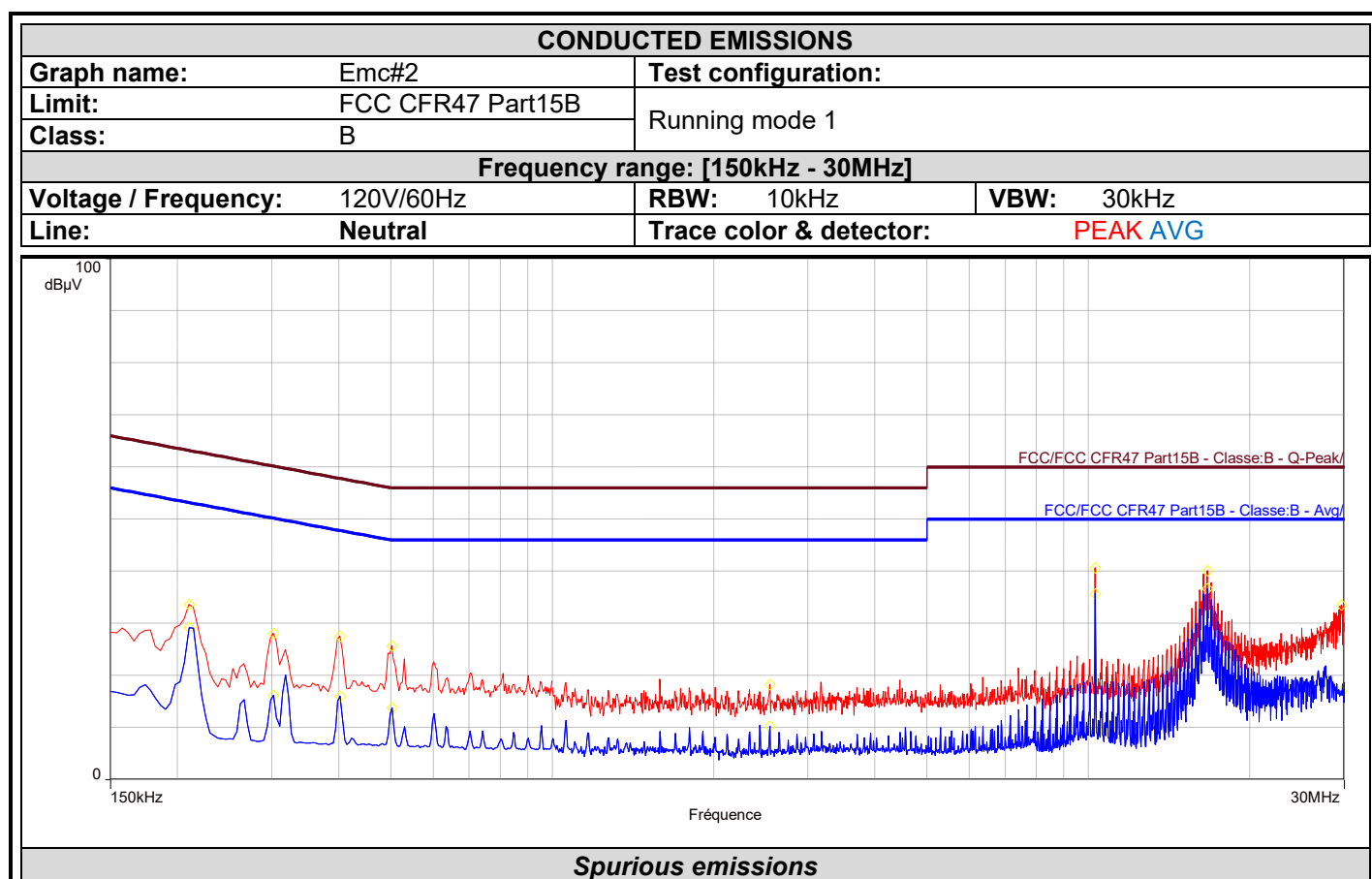
**Results: (PEAK detection)**

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

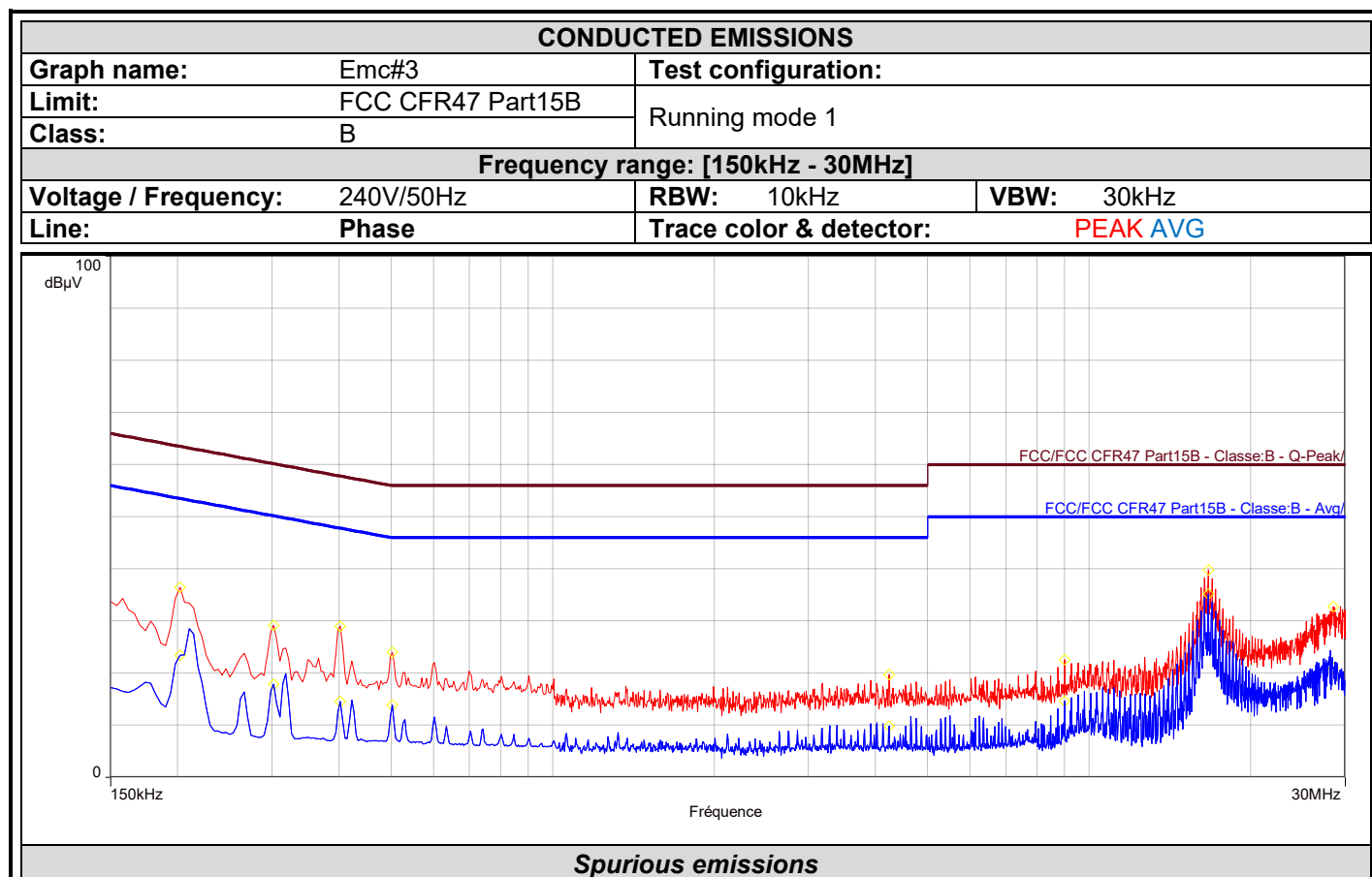


Frequency (MHz)	QPeak (dBµV)	Lim.QPeak (dBµV)	QPeak-Lim.QPeak (dB)	CISPR.AVG (dBµV)	Lim.CISPR.AVG (dBµV)	CISPR.AVG-Lim.CISPR.AVG (dB)
0.202	33.8	63.5	-29.8	25.7	53.5	-27.8
0.302	27.2	60.2	-33.0	17.7	50.2	-32.5
0.402	25.3	57.8	-32.5	16.6	47.8	-31.2
0.902	13.9	56.0	-42.1	7.7	46.0	-38.3
3.176	13.7	56.0	-42.3	8.8	46.0	-37.2

Frequency (MHz)	QPeak (dBμV)	Lim.QPeak (dBμV)	QPeak-Lim.QPeak (dB)	CISPR.AVG (dBμV)	Lim.CISPR.AVG (dBμV)	CISPR.AVG-Lim.CISPR.AVG (dB)
9.788	19.8	60.0	<b>-40.2</b>	16.7	50.0	<b>-33.3</b>
16.664	38.7	60.0	<b>-21.3</b>	37.2	50.0	<b>-12.8</b>
27.860	26.9	60.0	<b>-33.1</b>	18.7	50.0	<b>-31.3</b>



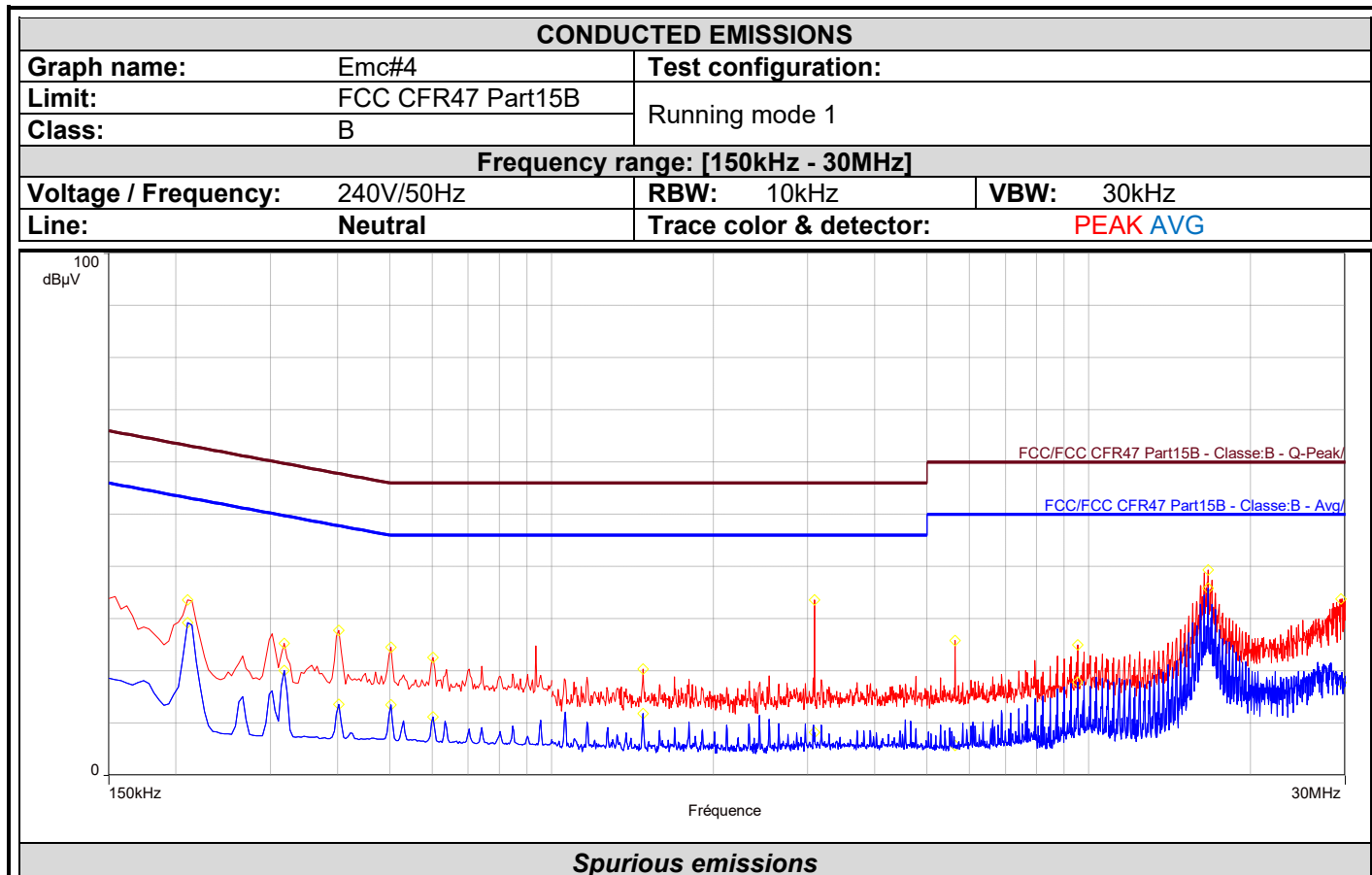
Frequency (MHz)	QPeak (dBμV)	Lim.QPeak (dBμV)	QPeak-Lim.QPeak (dB)	CISPR.AVG (dBμV)	Lim.CISPR.AVG (dBμV)	CISPR.AVG-Lim.CISPR.AVG (dB)
0.210	30.9	63.2	<b>-32.3</b>	29.1	53.2	<b>-24.1</b>
0.302	24.5	60.2	<b>-35.7</b>	15.7	50.2	<b>-34.4</b>
0.402	24.4	57.8	<b>-33.4</b>	15.8	47.8	<b>-32.0</b>
0.502	21.0	56.0	<b>-35.0</b>	13.3	46.0	<b>-32.7</b>
2.544	14.5	56.0	<b>-41.5</b>	10.2	46.0	<b>-35.8</b>
10.296	12.1	60.0	<b>-47.9</b>	7.0	50.0	<b>-43.0</b>
16.668	36.9	60.0	<b>-23.1</b>	34.5	50.0	<b>-15.5</b>
29.664	23.1	60.0	<b>-36.9</b>	14.6	50.0	<b>-35.4</b>



Frequency (MHz)	QPeak (dBμV)	Lim.QPeak (dBμV)	QPeak-Lim.QPeak (dB)	CISPR.AVG (dBμV)	Lim.CISPR.AVG (dBμV)	CISPR.AVG-Lim.CISPR.AVG (dB)
0.202	32.5	63.5	-31.0	22.6	53.5	-30.9
0.302	26.6	60.2	-33.6	17.8	50.2	-32.4
0.402	24.9	57.8	-32.9	14.2	47.8	-33.6
0.502	20.9	56.0	-35.1	13.7	46.0	-32.3
4.232	14.8	56.0	-41.2	9.6	46.0	-36.4
9.000	18.6	60.0	-41.4	13.7	50.0	-36.3
16.676	36.4	60.0	-23.6	32.4	50.0	-17.6
28.464	27.5	60.0	-32.5	18.7	50.0	-31.3



L C I E



Frequency (MHz)	QPeak (dBμV)	Lim.QPeak (dBμV)	QPeak- Lim.QPeak (dB)	CISPR.AVG (dBμV)	Lim.CISPR.AVG (dBμV)	CISPR.AVG- Lim.CISPR.AVG (dB)
0.210	30.7	63.2	-32.5	29.0	53.2	-24.3
0.318	22.1	59.8	-37.6	20.0	49.8	-29.7
0.402	23.9	57.8	-33.9	13.4	47.8	-34.4
0.502	20.9	56.0	-35.1	13.3	46.0	-32.7
0.602	17.9	56.0	-38.1	11.3	46.0	-34.7
1.480	11.3	56.0	-44.7	5.9	46.0	-40.1
3.084	20.4	56.0	-35.6	5.5	46.0	-40.5
5.640	10.4	60.0	-49.6	4.8	50.0	-45.2
9.528	18.7	60.0	-41.3	14.7	50.0	-35.3
16.672	34.3	60.0	-25.7	30.4	50.0	-19.6
29.436	21.2	60.0	-38.8	13.8	50.0	-36.2

### 3.6. CONCLUSION

The sample of the equipment **RSRG5ACU-1**, Sn : **30007721-JAY01-1024-24012345001-WW**, tested in the configuration presented in this test report **satisfies** to requirements of the product family standard applied (See §Test Program) for conducted emissions.

## 4. MEASUREMENT OF RADIATED EMISSION

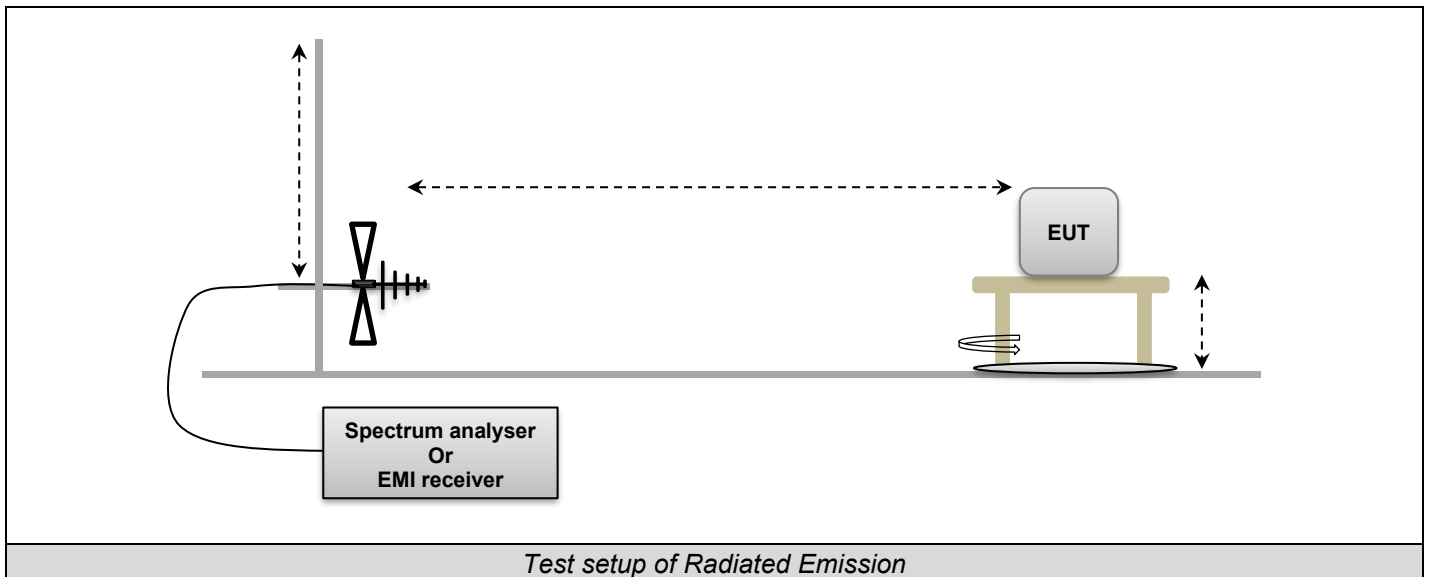
### 4.1. TEST CONDITIONS

Date of test : April 02, 2024  
 Test performed by : Jonathan SARTO  
 Atmospheric pressure (hPa) : 992  
 Relative humidity (%) : 42  
 Ambient temperature (°C) : 23

### 4.2. TEST SETUP

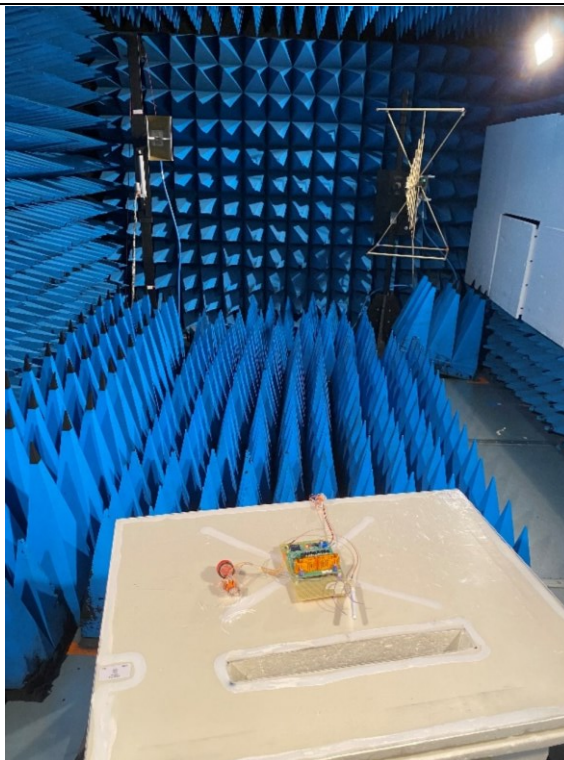
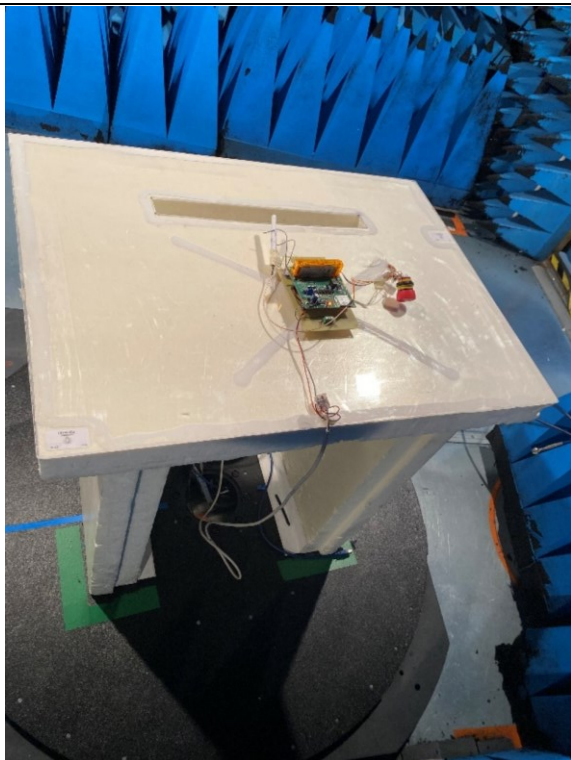
Test procedure:  
 ANSI C63.4 & FCC Part 15 subpart B

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

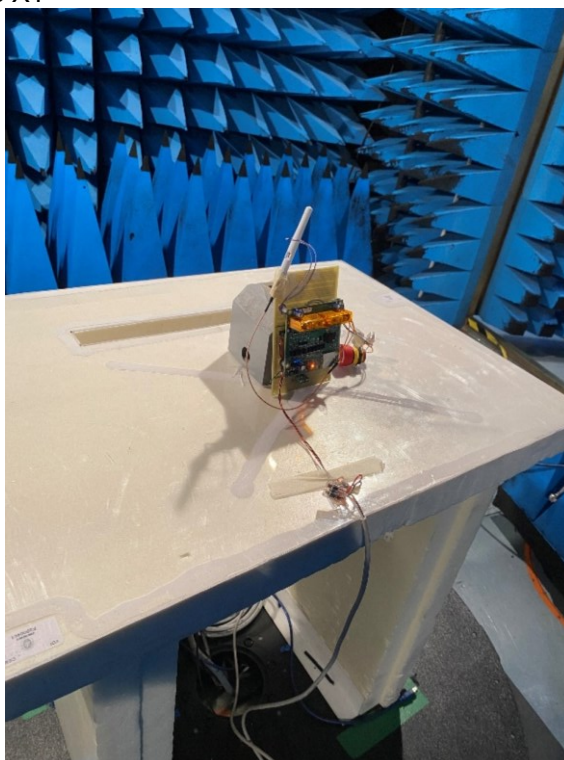
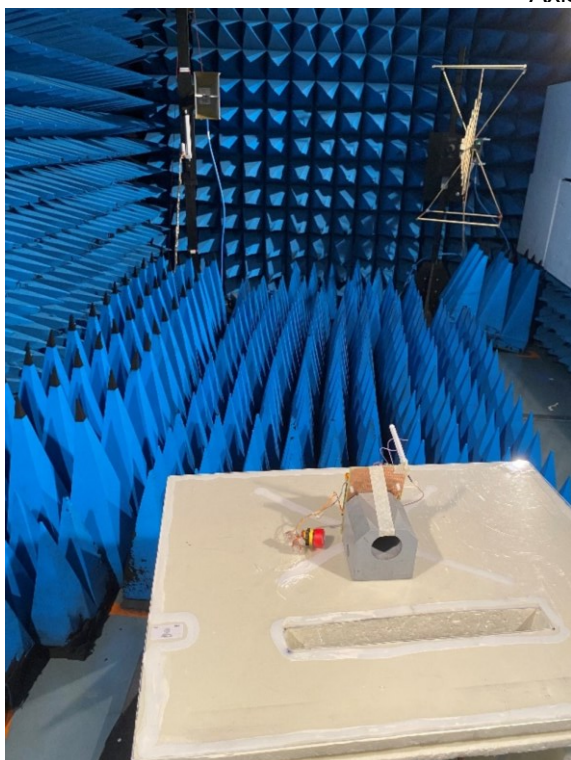


Same setup is used in semi anechoic chamber during pre-characterization, with a distance of 3m between EUT and antenna.





Axis XY



Axis Z

*Photo in anechoic chamber*





Axis XY



Axis Z

*Photo on OATS*



#### 4.3. TEST METHOD

##### 4.3.1. 30MHz –1GHz

###### ***Pre-qualification measurement***

A pre-scan of all the setup has been performed in a 3 meters semi-anechoic chamber. Test is performed with antenna centered on EUT in horizontal (H) and vertical (V) polarization, continuous linear turntable azimuth search was performed with 360 degrees range. Measurements are performed on all axis of EUT used in normal configuration. The pre-characterization graphs are obtained in PEAK detection.

###### ***Qualification***

The installation of EUT is identical than for pre-qualification measurements on an Open Area Test Site with a 10 meters distance between EUT and antenna. In this case, it corrected according to requirements of 15.209.e),  $M@3m = M@10m + 10.5dB$ . Test is performed in horizontal (H) and vertical (V) polarization and the height antenna is varied from 1m to 4m. Continuous linear turntable azimuth search was performed with 360 degrees range. Measurements are performed on all axis of EUT used in normal configuration. A summary of the worst case emissions found in all test configurations and modes is shown.

Minimal beamwidth of the measurement antenna used: Eaton 94455 / w@10m - 2.6m x 2.6m and Teseq CBL 6111 / w@10m - 14m x 14m

##### 4.3.2. 1GHz – 14GHz:

###### ***Pre-qualification measurement***

A pre-scan of all the setup has been performed in a 3 meters full anechoic chamber. Test is performed with antenna centered on EUT in horizontal (H) and vertical (V) polarization, continuous linear turntable azimuth search was performed with 360 degrees range. Measurements are performed on all axis of EUT used in normal configuration. The pre-characterization graphs are obtained in PEAK and AVERAGE detection.

###### ***Qualification***

The installation of EUT is identical for pre-characterization measurements. Test is performed in horizontal (H) and vertical (V) polarization and the height antenna is fixed and centered on the EUT, EUT smaller than the beamwidth of the measurement antenna.

Minimal beamwidth of the measurement antenna used: ETS-Lindgren 3115 / w@3m - 2.1m x 2.1m <6GHz / 1.7m x 1.7m <14GHz / 0.9m x 0.9m <18GHz

Continuous linear turntable azimuth search was performed with 360 degrees range. Measurements are performed on all axis of EUT used in normal configuration. A summary of the worst case emissions found in all test configurations and modes is shown.



#### 4.4. TEST EQUIPMENT LIST

TEST EQUIPMENT USED					
Description	Manufacturer	Model	Identifier	Cal_Date	Cal_Due
Amplifier 10MHz - 18GHz	LCIE SUD EST	—	A7102082	05/22	05/24
Antenna Bi-log	AH System	SAS-521-7	C2040180	05/23	05/25
Antenna horn 18GHz	EMCO	3115	C2042027	04/22	04/25
Comb EMR HF	YORK	CGE01	A3169114		
Radiated emission comb generator	BARDET	—	A3169050		
Semi-Anechoic chamber #3 (BF)	SIEPEL	—	D3044017_BF	04/22	04/25
Semi-Anechoic chamber #3 (VSWR)	SIEPEL	—	D3044017_VSWR	04/22	04/25
Table C3	LCIE	—	F2000461		
Turntable chamber (Cage#3)	ETS Lingren	Model 2165	F2000371		
Turntable controller (Cage#3)	ETS Lingren	Model 2090	F2000444		
BAT EMC	NEXIO	v3.21.0.32	L1000115		
Cable 0.75m	-	18GHz	A5329900	08/22	08/24
CONTROLLER	INNCO	CO3000	D3044034		
Filter Matrice	LCIE SUD EST	Combined filters	A7484078	03/23	03/25
SMA Cable 18GHz 0.5m	TELEDYNE	18GHz	A5330060	02/23	06/24
SMA Cable 18GHz 0.5m	TELEDYNE	18GHz	A5330059	02/23	06/24
SMA Cable 18GHz 0.6m	TELEDYNE	18GHz	A5330055	02/23	06/24
SMA Cable 18GHz 3.5m	TELEDYNE	18GHz	A5330058	02/23	06/24
SMA Cable 18GHz 6m	TELEDYNE	18GHz	A5330057	02/23	06/24
Spectrum analyzer	ROHDE & SCHWARZ	FSU 26	A4060058	09/23	09/25
Thermo-hygrometer (PM1/2/3)	KIMO	HQ 210	B4206022	05/23	05/25
Antenna Mat (OATS)	ETS Lingren	2071-2	F2000392		
Biconic Antenna	EATON	94455-1	C2040234	05/23	05/25
Cable (OATS)	—	1GHz	A5329623	09/23	09/24
CALCUL_FACTEURS	LCIE SUD EST	V4	L2000035		
Emission Cable	RADIALEX		A5329061	07/23	07/24
Emission Cable	MICRO-COAX	1GHz	A5329656	09/23	09/24
OATS	—	—	F2000409	08/23	08/24
Receiver 20-1000MHz	ROHDE & SCHWARZ	ESVS30	A2642006	05/22	05/24
Table C1/OATS	LCIE	—	F2000445		
Turntable (OATS)	ETS Lingren	Model 2187	F2000403		
Turntable / Mast controller (OATS)	ETS Lingren	Model 2066	F2000372		

#### 4.5. DIVERGENCE, ADDITION OR SUPPRESSION ON THE TEST SPECIFICATION

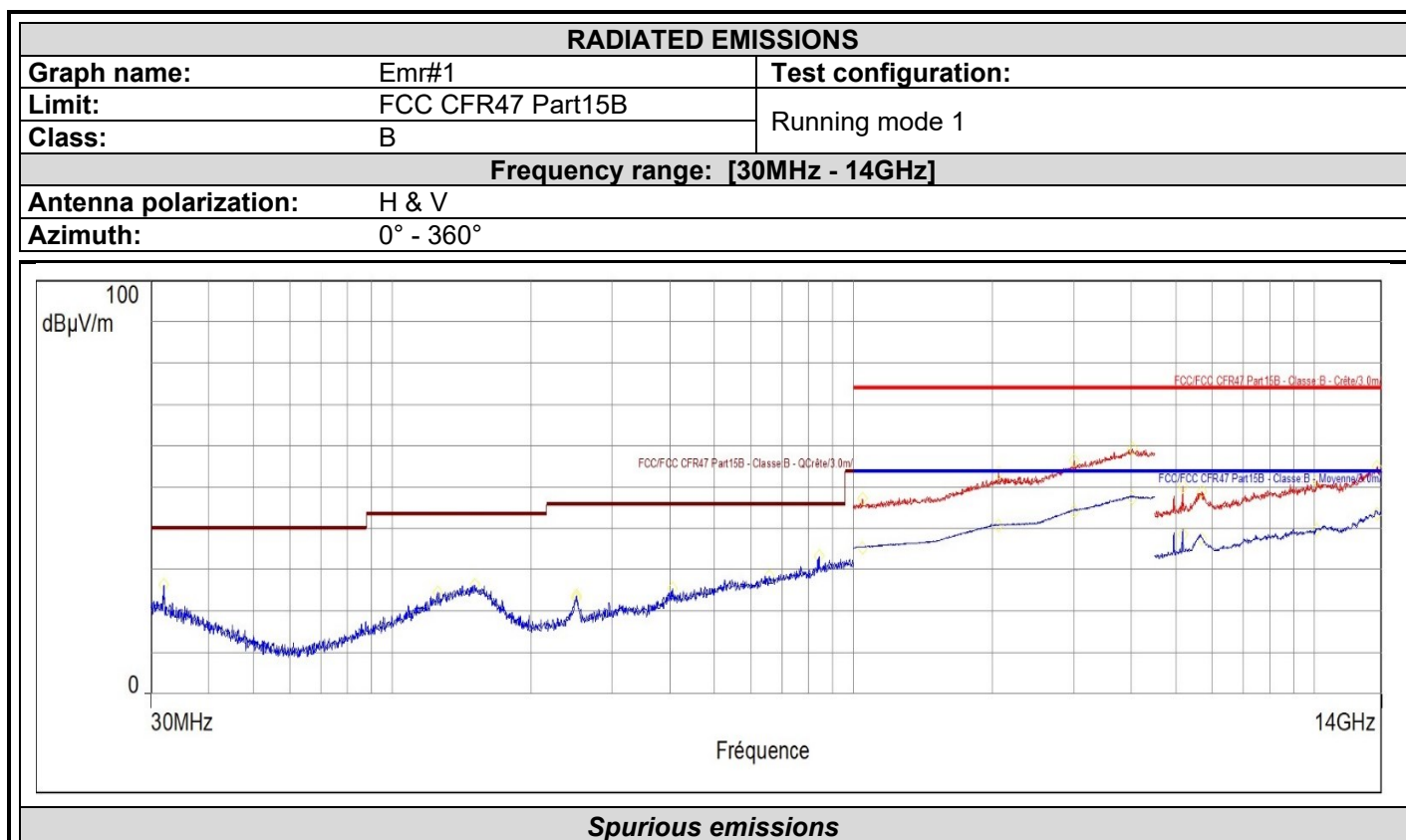
None

#### 4.6. TEST RESULTS – RUNNING MODE N°1

##### 4.6.1. 30MHz –14GHz

###### Pre-qualification measurement

Graph identifier	Polarization	EUT position	Comments	
Emr# 1	Horizontal & Vertical	Axis Z	Only worst case graph	See below



Frequency (MHz)	Peak (dBµV/m)	Lim.Q-Peak (dBµV/m)	Polarization	Correction (dB)
250.966	23.1	46.0	Horizontal	20.8
841.308	33.3	46.0	Horizontal	27.3
31.988	26.5	40.0	Vertical	20.7
125.545	24.4	43.5	Vertical	21.1
151.056	26.5	43.5	Vertical	23.8
251.063	23.8	46.0	Vertical	20.8
405.632	25.5	46.0	Vertical	21.1
657.202	28.7	46.0	Vertical	24.8

Frequency (MHz)	Peak (dBµV/m)	Lim.Peak (dBµV/m)	Avg (dBµV/m)	Lim.Avg (dBµV/m)	Polarization	Correction (dB)
2062.600	53.5	74.0	40.6	54.0	Horizontal	34.9
3014.880	56.6	74.0	44.1	54.0	Horizontal	38.0



Frequency (MHz)	Peak (dBμV/m)	Lim.Peak (dBμV/m)	Avg (dBμV/m)	Lim.Avg (dBμV/m)	Polarization	Correction (dB)
5184.000	50.3	74.0	38.6	54.0	Horizontal	-18.3
5697.000	48.9	74.0	37.5	54.0	Horizontal	-15.0
10094.550	51.5	74.0	39.6	54.0	Horizontal	-12.3
13670.350	54.9	74.0	43.5	54.0	Horizontal	-6.5
4030.860	59.4	74.0	47.5	54.0	Vertical	40.8
1048.650	47.3	74.0	35.4	54.0	Vertical	30.1

#### **Qualification**

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

Measurements are performed using a QUASI-PEAK detection.

**No frequency due at EUT are <15dB of margin**

#### **4.7. CONCLUSION**

The sample of the equipment **RSRG5ACU-1**, Sn : **30007721-JAY01-1024-24012345001-WW**, tested in the configuration presented in this test report **satisfies** to requirements of the product family standard applied (See §Test Program) for radiated emissions.

## 5. UNCERTAINTIES CHART

Type de mesure / Kind of measurement	Incertitude élargie laboratoire / Wide uncertainty laboratory (k=2) $\pm x$	Incertitude limite du CISPR / CISPR uncertainty limit $\pm y$
Mesure des perturbations conduites en tension sur le réseau d'énergie (monophasé /triphase) 150kHz-30MHz <i>Measurement of conducted disturbances in voltage on the power port ( single &amp; three phases)150kHz-30MHz</i> LISN 50 $\Omega$ /50 $\mu$ H Capacitive Voltage Probe	3.3dB 3.7dB	3.4dB 3.9dB
Mesure du champ électrique rayonné en cage de Faraday semi-anéchoïque de 30MHz à 1GHz <i>Measurement of radiated electric field in half-anechoic Faraday room</i> <i>From 30MHz to 1GHz</i>	6.3dB	6.3dB
Mesure du champ électrique rayonné en cage de Faraday anéchoïque de 1GHz à 6GHz <i>Measurement of radiated electric field in full-anechoic Faraday room</i> <i>From 1GHz à 6GHz</i>	5.2dB	5.2dB
Mesure du champ électrique rayonné en cage de Faraday anéchoïque de 6GHz à 18GHz <i>Measurement of radiated electric field in full-anechoic Faraday room</i> <i>From 6GHz to 18GHz</i>	5.5dB	5.5dB
Mesure du champ électrique rayonné sur le site en espace libre de Moirans 30MHz – 1GHz. <i>Measurement of radiated electric field on the Moirans open area test site</i> <i>30MHz – 1GHz.</i>	6.3dB	6.3dB

Les valeurs d'incertitudes calculées du laboratoire étant inférieures aux valeurs d'incertitudes limites établies par le CISPR, la conformité de l'échantillon est établie directement par les niveaux limites applicables. Ce tableau regroupe l'ensemble des incertitudes maximales pour les essais réalisables dans le laboratoire, qu'ils aient été ou non réalisés dans le cadre du présent rapport / *The uncertainty values calculated by the laboratory are lower than limit uncertainty values defined by the CISPR. The conformity of the sample is directly established by the applicable limits values. This table includes all uncertainties maximum feasible for testing in the laboratory, whether or not made in this report*

Note - L'incertitude de mesure instrumentale est déterminée selon la CISPR 16-4-2. / *The instrumentation measurement uncertainty is determined according to CISPR16-4-2*