TEST REPORT

N°: 849661-A2-R3-E **JDE : 136711**

Subject	**Electromagnetic compatibility and Radio spectrum Matters (ERM) tests according to standards: FCC CFR 47 Part 15, Subpart C RSS-210 Issue 8.1**
Issued to	**INGENICO** 9 Avenue de la gare Rovaltin TGV- BP 25156 FRANCE
Apparatus under test	
Product	**Terminal de paiement / P*ayment Terminal***
Trade mark	**INGENICO**
Manufacturer	**INGENICO**
Model under test	**DESK/5000 CL /Eth/Mod**
Part number	**TCA30010108A**
Serial number	**151807313001010801004454 & 151777313001010801004435**
FCCID	**XKB-D5000M01**
ICID	**2586D- D5000M01**
Test date	From July 31st to October 16th; 2015
Test location	Moirans
IC Test site	6500A-1 & 6500A-3
Test performed by	Jonathan PAUC / Gaëtan DESCHAMPS
Composition of document	73 pages
Modification of the last version	None
Document issued on	March 21st, 2016

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SUMMARY

1. TEST PROGRAM

Standard:
- **FCC Part 15, Subpart C**
- **ANSI C63.10 (2013)**
- **RSS-210 Issue 8.1 – Feb 2015**
- **RSS-Gen Issue 4 – Nov 2014**

EMISSION TEST	LIMITS			RESULTS (Comments)
Limits for conducted disturbance at mains ports 150kHz-30MHz *CFR 47 §15.207*	**Frequency**	**Quasi-peak value (dBµV)**	**Average value (dBµV)**	☑ **PASS** ☐ **FAIL** ☐ **NA** ☐ **NP**
	150-500kHz	66 to 56	56 to 46	
	0.5-5MHz	56	46	
	5-30MHz	60	50	
Radiated emissions 9kHz-30MHz *CFR 47 §15.209 (a)* *CFR 47 §15.225* *RSS-Gen §4.9*	**Measure at 300m** 9kHz-490kHz : 67.6dBµV/m /F(kHz) **Measure at 30m** 490kHz-1.705MHz : 87.6dBµV/m /F(kHz) 1.705MHz-30MHz : 29.5 dBµV/m			☑ **PASS** ☐ **FAIL** ☐ **NA** ☐ **NP**
Radiated emissions 30MHz-6GHz* *CFR 47 §15.209 (a)* *CFR 47 §15.225* *RSS-Gen §4.9* ***Highest frequency : 1020MHz (Declaration of provider)***	**Measure at 3m** 30MHz-88MHz : 40 dBµV/m 88MHz-216MHz : 43.5 dBµV/m 216MHz-960MHz : 46.0 dBµV/m Above 960MHz : 54.0 dBµV/m			☑ **PASS** ☐ **FAIL** ☐ **NA** ☐ **NP**
Fundamental field strength limit *CFR 47 §15.225* *RSS-210 §A2.6*	**Operation within the band 13.110-14.010 MHz**			☑ **PASS** ☐ **FAIL** ☐ **NA** ☐ **NP**
Fundamental frequency tolerance *CFR 47 §15.225* *RSS-210 §A2.6*	**Operation within the band 13.110-14.010 MHz**			☑ **PASS** ☐ **FAIL** ☐ **NA** ☐ **NP**
Band edge compliance *CFR 47 §15.225* *RSS-210 §A2.6*	**Operation within the band 13.110-14.010 MHz**			☑ **PASS** ☐ **FAIL** ☐ **NA** ☐ **NP**
Occupied bandwidth *RSS-Gen §4.6.1*	**No limit**			☑ **PASS** ☐ **FAIL** ☐ **NA** ☐ **NP**
Receiver Spurious Emission** *RSS-Gen §4.10*	**See RSS-Gen §4.10**			☐ **PASS** ☐ **FAIL** ☑ **NA** ☐ **NP**

***§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.

****Testing covered the receive mode, and receiver spurious emissions are considered to be the same as transmitter.

2. SYSTEM TEST CONFIGURATION

2.1. RANGE

There are 3 models in DESK range:

1. Desk/5000 CL /Eth
2. Desk/5000 CL /Mod
3. Desk/5000 CL /Eth/Mod *Full options*

In this test report, full option model will be tested and presented.

2.2. HARDWARE IDENTIFICATION (EUT AND AUXILIARIES):

2.2.1.1. Equipment under test (EUT):

DESK/5000 CL /Eth/Mod **Serial Number: 151807313001010801004454**
151777313001010801004435

Photography of EUT

2.2.1.2. Power supply:

During all the tests, EUT (Primary of AC/DC power supply converter) is supplied by V_{nom}: 240 / 50Hz VAC (Radiated Emission) & 110V / 60Hz (Conducted Emission Test)
For measurement with different voltage, it will be presented in test method.

Name	Type	Rating	Reference	Sn	Comments
AC/DC Adaptor#3	☑ AC	115-240V 50-60Hz	GE0100	None	/
AC/DC Adaptor#4	☑ AC	115-230V 50-60Hz	PSM32W-080	None	/
AC/DC Adaptor#5	☑ AC	100-240V 50-60Hz	PSM32W-080L6IN-R	None	/

2.2.1.3. Inputs/outputs - Cable:

Inputs/outputs & Cables: on DESK/5000-OP CI/Eth/Mod						
Access	**Type**	**Length used (m)**	**Declared <3m**	**Shielded**	**Under test**	**Comments**
Twist cable to Magicbox	Power supply Jack	2	☑	☐	☑	Supply Terminal
	RJ11					COM0
	RJ45					Ethernet line
	RJ11					Modem line
SAM1	SAM card	/	/	/	☑	/
SAM2	SAM card	/	/	/	☑	/
SAM3	SAM card	/	/	/	☑	/
CAM0	SMART Card	/	/	/	☑	/
USB	USB port (Micro-B)	1	☐	☑	☑	/
USB HOST	USB port (Type A)	1	☐	☑	☑	/
MMC	Micro SD port	/	/	/	☑	/
COM2	Serial line	1	☐	☑	☑	/
AUDIO	Audio Jack 3.5mm	1	☐	☑	☑	/

Inputs/outputs - Cable: on Magicbox 51/2014 CUST P/N: 296100075 INGELEC P/N : MUL0885C						
Access	**Type**	**Length used (m)**	**Declared <3m**	**Shielded**	**Under test**	**Comments**
Supply Magicbox	Power supply Jack	1.5	☑	☐	☑	/
COM0	RJ11	3	☐	☐	☑	/
Ethernet	RJ45	5	☐	☐	☑	/
Modem	RJ11	5	☐	☐	☑	/
Magicbox cable twisted	Twist cable	2	☑	☐	☑	/

2.2.1.4. Auxiliary equipment used during test:

Type	**Reference**	**Sn**	**Comments**
Line simulator	TELTONE TLS-5	017652	/
Laptop	DELL LATITUDE	/	/
Contactless Card	/	/	/
1 x Micro SD Card	/	/	/
3 x SAM Card	/	/	/
1 x SmartCard	/	/	/

Equipment information:

RF module:	NC		
Frequency band:	[13.553 – 13.567] MHz		
Antenna type:	☐ External:	☑ Internal:	
Equipment intended for use as a:	☑ Fixed station	☐ Mobile station	
RF mode:	☐ TX	☑ TX /RX	☐ RX
Standby mode :	☐ Yes	☑ No	

NC : Not communicated by customer

2.3. EUT CONFIGURATION

Configuration n°3 :

- 3 x SAM
- 2 x USB
- CAM0
- MicroSD
- Jack Audio – Flat signal (1s)
- RS232-COM2
- RFID
- Magicbox 51/2014 CUST P/N: 296100075 INGELEC P/N : MUL0885C
  - Power supply n°3 : GE0100
  - Modem RTC
  - Ethernet
  - RS232-COM1

Configuration n°4 :

- 3 x SAM
- 2 x USB
- CAM0
- MicroSD
- Jack Audio – Flat signal (1s)
- RS232-COM2
- RFID
- Magicbox 51/2014 CUST P/N: 296100075 INGELEC P/N : MUL0885C
  - Power supply n°4 : PSM32W-080
  - Modem RTC
  - Ethernet
  - RS232-COM1

Configuration n°5 :

- 2 x SAM
- 2 x USB
- CAM0
- RFID
- Magicbox 51/2014 CUST P/N: 296100075 INGELEC P/N : MUL0885C
  - Power supply n°3 : GE0100
  - Modem RTC
  - Ethernet
  - RS232-COM1

Configuration n°6 :

- 2 x SAM
- 2 x USB
- CAM0
- RFID
- Magicbox 51/2014 CUST P/N: 296100075 INGELEC P/N : MUL0885C
  - Power supply n°4 : PSM32W-080 (Level V)
  - Modem RTC
  - Ethernet
  - RS232-COM1

Configuration n°7 :

- 3 x SAM
- 2 x USB
- CAM0
- MicroSD
- Jack Audio – Flat signal (1s)
- RS232-COM2
- RFID
- Magicbox 51/2014 CUST P/N: 296100075 INGELEC P/N : MUL0885C
  - Power supply n°4 : PSM32W-080L6IN-R
  - Modem RTC
  - Ethernet
  - RS232-COM1

During the test :

- ✓ SAM : Reading in loop
- ✓ USB: Reading between both in loop
- ✓ CAM: Reading card in loop
- ✓ MODEM: With simulator
- ✓ LAN: Ping in loop
- ✓ RS232: Connection between PIN to read in loop
- ✓ RFID: Reading card in loop
- ✓ AUDIO Reading of demodulation level (1kHz)
- ✓ µSDCARD Writing/Reading cycle is performed
- ✓ PRINTING Ticket Printing
- ✓ BACKLIGHT Screen display Back light is power On

2.4. EQUIPMENT MODIFICATIONS

☑ None ☐ Modification:

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

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.

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

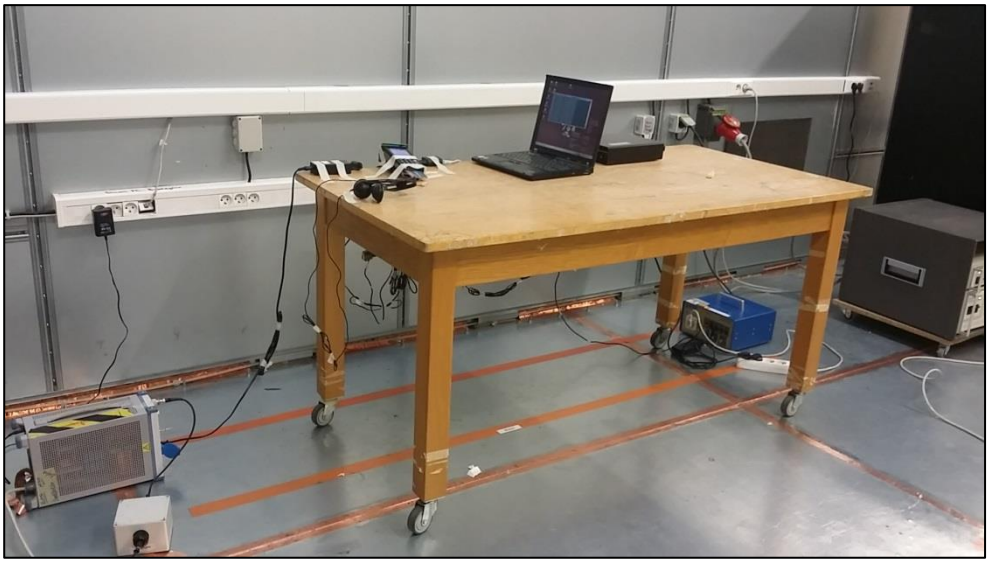
3. CONDUCTED EMISSION DATA

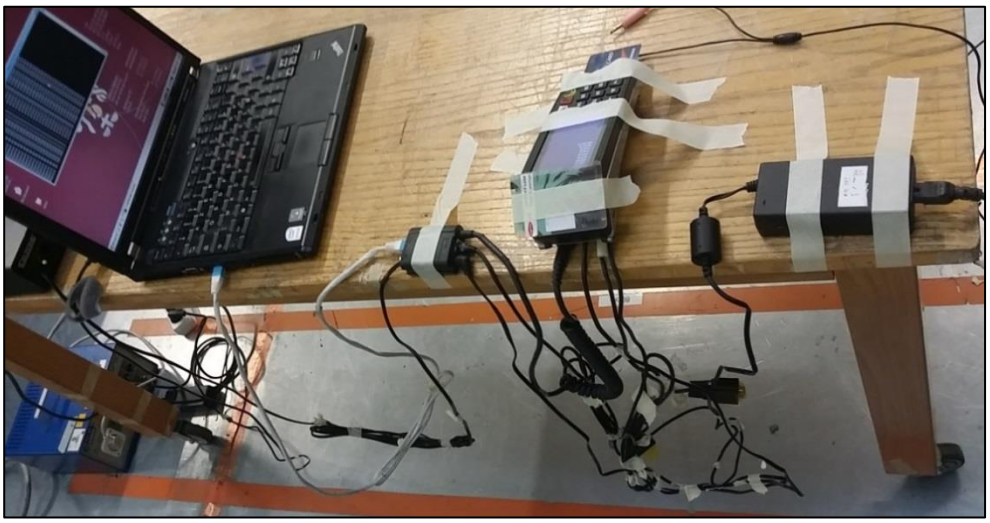
3.1. ENVIRONMENTAL CONDITIONS

Date of test	:	October 16th , 2015	March 21st, 2016
Test performed by	:	J.PAUC	G.Deschamps
Atmospheric pressure (hPa)	:	997	990
Relative humidity (%)	:	33	32
Ambient temperature (°C)	:	23	22

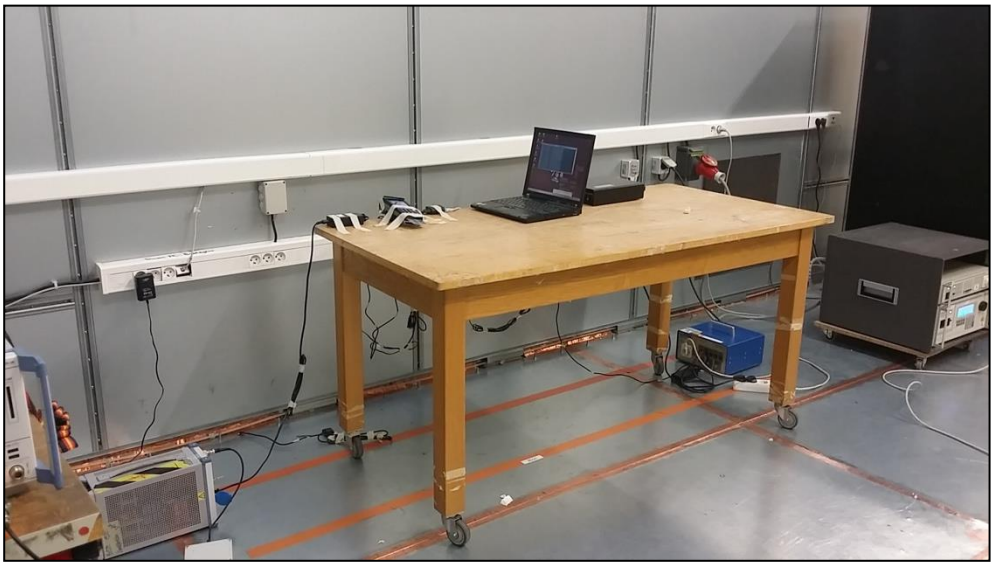
3.2. TEST SETUP

Mains terminals
The EUT and auxiliaries are set:
☑ 80cm above the ground on the non-conducting table (Table-top equipment)
☐ 10cm above the ground on isolating support (Floor standing equipment)
The distance between the EUT and the LISN is 80cm. The EUT is 40cm away for the vertical ground plane.
The EUT is powered by V_{nom}.
The EUT is powered through a LISN (measure). Auxiliaries are powered by another LISN.





General Test setup - Configurations 3 & 4 & 7



Test setup - Configurations 5 & 6

3.3. TEST METHOD

The product has been tested according to ANSI C63.10 and FCC Part 15 subpart C. The product has been tested with 120V/60Hz power line voltage and compared to the FCC Part 15 limits. Measurement bandwidth was 9kHz from 150kHz to 30MHz. 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. The LISN (measure) is 50Ω / 50µH. The Peak data are shown on plots in annex 1. Quasi-Peak and Average measurements are detailed in a table with frequencies and levels measured. Interconnecting cables and equipment's were moved to position that maximized emission. A summary of the worst case emissions found in all test configurations and modes is shown on the following page.
Measurements are performed on the phase (L1) and neutral (N) of power line voltage. Graphs are obtained in PEAK detection. Measures are also performed in Quasi-Peak and Average for any strong signal.

3.4. TEST EQUIPMENT LIST

DESCRIPTION	MANUFACTURER	MODEL	N° LCIE	Cal_Date	Cal_Due
Cable + self	-	-	A5329585	06/15	06/16
Conducted emission comb generator	BARDET	-	A3169049	-	-
LISN	TELEMETER ELECTRONIC	NNB-2/16Z	C2320061	-	-
LISN	RHODE & SCHWARZ	ENV216	C2320123	02/15	02/16
Load 50Ω	-	-	A7152036	03/15	03/16
Receiver 20Hz – 8GHz	ROHDE & SCHWARZ	ESU8	A2642019	04/15	04/16
Transient limiter	RHODE & SCHWARZ	ESH3-Z2	A7122204	10/15	10/16

3.5. DIVERGENCE, ADDITION OR SUPPRESSION ON THE TEST SPECIFICATION

☑ None ☐ Divergence:

3.6. TEST RESULTS

Mains terminals:

CONFIGURATION N°3
Measurements are performed on the phase (L1) and neutral (N) of the power line.

Graph identifier	Line	Comments		
Emc# 5	Phase	-	Sample (sn): **151777313001010801004435**	See annex 1 **PEAK detection**
Emc# 6	Neutral			
Emc# 7	Phase	*"Dummy load"*		
Emc# 8	Neutral			

CONFIGURATION N°4
Measurements are performed on the phase (L1) and neutral (N) of the power line.

Graph identifier	Line	Comments		
Emc# 9	Phase	-	Sample(sn) : **151777313001010801004435**	See annex 1 **PEAK detection**
Emc# 10	Neutral			
Emc# 11	Phase	*"Dummy load"*		
Emc# 12	Neutral			

CONFIGURATION N°5
Measurements are performed on the phase (L1) and neutral (N) of the power line.

Graph identifier	Line	Comments		
Emc# 13	Phase	-	Sample (sn) : **151777313001010801004435**	See annex 1 **PEAK detection**
Emc# 14	Neutral			
Emc# 15	Phase	*"Dummy load"*		
Emc# 16	Neutral			

CONFIGURATION N°6
Measurements are performed on the phase (L1) and neutral (N) of the power line.

Graph identifier	Line	Comments		
Emc# 17	Phase	-	Sample (sn) : **151777313001010801004435**	See annex 1 **PEAK detection**
Emc# 18	Neutral			
Emc# 19	Phase	*"Dummy load"*		
Emc# 20	Neutral			

CONFIGURATION N°7

Graph identifier	Line	Comments		
Emc# 21	Phase	-	Sample(sn) : **151777313001010801004435**	See annex 1 **PEAK detection**
Emc# 22	Neutral			
Emc# 23	Phase	*"Dummy load"*		
Emc# 24	Neutral			

3.7. CONCLUSION

The sample of the equipment DESK/5000 CL /Eth/Mod Sn: 151777313001010801004435 tested in the configuration presented in this test report satisfies to requirements of class B limits of the standard FCC Part15C, for conducted emissions.

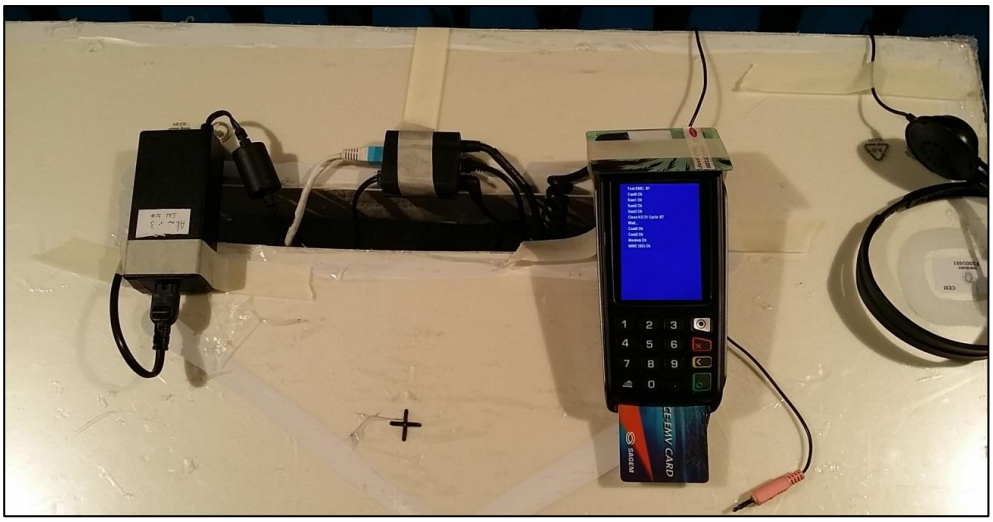
4. RADIATED EMISSION DATA (15.209)

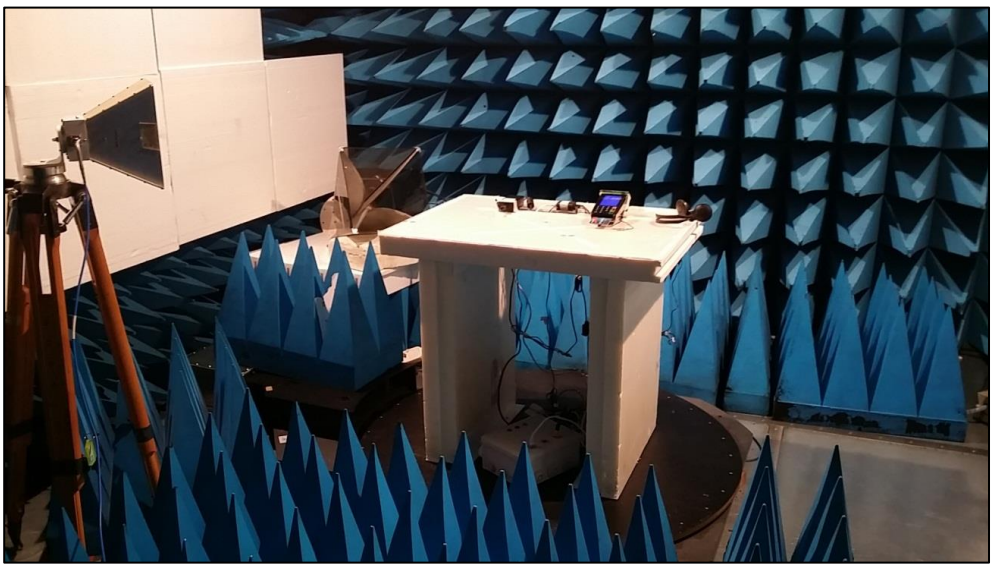
4.1. ENVIRONMENTAL CONDITIONS

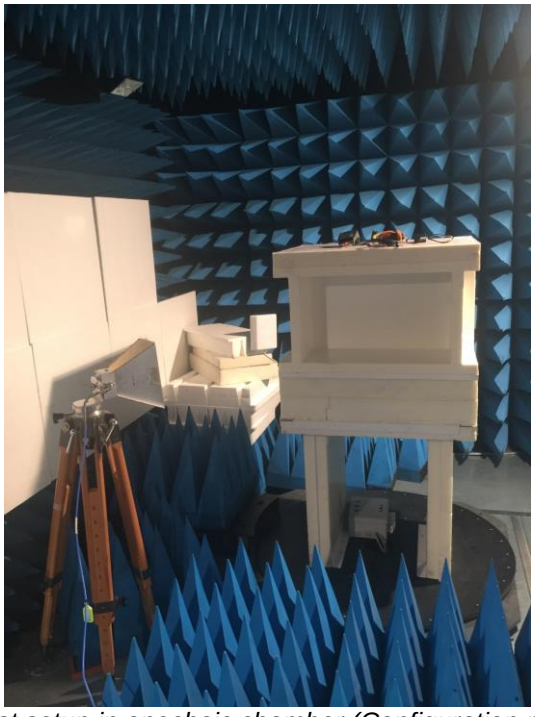
Date of test	:	October 9th , 2015	March 21st, 2016
Test performed by	:	J.PAUC	G.Deschamps
Atmospheric pressure (hPa)	:	990	990
Relative humidity (%)	:	41	32
Ambient temperature (°C)	:	22	22

4.2. TEST SETUP

The installation of EUT is identical for pre-characterization measures in a 3 meters semi- anechoic chamber and for measures on the 10 meters Open site.
The EUT and auxiliaries are set:
☑ 80cm above the ground on the non-conducting table (Table-top equipment)
☑ 150cm above the ground on the non-conducting table (Table-top equipment)
☐ 10cm above the ground on isolating support (Floor standing equipment)
The EUT is powered by V_{nom}.

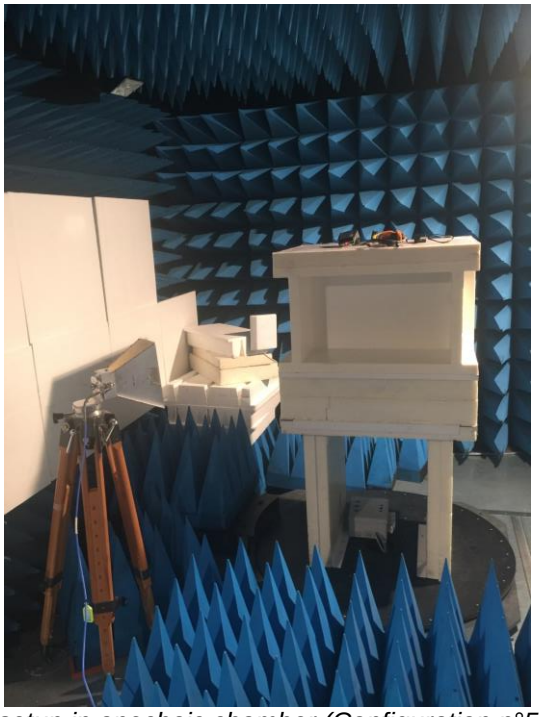






General Test setup in anechoic chamber (Configuration n°3 & 4 & 7)


Desk/5000
EMV CARD
SAGEM



Test setup in anechoic chamber (Configuration n°5 & 6)

Test setup in OATS (Configuration n°3 & 4 & 7)

Test setup in OATS (Configuration n°5 & 6)

4.3. TEST METHOD

Pre-characterisation measurement: (9kHz – 6GHz)

A pre-scan of all the setup has been performed in a 3 meters semi-anechoic chamber for frequency from 30MHz to 6GHz. Test is performed in horizontal (H) and vertical (V) polarization, the loop antenna was rotated during the test for maximized the emission measurement. Continuous linear turntable azimuth search was performed with 360 degrees range. Measurement performed on all axis of EUT used in normal configuration.
The pre-characterization graphs are obtained in PEAK detection and PEAK/AVERAGE from 1GHz to 6GHz.

Characterization on 10 meters open site from 9kHz to 1GHz:

The product has been tested according to ANSI C63.4 (2003), FCC part 15 subpart C. Radiated Emissions were measured on an open area test site. A description of the facility is on file with the FCC. The product has been tested at a distance of **10 meters** from the antenna and compared to the FCC part 15 subpart C §15.225 limits in the frequency range 13.553MHz 13.567MHz. Measurement bandwidth was 9kHz below 30MHz and 120kHz from 30 MHz to 1GHz. Test is performed in horizontal (H) and vertical (V) polarization, the loop antenna was rotated during the test for maximized the emission measurement. The height antenna is varied from 1m to 4m. Continuous linear turntable azimuth search was performed with 360 degrees range. Measurement 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.
Frequency list has been created with anechoic chamber pre-scan results.

Characterization on 3 meters full anechoic chamber from 1GHz to -6GHz:

The product has been tested at a distance of **3 meters** from the antenna and compared to the FCC part 15 subpart B §15.109 limits and C §15.209 limits. Measurement bandwidth was 1MHz from 1GHz to 6GHz.
Test is performed in horizontal (H) and vertical (V) polarization. Continuous linear turntable azimuth search was performed with 360 degrees range. Measurement 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.The height antenna is
☐ On mast, varied from 1m to 4m
☑ Fixed and centered on the EUT (EUT smaller than the beamwidth of the measurement antenna, ANSI C63.10 §6.6.5)
Frequency list has been created with anechoic chamber pre-scan results.

4.4. TEST EQUIPMENT LIST

Anechoic chamber					
DESCRIPTION	**MANUFACTURER**	**MODEL**	**N° LCIE**	**Cal_Date**	**Cal_Due**
Antenna Bi-log	CHASE	CBL6111A	C2040172	06/15	06/17
Cable Measure @3m	-	-	A5329038	08/15	10/16
Cable Measure @3m	-	-	A5329206	04/15	04/16
Semi-Anechoic chamber #3	SIEPEL	-	D3044017	-	-
Spectrum analyzer	ROHDE & SCHWARZ	FSV 30	A4060050	01/15	01/16
Thermo-hygrometer (C3)	OREGON	BAR206	B4204078	04/15	04/16
Turntable chamber (Cage#3)	ETS Lingren	Model 2165	F2000371	-	-
Table	LCIE	-	F2000461	-	-
Horn Antenna	EMCO	3115	C2042029	09/15	09/16
Amplifier 1-6GHz	HEWLETT PACKARD	-	A7085016	10/15	10/16

OATS					
DESCRIPTION	**MANUFACTURER**	**MODEL**	**N° LCIE**	**Cal_Date**	**Cal_Due**
Antenna Bi-log	CHASE	CBL6111A	C2040051	04/14	04/16
Antenna Loop	ELECTRO-METRICS	EM-6879	C2040052	10/15	10/16
Cable	SUCOFLEX	106G	A5329061	03/15	03/16
Cable (OATS)	-	-	A5329623	10/15	10/16
Radiated emission comb generator	BARDET	-	A3169050	-	-
OATS	-	-	F2000409	09/15	09/16
Receiver 20Hz – 8GHz	ROHDE & SCHWARZ	ESU8	A2642019	04/15	04/16
Receiver 20-1000MHz	ROHDE & SCHWARZ	ESVS30	A2642006	05/15	05/16
Thermo-hygrometer (PM2)	OREGON	BAR916HG-G	B4206011	07/15	07/16
Antenna mast (OATS)	LCIE	-	F2000288	-	-
Turntable / Mast controller (OATS)	ETS Lindgren	Model 2066	F2000372	-	-
Antenna mast (OATS)	ETS Lindgren	2071-2	F2000392	-	-
Turntable (OATS)	ETS Lindgren	Model 2187	F2000403	-	-
Table	LCIE	-	F2000438	-	-

4.5. DIVERGENCE, ADDITION OR SUPPRESSION ON THE TEST SPECIFICATION

☑ None ☐ Divergence:

4.6. TEST RESULTS

4.6.1. Pre-characterization at 3 meters [9kHz-30MHz]

See graph for 9kHz-30MHz band:

Graph identifier		Pol	Position	Conf	Sample (sn)	Comments
Emr#	1b1	0°& 90°	Axis XY	3	**151807313001010801004454**	See annex 1
Emr#	2b1	0°& 90°	Axis XY	4	**151807313001010801004454**	See annex 1
Emr#	3b1	0°& 90°	Axis XY	5	**151807313001010801004454**	See annex 1
Emr#	4b1	0°& 90°	Axis XY	6	**151807313001010801004454**	See annex 1
Emr#	5b1	0°& 90°	Axis XY	7	**151807313001010801004454**	See annex 1

4.6.2. Pre-characterization at 3 meters [30MHz-1GHz]

See graphs for 30MHz-1GHz:

Graph identifier		Pol	Position	Conf	Sample (sn)	Comments
Emr#	1b2_a	H & V	Axis XY	3	**151777313001010801004435**	See annex 1
Emr#	1b2_b	H & V	Axis XY	3	**151777313001010801004435**	See annex 1 (without Cless Card)
Emr#	2b2_a	H & V	Axis XY	4	**151777313001010801004435**	See annex 1
Emr#	2b2_b	H & V	Axis XY	4	**151777313001010801004435**	See annex 1 (without Cless card)
Emr#	3b2_a	H & V	Axis XY	5	**151777313001010801004435**	See annex 1
Emr#	3b2_b	H & V	Axis XY	5	**151777313001010801004435**	See annex 1 (without Cless card)
Emr#	4b2_a	H & V	Axis XY	6	**151777313001010801004435**	See annex 1
Emr#	4b2_b	H & V	Axis XY	6	**151777313001010801004435**	See annex 1 (without Cless card)
Emr#	5b2_a	H & V	Axis XY	7	**151777313001010801004435**	See annex 1
Emr#	5b2_b	H & V	Axis XY	7	**151777313001010801004435**	See annex 1 (without Cless card)

4.6.3. Pre-characterization at 3 meters [1GHz-6GHz]

See graphs for 1GHz-6GHz:

Graph identifier		Pol	position	Conf	Sample (sn)	Comments
Emr#	1b3	H & V	Axis XY	3	**151807313001010801004454**	See annex 1
Emr#	2b3	H & V	Axis XY	4	**151807313001010801004454**	See annex 1
Emr#	3b3	H & V	Axis XY	5	**151777313001010801004435**	See annex 1
Emr#	4b3	H & V	Axis XY	6	**151777313001010801004435**	See annex 1
Emr#	5b3	H & V	Axis XY	7	**151777313001010801004435**	See annex 1

4.6.4. Characterization on 10 meters open site below 30 MHz

Worst case final data result:
Frequency list has been created with semi-anechoic chamber pre-scan results.
Measurements are performed using a QUASI-PEAK detection.

Configuration	Frequency (MHz)	QPeak Limit (dBµV/m) @ 30m	Qpeak (dBµV/m) @ 30m	Margin (Mes-Lim) (dB)	Angle Table (deg)	Pol Ant.	Ht Ant. (cm)	Correc. Factor (dB)	Comments
4	13.56	84	54.5	-29.5	79	90	100	35.1	
Configuration	Frequency (MHz)	QPeak Limit (dBµV/m) @ 30m	Qpeak (dBµV/m) @ 30m	Margin (Mes-Lim) (dB)	Angle Table (deg)	Pol Ant.	Ht Ant. (cm)	Correc. Factor (dB)	Comments
5	13.56	84	55.4	-28.6	102	90	150	35.1	-

Note: Measure have been done at 10m distance and corrected according to requirements of 15.209.e) (M@30m = M@10m-19.1dB)

Limits Sub clause §15.225

Frequency (MHz)	Field strength (µV/m)	Measurement distance (m)
13.553-13.567	15 848 84 dBµV/m	30
13.410-13.553 13.567-13.710	334 50.5 dBµV/m	30
13.110-13.410 13.710-14.010	106 40.5 dBµV/m	30

See following chapter of this test report for band edge measurements.

4.6.5. Characterization on 10 meters open site from 30MHz to 1GHz

Worst case final data result:

Frequency list has been created with semi-anechoic chamber pre-scan results.
Measurements are performed using a QUASI-PEAK detection.

Configuration n°3									
id	**Frequency (MHz)**	**Limit QPeak (dBµV/m)**	**Measure QPeak (dBµV/m)**	**Margin QPeak (dB)**	**Angle Table (°)**	**Pol. Ant.**	**Ht. Ant. (cm)**	**FC (dB)**	**Remark**
1	37.356	40.0	36.2	**-3.8**	230	V	100	15.7	-
2	40.678	40.0	35.8	**-4.2**	225	V	100	13.9	-
3	47.799	40.0	33.9	**-6.1**	15	V	158	10.4	-
4	54.237	40.0	29.5	**-10.5**	120	V	100	8.6	-
5	67.797	40.0	31.6	**-8.4**	290	V	100	7.8	-
6	66.270	40.0	38.7	**-1.3**	234	V	190	7.8	-
7	77.201	40.0	33.8	**-6.2**	310	V	100	8.5	-
8	390.304	46.0	36.3	**-9.7**	100	H	200	19.3	-
9	479.999	46.0	42.7	**-3.3**	311	H	250	21.4	-
10	960.005	54.0	43.6	**-10.4**	300	V	160	29.1	-

Configuration n°4									
id	**Frequency (MHz)**	**Limit QPeak (dBµV/m)**	**Measure QPeak (dBµV/m)**	**Margin QPeak (dB)**	**Angle Table (°)**	**Pol. Ant.**	**Ht. Ant. (cm)**	**FC (dB)**	**Remark**
11	37.356	40.0	36.0	**-4.0**	209	V	100	15.7	-
12	40.678	40.0	37.8	**-2.2**	225	V	100	13.9	-
13	43.767	40.0	33.4	**-6.6**	136	V	100	12.3	-
14	47.799	40.0	32.9	**-7.1**	0	V	100	10.4	-
15	54.237	40.0	30.5	**-9.5**	267	V	100	8.6	-
16	67.797	40.0	33.4	**-6.6**	295	V	100	7.8	-
17	66.270	40.0	39.2	**-0.8**	292	V	231	7.8	-
18	216.920	46.0	33.0	**-13.0**	100	V	45	12.5	-
19	390.304	46.0	36.2	**-9.8**	100	V	200	19.3	-
20	446.240	46.0	42.1	**-3.9**	152	V	55	20.4	-
21	479.999	46.0	43.2	**-2.8**	320	H	217	21.4	-
22	576.110	46.0	34.6	**-11.4**	209	H	250	23.3	-
23	658.747	46.0	43.9	**-2.1**	90	H	78	25.0	-
24	960.005	54.0	44.4	**-9.6**	334	V	209	29.1	-

Note: Measure have been done at 10m distance and corrected according to requirements of 15.209.e) (M@3m = M@10m+10.5dB)

Configuration n°5									
id	**Frequency (MHz)**	**Limit QPeak (dBµV/m)**	**Measure QPeak (dBµV/m)**	**Margin QPeak (dB)**	**Angle Table (°)**	**Pol. Ant.**	**Ht. Ant. (cm)**	**FC (dB)**	**Remark**
17	38.944	40.0	34.9	**-5.1**	47	V	118	14.9	-
18	40.678	40.0	35.9	**-4.1**	0	V	140	13.9	-
19	45.722	40.0	32.5	**-7.5**	144	V	247	11.3	-
20	54.238	40.0	32.7	**-7.3**	360	V	100	8.6	-
21	66.270	40.0	39.3	**-0.7**	0	V	200	7.8	-
22	67.797	40.0	31.3	**-8.7**	344	V	167	7.8	-
23	77.201	40.0	36.6	**-3.4**	289	V	250	8.5	-
24	390.304	46.0	37.5	**-8.5**	269	H	242	19.3	-
25	431.160	46.0	34.2	**-11.8**	62	H	237	20.0	-
26	479.999	46.0	38.3	**-7.7**	69	H	208	21.4	-
27	960.005	54.0	43.3	**-10.7**	323	H	220	29.1	-

Configuration n°6									
id	**Frequency (MHz)**	**Limit QPeak (dBµV/m)**	**Measure QPeak (dBµV/m)**	**Margin QPeak (dB)**	**Angle Table (°)**	**Pol. Ant.**	**Ht. Ant. (cm)**	**FC (dB)**	**Remark**
28	40.678	40.0	37.3	**-2.7**	45	V	100	13.9	-
29	38.944	40.0	32.4	**-7.6**	271	V	100	14.9	-
30	45.722	40.0	29.0	**-11.0**	41	V	100	11.3	-
31	54.238	40.0	28.1	**-11.9**	63	V	100	8.6	-
32	67.797	40.0	30.0	**-10.0**	134	V	249	7.8	-
33	66.270	40.0	39.7	**-0.3**	166	V	183	7.8	-
34	390.304	46.0	38.4	**-7.6**	149	H	265	19.3	-
35	479.999	46.0	38.7	**-7.3**	317	H	213	21.4	-
36	960.005	54.0	44.3	**-9.7**	312	H	220	29.1	-

Note: Measure have been done at 10m distance and corrected according to requirements of 15.209.e) (M@3m = M@10m+10.5dB)

Configuration n°7									
id	**Frequency (MHz)**	**Limit QPeak (dBµV/m)**	**Measure QPeak (dBµV/m)**	**Margin QPeak (dB)**	**Angle Table (°)**	**Pol. Ant.**	**Ht. Ant. (cm)**	**FC (dB)**	**Remark**
37	37.361	40.0	36.0	**-4.0**	209	V	100	15.7	-
38	40.676	40.0	37.8	**-2.2**	225	V	100	13.9	-
39	43.767	40.0	33.4	**-6.6**	136	V	100	12.3	-
40	47.799	40.0	32.9	**-7.1**	0	V	100	10.4	-
41	54.237	40.0	30.5	**-9.5**	267	V	100	8.6	-
42	66.278	40.0	17.9	**-22.1**	20	V	100	7.8	-
43	67.797	40.0	33.4	**-6.6**	295	V	100	7.8	-
44	216.920	46.0	33.0	**-13.0**	100	V	45	12.5	-
45	390.304	46.0	36.2	**-9.8**	100	V	200	19.3	-
46	446.240	46.0	42.1	**-3.9**	152	V	55	20.4	-
47	479.999	46.0	43.2	**-2.8**	320	H	217	21.4	-
48	576.110	46.0	34.6	**-11.4**	209	H	250	23.3	-
49	658.747	46.0	43.9	**-2.1**	90	H	78	25.0	-
50	960.005	54.0	44.4	**-9.6**	334	V	209	29.1	-

4.6.6. Characterization on 3meters anechoic chamber from 1GHz to 6GHz

Worst case final data result:
The frequency list is created from the results obtained during the pre-characterization in anechoic chamber.
Measurements are performed using a PEAK and AVERAGE detection.

According to Pre-characterisation
No significant frequencies observed.

Note: Measures have been done at 3m distance.

4.7. CONCLUSION

The sample of the equipment DESK/5000 CL /Eth/Mod Sn: 151807313001010801004454 & 151777313001010801004435 tested in the configuration presented in this test report satisfies to requirements of class B limits of the standard FCC Part15C and C, for radiated emissions.

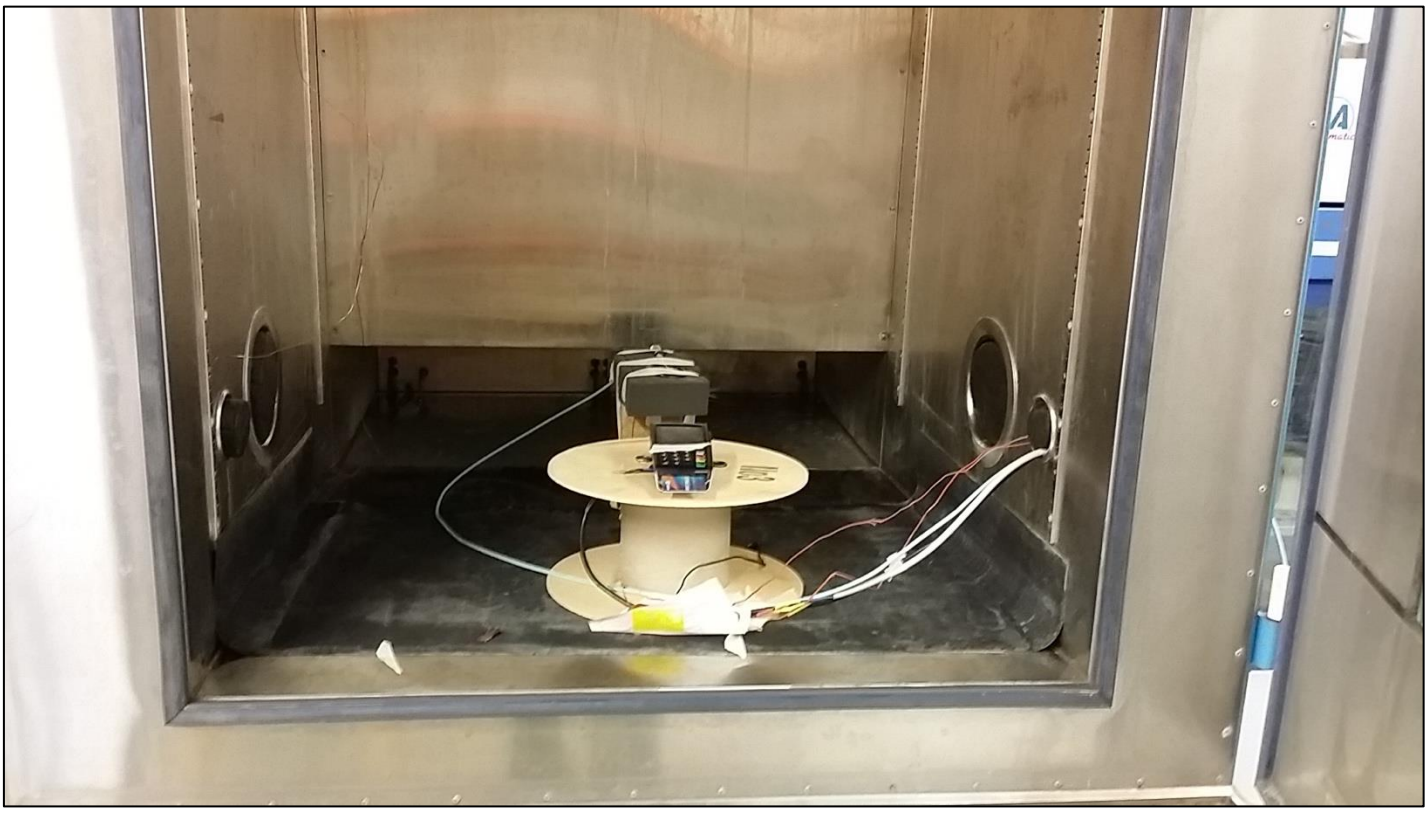
5. FUNDAMENTAL FREQUENCY TOLERANCE (15.225E)

5.1. ENVIRONMENTAL CONDITIONS

Date of test	:	October 14th , 2015
Test performed by	:	Jonathan PAUC
Atmospheric pressure (hPa)	:	990
Relative humidity (%)	:	41
Ambient temperature (°C)	:	21

5.2. TEST SETUP

Frequency of carrier: 13.56 MHz
Upper limit: 13.561356 MHz
Lower limit: 13.558644 MHz
The equipment (RF box) is set in a climatic chamber. Measure is performed on one channel of RF module.



Test setup

5.3. TEST METHOD

The frequency tolerance of the carrier signal shall be maintained within ±0.01% of the operating frequency when the temperature is varied from -30°C to +50°C at the nominal power voltage and the primary power voltage is varied from 85% to 115% of the rated supply voltage at 20°C.

5.4. TEST EQUIPMENT LIST

DESCRIPTION	MANUFACTURER	MODEL	N° LCIE	Cal_Date	Cal_Due
Antenna Loop	LCIE	-	-	-	-
Cable Measure	-	40G	A5329653	12/14	12/15
Multimeter - CEM	FLUKE	87	A1240251	06/15	06/16
Power supply DC 300W / 150V-6A	SODILEC	7SDLIN/GB AUTO 300	A7043036	-	-
Thermo-hygrometer (PM2)	OREGON	BAR916HG-G	B4206011	07/15	07/16
Spectrum Analyzer 9kHz - 6GHz	ROHDE & SCHWARZ	FSL6	A2642049	11/14	11/15
Receiver 20Hz – 8GHz	ROHDE & SCHWARZ	ESU8	A2642019	04/15	04/16
Cable	MICRO-COAX	A5329653	04/15	04/16	
Climatic chamber	CLIMATS	3676	D1022121	12/13	12/15

5.5. DIVERGENCE, ADDITION OR SUPPRESSION ON THE TEST SPECIFICATION

☐ None ☑ Divergence: EUT doesn't work under 7.15VDC

5.6. TEST RESULTS

Worst configuration (Configuration n°5)				
Temperature / Voltage	**-30°C**	**-20°C**	**20°C**	**+50°C**
Mains voltage: 8Vdc Frequency Drift (MHz) Carrier level (dBc)	 - 0.000030 - 0.90	 + 0.000050 - 0.55	 **REF** **REF**	 - 0.000040 + 0.03
Mains voltage:7.15Vdc Frequency Drift (MHz) Carrier level (dBc)	 - 0.000050 - 0.92	 + 0.000040 - 0.53	 + 0.000000 + 0.00	 - 0.000040 + 0.97
Mains voltage: 9.2Vdc Frequency Drift (MHz) Carrier level (dBc)	 - 0.000020 - 0.85	 + 0.000040 - 0.56	 + 0.000000 - 0.01	 - 0.000030 - 0.06

Frequency drift measured is **50Hz** when the temperature is varied from -30°C to +50°C and voltage is varied.

5.7. CONCLUSION

The sample of the equipment DESK/5000 CL /Eth/Mod Sn: 151777313001010801004435, tested in the configuration presented in this test report satisfies to requirements of the standard FCC Part15C, for fundamental frequency tolerance.

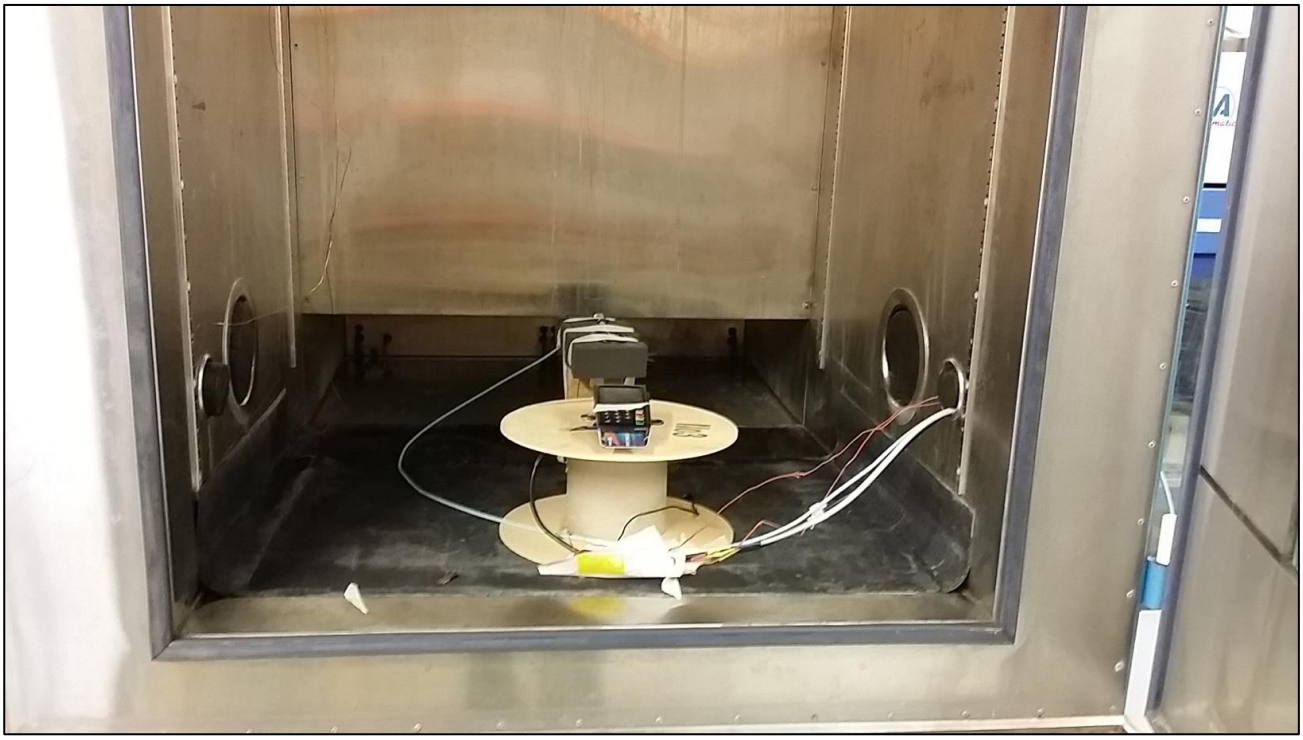
6. BAND-EDGE COMPLIANCE §15.209

6.1. ENVIRONMENTAL CONDITIONS

Date of test	:	October 14th , 2015
Test performed by	:	Jonathan PAUC
Atmospheric pressure (hPa)	:	990
Relative humidity (%)	:	41
Ambient temperature (°C)	:	21

6.2. TEST SETUP

For measurement, the power level calibration of the spectrum analyzer is related to the field strength measured in chapter radiated emission data.



Test setup

6.3. TEST METHOD

Frequency band 13.110-14.010MHz
Following plots show radiated emission level in the frequency band 13.110-14.010MHz with a RBW of 9kHz and a quasi-peak detector. The graphs are obtained with a measuring receiver.

Frequency band 13.553-13.567MHz
Following plots show radiated emission level in the frequency band 13.55.-13.567MHz with a RBW of 1kHz. The graphs are obtained with a measuring receiver.

6.4. TEST EQUIPMENT LIST

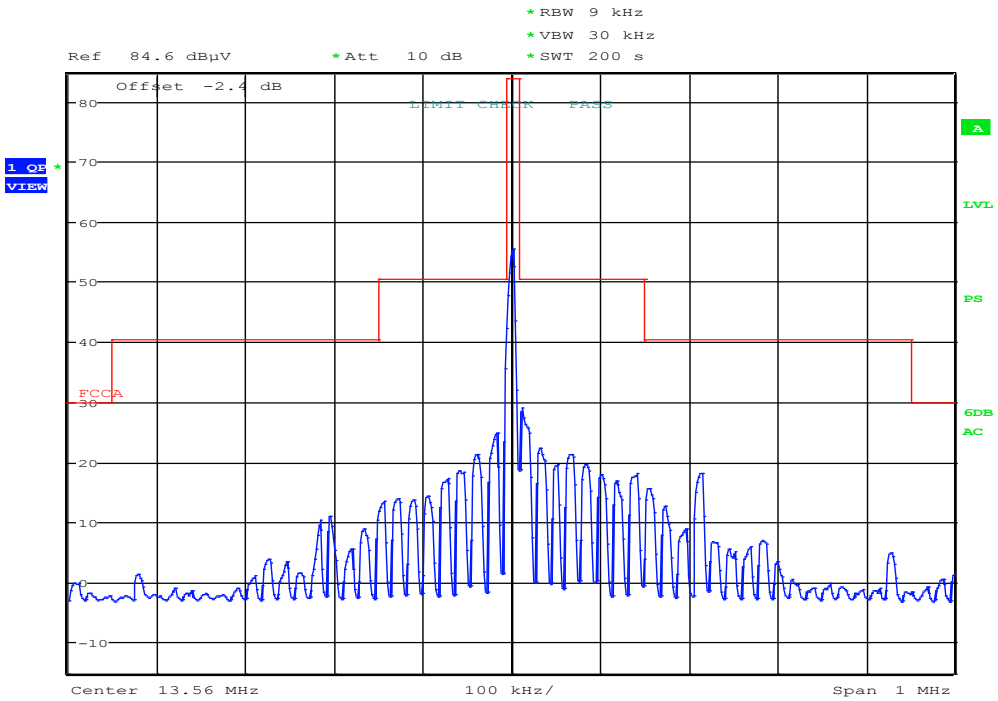
DESCRIPTION	MANUFACTURER	MODEL	N° LCIE	Cal_Date	Cal_Due
Antenna Loop	LCIE	-	-	-	-
Cable Measure	-	40G	A5329653	12/14	12/15
Multimeter - CEM	FLUKE	87	A1240251	06/15	06/16
Power supply DC 300W / 150V-6A	SODILEC	7SDLIN/GB AUTO 300	A7043036	-	-
Thermo-hygrometer (PM2)	OREGON	BAR916HG-G	B4206011	07/15	07/16
Spectrum Analyzer 9kHz - 6GHz	ROHDE & SCHWARZ	FSL6	A2642049	11/14	11/15
Receiver 20Hz – 8GHz	ROHDE & SCHWARZ	ESU8	A2642019	04/15	04/16
Cable	MICRO-COAX	A5329653	04/15	04/16	
Climatic chamber	CLIMATS	3676	D1022121	12/13	12/15

6.5. DIVERGENCE, ADDITION OR SUPPRESSION ON THE TEST SPECIFICATION

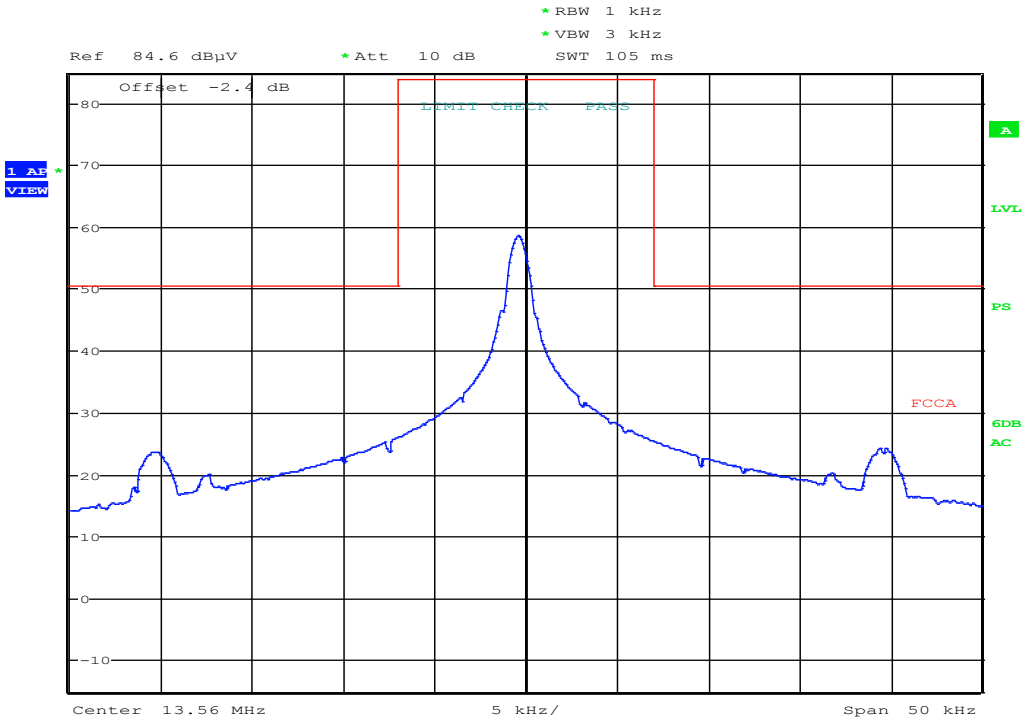
☑ None ☐ Divergence:

6.6. TEST RESULTS (WORST CONFIGURATION)

Frequency band 13.110-14.010MHz



Frequency band 13.553-13.567MHz



6.7. CONCLUSION

The sample of the equipment DESK/5000 CL /Eth/Mod Sn 151777313001010801004435, tested in the configuration presented in this test report satisfies to requirements of the standard FCC Part15C, for band-edge compliance.

7. OCCUPIED BANDWIDTH

7.1. ENVIRONMENTAL CONDITIONS

Date of test : October 14th , 2015
Test performed by : Jonathan PAUC
Atmospheric pressure (hPa) : 990
Relative humidity (%) : 41
Ambient temperature (°C) : 21

7.1. SETUP

☐ ***Conducted measurement:***
The EUT is turned ON and connected to measurement instrument; the center frequency of the spectrum analyzer is set to the fundamental frequency. The captured power is measured and recorded; the measurement is repeated until all frequencies required were complete.
Offset: Attenuator+cable 10.3dB

☑ ***Radiated measurement:***
The EUT is turned ON and connected to measurement instrument; the center frequency of the spectrum analyzer is set to the fundamental frequency. The captured power is measured and recorded; the measurement is repeated until all frequencies required were complete.

Measurement Procedure:
1. RBW used should not be lower than 1% of the selected span
2. Set the video bandwidth (VBW) ≥ 3 x RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. OBW 99% function of spectrum analyzer used

7.2. TEST EQUIPMENT LIST

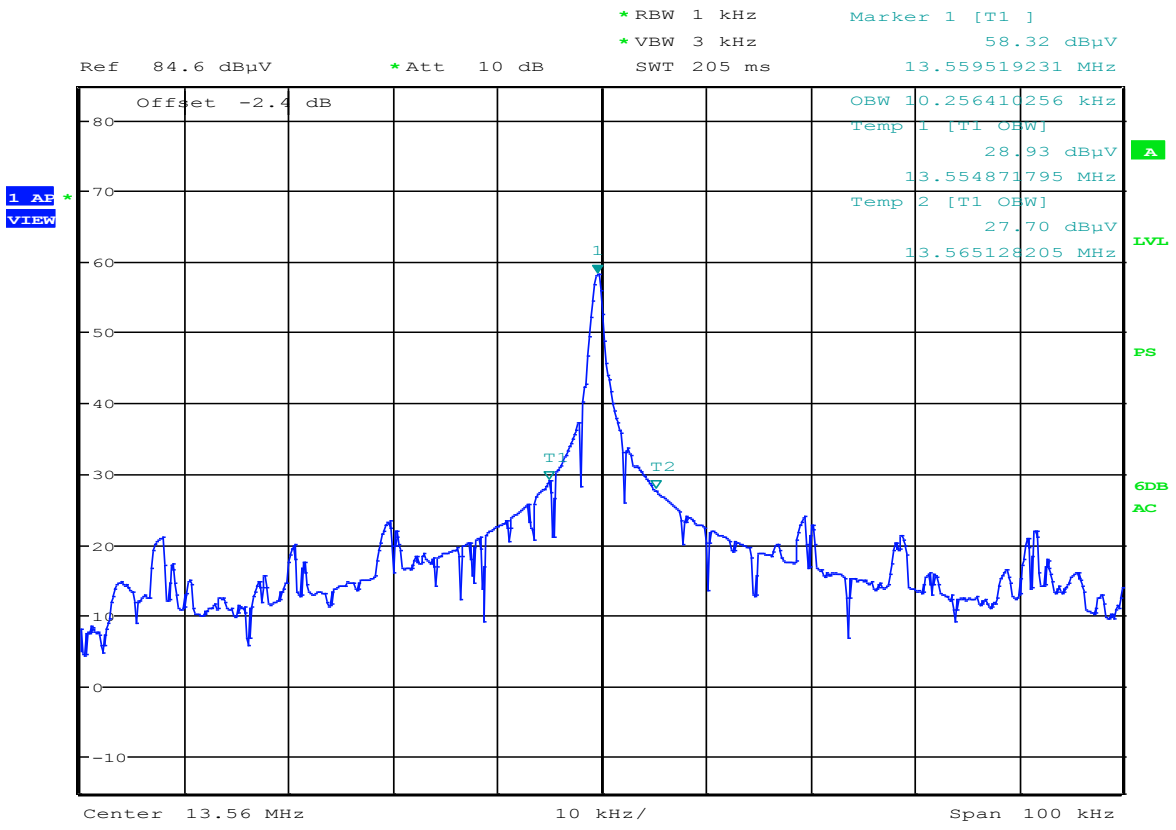
DESCRIPTION	MANUFACTURER	MODEL	N° LCIE	Cal_Date	Cal_Due
Antenna Loop	LCIE	-	-	-	-
Cable Measure	-	40G	A5329653	12/14	12/15
Multimeter - CEM	FLUKE	87	A1240251	06/15	06/16
Power supply DC 300W / 150V-6A	SODILEC	7SDLIN/GB AUTO 300	A7043036	-	-
Thermo-hygrometer (PM2)	OREGON	BAR916HG-G	B4206011	07/15	07/16
Receiver 20Hz – 8GHz	ROHDE & SCHWARZ	ESU8	A2642019	04/15	04/16
Cable	MICRO-COAX	A5329653	04/15	04/16	

7.3. DIVERGENCE, ADDITION OR SUPPRESSION ON THE TEST SPECIFICATION

☑ None ☐ Divergence:

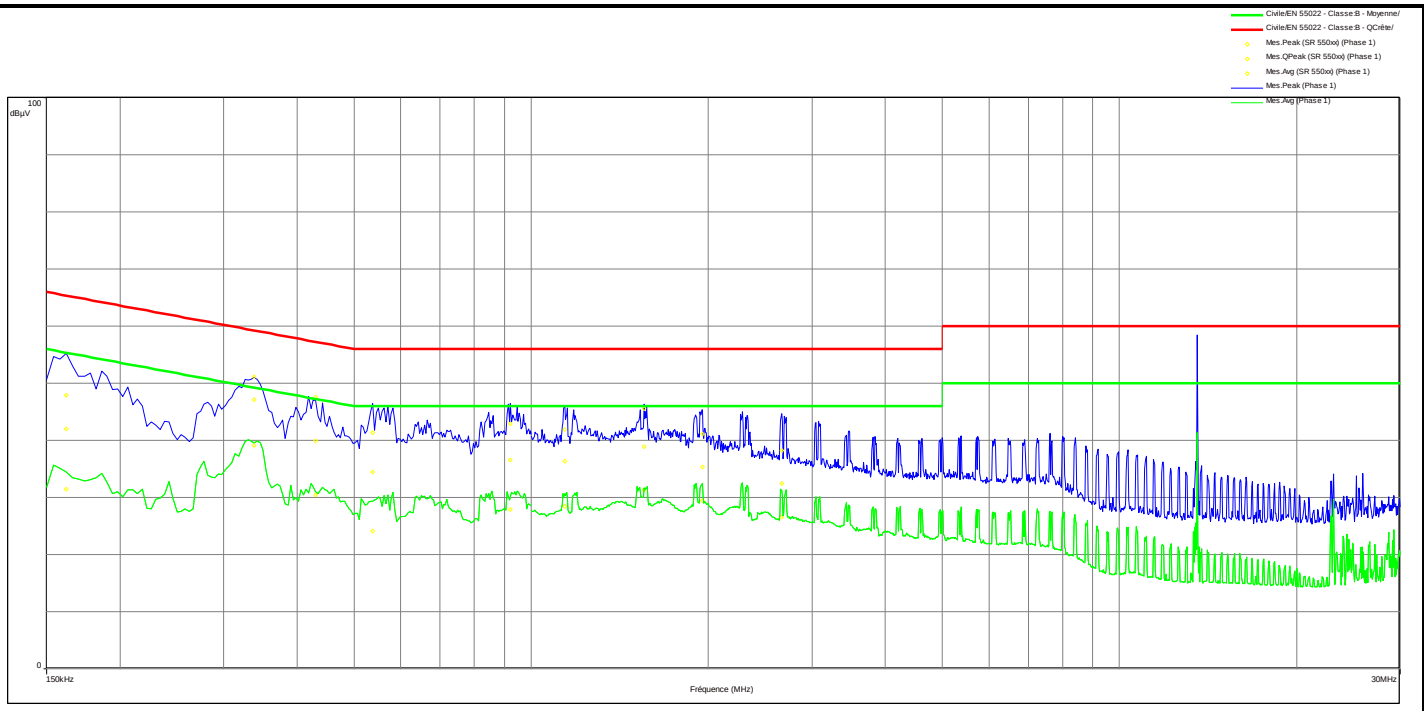
7.4. TEST SEQUENCE AND RESULTS

Channel Frequency (MHz)	99% Occupied Bandwidth (kHz)
13.56	**10.256**



8. ANNEX 1 (GRAPHS)

CONDUCTED EMISSIONS			
Graph name:	Emc#5	**Test configuration:**	
Limit:	EN 55022	Configuration n°3 - AC/DC Adaptor#3	
Class:	B		
Frequency range: [150kHz - 30MHz]			
Voltage / Frequency:	110VAC / 60Hz	**RBW :**	10kHz
Line:	Phase	**VBW :**	30kHz

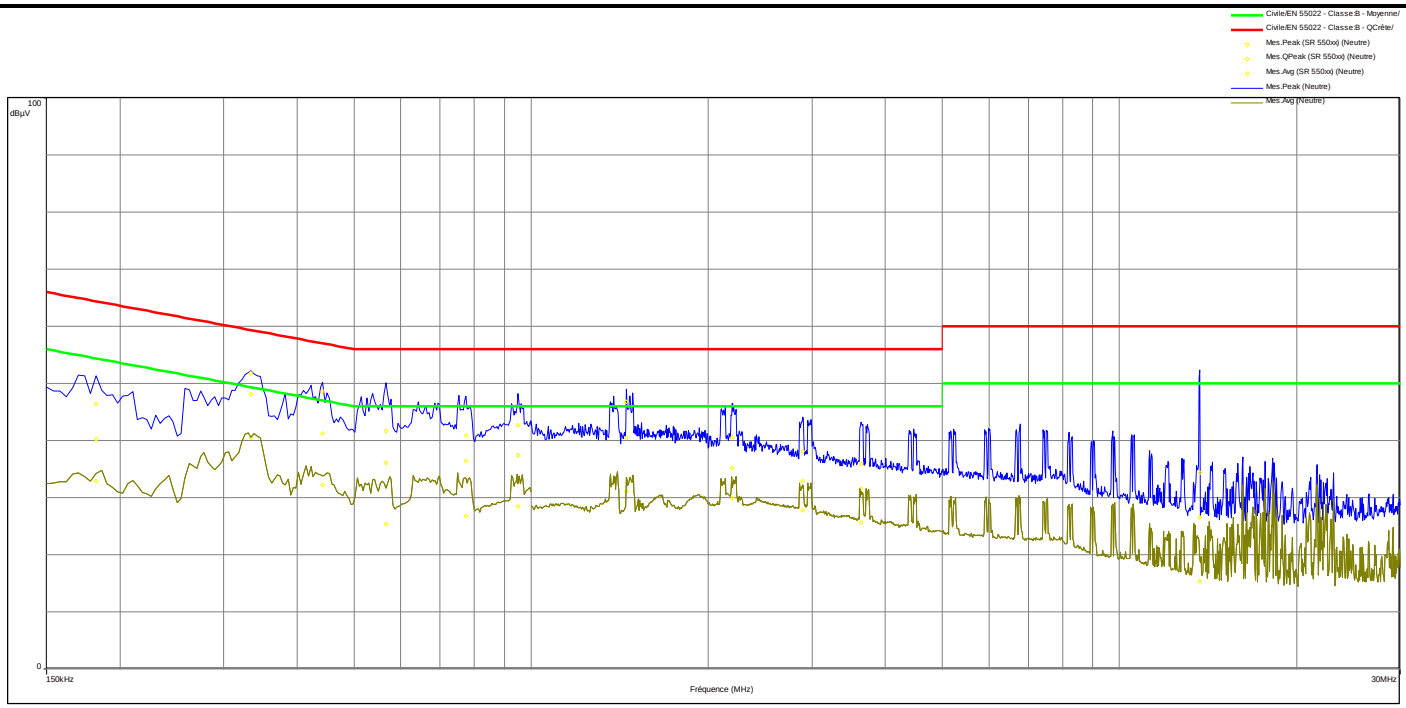


Spurious emissions

Frequency (MHz)	Mes.Peak (dBµV)	Mes.QPeak (dBµV)	LimQP (dBµV)	Mes.QPeak-LimQP (dB)	Mes.Avg (dBµV)	LimAvg (dBµV)	Mes.Avg-LimAvg (dB)
0.162	47.9	42.0	65.4	-23.3	31.5	55.4	-23.9
0.338	51.1	47.1	59.3	-12.2	39.1	49.3	-10.2
0.43	47.6	39.9	57.3	-17.4	30.5	47.3	-16.8
0.538	41.3	34.4	56.0	-21.6	24.1	46.0	-21.9
0.922	42.9	36.6	56.0	-19.4	27.9	46.0	-18.1
1.14	41.9	36.3	56.0	-19.7	28.4	46.0	-17.6
1.556	45.6	38.8	56.0	-17.2	31.4	46.0	-14.6
1.956	41.1	35.3	56.0	-20.7	29.4	46.0	-16.6
2.664	38.2	32.4	56.0	-23.6	26.6	46.0	-19.5
13.56*	58.2	-	-	-	-	-	-

* : Carrier frequency

CONDUCTED EMISSIONS			
Graph name:	Emc#6	**Test configuration:**	
Limit:	EN 55022	Configuration n°3 - AC/DC Adaptor#3	
Class:	B		
Frequency range: [150kHz - 30MHz]			
Voltage / Frequency:	110VAC / 60Hz	**RBW :**	10kHz
Line:	Neutral	**VBW :**	30kHz

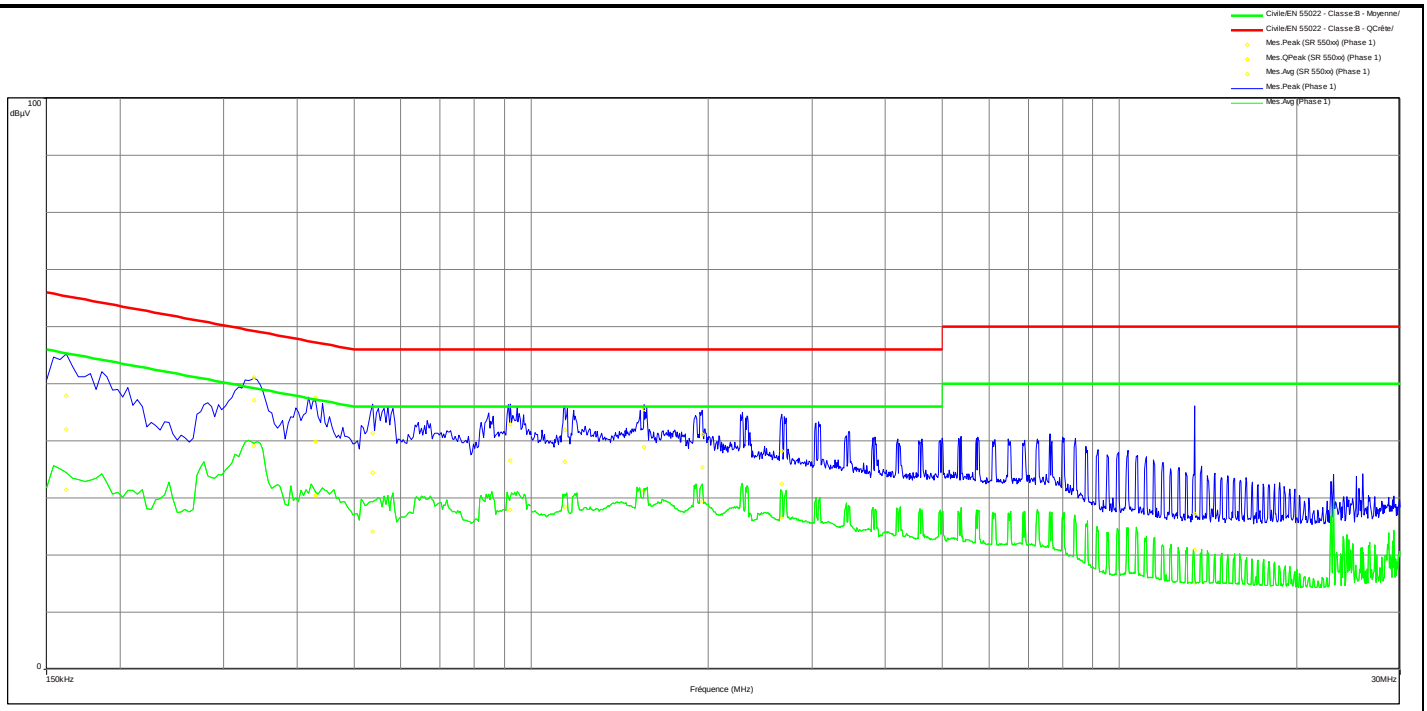


Spurious emissions

Frequency (MHz)	Mes.Peak (dBµV)	Mes.QPeak (dBµV)	LimQP (dBµV)	Mes.QPeak-LimQ P (dB)	Mes.Avg (dBµV)	LimAvg (dBµV)	Mes.Avg-LimAvg (dB)
0.182	46.5	40.3	64.4	-24.1	32.9	54.4	-21.5
0.334	51.8	48.1	59.4	-11.3	40.4	49.4	-8.9
0.442	48.7	41.2	57.0	-15.8	32.2	47.0	-14.8
0.566	41.7	36.2	56.0	-19.9	25.3	46.0	-20.7
0.774	40.9	36.4	56.0	-19.6	26.8	46.0	-19.2
0.95	42.6	37.5	56.0	-18.5	28.5	46.0	-17.5
1.452	46.8	40.5	56.0	-15.5	31.2	46.0	-14.8
2.196	40.6	35.2	56.0	-20.8	29.8	46.0	-16.2
2.892	38.1	32.9	56.0	-23.1	27.8	46.0	-18.2
3.636	35.8	31.5	56.0	-24.5	25.7	46.0	-20.3
13.56*	53.4-	-	-	-	-	-	-

* : Carrier frequency

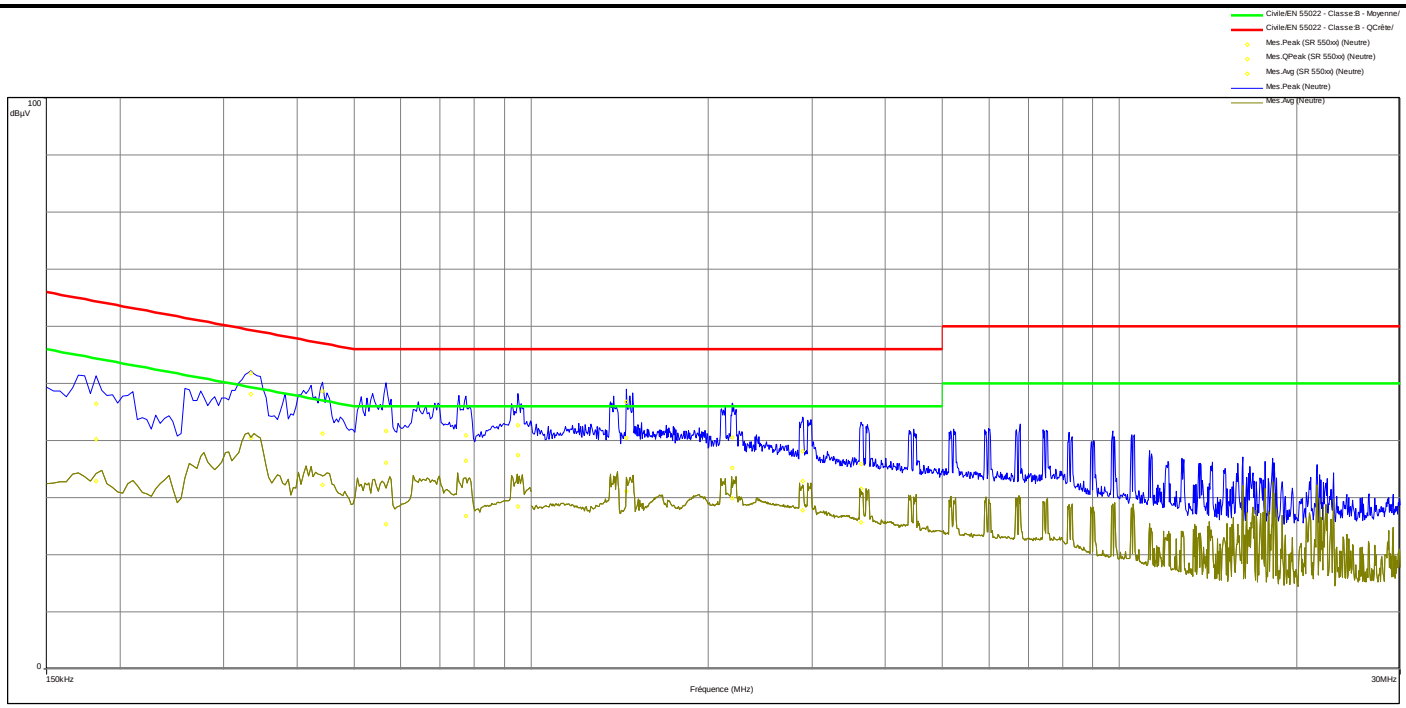
CONDUCTED EMISSIONS			
Graph name:	Emc#7	**Test configuration:**	
Limit:	EN 55022	Configuration n°3 - AC/DC Adaptor#3 - dummy load	
Class:	B		
Frequency range: [150kHz - 30MHz]			
Voltage / Frequency:	110VAC / 60Hz	**RBW :**	10kHz
Line:	Phase	**VBW :**	30kHz



Spurious emissions

Frequency (MHz)	Mes.Peak (dBµV)	Mes.QPeak (dBµV)	LimQP (dBµV)	Mes.QPeak-LimQP (dB)	Mes.Avg (dBµV)	LimAvg (dBµV)	Mes.Avg-LimAvg (dB)
0.162	47.9	42.0	65.4	-23.3	31.5	55.4	-23.9
0.338	51.1	47.1	59.3	-12.2	39.1	49.3	-10.2
0.43	47.6	39.9	57.3	-17.4	30.5	47.3	-16.8
0.538	41.3	34.4	56.0	-21.6	24.1	46.0	-21.9
0.922	42.9	36.6	56.0	-19.4	27.9	46.0	-18.1
1.14	41.9	36.3	56.0	-19.7	28.4	46.0	-17.6
1.556	45.6	38.8	56.0	-17.2	31.4	46.0	-14.6
1.956	41.1	35.3	56.0	-20.7	29.4	46.0	-16.6
2.664	38.2	32.4	56.0	-23.6	26.6	46.0	-19.5
13.428	27.3	20.9	60.0	-39.1	15.2	50.0	-34.8

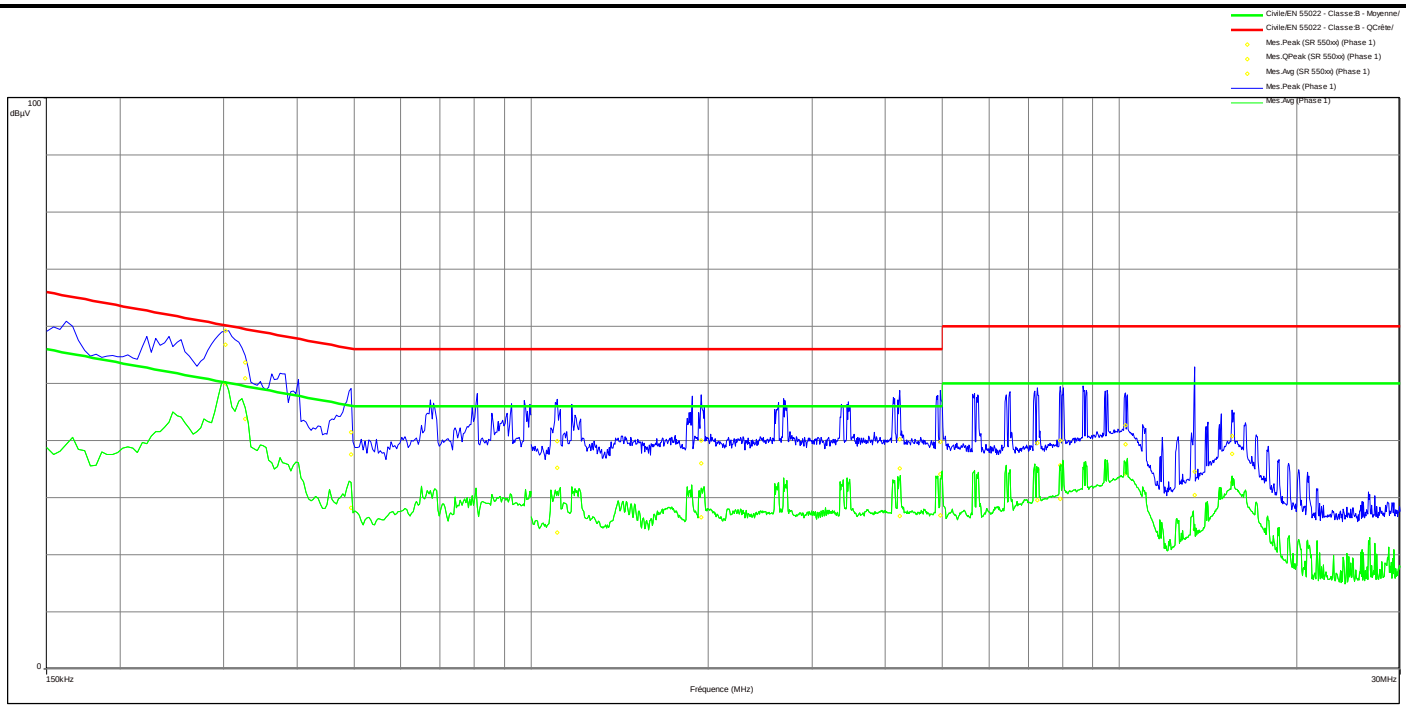
CONDUCTED EMISSIONS			
Graph name:	Emc#8	**Test configuration:**	
Limit:	EN 55022	Configuration n°3 - AC/DC Adaptor#3- dummy load	
Class:	B		
Frequency range: [150kHz - 30MHz]			
Voltage / Frequency:	110VAC / 60Hz	**RBW :**	10kHz
Line:	Neutral	**VBW :**	30kHz



Spurious emissions

Frequency (MHz)	Mes.Peak (dBµV)	Mes.QPeak (dBµV)	LimQP (dBµV)	Mes.QPeak-LimQP (dB)	Mes.Avg (dBµV)	LimAvg (dBµV)	Mes.Avg-LimAvg (dB)
0.182	46.5	40.3	64.4	-24.1	32.9	54.4	-21.5
0.334	51.8	48.1	59.4	-11.3	40.4	49.4	-8.9
0.442	48.7	41.2	57.0	-15.8	32.2	47.0	-14.8
0.566	41.7	36.2	56.0	-19.9	25.3	46.0	-20.7
0.774	40.9	36.4	56.0	-19.6	26.8	46.0	-19.2
0.95	42.6	37.5	56.0	-18.5	28.5	46.0	-17.5
1.452	46.8	40.5	56.0	-15.5	31.2	46.0	-14.8
2.196	40.6	35.2	56.0	-20.8	29.8	46.0	-16.2
2.892	38.1	32.9	56.0	-23.1	27.8	46.0	-18.2
3.636	35.8	31.5	56.0	-24.5	25.7	46.0	-20.3

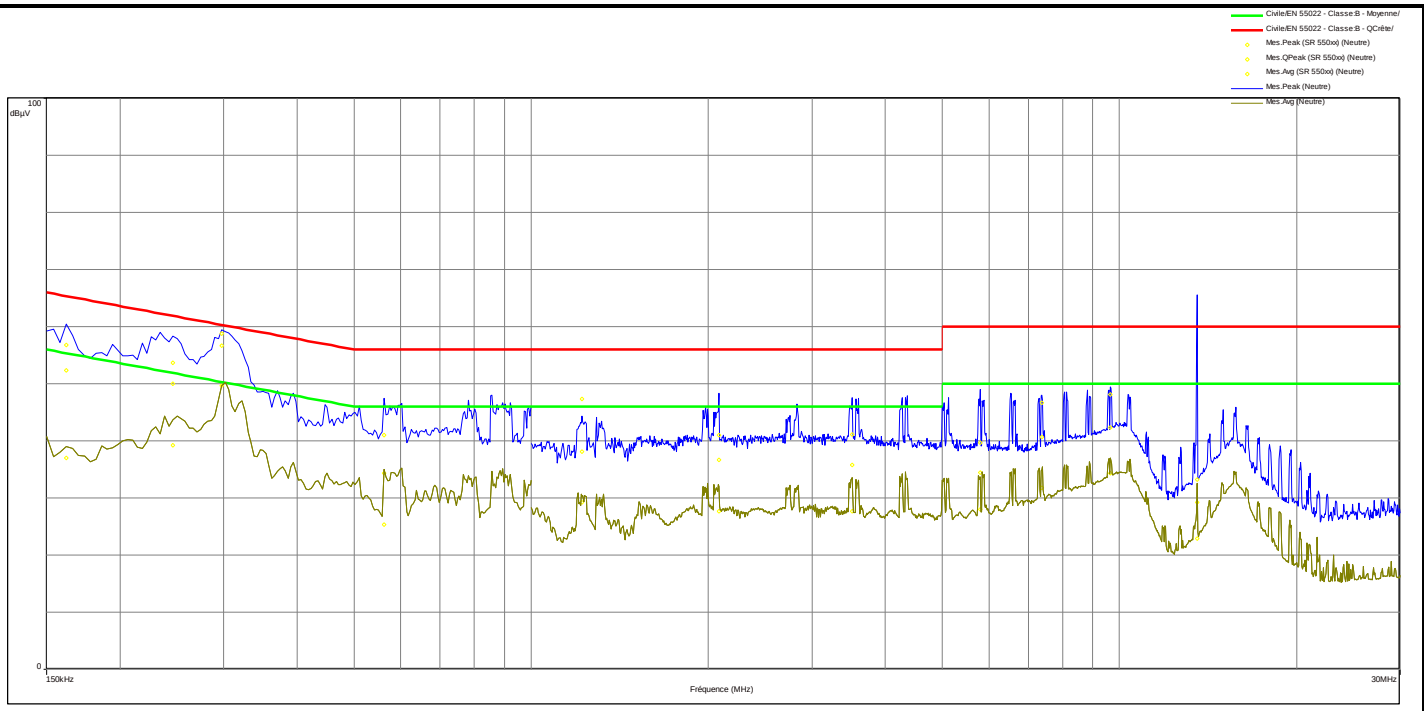
CONDUCTED EMISSIONS			
Graph name:	Emc#9	**Test configuration:**	
Limit:	EN 55022	Configuration n°4 - AC/DC Adaptor#4	
Class:	B		
Frequency range: [150kHz - 30MHz]			
Voltage / Frequency:	110VAC / 60Hz	**RBW :**	10kHz
Line:	Phase	**VBW :**	30kHz



Frequency (MHz)	Mes.Peak (dBµV)	Mes.QPeak (dBµV)	LimQP (dBµV)	Mes.QPeak-LimQP (dB)	Mes.Avg (dBµV)	LimAvg (dBµV)	Mes.Avg-LimAvg (dB)
0.302	59.2	56.8	60.2	-3.4	50.0	50.2	-0.2
0.326	53.7	50.9	59.6	-8.7	43.7	49.6	-5.8
0.494	41.5	37.5	56.1	-18.6	28.3	46.1	-17.8
1.108	39.9	35.2	56.0	-20.8	23.9	46.0	-22.1
1.944	40.1	36.0	56.0	-20.0	26.6	46.0	-19.4
4.228	40.2	35.1	56.0	-20.9	26.8	46.0	-19.2
4.96	39.7	34.2	56.0	-21.8	26.8	46.0	-19.2
7.256	39.6	34.9	60.0	-25.1	29.6	50.0	-20.4
7.936	40.0	35.6	60.0	-24.4	29.8	50.0	-20.3
10.228	42.6	39.4	60.0	-20.6	34.2	50.0	-15.8
13.42*	34.5	30.5	60.0	-29.5	24.4	50.0	-25.6
15.556	40.8	37.7	60.0	-22.4	32.6	50.0	-17.4

* : Carrier frequency

CONDUCTED EMISSIONS			
Graph name:	Emc#10	**Test configuration:**	
Limit:	EN 55022	Configuration n°4 - AC/DC Adaptor#4	
Class:	B		
Frequency range: [150kHz - 30MHz]			
Voltage / Frequency:	110VAC / 60Hz	**RBW :**	10kHz
Line:	Neutral	**VBW :**	30kHz

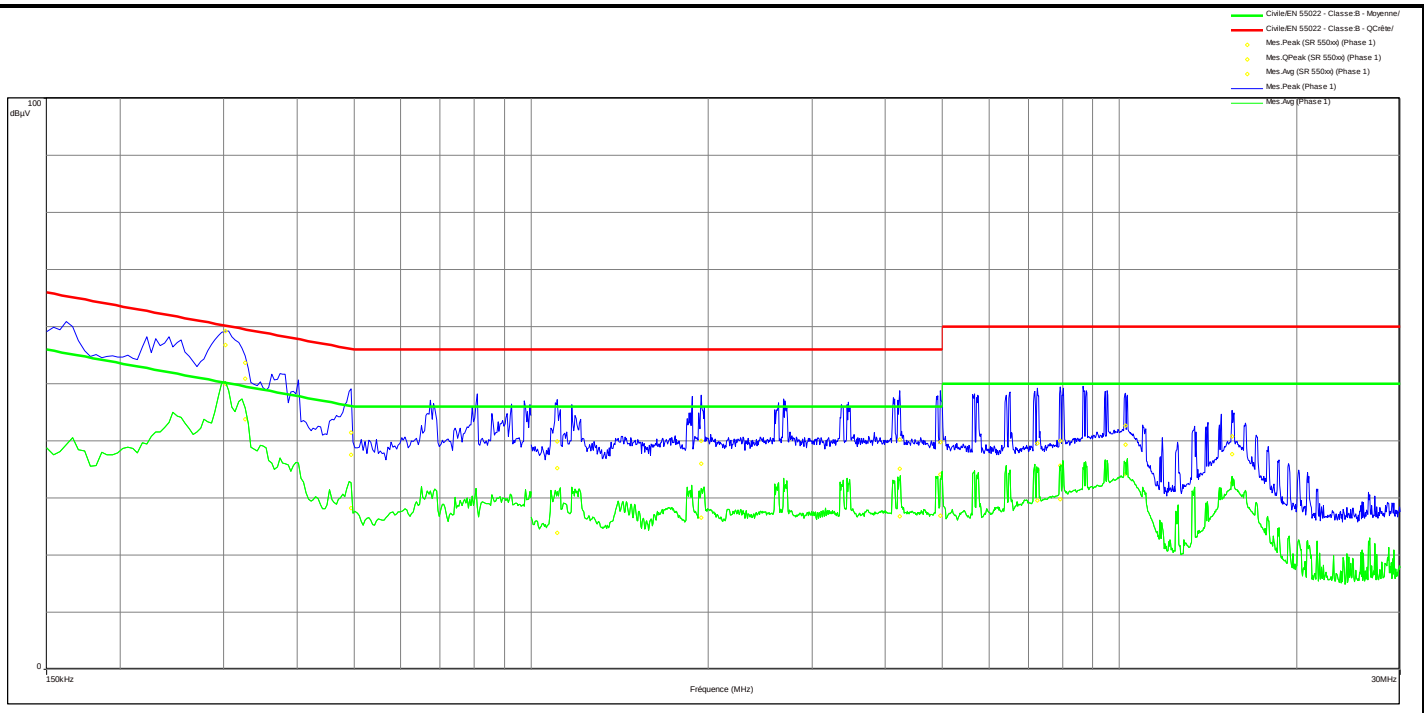


Spurious emissions

Frequency (MHz)	Mes.Peak (dBµV)	Mes.QPeak (dBµV)	LimQP (dBµV)	Mes.QPeak-LimQP (dB)	Mes.Avg (dBµV)	LimAvg (dBµV)	Mes.Avg-LimAvg (dB)
0.162	56.8	52.4	65.4	-13.0	37.0	55.4	-18.3
0.246	53.7	50.0	61.9	-11.9	39.2	51.9	-12.7
0.298	58.8	56.6	60.3	-3.7	49.6	50.3	-0.7
0.562	41.0	34.4	56.0	-21.7	25.4	46.0	-20.6
1.22	47.3	38.1	56.0	-17.9	29.2	46.0	-16.8
2.084	41.0	36.7	56.0	-19.4	27.6	46.0	-18.4
3.512	41.1	35.8	56.0	-20.2	27.7	46.0	-18.3
5.792	39.7	34.4	60.0	-25.6	28.1	50.0	-22.0
7.38	46.6	40.7	60.0	-19.3	31.8	50.0	-18.2
9.644	48.2	42.3	60.0	-17.7	34.4	50.0	-15.6
13.552*	33.2	29.2	60.0	-30.8	22.8	50.0	-27.2

* : Carrier frequency

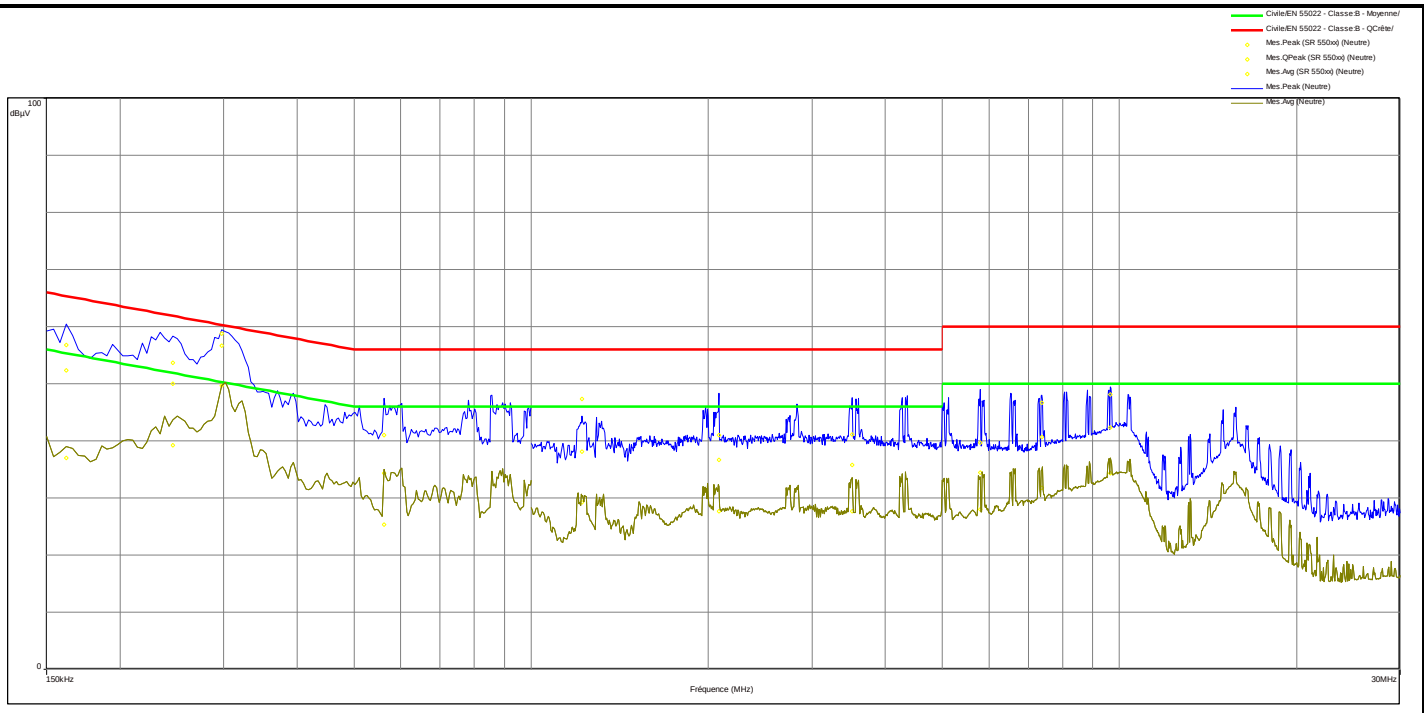
CONDUCTED EMISSIONS			
Graph name:	Emc#11	**Test configuration:**	
Limit:	EN 55022	Configuration n°4 - AC/DC Adaptor#4 - dummy load	
Class:	B		
Frequency range: [150kHz - 30MHz]			
Voltage / Frequency:	110VAC / 60Hz	**RBW :**	10kHz
Line:	Phase	**VBW :**	30kHz



Spurious emissions

Frequency (MHz)	Mes.Peak (dBµV)	Mes.QPeak (dBµV)	LimQP (dBµV)	Mes.QPeak-LimQP (dB)	Mes.Avg (dBµV)	LimAvg (dBµV)	Mes.Avg-LimAvg (dB)
0.302	59.2	56.8	60.2	-3.4	50.0	50.2	-0.2
0.326	53.7	50.9	59.6	-8.7	43.7	49.6	-5.8
0.494	41.5	37.5	56.1	-18.6	28.3	46.1	-17.8
1.108	39.9	35.2	56.0	-20.8	23.9	46.0	-22.1
1.944	40.1	36.0	56.0	-20.0	26.6	46.0	-19.4
4.228	40.2	35.1	56.0	-20.9	26.8	46.0	-19.2
4.96	39.7	34.2	56.0	-21.8	26.8	46.0	-19.2
7.256	39.6	34.9	60.0	-25.1	29.6	50.0	-20.4
7.936	40.0	35.6	60.0	-24.4	29.8	50.0	-20.3
10.228	42.6	39.4	60.0	-20.6	34.2	50.0	-15.8
15.556	40.8	37.7	60.0	-22.4	32.6	50.0	-17.4

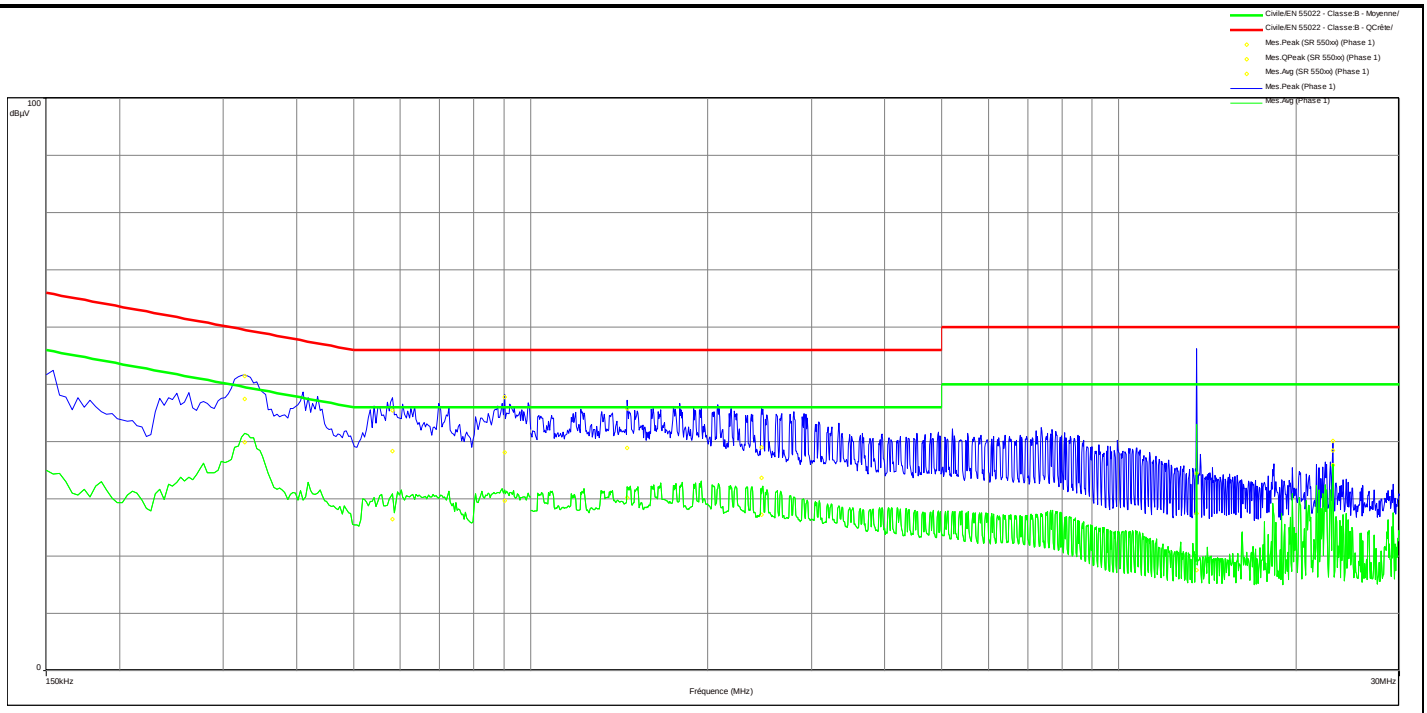
CONDUCTED EMISSIONS			
Graph name:	Emc#12	**Test configuration:**	
Limit:	EN 55022	Configuration n°4 - AC/DC Adaptor#4 - dummy load	
Class:	B		
Frequency range: [150kHz - 30MHz]			
Voltage / Frequency:	110VAC / 60Hz	**RBW :**	10kHz
Line:	Neutral	**VBW :**	30kHz



Spurious emissions

Frequency (MHz)	Mes.Peak (dBµV)	Mes.QPeak (dBµV)	LimQP (dBµV)	Mes.QPeak-LimQP (dB)	Mes.Avg (dBµV)	LimAvg (dBµV)	Mes.Avg-LimAvg (dB)
0.162	56.8	52.4	65.4	-13.0	37.0	55.4	-18.3
0.246	53.7	50.0	61.9	-11.9	39.2	51.9	-12.7
0.298	58.8	56.6	60.3	-3.7	49.6	50.3	-0.7
0.562	41.0	34.4	56.0	-21.7	25.4	46.0	-20.6
1.22	47.3	38.1	56.0	-17.9	29.2	46.0	-16.8
2.084	41.0	36.7	56.0	-19.4	27.6	46.0	-18.4
3.512	41.1	35.8	56.0	-20.2	27.7	46.0	-18.3
5.792	39.7	34.4	60.0	-25.6	28.1	50.0	-22.0
7.38	46.6	40.7	60.0	-19.3	31.8	50.0	-18.2
9.644	48.2	42.3	60.0	-17.7	34.4	50.0	-15.6

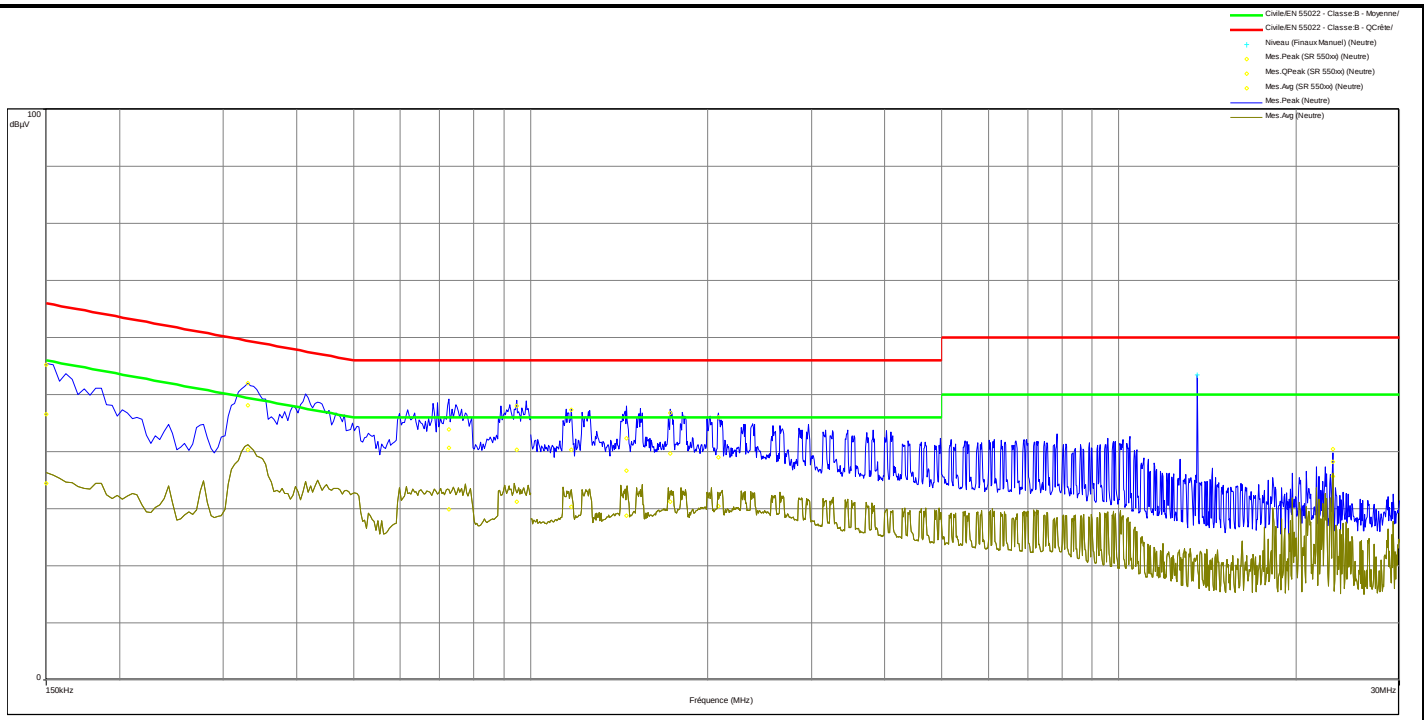
CONDUCTED EMISSIONS			
Graph name:	Emc#13	**Test configuration:**	
Limit:	EN 55022	Configuration n°5 - AC/DC Adaptor#3	
Class:	B		
Frequency range: [150kHz - 30MHz]			
Voltage / Frequency:	110VAC / 60Hz	**RBW :**	10kHz
Line:	Phase	**VBW :**	30kHz



Frequency (MHz)	Mes.Peak (dBµV)	Mes.QPeak (dBµV)	LimQP (dBµV)	Mes.QPeak-LimQP (dB)	Mes.Avg (dBµV)	LimAvg (dBµV)	Mes.Avg-LimAvg (dB)
0.326	51.4	47.4	59.6	-12.1	39.9	49.6	-9.7
0.582	45.5	38.3	56.0	-17.7	26.4	46.0	-19.6
0.902	47.7	38.1	56.0	-17.9	29.6	46.0	-16.4
1.46	45.8	38.9	56.0	-17.1	30.3	46.0	-15.8
2.468	39.0	33.6	56.0	-22.4	27.2	46.0	-18.8
13.56*	34.4	27.5	60.0	-32.5	17.6	50.0	-32.4
23.128	40.1	38.4	60.0	-21.6	35.9	50.0	-14.1

* : Carrier frequency

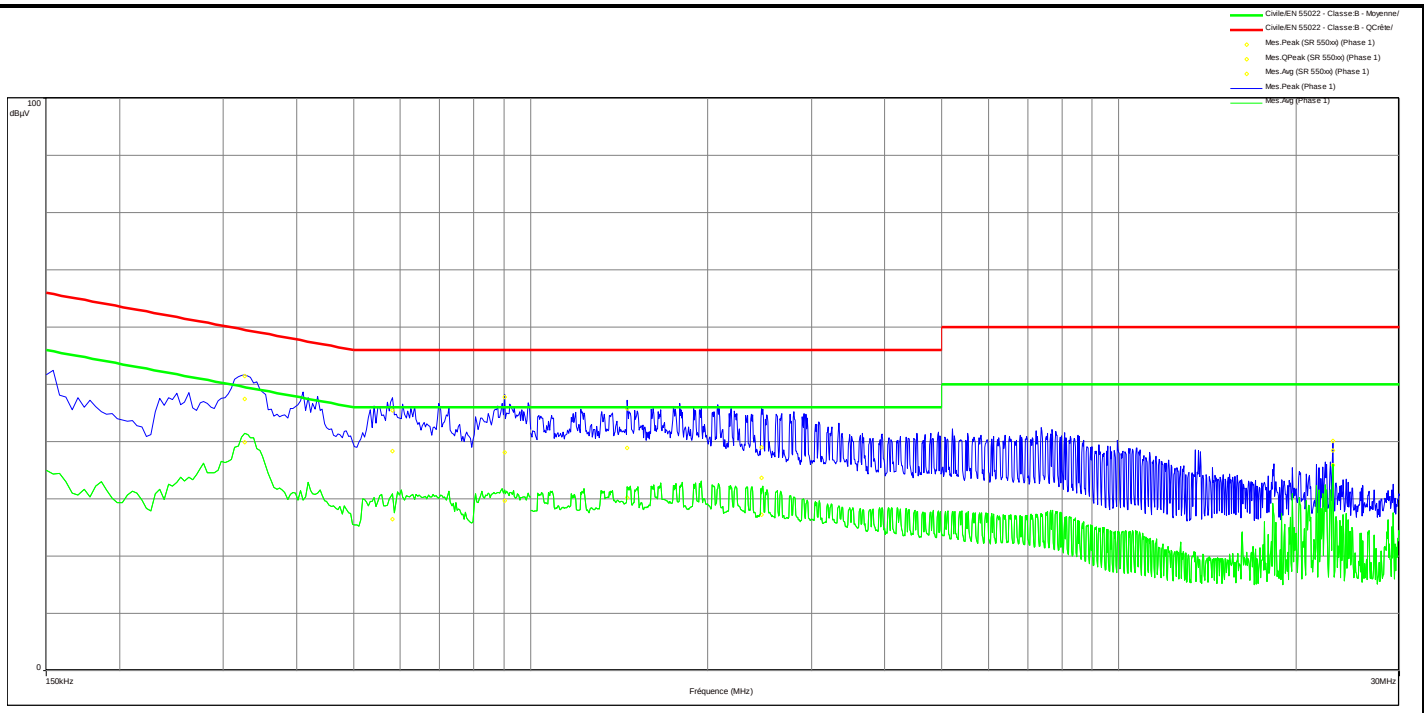
CONDUCTED EMISSIONS			
Graph name:	Emc#14	**Test configuration:**	
Limit:	EN 55022	Configuration n°5 - AC/DC Adaptor#3	
Class:	B		
Frequency range: [150kHz - 30MHz]			
Voltage / Frequency:	110VAC / 60Hz	**RBW :**	10kHz
Line:	Neutral	**VBW :**	30kHz



Frequency (MHz)	Mes.Peak (dBµV)	Mes.QPeak (dBµV)	LimQP (dBµV)	Mes.QPeak-LimQP (dB)	Mes.Avg (dBµV)	LimAvg (dBµV)	Mes.Avg-LimAvg (dB)
0.15	55.2	46.6	66.0	-19.4	34.5	56.0	-21.5
0.33	52.0	48.1	59.5	-11.4	40.4	49.5	-9.1
0.726	43.9	40.7	56.0	-15.3	29.8	46.0	-16.2
0.946	48.0	40.4	56.0	-15.6	31.2	46.0	-14.8
1.172	47.4	40.3	56.0	-15.7	30.3	46.0	-15.7
1.456	42.4	36.6	56.0	-19.4	28.8	46.0	-17.2
1.728	55.2	46.6	66.0	-19.4	34.5	56.0	-21.5
2.084	52.0	48.1	59.5	-11.4	40.4	49.5	-9.1
13.572*	53.4	-	-	-	-	-	-
23.128	43.9	40.7	56.0	-15.3	29.8	46.0	-16.2

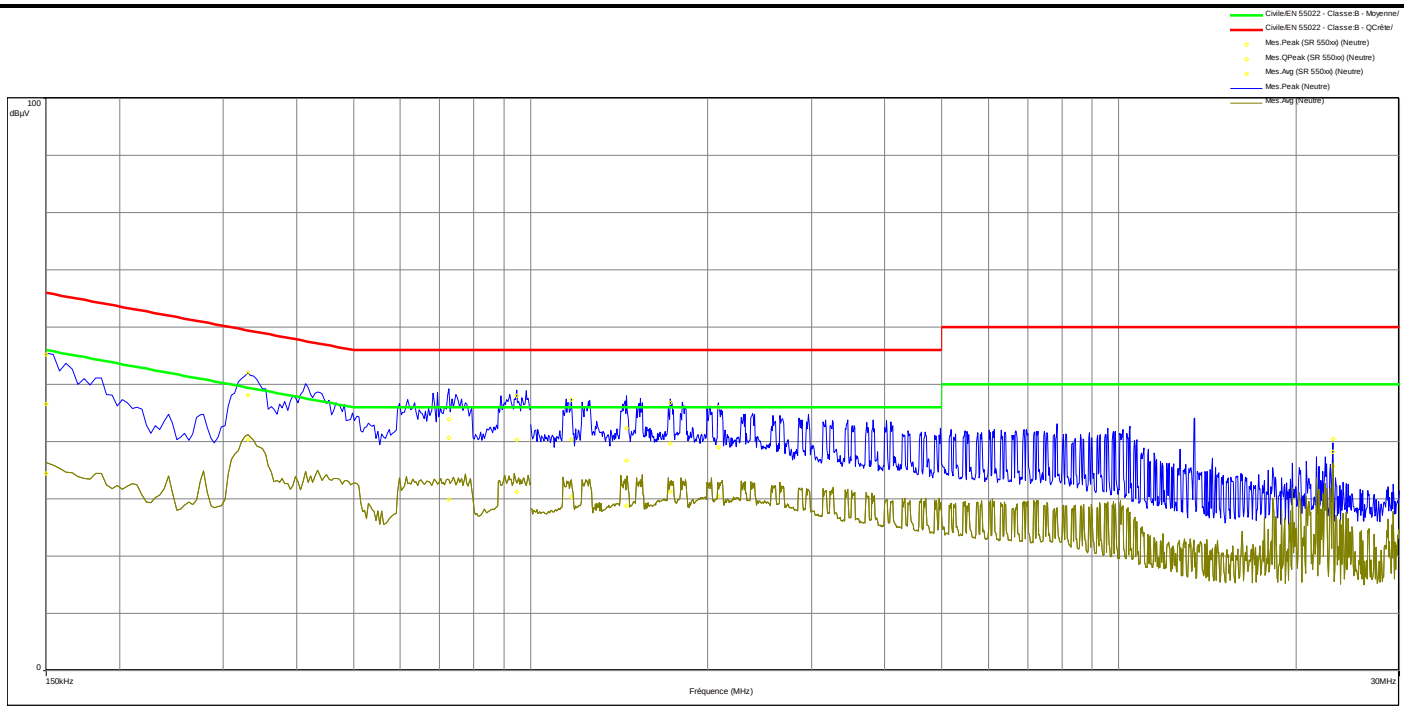
* : Carrier frequency

CONDUCTED EMISSIONS			
Graph name:	Emc#15	**Test configuration:**	
Limit:	EN 55022	Configuration n°5 - AC/DC Adaptor#3- dummy load	
Class:	B		
Frequency range: [150kHz - 30MHz]			
Voltage / Frequency:	110VAC / 60Hz	**RBW :**	10kHz
Line:	Phase	**VBW :**	30kHz



Frequency (MHz)	Mes.Peak (dBµV)	Mes.QPeak (dBµV)	LimQP (dBµV)	Mes.QPeak-LimQP (dB)	Mes.Avg (dBµV)	LimAvg (dBµV)	Mes.Avg-LimAvg (dB)
0.326	51.4	47.4	59.6	-12.1	39.9	49.6	-9.7
0.582	45.5	38.3	56.0	-17.7	26.4	46.0	-19.6
0.902	47.7	38.1	56.0	-17.9	29.6	46.0	-16.4
1.46	45.8	38.9	56.0	-17.1	30.3	46.0	-15.8
2.468	39.0	33.6	56.0	-22.4	27.2	46.0	-18.8
23.128	40.1	38.4	60.0	-21.6	35.9	50.0	-14.1

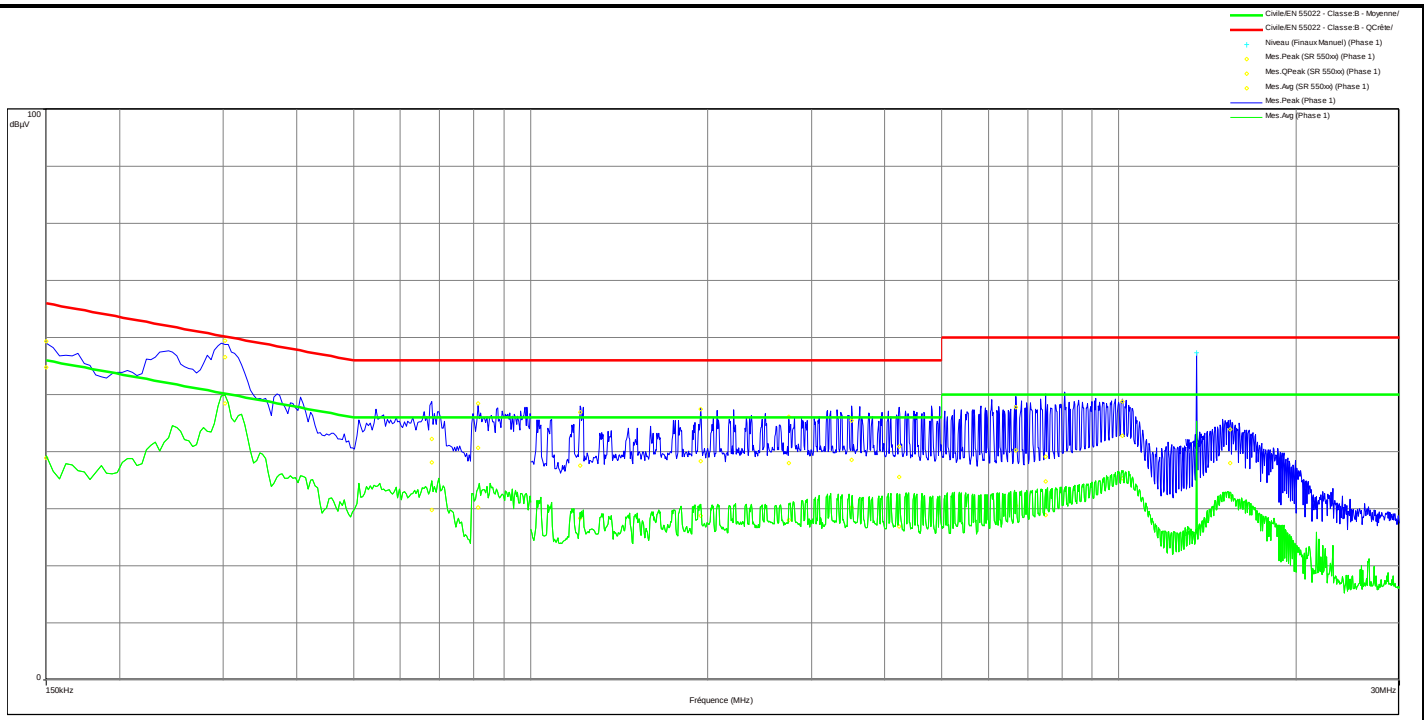
CONDUCTED EMISSIONS			
Graph name:	Emc#16	**Test configuration:**	
Limit:	EN 55022	Configuration n°5 - AC/DC Adaptor#3 - dummy load	
Class:	B		
Frequency range: [150kHz - 30MHz]			
Voltage / Frequency:	110VAC / 60Hz	**RBW :**	10kHz
Line:	Neutral	**VBW :**	30kHz



Spurious emissions

Frequency (MHz)	Mes.Peak (dBµV)	Mes.QPeak (dBµV)	LimQP (dBµV)	Mes.QPeak-LimQP (dB)	Mes.Avg (dBµV)	LimAvg (dBµV)	Mes.Avg-LimAvg (dB)
0.15	55.2	46.6	66.0	-19.4	34.5	56.0	-21.5
0.33	52.0	48.1	59.5	-11.4	40.4	49.5	-9.1
0.726	43.9	40.7	56.0	-15.3	29.8	46.0	-16.2
0.946	48.0	40.4	56.0	-15.6	31.2	46.0	-14.8
1.172	47.4	40.3	56.0	-15.7	30.3	46.0	-15.7
1.456	42.4	36.6	56.0	-19.4	28.8	46.0	-17.2
1.728	55.2	46.6	66.0	-19.4	34.5	56.0	-21.5
2.084	52.0	48.1	59.5	-11.4	40.4	49.5	-9.1
23.128	43.9	40.7	56.0	-15.3	29.8	46.0	-16.2

CONDUCTED EMISSIONS			
Graph name:	Emc#17	**Test configuration:**	
Limit:	EN 55022	Configuration n°6 - AC/DC Adaptor#4	
Class:	B		
Frequency range: [150kHz - 30MHz]			
Voltage / Frequency:	110VAC / 60Hz	**RBW :**	10kHz
Line:	Phase	**VBW :**	30kHz

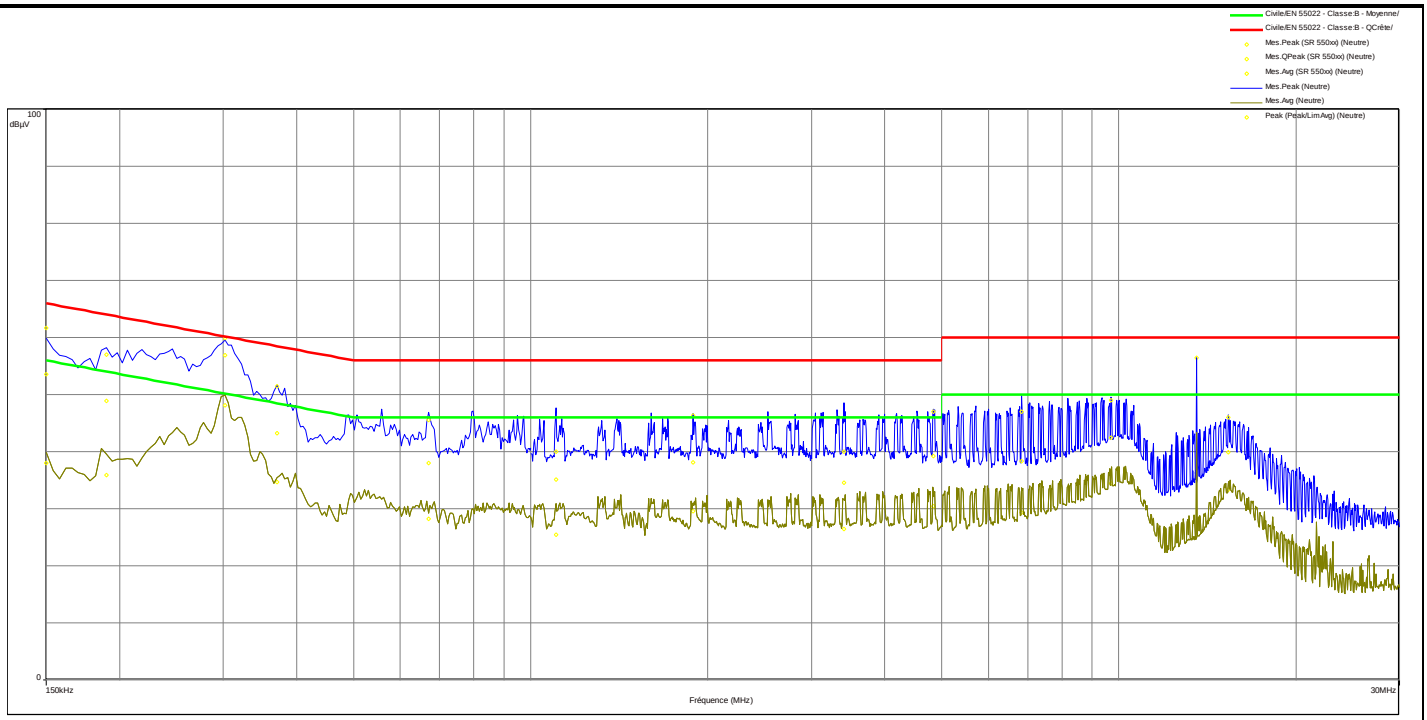


Spurious emissions

Frequency (MHz)	Mes.Peak (dBµV)	Mes.QPeak (dBµV)	LimQP (dBµV)	Mes.QPeak-LimQP (dB)	Mes.Avg (dBµV)	LimAvg (dBµV)	Mes.Avg-LimAvg (dB)
0.15	59.4	54.7	66.0	-11.3	38.9	56.0	-17.1
0.302	59.5	56.6	60.2	-3.6	48.4	50.2	-1.8
0.678	42.3	38.1	56.0	-17.9	29.7	46.0	-16.3
0.814	48.5	40.6	56.0	-15.4	30.3	46.0	-15.7
1.212	46.9	37.6	56.0	-18.4	28.3	46.0	-17.7
1.944	47.4	38.3	56.0	-17.7	28.7	46.0	-17.3
2.744	46.1	38.0	56.0	-18.1	28.0	46.0	-18.0
3.516	45.5	38.6	56.0	-17.4	30.2	46.0	-15.8
4.232	40.9	35.5	56.0	-20.5	26.9	46.0	-19.1
6.676	47.8	40.3	60.0	-19.7	30.5	50.0	-19.5
7.512	39.2	34.8	60.0	-25.2	28.9	50.0	-21.1
10.136	48.8	42.8	60.0	-17.2	35.4	50.0	-14.6
13.56*	57.4	-	-	-	-	-	-
15.468	43.9	38.0	60.0	-22.1	32.1	50.0	-17.9

* : Carrier frequency

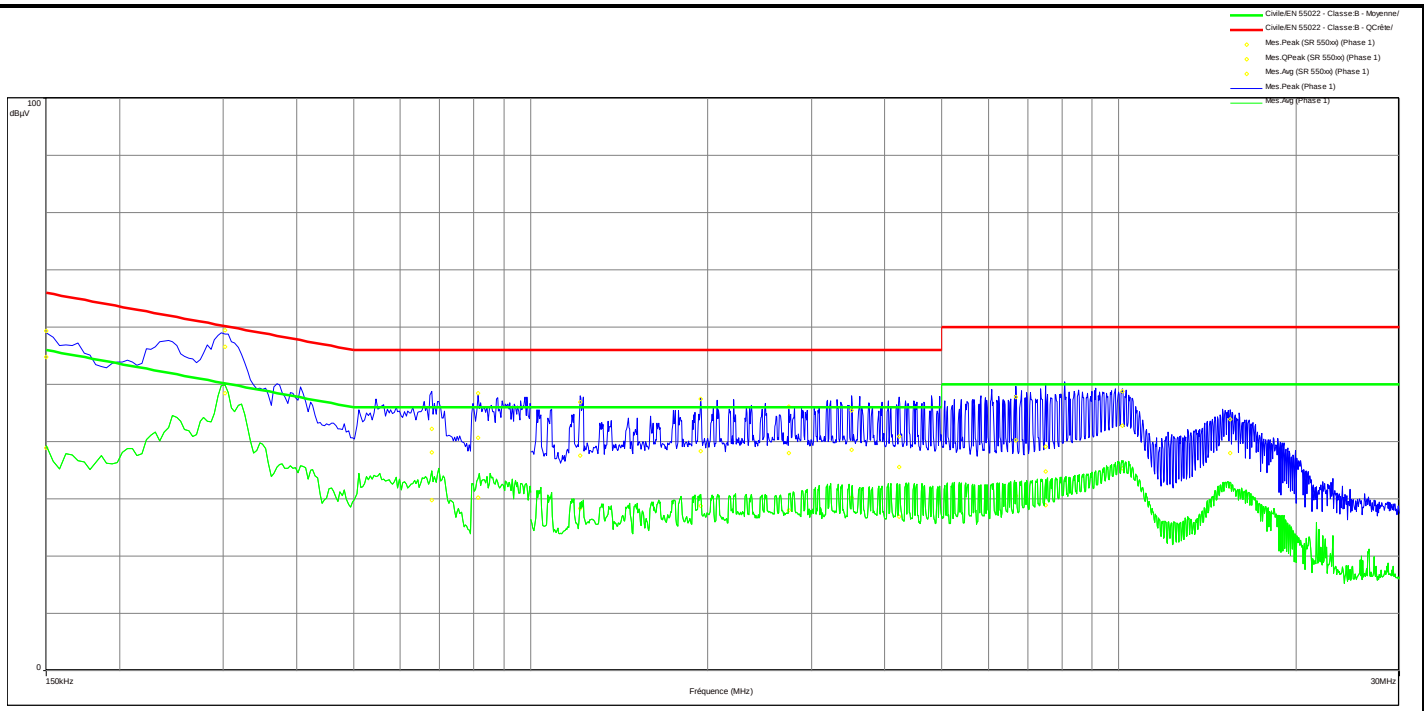
CONDUCTED EMISSIONS			
Graph name:	Emc#18	**Test configuration:**	
Limit:	EN 55022	Configuration n°6 - AC/DC Adaptor#4	
Class:	B		
Frequency range: [150kHz - 30MHz]			
Voltage / Frequency:	110VAC / 60Hz	**RBW :**	10kHz
Line:	Neutral	**VBW :**	30kHz



Frequency (MHz)	Mes.Peak (dBµV)	Mes.QPeak (dBµV)	LimQP (dBµV)	Mes.QPeak-LimQP (dB)	Mes.Avg (dBµV)	LimAvg (dBµV)	Mes.Avg-LimAvg (dB)
0.15	61.6	53.5	66.0	-12.5	38.0	56.0	-18.0
0.19	57.0	48.9	64.0	-15.2	35.8	54.0	-18.2
0.302	59.9	56.9	60.2	-3.3	48.1	50.2	-2.1
0.37	51.5	43.3	58.5	-15.2	34.6	48.5	-13.9
0.67	45.6	38.0	56.0	-18.0	28.3	46.0	-17.7
1.104	40.0	35.1	56.0	-20.9	25.5	46.0	-20.5
1.888	46.4	38.2	56.0	-17.8	29.6	46.0	-16.5
3.408	40.0	34.6	56.0	-21.4	26.5	46.0	-19.5
4.84	47.1	39.3	56.0	-16.7	30.5	46.0	-15.5
6.824	47.0	38.3	60.0	-21.7	29.3	50.0	-20.7
9.692	49.0	42.5	60.0	-17.5	34.4	50.0	-15.6
13.56*	56.5	-	-	-	-	-	-
15.364	46.0	39.9	60.0	-20.1	33.4	50.0	-16.6

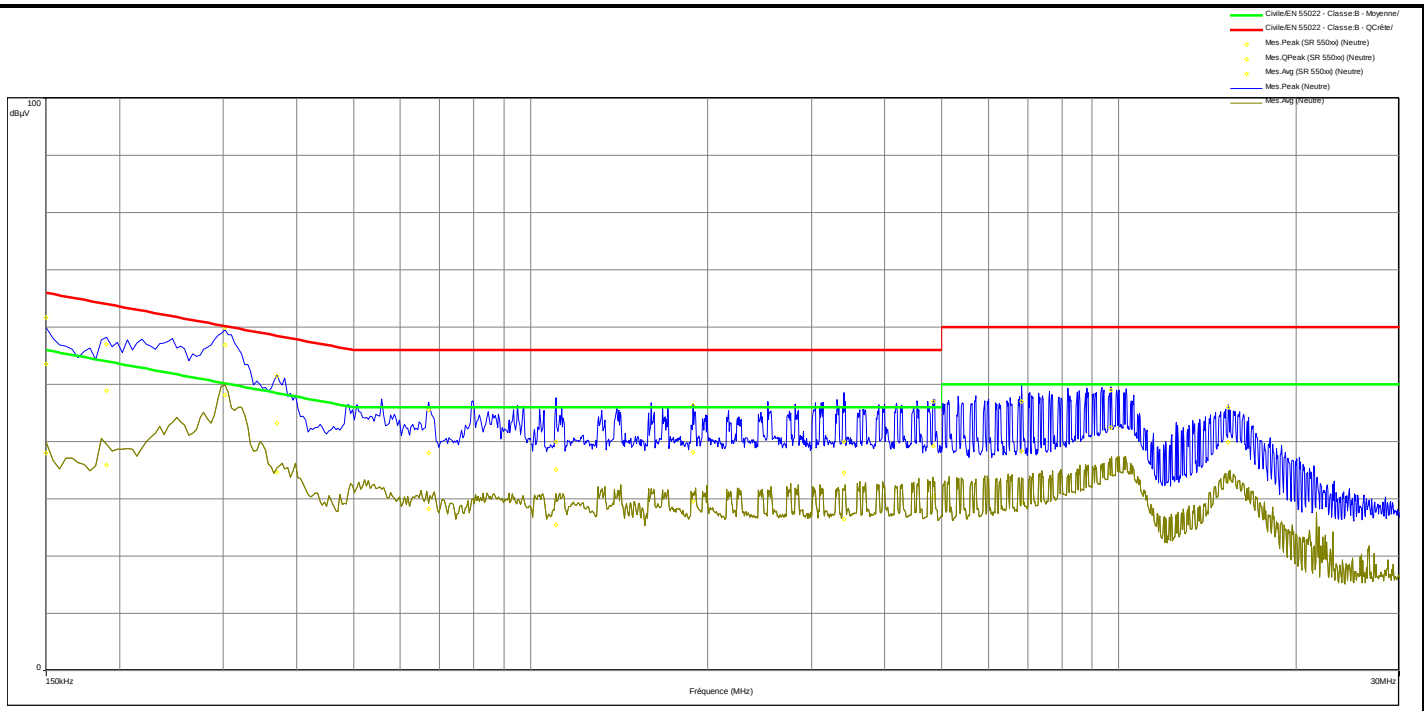
* : Carrier frequency

CONDUCTED EMISSIONS			
Graph name:	Emc#19	**Test configuration:**	
Limit:	EN 55022	Configuration n°6 - AC/DC Adaptor#4- dummy load	
Class:	B		
Frequency range: [150kHz - 30MHz]			
Voltage / Frequency:	110VAC / 60Hz	**RBW :**	10kHz
Line:	Phase	**VBW :**	30kHz



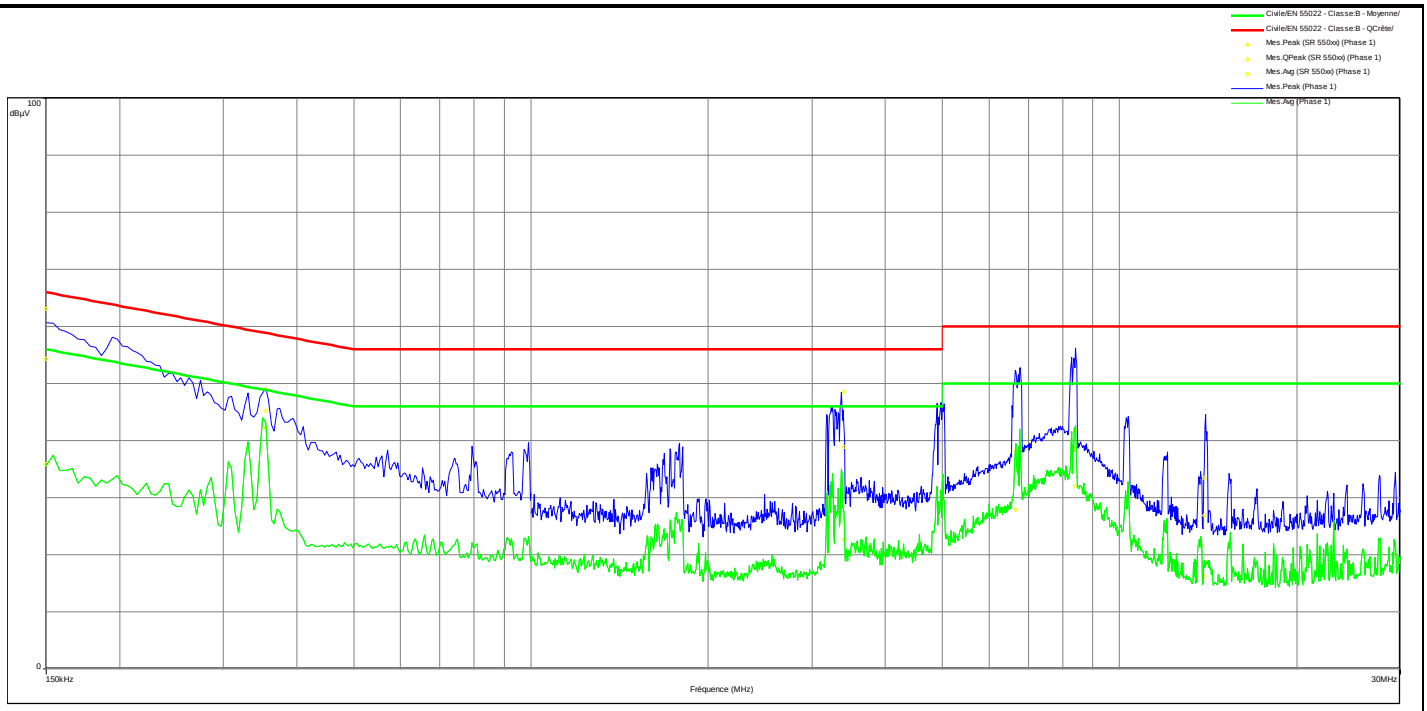
Frequency (MHz)	Mes.Peak (dBµV)	Mes.QPeak (dBµV)	LimQP (dBµV)	Mes.QPeak-LimQP (dB)	Mes.Avg (dBµV)	LimAvg (dBµV)	Mes.Avg-LimAvg (dB)
0.15	59.4	54.7	66.0	-11.3	38.9	56.0	-17.1
0.302	59.5	56.6	60.2	-3.6	48.4	50.2	-1.8
0.678	42.3	38.1	56.0	-17.9	29.7	46.0	-16.3
0.814	48.5	40.6	56.0	-15.4	30.3	46.0	-15.7
1.212	46.9	37.6	56.0	-18.4	28.3	46.0	-17.7
1.944	47.4	38.3	56.0	-17.7	28.7	46.0	-17.3
2.744	46.1	38.0	56.0	-18.1	28.0	46.0	-18.0
3.516	45.5	38.6	56.0	-17.4	30.2	46.0	-15.8
4.232	40.9	35.5	56.0	-20.5	26.9	46.0	-19.1
6.676	47.8	40.3	60.0	-19.7	30.5	50.0	-19.5
7.512	39.2	34.8	60.0	-25.2	28.9	50.0	-21.1
10.136	48.8	42.8	60.0	-17.2	35.4	50.0	-14.6
15.468	43.9	38.0	60.0	-22.1	32.1	50.0	-17.9

CONDUCTED EMISSIONS			
Graph name:	Emc#20	**Test configuration:**	
Limit:	EN 55022	Configuration n°6 - AC/DC Adaptor#4- dummy load	
Class:	B		
Frequency range: [150kHz - 30MHz]			
Voltage / Frequency:	110VAC / 60Hz	**RBW :**	10kHz
Line:	Neutral	**VBW :**	30kHz



Frequency (MHz)	Mes.Peak (dBµV)	Mes.QPeak (dBµV)	LimQP (dBµV)	Mes.QPeak-LimQP (dB)	Mes.Avg (dBµV)	LimAvg (dBµV)	Mes.Avg-LimAvg (dB)
0.15	61.6	53.5	66.0	-12.5	38.0	56.0	-18.0
0.19	57.0	48.9	64.0	-15.2	35.8	54.0	-18.2
0.302	59.9	56.9	60.2	-3.3	48.1	50.2	-2.1
0.37	51.5	43.3	58.5	-15.2	34.6	48.5	-13.9
0.67	45.6	38.0	56.0	-18.0	28.3	46.0	-17.7
1.104	40.0	35.1	56.0	-20.9	25.5	46.0	-20.5
1.888	46.4	38.2	56.0	-17.8	29.6	46.0	-16.5
3.408	40.0	34.6	56.0	-21.4	26.5	46.0	-19.5
4.84	47.1	39.3	56.0	-16.7	30.5	46.0	-15.5
6.824	47.0	38.3	60.0	-21.7	29.3	50.0	-20.7
9.692	49.0	42.5	60.0	-17.5	34.4	50.0	-15.6
15.364	46.0	39.9	60.0	-20.1	33.4	50.0	-16.6

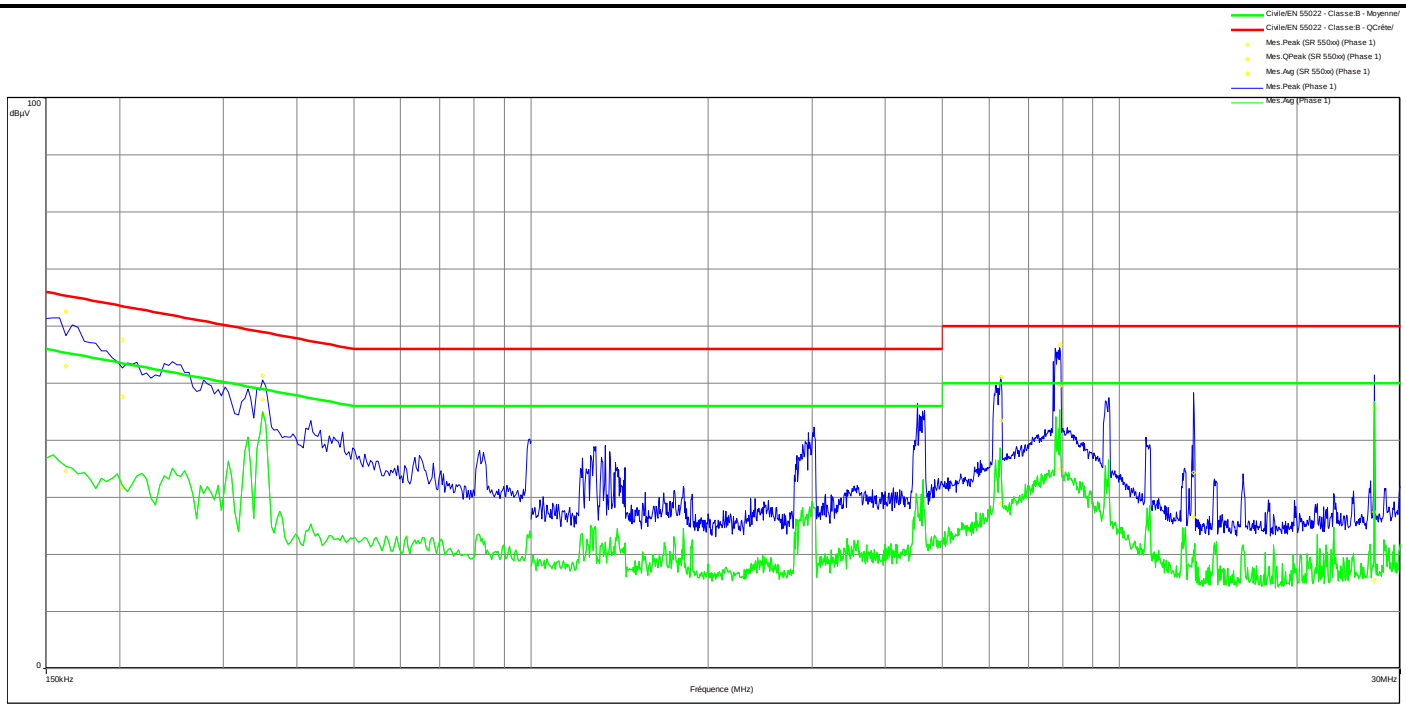
CONDUCTED EMISSIONS			
Graph name:	Emc#21	**Test configuration:**	
Limit:	EN 55022	Configuration n°7 - AC/DC Adaptor#5	
Class:	B		
Frequency range: [150kHz - 30MHz]			
Voltage / Frequency:	110VAC / 60Hz	**RBW :**	10kHz
Line:	Phase	**VBW :**	30kHz



Spurious emissions

Frequency (MHz)	Mes.Peak (dBµV)	Mes.QPeak (dBµV)	LimQP (dBµV)	Mes.QPeak-LimQP (dB)	Mes.Avg (dBµV)	LimAvg (dBµV)	Mes.Avg-LimAvg (dB)	Line
0.150	63.1	54.3	63.9	-9.6	35.8	53.9	-18.0	Phase 1
0.354	49.0	45.2	58.9	-13.6	42.2	48.9	-6.6	Phase 1
3.399	48.5	38.9	56.0	-17.1	22.6	46.0	-23.4	Phase 1
6.658	38.2	35.0	60.0	-25.0	27.8	50.0	-22.2	Phase 1
8.393	41.8	38.4	60.0	-21.6	32.0	50.0	-18.0	Phase 1
13.939	33.5	26.8	60.0	-33.2	16.2	50.0	-33.8	Phase 1

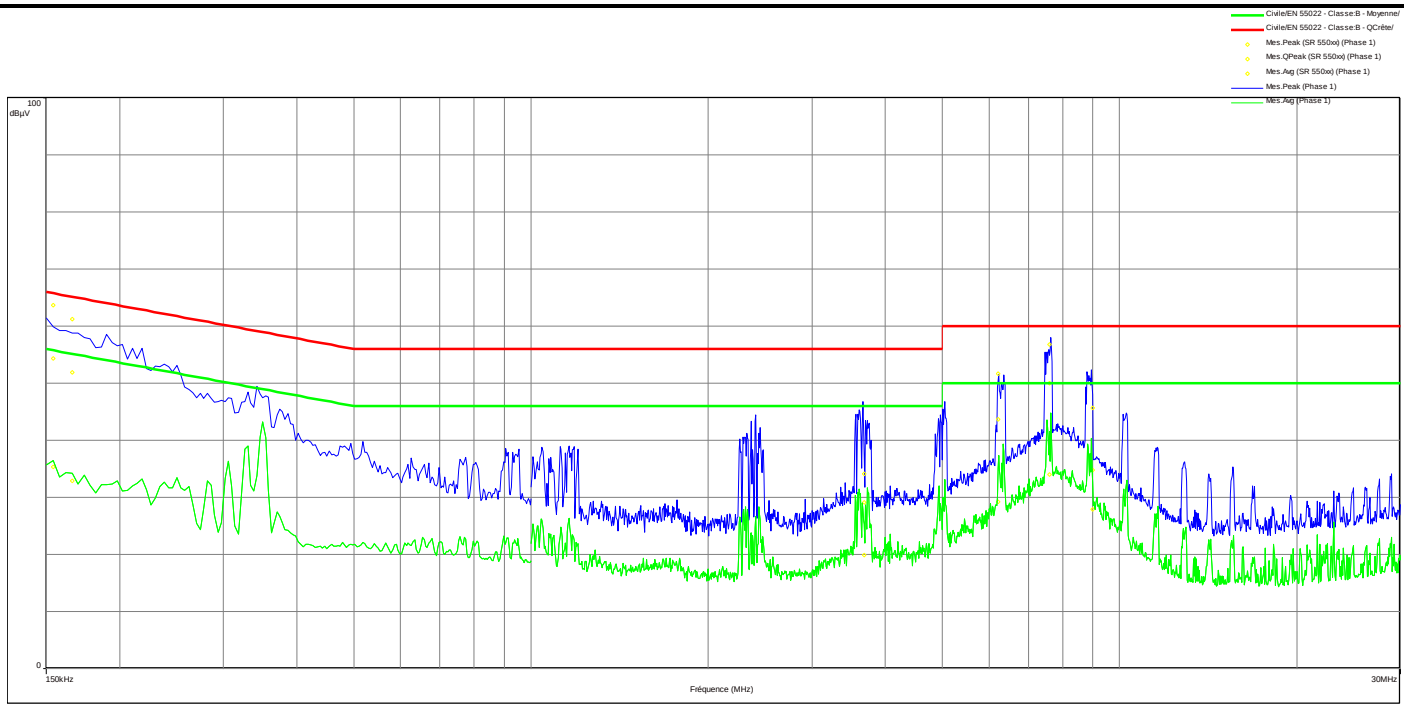
CONDUCTED EMISSIONS			
Graph name:	Emc#22	**Test configuration:**	
Limit:	EN 55022	Configuration n°7 - AC/DC Adaptor#5	
Class:	B		
Frequency range: [150kHz - 30MHz]			
Voltage / Frequency:	110VAC / 60Hz	**RBW :**	10kHz
Line:	Neutral	**VBW :**	30kHz



Spurious emissions

Frequency (MHz)	Mes.Peak (dBµV)	Mes.QPeak (dBµV)	LimQP (dBµV)	Mes.QPeak-LimQP (dB)	Mes.Avg (dBµV)	LimAvg (dBµV)	Mes.Avg-LimAvg (dB)	Line
0.160	62.6	53.0	65.6	-12.6	34.7	55.6	-20.9	Phase 1
0.201	57.6	47.6	61.9	-14.3	31.7	51.9	-20.2	Phase 1
0.350	51.3	47.1	59.0	-11.9	44.6	49.0	-4.4	Phase 1
6.294	51.1	43.4	60.0	-16.6	28.8	50.0	-21.2	Phase 1
7.922	56.8	49.6	60.0	-10.4	35.0	50.0	-15.0	Phase 1
13.358	34.4	26.5	60.0	-33.5	19.4	50.0	-30.6	Phase 1
27.120	27.5	45.7	60.0	-14.3	15.5	50.0	-34.5	Phase 1

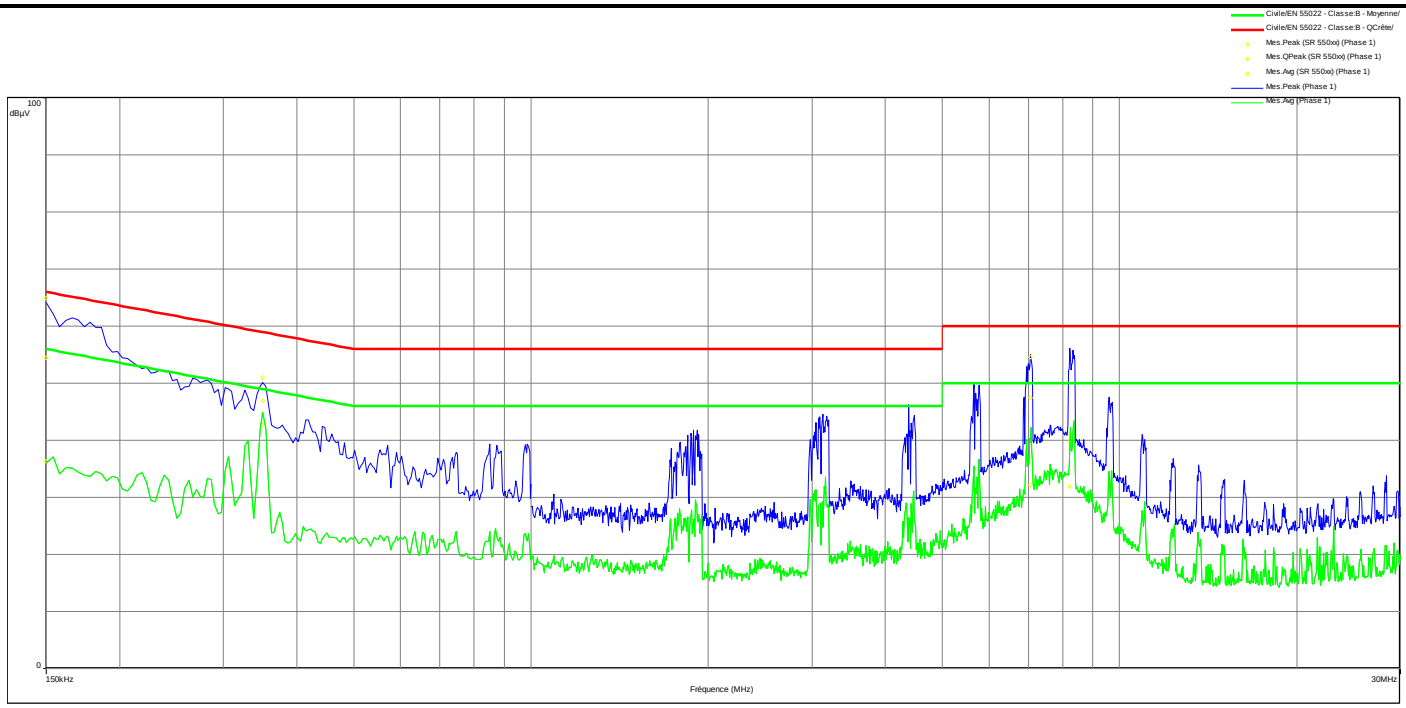
CONDUCTED EMISSIONS			
Graph name:	Emc#23	**Test configuration:**	
Limit:	EN 55022	Configuration n°7 - AC/DC Adaptor#5- dummy load	
Class:	B		
Frequency range: [150kHz - 30MHz]			
Voltage / Frequency:	110VAC / 60Hz	**RBW :**	10kHz
Line:	Phase	**VBW :**	30kHz



Spurious emissions

Frequency (MHz)	Mes.Peak (dBµV)	Mes.QPeak (dBµV)	LimQP (dBµV)	Mes.QPeak-LimQP (dB)	Mes.Avg (dBµV)	LimAvg (dBµV)	Mes.Avg-LimAvg (dB)	Line
0.155	63.7	54.3	65.8	-11.4	35.4	55.8	-20.4	Phase 1
0.168	61.2	51.9	62.9	-11.0	32.9	52.9	-20.0	Phase 1
3.680	34.1	29.2	56.0	-26.8	19.9	46.0	-26.1	Phase 1
6.217	51.6	43.7	60.0	-16.3	29.2	50.0	-20.8	Phase 1
7.597	56.8	50.0	60.0	-10.0	34.0	50.0	-16.0	Phase 1
8.987	45.7	34.8	60.0	-25.2	27.9	50.0	-22.1	Phase 1

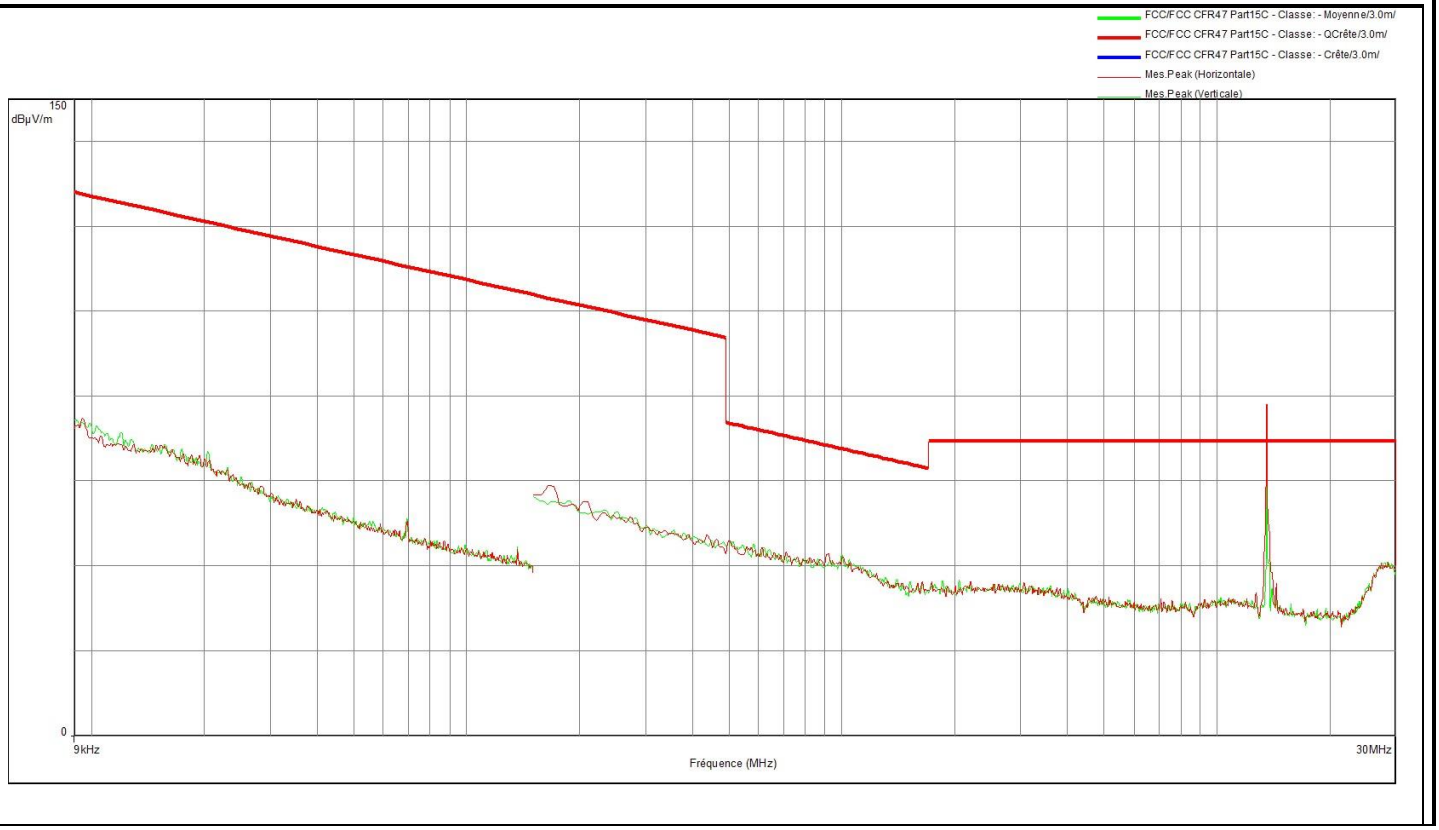
CONDUCTED EMISSIONS			
Graph name:	Emc#24	**Test configuration:**	
Limit:	EN 55022	Configuration n°7 - AC/DC Adaptor#5- dummy load	
Class:	B		
Frequency range: [150kHz - 30MHz]			
Voltage / Frequency:	110VAC / 60Hz	**RBW :**	10kHz
Line:	Neutral	**VBW :**	30kHz



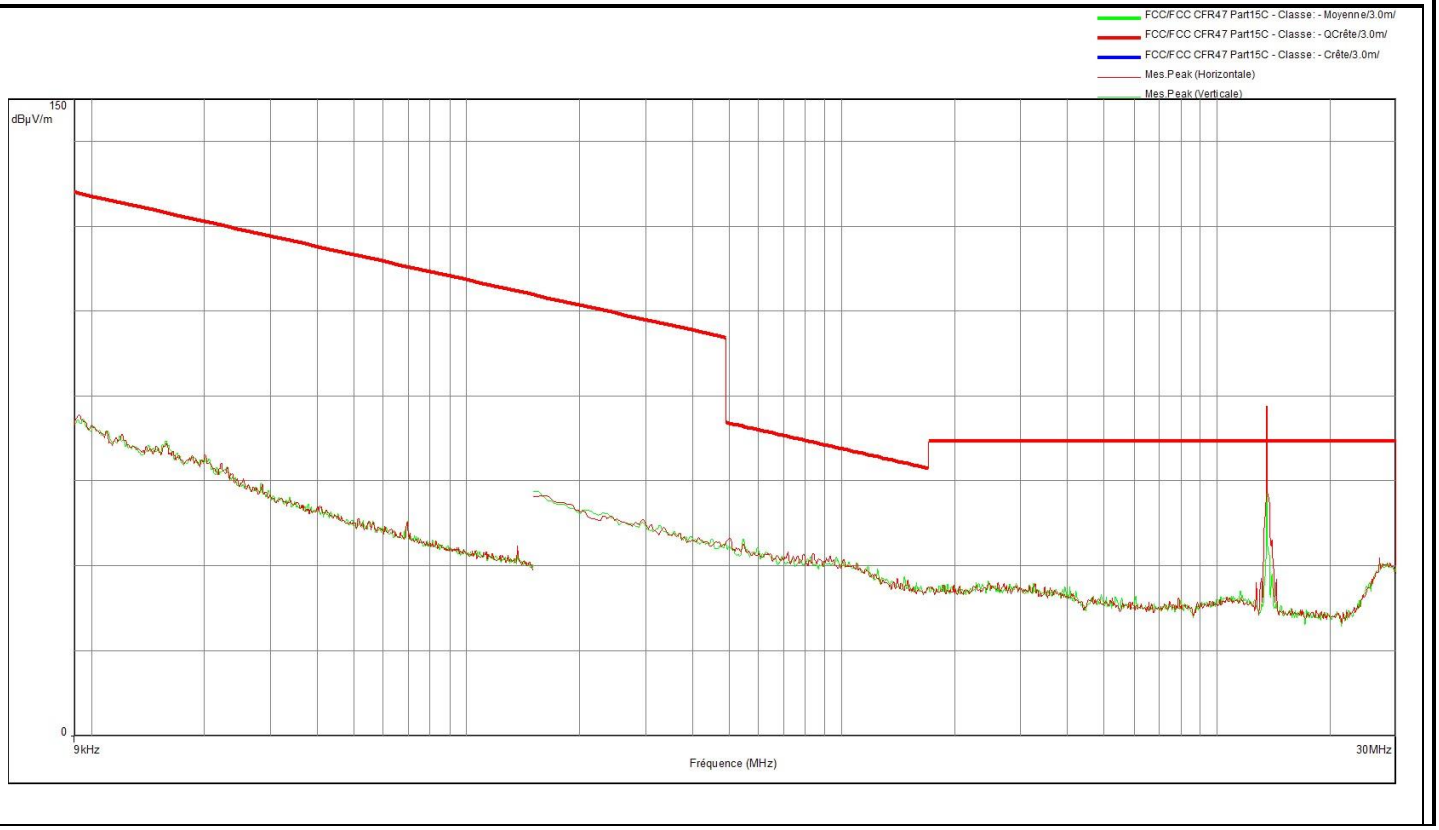
Spurious emissions

Frequency (MHz)	Mes.Peak (dBµV)	Mes.QPeak (dBµV)	LimQP (dBµV)	Mes.QPeak-LimQP (dB)	Mes.Avg (dBµV)	LimAvg (dBµV)	Mes.Avg-LimAvg (dB)	Line
0.150	64.9	54.4	64.2	-9.8	36.4	54.2	-17.8	Phase 1
0.350	51.0	46.9	59.0	-12.1	42.6	49.0	-6.3	Phase 1
7.050	54.6	47.5	60.0	-12.5	32.1	50.0	-17.9	Phase 1
8.223	41.1	39.7	60.0	-20.3	31.9	50.0	-18.1	Phase 1

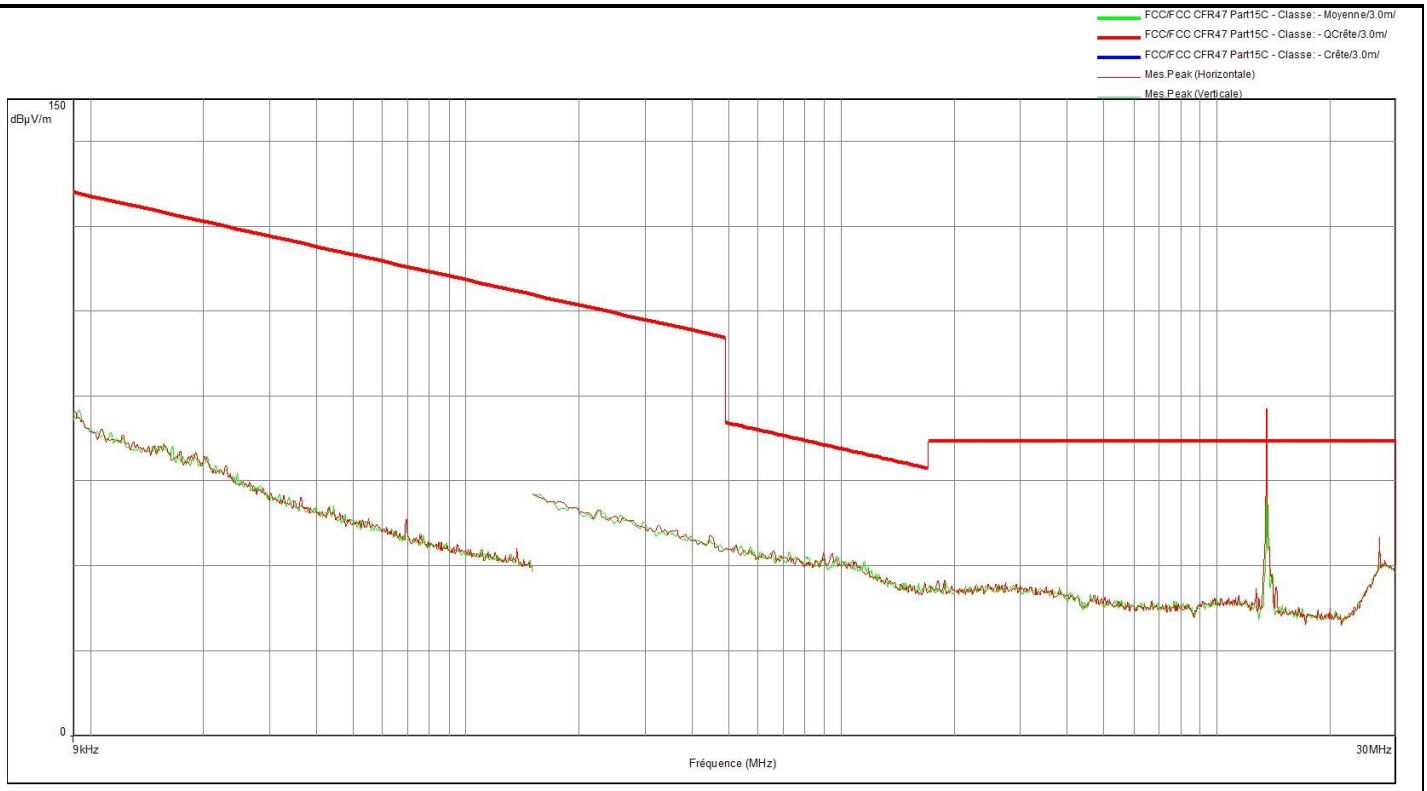
RADIATED EMISSIONS			
Graph name:	Emr#1b1	**Test configuration:**	
Limit:	FCC CFR47 Part15C	(H+V) - Configuration 3 <30MHz	
Frequency range: [9kHz - 30MHz]			
Antenna polarization:	0° & 90°	**RBW :**	100kHz
Azimuth:	0° - 360°	**VBW :**	300kHz



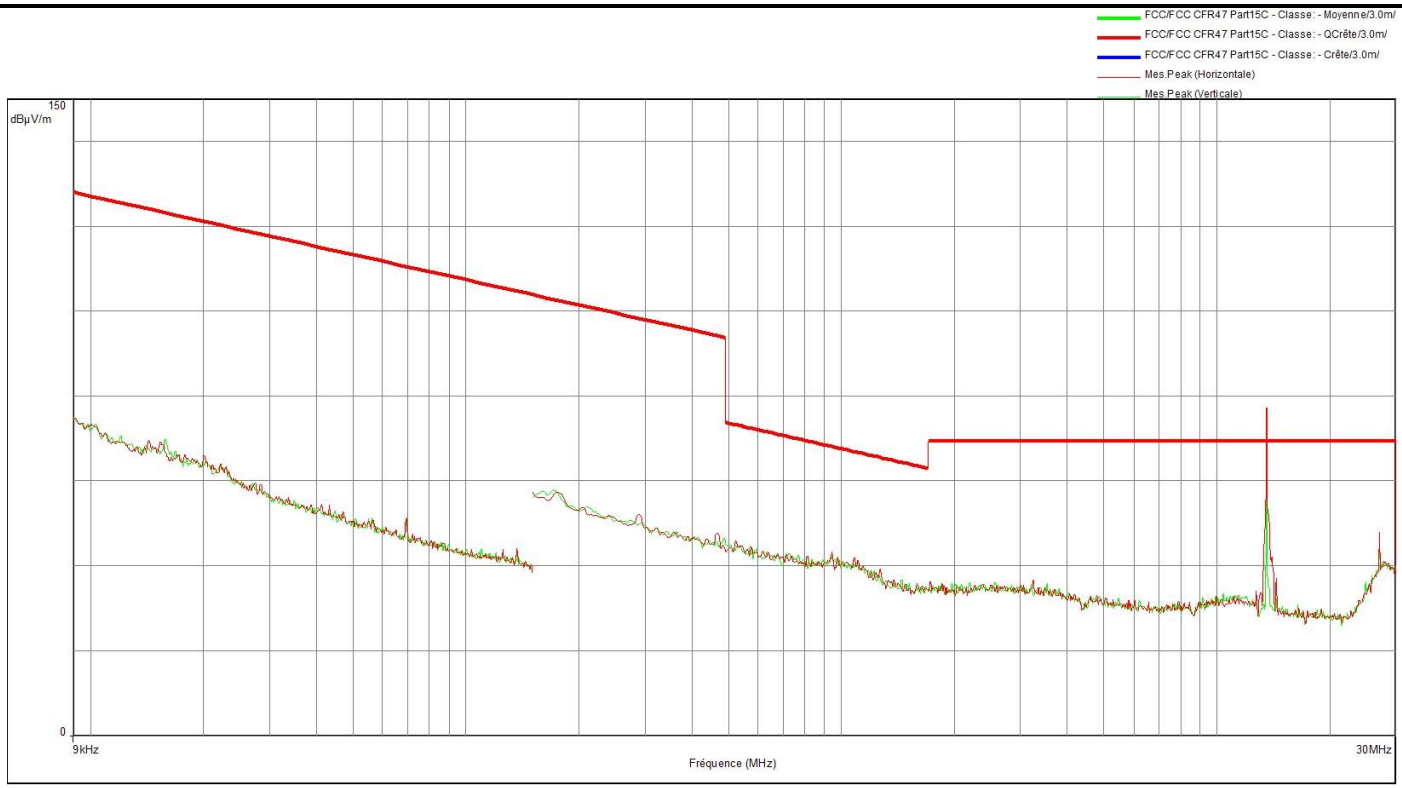
RADIATED EMISSIONS			
Graph name:	Emr#2b1	**Test configuration:**	
Limit:	FCC CFR47 Part15C	(H+V) - Configuration 4 <30MHz	
Frequency range: [9kHz - 30MHz]			
Antenna polarization:	0° & 90°	**RBW :**	100kHz
Azimuth:	0° - 360°	**VBW :**	300kHz



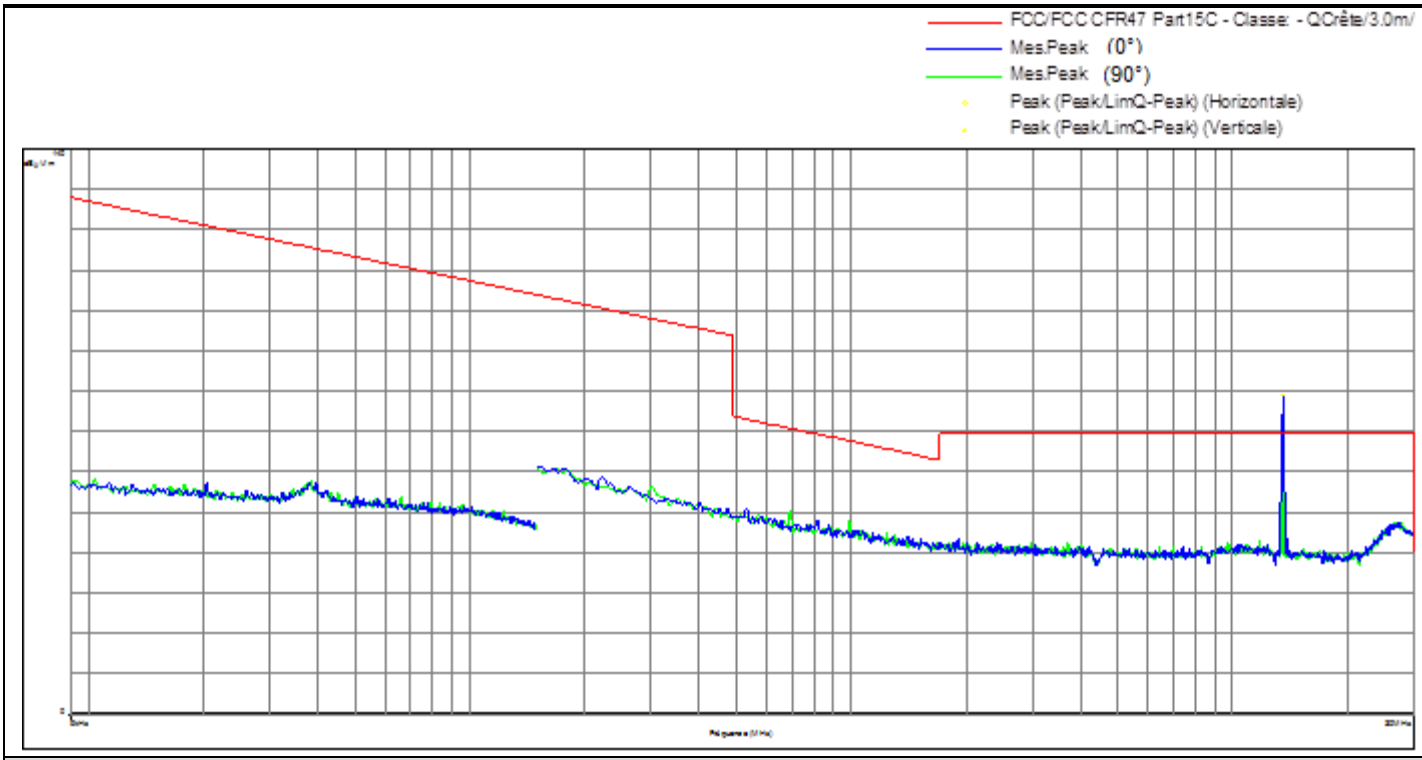
RADIATED EMISSIONS			
Graph name:	Emr#3b1	**Test configuration:**	
Limit:	FCC CFR47 Part15C	(H+V) - Configuration 5 <30MHz	
Frequency range: [9kHz - 30MHz]			
Antenna polarization:	0° & 90°	**RBW :**	100kHz
Azimuth:	0° - 360°	**VBW :**	300kHz



RADIATED EMISSIONS			
Graph name:	Emr#4b1	**Test configuration:**	
Limit:	FCC CFR47 Part15C	(H+V) - Configuration 6 <30MHz	
Frequency range: [9kHz - 30MHz]			
Antenna polarization:	0° & 90°	**RBW :**	100kHz
Azimuth:	0° - 360°	**VBW :**	300kHz



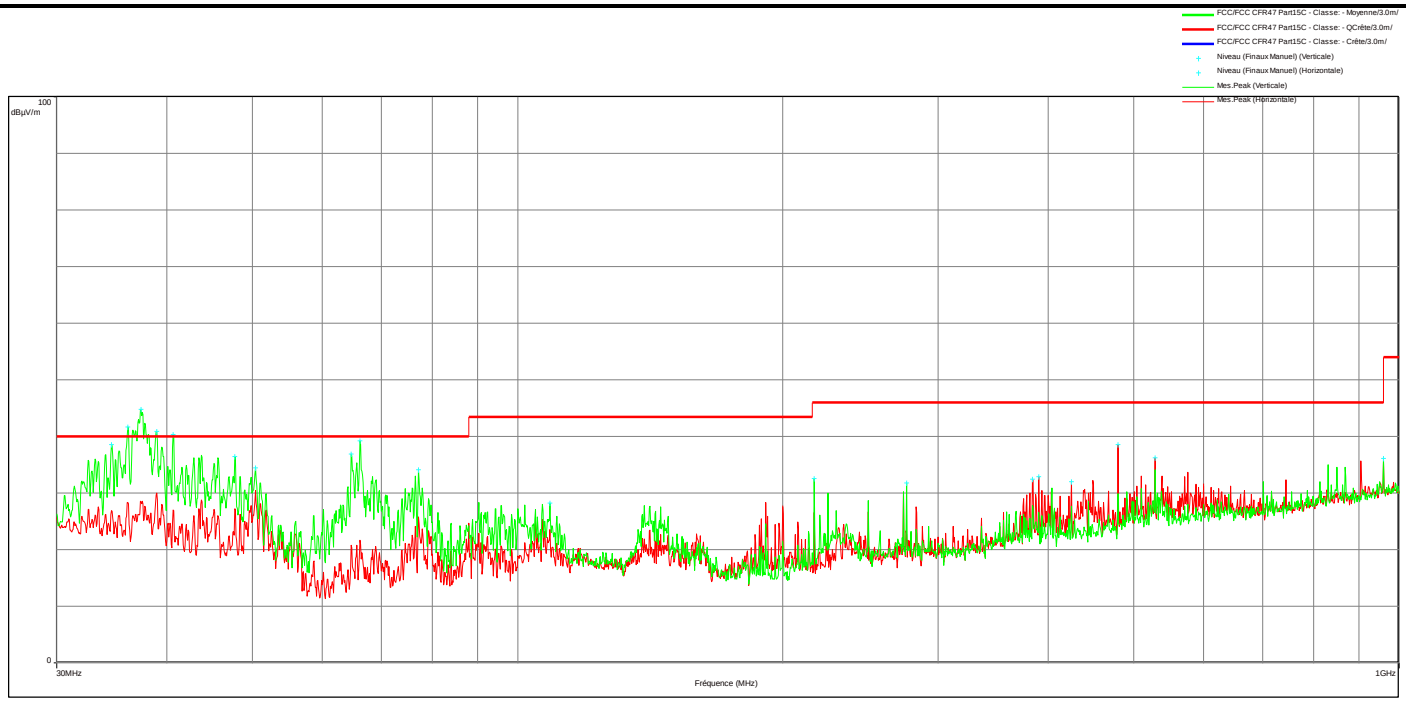
RADIATED EMISSIONS			
Graph name:	Emr#5b1	**Test configuration:**	
Limit:	FCC CFR47 Part15C	Pre-mesure - (0°/90°) - ESU / FSL au choix	
Class:			
Frequency range: [9kHz - 30MHz]			
Antenna polarization:	Horizontal	**RBW :**	100kHz
Azimuth:	0° - 360°	**VBW :**	300kHz



Spurious emissions

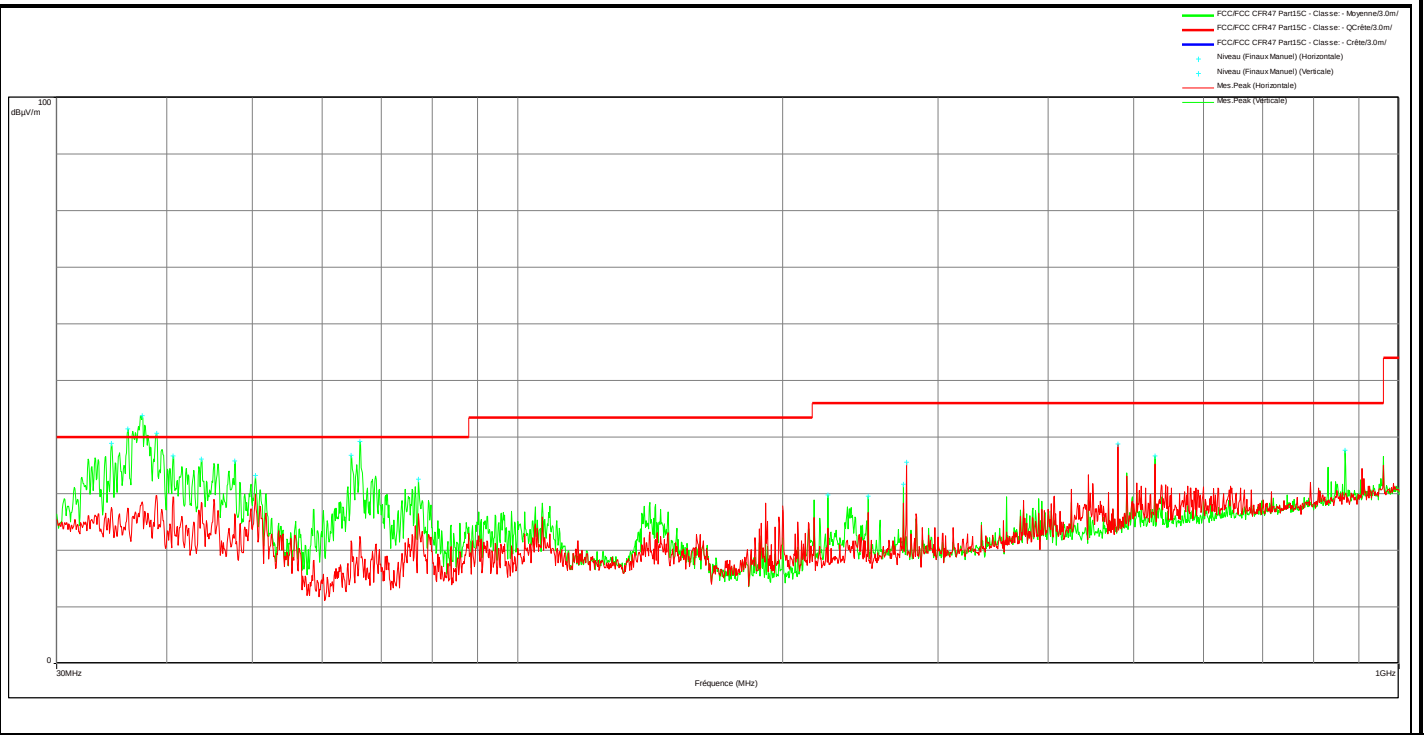
Frequency (MHz)	Peak (dBµV/m)	Polarisation
13.559	79.1	0°
13.559	66.1	90°

RADIATED EMISSIONS			
Graph name:	Emr#1b2_a	**Test configuration:**	
Limit:	FCC CFR47 Part15C	(H+V) - Configuration 3 <1GHz with Contactless card on EUT)	
Frequency range: [30MHz - 1GHz]			
Antenna polarization:	Horizontal & Vertical	**RBW :**	100kHz
Azimuth:	0° - 360°	**VBW :**	300kHz



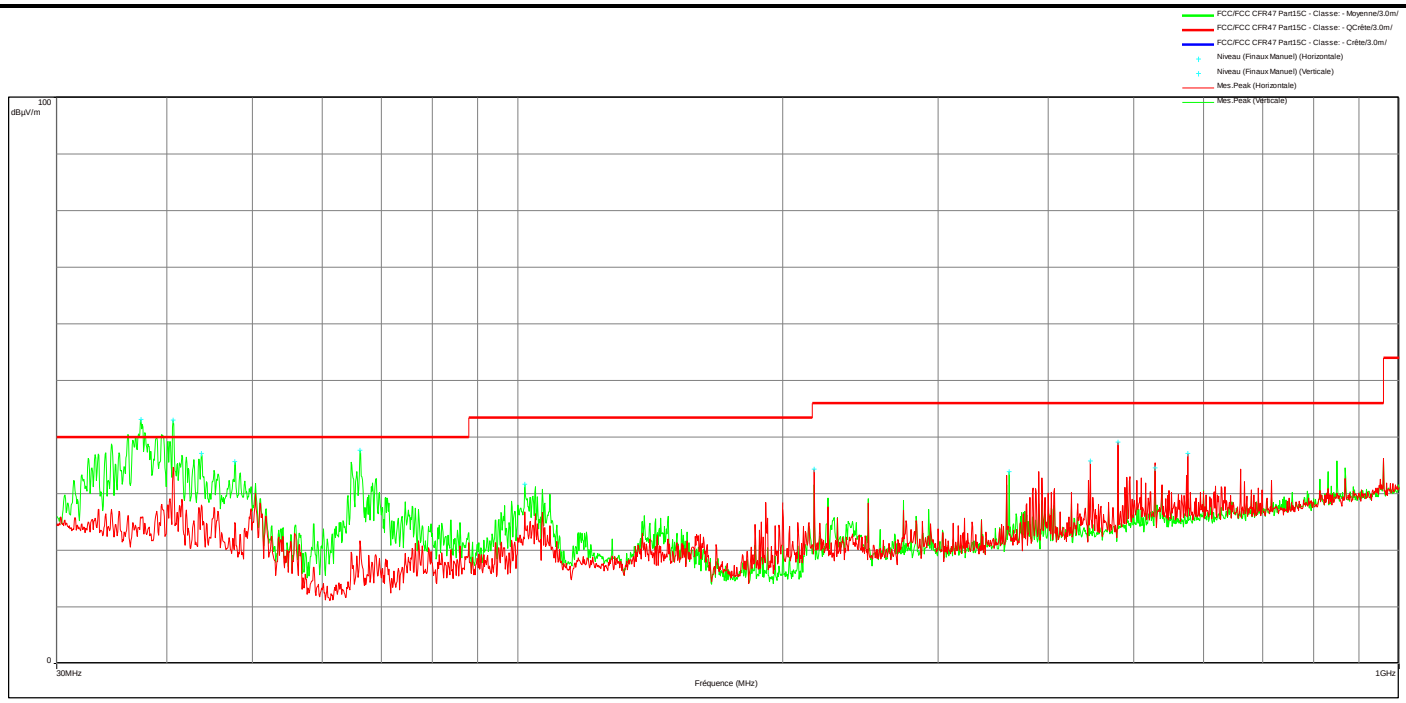
Frequency (MHz)	Peak Level (dBµV/m)
34.624	38.58
36.137	41.68
37.361	44.77
38.942	40.93
40.676	40.36
47.799	36.42
50.434	34.46
64.765	36.83
66.278	39.19
77.192	34.13
108.812	28.27
216.92	32.54
276.24	31.78
384	32.47
390.32	32.94
425	32.01
480	38.53
528.88	36.27
960	36.06

RADIATED EMISSIONS			
Graph name:	Emr#1b2_b	**Test configuration:**	
Limit:	FCC CFR47 Part15C	(H+V) - Configuration 3 <1GHz without Contactless card on EUT)	
Frequency range: [30MHz - 1GHz]			
Antenna polarization:	Horizontal & Vertical	**RBW :**	100kHz
Azimuth:	0° - 360°	**VBW :**	300kHz



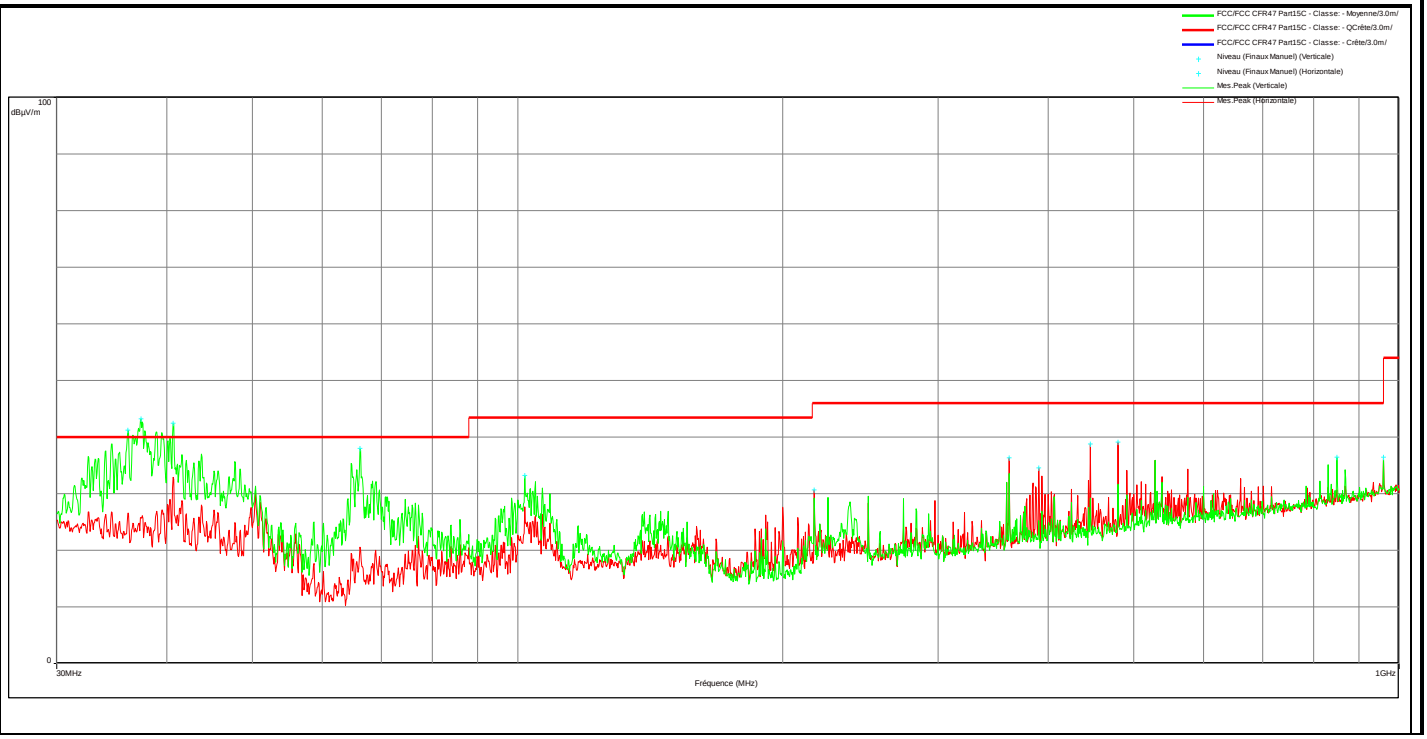
Frequency (MHz)	Peak Level (dBµV/m)
34.624	38.91
36.137	41.42
37.514	43.82
38.942	40.63
40.676	36.62
43.787	36.11
47.799	35.79
50.434	33.2
64.765	36.76
66.278	39.18
77.192	32.6
225	29.81
249.96	29.54
273.88	31.64
276.24	35.52
480	38.83
528.92	36.68
868.88	37.64

RADIATED EMISSIONS			
Graph name:	Emr#2b2_a	**Test configuration:**	
Limit:	FCC CFR47 Part15C	(H+V) - Configuration 4 <1GHz (with Contactless card on EUT)	
Frequency range: [30MHz - 1GHz]			
Antenna polarization:	Horizontal & Vertical	**RBW :**	100kHz
Azimuth:	0° - 360°	**VBW :**	300kHz



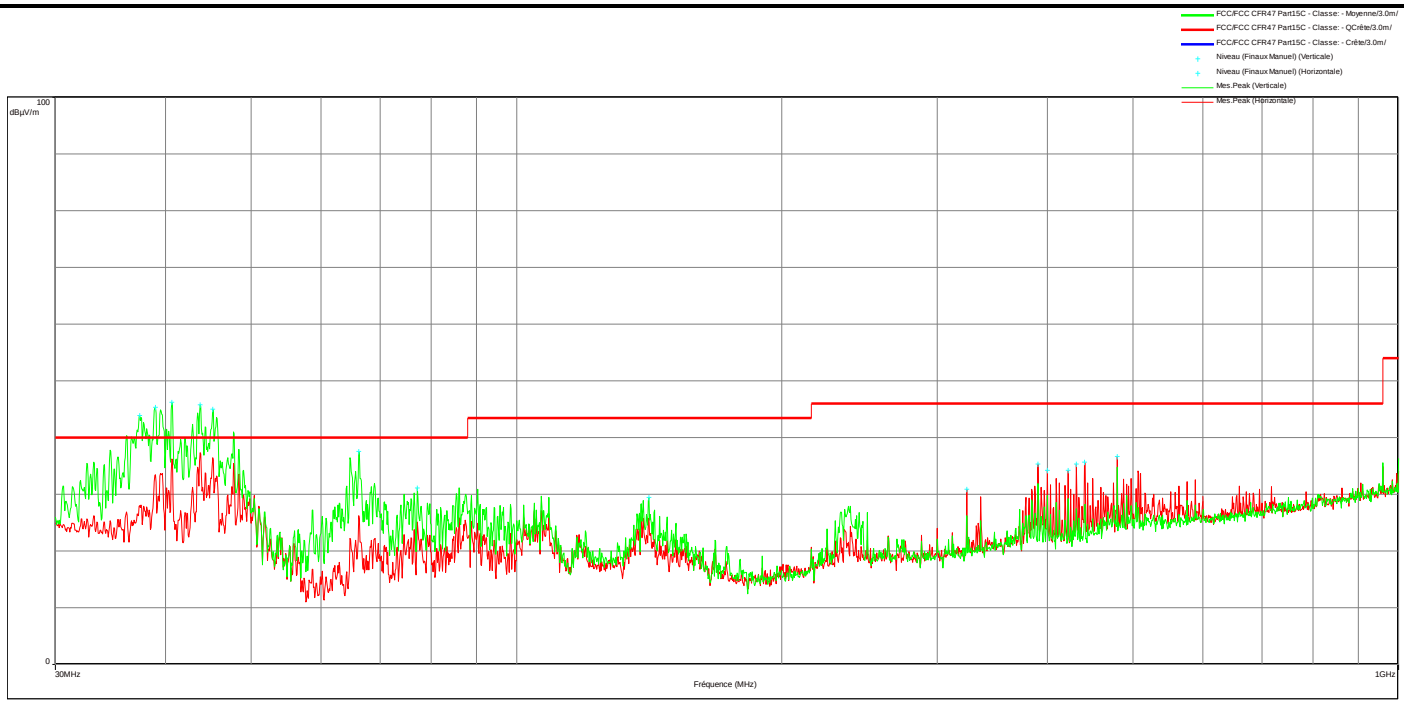
Frequency (MHz)	Peak Level (dBµV/m)
37.361	43.06
40.659	42.95
43.787	37.09
47.799	35.62
66.278	37.68
101.893	31.68
361.24	33.83
216.92	34.28
446.24	35.8
480	39.14
528.88	34.53
576.12	37.13

RADIATED EMISSIONS			
Graph name:	Emr#2b2_b	**Test configuration:**	
Limit:	FCC CFR47 Part15C	(H+V) - Configuration 4 <1GHz (without Contactless card on EUT)	
Frequency range: [30MHz - 1GHz]			
Antenna polarization:	Horizontal & Vertical	**RBW :**	100kHz
Azimuth:	0° - 360°	**VBW :**	300kHz



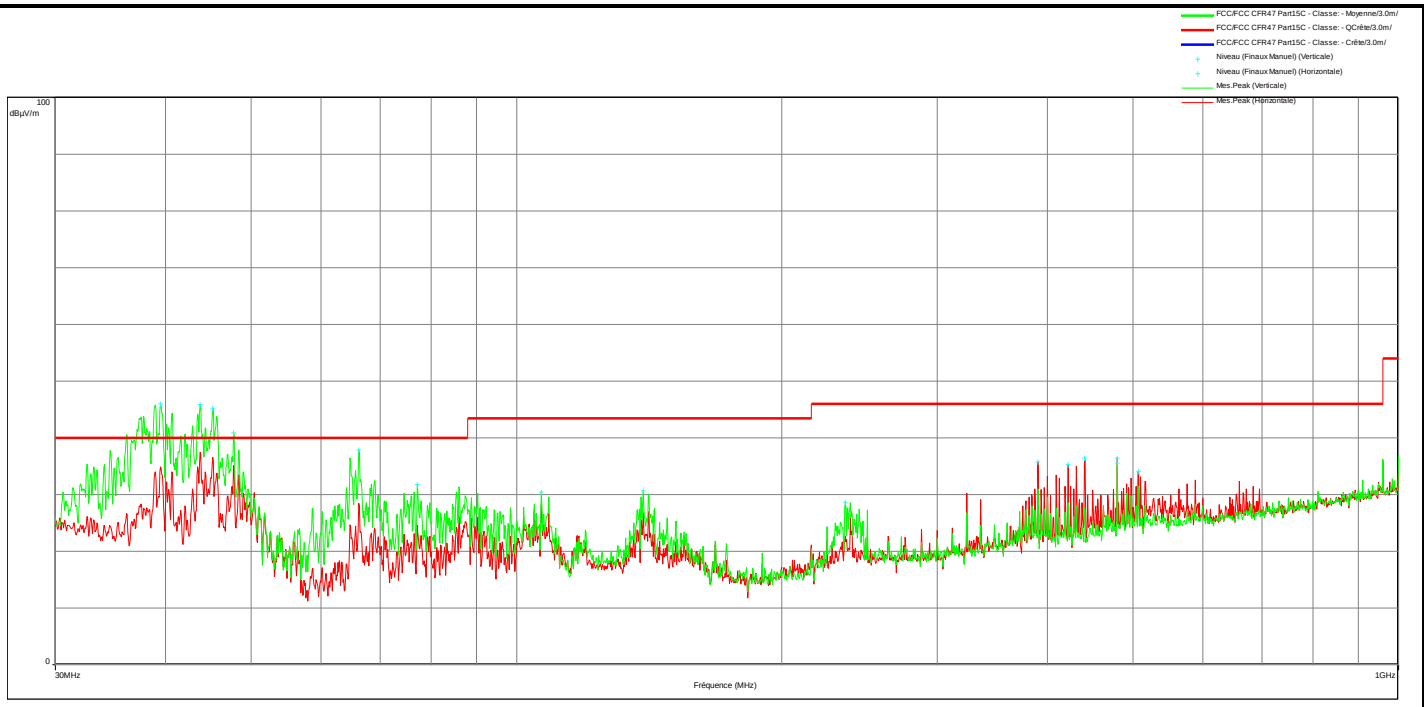
Frequency (MHz)	Peak Level (dBµV/m)
36.137	41.25
37.361	43.24
40.676	42.44
66.278	38.03
101.893	33.21
216.92	30.71
361.24	36.28
390.32	34.59
446.24	38.81
480	39.14
850	36.48
960	36.43

RADIATED EMISSIONS			
Graph name:	Emr#3b2_a	**Test configuration:**	
Limit:	FCC CFR47 Part15C	(H+V) - Configuration 5 <1GHz (with Contactless card on EUT)	
Frequency range: [30MHz - 1GHz]			
Antenna polarization:	Horizontal & Vertical	**RBW :**	100kHz
Azimuth:	0° - 360°	**VBW :**	300kHz



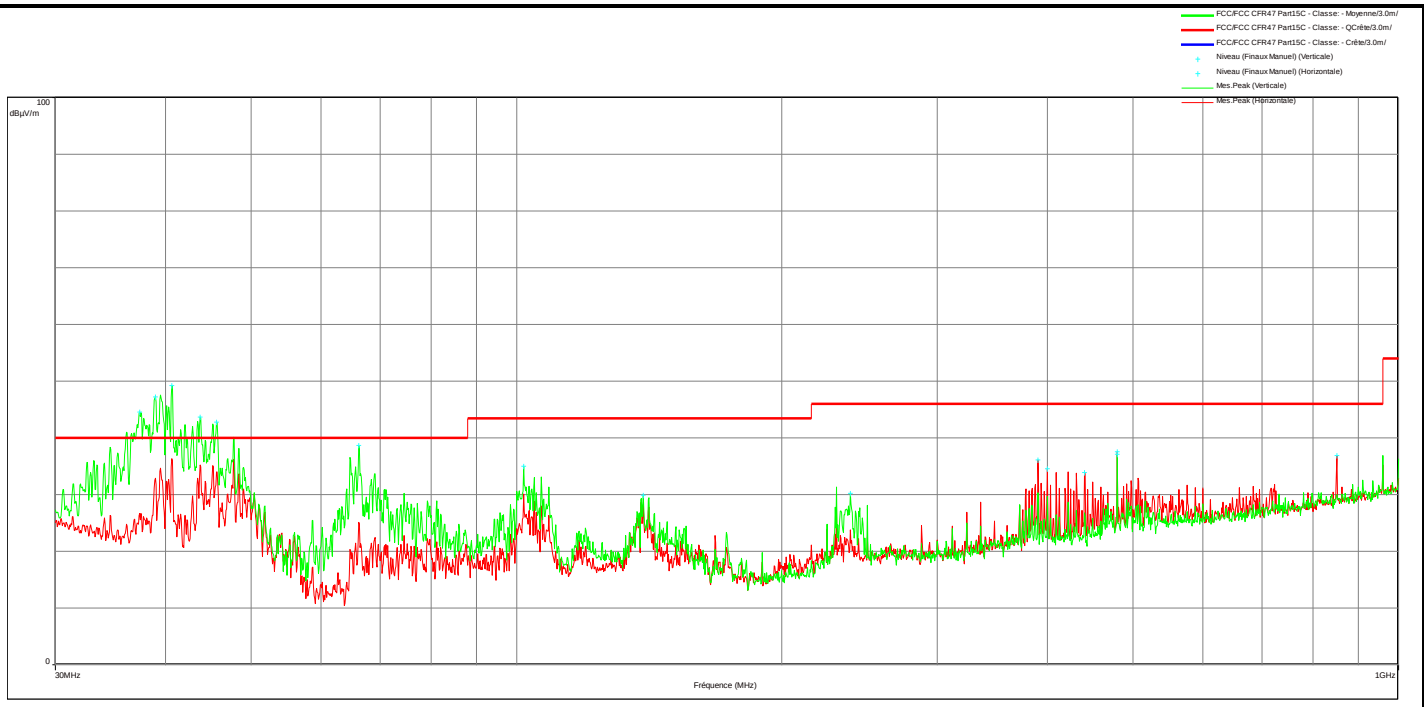
Frequency (MHz)	Peak Level (dBµV/m)
37.378	43.91
38.942	45.33
40.659	46.27
43.787	45.82
45.249	45.03
66.278	37.6
77.192	31.07
141.197	29.49
324	30.84
390.32	35.28
399.92	34.24
421.92	34.19
431.16	35.37
440.8	35.65
480	36.72

RADIATED EMISSIONS			
Graph name:	Emr#3b2_b	**Test configuration:**	
Limit:	FCC CFR47 Part15C	(H+V) - Configuration 5 <1GHz (without Contactless card on EUT)	
Frequency range: [30MHz - 1GHz]			
Antenna polarization:	Horizontal & Vertical	**RBW :**	100kHz
Azimuth:	0° - 360°	**VBW :**	300kHz



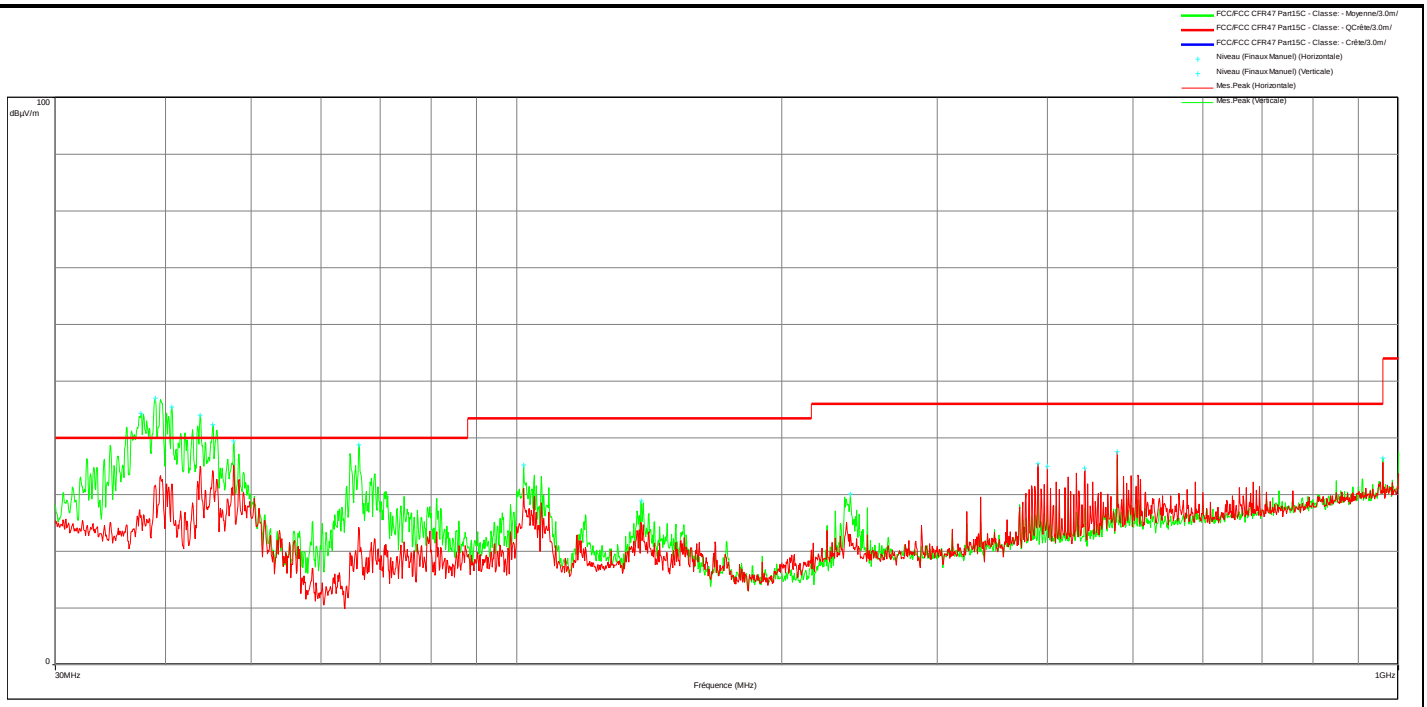
Frequency (MHz)	Peak Level (dBµV/m)
39.503	45.95
43.787	45.84
45.266	45.17
47.799	40.86
66.278	37.84
77.192	31.8
106.704	30.43
139.208	30.71
235.96	28.69
390.32	35.79
421.92	35.33
440.8	36.4
480	35.52
480	36.44
506.96	34.16

RADIATED EMISSIONS			
Graph name:	Emr#4b2_a	**Test configuration:**	
Limit:	FCC CFR47 Part15C	(H+V) - Configuration 6 <1GHz (with Contactless card on EUT)	
Frequency range: [30MHz - 1GHz]			
Antenna polarization:	Horizontal & Vertical	**RBW :**	100kHz
Azimuth:	0° - 360°	**VBW :**	300kHz



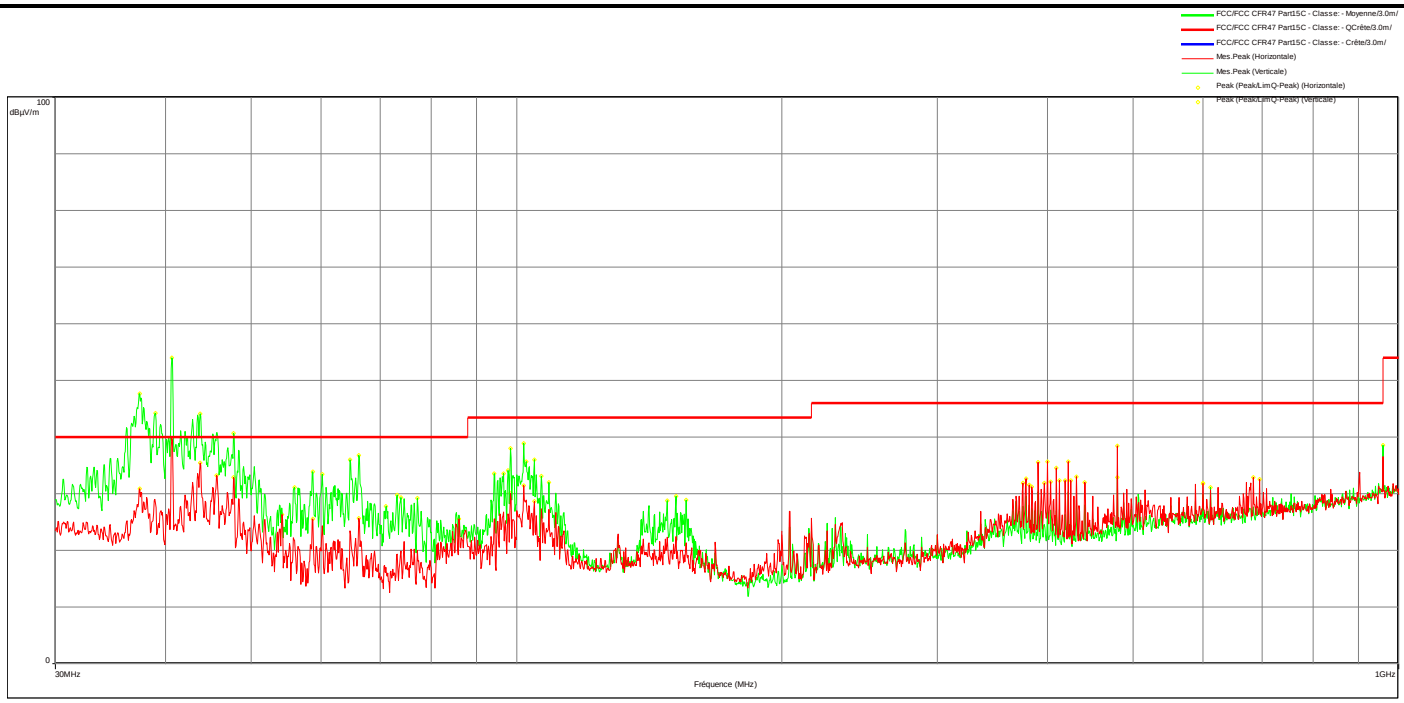
Frequency (MHz)	Peak Level (dBµV/m)
37.361	44.5
38.942	47.26
40.676	49.27
43.787	43.72
45.725	42.74
66.278	38.67
101.893	34.99
139.225	29.87
239.16	30.25
390.32	36.09
399.96	34.57
440.8	33.94
480	37.08
480	37.56
851.48	36.84

RADIATED EMISSIONS			
Graph name:	Emr#4b2_b	**Test configuration:**	
Limit:	FCC CFR47 Part15C	(H+V) – Configuration 6 <1GHz (without Contactless card on EUT)	
Frequency range: [30MHz - 1GHz]			
Antenna polarization:	Horizontal & Vertical	**RBW :**	100kHz
Azimuth:	0° - 360°	**VBW :**	300kHz



Frequency (MHz)	Peak Level (dBµV/m)
37.531	44.39
38.942	46.96
40.659	45.47
43.787	43.95
45.266	42.28
47.782	39.49
66.278	38.74
101.876	35.27
138.426	28.86
239.2	30.14
390.32	35.41
399.92	35.04
440.8	34.67
480	37.57
960	36.46

RADIATED EMISSIONS			
Graph name:	Emr#5b2_a	**Test configuration:**	
Limit:	FCC CFR47 Part15C	(H+V) - Configuration 7 <1GHz (with Contactless card on EUT)	
Class:			
Frequency range: [30MHz - 1GHz]			
Antenna polarization:	Horizontal & Vertical	**RBW :**	100kHz
Azimuth:	0° - 360°	**VBW :**	300kHz

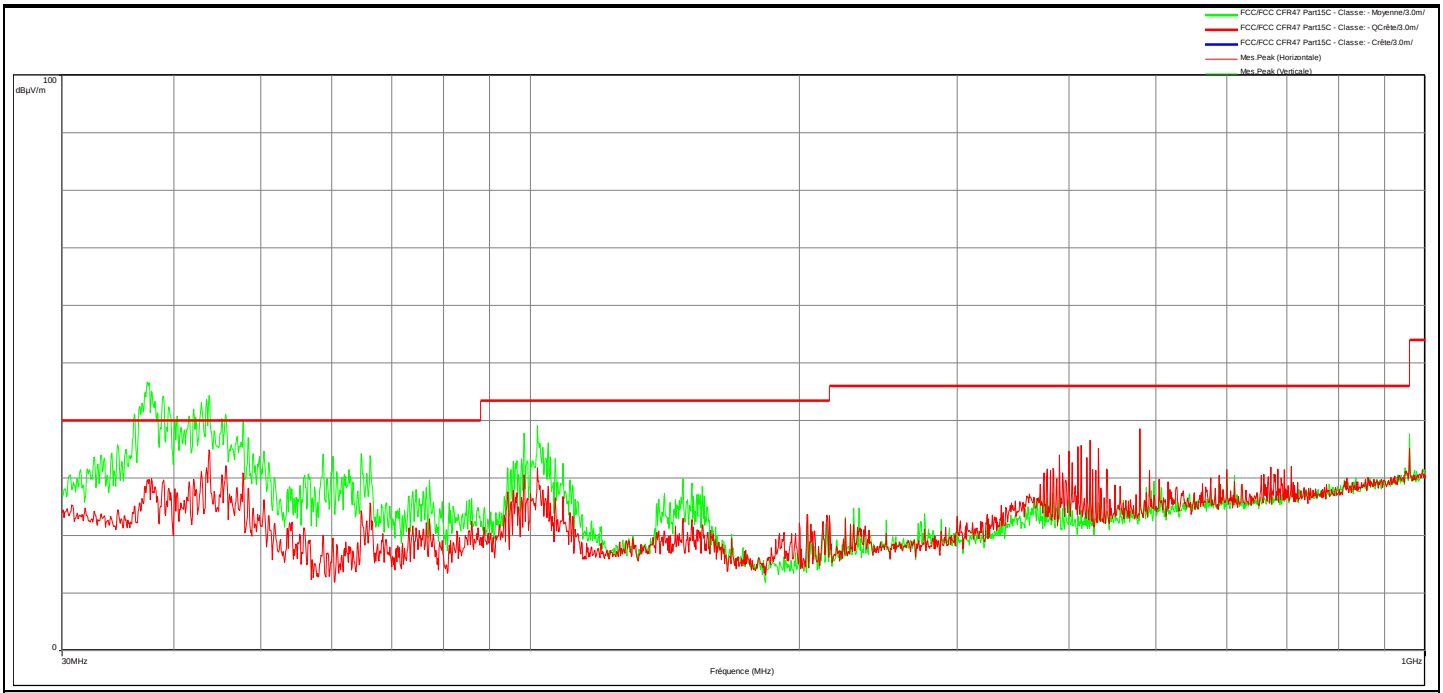


Spurious emissions

Frequency (MHz)	Peak (dBµV/m)	LimQP (dBµV/m)	Peak-LimQP (dB)	Polarisation
37.361	30.9	40.0	-9.1	Horizontal
40.659	39.8	40.0	-0.2	Horizontal
43.787	35.4	40.0	-4.6	Horizontal
45.725	33.2	40.0	-6.8	Horizontal
47.799	32.9	40.0	-7.1	Horizontal
54.208	26.4	40.0	-13.6	Horizontal
58.713	25.5	40.0	-14.5	Horizontal
66.278	25.6	40.0	-14.4	Horizontal
86.032	25.6	40.0	-14.4	Horizontal
98.425	30.1	43.5	-13.4	Horizontal
101.893	31.5	43.5	-12.0	Horizontal
104.749	28.7	43.5	-14.8	Horizontal
374.680	31.9	46.0	-14.1	Horizontal
377.760	32.6	46.0	-13.4	Horizontal
381.040	31.6	46.0	-14.4	Horizontal
383.960	31.3	46.0	-14.7	Horizontal
390.320	35.5	46.0	-10.5	Horizontal
396.680	31.9	46.0	-14.1	Horizontal
399.960	35.7	46.0	-10.3	Horizontal
403.040	32.1	46.0	-13.9	Horizontal
409.200	34.6	46.0	-11.4	Horizontal

412.280	32.3	46.0	-13.7	Horizontal
418.840	32.4	46.0	-13.6	Horizontal
421.920	35.6	46.0	-10.4	Horizontal
425.000	32.3	46.0	-13.7	Horizontal
431.160	33.0	46.0	-13.0	Horizontal
440.800	32.0	46.0	-14.0	Horizontal
480.000	38.5	46.0	-7.5	Horizontal
600.000	31.7	46.0	-14.3	Horizontal
600.000	32.0	46.0	-14.0	Horizontal
684.000	32.9	46.0	-13.1	Horizontal
696.000	32.6	46.0	-13.4	Horizontal
37.361	47.7	40.0	7.7	Vertical
38.942	44.2	40.0	4.2	Vertical
40.676	54.0	40.0	14.0	Vertical
43.787	44.1	40.0	4.1	Vertical
47.799	40.7	40.0	0.7	Vertical
55.976	31.2	40.0	-8.8	Vertical
58.713	33.9	40.0	-6.1	Vertical
60.209	33.4	40.0	-6.6	Vertical
64.765	36.0	40.0	-4.0	Vertical
66.278	36.8	40.0	-3.2	Vertical
71.140	27.8	40.0	-12.2	Vertical
73.180	29.7	40.0	-10.3	Vertical
73.911	29.3	40.0	-10.7	Vertical
77.192	29.2	40.0	-10.8	Vertical
94.379	33.6	43.5	-9.9	Vertical
96.674	33.5	43.5	-10.0	Vertical
97.830	34.1	43.5	-9.4	Vertical
98.442	38.0	43.5	-5.4	Vertical
101.876	38.8	43.5	-4.6	Vertical
102.505	35.6	43.5	-7.9	Vertical
104.749	36.0	43.5	-7.5	Vertical
106.687	33.1	43.5	-10.4	Vertical
108.812	32.0	43.5	-11.5	Vertical
148.116	28.8	43.5	-14.7	Vertical
151.584	29.6	43.5	-14.0	Vertical
155.630	28.9	43.5	-14.6	Vertical
480.000	32.9	46.0	-13.1	Vertical
611.960	31.1	46.0	-14.9	Vertical
960.000	38.6	46.0	-7.4	Vertical

RADIATED EMISSIONS			
Graph name:	Emr#5b2_b	**Test configuration:**	
Limit: FCC CFR47 Part15C		(H+V) – Configuration 7 <1GHz (without Contactless card on EUT)	
Frequency range: [30MHz - 1GHz]			
Antenna polarization:	Horizontal & Vertical	**RBW :**	100kHz
Azimuth:	0° - 360°	**VBW :**	300kHz



Spurious emissions

Frequency (MHz)	Peak (dBµV/m)	LimQP (dBµV/m)	Peak-LimQP (dB)	Polarisation
37.361	30.9	40.0	-9.1	Horizontal
43.787	35.4	40.0	-4.6	Horizontal
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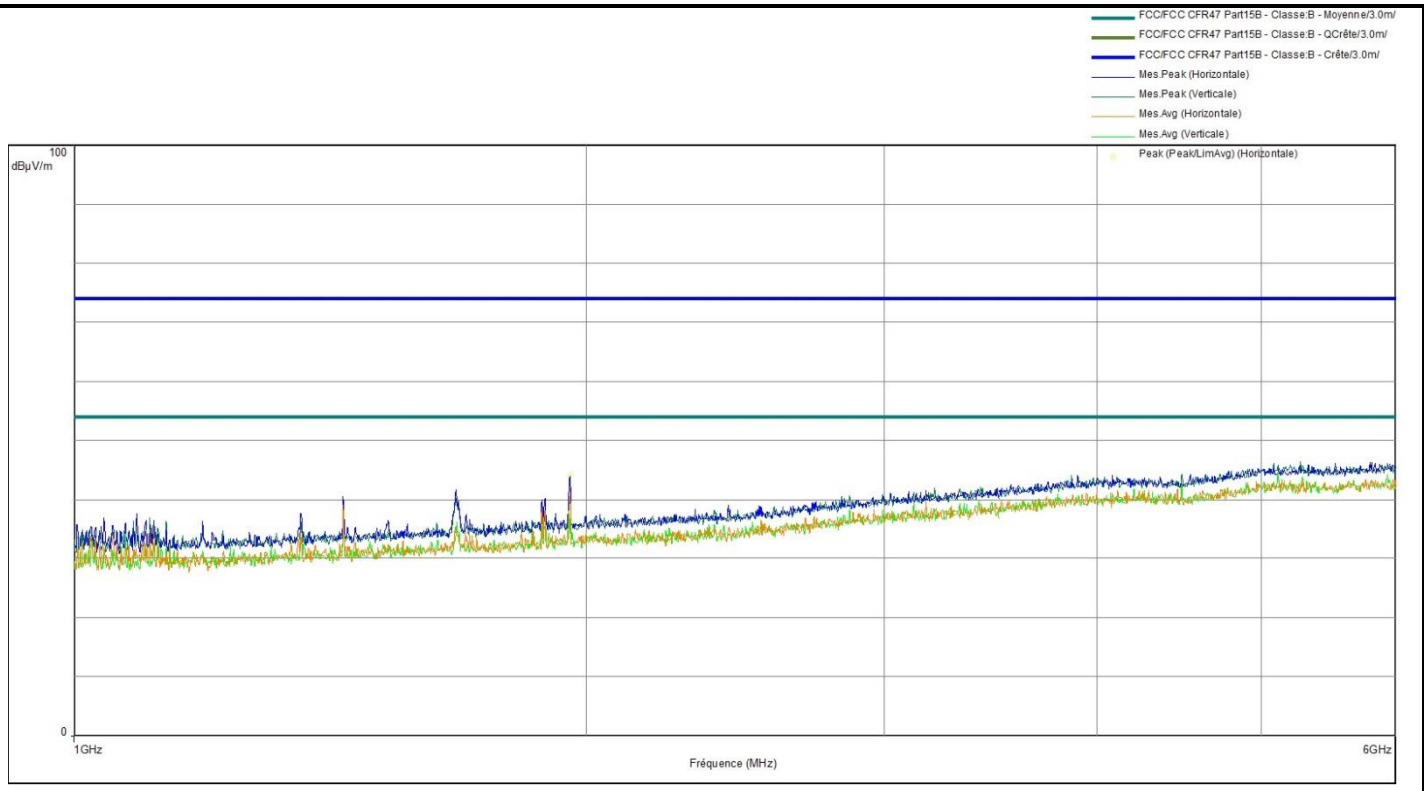
47.799	32.9	40.0	-7.1	Horizontal
58.713	25.5	40.0	-14.5	Horizontal
66.278	25.6	40.0	-14.4	Horizontal
86.032	25.6	40.0	-14.4	Horizontal
98.425	30.1	43.5	-13.4	Horizontal
101.893	31.5	43.5	-12.0	Horizontal
104.749	28.7	43.5	-14.8	Horizontal
374.680	31.9	46.0	-14.1	Horizontal
377.760	32.6	46.0	-13.4	Horizontal
381.040	31.6	46.0	-14.4	Horizontal
383.960	31.3	46.0	-14.7	Horizontal
390.320	35.5	46.0	-10.5	Horizontal
396.680	31.9	46.0	-14.1	Horizontal
399.960	35.7	46.0	-10.3	Horizontal
403.040	32.1	46.0	-13.9	Horizontal
409.200	34.6	46.0	-11.4	Horizontal
412.280	32.3	46.0	-13.7	Horizontal
418.840	32.4	46.0	-13.6	Horizontal

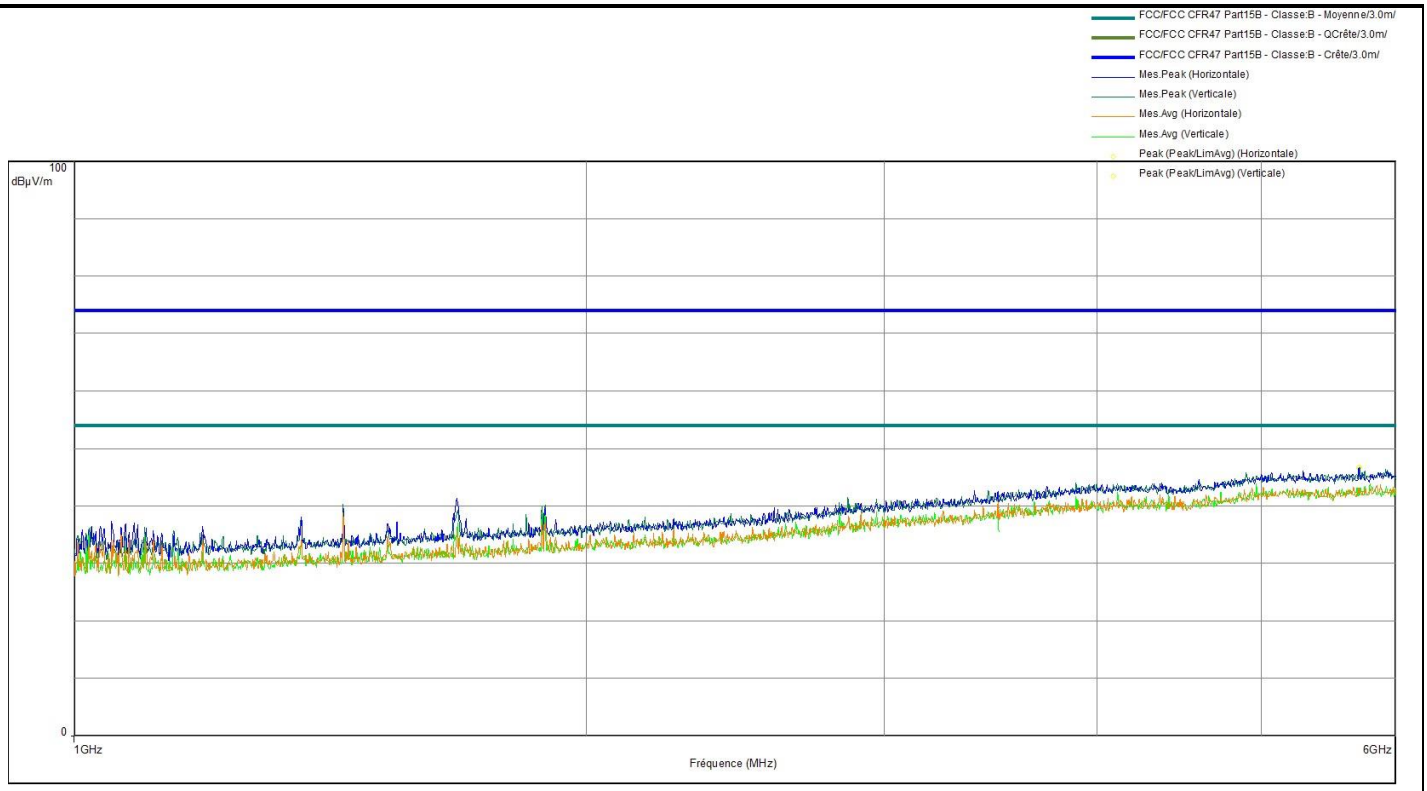
421.920	35.6	46.0	-10.4	Horizontal
425.000	32.3	46.0	-13.7	Horizontal
431.160	33.0	46.0	-13.0	Horizontal
440.800	32.0	46.0	-14.0	Horizontal
480.000	38.5	46.0	-7.5	Horizontal
600.000	31.7	46.0	-14.3	Horizontal
600.000	32.0	46.0	-14.0	Horizontal
684.000	32.9	46.0	-13.1	Horizontal
696.000	32.6	46.0	-13.4	Horizontal
37.361	47.7	40.0	7.7	Vertical
38.942	44.2	40.0	4.2	Vertical
43.787	44.1	40.0	4.1	Vertical
47.799	40.7	40.0	0.7	Vertical
58.713	33.9	40.0	-6.1	Vertical
60.209	33.4	40.0	-6.6	Vertical
64.765	36.0	40.0	-4.0	Vertical
71.140	27.8	40.0	-12.2	Vertical
73.180	29.7	40.0	-10.3	Vertical
73.911	29.3	40.0	-10.7	Vertical
77.192	29.2	40.0	-10.8	Vertical
94.379	33.6	43.5	-9.9	Vertical
96.674	33.5	43.5	-10.0	Vertical
97.830	34.1	43.5	-9.4	Vertical
98.442	38.0	43.5	-5.4	Vertical
101.876	38.8	43.5	-4.6	Vertical
102.505	35.6	43.5	-7.9	Vertical
104.749	36.0	43.5	-7.5	Vertical
106.687	33.1	43.5	-10.4	Vertical
108.812	32.0	43.5	-11.5	Vertical
148.116	28.8	43.5	-14.7	Vertical
151.584	29.6	43.5	-14.0	Vertical
155.630	28.9	43.5	-14.6	Vertical
480.000	32.9	46.0	-13.1	Vertical
611.960	31.1	46.0	-14.9	Vertical
960.000	38.6	46.0	-7.4	Vertical

RADIATED EMISSIONS			
Graph name:	Emr#1b3	**Test configuration:**	
Limit:	FCC CFR47 Part15C	(H+V) - Configuration 3 >1GHz	
Class:	B		
Frequency range: [1GHz - 6GHz]			
Antenna polarization:	Horizontal & Vertical	**RBW :**	1MHz
Azimuth:	0° - 360°	**VBW :**	3MHz



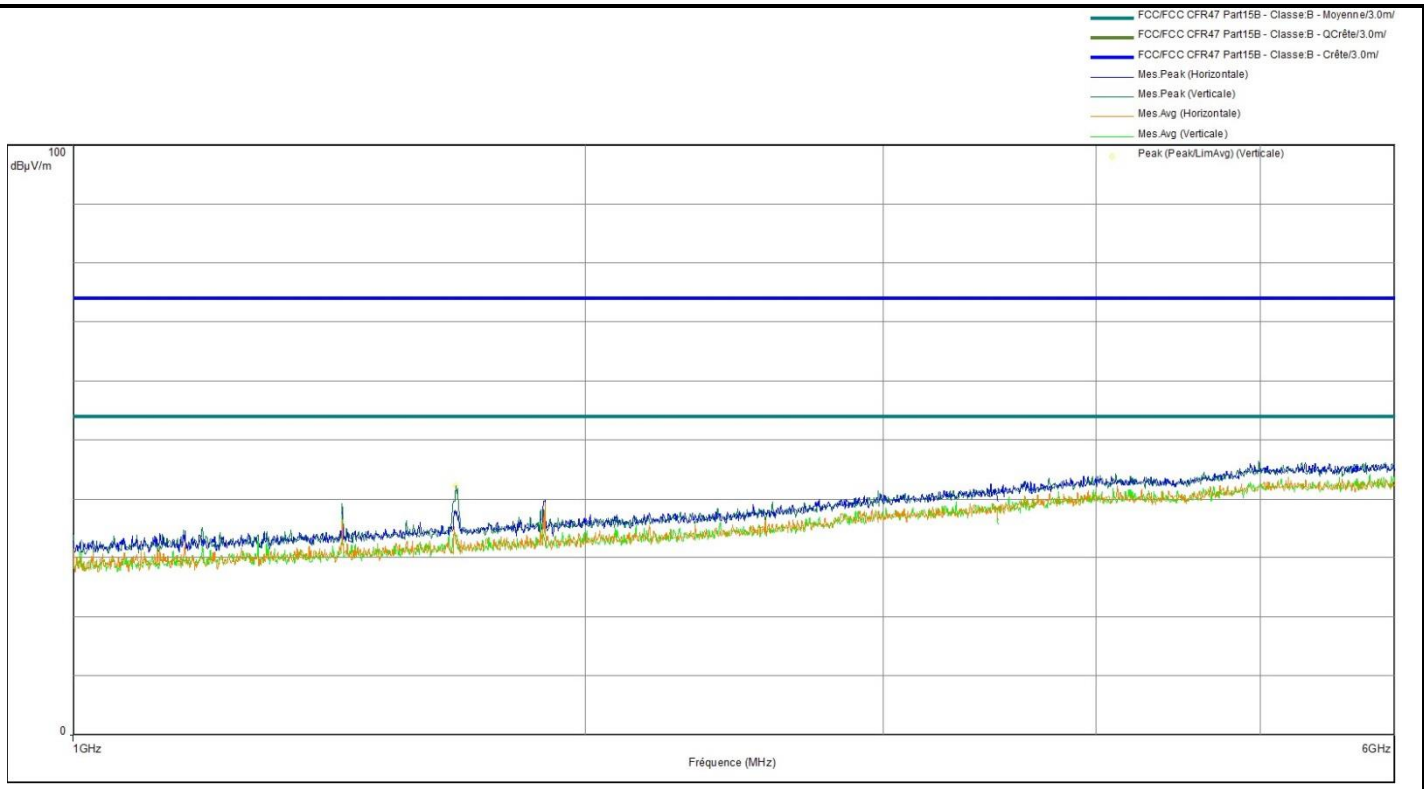
Frequency (MHz)	Peak Level(dBµV/m)
1958.75	44.08

RADIATED EMISSIONS			
Graph name:	Emr#2b3	**Test configuration:**	
Limit:	FCC CFR47 Part15C	(H+V) - Configuration 4 >1GHz	
Class:	B		
Frequency range: [1GHz - 6GHz]			
Antenna polarization:	Horizontal & Vertical	**RBW :**	1MHz
Azimuth:	0° - 360°	**VBW :**	3MHz



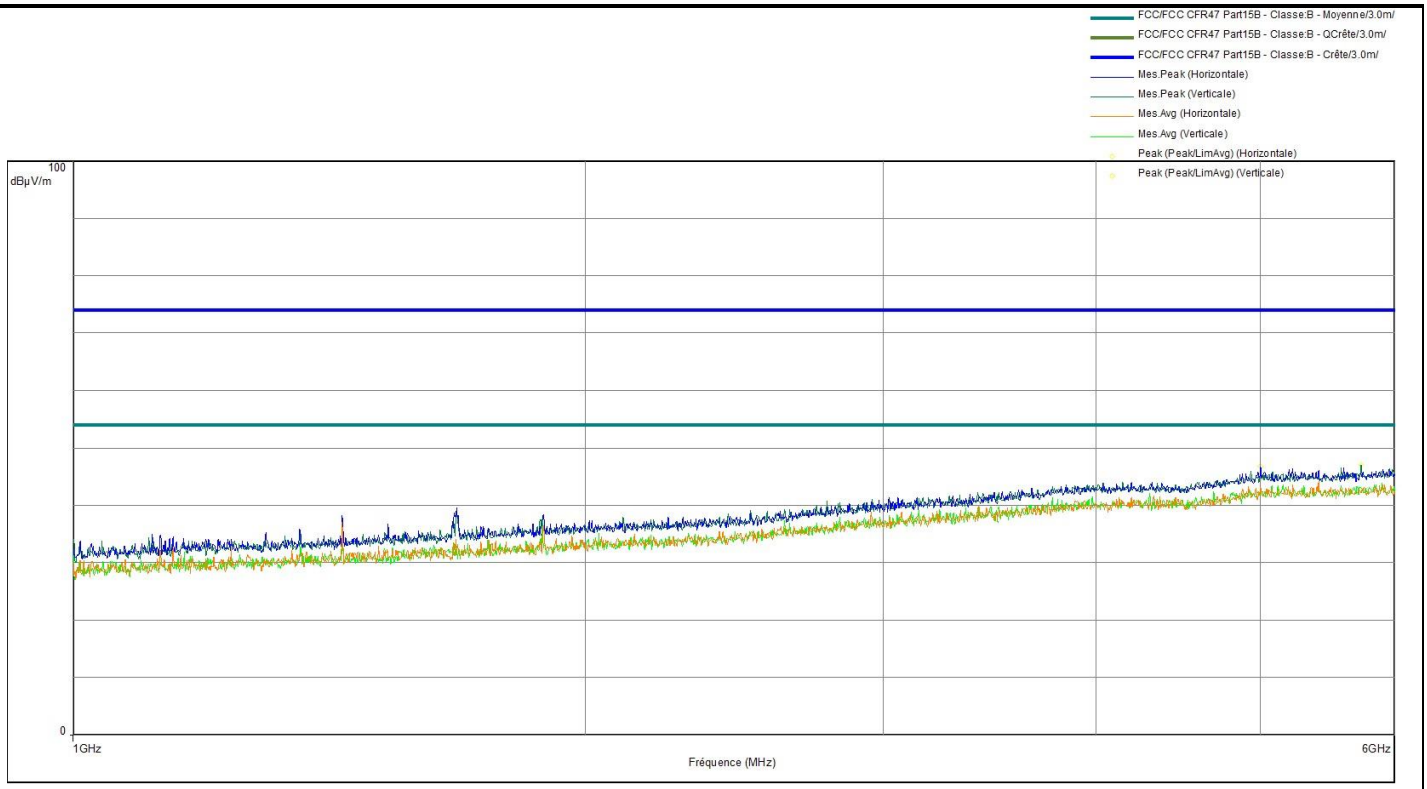
Frequency (MHz)	Peak Level(dBµV/m)
5703.25	46.64
5713	46.82

RADIATED EMISSIONS			
Graph name:	Emr#3b3	**Test configuration:**	
Limit:	FCC CFR47 Part15C	(H+V) - Configuration 5 >1GHz	
Class:	B		
Frequency range: [1GHz - 6GHz]			
Antenna polarization:	Horizontal & Vertical	**RBW :**	1MHz
Azimuth:	0° - 360°	**VBW :**	3MHz



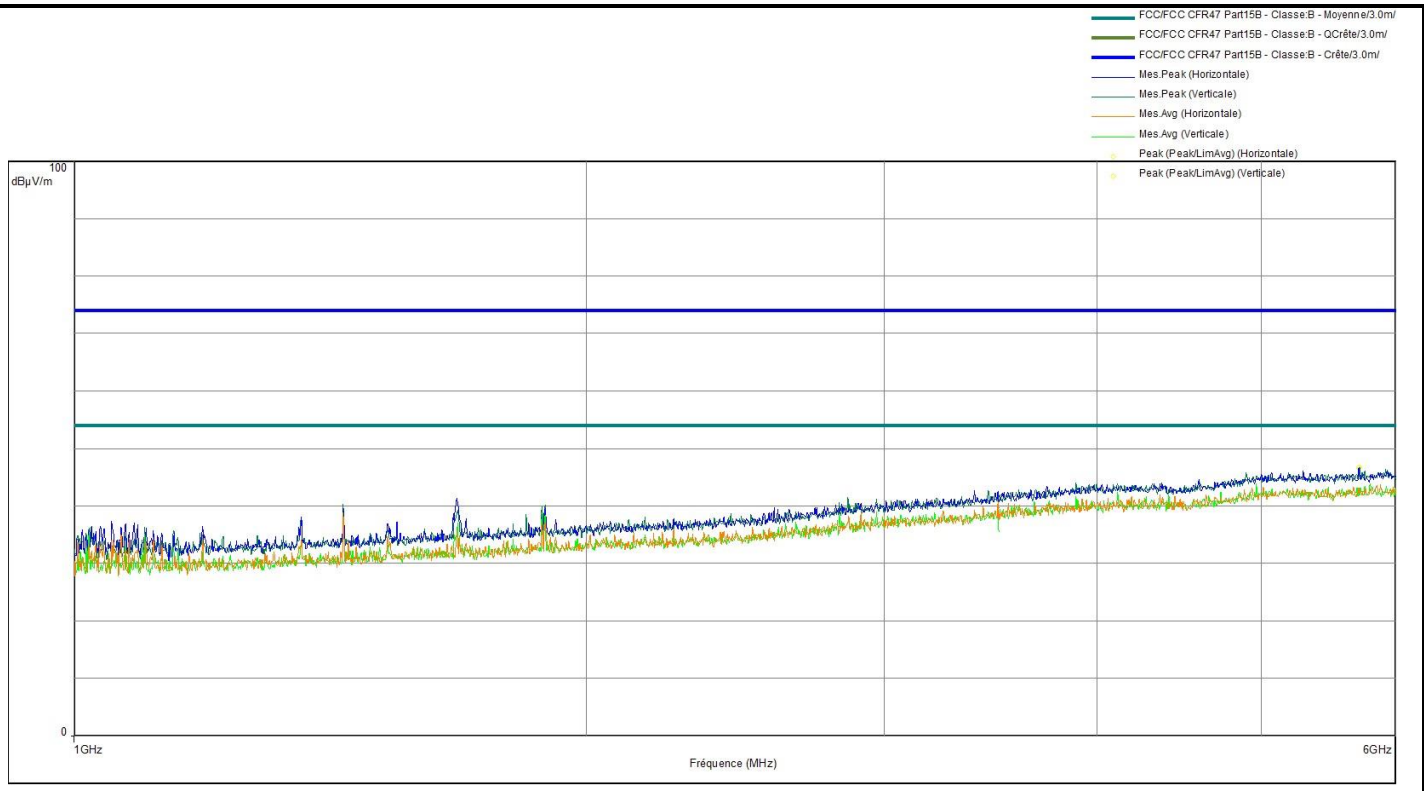
Frequency (MHz)	Peak Level (dBµV/m)
1679.5	42.39

RADIATED EMISSIONS			
Graph name:	Emr#4b3	**Test configuration:**	
Limit:	FCC CFR47 Part15C	(H+V) - Configuration 6 >1GHz	
Class:	B		
Frequency range: [1GHz - 6GHz]			
Antenna polarization:	Horizontal & Vertical	**RBW :**	1MHz
Azimuth:	0° - 360°	**VBW :**	3MHz



Frequency (MHz)	Peak Level(dBµV/m)
4999.75	46.74
5729.75	47.08

RADIATED EMISSIONS			
Graph name:	Emr#5b3	**Test configuration:**	
Limit:	FCC CFR47 Part15C	(H+V) - Configuration 7 >1GHz	
Class:	B		
Frequency range: [1GHz - 6GHz]			
Antenna polarization:	Horizontal & Vertical	**RBW :**	1MHz
Azimuth:	0° - 360°	**VBW :**	3MHz



Frequency (MHz)	Peak Level(dBµV/m)
5703.25	46.64
5713	46.82

9. 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*	3.57 dB	3.6 dB
Mesure des perturbations conduites en tension sur le réseau de télécommunication *Measurement of conducted disturbances in voltage on the telecommunication port.*	3.28 dB	A l'étude / Under consid.
Mesure des perturbations discontinues conduites en tension *Measurement of discontinuous conducted disturbances in voltage*	3.47 dB	3.6 dB
Mesure des perturbations conduites en courant *Measurement of conducted disturbances in current*	2.90 dB	A l'étude / Under consid.
Mesure du champ électrique rayonné sur le site en espace libre de Moirans *Measurement of radiated electric field on the Moirans open area test site*	5.07 dB	5.2 dB

Les valeurs d'incertitudes calculées du laboratoire étant inférieures aux valeurs d'incertitudes limites établies par la norme, la conformité de l'échantillon est établie directement par les niveaux limites applicables. / *The uncertainty values calculated by the laboratory are lower than limit uncertainty values defined by the standard. The conformity of the sample is directly established by the applicable limits values.*