Template : February 21th, 2022

TEST REPORT

N°: **13278748-775044-A(FILE#3668110)** Version: **02**

Subject	**Electromagnetic compatibility tests according to The standards:** **FCC CFR 47 Part 15, Subpart B** **ANSI C63.4 (2014)** **ICES-003 (2016)**
Issued to	**ACOEM** 200 ALLEE DES ORMEAUX 69760 LIMONEST-FRANCE
Apparatus under test	
↳ Product	**Advanced acoustic detector**
↳ Trade mark	ACOEM
↳ Manufacturer	ACOEM France SAS
↳ Model under test	ATD-300
↳ Serial number	1130
↳ FCCID	2AC3Z-ATD300
↳ IC	NC
Conclusion	See Test Program chapter
Test date	January 27, 2022 to February 15, 2022
Test location	LCIE Grenoble
FCC Test site	FR0008 - 197516
ISED Test site	FR0008 - 6500A
Sample receipt date	January 27, 2022
Composition of document	23 pages
Document issued on	July 1, 2022

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PUBLICATION HISTORY

Version	Date	Author	Modification
01	April 11,2022	Mamady FOFANA	Creation of the document
02	July 1, 2022	Jonathan SARTO	Change “ACOEM France” by “ACOEM” p1

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. REQUIREMENTS FOR DISTURBANCE EMISSIONS

Standard:

- ✓ **FCC Part 15, Subpart B (Digital Devices)**
- ✓ **ANSI C63.4 (2014)**
- ✓ **ICES-003 (2016)**
- ✓ **Equipment - Class B**

EMISSION TEST	LIMITS			RESULTS (Comments)
Limits for conducted disturbance 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 emissions 30MHz-1GHz **FCC §15.109**	**Access: Enclosure port of ancillary equipment**			**PASS**
	Frequency	**Quasi-peak @10m**		
	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 1GHz- 7GHz* **FCC §15.109**	**Access: Enclosure port of ancillary equipment**			**PASS**
	Frequency	**Peak @3m**	**Average @3m**	
	1- 7GHz	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.
***§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. INFORMATIONS

ATD-3xx is the trade name and the model of the product (xx is on the range from 00 to 99). All the different versions of the ATD-3xx are identical (electronic, casing...), only the external paint of the casing is different.

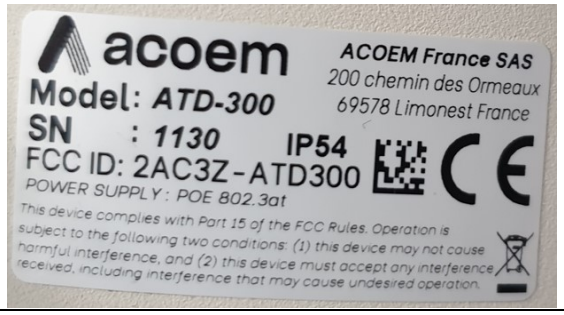
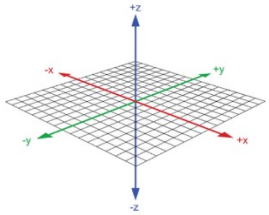
- ATD-300 is the white version of the product
- ATD-301 is the black version of the product

- The Equipment Under Test is equipped with POE+ Board
- The Equipment Under Test is defined by the manufacturing document STZ1001000-LST-000-B.

The change between STZ1001000-LST-000-B and STZ1001000-LST-000-A is the POE+ Board defined as an equivalence of the POE board.

2.2. HARDWARE IDENTIFICATION (EUT AND AUXILIARIES)

Equipment under test (EUT):

Model under test :	**ATD-300**
Serial Number:	**1130**
  	
Dimensions:	10cm x 12cm x 17cm (Length x Width x Height)
Type :	Table-Top

Power supply:
During all the tests, EUT is supplied by mode POE+ 802.3at
For measurement with different voltage, it will be presented in test method.

Name	Type	Rating	Reference / Sn	Comments
Supply	PoE12-HP	48Vdc	/	Power Supply and Data

NC: Not communicated by provider

Earth:

Access	Type	Length (m)	Width (m)	Thickness (m)	Under test	Comments
Earth	N/A					

NC: Not communicated by provider

Inputs/outputs - Cable:

Access	Type	Length used (m)	Declared <3m	Shielded	Under test	Comments
Supply	PoE12-HP	16	☐	☑	☑	Power Supply and Data

NC: Not communicated by provider

Auxiliary equipment used during test:

Type	Reference	Sn	Comments
ZYXEL Communication Corporation	PoE12-HP	-	Power Supply and Data
laptop	HP	-	

NC: Not communicated by provider

2.3. EUT CONFIGURATION

Hardware information			
Highest internal frequency (PLL, Quartz, Clock, Microprocessor…):	**$F_{Highest}$:**	**1.4**	**GHz**
Sensitive frequencies: (in addition to stepped frequencies for 61000-4-3 and 61000-4-6)	None declared by provider		
Firmware (if applicable):	**V. :**	NA	
Software (if applicable):	**V. :**	2.0.0.3	
Time necessary for the EUT to be exercised and to respond:	**Dwell:**	**3**	**s**

NC: Not communicated by provider

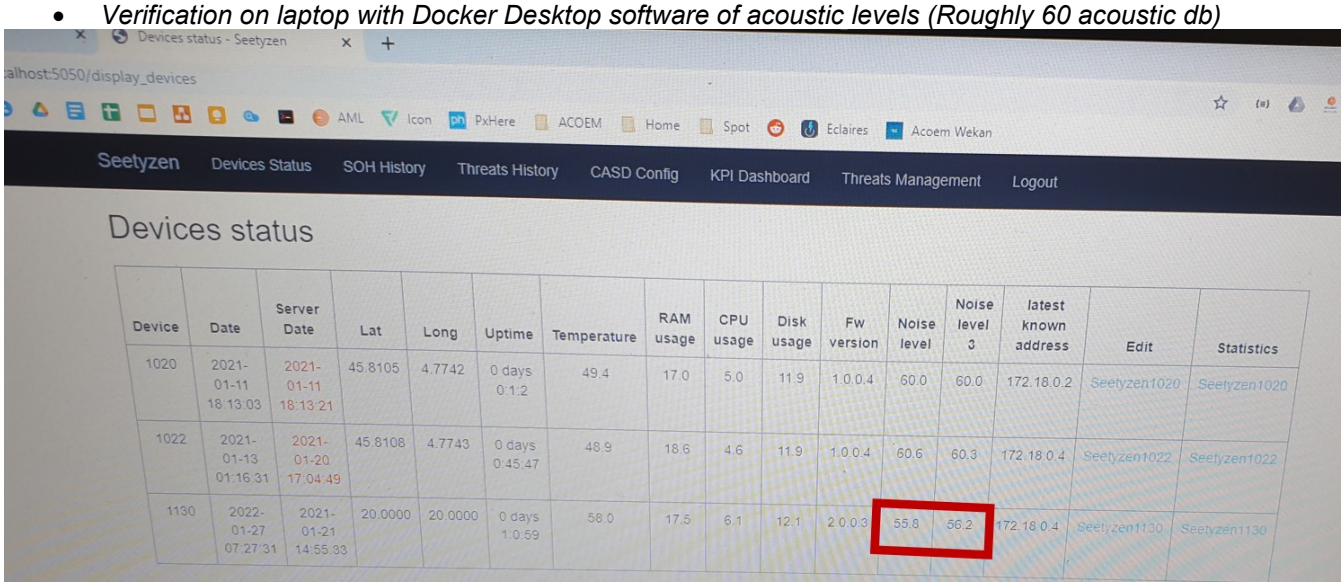
Running mode n°1:

Setup:

The equipment is placed in the semi-anechoic chamber and powered in mode POE+ 802.3 at installed outside

Control:

- *Verification on laptop with Docker Desktop software of acoustic levels (Roughly 60 acoustic db)*



Device	Date	Server Date	Lat	Long	Uptime	Temperature	RAM usage	CPU usage	Disk usage	Fw version	Noise level	Noise level 3	latest known address	Edit	Statistics
1020	2021-01-11 18:13:03	2021-01-11 18:13:21	45.8105	4.7742	0 days 0:1:2	49.4	17.0	5.0	11.9	1.0.0.4	60.0	60.0	172.18.0.2	Seetyzen1020	Seetyzen1020
1022	2021-01-13 01:16:31	2021-01-20 17:04:49	45.8108	4.7743	0 days 0:45:47	48.9	18.6	4.6	11.9	1.0.0.4	60.6	60.3	172.18.0.4	Seetyzen1022	Seetyzen1022
1130	2022-01-27 07:27:31	2021-01-21 14:55:33	20.0000	20.0000	0 days 1:0:59	58.0	17.5	6.1	12.1	2.0.0.3	55.8	56.2	172.18.0.4	Seetyzen1130	Seetyzen1130

2.4. EQUIPMENT MODIFICATIONS DURING THE TESTS

None

2.5. 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

2.6. 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

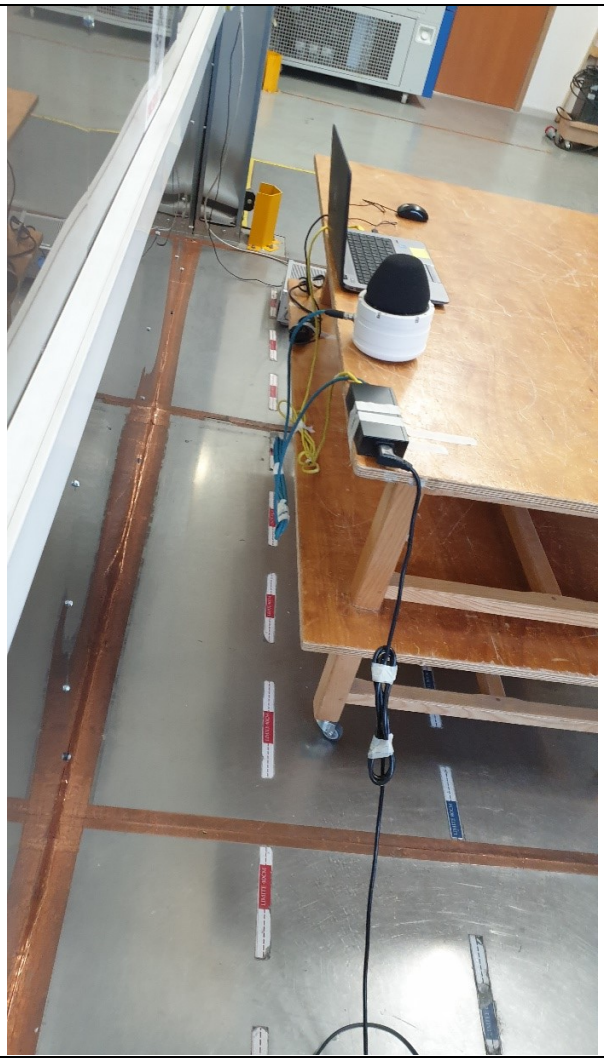
3.1. TEST CONDITIONS

Date of test	:	February 15, 2022
Test performed by	:	Mamady FOFANA
Atmospheric pressure (hPa)	:	996
Relative humidity (%)	:	36
Ambient temperature (°C)	:	21

3.2. TEST SETUP

Mains terminals

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}.
The EUT is powered through a LISN (measure). Auxiliaries are powered by another LISN.



Test setup

3.3. TEST EQUIPMENT LIST

TEST EQUIPMENT USED					
Description	**Manufacturer**	**Model**	**Identifier**	**Cal_Date**	**Cal_Due**
BAT EMC	NEXIO	v3.21.0.27	L1000115	_	_
Cable + self	_	_	A5329578	04/21	04/22
EMC comb generator	LCIE SUD EST	_	A3169098	_	_
LISN	ROHDE & SCHWARZ	ENV216	C2320291	08/21	08/22
Thermo-hygrometer (PM1/2/3)	KIMO	HQ 210	B4206022	01/21	01/23
Transient limiter	ROHDE & SCHWARZ	ESH3-Z2	A7122204	08/20	08/22
Load 50Ω	_	_	A7152036	08/21	08/22
Receiver 20Hz – 8GHz	ROHDE & SCHWARZ	ESU8	A2642019	11/20	11/22

3.4. DIVERGENCE, ADDITION OR SUPPRESSION ON THE TEST SPECIFICATION

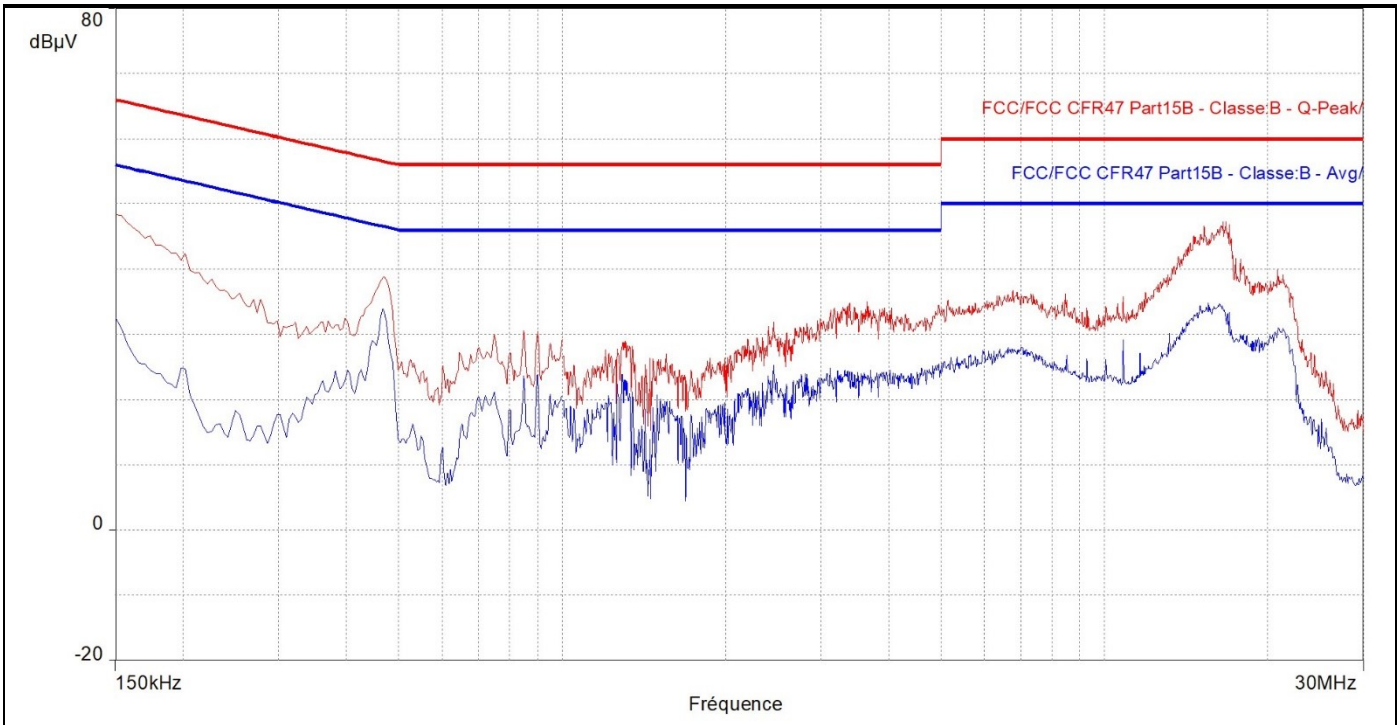
None

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

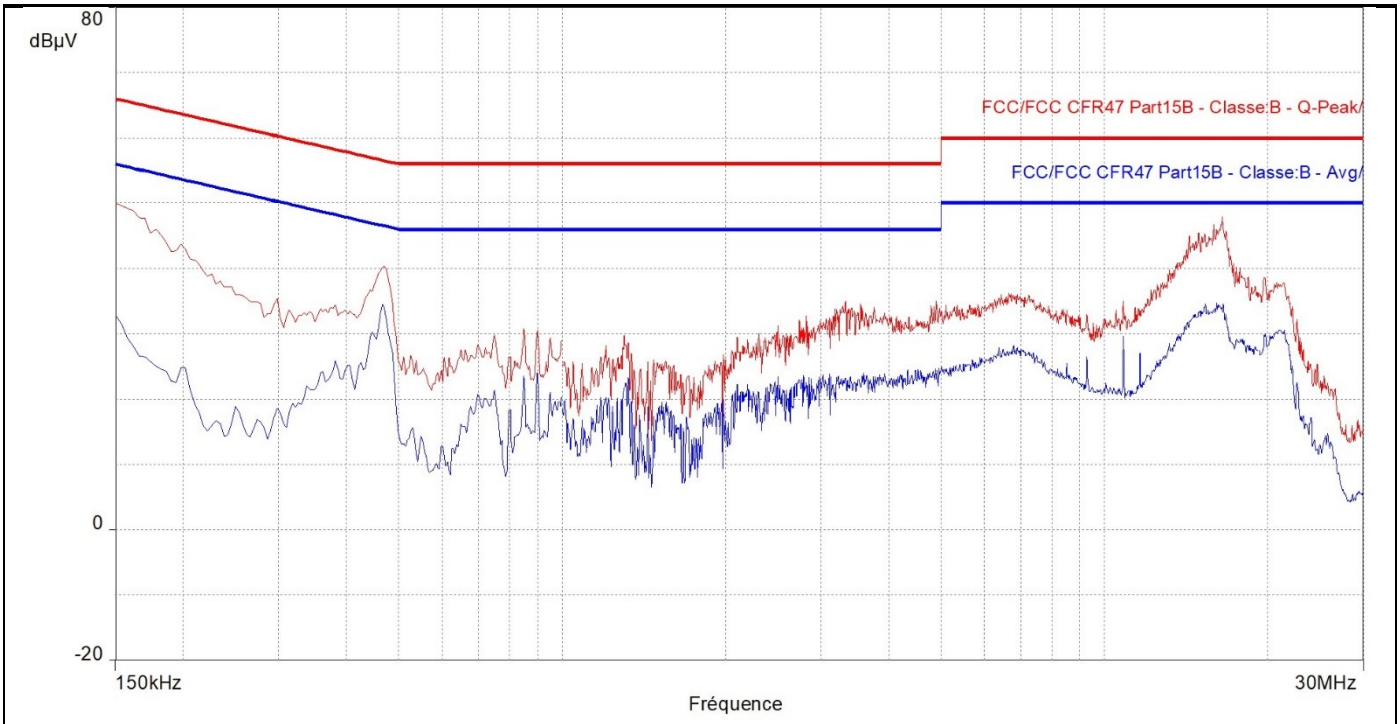
CONDUCTED EMISSIONS				
Graph name:	Emc#1	**Test configuration:1**		
Limit:	FCC CFR47 Part15B	Test-Phase		
Class:	B			
Frequency range: [150kHz - 30MHz]				
Voltage / Frequency:	120VAC/60Hz	**RBW:** 10kHz	**VBW:** 30kHz	
Line:	**Phase**	**Trace color & detector:**	PEAK AVG	



Spurious emissions

Frequency (MHz)	Peak (dBµV)	Q-Peak (dBµV)	Lim.Q-Peak (dBµV)	Q-Peak-Lim.Q-Peak (dB)	Avg (dBµV)	Lim.Avg (dBµV)	Avg-Lim.Avg (dB)	Correction (dB)
0.150	47.8	43.5	66.0	-22.5	32.0	56.0	-24.0	9.8
0.474	38.4	36.9	56.4	-19.6	30.5	46.4	-16.0	9.8
1.308	29.4	26.4	56.0	-29.6	21.5	46.0	-24.5	9.9
2.452	32.0	27.8	56.0	-28.2	22.1	46.0	-23.9	10.0
6.768	36.6	32.1	60.0	-27.9	26.2	50.0	-23.8	10.1
16.536	48.0	40.0	60.0	-20.0	32.3	50.0	-17.7	10.3

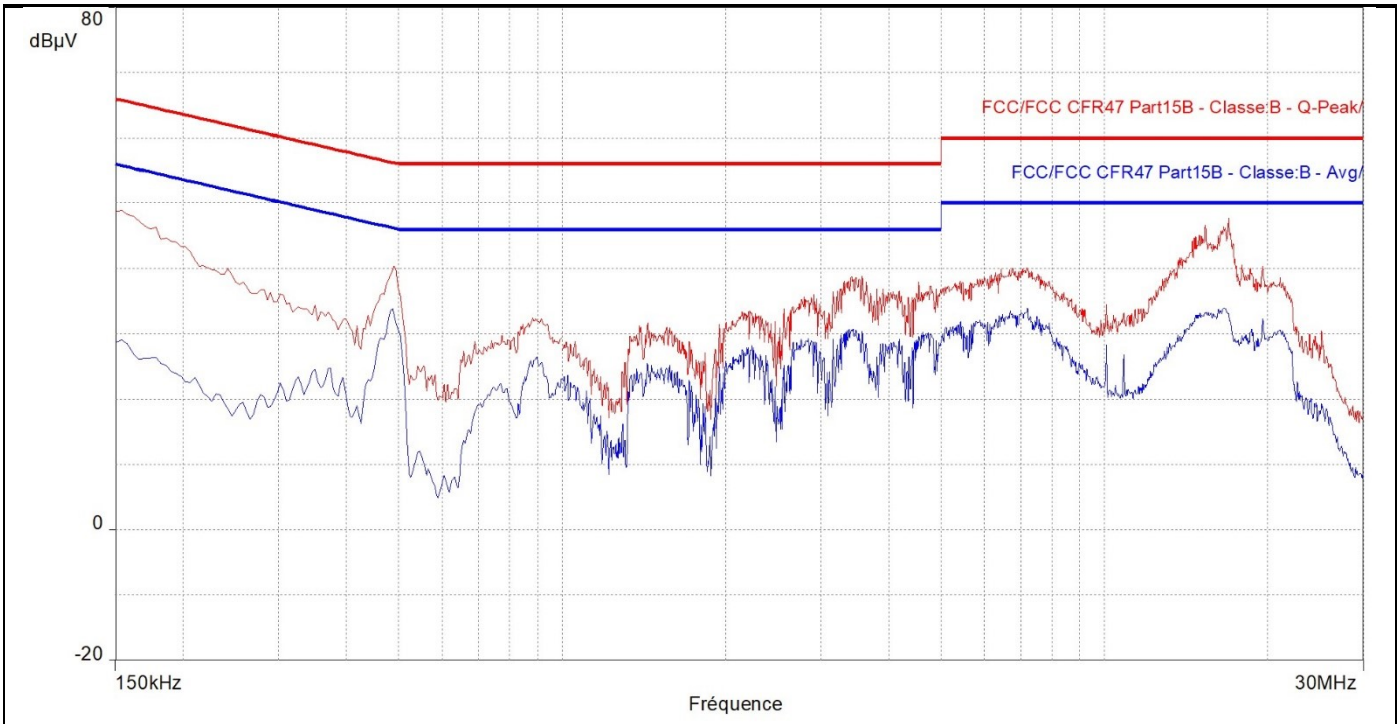
CONDUCTED EMISSIONS				
Graph name:	Emc#2	**Test configuration:1**		
Limit:	FCC CFR47 Part15B	Test-Neutral		
Class:	B			
Frequency range: [150kHz - 30MHz]				
Voltage / Frequency:	120VAC/60Hz	**RBW:** 10kHz	**VBW:**	30kHz
Line:	**Neutral**	**Trace color & detector:**	PEAK AVG	



Spurious emissions

Frequency (MHz)	Peak (dBµV)	Q-Peak (dBµV)	Lim.Q-Peak (dBµV)	Q-Peak-Lim.Q-Peak (dB)	Avg (dBµV)	Lim.Avg (dBµV)	Avg-Lim.Avg (dB)	Correction (dB)
0.150	49.3	45.3	66.0	-20.7	32.4	56.0	-23.6	9.8
0.470	40.6	38.5	56.5	-18.0	33.2	46.5	-13.3	9.8
1.300	29.5	26.2	56.0	-29.8	20.7	46.0	-25.3	9.9
3.360	34.8	28.9	56.0	-27.1	21.5	46.0	-24.5	10.0
6.660	36.1	31.6	60.0	-28.4	25.9	50.0	-24.1	10.1
16.468	47.0	39.9	60.0	-20.1	32.2	50.0	-17.8	10.5

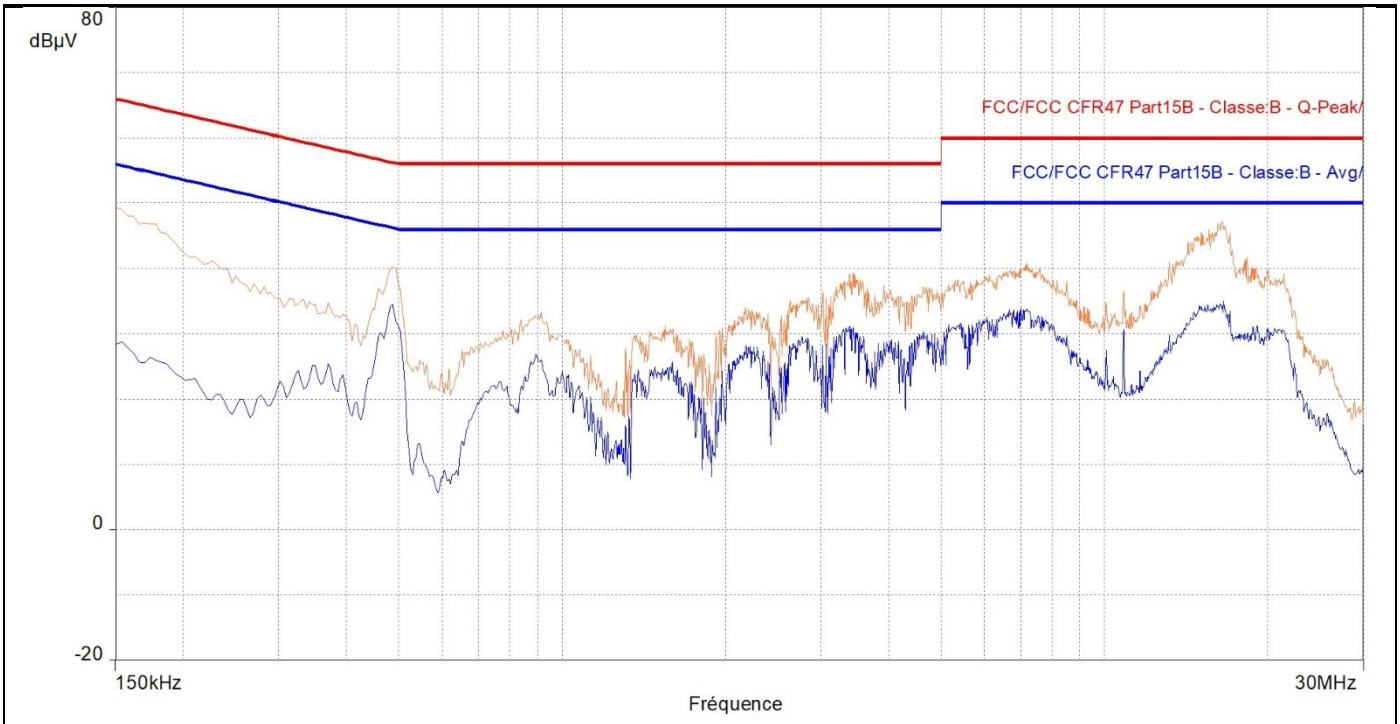
CONDUCTED EMISSIONS				
Graph name:	Emc#3	**Test configuration:1**		
Limit:	FCC CFR47 Part15B	Test-Phase		
Class:	B			
Frequency range: [150kHz - 30MHz]				
Voltage / Frequency:	240VAC/50Hz	**RBW:** 10kHz	**VBW:** 30kHz	
Line:	**Phase**	**Trace color & detector:**	PEAK AVG	



Spurious emissions

Frequency (MHz)	Peak (dBµV)	Q-Peak (dBµV)	Lim.Q-Peak (dBµV)	Q-Peak-Lim.Q-Peak (dB)	Avg (dBµV)	Lim.Avg (dBµV)	Avg-Lim.Avg (dB)	Correction (dB)
0.154	47.9	39.8	65.8	-26.0	28.0	55.8	-27.8	9.8
0.490	40.1	38.2	56.2	-18.0	32.3	46.2	-13.9	9.8
1.440	31.1	26.5	56.0	-29.5	21.6	46.0	-24.4	9.9
3.404	39.0	34.9	56.0	-21.1	29.0	46.0	-17.0	10.0
6.780	40.7	36.2	60.0	-23.8	30.0	50.0	-20.0	10.1
16.912	47.5	38.4	60.0	-21.6	30.5	50.0	-19.5	10.4

CONDUCTED EMISSIONS				
Graph name:	Emc#4	**Test configuration:1**		
Limit:	FCC CFR47 Part15B	Test-Neutral		
Class:	B			
Frequency range: [150kHz - 30MHz]				
Voltage / Frequency:	240VAC/50Hz	**RBW:** 10kHz	**VBW:**	30kHz
Line:	**Neutral**	**Trace color & detector:**	PEAK AVG	



Spurious emissions

Frequency (MHz)	Peak (dBµV)	Q-Peak (dBµV)	Lim.Q-Peak (dBµV)	Q-Peak-Lim.Q-Peak (dB)	Avg (dBµV)	Lim.Avg (dBµV)	Avg-Lim.Avg (dB)	Correction (dB)
0.150	48.4	40.5	66.0	-25.5	27.5	56.0	-28.5	9.8
0.486	40.5	38.8	56.2	-17.4	33.5	46.2	-12.7	9.8
2.180	34.4	31.2	56.0	-24.8	26.9	46.0	-19.1	10.0
3.444	39.6	34.8	56.0	-21.2	28.2	46.0	-17.8	10.0
7.200	41.3	37.2	60.0	-22.8	31.7	50.0	-18.3	10.2
16.472	47.4	40.4	60.0	-19.6	33.2	50.0	-16.8	10.5

3.6. CONCLUSION

The sample of the equipment **ATD-300**, Sn : **1130**, tested in the configuration presented in this test report **satisfies** to requirements of the product family standard applied (See §Test Program) for conducted emissions.

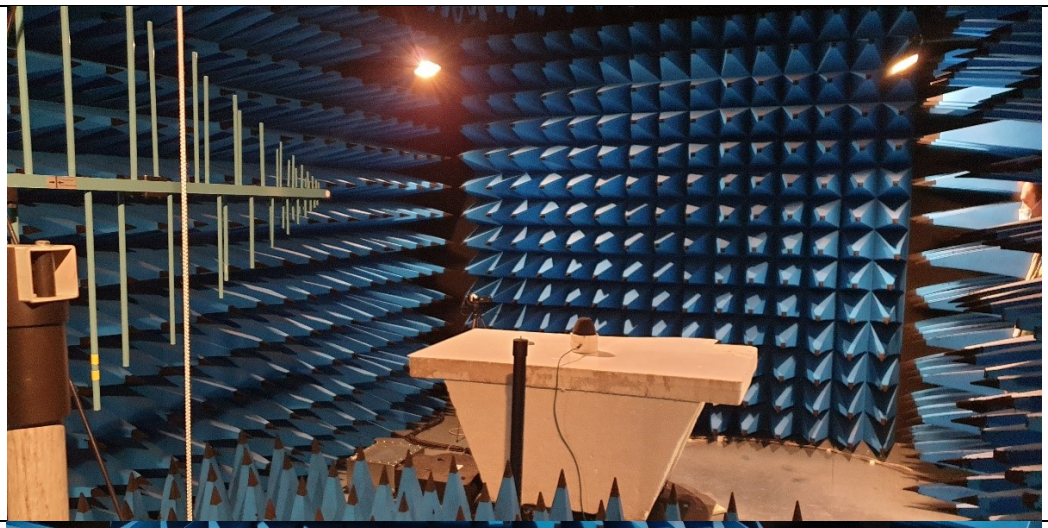
4. MEASUREMENT OF RADIATED EMISSION

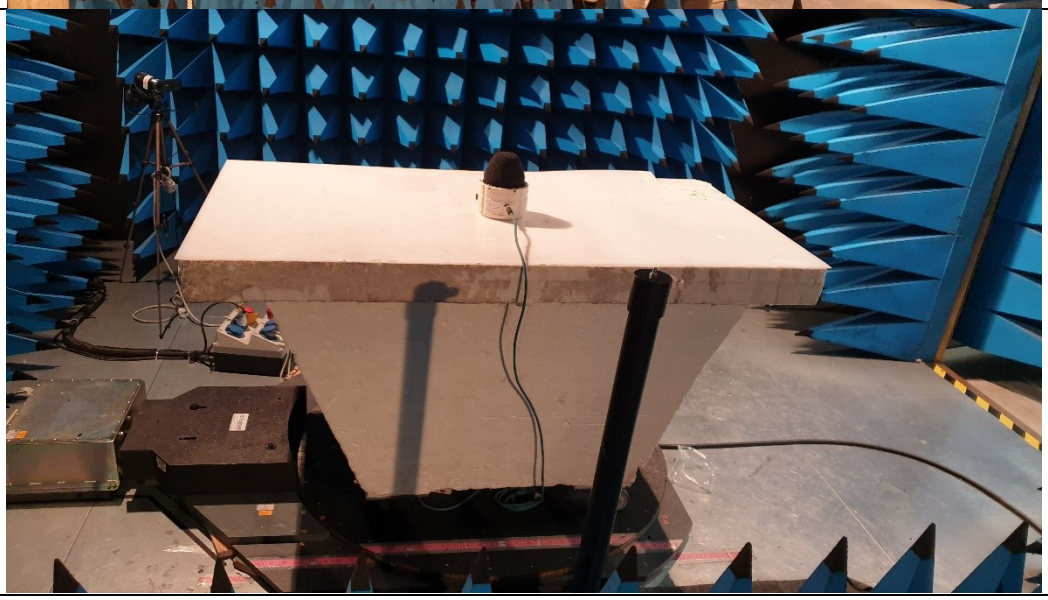
4.1. TEST CONDITIONS

Date of test	:	January 27, 2022	February 15, 2022
Test performed by	:	Mamady FOFANA	Mamady FOFANA
Atmospheric pressure (hPa)	:	1006	996
Relative humidity (%)	:	35	36
Ambient temperature (°C)	:	22	21

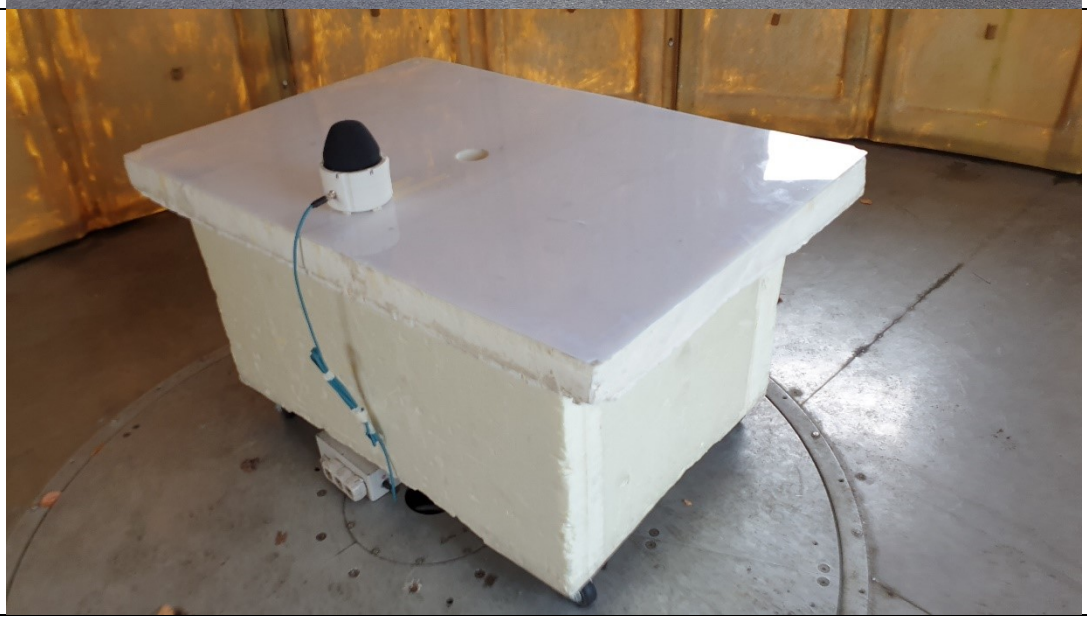
4.2. TEST SETUP

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}.

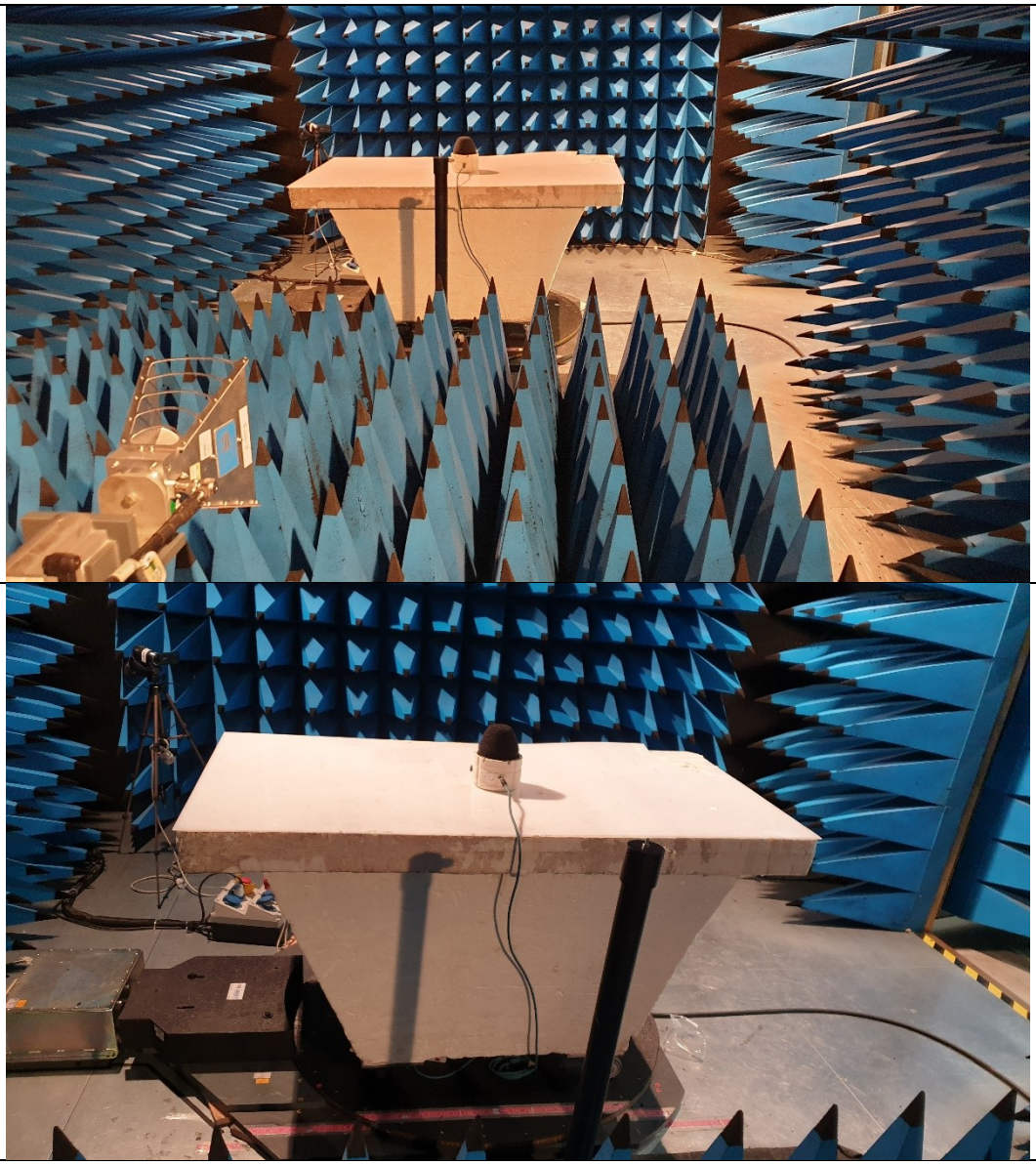




Test setup in anechoic chamber – Frequency <1GHz



Test setup on OATS



Test setup in anechoic chamber – Frequency >1GHz

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.

4.3.2. 1GHz – 7GHz:

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 on mast, varied from 1m to 4m.
Minimal beamwidth of the measurement antenna used: AINFO 10180 / w@3m=1.4m<14GHz / w@3m=0.8m<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 100kHz - 18GHz	LCIE SUD EST	_	A7085027	11/20	03/22
Antenna Bi-Log XWing	TESEQ	CBL6144	C2040146	03/17	03/22
Antenna horn 18GHz	AINFO	LB	C2042078	04/21	04/23
BAT EMC	NEXIO	v3.21.0.27	L1000115	_	_
Cable 0.75m	SUCOFLEX	18GHz	A5329919	08/21	08/22
Cable 2.2m N	SUCOFLEX	SF118A/2x11N/2.2M	A5329990	08/21	08/22
Cable 5m	SUCOFLEX	18GHz	A5329918	08/21	08/22
CALCUL_FACTEURS	LCIE SUD EST	V4	L2000035	_	_
Diameter 1.2m / Height 2.25m	LCIE	VSWR 1GHz - 18GHz	D3044015_VSWR	06/19	06/22
HF Radiated emission comb generator	LCIE SUD EST	_	A3169088	_	_
Radiated emission comb generator	BARDET	_	A3169050	_	_
Semi-Anechoic chamber #2	SIEPEL	_	D3044015	06/19	06/22
Spectrum Analyzer 9kHz - 6GHz	ROHDE & SCHWARZ	FSL6	A4060049	04/20	04/22
Table C2/OATS	LCIE	_	F2000438	_	_
Thermo-hygrometer (C2)	LACROSS Techn.	WS-2357	B4206015	12/20	12/22
Thermo-hygrometer (PM1/2/3)	KIMO	HQ 210	B4206022	01/21	01/23
Turntable chamber (Cage#2)	ETS Lingren	Model 2165	F2000404	_	_
Turntable controller (Cage#2)	ETS Lingren	Model 2066	F2000393	_	_
Antenna Mat (OATS)	ETS Lingren	2071-2	F2000392		
Biconic Antenna	EATON	94455-1	C2040234	03/21	03/23
Cable (OATS)	_	1GHz	A5329623	08/21	08/22
CALCUL_FACTEURS	LCIE SUD EST	V4	L2000035		
Emission Cable	MICRO-COAX	1GHz	A5329656	08/21	08/22
Emission Cable	SUCOFLEX	6GHz	A5329061	08/21	08/22
OATS	_	_	F2000409	04/21	04/22
Radiated emission comb generator	BARDET	_	A3169050	_	_
Receiver 20-1000MHz	ROHDE & SCHWARZ	ESVS30	A2642006	03/20	03/22
Table C1/OATS	LCIE	_	F2000445	_	_
Thermo-hygrometer (PM1/2/3)	KIMO	HQ 210	B4206022	01/21	01/23
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

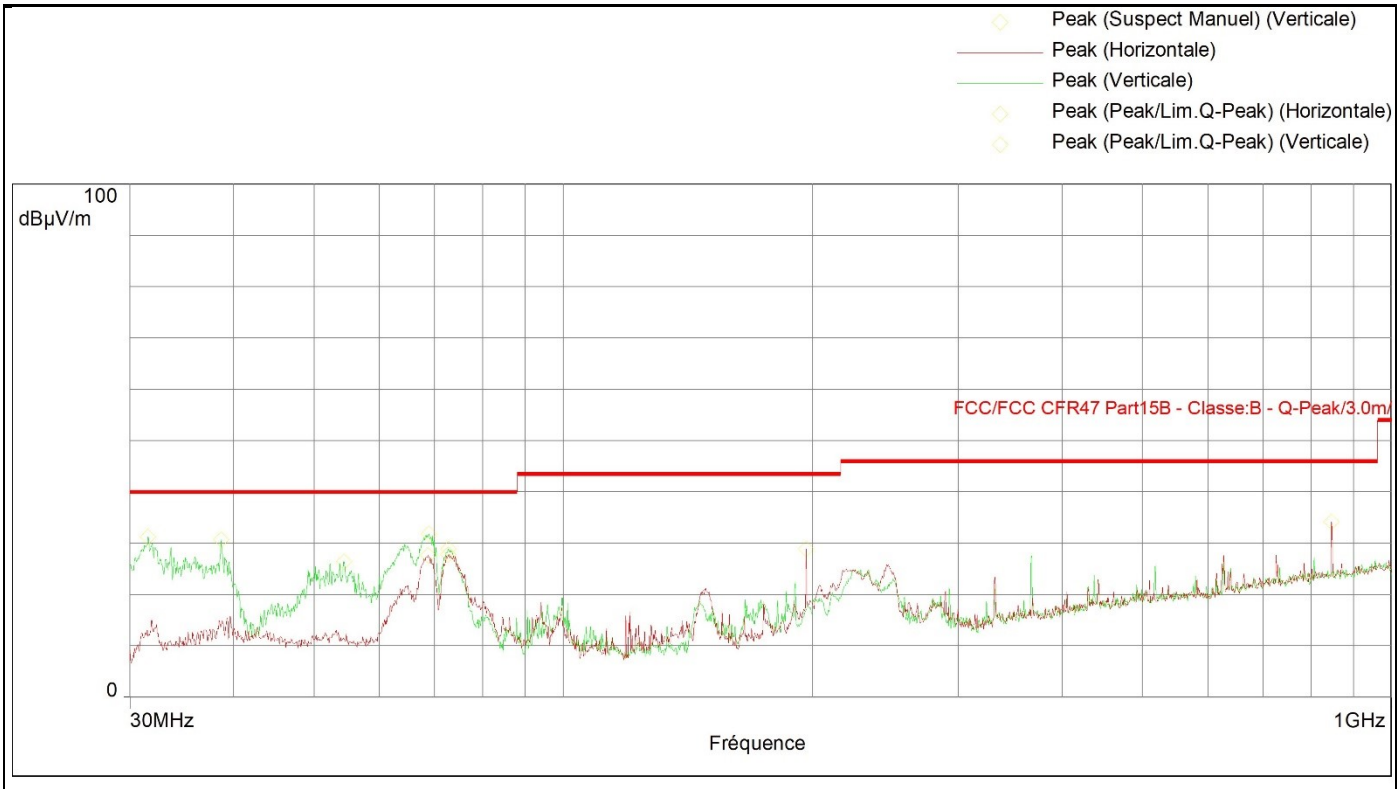
4.6. TEST RESULTS – RUNNING MODE N°1

4.6.1. 30MHz –1GHz

Pre-qualification measurement

Graph identifier	Polarization	EUT position	Comments	
Emr# 2	Horizontal & Vertical	Axis XY	-	See below

RADIATED EMISSIONS			
Graph name:	Emr#1	**Test configuration:**	
Limit:	FCC CFR47 Part15B	Test- (H+V) [0.03-1]GHz-	
Class:	B		
Frequency range: [30MHz - 1GHz]			
Antenna polarization:	Horizontal & Vertical	**RBW :**	100kHz
Azimuth:	0° - 360°	**VBW :**	300kHz



Spurious emissions

Frequency (MHz)	Peak (dBµV/m)	Lim.Q-Peak (dBµV/m)	Peak-Lim.Q-Peak (dB)	Polarization
68.777	27.6	40.0	-12.4	Horizontal
196.566	28.9	43.5	-14.6	Horizontal
31.564	31.2	40.0	-8.8	Vertical
54.361	26.5	40.0	-13.5	Vertical
68.794	31.8	40.0	-8.2	Vertical

Qualification

The frequency list is created from the results obtained during the pre-qualification.
Measurements are performed using a QUASI-PEAK detection.

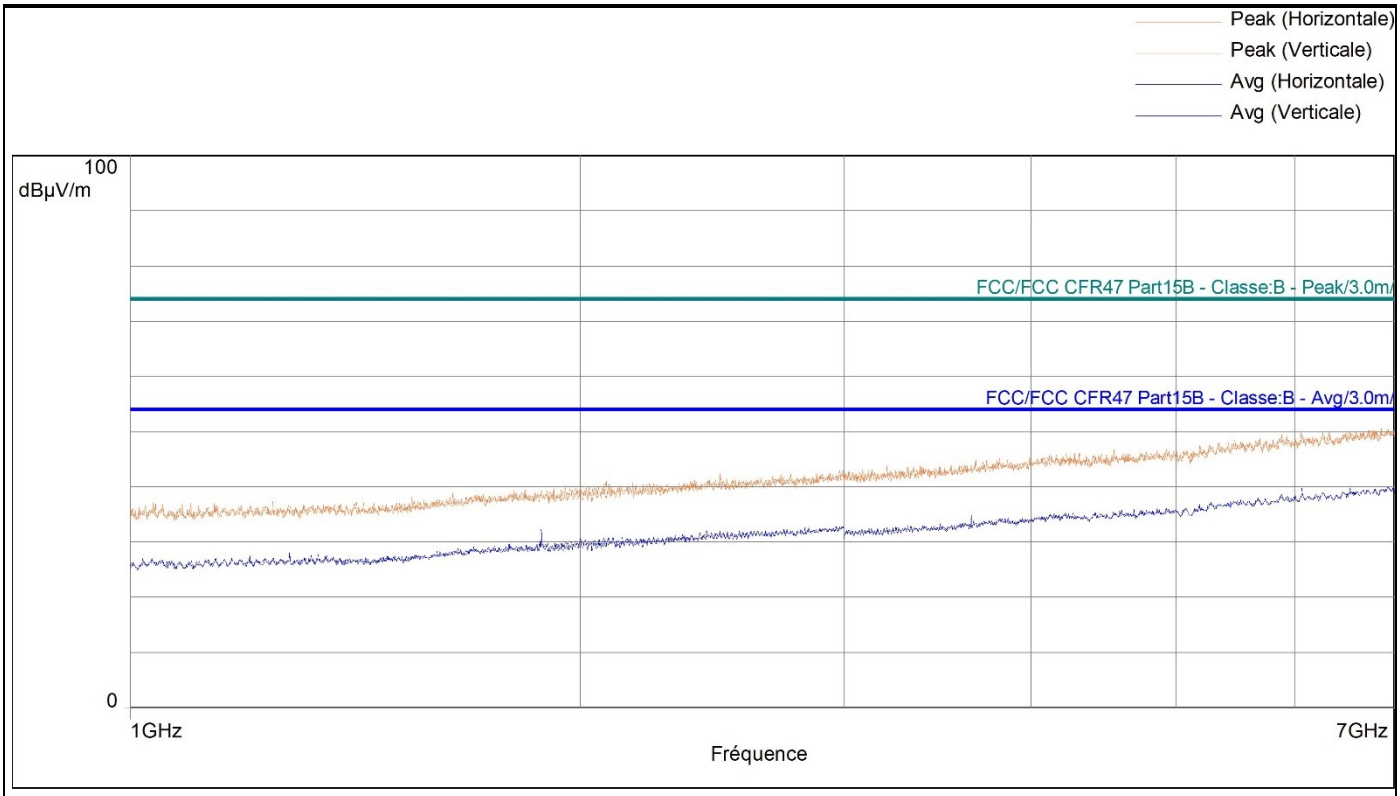
Test Frequency (MHz)	Meter Reading dB(µV)	Detector (Pk/QP/Av)	Polarity (V/H)	Azimuth (Degrees)	Antenna Height (cm)	Gain/Loss Factor (dB)	Transducer Factor (dB)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)
31,564	17	QP	V	360	100	-	14,4	31,4	40,0	**-8,6**
54,361	16,9	QP	V	0	100	-	11,4	28,3	40,0	**-11,7**
68,777	30,5	QP	V	0	200	-	7,7	38,2	40,0	**-1,8**
68,794	30,0	QP	V	0	250	-	7,7	37,7	40,0	**-2,3**

4.6.2. 1GHz - 7GHz

Pre-qualification measurement

Graph identifier		Polarization	EUT position	Comments	
Emr#	2	Vertical/ Horizontal	Axis XY		See below

RADIATED EMISSIONS				
Graph name:	Emr#2	**Test configuration:**		
Limit:	FCC CFR47 Part15B	Test C2 - (H+V) [1-7]GHz		
Class:	B			
Frequency range: [1GHz - 7GHz]				
Antenna polarization:	Horizontal & Vertical	**RBW:** 1MHz	**VBW:** 3MHz	
Azimuth:	**Trace color & detector:** F<GHz: Only Peak detector: Antenna Polarization: Vertical /Horizontal			
0° - 360°	**Trace color & detector:** F>GHz: for both Antenna Polarization: detector: PEAK AVG			



Spurious emissions

No significative frequency observed

Qualification

The frequency list is created from the results obtained during the pre-qualification.
Measurements are performed using a PEAK and AVERAGE detection.

No significative frequency observed

4.7. CONCLUSION

The sample of the equipment **ATD-300**, Sn : **1130**, 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) ±x	Incertitude limite du CISPR / CISPR uncertainty limit ±y
Mesure des perturbations conduites en tension sur le réseau d'énergie (monophasé /triphasé) 10kHz-150kHz *Measurement of conducted disturbances in voltage on the power port (single & three phases)10kHz-150kHz*	3.27dB	3.8dB
Mesure des perturbations conduites en tension sur le réseau d'énergie (monophasé /triphasé) 150kHz-30MHz *Measurement of conducted disturbances in voltage on the power port (single & three phases)150kHz-30MHz*	3.29dB	3.4dB
Mesure des perturbations conduites en tension sur le réseau de télécommunication *Measurement of conducted disturbances in voltage on the telecommunication port.*	3.26dB	5dB
Mesure des perturbations discontinues conduites en tension *Measurement of discontinuous conducted disturbances in voltage*	3.33dB	3.4dB
Mesure des perturbations conduites en courant *Measurement of conducted disturbances in current*	2.67dB	2.9dB
Mesure du champ électrique rayonné en cage de Faraday semi-anéchoïque de 30MHz à 1GHz *Measurement of radiated electric field in half-anechoic Faraday room From 30MHz to 1GHz*	5.06dB	5.3dB
Mesure du champ électrique rayonné en cage de Faraday semi-anéchoïque de 1GHz à 6GHz *Measurement of radiated electric field in half-anechoic Faraday room From 1GHz à 6GHz*	5.18dB	5.2dB
Mesure du champ électrique rayonné en cage de Faraday semi-anéchoïque de 6GHz à 18GHz *Measurement of radiated electric field in half-anechoic Faraday room From 6GHz to 18GHz*	5.21dB	5.5dB
Mesure du champ électrique rayonné sur le site en espace libre de Moirans 30MHz – 1GHz. *Measurement of radiated electric field on the Moirans open area test site 30MHz – 1GHz.*	5.2dB	6.3dB
Mesure du champ électrique rayonné IN SITU de 30 à 1000 MHz *IN SITU measurement of radiated electric field from 30 to 1000MHz*	A l'étude / Under consideration	5.2dB
Mesure de la puissance perturbatrice *Measurement of disturbance power*	3.32dB	4.5dB
Mesure des harmoniques de courant *Measurement of current harmonics*	11.11%	/
Mesure du flicker *Flicker measurement*	9.26%	/

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*