



TEST REPORT

N°: 149895-708328-A (FILE#953583-A2) Version: 01

Subject **Electromagnetic compatibility and Radio spectrum Matters**

(ERM) tests according to standards:

FCC CFR 47 Part 15, Subpart C

RSS-247 Issue 2.0

Issued to **BABOLAT VS**

33 Quai Paul Sédallian

69009 - LYON

FRANCE

Apparatus under test

♥ Product Tennis player movement recorder

♥ Trade mark **BABOLAT**

♦ Manufacturer **FLEX**

♥ Model under test **BABOLAT Pulse**

0000000 ♦ Serial number 0000003

♥ FCCID 2AAESPULSE2018

₹ IC **12112A-BVSPULSE18**

Conclusion See Test Program chapter §1

August 22, 2017 to September 8, 2017 **Test date**

Test location MOIRANS 6500A-1 IC Test site

Composition of document 50 pages

Document issued on September 13, 2017

> Written by: Jonathan PAUC

Tests operator

Approved by: Anthony MERLIN

Technical manager entral des

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PUBLICATION HISTORY

Version	Date	Author	Modification
01	September 13, 2017	Jonathan PAUC	Creation of the document



SUMMARY

1.	TEST PROGRAM	4
2.	SYSTEM TEST CONFIGURATION	5
3.	CONDUCTED EMISSION DATA	9
4.	RADIATED EMISSION DATA	11
5.	BANDWIDTH (15.247)	17
6.	MAXIMUM PEAK OUTPUT POWER (15.247)	19
7.	POWER SPECTRAL DENSITY (15.247)	22
8.	BAND EDGE MEASUREMENT (15.247)	24
9.	OCCUPIED BANDWIDTH	28
10.	ANNEX 1 (GRAPHS)	30
11.	UNCERTAINTIES CHART	50



1. **TEST PROGRAM**

Standard: - FCC Part 15, Subpart C 15.247

- ANSI C63.10 (2013) - RSS-247 Issue 2.0 - RSS-Gen Issue 4

- 558074 D01 DTS Measurement Guidance v04

EMISSION TEST		LIMITS			
	Frequency	Quasi-peak value (dBµV)	Average value (dBµV)	☑ PASS	
Limits for conducted disturbance at mains ports	150-500kHz	66 to 56	56 to 46	□ FAIL	
150kHz-30MHz	0.5-5MHz	56	46	□ NA □ NP	
	5-30MHz	60	50		
Radiated emissions 9kHz-30MHz CFR 47 §15.209 (a) CFR 47 §15.247 (d) RSS-247 §5.5	9kHz-490kHz : 67 Measure at 30m 490kHz-1.705MH 1.705MHz-30MHz	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			
Radiated emissions 30MHz-25GHz* CFR 47 §15.209 (a) CFR 47 §15.247 (d) RSS-247 §5.5	88MHz-216MHz : 216MHz-960MHz				
Bandwidth 6dB CFR 47 §15.247 (a) (2) RSS-247 §5.2	At least 500kHz	At least 500kHz			
Power spectral Density CFR 47 §15.247 (e) RSS-247 §5.2	Limit: 8dBm/3kH	Limit: 8dBm/3kHz			
Maximum Peak Output Power CFR 47 §15.247 (b) RSS-247 §5.4	Limit: 30dBm Conducted or Rad	Limit: 30dBm Conducted or Radiated measurement			
Band Edge Measurement CFR 47 §15.209 (a) CFR 47 §15.247 (d) RSS-247 §5.5	Limit: -20dBc or Radiated emission	Limit: -20dBc or Radiated emissions limits in restricted bands			
Occupied bandwidth RSS-Gen §4.6.1	No limit	No limit			
Receiver Spurious Emission** RSS-Gen §4.10	See RSS-Gen §4	See RSS-Gen §4.10			

^{*§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

⁻ 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 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. HARDWARE IDENTIFICATION (EUT AND AUXILIARIES):

Equipment under test (EUT):

BABOLAT Pulse



Photography of EUT

Serial Number: 00000003

00000003 00000000

Power supply:

Туре	Reference	Sn	Rating
AC/DC adapter (USB)	ETA-U90EWE	RT1D918R	100-240 =>5.3V (2A)

Inputs/outputs - Cable:

Access	Туре	Length used (m)	Declared <3m	Shielded	Under test	Comments
Access 1	USB port (Charge only)	0.5		$\overline{\checkmark}$		Only in charging mode

Auxiliary equipment used during test:

Type	Reference	Sn	Comments
Laptop	LENOVO L450	1	1



Equipment information:

Bluetooth LE Type:	☑ BLE		□ v4.0	☑ v4.1		□ v4.2
Frequency band:	[2400 – 2483.5] MHz					
Spectrum Modulation:			☑ DSSS (T	ested like it)		
Number of Channel:			· · · · · · · · · · · · · · · · · · ·	0		
Spacing channel:			2M	Hz		
Channel bandwidth:			1M	Hz		
Antenna Type:				ternal		☐ Dedicated
Antenna connector:	☐ Yes			No	\checkmark	Temporary for test
				1		
Transmit chains:				antenna		
			Gain:			
Beam forming gain:			N	0		
Receiver chains	1					
Type of equipment:	☑ Stand-alone □ Plu		U		□ Combined	
Ad-Hoc mode:	□ Yes		☑ No			
Adaptivity mode:			mode		☑ No	
Adaptivity mode.	Clear Channel Assessment Time: -					-
Duty cycle:						☐ 100% duty
Equipment type:		tion m		□ Pre-production model		
	Tmin:		□ -20°C	□ 0°C	;	☑ -10°C
Operating temperature range:	Tnom: 20°C					
	Tmax:		□ 35°C	□ 55°C	2	
Type of power source:	☐ AC power supp	oly	☐ DC pow			☑ Battery
Operating voltage range:	Vnom: ☐ 230V		V/50Hz			
	☐ Yes (The geo	graphic	cal location			
	determined by the	e equip	oment is not			
Geo-location capability:	accessible to the er				\checkmark	No
	section 4.3.2.12.2					
	V2.1.1 standard)					



	CHANNEL PLAN						
Channel	Frequency (MHz)	Channel	Frequency (MHz)				
Cmin: 0	2402	20	2442				
1	2404	21	2444				
2	2406	22	2446				
3	2408	23	2448				
4	2410	24	2450				
5	2412	25	2452				
6	2414	26	2454				
7	2416	27	2456				
8	2418	28	2458				
9	2420	29	2460				
10	2422	30	2462				
11	2424	31	2464				
12	2426	32	2466				
13	2428	33	2468				
14	2430	34	2470				
15	2432	35	2472				
16	2434	36	2474				
17	2436	37	2476				
18	2438	38	2478				
Cmid:19	2440	Cmax: 39	2480				

DATA RATE						
Data Rate (Mbps)	Modulation Type	Worst Case Modulation				
1	GFSK	✓				

2.2. EUT CONFIGURATION

The EUT is set in the following modes during tests with simulator / software:

- Permanent emission with modulation on a fixed channel in the data rate that produced the highest power
- Permanent reception

All tests are performed at Cmin, Cmid and Cmax.

The EUT is set in the following modes during tests:

TX Mode

- Permanent emission with modulation on a fixed channel in the data rate that produced the highest power
- Permanent reception

Following commands with the specific test software "Prodtest BLE SDK 5.0.3 Package" are used to set the product:

Continous Modulation emission (TX)

prodtest -p <COM port number> start_cont_tx <FREQUENCY> <PAYLOAD_TYPE>

Charging Mode:

EUT is set in charging mode, plugged on USB DC charging adapter see §2.1



2.	3	EQUIPMENT MODIFICATIONS
~ .	J.	

✓ None
✓ Modification:

2.4. FIELD STRENGTH CALCULATION

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

FS = RA + AF + CF - AG

Where FS = Field Strength

RA = Receiver Amplitude AF = Antenna Factor CF = Cable Factor AG = Amplifier Gain

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.

 $FS = 52.5 + 7.4 + 1.1 - 29 = 32 dB\mu V/m$

The 32 dBμV/m value can be mathematically converted to its corresponding level in μV/m.

Level in μ V/m = Common Antilogarithm [(32dB μ V/m)/20] = 39.8 μ V/m.

2.5. 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 : September 8, 2017 Test performed by : Jonathan PAUC

Atmospheric pressure (hPa) : 991 Relative humidity (%) : 41 Ambient temperature (°C) : 23

3.2. TEST SETUP

Mains terminals

The EUT and auxiliaries are set:

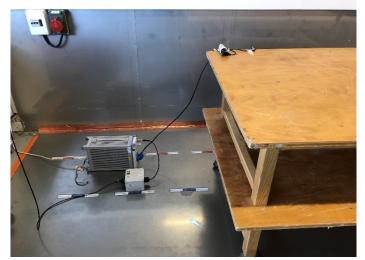
☑ 80cm above the ground on the non-conducting table (Table-top equipment)

☐ 10cm above the ground on isolating support (Floor standing equipment)

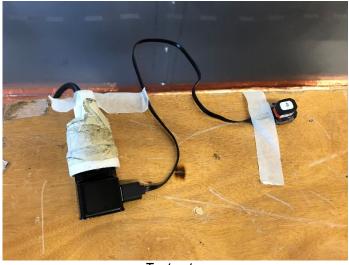
The distance between the EUT and the LISN is 80cm. The EUT is 40cm away for the vertical ground plane.

The EUT is powered by V_{nom} .

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







Test setup



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 / 50μ H. 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	-	-	A5329578	02/17	02/18
LISN	RHODE & SCHWARZ	ENV216	C2320291	12/16	12/17
Receiver 20Hz – 8GHz	ROHDE & SCHWARZ	ESU8	A2642019	08/16	08/17*
Thermo-hygrometer	OREGON	BAR916	B4206011	10/16	10/17
Transient limiter	RHODE & SCHWARZ	ESH3-Z2	A7122204	01/17	01/18

^{*}Under derogation

3.5.	DIVERGENCE	ADDITION OR	SUPPRESSION OF	N THE TEST S	PECIFICATION
J. J.	DIVENGENCE.	ADDITION ON	JUI I ILLUJIUN UI	N IIIL ILJI J	LUIIIUAIIUI

✓ None	☐ Divergence:	
3.6. TEST RE	ESULTS	
Measurements a Results: (PEAK	are performed on the phase (L1) and neutral (N) of a detection)	the power line.

Measure on L1:graph Emc#1(see annex 1)Measure on N:graph Emc#2(see annex 1)

3.7. CONCLUSION

Conducted emission data measurement performed on the sample of the product BABOLAT Pulse, SN: 00000003 in configuration and description presented in this test report, show levels below the FCC CFR 47 Part 15 and RSS-247 limits.



4. RADIATED EMISSION DATA

4.1. ENVIRONMENTAL CONDITIONS

Date of test : August 25th, 2017 September 8th , 2017 Test performed by : Jonathan PAUC Jonathan PAUC

Atmospheric pressure (hPa) : 990 998
Relative humidity (%) : 45 44
Ambient temperature (°C) : 21 21

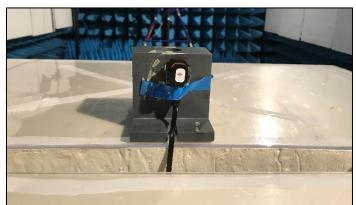
4.2. TEST SETUP

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:

- $\ensuremath{\square}$ 80cm above the ground on the non-conducting table (Table-top equipment) Below 1GHz
- ☑ 150cm above the ground on the non-conducting table (Table-top equipment) Above 1GHz
- ☐ 10cm above the ground on isolating support (Floor standing equipment)

The EUT is powered by V_{nom}.









Test setup in anechoic chamber <1GHz











Test setup in anechoic chamber >1GHz











Test setup in open area test field >1GHz



4.3. TEST METHOD

The product has been tested according to ANSI C63.10, FCC part 15 subpart C.

Pre-characterisation measurement: (9kHz – 25GHz)

A pre-scan of all the setup has been performed in a 3 meters semi-anechoic chamber for frequency from 30MHz to 12.75GHz. Test is performed in horizontal (H) and vertical (V) polarization, the loop antenna was rotated during the test to maximize 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 12.75GHz.

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

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 limits. 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 to maximize 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 25GHz:

The product has been tested at a distance of **3 meters** from the antenna and compared to the FCC part 15 subpart C limits. Measurement bandwidth was 1MHz from 1GHz to 25GHz.

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			
Amplifier 9kHz - 40GHz	LCIE SUD EST	_	A7102082	07/17	07/18			
Antenna Bi-log	CHASE	CBL6111A	C2040172	06/16	06/18			
Antenna horn 18GHz	EMCO	3115	C2042029	08/16	08/17			
Cable Measure @3m 18GHz	-	-	A5329038	10/16	10/17			
Cable Measure @3m	-	-	A5329206	06/17	06/18			
Cable 40GHz 2m coudé			A5329720	05/16	05/17**			
Cable 40GHz 2m coudé			A5329721	05/16	05/17**			
Semi-Anechoic chamber #3	SIEPEL	-	D3044017	03/16	03/19			
Radiated emission comb generator	BARDET	-	A3169050	-	-			
HF Radiated emission comb generator	LCIE SUD EST	-	A3169088	-	-			
Spectrum analyzer	ROHDE & SCHWARZ	FSV 30	A4060050	08/16	08/17			
BAT EMC	NEXIO	v3.9.0.10	L1000115	-	-			
Thermo-hygrometer (C3)	OREGON	BAR206	B4204078	10/16	10/17			
Thermo-hygrometer (PM2)	KIMO	HQ 210	B4206022	08/16	08/17			
Turntable chamber (Cage#3)	ETS Lingren	Model 2165	F2000371	ı	-			
Table	LCIE	-	F2000461	-	-			

^{**:} under derogation



OATS									
DESCRIPTION	MANUFACTURER	MODEL	N° LCIE	Cal_Date	Cal_Due				
Antenna Bi-log	CHASE	CBL6111A	C2040051	06/16	06/18				
Cable	SUCOFLEX	106G	A5329061	04/17	04/18				
Cable (OATS)	-	-	A5329623	03/17	03/18				
Radiated emission comb generator	BARDET	-	A3169050	-	-				
OATS	-	-	F2000409	08/16	08/17				
Receiver 20-1000MHz	ROHDE & SCHWARZ	ESVS30	A2642006	05/15	05/17				
Thermo-hygrometer (PM2)	KIMO	HQ 210	B4206022	08/16	08/17				
Turntable / Mast controller (OATS)	ETS Lindgren	Model 2066	F2000372	ı	-				
Antenna mast (OATS)	ETS Lindgren	2071-2	F2000392	ı	-				
Turntable (OATS)	ETS Lindgren	Model 2187	F2000403	-	-				
Table	MATURO Gmbh	-	F2000437	-	-				

4.5. DIVERGENCE, ADDITION OR SUPPRESSION ON THE TEST SPECIFICATION

✓ None	□ Divergence:
- NOIL	- Divergence.

4.6. TEST RESULTS

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

See graphs for 30MHz-1GHz:

Graph id	entifier	Polarization	Mode	EUT position	Channel	Comments
Emr#	1	H & V	TX	Axis XY	Min	See annex 1
Emr#	2	H & V	TX	Axis Z	Min	See annex 1
Emr#	3	H & V	TX	Axis XY	Mid	See annex 1
Emr#	4	H & V	TX	Axis Z	Mid	See annex 1
Emr#	5	H & V	TX	Axis XY	Max	See annex 1
Emr#	6	H & V	TX	Axis Z	Max	See annex 1

4.6.2. Pre-characterization at 3 meters [1GHz-12.75GHz]

See graphs for 1GHz-12.75GHz:

Graph id	entifier	Polarization	Mode	EUT position	Channel	Comments
Emr#	7	Н	TX	Axis XY	Min	See annex 1
Emr#	8	V	TX	Axis XY	Min	See annex 1
Emr#	9	Н	TX	Axis Z	Min	See annex 1
Emr#	10	V	TX	Axis Z	Min	See annex 1
Emr#	11	Н	TX	Axis XY	Mid	See annex 1
Emr#	12	V	TX	Axis XY	Mid	See annex 1
Emr#	13	Н	TX	Axis Z	Mid	See annex 1
Emr#	14	V	TX	Axis Z	Mid	See annex 1
Emr#	15	Н	TX	Axis XY	Max	See annex 1
Emr#	16	V	TX	Axis XY	Max	See annex 1
Emr#	17	Н	TX	Axis Z	Max	See annex 1
Emr#	18	V	TX	Axis Z	Max	See annex 1



4.6.3. 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.

Test Frequency (MHz)	Meter Reading dB(µV)	Detector (Pk/QP/Av)	Polarity (V/H)	Azimuth (Degrees)	Antenna Height (cm)	Transducer Factor (dB)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)
41.853	22.0	QP	V	56	100	13.7	35.7	40.0	-4.3
56.843	24.8	QP	V	126	110	8.1	32.9	40.0	-7.1
66.601	20.5	QP	V	37	123	7.7	28.2	40.0	-11.8
77.328	25.8	QP	V	0	100	8.5	34.3	40.0	-5.7

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

4.6.4. Characterization on 3meters anechoic chamber from 1GHz to 12.75GHz

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.

Test Frequency (MHz)	Meter Reading dB(μV)	Detector (Pk/QP/Av)	Polarity (V/H)	Azimuth (Degrees)	Antenna Height (cm)	Transducer Factor (dB)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)
1664.500	74.5	Pk	V	33	150	-13.2	61.3	74.0	-12.7
1664.750	56.0	Av	V	98	150	-13.2	42.8	54.0	-11.2
2369.680	52.3	Pk	V	210	150	-9.9	42.4	74.0	-31.6
2369.680	24.8	Av	V	200	150	-9.9	14.9	54.0	-39.1
2385.811	50.8	Pk	V	195	150	-9.8	41.0	74.0	-33.0
2385.811	29.9	Av	V	234	150	-9.8	20.0	54.0	-34.0
2489.443	50.8	Pk	V	234	150	-9.5	41.3	74.0	-32.7
2489.443	27.0	Av	V	234	150	-9.5	17.4	54.0	-36.6
2495.999	52.8	Pk	V	234	150	-9.5	43.3	74.0	-30.7
2495.999	22.5	Av	V	234	150	-9.5	13.0	54.0	-41.0
4803.070	49.8	Pk	V	232	150	-2.8	47.0	74.0	-27.0
4803.070	24.5	Av	V	232	150	-2.8	21.7	54.0	-32.3
4880.080	50.8	Pk	V	232	150	-2.6	48.2	74.0	-25.8
4880.080	26.3	Av	V	232	150	-2.6	23.7	54.0	-30.3
4959.130	48.7	Pk	V	232	150	-2.4	46.3	74.0	-27.7
4959.130	34.4	Av	V	232	150	-2.4	32.1	54.0	-21.9
7205.165	47.4	Pk	V	232	150	2.1	49.5	74.0	-24.5
7205.165	34.0	Av	V	232	150	2.1	36.1	54.0	-17.9
7318.895	51.8	Pk	V	232	150	2.2	54.0	74.0	-20.0
7318.895	29.4	Av	V	232	150	2.2	31.6	54.0	-22.4
7438.745	51.6	Pk	V	232	150	2.3	53.9	74.0	-20.1
7438.745	23.4	Av	V	232	150	2.3	25.7	54.0	-28.3

None significative frequency observed from 12.75GHz to 25GHz.

Note: Measures have been done at 3m distance.

4.7. CONCLUSION

Radiated emission data measurement performed on the sample of the product BABOLAT Pulse, SN: 00000003 in configuration and description presented in this test report, show levels below the FCC CFR 47 Part 15 and RSS-247 limits.



5. BANDWIDTH (15.247)

5.1. TEST CONDITIONS

ate of test : August 22, 2017 est performed by : Jonathan PAUC

tmospheric pressure (hPa) : 990 elative humidity (%) : 45 mbient temperature (°C) : 21

5.2. 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 13.7dB

☐ Radiated measurement:

The EUT is placed in an anechoic chamber; 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, a delta marker is used to measure the frequency difference as the emission bandwidth.

Measurement Procedure: §8.1 Option 1 (DTS Measurement Guidance)

- 1. Set resolution bandwidth (RBW) = 100kHz.
- 2. Set the video bandwidth (VBW) \geq 3 x RBW.
- 3. Detector = Peak.
- 4. Trace mode = max hold.
- 5. Sweep = auto couple.
- 6. Allow the trace to stabilize.
- 7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission. Compare the resultant bandwidth with the RBW setting of the analyzer.

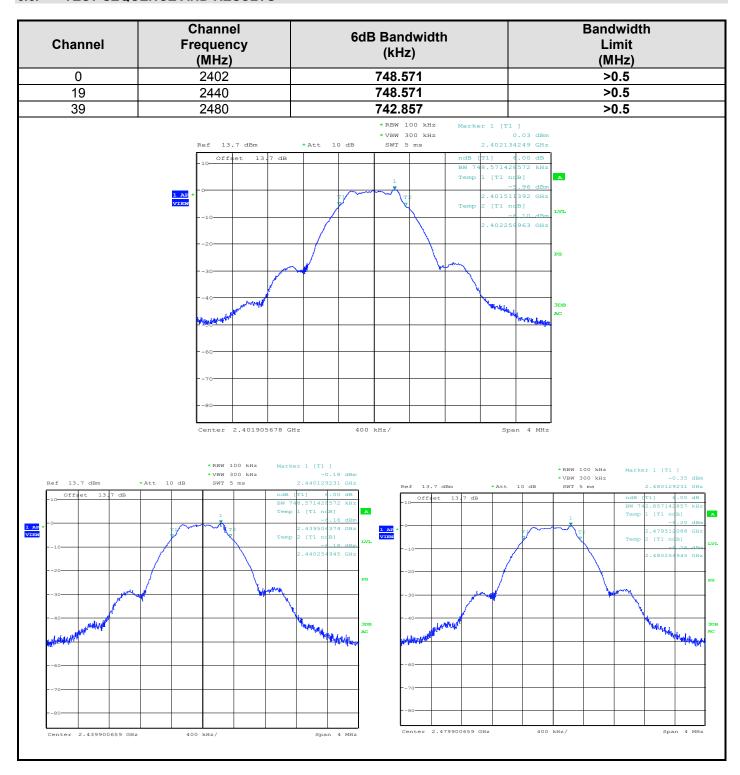
5.3. TEST EQUIPMENT LIST

DESCRIPTION	MANUFACTURER	MODEL	N° LCIE	Cal_Date	Cal_Due
Attenuator 10dB	AEROFLEX	-	A7122268	06/17	06/18
Cable SMA	-	18G	A5329373	12/16	12/17
Spectrum analyzer	ROHDE & SCHWARZ	FSV 30	A4060051	03/17	03/18

5.4. DIVERGENCE, ADDITION OR SUPPRESSION ON THE TEST SPECIFICATION ☑ None ☑ Divergence:



5.5. TEST SEQUENCE AND RESULTS



5.6. CONCLUSION

Bandwidth measurement performed on the sample of the product BABOLAT Pulse, SN: 00000000, in configuration and description presented in this test report, show levels below the FCC CFR 47 Part 15 and RSS-247 limits.



6. MAXIMUM PEAK OUTPUT POWER (15.247)

6.1. TEST CONDITIONS

Date of test : August 22, 2017 Test performed by : Jonathan PAUC

Atmospheric pressure (hPa) : 990 Relative humidity (%) : 45 Ambient temperature (°C) : 21

6.2. 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.

Offset: Attenuator+cable 13.7dB

☐ Radiated measurement:

The EUT is placed in an anechoic chamber; the center frequency of the spectrum analyzer is set to the fundamental frequency.

The product has been tested at a distance of 3 meters from the antenna. Continuous linear turntable azimuth search was performed with 360 degrees range. Measurement performed on 3 axis of EUT. A summary of the worst case emissions found in all test configurations and modes is shown on following table. The captured power is measured and recorded; the measurement is repeated until all frequencies required were complete.

To demonstrate compliance with peak output power requirement of section 15.247 (b), the transmitter's peak output power is calculated using the following equation:

$$E = \frac{\sqrt{30PG}}{d}$$

Where:

- E is the measured maximum fundamental field strength in V/m.
- G is the numeric gain of the transmitting antenna with reference to an isotropic radiator.
- d is the distance in meters from which the field strength was measured.
- P is the power in watts for which you are solving:

$$P = \frac{(Ed)^2}{20C}$$



Maximum peak conducted output power

One of the following procedures may be used to determine the maximum peak conducted output power of a DTS EUT.

• ☑ RBW ≥ DTS bandwidth §9.1.1 (DTS Measurement Guidance)

This procedure shall be used when the measurement instrument has available a resolution bandwidth that is greater than the DTS bandwidth.

- a) Set the RBW ≥ DTS bandwidth.
- b) Set VBW \geq 3 x RBW.
- c) Set span ≥ 3 x RBW
- d) Sweep time = auto couple.
- e) Detector = peak.
- f) Trace mode = max hold.
- g) Allow trace to fully stabilize.
- h) Use peak marker function to determine the peak amplitude level.

□ Integrated band power method

This procedure may be used when the maximum available RBW of the measurement instrument is less than the DTS bandwidth.

- a) Set the RBW = 1 MHz.
- b) Set the VBW ≥ 3 x RBW
- c) Set the span \geq 1.5 x DTS bandwidth.
- d) Detector = peak.
- e) Sweep time = auto couple.
- f) Trace mode = max hold.
- g) Allow trace to fully stabilize.
- h) Use the instrument's band/channel power measurement function with the band limits set equal to the DTS bandwidth edges

6.3. TEST EQUIPMENT LIST

DESCRIPTION	MANUFACTURER	MODEL	N° LCIE	Cal_Date	Cal_Due
Attenuator 10dB	AEROFLEX	-	A7122268	06/17	06/18
Cable SMA	-	18G	A5329373	12/16	12/17
Spectrum analyzer	ROHDE & SCHWARZ	FSV 30	A4060051	03/17	03/18

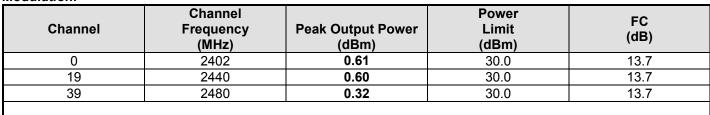
6.4. DIVERGENCE. ADDITION OR SUPPRESSION ON THE TEST SPECIFICATION

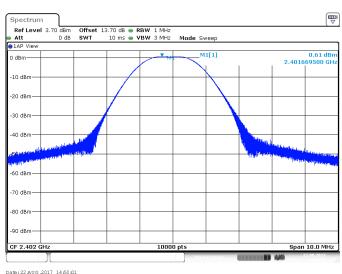
0.4.	Divergence, Addition or Suppression on the lest specification
☑ None	e □ Divergence:

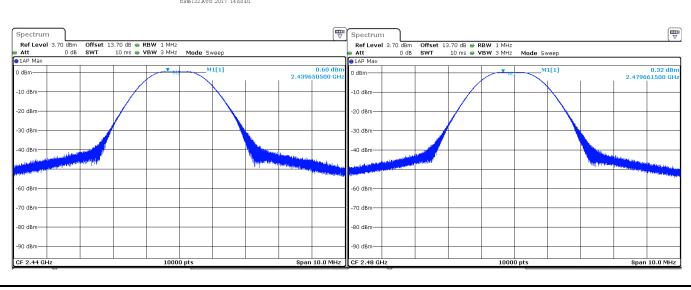


6.5. TEST SEQUENCE AND RESULTS

Modulation:







6.6. CONCLUSION

Maximum Peak Output Power measurement performed on the sample of the product BABOLAT Pulse, SN: 00000000, in configuration and description presented in this test report, show levels below the FCC CFR 47 Part 15 and RSS-247 limits.



7. POWER SPECTRAL DENSITY (15.247)

7.1. TEST CONDITIONS

Date of test : August 22, 2017 Test performed by : Jonathan PAUC

Atmospheric pressure (hPa) : 990 Relative humidity (%) : 45 Ambient temperature (°C) : 21

7.2. 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.

Offset: Attenuator+cable 13.7dB

☐ Radiated measurement:

The EUT is placed in an anechoic chamber; the center frequency of the spectrum analyzer is set to the fundamental frequency.

The product has been tested at a distance of 3 meters from the antenna. Continuous linear turntable azimuth search was performed with 360 degrees range. Measurement performed on 3 axis of EUT. A summary of the worst case emissions found in all test configurations and modes is shown on following table. The captured power is measured and recorded; the measurement is repeated until all frequencies required were complete.

To demonstrate compliance with peak output power requirement of section 15.247 (b), the transmitter's peak output power is calculated using the following equation:

$$E = \frac{\sqrt{30PG}}{d}$$

Where:

- E is the measured maximum fundamental field strength in V/m.
- G is the numeric gain of the transmitting antenna with reference to an isotropic radiator.
- d is the distance in meters from which the field strength was measured.
- P is the power in watts for which you are solving:

$$P = \frac{(E d)^2}{30 G}$$

Measurement Procedure PKPSD: §10.2 (DTS Measurement Guidance)

- a) Set analyzer center frequency to DTS channel center frequency.
- b) Set the span to 1.5 times the DTS bandwidth.
- c) Set the RBW to: 3 kHz.
- d) Set the VBW \geq 3 x RBW.
- e) Detector = peak.
- f) Sweep time = auto couple.
- g) Trace mode = max hold.
- h) Allow trace to fully stabilize.
- i) Use the peak marker function to determine the maximum amplitude level within the RBW.
- j) If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

7.3. TEST EQUIPMENT LIST

DESCRIPTION	MANUFACTURER	MODEL	N° LCIE	Cal_Date	Cal_Due
Attenuator 10dB	AEROFLEX	-	A7122268	06/17	06/18
Cable SMA	-	18G	A5329373	12/16	12/17
Spectrum analyzer	ROHDE & SCHWARZ	FSV 30	A4060051	03/17	03/18

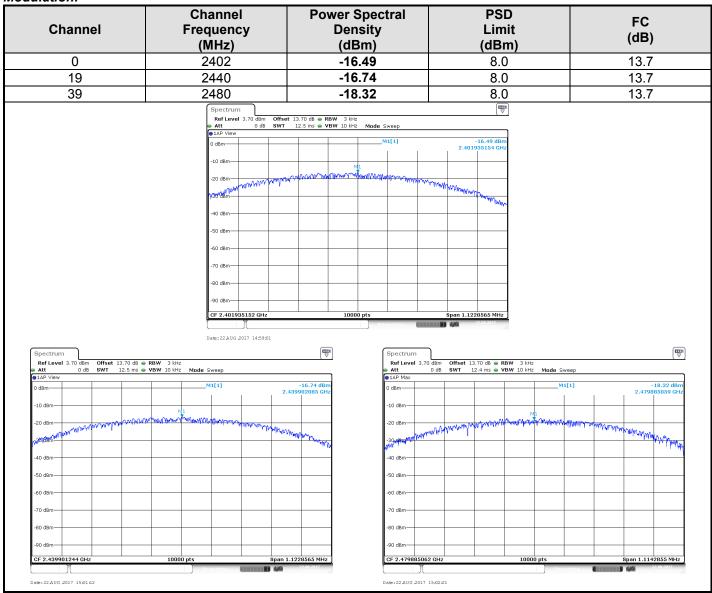


7.4. DIVERGENCE, ADDITION OR SUPPRESSION ON THE TEST SPECIFICATION

✓ None □ Divergence:

7.5. TEST SEQUENCE AND RESULTS

Modulation:



7.6. CONCLUSION

Power Spectral Density measurement performed on the sample of the product BABOLAT Pulse, SN:0000000, in configuration and description presented in this test report, show levels below the FCC CFR 47 Part 15 and RSS-247 limits.



8. BAND EDGE MEASUREMENT (15.247)

8.1. TEST CONDITIONS

Date of test : August 22, 2017 Test performed by : Jonathan PAUC

Atmospheric pressure (hPa) : 990 Relative humidity (%) : 41 Ambient temperature (°C) : 24

8.2. **LIMIT**

RF antenna conducted test: § 11 (DTS Measurement Guidance)

Set RBW = 100 kHz, Video bandwidth (VBW) > RBW, scan up through 10th harmonic. All harmonics/spurs must be at least 20 dB down from the highest emission level within the authorized band as measured with a 100 kHz RBW. Note: If the device complies with the use of power option 2 the attenuation under this paragraph shall be 30 dB instead of 20 dB. For -20dBc limit, lowest power output level is considered, worst case.

Radiated emission test: § 12 (DTS Measurement Guidance)

Applies to harmonics/spurs that fall in the restricted bands listed in Section 15.205. The maximum permitted average field strength is listed in Section 15.209. For measurements above 1 GHz, set RBW = 1MHz, VBW = 10 Hz, Sweep: Auto. If the emission is pulsed, modify the unit for continuous operation; use the settings shown above, then correct the reading by subtracting the peak-average correction factor, derived from the appropriate duty cycle calculation. See results in Radiated emissions section before.

8.3. SETUP

The EUT is placed in an anechoic chamber; levels have been corrected to be in compliant with Peak Output Power measurement. The EUT is turn ON; the graphs of the restrict frequency band are recorded with a display line indicating the highest level and other the 20dB offset below to show compliance with 15.247 (d) and 15.205. The emissions in restricted bands are compared to 15.209 limits.

RBW: 100kHz VBW: 300kHz

8.4. TEST EQUIPMENT LIST

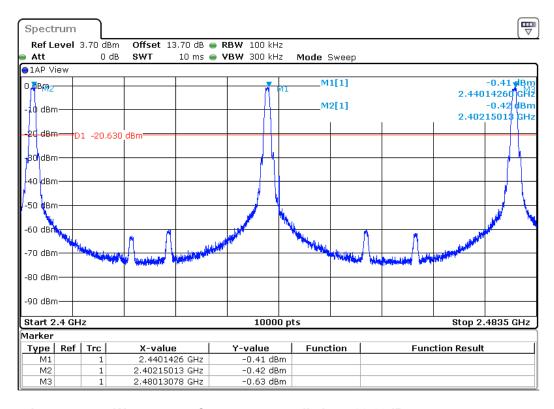
DESCRIPTION	MANUFACTURER	MODEL	N° LCIE	Cal_Date	Cal_Due
Attenuator 10dB	AEROFLEX	-	A7122268	06/17	06/18
Cable SMA	-	18G	A5329373	12/16	12/17
Spectrum analyzer	ROHDE & SCHWARZ	FSV 30	A4060051	03/17	03/18

8.5. DIVERGENCE, ADDITION OR SUPPRESSION ON THE TEST SPECIFICATION



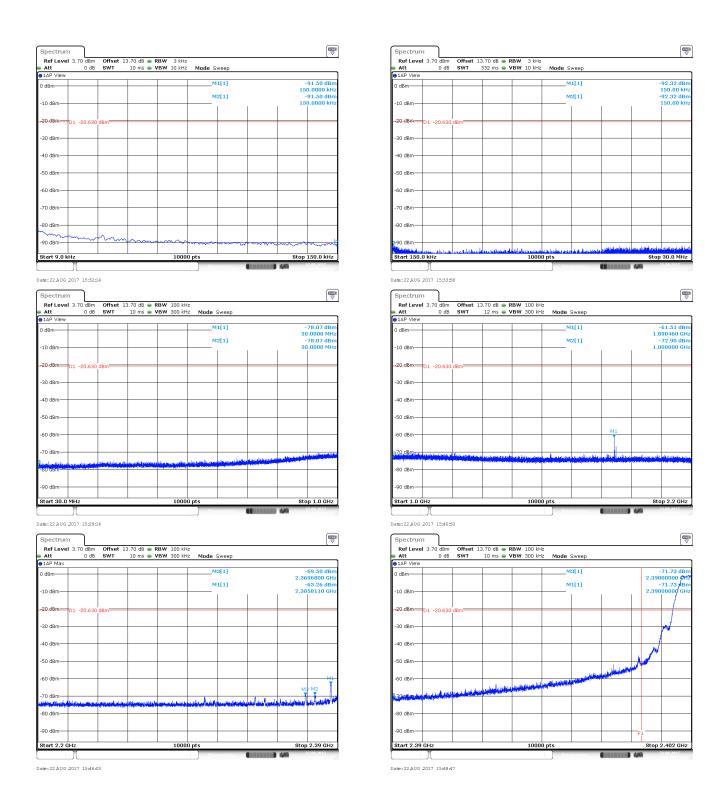
8.6. TEST SEQUENCE AND RESULTS

Offset: Attenuator+cable 13.7dB

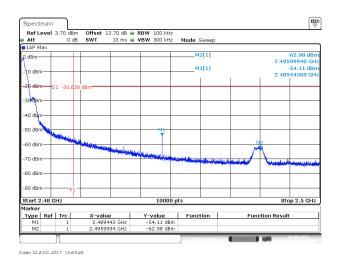


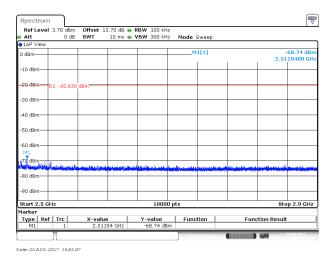
-20dBc limit used Worst case : Cmax , limit at -20.63dBm

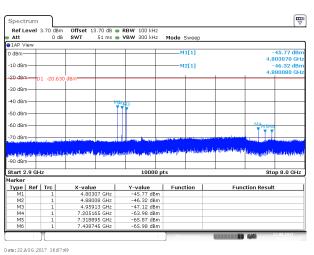


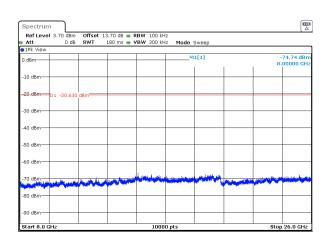












8.7. CONCLUSION

Band Edge Measurement performed on the sample of the product BABOLAT Pulse, SN: 0000000, in configuration and description presented in this test report, show levels below the FCC CFR 47 Part 15 and RSS-247 limits.



9. OCCUPIED BANDWIDTH

9.1. TEST CONDITIONS

Date of test : August 22, 2017 Test performed by : Jonathan PAUC

Atmospheric pressure (hPa) : 990 Relative humidity (%) : 41 Ambient temperature (°C) : 25

9.2. **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 13.7dB

☐ 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:

- a) RBW shall be in the range of 1% to 5% of the anticipated occupied bandwidth
- b) Set the video bandwidth (VBW) ≥ 3 x RBW
- c) SPAN = Capture all products of the modulation process
- d) Detector = Peak.
- e) Trace mode = max hold.
- f) Sweep = auto couple.
- g) Allow the trace to stabilize.
- h) OBW 99% function of spectrum analyzer used

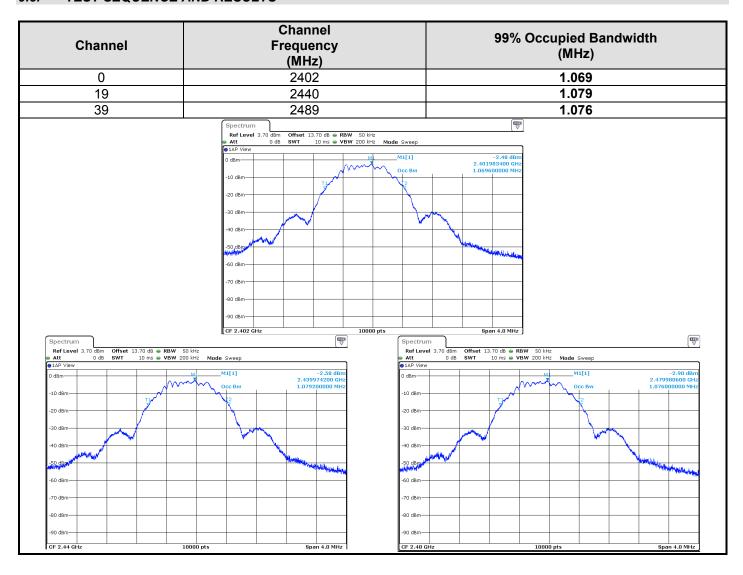
9.3. TEST EQUIPMENT LIST

DESCRIPTION	MANUFACTURER	MODEL	N° LCIE	Cal_Date	Cal_Due
Attenuator 10dB	AEROFLEX	-	A7122268	06/17	06/18
Cable SMA	-	18G	A5329373	12/16	12/17
Spectrum analyzer	ROHDE & SCHWARZ	FSV 30	A4060051	03/17	03/18

9.4.	DIVERGENCE,	ADDITION OR SUPPRESSION ON THE TEST SPECIFICATION
☑ None	;	□ Divergence:

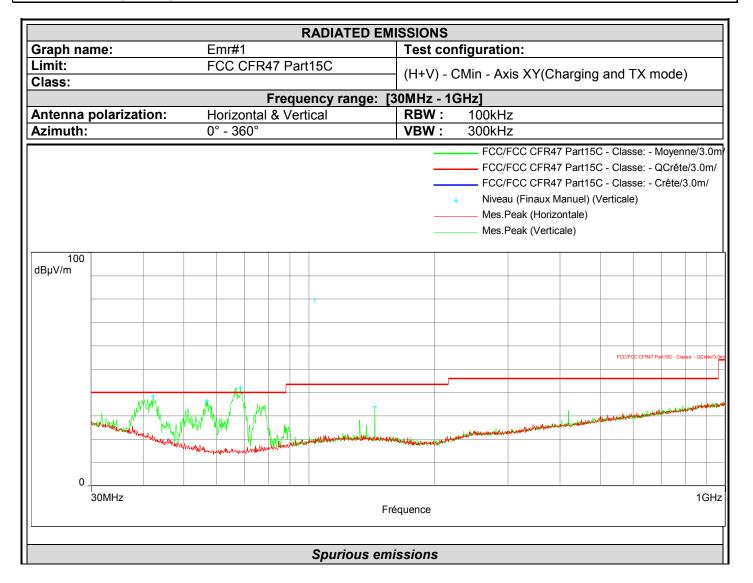


9.5. TEST SEQUENCE AND RESULTS





10. ANNEX 1 (GRAPHS)



Frequency (MHz)	Peak Level (dBµV/m)	Polarization
42.223	38.4	Vertical
56.860	36.4	Vertical
68.437	41.9	Vertical
143.747	33.9	Vertical



						RADIA	ATED EI	MISSION	NS						
Graph na	me:		Emr#2				Test	configu	uration:						
Limit: Class:			FCC (CFR4	17 Pa	rt15C	(H+\	/) - CMir	n - Axis Z (0	Charging	and TX	mode			
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Antonna	polarizatio	n.	Horizo				RBV		<u>- 1962j</u> 100kł	J ₇					
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dBμV/m			1									FCC/FC	C CFR47 Par	15C - Classe: - Qt	Crete/3.0m
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Frequency (MHz)	Peak Level (dBµV/m)	Polarization
41.968	40.2	Vertical
66.550	41.6	Vertical
77.991	36.3	Vertical



							R	RADIA	TED	EMIS:	SION	IS								
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Antenna	polarizat	ion:	Н	orizo						3W :						П				
Azimuth:	ith: 0° - 360°									RBW : 100kHz VBW : 300kHz										
FCC/FCC CFR47 Part15C - Classe: - Moyenne FCC/FCC CFR47 Part15C - Classe: - QCrête/3 FCC/FCC CFR47 Part15C - Classe: - Crête/3.0 Niveau (Finaux Manuel) (Verticale) Mes.Peak (Horizontale) Mes.Peak (Verticale)											/3.0n	n/								
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Frequency (MHz)	Peak Level (dBµV/m)	Polarization
42.223	38.4	Vertical
56.860	36.4	Vertical
68.437	41.9	Vertical
143.747	33.9	Vertical



			F	RADIATED E	MISSION	NS .										
Graph name:		Emr#4			Test	config	uration:									
Limit:	F	CC CFR	47 Par	t15C	/LL-1/) CM	d Avia 7	(Charai	na on	4 TV	mod	2)				
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Frequency (MHz)	Peak Level (dBµV/m)	Polarization
30.000	27.3	Horizontal
41.968	39.4	Vertical
54.565	37.5	Vertical
68.471	42.3	Vertical
83.737	41.3	Vertical
275.080	39.0	Vertical



							RA	DIAT	ED E	MISS	SION	S										
Graph na	me:		Emr	#5				Te	est co	onfig	urati	on:										
Limit: Class:			FCC	CFI	R47	Part'	15C	- (H	l+V) -	- CMa	ıx - T	X mo	de	Axis X	Y (C	hargi	ng ar	nd TX	(mod	de)		
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	30MHz									Fréque	ence									1G	iHz	
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Frequency (MHz)	Peak Level (dBµV/m)	Polarization
30.000	27.3	Horizontal
41.968	39.4	Vertical
54.565	37.5	Vertical
68.471	42.3	Vertical
83.737	41.3	Vertical
275.080	39.0	Vertical



RADIATED EMISSIONS																		
Graph name: Emr#6					Test configuration:													
Limit:						(H+V) - CMax - TX mode – Axis Z (Charging and TX mode)												
Class:	Class:								_									
Frequency range: [30MHz - 1GHz] Antenna polarization: Horizontal & Vertical RBW: 100kHz																		
Ariterina Azimuth:																		
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Spurious emissions																		

Frequency (MHz)	Peak Level (dBµV/m)	Polarization
41.747	38.7	Vertical
56.401	35.2	Vertical
69.015	41.8	Vertical
77.481	35.5	Vertical



			RADIATE	D EMISSIC	NS				
Graph na	me:	Emr#7	Test configuration:						
Limit:		FCC CFR	47 Part15C						nda)
Class:							ode)		
		F	requency range	e: [1GHz -	12.75GHz]				
Antenna polarization: Horizontal				RBW:	1MHz				
Azimuth: 0° - 360° VBW: 3MHz									
					FCC/FCC	CFR47 Part1	5C - Class	e: - M	oyenne/3.0r
		1			FCC/FCC	CFR47 Part1	5C - Class	e: - Q	Crête/3.0m/
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Frequency (MHz)	Peak Level (dBµV/m)	Polarization
1665.500	45.0	Horizontal
2402.250	91.4	Horizontal



			RADIATE	D EMISSIONS	;						
Graph na	Graph name: Emr#8 Test configuration:										
Limit:		FCC CFR4	47 Part15C	t15C (V) - Cmin >1GHz – Axis XY (Charging and TX					TX		
Class:	Class: mode)										
		Fr	requency range	e: [1GHz - 12.	75GH	z]					
Antenna polarization: Vertical RBW: 1MHz											
Azimuth:		0° - 360°		VBW:	31	ИHz					
		1			+	FCC/FCC (FCC/FCC (Niveau (Fin Mes.Peak (Mes.Avg (V	CFR47 Pa CFR47 Pa aux Manu Verticale)	art15C - art15C - uel) (Ve	- Class - Class	e: - Q(e: - Cr	Crête/3.0m/
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0.	1GHz			Fréquence							12.75GH
	101/2		Spuriou	Fréquence se emissions							12.7

Frequency (MHz)	Peak Level (dBμV/m)	Polarization
1664.500	49.3	Vertical
2401.750	91.4	Vertical



		RADIATE	D EMISSION	S				
Graph na	me: En	nr#9	Test	configuration:				
Limit:	FC	C CFR47 Part15C	(H) (Cmin >1GHz – A	vie 7 (Char	nina aı	nd T	'V mada)
Class:			` '		Mis Z (Criary	Jii iy ai	iiu i z	X mode)
		Frequency range						
		rizontal	RBW					
Azimuth:	<u>0°</u>	- 360°	VBW	: 3MHz				
			_	FCC/FCC (CFR47 Part15C	- Class	e: - M	oyenne/3.0m
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					aux Manuel) (H	orizonta	ıle)	
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	1GHz		Fréquence					12.75GHz
		Spuriou	ıs emissions					

Frequency (MHz)	Peak Level (dBµV/m)	Polarization
1661.000	43.2	Horizontal
1897.500	47.1	Horizontal
2401.750	87.4	Horizontal



		RADIATED I	EMISSIONS					
Graph name:	Emr#10		Test co	nfiguration:				
Limit:	FCC CFR47	Part15C	(V) - Cmin >1GHz – Axis Z (Charging and TX mode				(modo)	
Class:					ANS Z (CITA	girig a	iiu iz	(IIIoue)
		quency range:		75GHz]				
Antenna polariz			RBW:	1MHz				
Azimuth:	0° - 360°		VBW:	3MHz				
				FCC/FCC (CFR47 Part15	C - Class	e: - M	oyenne/3.0n
	1			FCC/FCC (CFR47 Part15	C - Class	e: - Q(Crête/3.0m/
				FCC/FCC (CFR47 Part15	C - Class	e: - Cr	ête/3.0m/
				Niveau (Fin	aux Manuel) (Verticale))	
				Mes.Peak (
				——— Mes.Avg (V	/erticale)			
100								
dBµV/m								
						FCC/FC	C CFR47 Pa	t15C - Classe: - Crête/3.(
					A second second second	Language Market	R47 Part15	Classe: - Moyensell, i
	با. سالا	Marine Ma	and the state of t	wild good out had been a work of the	Mangarathan Managaran	400 to show the sec	W. 228.041	- · · · · · · · · · · · · · · · · · · ·
according to the same of the s	Market and white the state of t	Married May Represent the Company of						
dual to birth and A.								
0								
1GHz	·							12.75GH
. 31.2			Fréquence					
		Omania						
		Spurious 6	emissions					

Frequency (MHz)	Peak Level (dBμV/m)	Polarization
1664.750	49.4	Vertical
2402.000	89.1	Vertical



			RADIATE	D EMISSIOI	NS						
Graph na	me:	Emr#11	Test configuration:								
Limit:		FCC CFR4	7 Part15C	(H) -	(H) - Cmid >1GHz – Axis XY (Charging and TX					TX	
Class:				mode	e)						
		Fr	equency range			GHz]					
	polarization:	Horizontal		RBW		1MHz					
Azimuth:		0° - 360°		VBW	<i>!</i> :	3MHz					
		I			+	FCC/FCC FCC/FCC FCC/FCC Niveau (Fir Mes.Peak Mes.Avg (I	CFR47 Pa CFR47 Pa naux Manu (Horizonta	art15C - art15C - uel) (Ho le)	Class	e: - Q0 e: - Cr	
100 dBμV/m			T						FCC/FCI	CFR47 Pa	r15C - Classe: - Crête/3.0m.
				and the second second		A CANADA A C	of make make white	44, 14, 18 18 18 18 18 18 18 18 18 18 18 18 18	FCC/FCC CI	R47 Part 15	Mary Mary Mary Mary Mary Mary Mary Mary
	The state of the s	and the second	And the state of t		What are the						
0 .	1GHz			Fréquence							12.75GHz
			Spurious	s emission	S						

Frequency (MHz)	Peak Level (dBμV/m)	Polarization
1664.000	43.3	Horizontal
2439.750	94.0	Horizontal



	RADIATED EMISSIO	DNS
Graph na	me: Emr#12 Tes	t configuration:
Limit:	FCC CFR47 Part15C	- Cmid >1GHz- Axis XY (Charging and TX mode)
Class:	(V)	- Cilid > 1GHz- Axis X1 (Charging and 1X mode)
	Frequency range: [1GHz -	
	polarization: Vertical RBN	
Azimuth:	0° - 360° VB\	N : 3MHz
	T T T T T T T T T T T T T T T T T T T	FCC/FCC CFR47 Part15C - Classe: - Moyenne/3.0m FCC/FCC CFR47 Part15C - Classe: - QCrête/3.0m/ FCC/FCC CFR47 Part15C - Classe: - Crête/3.0m/ Niveau (Finaux Manuel) (Verticale) Mes.Peak (Verticale) Mes.Avg (Verticale)
100 dBμV/m		FCCFCC CFR47 Part SC - Classe - Celle/3 On
0 _	1GHz Fréquenc	12.75GHz
	Spurious emission	ns

Frequency (MHz)	Peak Level (dBµV/m)	Polarization
1669.750	50.5	Vertical
1956.750	46.7	Vertical
2401.750	91.5	Vertical



			RADIATEI	D EMISSION	IS					
Graph na	ph name: Emr#13 Test configuration:									
Limit: Class:	H) Cmid >1CHz Avic / (Charging and LY mod					X mode)				
		Fi	requency range	: [1GHz - 12	2.75GHz]					
Antenna	polarization:	Horizontal		RBW	: 1MF	Ηz				
Azimuth:		0° - 360°		VBW	: 3MF	Ηz				
		T		-	+ Ni 	CC/FCC CFR47 CC/FCC CFR47 CC/FCC CFR47 veau (Finaux Ma es.Peak (Horizon es.Avg (Horizon	Part15C Part15C anuel) (Ho ntale)	- Class - Class	e: - Q(e: - Cr	Crête/3.0m/
100 dBµV/m			Ī							1
								FCC/FC	¢ CFR47 Pa	t15C - Classe: - Crête/3.0m/
								FCC/FCC C	FR47 Part15	C - Classa; , Moyaehik / S. Iv/N
	And the state of t	Museum Marine		harden granded and the said of		and the second of the second o	harry probably between	A market and the	de Tale (1994)	and plant of the months and and a second
	Party Avenue Benefit August Communication									
0.										
	1GHz			Fréquence						12.75GHz
			Spurious	s emissions						

Frequency (MHz)	Peak Level (dBµV/m)	Polarization
1664.750	49.9	Horizontal
2440.250	91.7	Horizontal



	RADIATED EMISSIO	ONS
Graph na	me: Emr#14 Tes	st configuration:
Limit:	FCC CFR47 Part15C	- Cmid >1GHz – Axis Z (Charging and TX mode)
Class:	, ,	
	Frequency range: [1GHz -	
		W: 1MHz
Azimuth:	0° - 360° VB	W : 3MHz
	1	FCC/FCC CFR47 Part15C - Classe: - Moyenne/3.0m FCC/FCC CFR47 Part15C - Classe: - QCrête/3.0m/ FCC/FCC CFR47 Part15C - Classe: - Crête/3.0m/ Niveau (Finaux Manuel) (Verticale) Mes.Peak (Verticale)
100		——— Mes.Avg (Verticale)
dBμV/m		
		FOCIFO CFR47 Part 15C - Classe: - Orthe/3.0n
		FOR THE RESIDENCE OF THE PROPERTY OF THE PROPE
	And the state of t	
0]	1GHz Fréquenc	12.75GHz
	Spurious emissio	ns

Frequency (MHz)	Peak Level (dBµV/m)	Polarization
1666.500	43.7	Vertical
1897.500	46.0	Vertical
2440.250	89.7	Vertical



			RADIATE	D EMISSI	ONS					
Graph na	me:	Emr#15		Test con	figuration:					
Limit:		FCC CFR47 F	Part15C	(∐) Cm(ax >1GHz – Ax	ic VV (Chr	raina	and -	TV m	odo)
Class:				(n) - Cilia	ix > IGHZ = AX	15 AT (CH	arging	anu	1 / 11	ioue)
		Frequ	uency rang		12.75GHz]					
Antenna _I	polarization:	Horizontal		RBW:	1MHz					
Azimuth:		0° - 360°		VBW:	3MHz					
					FCC/F	CC CFR47 P	art15C -	Class	e: - Mo	oyenne/3.0r
		1			FCC/F	CC CFR47 P	art15C -	Class	e: - Q(Crête/3.0m/
					FCC/F	CC CFR47 P	art15C -	Class	e: - Cr	ête/3.0m/
					+ Nivea	ı (Finaux Man	uel) (Ho	rizonta	ıle)	
					Mes.F	eak (Horizonta	ale)			
					Mes.A	vg (Horizontal	e)			
400	1							I		
100 dBµV/m			T							
								FCC/FC	¢ CFR47 Pa	t15C - Classe: - Crête/3.
								FCC/FCC C	FR47 Part15	C Classe: Moyenvell3
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	and the second of the second of the second	American descents								
0 _	1									
	1GHz			Fréquenc	20					12.75GH
				Fiequelic	, c					
			Spurio	ıs emissio	ns					

Frequency (MHz)	Peak Level (dBμV/m)	Polarization
1666.000	45.4	Horizontal
2479.750	93.8	Horizontal



		RADIATE	D EMISSION	S				
Graph na	me: Emr#	‡ 16	Test	configuration:				
Limit:	FCC	CFR47 Part15C	(H) (Cmax >1GHz Ax	ie 7 (TY	and Cha	raina	(abom r
Class:					13 2 (17	and One	ıı gırış	j ilioue)
		Frequency range						
		zontal	RBW					
Azimuth:	0° - 3	360°	VBW	: 3MHz				
			_	FCC/FCC (CFR47 Part	15C - Class	se: - M	oyenne/3.0m
		T .	_					Crête/3.0m/
FCC/FCC CFR47 Part15C - Classe: - Crête/3.0m/							rête/3.0m/	
					naux Manuel		ale)	
			_		(Horizontale)		
			_	——— Mes.Avg (H	Horizontale)			
100								
dBµV/m		T						
						FCC/FI	CC CFR47 Pa	t15C - Classe: - Crête/3.0m
						FCC/FCC	CFR47 Part15	C - Classe: - Moyaufiel C.Co
			III.	and the same of th	and Balley Markey Broke	Agriculation of the property	Carly Carly Block	C-Classe: - Novemble Co
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	de la constitución de la constit	Charles William South Company of the Company						
0 _								
	1GHz		Fréquence					12.75GHz
		Consider	ua amianis ::-					
		Spuriou	ıs emissions					

Frequency (MHz)	Peak Level (dBµV/m)	Polarization
1758.250	45.8	Horizontal
1885.250	44.9	Horizontal
2479.750	91.4	Horizontal



	RADIATE	D EMISSIONS						
Emr#17		Test co	nfiguration:					
FCC CFR4	47 Part15C	(\(\) Cm	0V>1CU= Av	io VV (T		1 Cha	rain	a modo)
Class:			iax>iGnz Ax	15 / 1 (1	A and	ı Cile	ırgırıç	g mode)
Fr	requency range	e: [1GHz - 12.7	5GHz]					
ation: Vertical		RBW:	1MHz					
0° - 360°		VBW :	3MHz					
ı		_	FCC/FCC FCC/FCC Niveau (Fi Mes.Peak	CFR47 Pa CFR47 Pa naux Manu (Verticale)	art15C - art15C - uel) (Ve	- Class - Class	e: - Q(e: - Cr	Crête/3.0m/
						FCC/FC	© CFR47 Pa	t15C - Classe: - Créte/3
	terrence de la companya de la compan		A CONTRACTOR OF THE PROPERTY O	mary many the market for	AND THE PROPERTY OF THE PARTY O	Marine Marine	a della della provincia della	and the property of the second
								12.75GH
	FCC CFR4 ation: Vertical 0° - 360°	Emr#17 FCC CFR47 Part15C Frequency range ation: Vertical 0° - 360°	FCC CFR47 Part15C Frequency range: [1GHz - 12.7 ation: Vertical RBW: 0° - 360° VBW:	Emr#17 FCC CFR47 Part15C Frequency range: [1GHz - 12.75GHz] ation: Vertical 0° - 360° VBW: 3MHz FCC/FCC FCC/FCC Niveau (Fi Mes.Peak Mes.Avg (Emr#17 FCC CFR47 Part15C (V) - Cmax>1GHz Axis XY (T Frequency range: [1GHz - 12.75GHz] ation: Vertical 0° - 360° VBW: 3MHz FCC/FCC CFR47 Pa FCC/FCC CFR47 Pa FCC/FCC CFR47 Pa Niveau (Finaux Manu Mes.Peak (Verticale) Mes.Avg (Verticale)	Emr#17 FCC CFR47 Part15C (V) - Cmax>1GHz Axis XY (TX and Frequency range: [1GHz - 12.75GHz] ation: Vertical RBW: 1MHz 0° - 360° VBW: 3MHz FCC/FCC CFR47 Part15C - FCC/FCC CFR47 Part15C - FCC/FCC CFR47 Part15C - FCC/FCC CFR47 Part15C - Niveau (Finaux Manuel) (Ve Mes.Peak (Verticale) Mes.Avg (Verticale)	Emr#17 FCC CFR47 Part15C (V) - Cmax>1GHz Axis XY (TX and Characteristics) Frequency range: [1GHz - 12.75GHz] ation: Vertical 0° - 360° VBW: 3MHz FCC/FCC CFR47 Part15C - Class FCC/FCC CFR47 Part15C - Class FCC/FCC CFR47 Part15C - Class Niveau (Finaux Manuel) (Verticale) Mes.Peak (Verticale) Mes.Avg (Verticale)	Emr#17 FCC CFR47 Part15C (V) - Cmax>1GHz Axis XY (TX and Charging Frequency range: [1GHz - 12.75GHz] ation: Vertical 0° - 360° VBW: 3MHz FCC/FCC CFR47 Part15C - Classe: - M FCC/FCC CFR47 Part15C - Classe: - Or FCC/FCC CFR47 Part15C - Classe: - Or Niveau (Finaux Manuel) (Verticale) Mes.Peak (Verticale) Mes.Avg (Verticale)

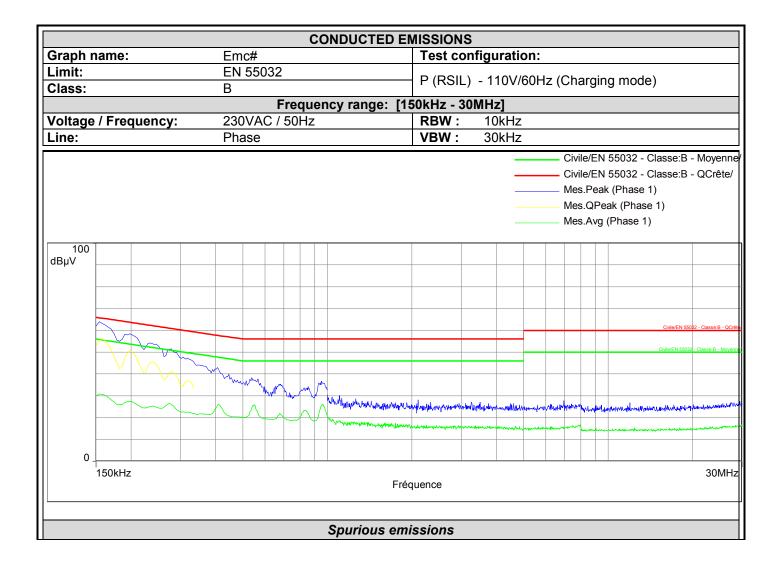
Frequency (MHz)	Peak Level (dBμV/m)	Polarization
1665.750	51.7	Vertical
2479.750	91.4	Vertical



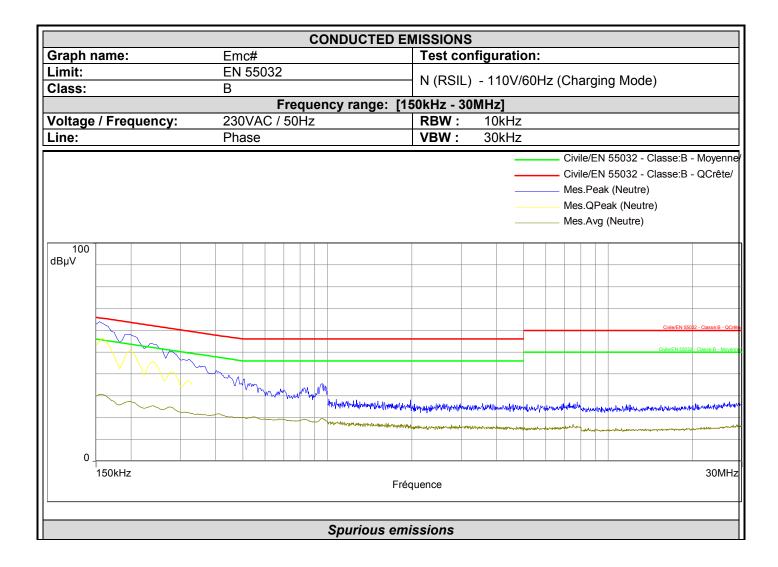
		RADIATED E	MISSIONS	3					
Graph na	me: Emr#18		Test co	onfiguration:					
Limit:	FCC CFR4	7 Part15C	()() ()	max>1GHz Axi	c 7 (T)	(and	Char	aina	mode)
Class:					3 2 (17	\ anu	Cilai	girig	mode)
		equency range: [
	polarization: Vertical		RBW:	1MHz					
Azimuth:	0° - 360°		VBW:	3MHz					
				FCC/FCC (CFR47 Pa	art15C -	Class	e: - Mo	oyenne/3.0m
	·		_	FCC/FCC (
FCC/FCC CFR47 Part15C - Classe: - Crête/3.0m/									
				+ Niveau (Fin			ticale)		
			_	Mes.Peak (•				
			_	——— Mes.Avg (V	eπicaie)				
100									
dBµV/m		T							
							FCC/FC	CCFR47 Pa	t15C - Classe: - Crête/3.0m
							FCC/FCC C	R47 Part15	C - Classe: - Movembili Quin
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	1GHz		Fréquence						12.75GHz
		Chamions	minaia u -						
		Spurious e	IIIISSIOIIS						

Frequency (MHz)	Peak Level (dBµV/m)	Polarization
1662.250	49.3	Vertical
2479.750	92.9	Vertical











11. 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	3.51 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.	3.26 dB	A l'étude / Under consid.
Mesure des perturbations discontinues conduites en tension Measurement of discontinuous conducted disturbances in voltage	3.45 dB	3.6 dB
Mesure des perturbations conduites en courant Measurement of conducted disturbances in current	3.09 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	5.20 dB	6.3 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.