TEST REPORT

N°: 151790-712764 **Version : 01**

Subject	**Radio spectrum matters** **tests according to standards:** **47 CFR Part 15.247 & RSS-247 Issue 2 & RSS-Gen Issue 4**
Issued to	**Bluebeep SAS** ZA les boulaies, Male 61260-val au perche France
Apparatus under test	
Product	HighChair Guardian
Trade mark	**bluebeep**
Manufacturer	**Bluebeep sas**
Model under test	**HighChair Guardian**
Serial number	**HC0001**
FCC ID	**2AOV7-HC0001**
IC ID	**23639-HC00001**
Test date	: December 20, 2017 to December 22, 2017.
Test location	Fontenay Aux Roses
Test Site	6230B-1
Composition of document	38 pages
Document issued on	September 11, 2018

Written by :
Mathieu CERISIER
Tests operator

Approved by :
Arnaud FAYETTE
Technical manager

PUBLICATION HISTORY

Version	Date	Author	Modification
01	January 17, 2018	Mathieu CERISIER	Creation of the document

SUMMARY

1. TEST PROGRAM

References

- **47 CFR Part 15.247**
- **RSS 247 Issue 2**
- **RSS Gen Issue 4**
- **KDB 558074 D01 DTS Meas Guidance v04**
- **ANSI C63.10-2013**

Radio requirement:

Clause (47CFR Part 15.247 & RSS-247 Issue 2 & RSS-Gen Issue 4) Test Description	Test result - Comments			
Occupied Bandwidth	☑ PASS	☐ FAIL	☐ NA	☐ NP(1)
6dB Bandwidth	☑ PASS	☐ FAIL	☐ NA()	☐ NP(1)
Duty Cycle	☑ PASS	☐ FAIL	☐ NA	☐ NP(1)
Maximum Conducted Output Power	☑ PASS	☐ FAIL	☐ NA	☐ NP(1)
Power Spectral Density	☑ PASS	☐ FAIL	☐ NA	☐ NP(1)
Conducted Spurious Emission at the Band Edge	☑ PASS	☐ FAIL	☐ NA()	☐ NP(1)
Unwanted Emissions into Non-Restricted Frequency Bands	☑ PASS	☐ FAIL	☐ NA()	☐ NP(1)
AC Power Line Conducted Emission	☐ PASS	☐ FAIL	☑ NA(2)	☐ NP(1)
Unwanted Emissions into Restricted Frequency Bands	☑ PASS	☐ FAIL	☐ NA	☐ NP(1)
Receiver Radiated emissions	☑ PASS	☐ FAIL	☐ NA	☐ NP(1)
This table is a summary of test report, see conclusion of each clause of this test report for detail.				

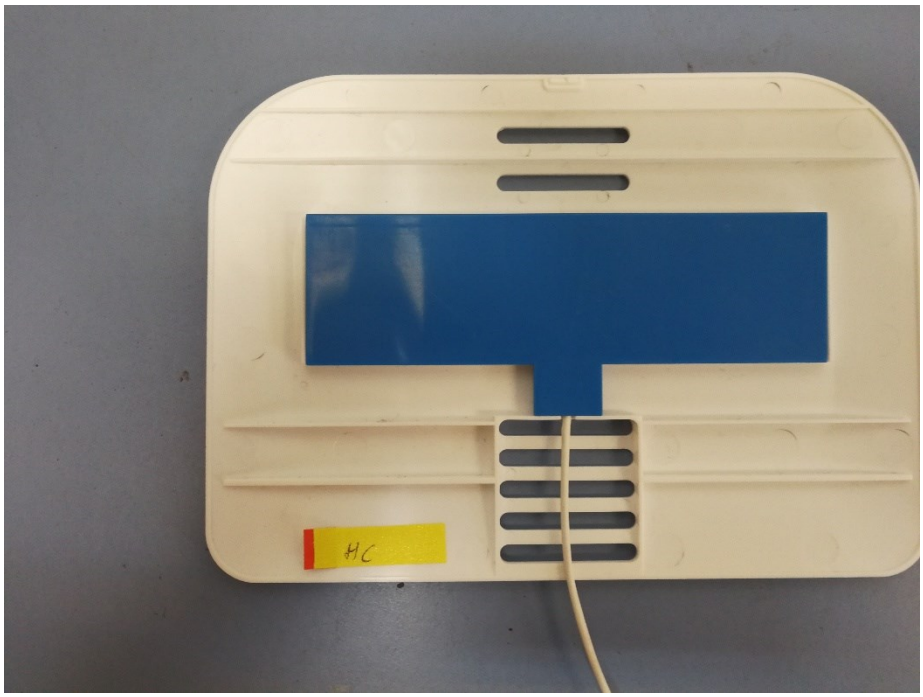
(1): Limited program
(2): EUT not directly or indirectly connected to the AC Power Public Network

PASS: EUT complies with standard's requirement
FAIL: EUT does not comply with standard's requirement
NA: Not Applicable
NP: Test Not Performed

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

2.1. HARDWARE IDENTIFICATION (EUT AND AUXILIARIES):

Equipment under test (EUT):
bluebeep HighChair Guardian **Serial Number: HC0001**



Equipment Under Test

Equipment information:

Bluetooth LE Type:	**☑ BLE**	**☐ v4.0**	**☐ v4.1**	**☐ v4.2**
Frequency band:	[2400 – 2483.5] MHz			
Number of Channel:	40			
Spacing channel:	2MHz			
Channel bandwidth:	1MHz			
Antenna Type:	☑ Integral	☐ External	☐ Dedicated	
Antenna connector:	☐ Yes	☐ No	☑ Temporary for test	
Transmit chains:	1			
	Single antenna			
Receiver chains	1			
Type of equipment:	☑ Stand-alone	☐ Plug-in	☐ Combined	
Ad-Hoc mode:	☐ Yes	☑ No		
Duty cycle:	☑ Continuous duty	☐ Intermittent duty	☐ 100% duty	
Equipment type:	☑ Production model	☐ Pre-production model		
Operating temperature range:	Tmin:	☐ -20°C	☑ 0°C	☐ X°C
	Tnom:	20°C		
	Tmax:	☐ 35°C	☐ 55°C	☑ 60°C
Type of power source:	☐ AC power supply	☐ DC power supply	☑ Battery	
Operating voltage range:	Vnom:	☐ 120V/60Hz	☑ 3 Vdc	

Antenna Characteristic			
Antenna assembly	**Gain (dBi)**	**Frequency Band (MHz)**	**Impedance(Ω)**
1	1,6	2400-2483.5	50

CHANNEL PLAN			
Channel	**Frequency (MHz)**	**Channel**	**Frequency (MHz)**
Cmin: 0	2402	**Cmid: 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
19	2440	**Cmax: 39**	2480

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

2.2. RUNNING MODE

The EUT is set in the following modes during tests:
- Permanent emission with modulation on a fixed channel in the data rate that produced the highest power
- Permanent reception

2.3. EQUIPMENT LABELLING

No Label

2.4. EQUIPMENT MODIFICATION

☑ None ☐ Modification:

3. OCCUPIED BANDWIDTH

3.1. TEST CONDITIONS

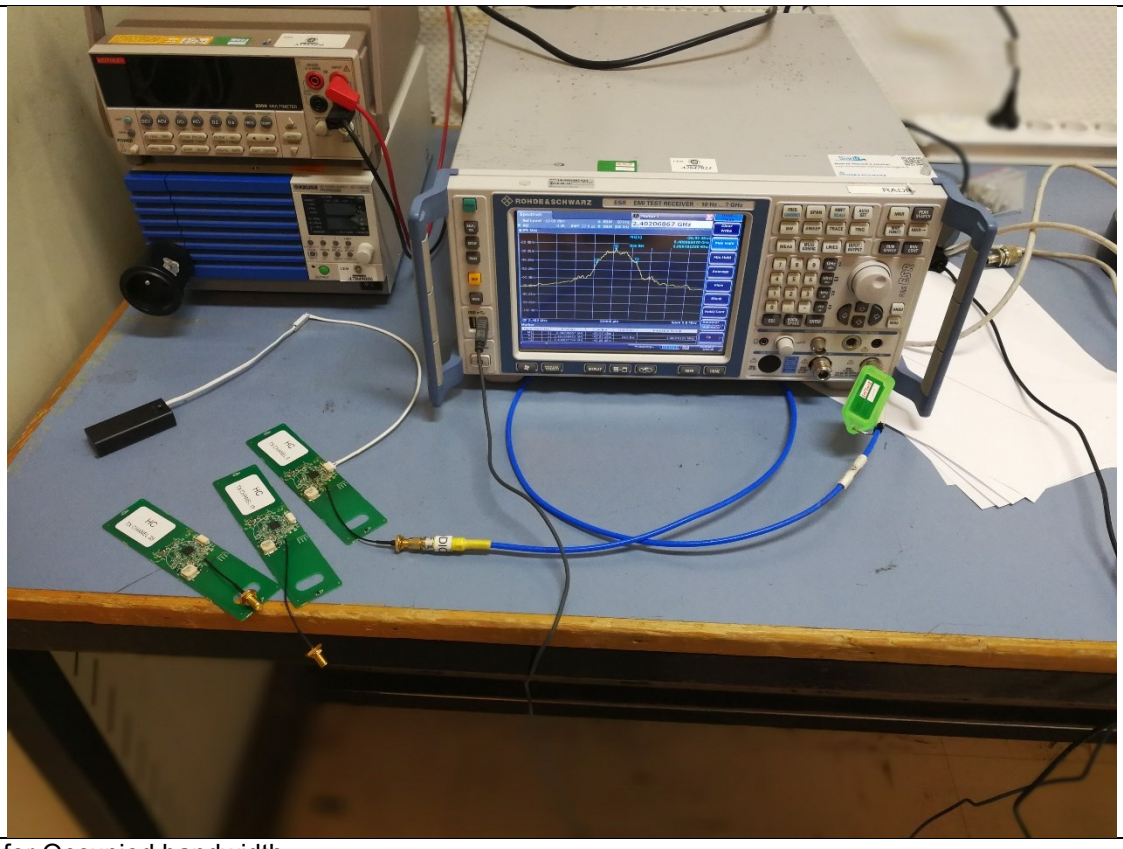
Test performed by : Mathieu CERISIER
Date of test : December 22, 2017
Ambient temperature : 23 °C
Relative humidity : 41 %

3.2. TEST SETUP

- The Equipment Under Test is installed:
☑ On a table
☐ In an anechoic chamber

- Measurement is performed with a spectrum analyzer in:
☑ Conducted Method
☐ Radiated Method

- Test Procedure:
☑ RSS-Gen Issue 4 § 6.6
☑ ANSI C63.10 § 6.9.2



Photograph for Occupied bandwidth

3.1. LIMIT

None

3.2. TEST EQUIPMENT LIST

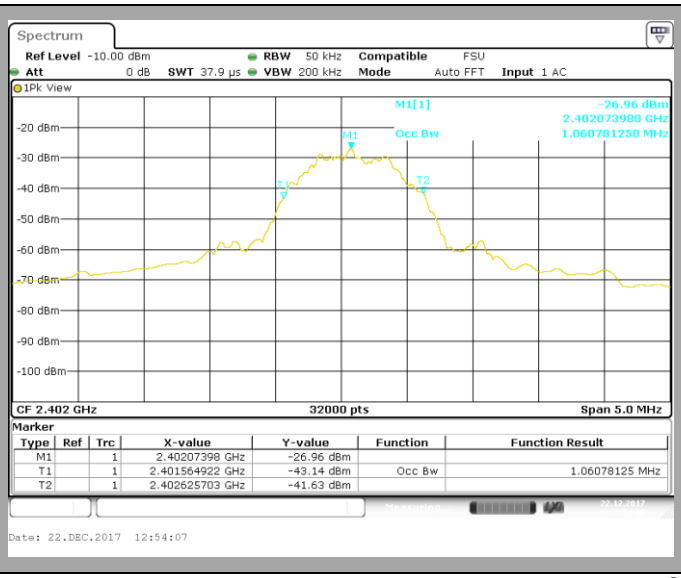
Description	Constructor	Model	N°	Cal. Date	Cal. Due
EMI receiver	ROHDE & SCHWARZ	ESR 7	A2642023	2016/09	2018/09
Cable	-	-	A5329676	2017/10	2018/10

Note: In our quality system, the test equipment calibration due is more & less 2 months

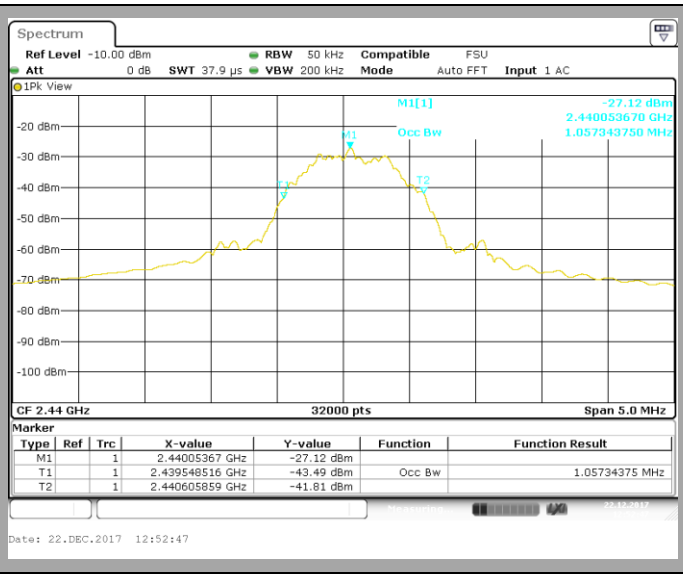
3.3. RESULTS

Occupied Bandwidth

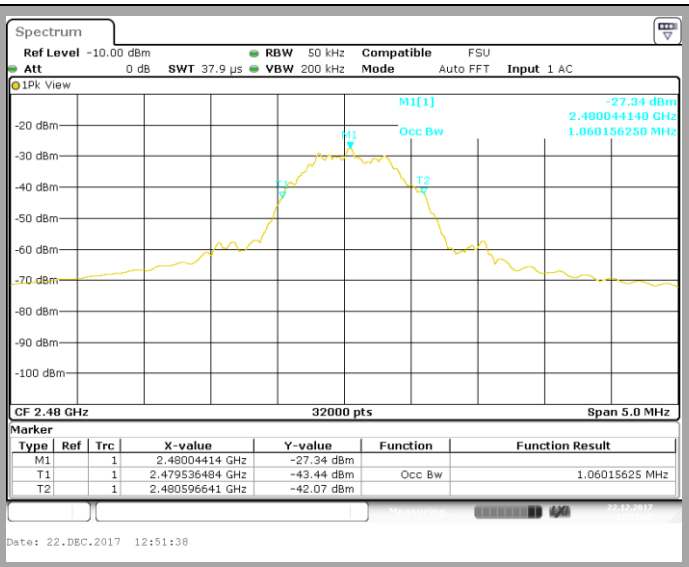
Cmin



Cnom



Cmax



Channel	Occupied Bandwidth (MHz)
Cmin	1,061
Cnom	1,057
Cmax	1,06

3.1. CONCLUSION

Occupied Channel Bandwidth measurement performed on the sample of the product **bluebeep HighChair Guardian**, SN: **HC0001**, in configuration and description presented in this test report, show levels **compliant** to the **47 CFR PART 15.247 & RSS-GEN ISSUE 4** limits.

4. 6DB EMISSION BANDWIDTH

4.1. TEST CONDITIONS

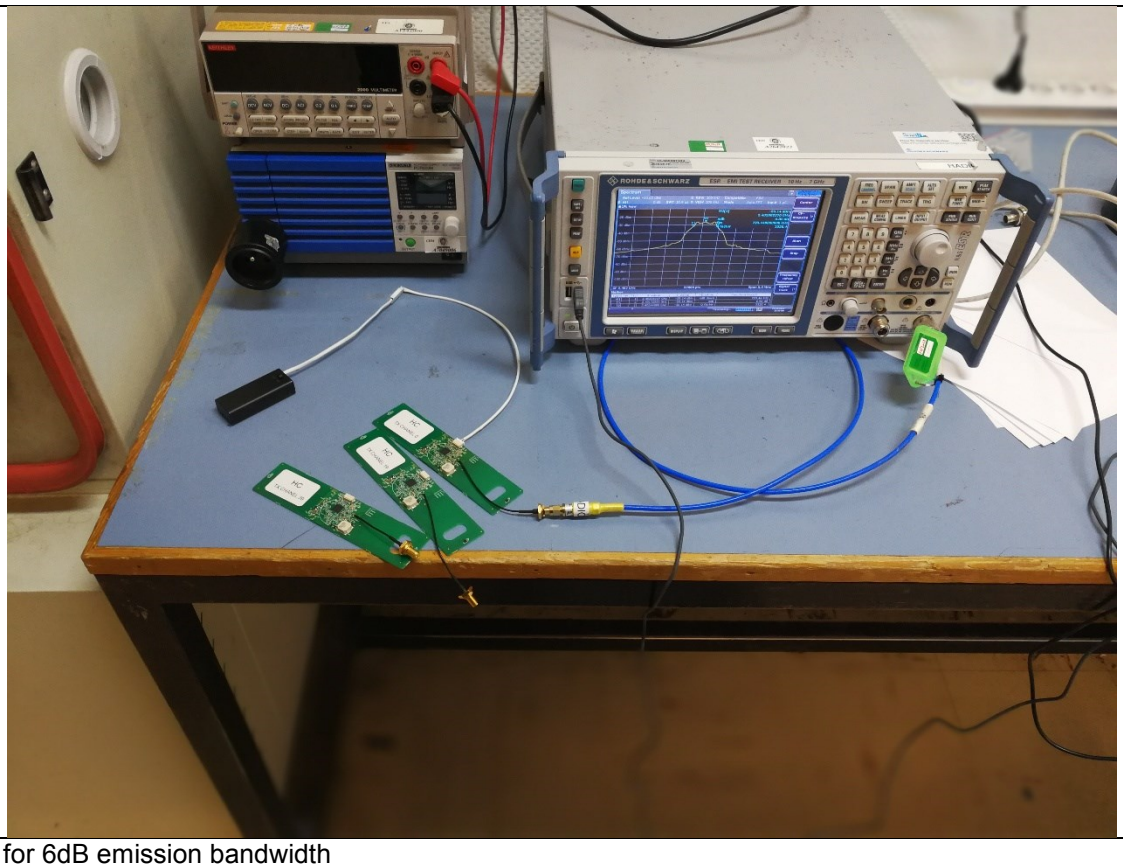
Test performed by : Mathieu CERISIER
Date of test : December 22, 2017
Ambient temperature : 23 °C
Relative humidity : 41 %

4.2. TEST SETUP

- The Equipment Under Test is installed:
☑ On a table
☐ In an anechoic chamber

- Measurement is performed with a spectrum analyzer in:
☑ Conducted Method
☐ Radiated Method

- Test Procedure:
☐ KDB 558074 D01 DTS Meas Guidance v04 § 8.1
☑ KDB 558074 D01 DTS Meas Guidance v04 § 8.2



Photograph for 6dB emission bandwidth

4.3. LIMIT

The 6dB bandwidth shall be at least 500kHz

4.4. TEST EQUIPMENT LIST

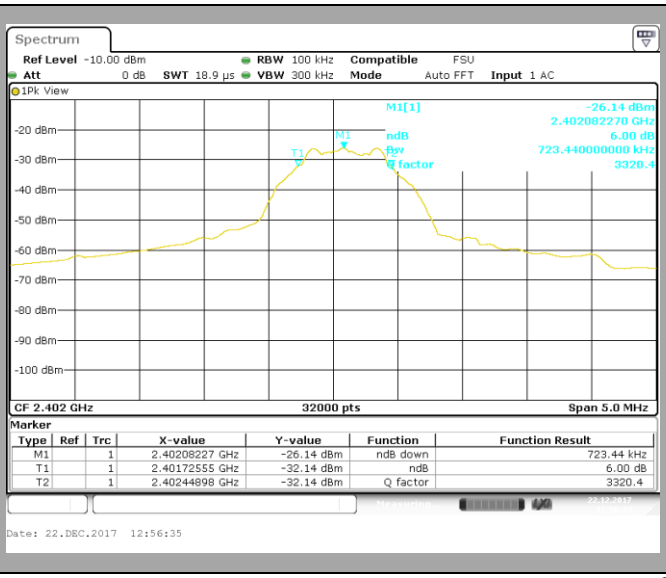
Description	Constructor	Model	N°	Cal. Date	Cal. Due
EMI receiver	ROHDE & SCHWARZ	ESR 7	A2642023	2016/09	2018/09
Cable	-	-	A5329676	2017/10	2018/10

Note: In our quality system, the test equipment calibration due is more & less 2 months

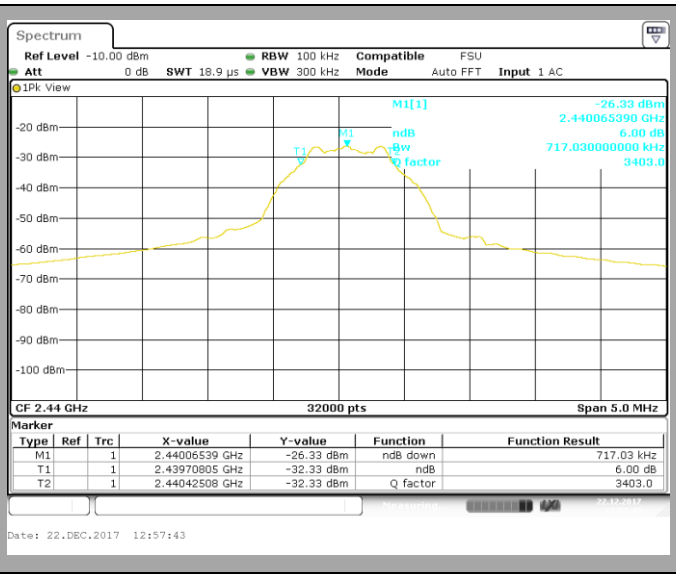
4.5. RESULTS

6dB Emission Bandwidth

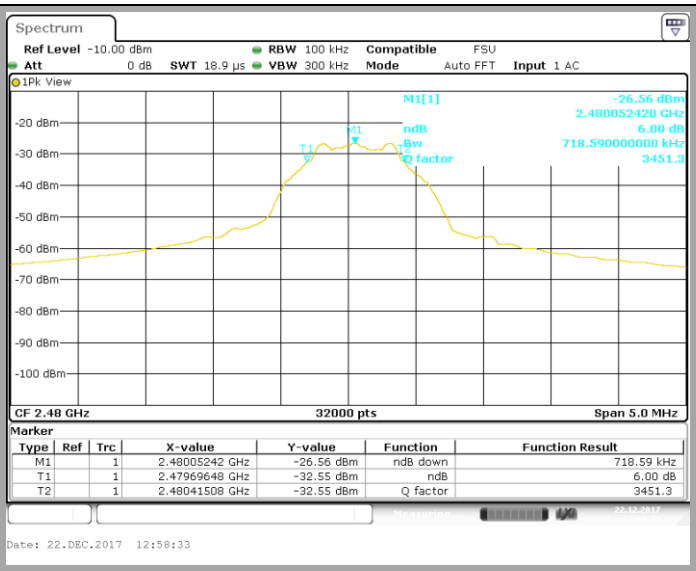
Cmin



Cnom



Cmax



Channel	6dB Emission Bandwidth (MHz)	Limit (MHz)
Cmin	0,723	Minimum 0.5
Cnom	0,717	Minimum 0.5
Cmax	0,718	Minimum 0.5

4.6. CONCLUSION

6dB Emission Bandwidth measurement performed on the sample of the product **bluebeep HighChair Guardian**, SN: **HC0001**, in configuration and description presented in this test report, show levels **compliant** to the **47 CFR PART 15.247 & RSS 247 ISSUE 2** limits.

5. DUTY CYCLE

5.1. TEST CONDITIONS

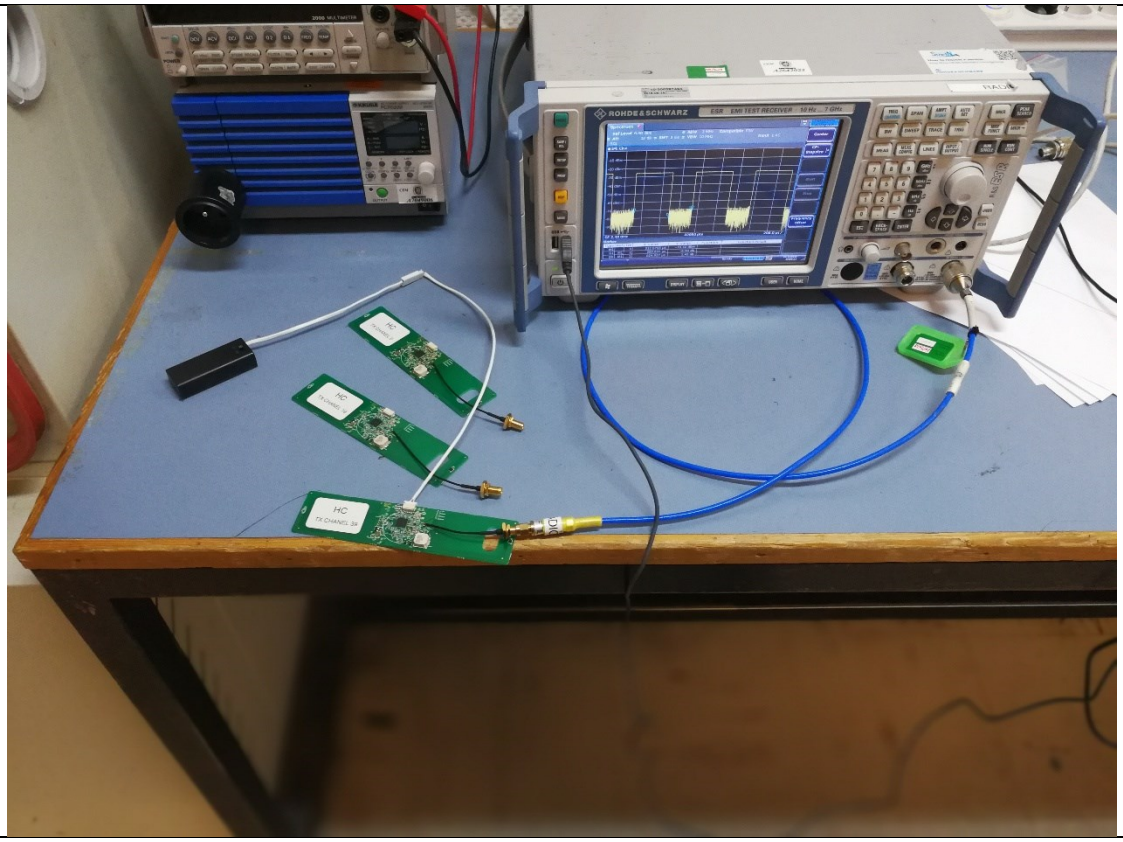
Test performed by : Mathieu CERISIER
Date of test : December 22, 2017
Ambient temperature : 23 °C
Relative humidity : 41 %

5.2. TEST SETUP

- The Equipment Under Test is installed:
☑ On a table
☐ In an anechoic chamber

- Measurement is performed with a spectrum analyzer in:
☑ Conducted Method
☐ Radiated Method

- Test Procedure:
☑ KDB 558074 D01 DTS Meas Guidance v04 § 6.0 b)



Photograph for Duty Cycle

5.3. LIMIT

None

5.4. TEST EQUIPMENT LIST

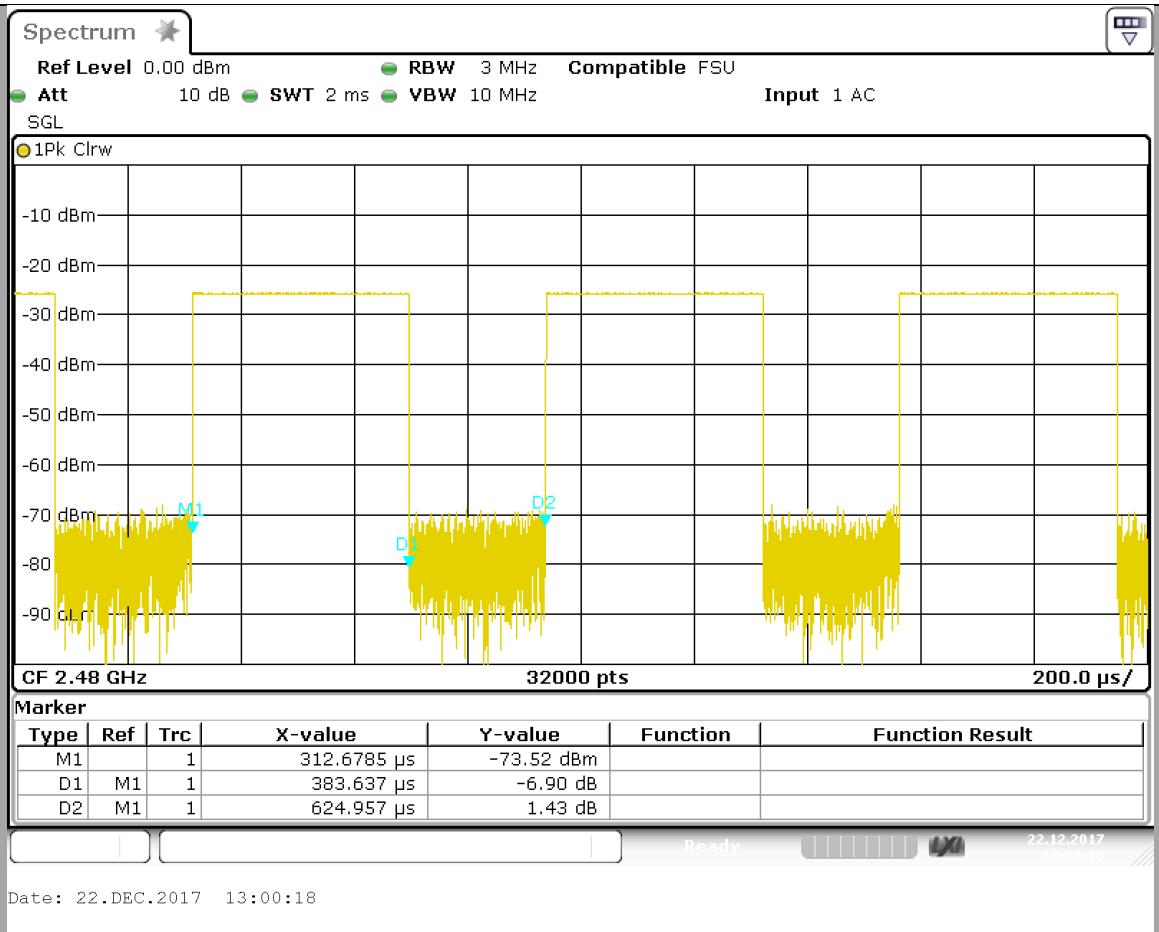
Description	Constructor	Model	N°	Cal. Date	Cal. Due
EMI receiver	ROHDE & SCHWARZ	ESR 7	A2642023	2016/09	2018/09
Cable	-	-	A5329676	2017/10	2018/10

Note: In our quality system, the test equipment calibration due is more & less 2 months

5.5. RESULTS

Duty Cycle

Cmax



Channel	Duty Cycle (%)	Duty Cycle Correction (dB)
Channel	61	2,15

5.6. CONCLUSION

Duty Cycle measurement performed on the sample of the product **bluebeep HighChair Guardian**, SN: **HC0001**, in configuration and description presented in this test report, show levels **compliant** to the **47 CFR PART 15.247 & RSS 247 ISSUE 2** limits.

6. MAXIMUM CONDUCTED OUTPUT POWER

6.1. TEST CONDITIONS

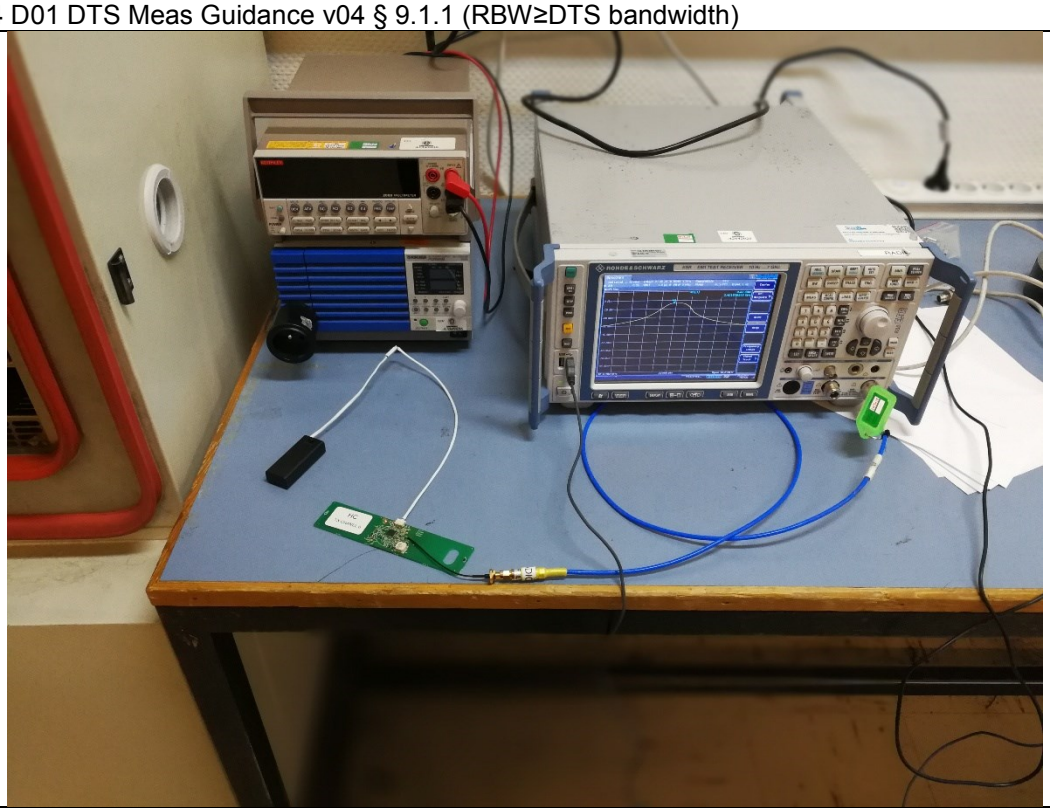
Test performed by : Mathieu CERISIER
Date of test : December 22, 2017
Ambient temperature : 23 °C
Relative humidity : 41 %

6.2. TEST SETUP

- The Equipment Under Test is installed:
☑ On a table
☐ In an anechoic chamber

- Measurement is performed with a spectrum analyzer in:
☑ Conducted Method
☐ Radiated Method

- Test Procedure:
☑ KDB 558074 D01 DTS Meas Guidance v04 § 9.1.1 (RBW≥DTS bandwidth)



Photograph for Maximum Conducted Output Power

6.3. LIMIT

Maximum Conducted Output power:
2400MHz-2483.5MHz: Shall not exceed 30dBm
Limits are reduced by G-6dBi if Overall Antenna Gain above 6dBi

6.4. TEST EQUIPMENT LIST

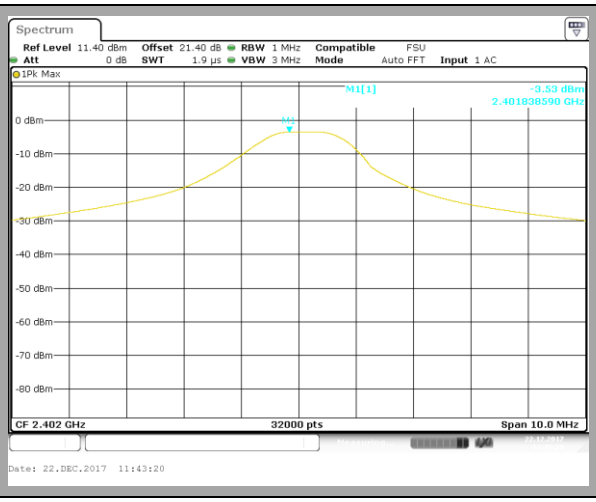
Description	Constructor	Model	N°	Cal. Date	Cal. Due
EMI receiver	ROHDE & SCHWARZ	ESR 7	A2642023	2016/09	2018/09
Cable	-	-	A5329676	2017/10	2018/10

Note: In our quality system, the test equipment calibration due is more & less 2 months

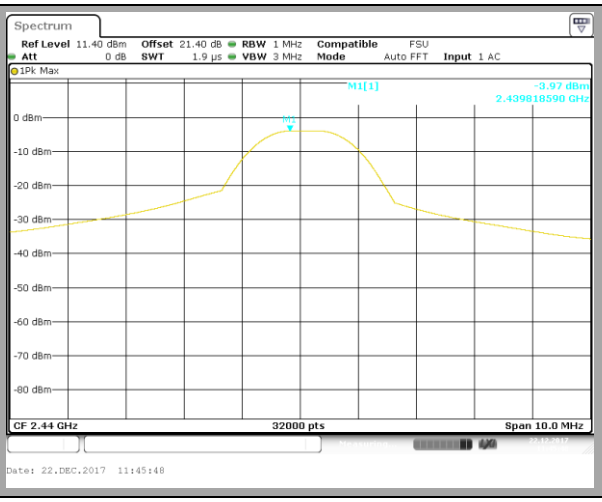
6.5. RESULTS

Maximum Conducted Output Power

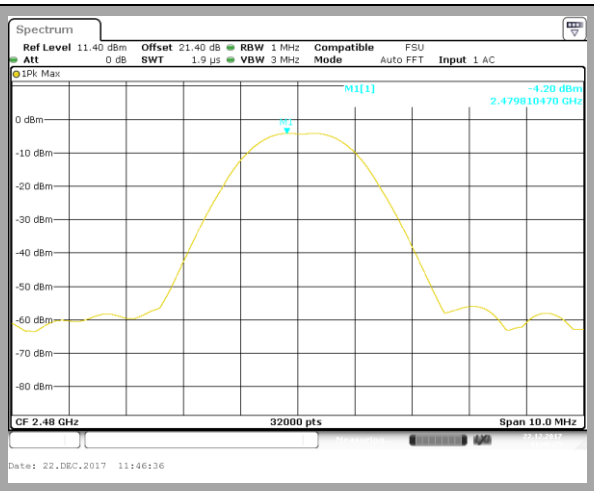
Cmin



Cnom



Cmax



Channel	Offset Cable + Att (dB)	Antenna Gain (dBi)	Maximum Conducted Power (dBm)	Limit (dBm)
Cmin	**21,4**	1,6	-3,53	30
Cnom	**21,4**	1,6	-3,97	30
Cmax	**21,4**	1,6	-4,20	30

6.6. CONCLUSION

Maximum Conducted Output Power measurement performed on the sample of the product **bluebeep HighChair Guardian**, SN: **HC0001**, in configuration and description presented in this test report, show levels **compliant** to the **47 CFR PART 15.247 & RSS 247 ISSUE 2** limits.

7. POWER SPECTRAL DENSITY

7.1. TEST CONDITIONS

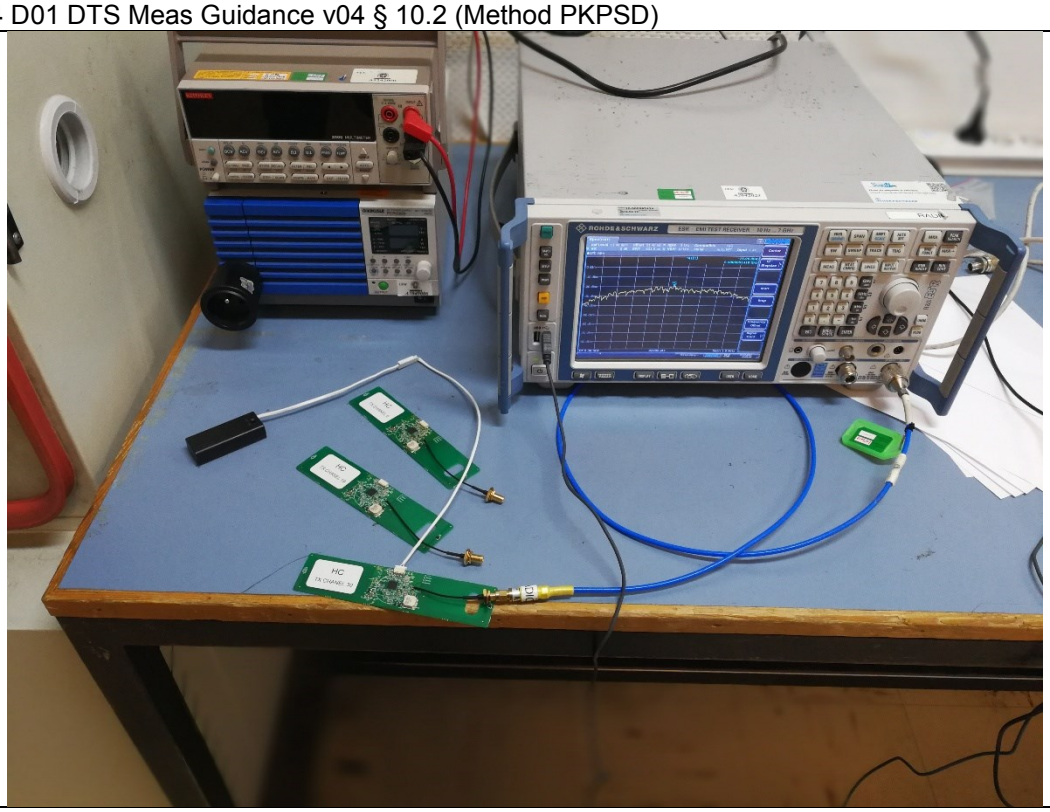
Test performed by : Mathieu CERISIER
Date of test : December 22, 2017
Ambient temperature : 23 °C
Relative humidity : 41 %

7.2. TEST SETUP

- The Equipment Under Test is installed:
☑ On a table
☐ In an anechoic chamber

- Measurement is performed with a spectrum analyzer in:
☑ Conducted Method
☐ Radiated Method

- Test Procedure:
☑ KDB 558074 D01 DTS Meas Guidance v04 § 10.2 (Method PKPSD)



Photograph for Power Spectral Density

7.3. LIMIT

Power Spectral Density:
2400MHz-2483.5MHz: Shall not exceed 8dBm/3kHz
Limits are reduced by G-6dBi if Overall Antenna Gain above 6dBi

7.4. TEST EQUIPMENT LIST

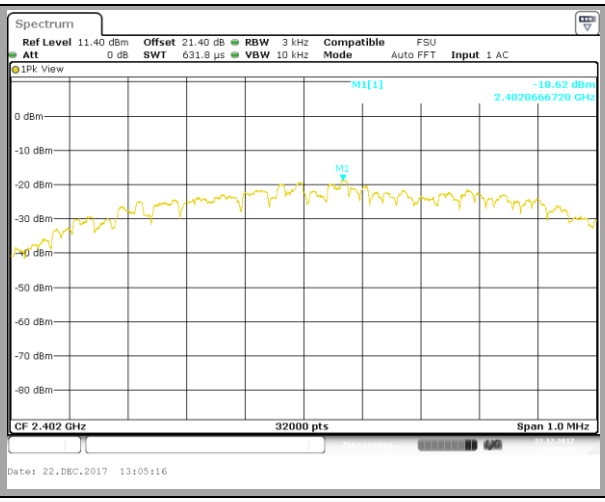
Description	Constructor	Model	N°	Cal. Date	Cal. Due
EMI receiver	ROHDE & SCHWARZ	ESR 7	A2642023	2016/09	2018/09
Cable	-	-	A5329676	2017/10	2018/10

Note: In our quality system, the test equipment calibration due is more & less 2 months

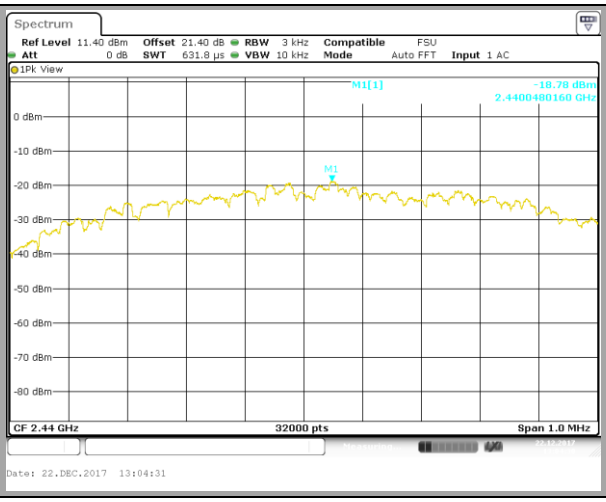
7.5. RESULTS

Power Spectral Density

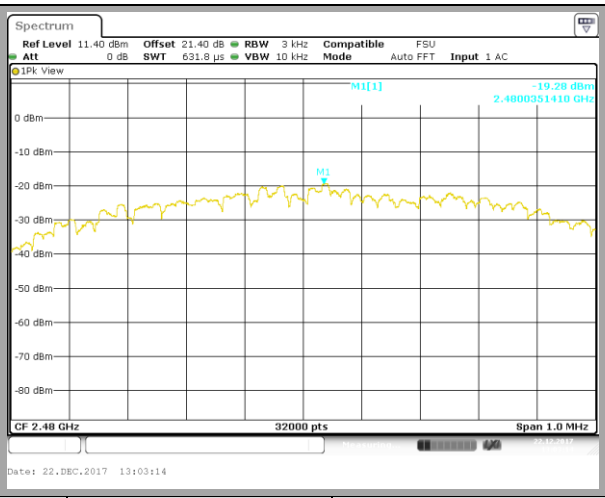
Cmin



Cnom



Cmax



Channel	Offset Cable + Att (dB)	Antenna Gain (dBi)	Power Spectral Density (dBm/3kHz)	Limit (dBm/3kHz)
Cmin	**21,4**	1,6	-18,62	8
Cnom	**21,4**	1,6	-18,78	8
Cmax	**21,4**	1,6	-19,28	8

7.6. CONCLUSION

Power Spectral Density measurement performed on the sample of the product **bluebeep HighChair Guardian**, SN: **HC0001**, in configuration and description presented in this test report, show levels **compliant** to the **47 CFR PART 15.247 & RSS 247 ISSUE 2** limits.

8. UNWANTED EMISSIONS INTO NON-RESTRICTED FREQUENCY BANDS AT THE BAND EDGE

8.1. TEST CONDITIONS

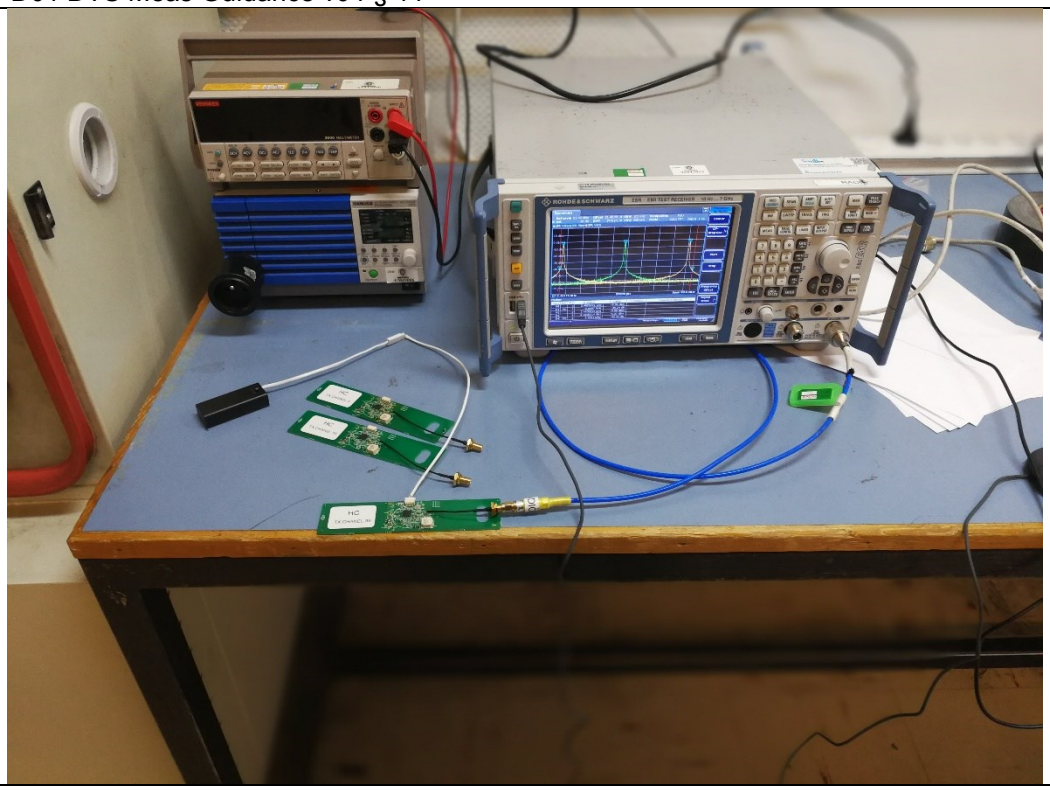
Test performed by : Mathieu CERISIER
Date of test : December 22, 2017
Ambient temperature : 23 °C
Relative humidity : 41 %

8.2. TEST SETUP

- The Equipment Under Test is installed:
☑ On a table
☐ In an anechoic chamber

- Measurement is performed with a spectrum analyzer in:
☑ Conducted Method
☐ Radiated Method

- Test Procedure:
☑ KDB 558074 D01 DTS Meas Guidance v04 § 11



Photograph for Unwanted Emission into non-restricted frequency bands at the band edge

8.3. LIMIT

All Spurious Emissions must be at least 20dB below the Fundamental Radiator Level at the Band Edge Edge “2400MHz & 2483,5MHz”

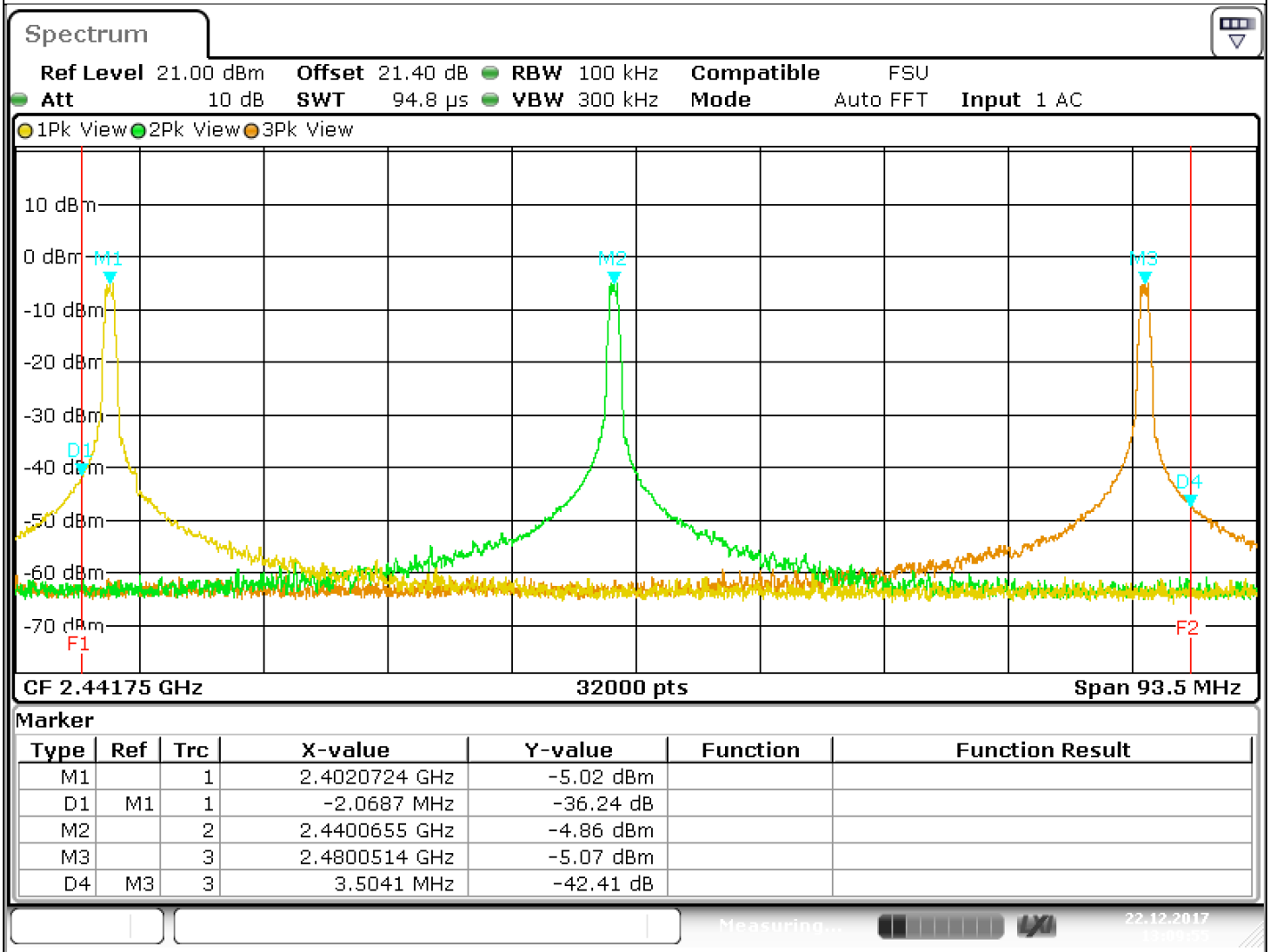
8.4. TEST EQUIPMENT LIST

Description	Constructor	Model	N°	Cal. Date	Cal. Due
EMI receiver	ROHDE & SCHWARZ	ESR 7	A2642023	2016/09	2018/09
Cable	-	-	A5329676	2017/10	2018/10

Note: In our quality system, the test equipment calibration due is more & less 2 months

8.5. RESULTS

Cmin/Cnom/Cmax



Frequency (MHz)	Level (dBc)	Limit (dBc)
2400	-36,24	20
2483.5	-42,41	20

8.6. CONCLUSION

Unwanted Emission into non-restricted frequency bands at the band edge measurement performed on the sample of the product **bluebeep HighChair Guardian**, SN: **HC0001**, in configuration and description presented in this test report, show levels **compliant** to the **47 CFR PART 15.247 & RSS 247 ISSUE 2** limits.

9. UNWANTED EMISSIONS INTO NON-RESTRICTED FREQUENCY BANDS

9.1. TEST CONDITIONS

Test performed by : Mathieu CERISIER
Date of test : December 19, 2017 to December 21, 2017
Ambient temperature : 23 °C
Relative humidity : 41 %

9.2. TEST SETUP

- The Equipment Under Test is installed:
☑ On a table
☐ In an anechoic chamber

- Measurement is performed with a spectrum analyzer in:
☑ Conducted Method
☐ Radiated Method

- Test Procedure:
☑ KDB 558074 D01 DTS Meas Guidance v04 § 11

Photograph for Unwanted Emission into non-restricted frequency bands

9.3. LIMIT

All Spurious Emissions must be at least 20 below the Fundamental Radiator Level

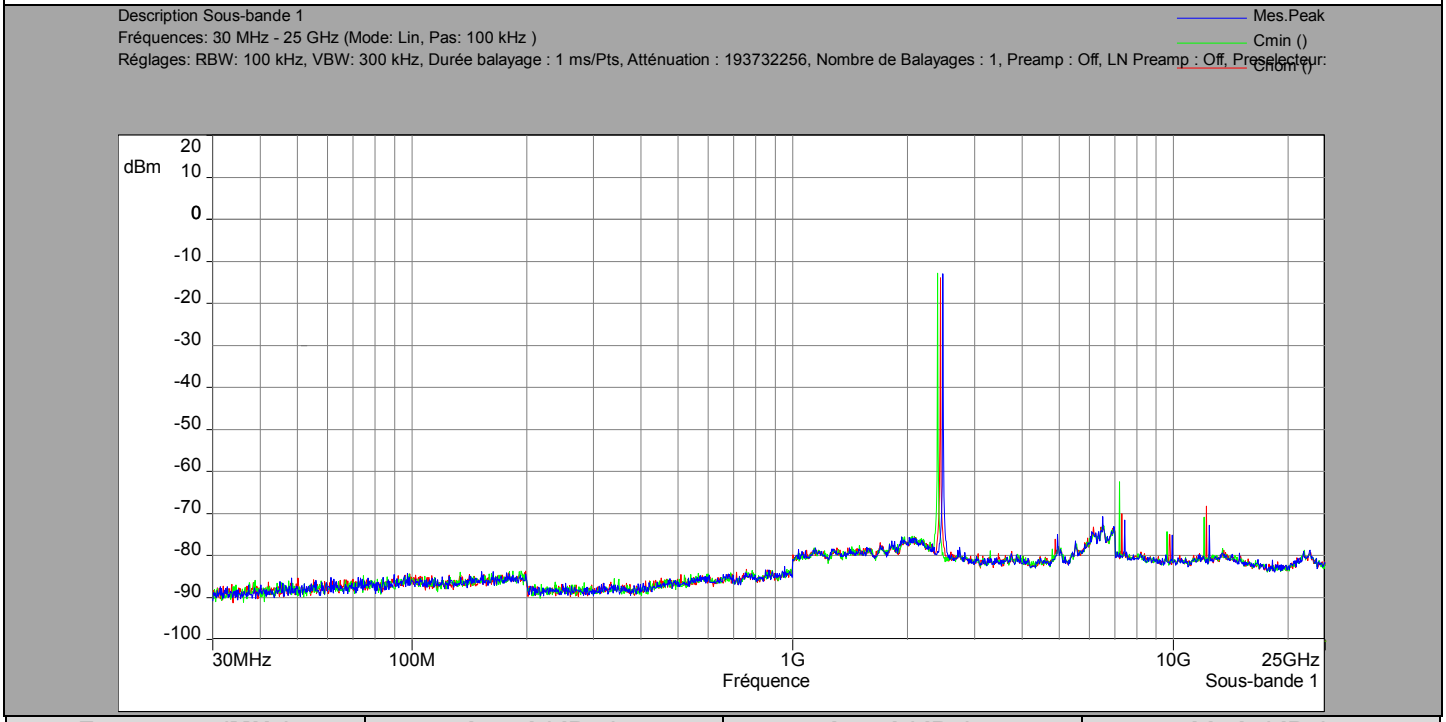
9.4. TEST EQUIPMENT LIST

Description	Constructor	Model	N°	Cal. Date	Cal. Due
EMI receiver	ROHDE & SCHWARZ	ESI40 1088 740K40	A2642010	2016/07	2018/07
Filter	-	-	A7484068	2017/03	2018/03
Cable	-	-	A5329758	2017/11	2018/11

Note: In our quality system, the test equipment calibration due is more & less 2 months

9.5. RESULTS

Cmin/Cnom/Cmax



Frequency (MHz)	Level (dBm)	Level (dBc)	Limit (dBc)
2402	-12,81		
134	-83,963	71,153	20
6517	-72,969	60,159	20
7205	-62,441	49,631	20
12011,7	-70,929	58,119	20
2442	-13,949		
198,7	-83,673	69,724	20
4879,6	-76,083	62,134	20
7321	-70,062	56,113	20
12201	-68,232	54,283	20
2480	-12,973		
953,6	-82,58	69,607	20
6514	-70,811	57,838	20
7440	-71,577	58,604	20
12401,5	-72,877	69,904	20

9.6. CONCLUSION

Unwanted Emission into non-restricted frequency bands measurement performed on the sample of the product **bluebeep HighChair Guardian**, SN: **HC0001**, in configuration and description presented in this test report, show levels **compliant** to the **47 CFR PART 15.247 & RSS 247 ISSUE 2** limits.

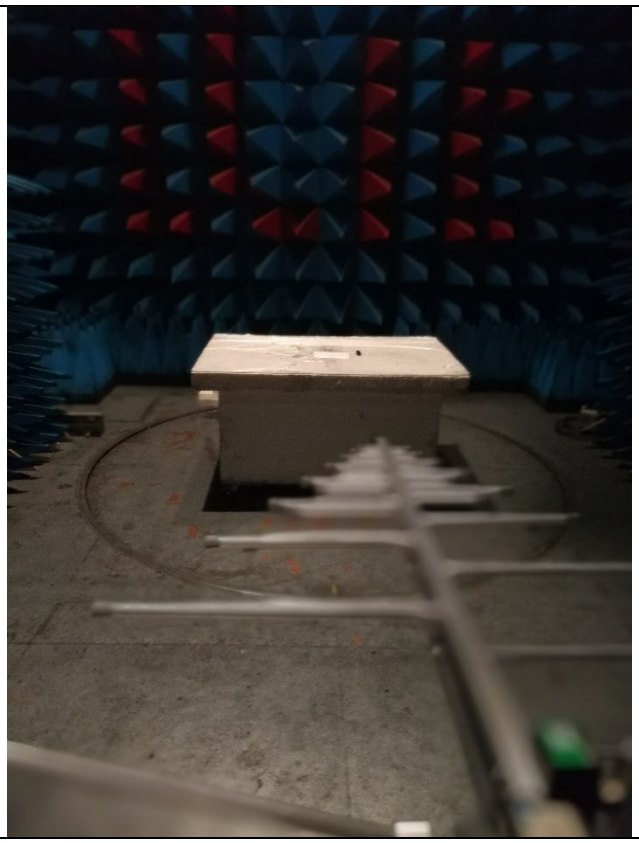
10. UNWANTED EMISSIONS IN RESTRICTED FREQUENCY BANDS

10.1. TEST CONDITIONS

Test performed by : Mathieu CERISIER
Date of test : December 20, 2017 to December 22, 2017
Ambient temperature : 23 °C
Relative humidity : 41 %

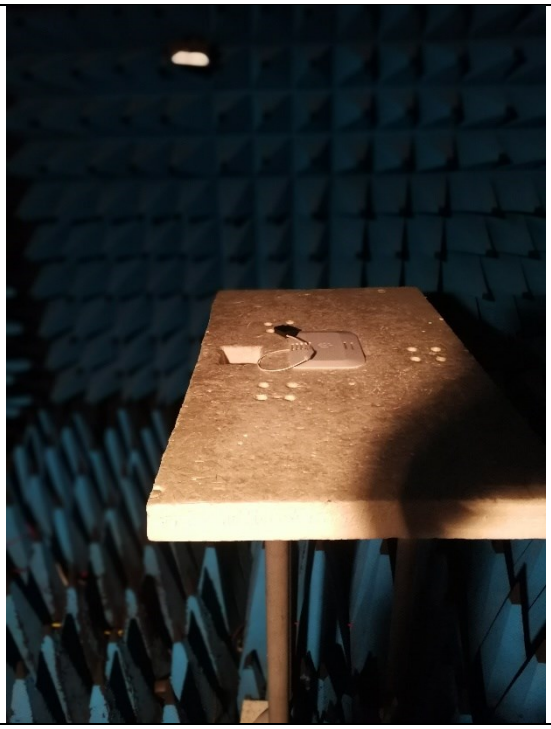
10.2. TEST SETUP

The product has been tested according to ANSI C63.10 (2013). The EUT is placed **ina semi-anechoic chamber**. Distance between measuring antenna and the EUT is **3m**. Test is performed in parallel, perpendicular and ground parallel axis with a loop antenna below 30MHz. Measurement bandwidth was 200Hz below 150kHz and 9kHz between 150kHz & 30MHz. The level has been maximised by the turntable rotation of 360 degrees range on the 3 axis of EUT. Antenna height was 1m.Test is performed in horizontal (H) and vertical (V) polarization with **bilog** antenna below 1GHz and with a horn antenna above 1GHz. Measurement bandwidth was 120kHz below 1GHz and 1MHz above 1GHz. The level has been maximised by the turntable rotation of 360 degrees range on the 3 axis of EUT. Antenna height search was performed from 1 to 4m. The EUT is place at 1.5m high above 1GHz and at 0.8m high under 1GHz.

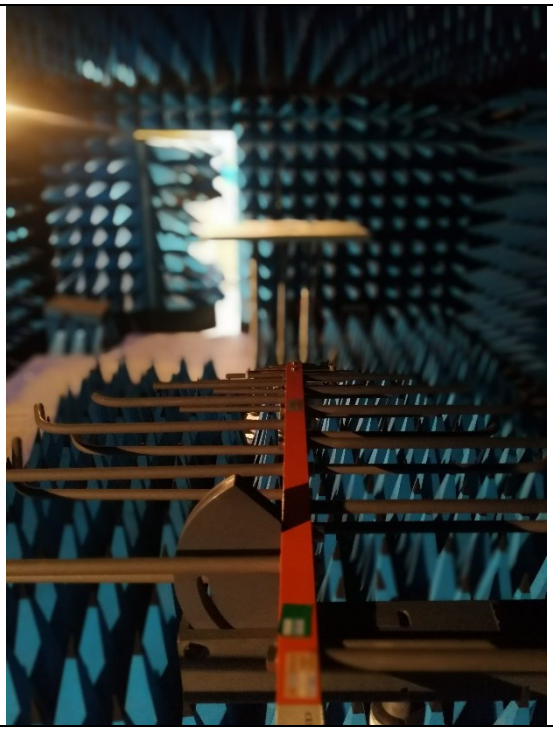


Photograph for Unwanted Emission in restricted frequency bands

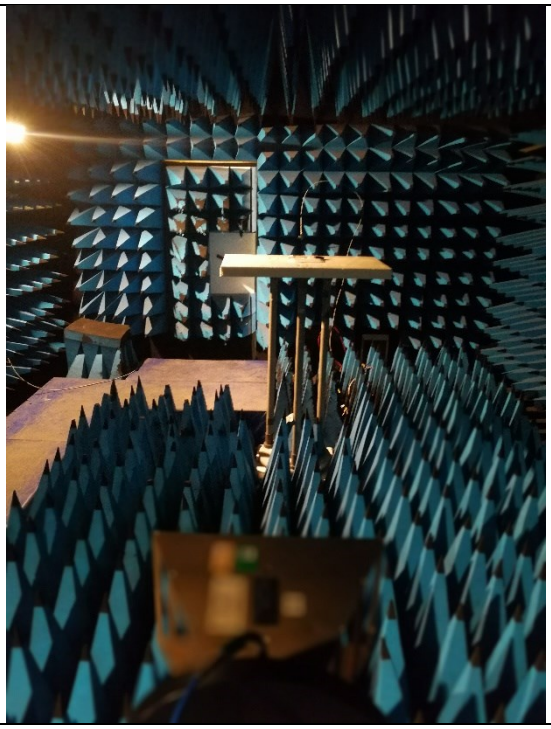
Photograph for Unwanted Emission in restricted frequency bands



Photograph for Unwanted Emission in restricted frequency bands



Photograph for Unwanted Emission in restricted frequency bands



Photograph for Unwanted Emission in restricted frequency bands

10.3. LIMIT

Limit at 3m:

30MHz to 88MHz:	40dBµV/m QPeak
88MHz to 216MHz:	43,5dBµV/m QPeak
216MHz to 960MHz:	46dBµV/m QPeak
960MHz to 1000MHz:	54dBµV/m QPeak
Above 1000MHz:	74dBµV/m Peak
	54dBµV/m Average

Limit at 10m:

30MHz to 88MHz:	29.5dBµV/m QPeak
88MHz to 216MHz:	33dBµV/m QPeak
216MHz to 960MHz:	35.5dBµV/m QPeak
960MHz to 1000MHz:	43.5dBµV/m QPeak
Above 1000MHz:	63.5BµV/m Peak
	43.5BµV/m Average

10.4. TEST EQUIPMENT LIST

Description	Constructor	Model	N°	Cal. Date	Cal. Due
Semi anechoic chamber	SIEPEL	-	D3044008	2017/06	2018/06
EMI receiver	ROHDE & SCHWARZ	ESU26	A2642018	2016/10	2018/10
Bilog antenna	SCHWARZBECK	VULB 9160	C2040150	2017/03	2018/03
RF cable	RADIALL; CDI	30990-7M	A5329711	2017/03	2018/03
Cable	CABLES & CONNECTIQUES	3.5MD/CSU528AA/3.5MC/4000	A5329436	2017/03	2018/03
Full anachoic chamber	SIEPEL	-	D3044019	2014/10	2018/10
Preamplifier	LCIE; LCIE	LCIE-ALB-001	A7080073	2016/08	2018/08
Horn antenna	AH SYSTEMS	SAS 571	C2042041	2017/04	2018/04
Substitution horn antenna 18-26,5GHz	PASTERNACK	PE9852/2F-20	C2042049	2017/05	2019/05
Logperiodic antenna	AMPLIFIER RESEARCH	ATR80M6G	C2040149	2017/06	2018/06
EMI receiver	ROHDE & SCHWARZ	ESI40 1088 740K40	A2642010	2017/07	2018/07
cable	Télédyne	084-0505-1MTR	A5329757	2017/03	2018/03
cable	Télédyne	084-0555-3MTR	A5329760	2017/03	2018/03
cable	Télédyne	084-555-1.5MTR	A5329759	2017/03	2018/03
loop antenna	RHODE & SCHWARZ	HFH2-Z2	C2040007	2017-12	2020-12

Note: In our quality system, the test equipment calibration due is more & less 2 months

10.5. DIVERGENCE, ADDITION OR SUPPRESSION ON THE TEST SPECIFICATION

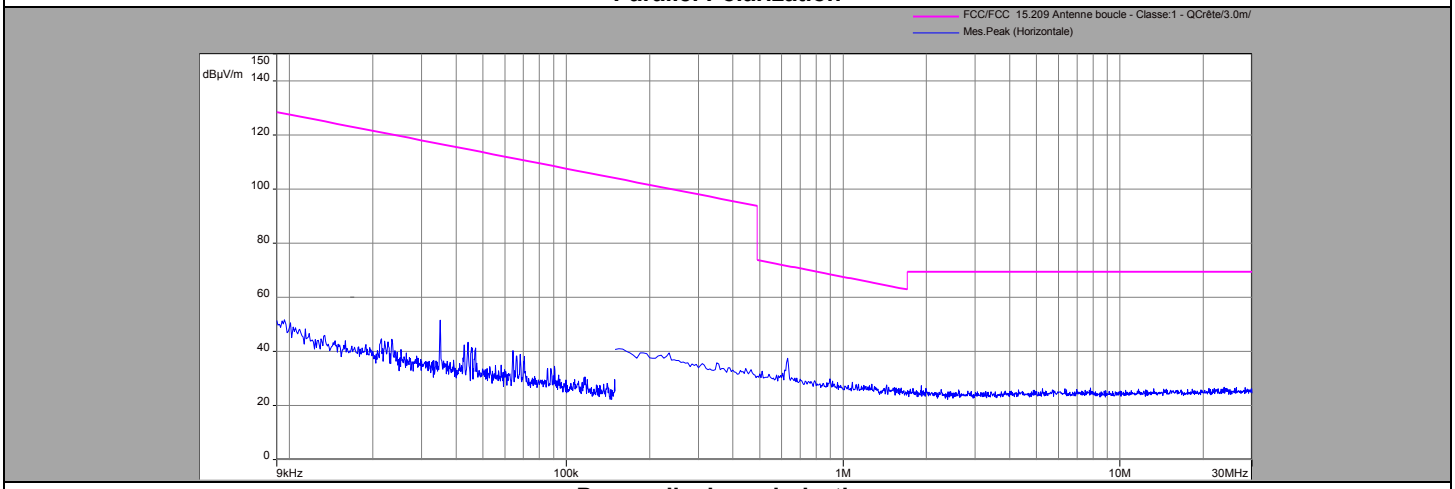
☑ None ☐ Divergence:

10.6. *RESULTS*

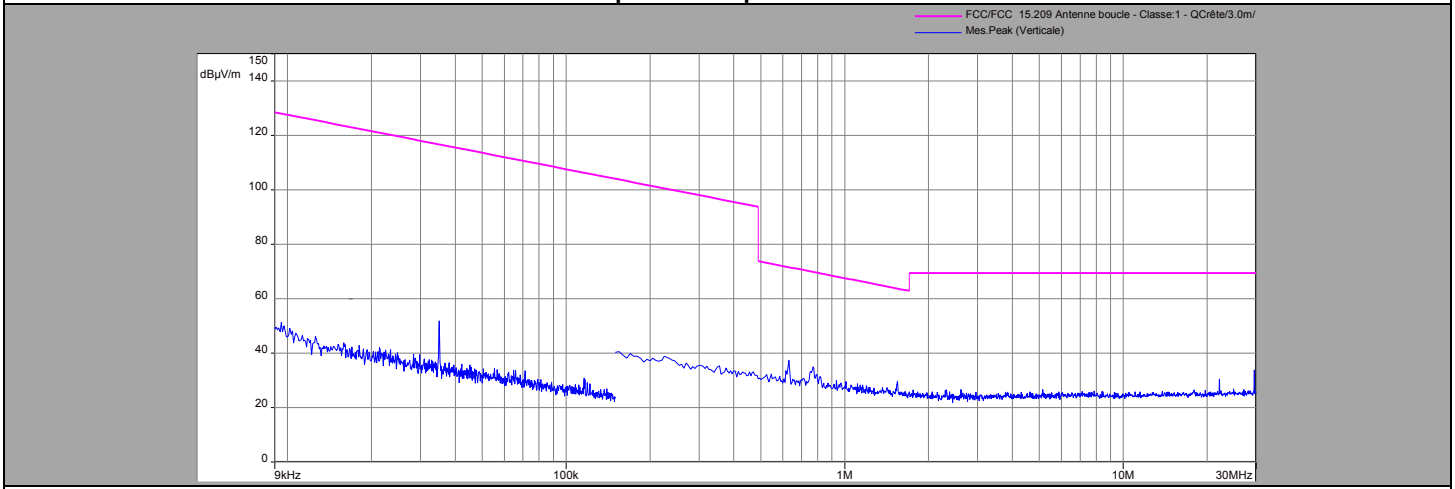
9kHz – 30 MHz

Cmin

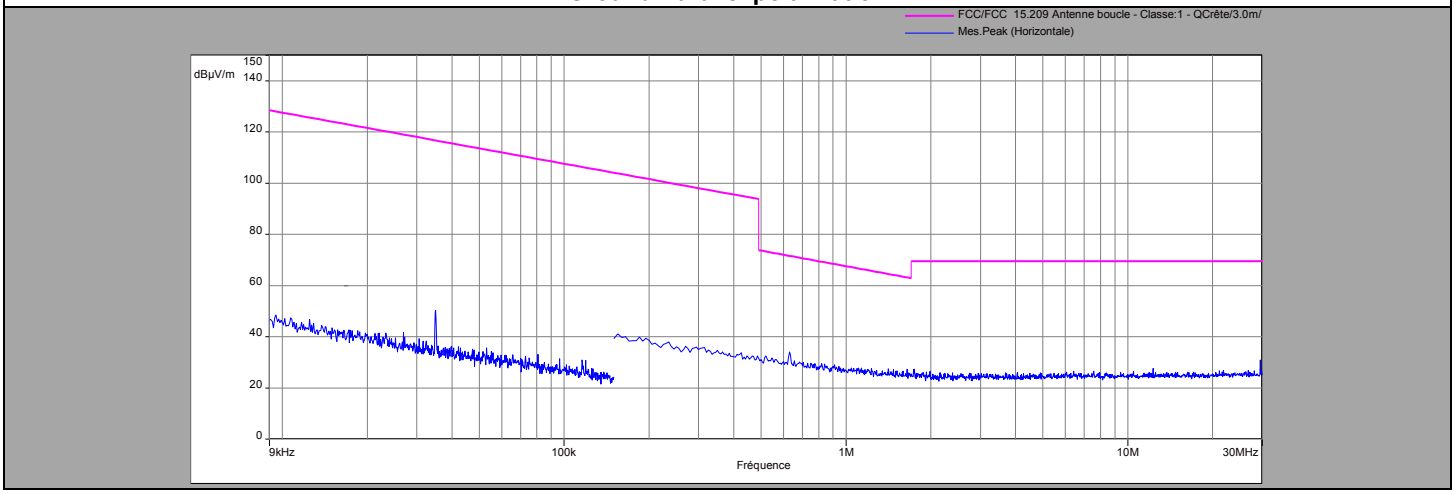
Parallel Polarization



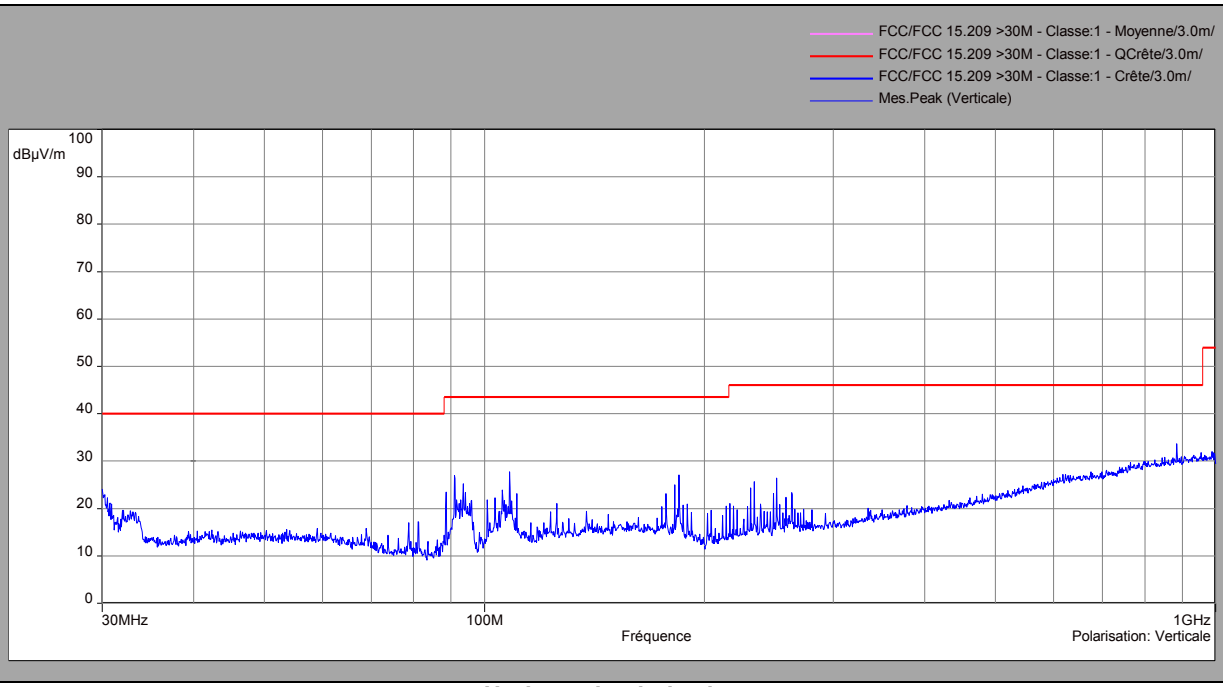
Perpendicular polarization



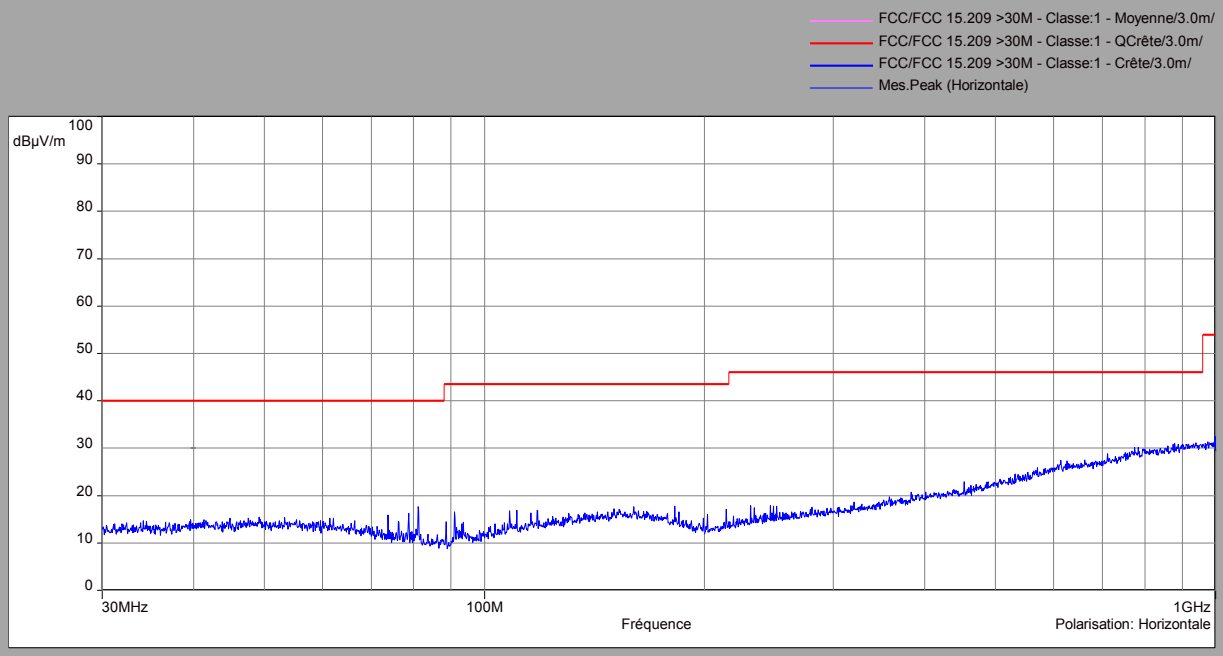
Ground Parallel polarization



Below 1GHz
Cmin
Vertical Polarization



Horizontal polarization



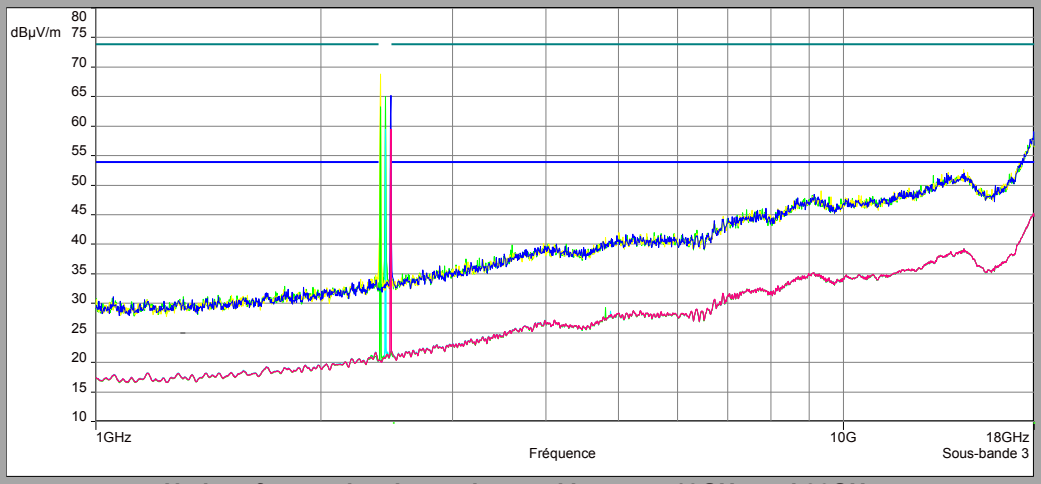
Above 1GHz

Cmin/Cnom/Cmax

Vertical Polarization

Description Sous-bande 3
Fréquences: 1 GHz - 18 GHz (Mode: Lin, Pas: 500 kHz)
Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage : 10 ms/Pts, Atténuation : 195326152, Nombre de Balayages : 1, Preamp : On: 20 dB, LN Preamp : Off, Preselect
Polarisation:Verticale
Distance: 3 m

FCC/FCC 15.209 2400MHz-2483MHz Band - Classe:1 - Moyenne/3.0m/
FCC/FCC 15.209 2400MHz-2483MHz Band - Classe:1 - QCrête/3.0m/
FCC/FCC 15.209 2400MHz-2483MHz Band - Classe:1 - Crête/3.0m/
Mes.Peak (Verticale)
Mes.Avg (Verticale)
Cmin Avg (Verticale)
Cmin Peak (Verticale)
Cnom Avg (Verticale)
Cnom Peak (Verticale)

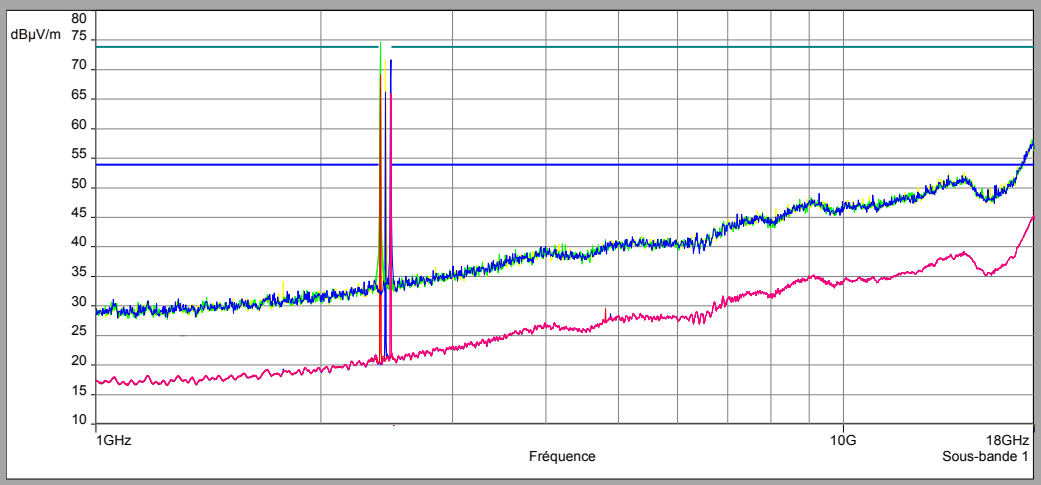


No interference has been observed between 18GHz and 26GHz

Horizontal polarization

Description Sous-bande 1
Fréquences: 1 GHz - 18 GHz (Mode: Lin, Pas: 500 kHz)
Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage : 10 ms/Pts, Atténuation : 195325864, Nombre de Balayages : 1, Preamp : On: 20 dB, LN Preamp : Off, Preselect
Polarisation:Horizontale
Distance: 3 m

FCC/FCC 15.209 2400MHz-2483MHz Band - Classe:1 - Moyenne/3.0m/
FCC/FCC 15.209 2400MHz-2483MHz Band - Classe:1 - QCrête/3.0m/
FCC/FCC 15.209 2400MHz-2483MHz Band - Classe:1 - Crête/3.0m/
Mes.Peak (Horizontale)
Mes.Avg (Horizontale)
Cmin Avg (Horizontale)
Cmin Peak (Horizontale)
Cnom Avg (Horizontale)
Cnom Peak (Horizontale)



No interference has been observed between 18GHz and 26GHz

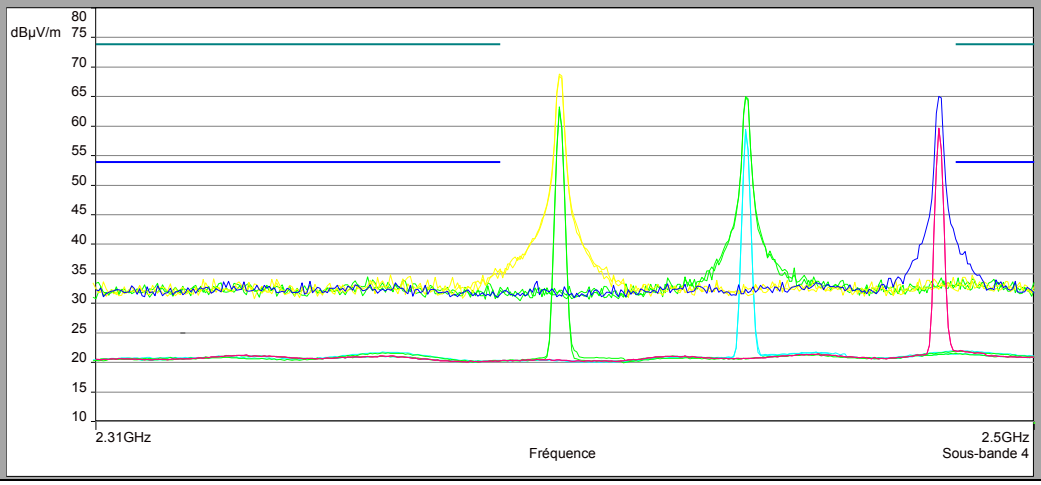
Above 1GHz Zoom 2310MHz-2500MHz

Cmin/Cnom/Cmax

Vertical Polarization

Description Sous-bande 4
Fréquences: 2.31 GHz - 2.5 GHz (Mode: Lin, Pas: 500 kHz)
Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage : 10 ms/Pts, Atténuation : 195326120, Nombre de Balayages : 1, Preamp : On: 20 dB, LN Preamp : Off, Preselect
Polarisation:Verticale
Distance: 3 m

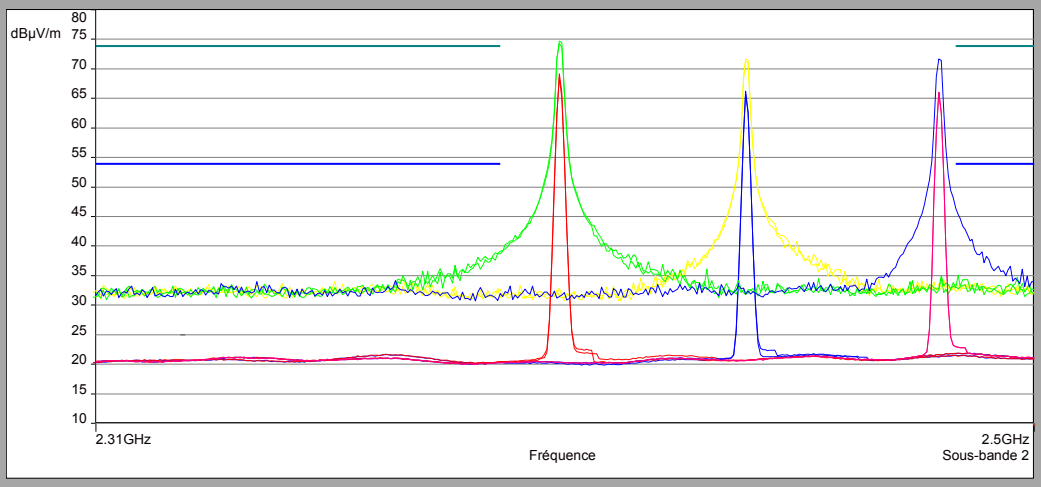
FCC/FCC 15.209 2400MHz-2483MHz Band - Classe:1 - Moyenne/3.0m/
FCC/FCC 15.209 2400MHz-2483MHz Band - Classe:1 - QCrête/3.0m/
FCC/FCC 15.209 2400MHz-2483MHz Band - Classe:1 - Crête/3.0m/
Mes.Peak (Verticale)
Mes.Avg (Verticale)
Cmin Avg (Verticale)
Cmin Peak (Verticale)
Cnom Avg (Verticale)
Cnom Peak (Verticale)



Horizontal polarization

Description Sous-bande 2
Fréquences: 2.31 GHz - 2.5 GHz (Mode: Lin, Pas: 500 kHz)
Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage : 10 ms/Pts, Atténuation : 202847592, Nombre de Balayages : 1, Preamp : On: 20 dB, LN Preamp : Off, Preselect
Polarisation:Horizontale
Distance: 3 m

FCC/FCC 15.209 2400MHz-2483MHz Band - Classe:1 - Moyenne/3.0m/
FCC/FCC 15.209 2400MHz-2483MHz Band - Classe:1 - QCrête/3.0m/
FCC/FCC 15.209 2400MHz-2483MHz Band - Classe:1 - Crête/3.0m/
Mes.Peak (Horizontale)
Mes.Avg (Horizontale)
Cmin Avg (Horizontale)
Cmin Peak (Horizontale)
Cnom Avg (Horizontale)
Cnom Peak (Horizontale)



9kHz – 30 MHz					
Polarization	**Frequency (MHz)**	**Peak Level (dBµV/m)**	**QPeak Level (dBµV/m)**	**Limit (dBµV/m)**	**Margin (dBµV/m)**
all emissions were greater than 20 dB below the limit					

Below 1GHz					
Polarization	**Frequency (MHz)**	**Peak Level (dBµV/m)**	**QPeak Level (dBµV/m)**	**Limit (dBµV/m)**	**Margin (dBµV/m)**
Verticale	91,05	26,837	-	43,5	16,663
Verticale	108,25	27,786	-	43,5	15,714
Verticale	884,84	33,69	-	46	12,31
Horizontale	81,2	17,64	-	40	22,36
Horizontale	110,75	16,924	-	43,5	26,576
Horizontale	775,04	30,152	-	46	15,848

Above 1GHz								
Cmin/Cnom/Cmax								
Polarization	**Frequency (MHz)**	**Duty cycle correction (dB)**	**Average Level (dBµV/m)**	**Average Limit (dBµV/m)**	**Average Margin (dBµV/m)**	**Peak Level (dBµV/m)**	**Peak Limit (dBµV/m)**	**Peak Margin (dBµV/m)**
Horizontale	1781,5	2,15	21,491	54	32,509	36,29	74	37,71
Verticale	1055,5	2,15	19,937	54	34,063	33,264	74	40,736
Verticale	1808,5	2,15	20,969	54	33,031	34,528	74	39,472
Verticale	2390	2,15	22,551	54	31,449	41,299	74	32,701
Horizontale	2390	2,15	22,551	54	31,449	41,299	74	32,701
Verticale	2483.5	2,15	24,098	54	29,902	43,065	74	30,935
Horizontale	2483.5	2,15	25,088	54	28,912	48,56	74	25,44
Horizontale	4164	2,15	28,781	54	25,219	42,639	74	31,361
Horizontale	14509	2,15	41,008	54	12,992	54,759	74	19,241
Verticale	3603	2,15	27,364	54	26,636	42,038	74	31,962
Verticale	13194,5	2,15	38,934	54	15,066	53,778	74	20,222
Verticale	14512	2,15	40,655	54	13,345	54,214	74	19,786

10.7. CONCLUSION

Unwanted Emission in restricted frequency bands measurement performed on the sample of the product **bluebeep HighChair Guardian**, SN: **HC0001**, in configuration and description presented in this test report, show levels **compliant** to the 47 CFR PART 15.247 & RSS 247 ISSUE 2 limits.

11. UNCERTAINTIES CHART

47 CFR Part 15.209 & 15.207 Kind of test	Wide uncertainty laboratory (k=2) ±x(dB) / (Hz)/ ms	Uncertainty limit
Measurement of conducted disturbances in voltage on the AC power port (9 kHz – 150 kHz)	2,67	3.8
Measurement of conducted disturbances in voltage on the AC power port (150 kHz – 30 MHz)	2,67	3.4
Measurement of conducted disturbances in voltage on the telecommunication port. (AAN)	3,67	5.0
Measurement of conducted disturbances in current (current clamp)	2,73	2.9
Measurement of disturbance power	2,67	4.5
Measurement of radiated magnetic field from 10kHz to 30MHz in SAC V01	4,48	/
Measurement of radiated magnetic field from 10kHz to 30MHz in SAC C01	4,48	/
Measurement of radiated electric field from 30 to 1000MHz in horizontal position on the OATS (Ecuelles)	4,88	6.3
Measurement of radiated electric field from 1 to 18GHz on the Ecuelles site	5.16	/
Measurement of radiated electric field from 30 to 1000MHz in vertical position on the OATS (Ecuelles)	4,99	6.3
Measurement of radiated electric field from 30 to 1000MHz in horizontal position in SAC C01	5,08	6.3
Measurement of radiated electric field from 30 to 1000MHz in vertical position in SAC C01	5,16	6.3
Measurement of radiated electric field from 30 to 1000MHz in horizontal position in SAC V01	5,08	6.3
Measurement of radiated electric field from 30 to 1000MHz in vertical position in SAC V01	5,15	6.3
Measurement of radiated electric field from 1 to 6 GHz C01	5,1	5.2
Measurement of radiated electric field from 1 to 6 GHz V01	4,85	5.2
Measurement of radiated magnetic field from 10kHz to 30MHz on the OATS (Ecuelles)	4,48	/

The uncertainty values calculated by the laboratory are lower than limit uncertainty values defined by the CISPR. The conformity of the sample is directly established by the applicable limits values. This table includes all uncertainties maximum feasible for testing in the laboratory, whether or not made in this report