

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

8.1. TEST CONDITIONS

Test performed by : Mathieu CERISIER
Date of test : January 4, 2017
Ambient temperature : 22 °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 v03r05 § 11
- KDB 662911 D01 Multiple Transmitter Output v02r01



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



8.3. LIMIT

All Spurious Emissions must be at least Choose limit below the Fundamental Radiator Level at the Band Edge Edge "2400MHz & 2483,5MHz"

8.4. TEST EQUIPMENT LIST

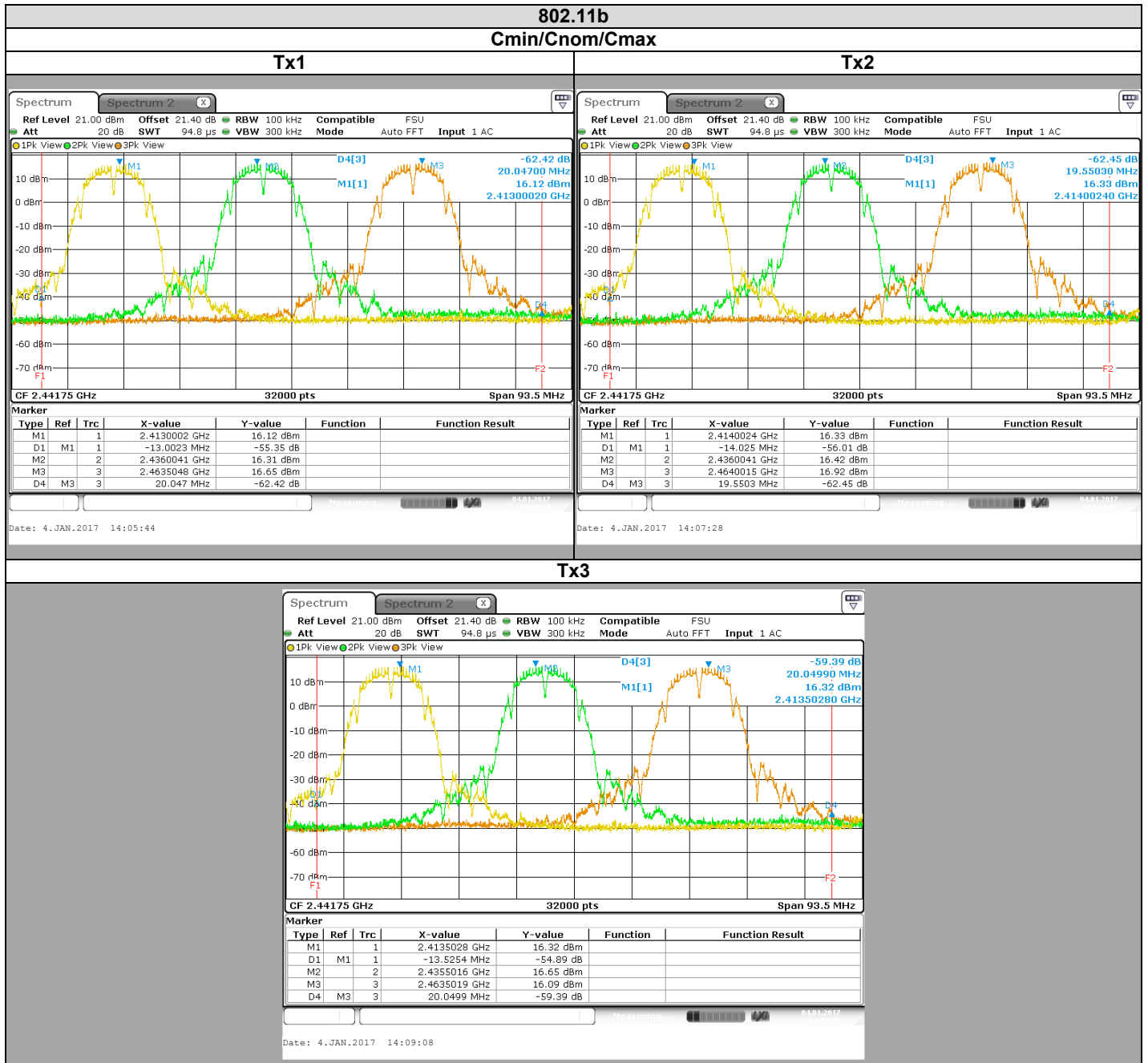
DESCRIPTION	MANUFACTURER	MODEL	N° LCIE	Cal_Date	Cal_Due
Multi-meter	KEITHLEY	2000	A1242090	2016/05	2018/05
Programmable AC/DC power supply	-; KIKUSUI	PCR500M	A7040079	Verified with calibrated multimeter	Verified with calibrated multimeter
EMI receiver	ROHDE & SCHWARZ	ESR 7	A2642023	2016/03	2017/03
RF cable & 20 dB attenuator	Télédyne	920-0202-048	A5329675	2016/10	2017/10

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



L C I E

8.1. RESULTS



Frequency (MHz)	Level (dBc)	Limit (dBc)
2400	54,89	30
2483.5	59,39	30



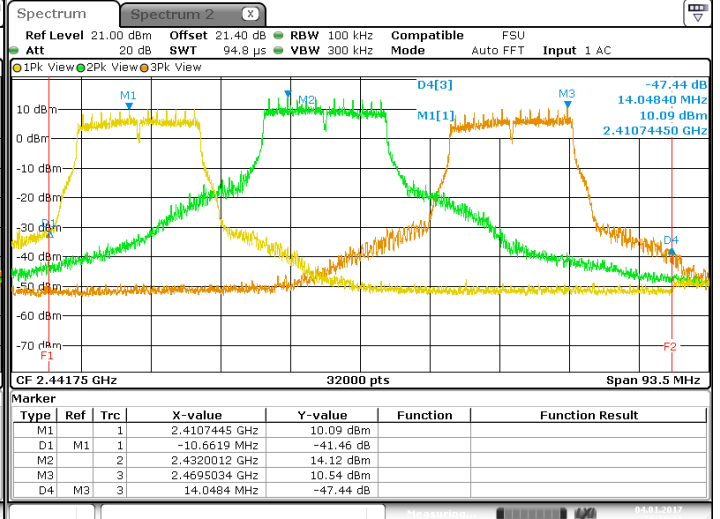
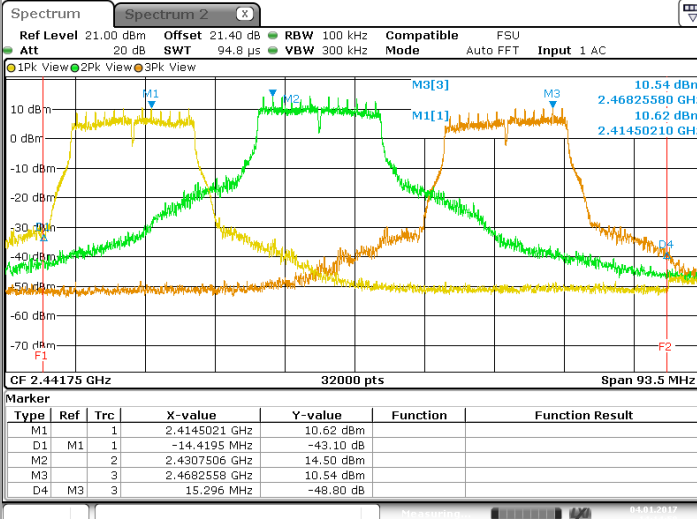
L C I E

802.11g

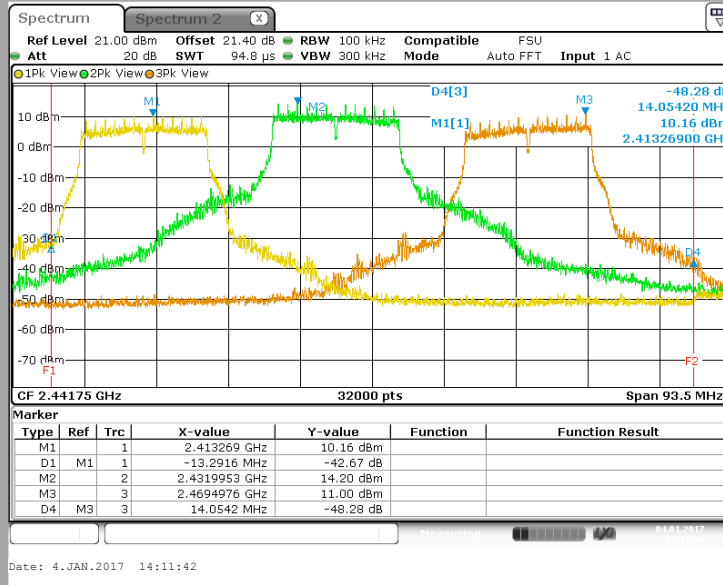
Cmin/Cnom/Cmax

Tx1

Tx2



Tx3



Frequency (MHz)	Level (dBc)	Limit (dBc)
2400	41,46	30
2483.5	47,44	30



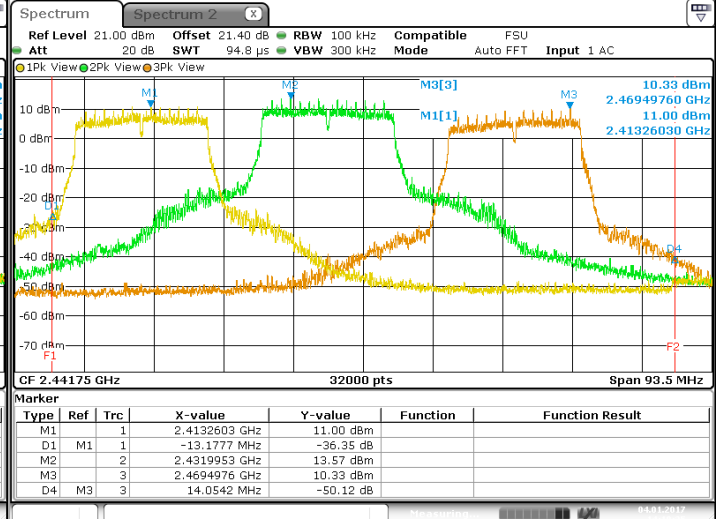
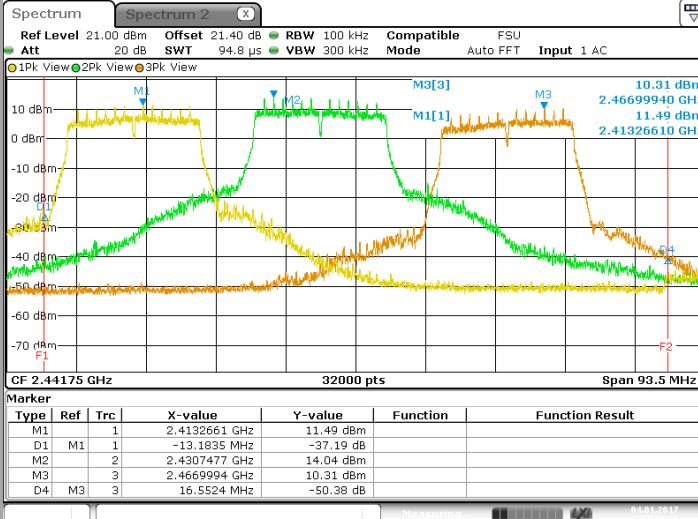
L C I E

802.11nHT20

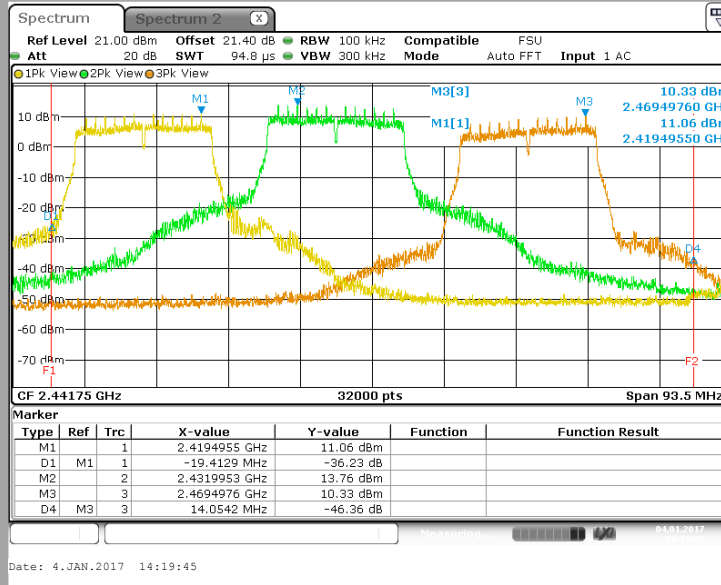
Cmin/Cnom/Cmax

Tx1

Tx2



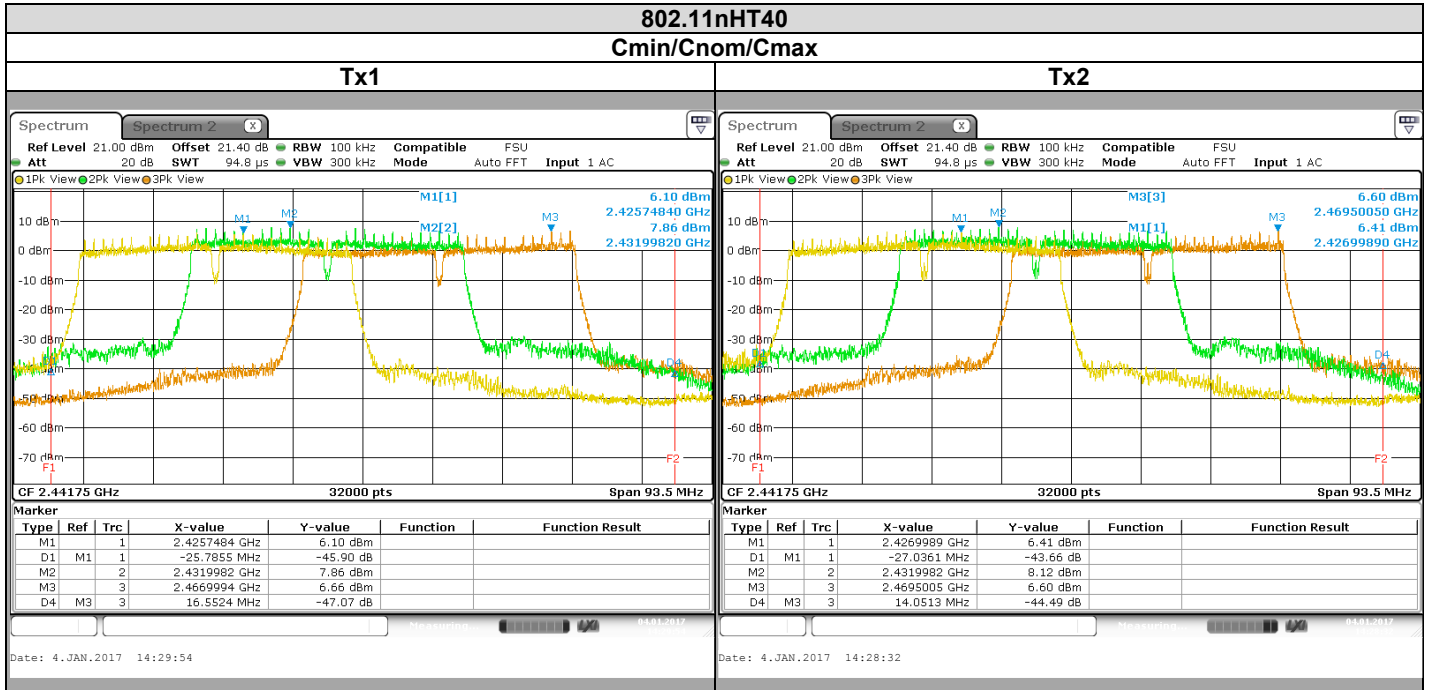
Tx3



Frequency (MHz)	Level (dBc)	Limit (dBc)
2400	36,23	30
2483.5	46,36	30



L C I E



Frequency (MHz)	Level (dBc)	Limit (dBc)
2400	41,54	30
2483.5	44,49	30

8.2. CONCLUSION

Unwanted Emission into non-restricted frequency bands at the band edge measurement performed on the sample of the product **SAGEMCOM MiniBox (253697290)**, SN: **616476080862**, in configuration and description presented in this test report, show levels **compliant** to the **47 CFR PART 15.247** limits.

9. UNWANTED EMISSIONS INTO NON-RESTRICTED FREQUENCY BANDS

9.1. TEST CONDITIONS

Test performed by : Mathieu CERISIER
Date of test : December 20, 2016 to January 4, 2017
Ambient temperature : 24 °C
Relative humidity : 31 %

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 v03r05 § 11
- KDB 662911 D01 Multiple Transmitter Output v02r01



Photograph for Unwanted Emission into non-restricted frequency bands



9.3. LIMIT

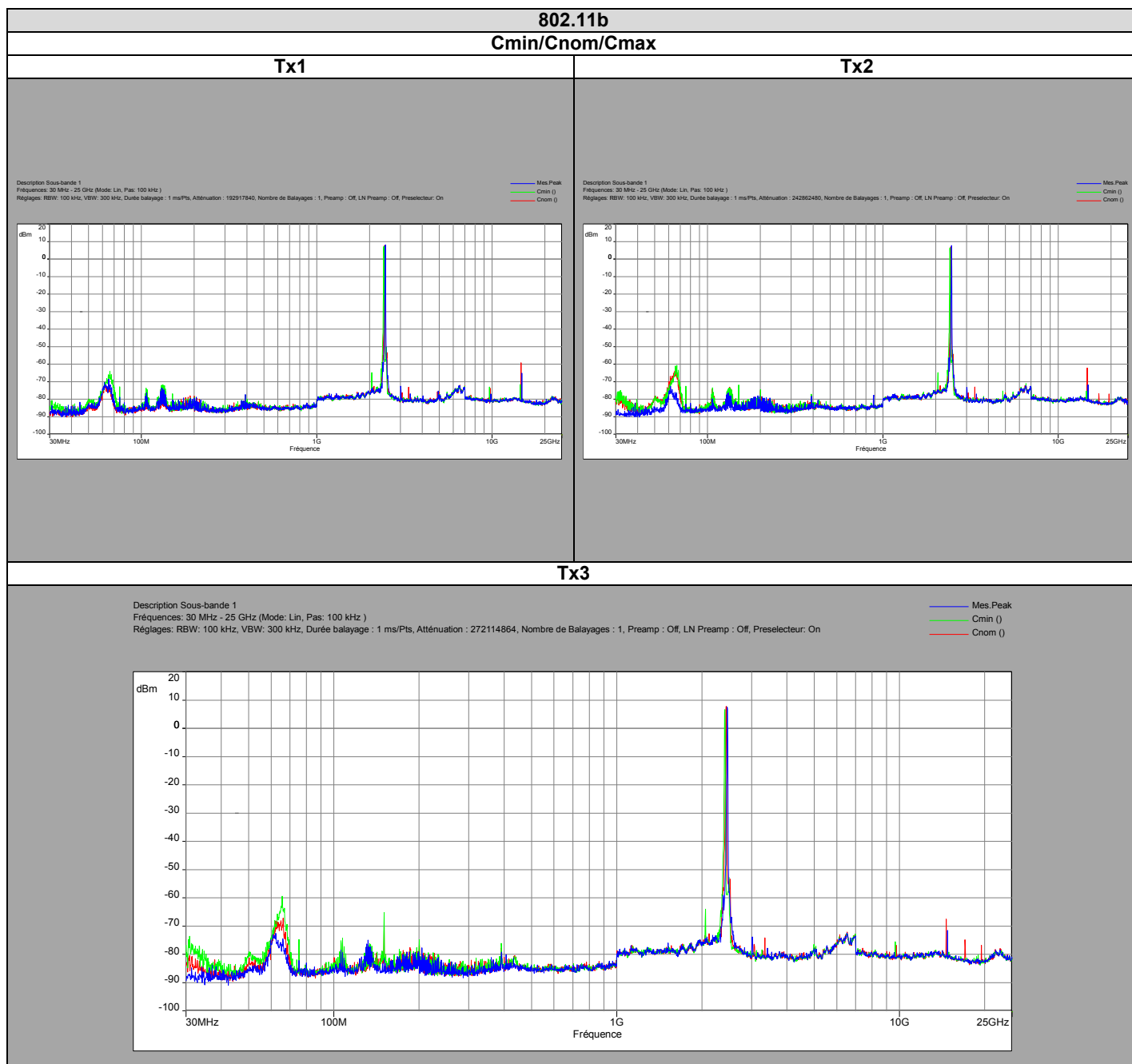
All Spurious Emissions must be at least Choose limit below the Fundamental Radiator Level

9.4. TEST EQUIPMENT LIST

DESCRIPTION	MANUFACTURER	MODEL	N° LCIE	Cal_Date	Cal_Due
EMI receiver	ROHDE & SCHWARZ	ESI40 1088 740K40	A2642010	2016/07	2017/07
cable	Télédyne	084-0555-2MTR	A5329758	2016/10	2017/10
Attenuator 3dB	WEINSCHEL	WA54-3-12	A7122223	2016/10	2017/10
Programmable AC/DC power supply	-; KIKUSUI	PCR500M	A7040079	2016/06	2018/06
Multi-meter	KEITHLEY	2000	A1242090	voir etiquette	voir étiquette
Filter	PASTERNAK	PE8213	A7480048	2015/09	2017/09

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

9.5. RESULTS



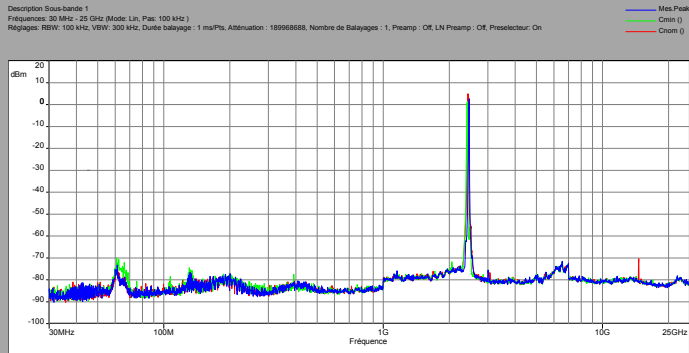


L C I E

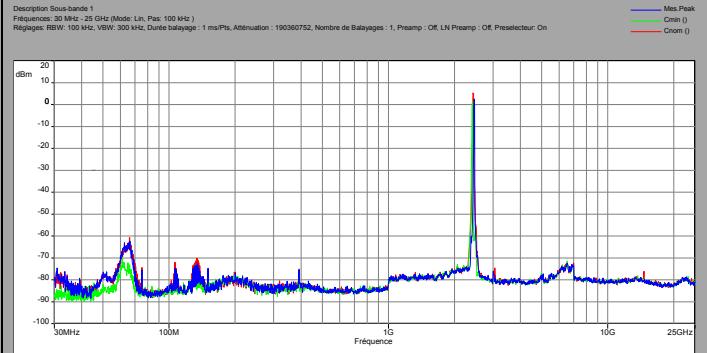
802.11g

Cmin/Cnom/Cmax

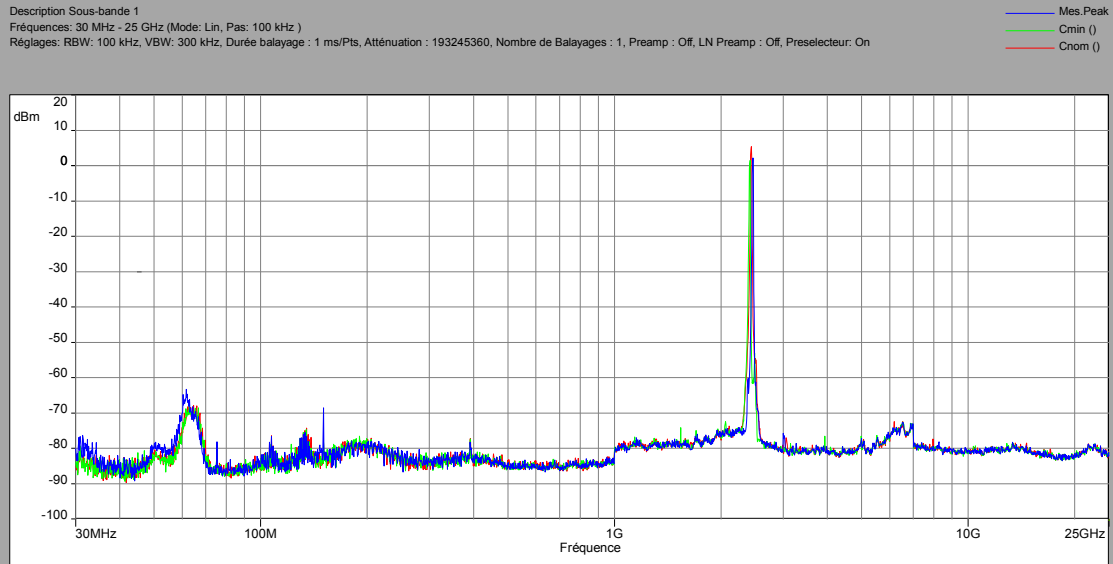
Tx1



Tx2



Tx3





L C I E

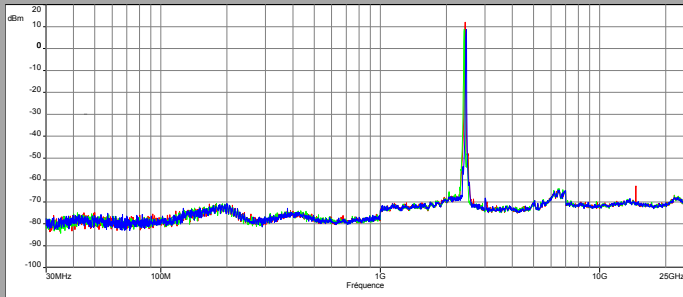
802.11n HT20

Cmin/Cnom/Cmax

Tx1

Description Sous-bande 1
Fréquences: 30 MHz - 25 GHz (Mode: Lin, Pas: 100 kHz)
Réglages: RBW: 100 kHz, VBW: 300 kHz, Durée balayage: 1 ms/Pts, Atténuation: 243714896, Nombre de Balayages: 1, Preamp: Off, LN Preamp: Off, Preselecteur: On

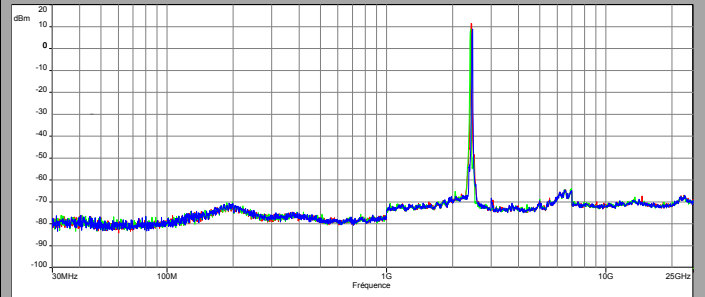
Mes Peak
Cmin ()
Cnom ()



Tx2

Description Sous-bande 1
Fréquences: 30 MHz - 25 GHz (Mode: Lin, Pas: 100 kHz)
Réglages: RBW: 100 kHz, VBW: 300 kHz, Durée balayage: 1 ms/Pts, Atténuation: 18937744, Nombre de Balayages: 1, Preamp: Off, LN Preamp: Off, Preselecteur: On

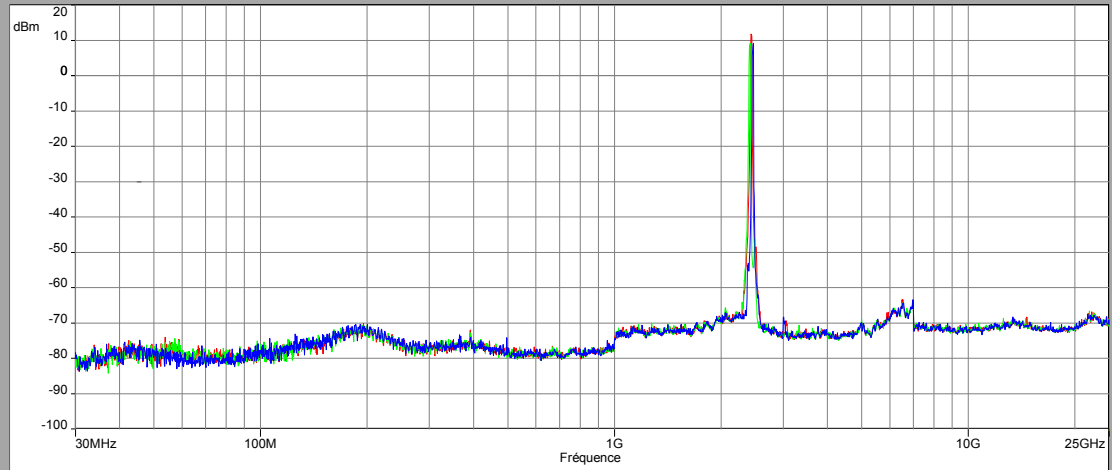
Mes Peak
Cmin ()
Cnom ()



Tx3

Description Sous-bande 1
Fréquences: 30 MHz - 25 GHz (Mode: Lin, Pas: 100 kHz)
Réglages: RBW: 100 kHz, VBW: 300 kHz, Durée balayage: 1 ms/Pts, Atténuation: 194621744, Nombre de Balayages: 1, Preamp: Off, LN Preamp: Off, Preselecteur: On

Mes Peak
Cmin ()
Cnom ()





L C I E

802.11n HT40

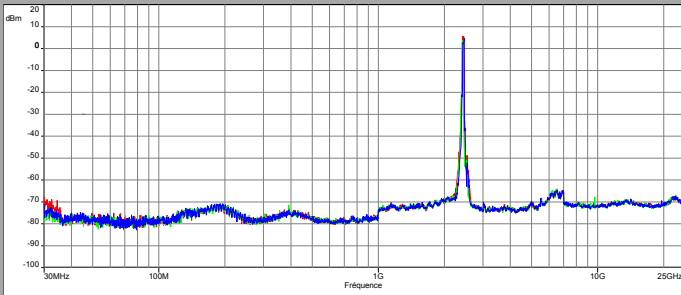
Cmin/Cnom/max

Tx1

Tx2

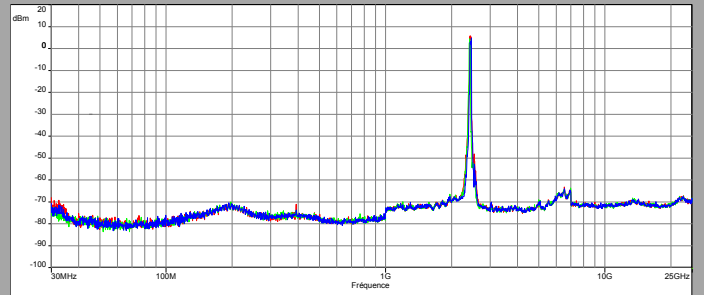
Description Sous-bande 1
Fréquences: 30 MHz - 25 GHz (Mode: Lin, Pas: 100 kHz)
Réglages: RBW: 100 kHz, VBW: 300 kHz, Durée balayage: 1 ms/Pts, Atténuation: 19247920, Nombre de Balayages: 1, Preamp: Off, LN Preamp: Off, Preselecteur: On

Mes Peak
Cmin ()
Cnom ()



Description Sous-bande 1
Fréquences: 30 MHz - 25 GHz (Mode: Lin, Pas: 100 kHz)
Réglages: RBW: 100 kHz, VBW: 300 kHz, Durée balayage: 1 ms/Pts, Atténuation: 192196880, Nombre de Balayages: 1, Preamp: Off, LN Preamp: Off, Preselecteur: On

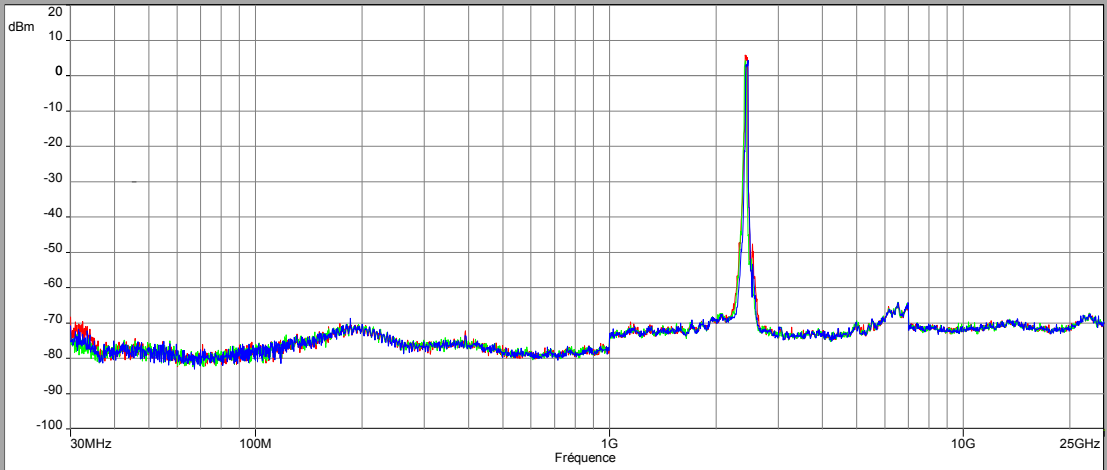
Mes Peak
Cmin ()
Cnom ()



Tx3

Description Sous-bande 1
Fréquences: 30 MHz - 25 GHz (Mode: Lin, Pas: 100 kHz)
Réglages: RBW: 100 kHz, VBW: 300 kHz, Durée balayage: 1 ms/Pts, Atténuation: 192000880, Nombre de Balayages: 1, Preamp: Off, LN Preamp: Off, Preselecteur: On

Mes Peak
Cmin ()
Cnom ()





L C I E

802.11b			
Frequency (MHz)	Level (dBm)	Level (dBc)	Limit (dBc)
2412	7,169		
9648	-73,045	80,2	30
2059,8	-64,804	72,0	30
66,1	-63,958	71,1	30
2437	7,813		
3340,3	-75,175	83,0	30
14622	-59,222	67,0	30
62,4	-71,929	79,7	30
2462	8,082		
3012,4	-72,608	80,7	30
4772	-65,127	73,2	30
65,2	-68,526	76,6	30

802.11g			
Frequency (MHz)	Level (dBm)	Level (dBc)	Limit (dBc)
2412	1,553		
6537,5	-72,086	73,6	30
2056,5	-71,771	73,3	30
61	-69,883	71,4	30
2437	5,296		
3057	-76,982	82,3	30
6177,9	-72,417	77,7	30
64,7	-67,901	73,2	30
2462	2,62		
6552,8	-71,57	74,2	30
1156,4	-75,868	78,5	30
61,3	-73,274	75,9	30



802.11n HT20			
Frequency (MHz)	Level (dBm)	Level (dBc)	Limit (dBc)
2412	9,185		
6969,8	-64,165	73,4	30
392,1	-72,802	82,0	30
6467	-64,589	73,8	30
2437	11,743		
6532,5	-63,423	75,2	30
391,9	-71,985	83,7	30
2058,7	-65,355	77,1	30
2462	9,19		
2469,5	-63,387	72,6	30
393	-74,065	83,3	30
3014,9	-68,872	78,1	30

802.11n HT40			
Frequency (MHz)	Level (dBm)	Level (dBc)	Limit (dBc)
2422	4,485		
6973	-64,07	68,6	30
319,7	-74,018	78,5	30
9688	-67,859	72,3	30
2437	5,875		
6538,5	-64,329	70,2	30
391,9	-72,259	78,1	30
1143,4	-70,241	76,1	30
2452	4,858		
6526,4	-63,942	68,8	30
392,4	-73,695	78,6	30
3014,9	-70,137	75,0	30

9.6. CONCLUSION

Unwanted Emission into non-restricted frequency bands measurement performed on the sample of the product **SAGEMCOM** MiniBox (253697290), SN: **616476080862**, in configuration and description presented in this test report, show levels **compliant** to the **47 CFR PART 15.247** limits.

10. AC POWER LINE CONDUCTED EMISSIONS

10.1. TEST CONDITIONS

Test performed by : Laurent DENEUX
Date of test : December 6, 2016 to December 8, 2016
Ambient temperature : 21°C
Relative humidity : 48%

10.2. TEST SETUP

The product has been tested according to ANSI C63.10 (2013) method. The EUT is placed on the ground reference plane, at 80cm from the LISN. The distance between the EUT and the vertical ground plane is 40cm. Auxiliaries are powered by another LISN. The cable has been shorted to 1meter length. The EUT is powered through the LISN. Measurement is made with a receiver in peak mode. This was followed by a Quasi-Peak, i.e. CISPR measurement for any strong signal. If the average limit is met when using a Quasi-Peak detector, the EUT shall be deemed to meet both limits and measurement with the average detector is unnecessary. The LISN (measure) is $50\Omega / 50\mu\text{H}$. Interconnecting cables and equipment's were moved to position that maximized emission.



Photograph for AC Power Line Conducted Emissions (Front view)

10.3. LIMIT

Quasi-Peak

0,15kHz to 0,5MHz: 66dB μ V to 56dB μ V*

0,5MHz to 5MHz: 56dB μ V

5MHz to 30MHz: 60dB μ V

Average

0,15kHz to 0,5MHz: 56dB μ V to 46dB μ V*

0,5MHz to 5MHz: 46dB μ V

5MHz to 30MHz: 50dB μ V

*Decreases with the logarithm of the frequency

10.4. TEST EQUIPMENT LIST

Test Equipment Used					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
EMI Test Receiver	ROHDE & SCHWARZ	ESIB26	A2642021	2015-12	2016-12
V ISLN	ROHDE & SCHWARZ	ESH2-Z5	C2322001	2016-05	2017-05
Pulse limiter	ROHDE & SCHWARZ	ESH3-Z2	A2649008	2016-03	2017-03
Cable	-	-	A5329417	2016-10	2017-10
Cable	-	-	A5329589	2016-10	2017-10
Ground plane	LCIE	-	-	-	-

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:

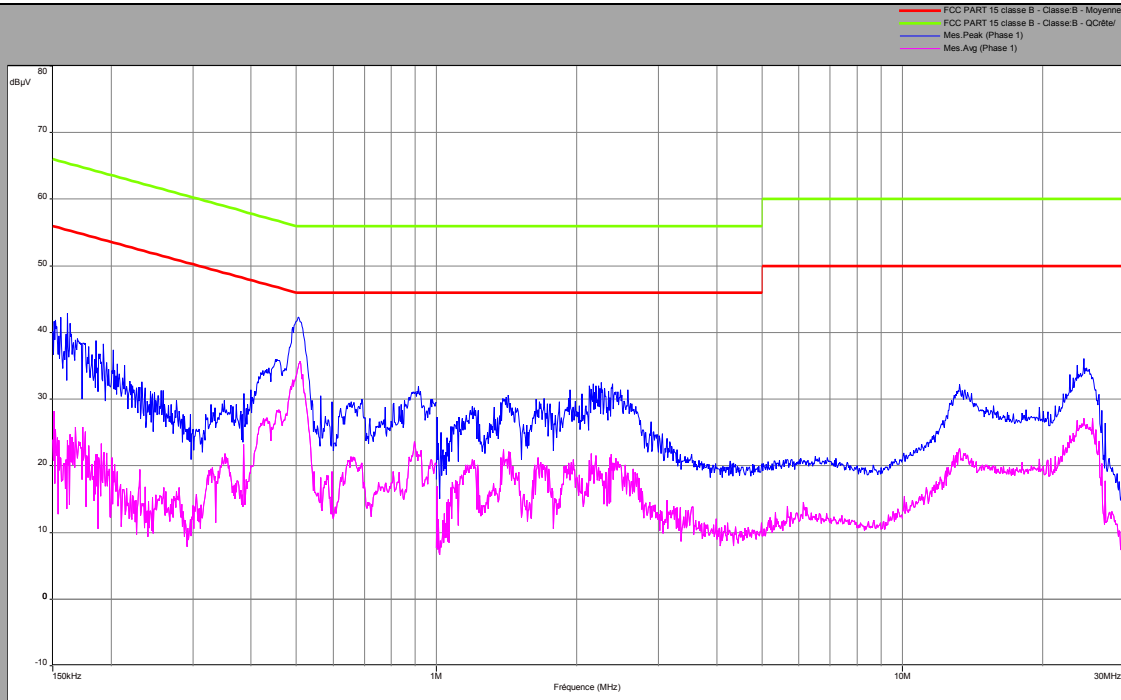
10.6. RESULTS

Power supply n°1 (MSA-Z3800IC12.0-48W-P)

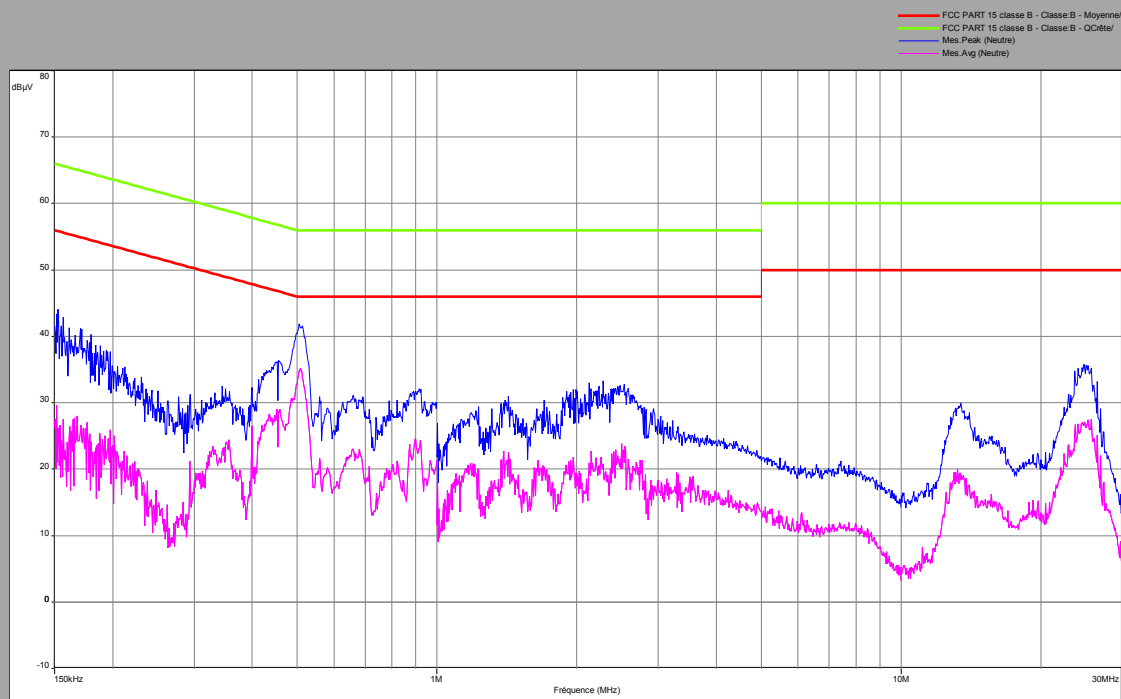
802.11b

Cnom

Phase



Line





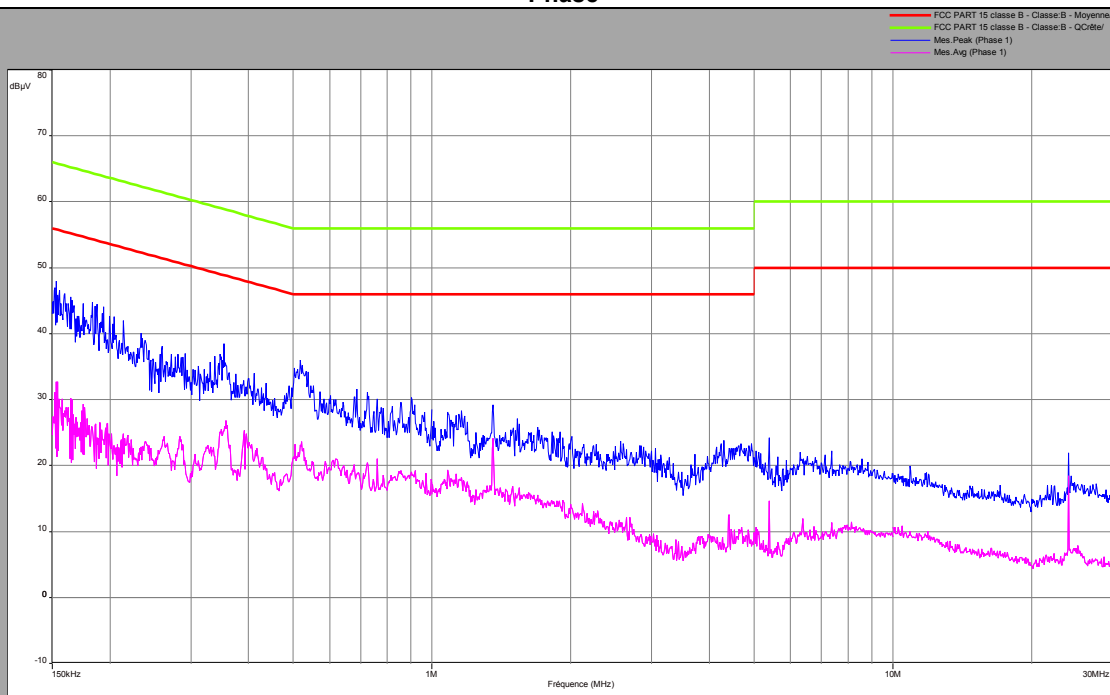
L C I E

Phase Line							
Frequency (MHz)	Peak Level (dB μ V)	Quasi-Peak Level (dB μ V)	Quasi-Peak Limit (dB μ V)	Margin Quasi-peak limit	Average Level (dB μ V)	Average Limit (dB μ V)	Margin Average Limit
0,161	42,8	-	64,5	21,7	28,2	54,5	26,3
0,505	42,3	-	62,4	20,1	35,7	52,4	16,7
2,376	31,7	-	56	24,3	21,7	46	24,3
13,26	32,2	-	60	27,8	22,6	50	27,4
24,54	36	-	60	24	26,9	50	23,1

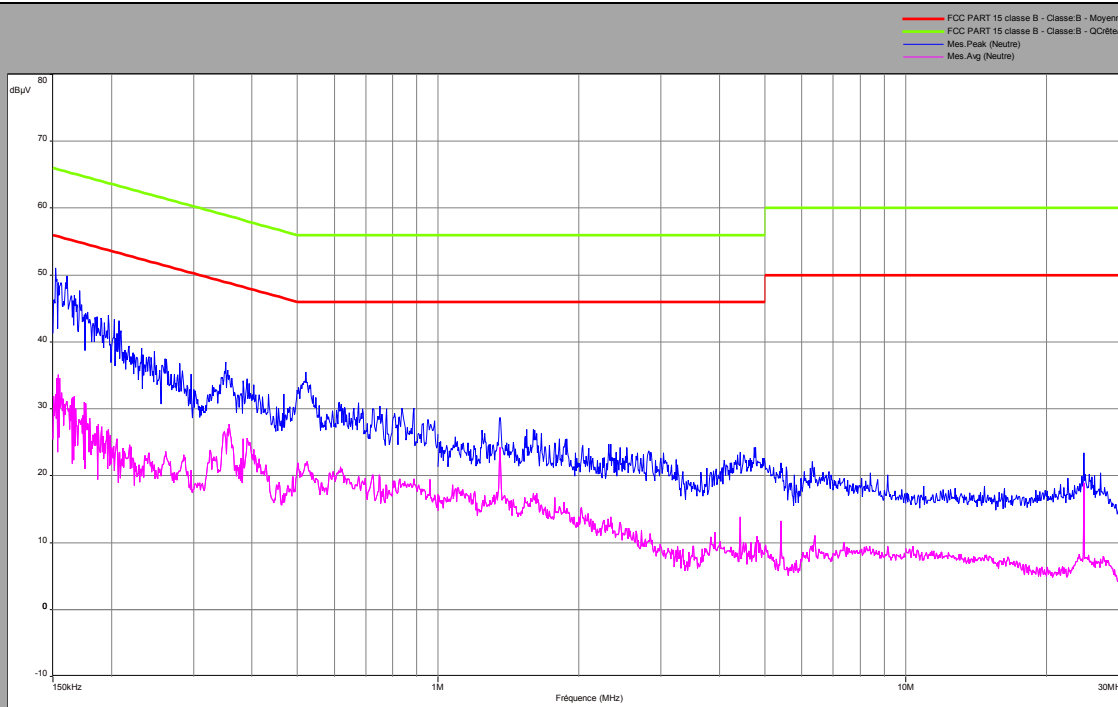
Neutral Line							
Frequency (MHz)	Peak Level (dB μ V)	Quasi-Peak Level (dB μ V)	Quasi-Peak Limit (dB μ V)	Margin Quasi-peak limit	Average Level (dB μ V)	Average Limit (dB μ V)	Margin Average Limit
0,152	44	-	65,8	21,8	29,6	55,8	26,2
0,511	41,3	-	61,4	20,1	35,3	51,4	16,1
2,282	33,3	-	56	22,7	21,8	46	24,2
13,312	29,5	-	60	30,5	20	50	30
25,572	35,3	-	60	24,7	27	50	23

Power supply n°2 (NBS24C120380M2)

802.11b
Channel
Phase



Line





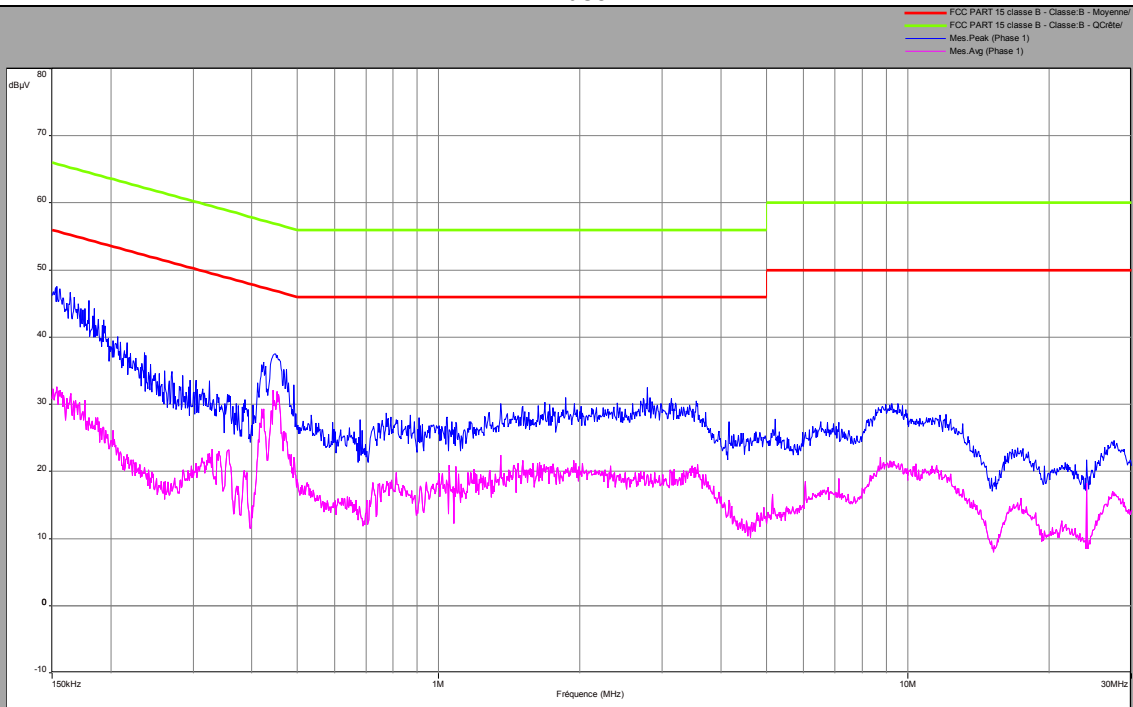
L C I E

Phase Line							
Frequency (MHz)	Peak Level (dB μ V)	Quasi-Peak Level (dB μ V)	Quasi-Peak Limit (dB μ V)	Margin Quasi-peak limit	Average Level (dB μ V)	Average Limit (dB μ V)	Margin Average Limit
0,153	48	-	65,8	17,8	32,7	55,8	23,1
0,517	36	-	56	20	26,3	46	19,7
1,356	29,2	-	56	26,8	24,2	46	21,8
5,396	24,2	-	60	35,8	14,4	50	35,6
24	22	-	60	38	18,5	50	31,5

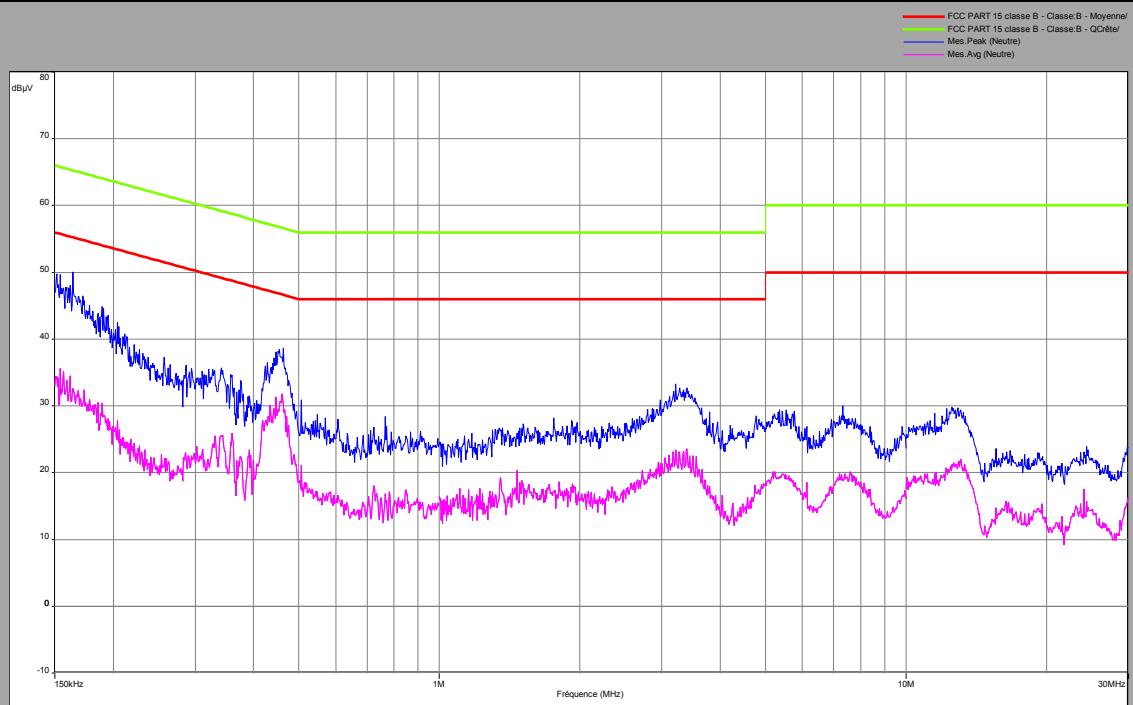
Neutral Line							
Frequency (MHz)	Peak Level (dB μ V)	Quasi-Peak Level (dB μ V)	Quasi-Peak Limit (dB μ V)	Margin Quasi-peak limit	Average Level (dB μ V)	Average Limit (dB μ V)	Margin Average Limit
0,152	51	-	65,9	14,9	35	55,9	20,9
0,521	35,4	-	56	20,6	22,2	46	23,8
1,358	28,6	-	56	27,4	24,2	46	21,8
6,39	21,2	-	60	38,8	11	50	39
24	23,4	-	60	36,6	19	50	31

Power supply n°3 (LPL-C046120380ZS)

802.11b
Channel
Phase



Line



Phase Line							
Frequency (MHz)	Peak Level (dBµV)	Quasi-Peak Level (dBµV)	Quasi-Peak Limit (dBµV)	Margin Quasi-peak limit	Average Level (dBµV)	Average Limit (dBµV)	Margin Average Limit
0,156	47,2	-	65,6	18,4	32,6	55,6	23
0,447	37,5	-	56,9	19,4	32,2	46,9	14,7
2,786	32,5	-	56	23,5	19,5	46	26,5
8,748	30	-	60	30	22,1	50	27,9
24	21,5	-	60	38,5	18,3	50	31,7

Neutral Line							
Frequency (MHz)	Peak Level (dBµV)	Quasi-Peak Level (dBµV)	Quasi-Peak Limit (dBµV)	Margin Quasi-peak limit	Average Level (dBµV)	Average Limit (dBµV)	Margin Average Limit
0,164	51	-	65,3	14,3	34,5	55,3	20,8
0,462	38,7	-	56,6	17,9	31,8	46,6	14,8
3,208	33,3	-	56	22,7	23,5	46	22,5
7,318	30	-	60	30	20	50	30
12,572	30	-	60	30	22	50	28

10.7. CONCLUSION

Ac Power Line Conducted Emission measurement performed on the sample of the product **SAGEMCOM** MiniBox (253697290), SN: **616476080862**, in configuration and description presented in this test report, show levels **compliant** to the 47 CFR PART 15.247 limits.

11. UNWANTED EMISSIONS IN RESTRICTED FREQUENCY BANDS

11.1. TEST CONDITIONS

Test performed by : Laurent DENEUX
Date of test : December 5, 2016 to December 9, 2016
Ambient temperature : 18°C
Relative humidity : 46%

11.2. TEST SETUP

The product has been tested according to ANSI C63.10 (2013). The EUT is placed **on an open area test site**. Distance between measuring antenna and the EUT is **10m**. 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 Emissions



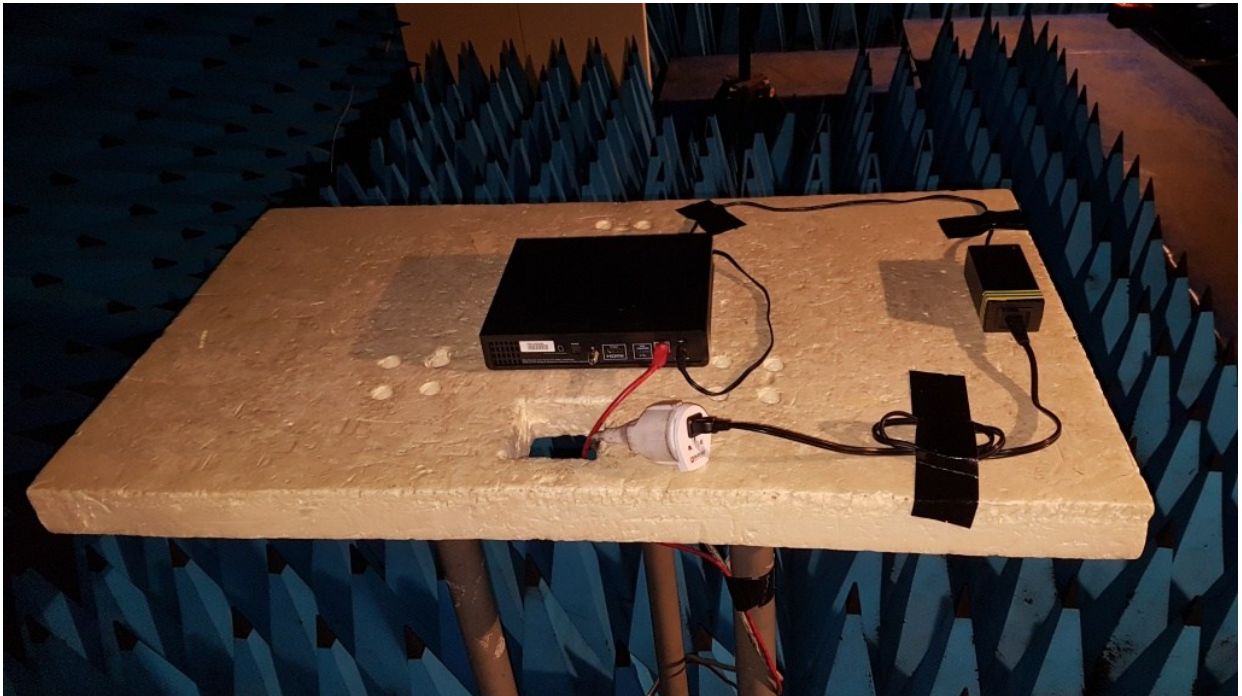
L C I E



Photograph for Unwanted Emissions



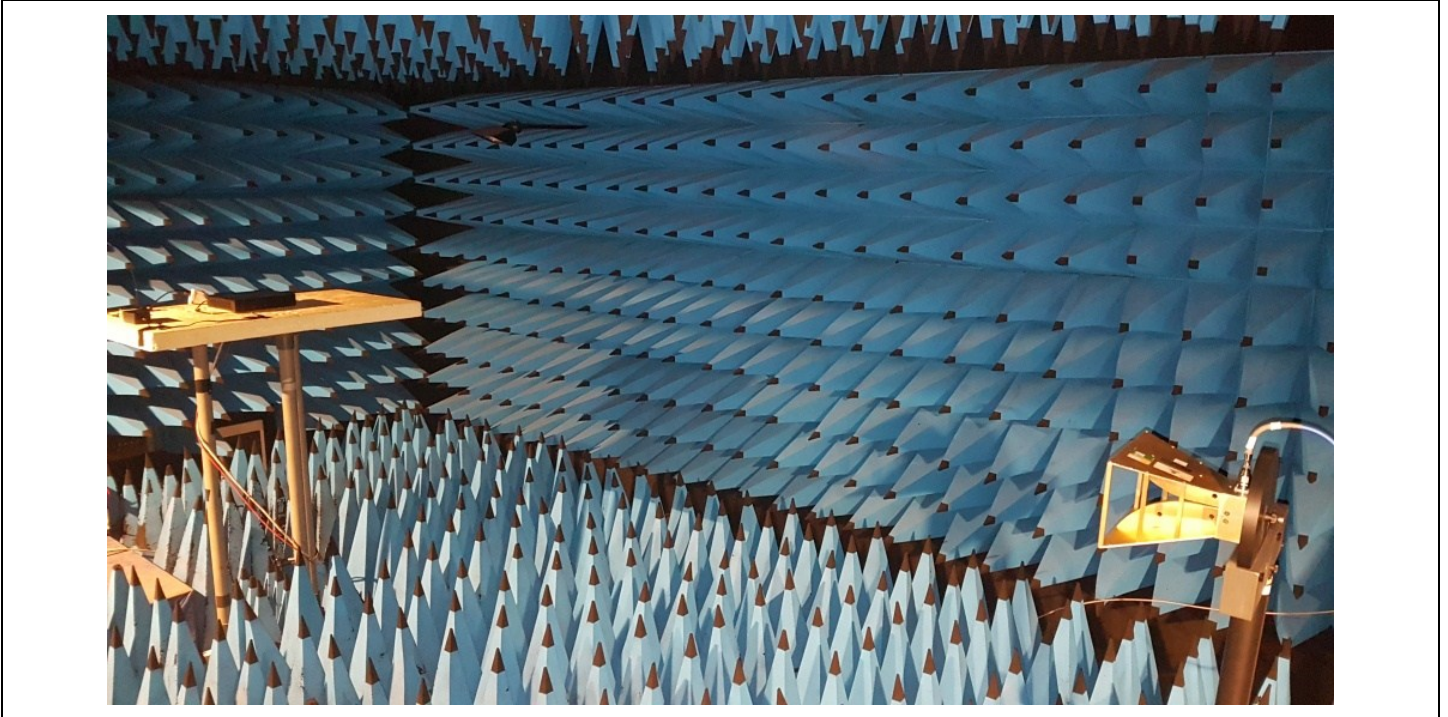
Photograph for Unwanted Emissions



Photograph for Unwanted Emissions



L C I E



Photograph for Unwanted Emissions

11.3. LIMIT

Limit at 3m:

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

Limit at 10m:

30MHz to 88MHz: 29.5dB μ V/m QPeak
 88MHz to 216MHz: 33dB μ V/m QPeak
 216MHz to 960MHz: 35.5dB μ V/m QPeak
 960MHz to 1000MHz: 43.5dB μ V/m QPeak
 Above 1000MHz: 63.5B μ V/m Peak
 43.5B μ V/m Average

11.4. TEST EQUIPMENT LIST

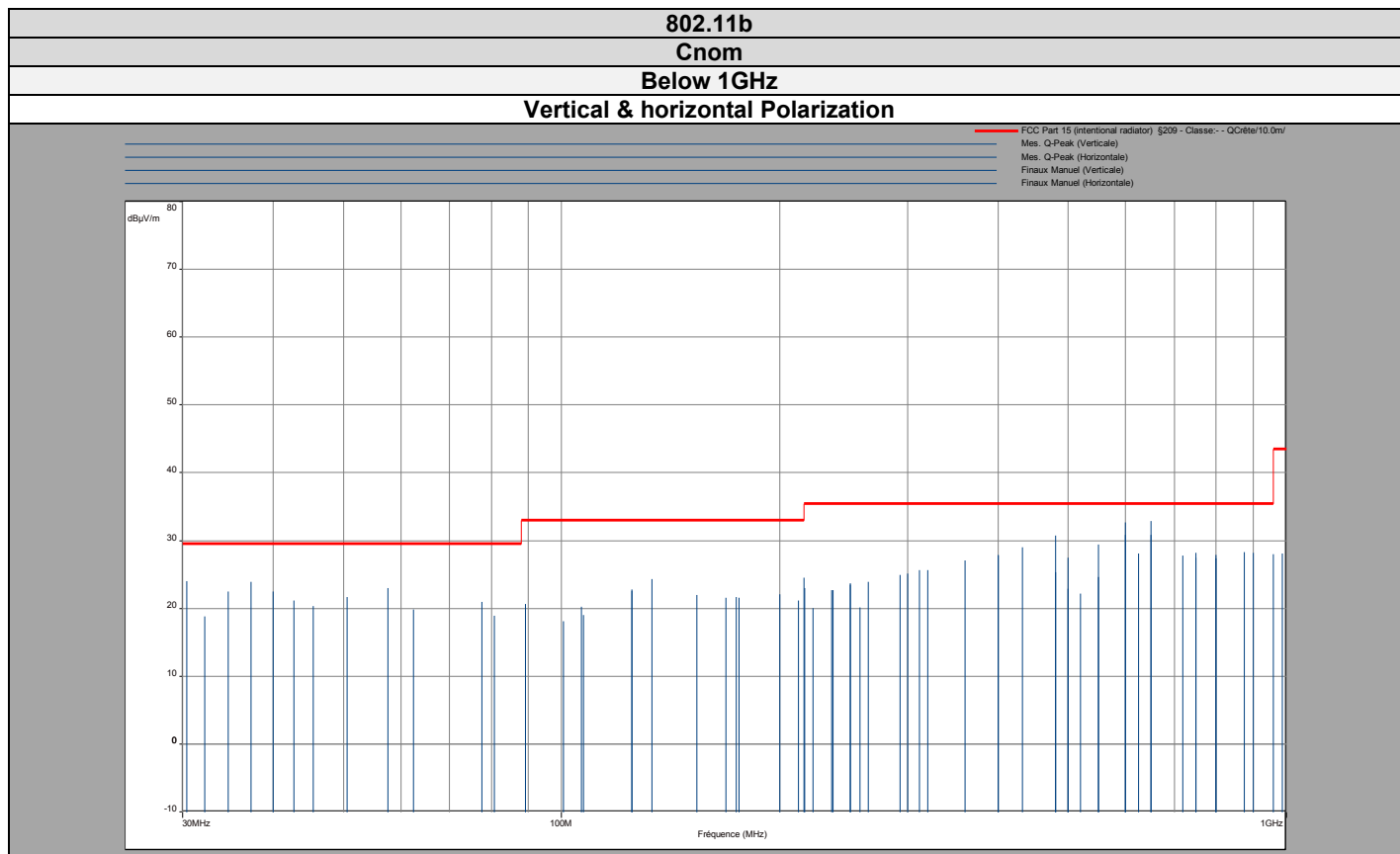
Apparatus	Trade Mark	Type	Registration number	Cal. Date	Cal. Due
Open test site	LCIE	-	F2000400	2016-05	2017-05
EMI Test Receiver	ROHDE & SCHWARZ	ESIB26	A2642021	2015-12	2016-12
Preamplifier	HELWETT PACKARD	8449B	A7080071	2016-01	2017-01
Bilog antenna	CHASE	CBL 6112A	C2040040	2016-01	2017-01
Loop antenna	RHODE & SCHWARZ	HFH2-Z2	C2040007	2016-11	2017-11
Horn	ETS	3115	C2042023	2016-01	2017-01
Measurement horn antenna 18-26,5GHz	PASTERNAK	PE9852/2F-20	C2042048	2015/05	2017/05
Cable	-	-	A5329542	2016-03	2017-03
Cable	-	-	A5329449	2016-10	2017-10
Cable	-	-	A5329368	2016-05	2017-05
Cable	-	-	A5329444	2016-10	2017-10
Preamplifier	LCIE; LCIE	LCIE-ALB-001	A7080073	2016/08	2017/08
EMI receiver	ROHDE & SCHWARZ	ESI40 1088 740K40	A2642010	2016/07	2017/07
Measurement RF cable	Télédyne	Cordon 082- 5454-1.5mtr	A5329624	2016/08	2018/08
Measurement RF cable	-	082-0404-1MTR	A5329625	2016/08	2018/08
Measurement RF cable	-; Télédyne	082-0454-3MTR	A5329626	2016/08	2018/08
Full anechoic chamber	SIEPEL	-	D3044019	2013/05	2017/05
Horn antenna	AH SYSTEMS	SAS 571	C2042041	2016/04	2017/04
Programmable AC/DC power supply	-; KIKUSUI	PCR500M	A7040079	2016/06	2018/06

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

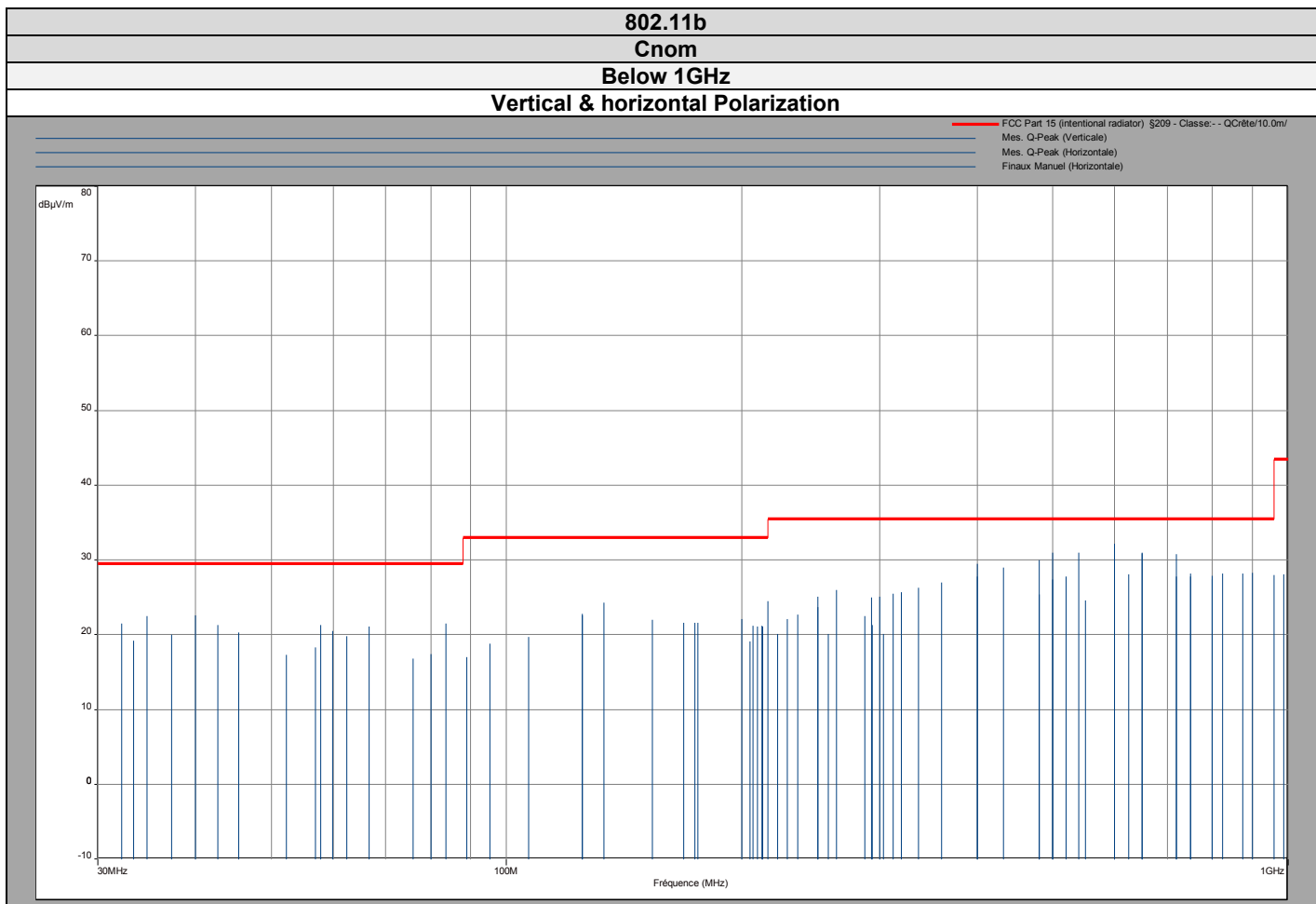
11.5. DIVERGENCE, ADDITION OR SUPPRESSION ON THE TEST SPECIFICATION

None Divergence:

11.6. RESULTS



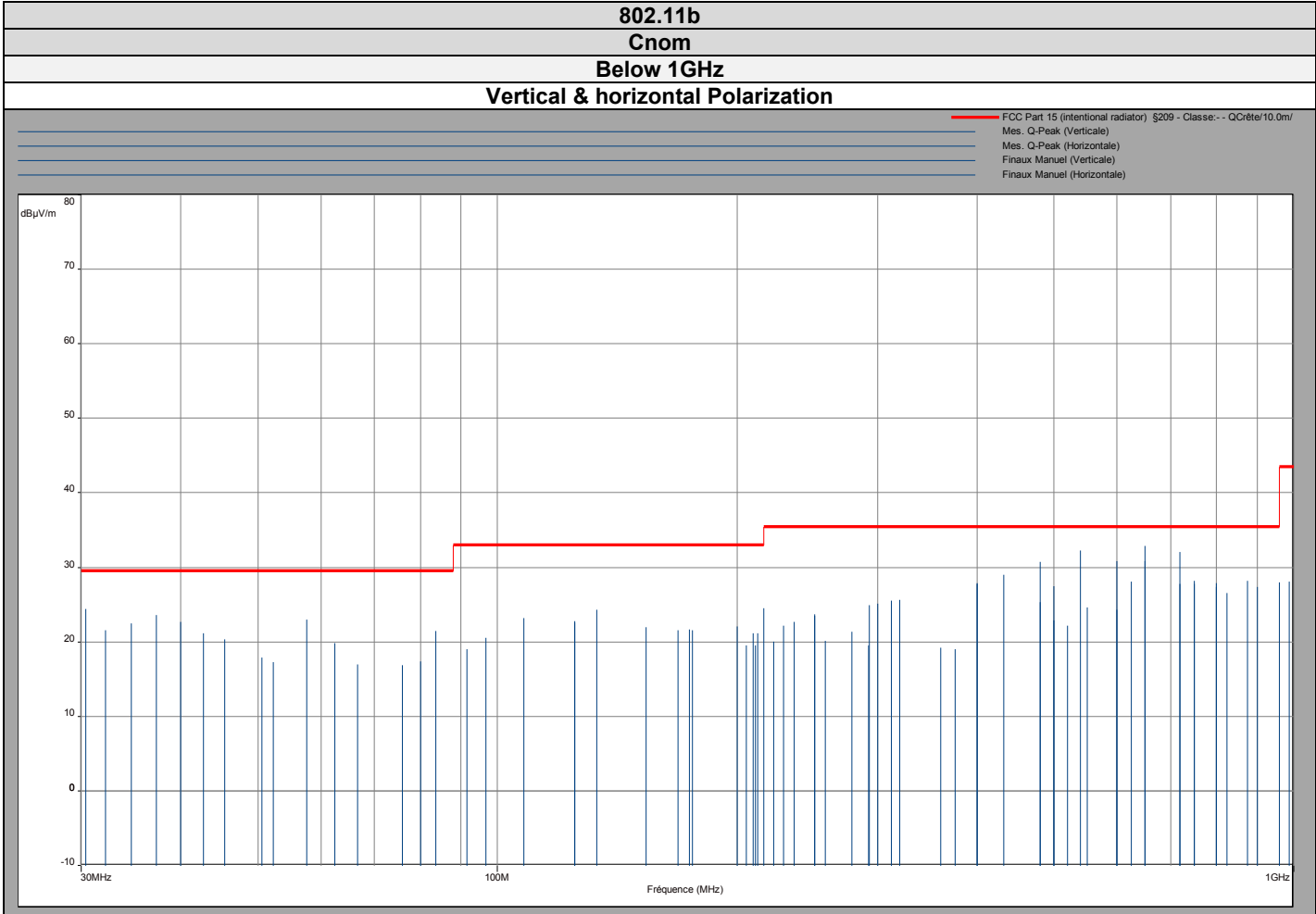
Power supply n°1 MSA-Z3800IC12.0-48W-P



Power supply n°2 NBS24C120380M2



L C I E



Power supply n°3 LPL-C046120380ZS



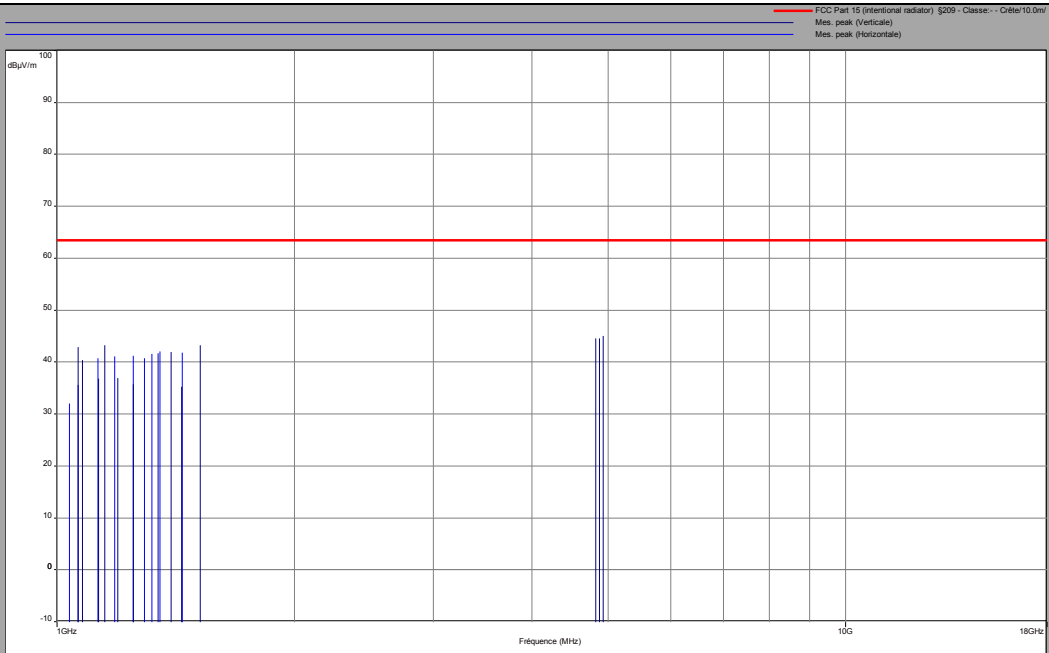
L C I E

802.11b

Cmin/Cnom/Cmax

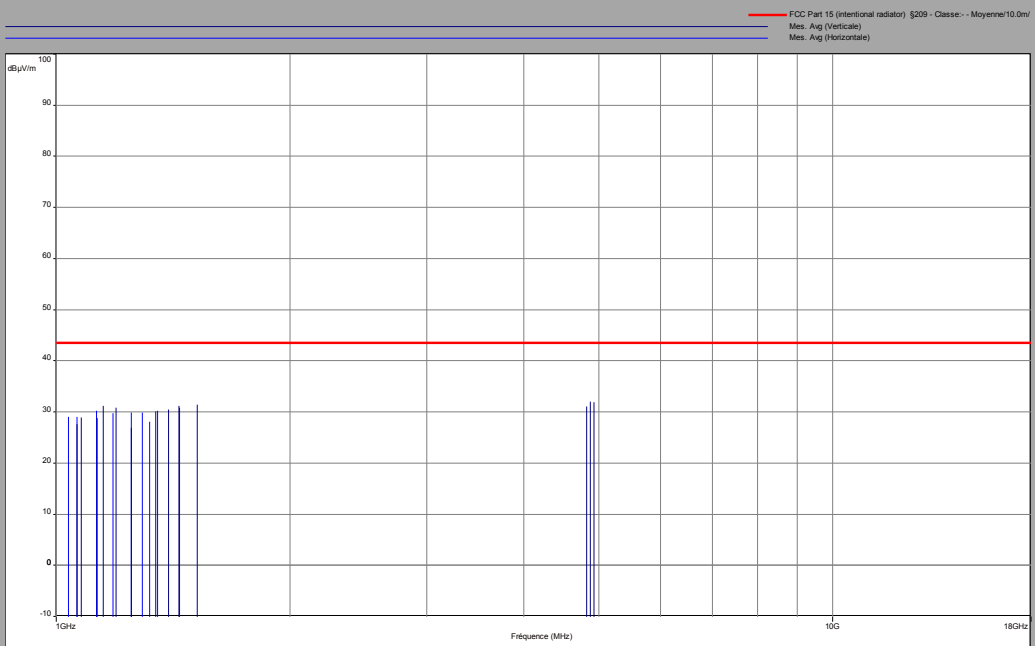
Above 1GHz

Vertical Polarization



No interference has been observed between 18GHz and 26GHz

Horizontal polarization



No interference has been observed between 18GHz and 26GHz



L C I E

802.11b

Cmin/Cnom/Cmax

Zoom 2310MHz-2500MHz

Vertical Polarization

Description Sous-bande 2

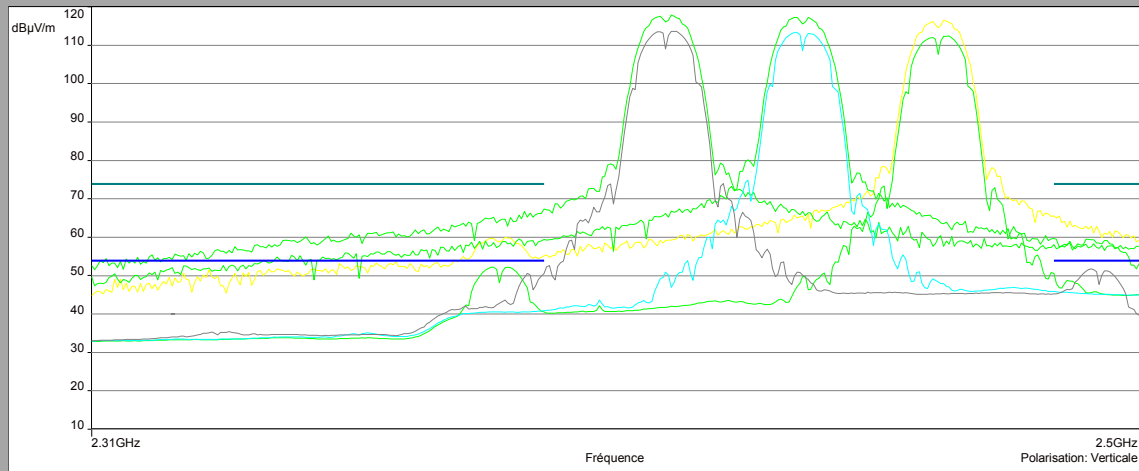
Fréquences: 2.31 GHz - 2.5 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage: 50 ms/Pts, Atténuation: 263632320, Nombre de Balayages: 1, Preamp: On: 20 dB, LN Preamp: Off, Preamp: 20 dB

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/
- BAND EDGE 2400MHz-2483.5MHz Cmin - Mes.Avg (167) (Verticale)
- BAND EDGE 2400MHz-2483.5MHz Cnom - Mes.Avg (168) (Verticale)
- BAND EDGE 2400MHz-2483.5MHz Cmax - Mes.Peak (168) (Verticale)
- BAND EDGE 2400MHz-2483.5MHz Cmax - Mes.Avg (169) (Verticale)
- BAND EDGE 2400MHz-2483.5MHz Cmin - Mes.Peak (167) (Verticale)
- BAND EDGE 2400MHz-2483.5MHz Cmax - Mes.Peak (169) (Verticale)



Horizontal polarization

Description Sous-bande 1

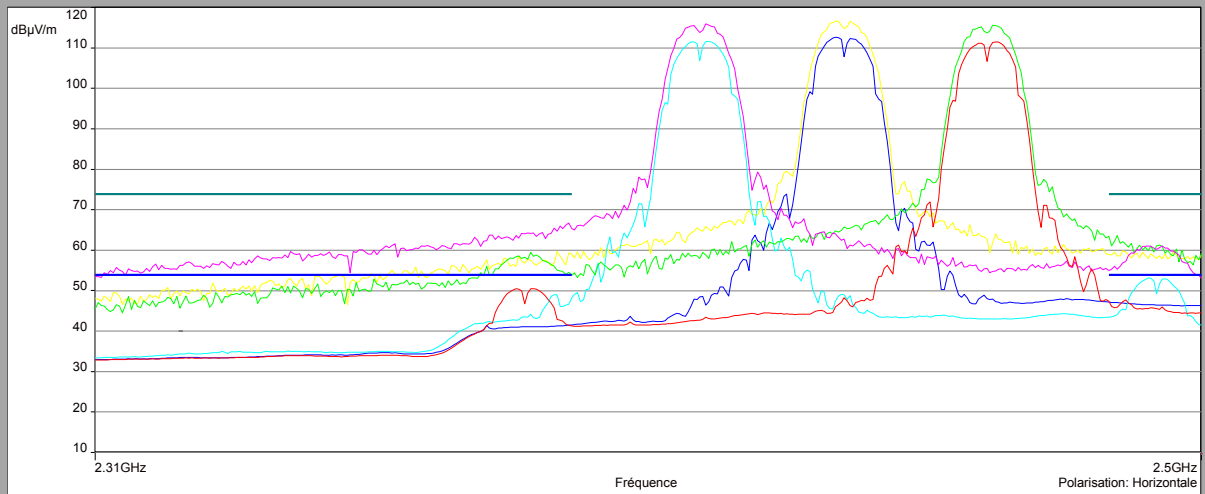
Fréquences: 2.31 GHz - 2.5 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage: 50 ms/Pts, Atténuation: 263632384, Nombre de Balayages: 1, Preamp: On: 20 dB, LN Preamp: Off, Preamp: 20 dB

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/
- BAND EDGE 2400MHz-2483.5MHz Cmax - Mes.Avg (169) (Horizontale)
- BAND EDGE 2400MHz-2483.5MHz Cmin - Mes.Peak (167) (Horizontale)
- BAND EDGE 2400MHz-2483.5MHz Cmax - Mes.Peak (169) (Horizontale)
- BAND EDGE 2400MHz-2483.5MHz Cmin - Mes.Avg (167) (Horizontale)
- BAND EDGE 2400MHz-2483.5MHz Cnom - Mes.Avg (168) (Horizontale)
- BAND EDGE 2400MHz-2483.5MHz Cnom - Mes.Peak (168) (Horizontale)





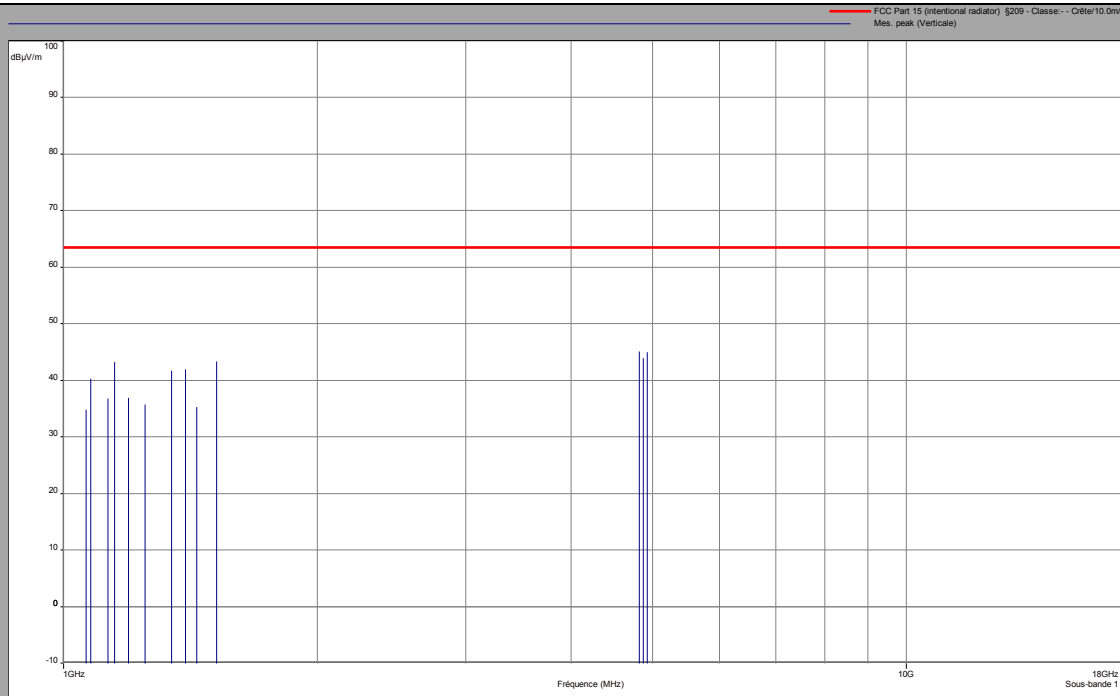
L C I E

802.11g

Cmin/Cnom/Cmax

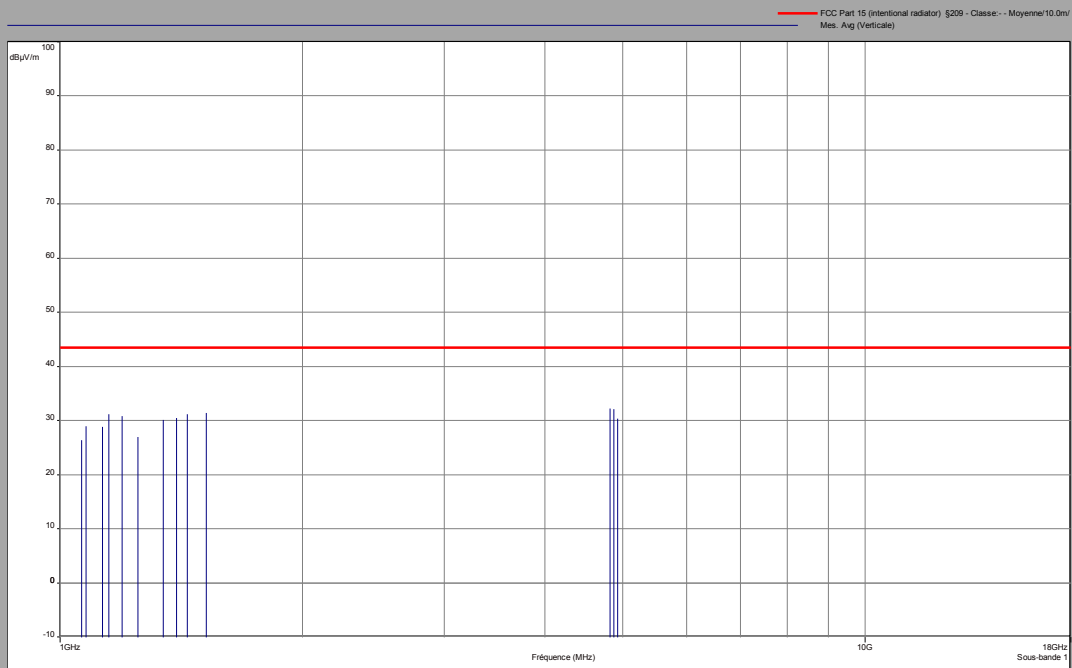
Above 1GHz

Vertical Polarization



No interference has been observed between 18GHz and 26GHz

Horizontal polarization



No interference has been observed between 18GHz and 26GHz



L C I E

802.11g

Cmin/Cnom/Cmax

Zoom 2310MHz-2500MHz

Vertical Polarization

Description Sous-bande 2

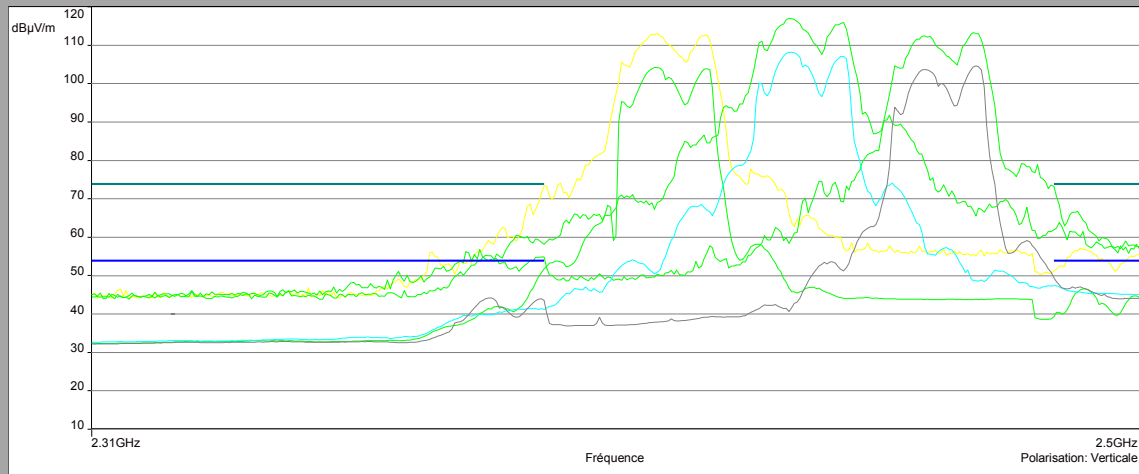
Fréquences: 2.31 GHz - 2.5 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage : 50 ms/Pts, Atténuation : 58167312, Nombre de Balayages : 1, Preamp : On: 20 dB, LN Preamp: Off, Crête: 3.0m/

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/
- BAND EDGE 2400MHz-2483.5MHz Cmax - Mes.Avg (172) (Verticale)
- BAND EDGE 2400MHz-2483.5MHz Cnom - Mes.Avg (174) (Verticale)
- BAND EDGE 2400MHz-2483.5MHz Cmin - Mes.Peak (174) (Verticale)
- BAND EDGE 2400MHz-2483.5MHz Cmin - Mes.Avg (177) (Verticale)
- BAND EDGE 2400MHz-2483.5MHz Cmax - Mes.Peak (172) (Verticale)
- BAND EDGE 2400MHz-2483.5MHz Cmin - Mes.Peak (177) (Verticale)



Horizontal polarization

Description Sous-bande 1

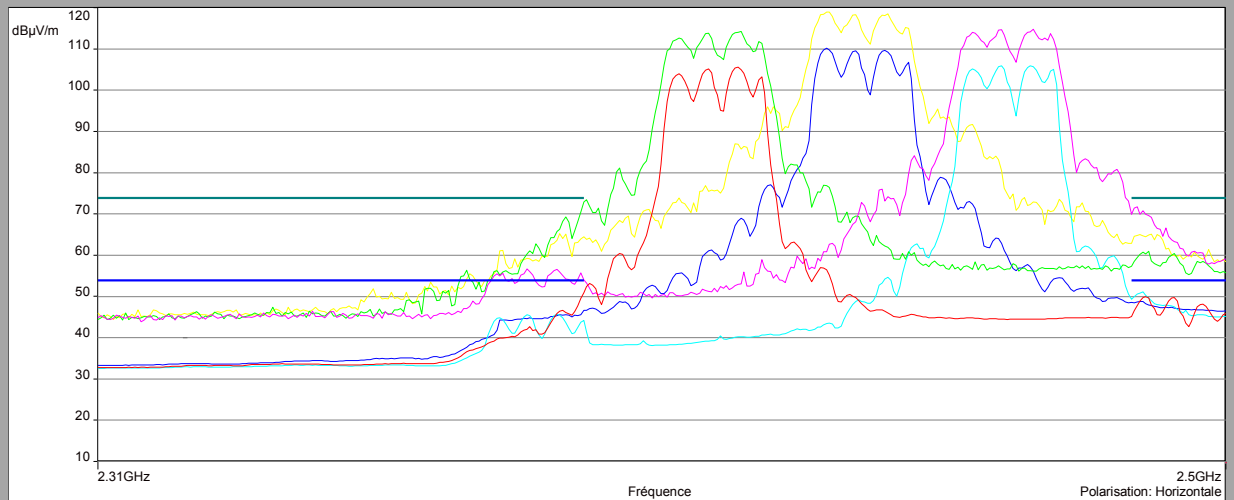
Fréquences: 2.31 GHz - 2.5 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage : 50 ms/Pts, Atténuation : 58167312, Nombre de Balayages : 1, Preamp : On: 20 dB, LN Preamp: Off, Crête: 3.0m/

Polarisation: Horizontale

Distance: 3 m

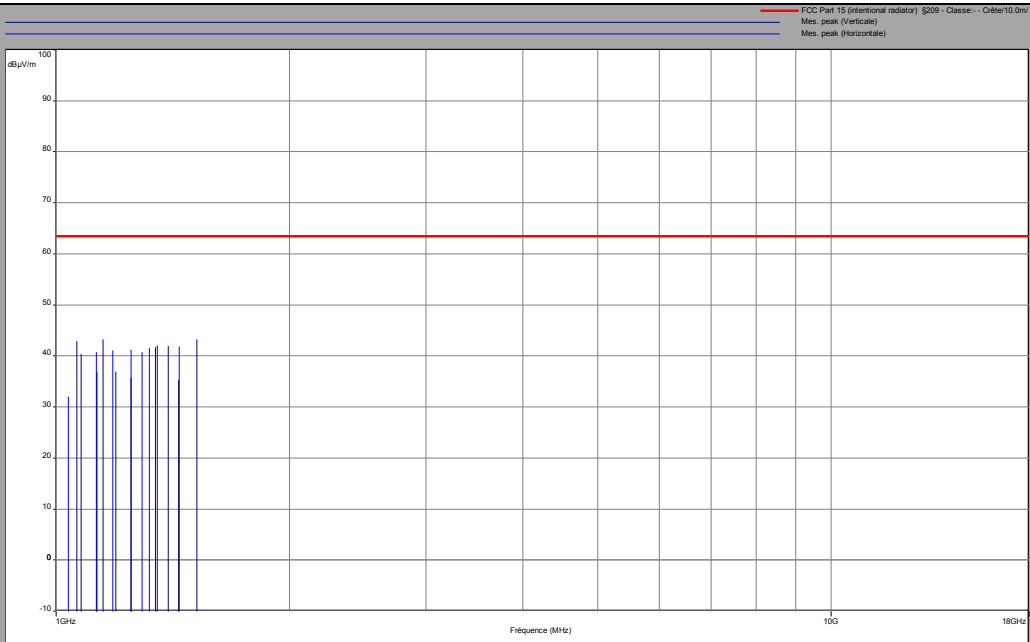
- FCC/FCC 15.209 2400MHz-2483MHz Band - Classe:1 - Moyenne/3.0m/
- FCC/FCC 15.209 2400MHz-2483MHz Band - Classe:1 - QCrête/3.0m/
- FCC/FCC 15.209 2400MHz-2483MHz Band - Classe:1 - Crête/3.0m/
- BAND EDGE 2400MHz-2483.5MHz Cmin - Mes.Avg (177) (Horizontale)
- BAND EDGE 2400MHz-2483.5MHz Cmax - Mes.Peak (172) (Horizontale)
- BAND EDGE 2400MHz-2483.5MHz Cmin - Mes.Peak (177) (Horizontale)
- BAND EDGE 2400MHz-2483.5MHz Cmax - Mes.Avg (172) (Horizontale)
- BAND EDGE 2400MHz-2483.5MHz Cnom - Mes.Avg (174) (Horizontale)
- BAND EDGE 2400MHz-2483.5MHz Cnom - Mes.Peak (174) (Horizontale)



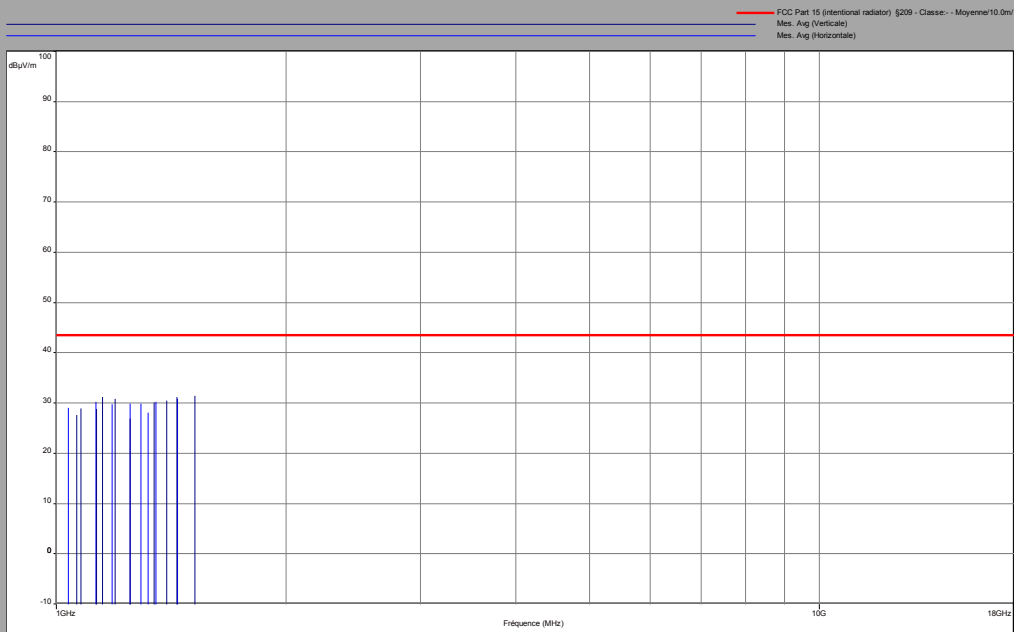


L C I E

802.11n HT20
Cmin/Cnom/Cmax
Above 1GHz
Vertical Polarization



No interference has been observed between 18GHz and 26GHz
Horizontal polarization



No interference has been observed between 18GHz and 26GHz



L C I E

802.11n HT20

Cmin/Cnom/Cmax

Zoom 2310MHz-2500MHz

Vertical Polarization

Description Sous-bande 1

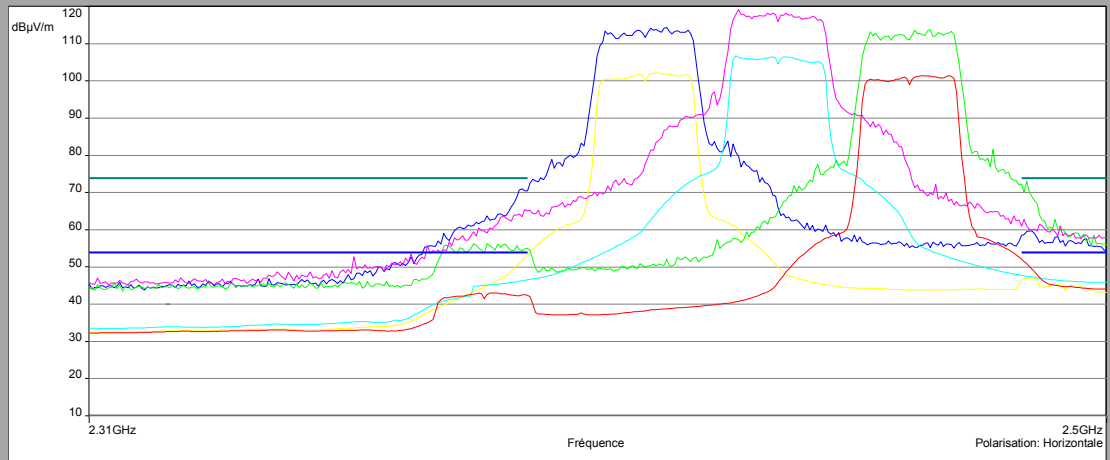
Fréquences: 2.31 GHz - 2.5 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage: 50 ms/Pts, Atténuation: 265815224, Nombre de Balayages: 1, Preamp: On: 20 dB, LN Preamp: Off, Crête/3.0m/

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/
- BAND EDGE 2400MHz-2483.5MHz Cmax Mes.Avg (152) (Horizontale)
- BAND EDGE 2400MHz-2483.5MHz Cnom - Mes.Peak (84) (Horizontale)
- BAND EDGE 2400MHz-2483.5MHz Cmax - Mes.Peak (152) (Horizontale)
- BAND EDGE 2400MHz-2483.5MHz Cnom - Mes.Avg (84) (Horizontale)
- BAND EDGE 2400MHz-2483.5MHz Cmin - Mes.Peak (151) (Horizontale)
- BAND EDGE 2400MHz-2483.5MHz Cmin - Mes.Avg (151) (Horizontale)



Horizontal polarization

Description Sous-bande 2

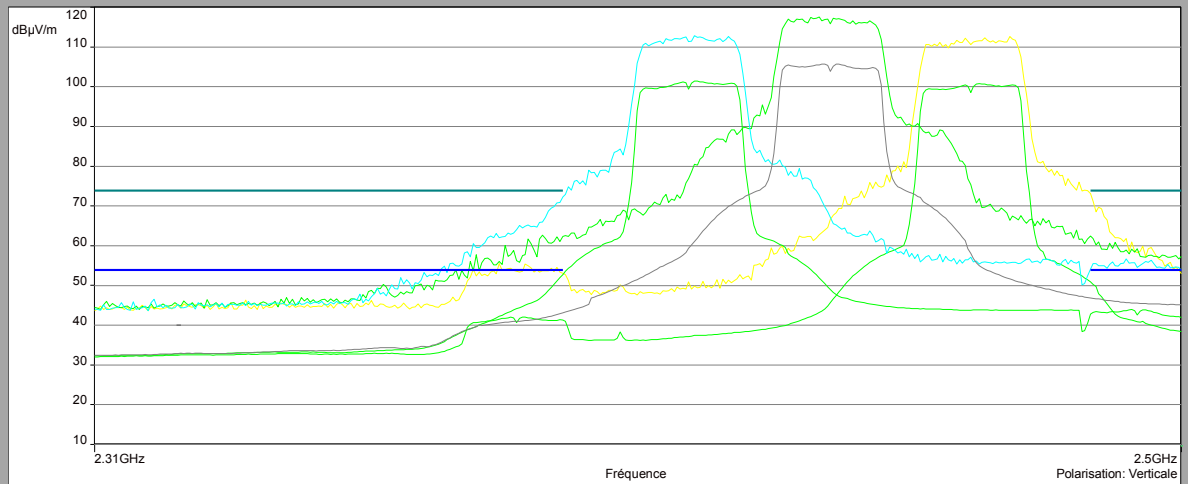
Fréquences: 2.31 GHz - 2.5 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage: 50 ms/Pts, Atténuation: 265815160, Nombre de Balayages: 1, Preamp: On: 20 dB, LN Preamp: Off, Crête/3.0m/

Polarisation: Verticale

Distance: 3 m

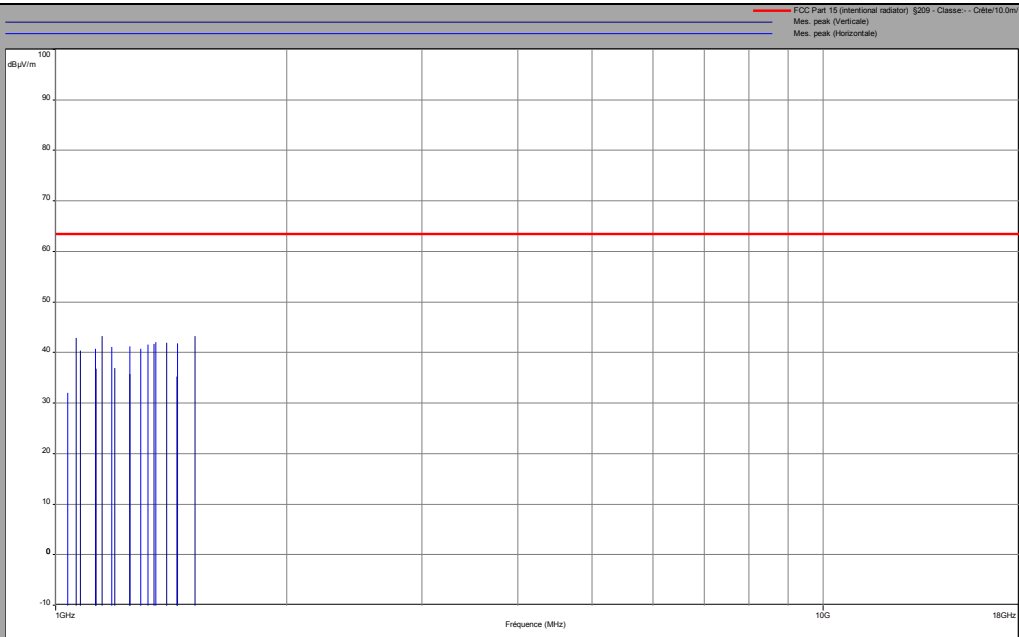
- FCC/FCC 15.209 2400MHz-2483MHz Band - Classe:1 - Moyenne/3.0m/
- FCC/FCC 15.209 2400MHz-2483MHz Band - Classe:1 - QCrête/3.0m/
- FCC/FCC 15.209 2400MHz-2483MHz Band - Classe:1 - Crête/3.0m/
- BAND EDGE 2400MHz-2483.5MHz Cnom - Mes.Avg (84) (Verticale)
- BAND EDGE 2400MHz-2483.5MHz Cmin - Mes.Peak (151) (Verticale)
- BAND EDGE 2400MHz-2483.5MHz Cmin - Mes.Avg (151) (Verticale)
- BAND EDGE 2400MHz-2483.5MHz Cmax - Mes.Avg (152) (Verticale)
- BAND EDGE 2400MHz-2483.5MHz Cnom - Mes.Peak (84) (Verticale)
- BAND EDGE 2400MHz-2483.5MHz Cmax - Mes.Peak (152) (Verticale)





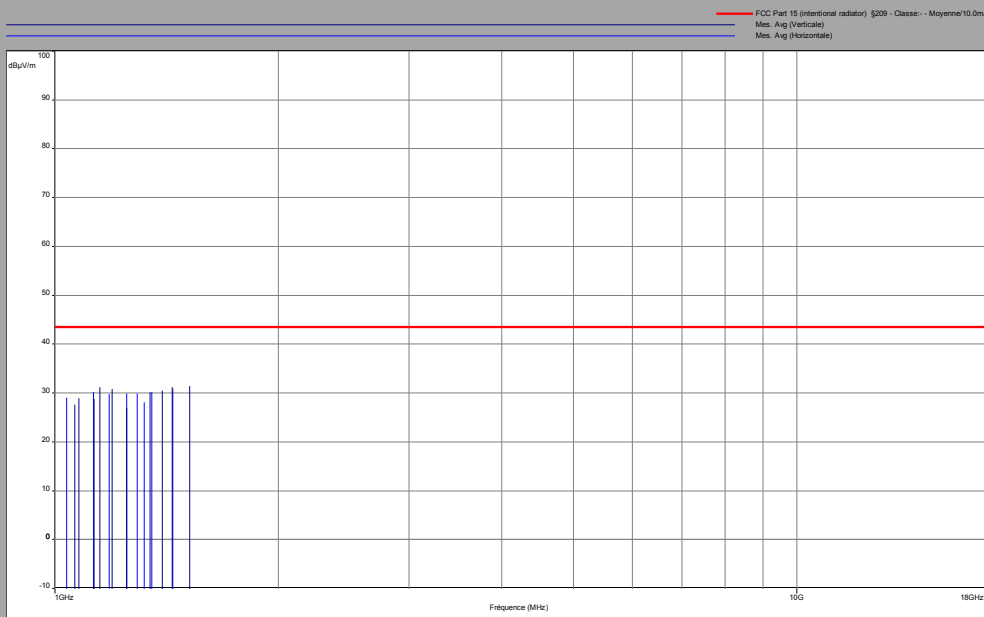
L C I E

802.11n HT40
Cmin/Cnom/Cmax
Above 1GHz
Vertical Polarization



No interference has been observed between 18GHz and 26GHz

Horizontal polarization



No interference has been observed between 18GHz and 26GHz



L C I E

802.11n HT40

Cmin/Cnom/Cmax

Zoom 2310MHz-2500MHz

Vertical Polarization

Description Sous-bande 2

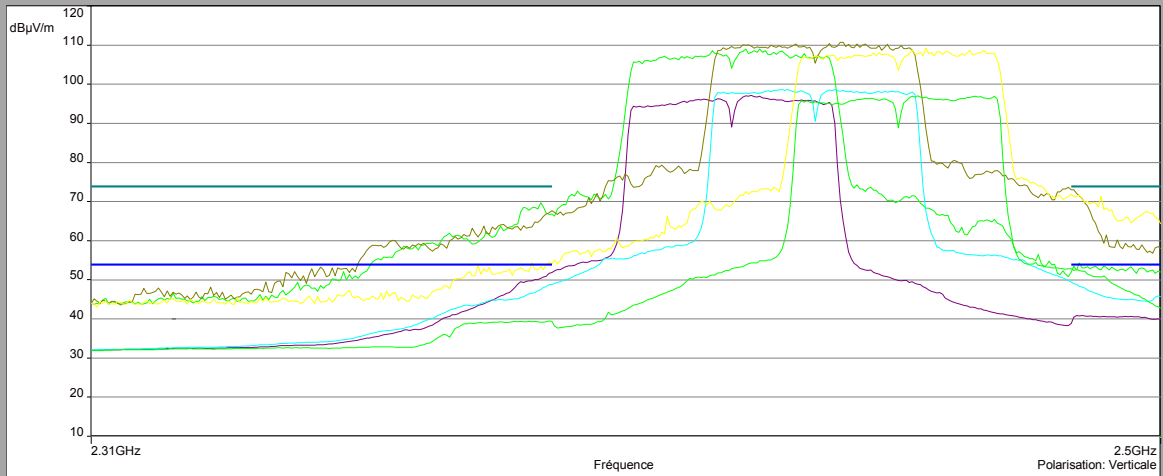
Fréquences: 2.31 GHz - 2.5 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage : 50 ms/Pts, Atténuation : 264389608, Nombre de Balayages : 1, Preamp : On: 20 dB, LN Preamp: Off, Preset: B100

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/
- BAND EDGE 2400MHz-2483.5MHz Cmax - Mes.Avg (155) (Verticale)
- BAND EDGE 2400MHz-2483.5MHz Cmax - Mes.Peak (155) (Verticale)
- BAND EDGE 2400MHz-2483.5MHz Cnom - Mes.Avg (154) (Verticale)
- BAND EDGE 2400MHz-2483.5MHz Cnom - Mes.Peak (154) (Verticale)
- BAND EDGE 2400MHz-2483.5MHz Cmin - Mes.Avg (153) (Verticale)
- BAND EDGE 2400MHz-2483.5MHz Cmin - Mes.Peak (153) (Verticale)



Horizontal polarization

Description Sous-bande 1

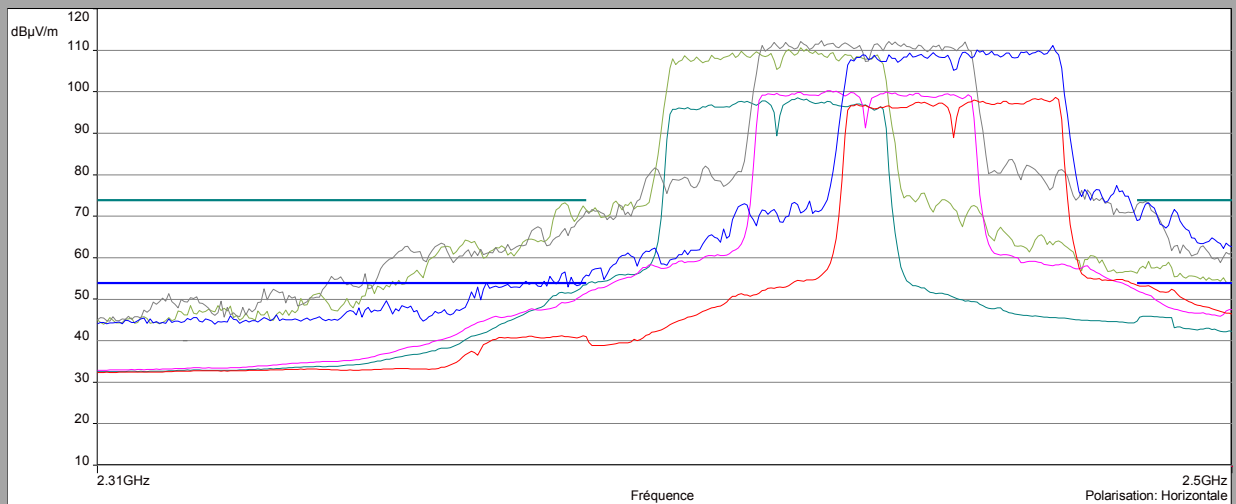
Fréquences: 2.31 GHz - 2.5 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage : 50 ms/Pts, Atténuation : 264389608, Nombre de Balayages : 1, Preamp : On: 20 dB, LN Preamp: Off, Preset: B100

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/
- BAND EDGE 2400MHz-2483.5MHz Cmax - Mes.Avg (155) (Horizontale)
- BAND EDGE 2400MHz-2483.5MHz Cmax - Mes.Peak (155) (Horizontale)
- BAND EDGE 2400MHz-2483.5MHz Cnom - Mes.Avg (154) (Horizontale)
- BAND EDGE 2400MHz-2483.5MHz Cnom - Mes.Peak (154) (Horizontale)
- BAND EDGE 2400MHz-2483.5MHz Cmin - Mes.Avg (153) (Horizontale)
- BAND EDGE 2400MHz-2483.5MHz Cmin - Mes.Peak (153) (Horizontale)





L C I E

Below 1GHz

Power supply n°1 MSA-Z3800IC12.0-48W-P

Polarisation	Frequency (MHz)	level Quasi peak (dB μ V/m)	limit FCC	Margin
vertical	31.8	24.49	29.5	5.01
vertical	33.8	21.51	29.5	7.99
vertical	37.3	23.92	29.5	5.58
vertical	40	19.73	29.5	9.77
vertical	43.8	19.59	29.5	9.91
vertical	48	21.46	29.5	8.04
vertical	50.1	24.89	29.5	4.61
vertical	51.6	23.11	29.5	6.39
vertical	52.9	25.65	29.5	3.85
vertical	55.3	20.02	29.5	9.48
vertical	56.7	27.25	29.5	2.25
vertical	57.9	26.44	29.5	3.06
vertical	58.8	18.07	29.5	11.43
vertical	60.1	22.01	29.5	7.49
vertical	61.6	25.08	29.5	4.42
vertical	63.5	22.65	29.5	6.85
vertical	67.6	24.6	29.5	4.9
vertical	69.7	24.68	29.5	4.82
vertical	72	20.44	29.5	9.06
vertical	76.5	19.12	29.5	10.38
vertical	84	23.86	29.5	5.64
vertical	91.5	21.75	33	11.25
vertical	100.3	19.78	33	13.22
vertical	105	22.09	33	10.91
vertical	115	16.23	33	16.77
vertical	120	23.75	33	9.25
vertical	132	23.58	33	9.42
vertical	140	22.18	33	10.82
vertical	144	29.44	33	3.56
vertical	147.5	22.82	33	10.18
vertical	150	20.05	33	12.95
vertical	156	21.69	33	11.31
vertical	160	22.67	33	10.33
vertical	162	23.27	33	9.73
vertical	164	20.08	33	12.92



L C I E

Polarisation	Frequency (MHz)	level Quasi peak (dB μ V/m)	limit FCC	Margin
vertical	168	24	33	9
vertical	180	26.77	33	6.23
vertical	192	19.34	33	13.66
vertical	196	19.08	33	13.92
vertical	550	24.61	35.5	10.89
vertical	600	32.69	35.5	2.81
vertical	625	28.1	35.5	7.4
vertical	650	30.92	35.5	4.58
vertical	750	28.26	35.5	7.24
vertical	800	27.91	35.5	7.59
vertical	900	28.26	35.5	7.24
vertical	960.1	27.97	43.5	15.53
vertical	986.4	28.07	43.5	15.43



L C I E

Polarisation	Frequency (MHz)	level Quasi peak (dB μ V/m)	limit FCC	Margin
Horizontal	125	22.65	33	10.35
Horizontal	133.3	24.3	33	8.7
Horizontal	216.4	23.05	35.5	12.45
Horizontal	236.6	22.73	35.5	12.77
Horizontal	250	23.52	35.5	11.98
Horizontal	265.1	23.91	35.5	11.59
Horizontal	300	25.17	35.5	10.33
Horizontal	400	27.91	35.5	7.59
Horizontal	480	25.39	35.5	10.11
Horizontal	500	22.9	35.5	12.6
Horizontal	550	29.47	35.5	6.03
Horizontal	600	30.92	35.5	4.58
Horizontal	650	32.89	35.5	2.61
Horizontal	720	27.85	35.5	7.65
Horizontal	750	27.46	35.5	8.04
Horizontal	800	27.42	35.5	8.08
Horizontal	875	28.3	35.5	7.2



L C I E

Power supply n°2 NBS24C120380M2

Polarisation	Frequency (MHz)	level Quasi peak (dBµV/m)	limit FCC	Margin
vertical	32.2	21.56	29.5	7.94
vertical	33.3	19.25	29.5	10.25
vertical	34.7	22.55	29.5	6.95
vertical	37.3	20.01	29.5	9.49
vertical	40	22.68	29.5	6.82
vertical	42.7	21.29	29.5	8.21
vertical	45.4	20.38	29.5	9.12
vertical	52.3	17.35	29.5	12.15
vertical	56.9	18.31	29.5	11.19
vertical	57.8	21.35	29.5	8.15
vertical	59.9	20.56	29.5	8.94
vertical	62.5	19.88	29.5	9.62
vertical	66.7	21.14	29.5	8.36
vertical	76	16.86	29.5	12.64
vertical	80	17.41	29.5	12.09
vertical	89	17.06	33	15.94
vertical	95.2	18.87	33	14.13
vertical	106.7	19.78	33	13.22
vertical	125	22.82	33	10.18
vertical	153.6	22.01	33	10.99
vertical	168.5	21.63	33	11.37
vertical	174	21.67	33	11.33
vertical	175.9	21.6	33	11.4
vertical	200	22.13	33	10.87
vertical	205.1	19.13	33	13.87
vertical	206.6	21.21	33	11.79
vertical	212	21.2	33	11.8
vertical	212.7	21.08	33	11.92
vertical	216	24.55	33	8.45
vertical	222	20.09	35.5	15.41
vertical	236	22.75	35.5	12.75
vertical	250	23.7	35.5	11.8
vertical	257.8	20.13	35.5	15.37
vertical	264.5	26.04	35.5	9.46
vertical	287.5	22.57	35.5	12.93
vertical	292.8	24.97	35.5	10.53
vertical	293.5	21.35	35.5	14.15



L C I E

Polarisation	Frequency (MHz)	level Quasi peak (dB μ V/m)	limit FCC	Margin
vertical	303.7	20.16	35.5	15.34
vertical	312.6	25.56	35.5	9.94
vertical	320	25.73	35.5	9.77
vertical	336.6	26.29	35.5	9.21
vertical	360	27.07	35.5	8.43
vertical	400	27.85	35.5	7.65
vertical	432	29.01	35.5	6.49
vertical	480	30.02	35.5	5.48
vertical	500	27.46	35.5	8.04
vertical	520	27.85	35.5	7.65
vertical	550	24.61	35.5	10.89
vertical	600	24.31	35.5	11.19
vertical	625	28.1	35.5	7.4
vertical	650	30.92	35.5	4.58
vertical	720	30.81	35.5	4.69
vertical	750	28.26	35.5	7.24
vertical	800	27.91	35.5	7.59
vertical	900	28.3	35.5	7.2
vertical	960.1	27.97	43.5	15.53
vertical	986.4	28.07	43.5	15.43



L C I E

Polarisation	Frequency (MHz)	level Quasi peak (dB μ V/m)	limit FCC	Margin
Horizontal	83.7	21.54	29.5	7.96
Horizontal	125	22.65	33	10.35
Horizontal	133.3	24.3	33	8.7
Horizontal	209.6	21.17	33	11.83
Horizontal	228.9	22.16	35.5	13.34
Horizontal	250	25.11	35.5	10.39
Horizontal	300	25.17	35.5	10.33
Horizontal	400	29.47	35.5	6.03
Horizontal	480	25.39	35.5	10.11
Horizontal	500	31.03	35.5	4.47
Horizontal	540	30.98	35.5	4.52
Horizontal	600	32.24	35.5	3.26
Horizontal	650	30.98	35.5	4.52
Horizontal	720	27.85	35.5	7.65
Horizontal	750	27.79	35.5	7.71
Horizontal	800	27.42	35.5	8.08
Horizontal	825	28.21	35.5	7.29
Horizontal	875	28.21	35.5	7.29



L C I E

Power supply n°3 LPL-C046120380ZS

Polarisation	Frequency (MHz)	level Quasi peak (dBµV/m)	limit FCC	Margin
vertical	30.4	24.43	29.5	5.07
vertical	32.2	21.56	29.5	7.94
vertical	34.7	22.55	29.5	6.95
vertical	37.3	23.65	29.5	5.85
vertical	40	22.68	29.5	6.82
vertical	42.7	21.23	29.5	8.27
vertical	45.4	20.38	29.5	9.12
vertical	50.6	17.92	29.5	11.58
vertical	52.3	17.35	29.5	12.15
vertical	57.6	23.01	29.5	6.49
vertical	62.5	19.88	29.5	9.62
vertical	66.7	17.03	29.5	12.47
vertical	76	16.86	29.5	12.64
vertical	80	17.41	29.5	12.09
vertical	91.5	19	33	14
vertical	96.6	20.56	33	12.44
vertical	107.8	23.26	33	9.74
vertical	125	22.82	33	10.18
vertical	153.6	22.01	33	10.99
vertical	168.5	21.63	33	11.37
vertical	174	21.67	33	11.33
vertical	175.9	21.6	33	11.4
vertical	200	22.13	33	10.87
vertical	205.2	19.52	33	13.48
vertical	210.7	19.52	33	13.48
vertical	212	21.2	33	11.8
vertical	216	24.55	33	8.45
vertical	222	20.09	35.5	15.41
vertical	236	22.75	35.5	12.75
vertical	250	23.7	35.5	11.8
vertical	257.8	20.13	35.5	15.37
vertical	278.7	21.35	35.5	14.15
vertical	292.5	19.52	35.5	15.98
vertical	292.8	24.97	35.5	10.53
vertical	312.6	25.56	35.5	9.94
vertical	320	25.73	35.5	9.77
vertical	360	19.21	35.5	16.29



L C I E

Polarisation	Frequency (MHz)	level Quasi peak (dB μ V/m)	limit FCC	Margin
vertical	375.7	19	35.5	16.5
vertical	400	27.85	35.5	7.65
vertical	432	29.01	35.5	6.49
vertical	480	30.75	35.5	4.75
vertical	500	27.46	35.5	8.04
vertical	520	22.23	35.5	13.27
vertical	550	24.61	35.5	10.89
vertical	600	24.31	35.5	11.19
vertical	625	28.1	35.5	7.4
vertical	650	30.92	35.5	4.58
vertical	720	32.06	35.5	3.44
vertical	750	28.26	35.5	7.24
vertical	800	27.91	35.5	7.59
vertical	900	27.42	35.5	8.08
vertical	960.1	27.97	43.5	15.53
vertical	986.4	28.07	43.5	15.43
vertical	375.7	19	35.5	16.5
vertical	400	27.85	35.5	7.65
vertical	432	29.01	35.5	6.49
vertical	480	30.75	35.5	4.75



L C I E

Polarisation	Frequency (MHz)	level Quasi peak (dB μ V/m)	limit FCC	Margin
Horizontal	83.7	21.54	29.5	7.96
Horizontal	125	22.65	33	10.35
Horizontal	133.3	24.3	33	8.7
Horizontal	209.6	21.17	33	11.83
Horizontal	228.9	22.16	35.5	13.34
Horizontal	250	23.52	35.5	11.98
Horizontal	300	25.17	35.5	10.33
Horizontal	400	27.91	35.5	7.59
Horizontal	480	25.39	35.5	10.11
Horizontal	500	22.9	35.5	12.6
Horizontal	540	32.28	35.5	3.22
Horizontal	600	30.92	35.5	4.58
Horizontal	650	32.89	35.5	2.61
Horizontal	720	27.85	35.5	7.65
Horizontal	750	27.79	35.5	7.71
Horizontal	800	27.42	35.5	8.08
Horizontal	825	26.61	35.5	8.89
Horizontal	875	28.21	35.5	7.29



L C I E

802.11b								
Above 1GHz								
Cmin/Cnom/Cmax								
Polarization	Frequency (MHz)	Duty cycle correction (dB)	Average Level (dB μ V/m)	Average Limit (dB μ V/m)	Margin Average Limit	Peak Level (dB μ V/m)	Peak Limit (dB μ V/m)	Margin Peak Limit
Vertical	1064	0.003	27,66	43.5	15,84	42,96	63.5	20,54
Vertical	1078	0.003	28,94	43.5	14,56	40,38	63.5	23,12
Vertical	1128	0.003	28,85	43.5	14,65	36,80	63.5	26,70
Vertical	1150	0.003	31,15	43.5	12,35	43,29	63.5	20,21
Vertical	1195	0.003	30,81	43.5	12,69	36,90	63.5	26,60
Vertical	1250	0.003	26,94	43.5	16,56	35,76	63.5	27,74
Vertical	1343.8	0.003	30,11	43.5	13,39	41,69	63.5	21,81
Vertical	1395	0.003	30,49	43.5	13,01	41,92	63.5	21,58
Vertical	1440	0.003	31,21	43.5	12,29	35,28	63.5	28,22
Vertical	1520	0.003	31,43	43.5	12,07	43,31	63.5	20,19
Vertical	4824	0.003	31,11	43.5	12,39	44,57	63.5	18,93
Vertical	4875	0.003	32,05	43.5	11,45	44,61	63.5	18,89
Vertical	4924.1	0.003	31,88	43.5	11,62	45,11	63.5	18,39
Horizontal	1036	0.003	29,06	43.5	14,44	32,07	63.5	31,43
Horizontal	1062.8	0.003	29,04	43.5	14,46	35,64	63.5	27,86
Horizontal	1127	0.003	30,30	43.5	13,20	40,71	63.5	22,79
Horizontal	1182.8	0.003	29,74	43.5	13,76	41,13	63.5	22,37
Horizontal	1250	0.003	29,93	43.5	13,57	41,18	63.5	22,32
Horizontal	1290.4	0.003	29,93	43.5	13,57	40,79	63.5	22,71
Horizontal	1320	003	28,13	43.5	15,37	41,65	63.5	21,85
Horizontal	1351	0.003	30,20	43.5	13,30	42,09	63.5	21,41
Horizontal	1441	0.003	27,66	43.5	15,84	42,96	63.5	20,54



L C I E

802.11g								
Above 1GHz								
Cmin/Cnom/Cmax								
Polarization	Frequency (MHz)	Duty cycle correction (dB)	Average Level (dB μ V/m)	Average Limit (dB μ V/m)	Margin Average Limit	Peak Level (dB μ V/m)	Peak Limit (dB μ V/m)	Margin Peak Limit
Vertical	1064	0.04	26,5	43.5	17	34,8	63.5	28,7
Vertical	1078	0.04	28,98	43.5	14,52	40,42	63.5	23,08
Vertical	1128	0.04	28,89	43.5	14,61	36,84	63.5	26,66
Vertical	1150	0.04	31,19	43.5	12,31	43,33	63.5	20,17
Vertical	1195	0.04	30,85	43.5	12,65	36,94	63.5	26,56
Vertical	1250	0.04	26,98	43.5	16,52	35,8	63.5	27,7
Vertical	1343.8	0.04	30,15	43.5	13,35	41,73	63.5	21,77
Vertical	1395	0.04	30,53	43.5	12,97	41,96	63.5	21,54
Vertical	1440	0.04	31,25	43.5	12,25	35,32	63.5	28,18
Vertical	1520	0.04	31,47	43.5	12,03	43,35	63.5	20,15
Vertical	4824.2	0.04	32,26	43.5	11,24	45,18	63.5	18,32
Vertical	4873.6	0.04	32,15	43.5	11,35	43,94	63.5	19,56
Vertical	4924.3	0.04	30,45	43.5	13,05	45,05	63.5	18,45
Horizontal	1036	0.04	29,1	43.5	14,4	32,11	63.5	31,39
Horizontal	1127	0.04	30,34	43.5	13,16	40,75	63.5	22,75
Horizontal	1182.8	0.04	29,78	43.5	13,72	41,17	63.5	22,33
Horizontal	1250	0.04	29,97	43.5	13,53	41,22	63.5	22,28
Horizontal	1290.4	0.04	29,97	43.5	13,53	40,83	63.5	22,67
Horizontal	1320	0.04	28,17	43.5	15,33	41,69	63.5	21,81
Horizontal	1351	0.04	30,24	43.5	13,26	42,13	63.5	21,37
Horizontal	1441	0.04	30,89	43.5	12,61	41,87	63.5	21,63



L C I E

802.11n HT20								
Above 1GHz								
Cmin/Cnom/Cmax								
Polarization	Frequency (MHz)	Duty cycle correction (dB)	Average Level (dB μ V/m)	Average Limit (dB μ V/m)	Margin Average Limit	Peak Level (dB μ V/m)	Peak Limit (dB μ V/m)	Margin Peak Limit
Vertical	1064	0.12	28,01	43,5	15,49	43,08	63,5	20,42
Vertical	1078	0.12	29,29	43,5	14,21	40,5	63,5	23
Vertical	1128	0.12	29,2	43,5	14,3	36,92	63,5	26,58
Vertical	1150	0.12	31,5	43,5	12	43,41	63,5	20,09
Vertical	1195	0.12	31,16	43,5	12,34	37,02	63,5	26,48
Vertical	1250	0.12	27,29	43,5	16,21	35,88	63,5	27,62
Vertical	1343,8	0.12	30,46	43,5	13,04	41,81	63,5	21,69
Vertical	1395	0.12	30,84	43,5	12,66	42,04	63,5	21,46
Vertical	1440	0.12	31,56	43,5	11,94	35,4	63,5	28,1
Vertical	1520	0.12	31,78	43,5	11,72	43,43	63,5	20,07
Horizontal	1036	0.12	29,41	43,5	14,09	32,19	63,5	31,31
Horizontal	1127	0.12	30,65	43,5	12,85	40,83	63,5	22,67
Horizontal	1182,8	0.12	30,09	43,5	13,41	41,25	63,5	22,25
Horizontal	1250	0.12	30,28	43,5	13,22	41,3	63,5	22,2
Horizontal	1290,4	0.12	30,28	43,5	13,22	40,91	63,5	22,59
Horizontal	1320	0.12	28,48	43,5	15,02	41,77	63,5	21,73
Horizontal	1351	0.12	30,55	43,5	12,95	42,21	63,5	21,29
Horizontal	1441	0.12	31,2	43,5	12,3	41,95	63,5	21,55



L C I E

802.11n HT40								
Above 1GHz								
Cmin/Cnom/Cmax								
Polarization	Frequency (MHz)	Duty cycle correction (dB)	Average Level (dB μ V/m)	Average Limit (dB μ V/m)	Margin Average Limit	Peak Level (dB μ V/m)	Peak Limit (dB μ V/m)	Margin Peak Limit
Vertical	1064	0.23	27,89	43,5	15,61	42,96	63,5	20,54
Vertical	1078	0.23	29,17	43,5	14,33	40,38	63,5	23,12
Vertical	1128	0.23	29,08	43,5	14,42	36,8	63,5	26,7
Vertical	1150	0.23	31,38	43,5	12,12	43,29	63,5	20,21
Vertical	1195	0.23	31,04	43,5	12,46	36,9	63,5	26,6
Vertical	1250	0.23	27,17	43,5	16,33	35,76	63,5	27,74
Vertical	1343,8	0.23	30,34	43,5	13,16	41,69	63,5	21,81
Vertical	1395	0.23	30,72	43,5	12,78	41,92	63,5	21,58
Vertical	1440	0.23	31,44	43,5	12,06	35,28	63,5	28,22
Vertical	1520	0.23	31,66	43,5	11,84	43,31	63,5	20,19
Horizontal	1036	0.23	29,29	43,5	14,21	32,07	63,5	31,43
Horizontal	1127	0.23	30,53	43,5	12,97	40,71	63,5	22,79
Horizontal	1182,8	0.23	29,97	43,5	13,53	41,13	63,5	22,37
Horizontal	1250	0.23	30,16	43,5	13,34	41,18	63,5	22,32
Horizontal	1290,4	0.23	30,16	43,5	13,34	40,79	63,5	22,71
Horizontal	1320	0.23	28,36	43,5	15,14	41,65	63,5	21,85
Horizontal	1351	0.23	30,43	43,5	13,07	42,09	63,5	21,41
Horizontal	1441	0.23	31,08	43,5	12,42	41,83	63,5	21,67



L C I E

802.11b								
Above 1GHz								
Cmin/Cnom/Cmax								
Polarization	Frequency (MHz)	Duty cycle correction (dB)	Average Level (dBμV/m)	Average Limit (dBμV/m)	Margin Average Limit	Peak Level (dBμV/m)	Peak Limit (dBμV/m)	Margin Peak Limit
Vertical	2380.5	0.003	52,21	54	1,787	64.92	74	9,08
Vertical	2390	0.003	50,63	54	3,367	67.39	74	6,61
Verticale	2490.5	0.003	51,75	54	2,247	62.89	74	11,11
Vertical	2483,5	0.003	50,60	54	3,397	65.57	74	8,43
Horizontal	2383.5	0.003	50,52	54	3,477	64.26	74	9,74
Horizontal	2390	0.003	48,27	54	5,727	65.36	74	8,64
Horizontal	2490.5	0.003	53,12	54	0,877	61.04	74	12,96
Horizontal	2483,5	0.003	47,44	54	6,557	63.39	74	10,61

802.11g								
Cmin/Cnom/Cmax								
Above 1GHz								
Polarization	Frequency (MHz)	Duty cycle correction (dB)	Average Level (dBμV/m)	Marge Average Level (dBμV/m)	Average Limit (dBμV/m)	Peak Level (dBμV/m)	Marge Peak Level (dBμV/m)	Peak Limit (dBμV/m)
Verticale	2390	0.04	51,734	2,266	54	73.34	0,66	74
Horizontale	2390	0.04	50,944	3,056	54	72.95	1,05	74
Verticale	2483.5	0.04	49,364	4,636	54	73.26	0,74	74
Horizontale	2483.5	0.04	49,324	4,676	54	69.96	4,04	74
Horizontale	2485.5	0.04	51,124	2,876	54	70.75	3,25	74



L C I E

802.11n HT20								
Cmin/Cnom/Cmax								
Above 1GHz								
Polarization	Frequency (MHz)	Duty cycle correction (dB)	Average Level (dB μ V/m)	Marge Average Level (dB μ V/m)	Average Limit (dB μ V/m)	Peak Level (dB μ V/m)	Marge Peak Level (dB μ V/m)	Peak Limit (dB μ V/m)
Verticale	2390	0.12	52,89	1,11	54	72.31	1,69	74
Horizontale	2390	0.12	53,54	0,46	54	70.42	3,58	74
Verticale	2483.5	0.12	51,08	2,92	54	73.13	0,87	74
Horizontale	2483.5	0.12	52,25	1,75	54	72.22	1,78	74
Horizontale	2484.5	0.12	51	3	54	73.01	0,99	74

802.11n HT40								
Cmin/Cnom/Cmax								
Above 1GHz								
Polarization	Frequency (MHz)	Duty cycle correction (dB)	Average Level (dB μ V/m)	Marge Average Level (dB μ V/m)	Average Limit (dB μ V/m)	Peak Level (dB μ V/m)	Marge Peak Level (dB μ V/m)	Peak Limit (dB μ V/m)
Verticale	2388	0.23	50,65	3,35	54	69.66	4,34	74
Horizontale	2386.5	0.23	51,73	2,27	54	73.20	0,8	74
Verticale	2390	0.23	52,08	1,92	54	66.80	7,2	74
Horizontale	2390	0.23	53,73	0,27	54	71.54	2,46	74
Verticale	2483.5	0.23	53,09	0,91	54	73.01	0,99	74
Horizontale	2483.5	0.23	53,57	0,43	54	72.75	1,25	74
Horizontale	2485.5	0.23	53,46	0,54	54	73.27	0,73	74

11.7. CONCLUSION

Unwanted emissions measurement performed on the sample of the product **SAGEMCOM** MiniBox (253697290), SN: **616476080862**, in configuration and description presented in this test report, show levels **compliant** to the 47 CFR PART 15.247 limits.

12. 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 (Ecuellas)	4,88	6.3
Measurement of radiated electric field from 1 to 18GHz on the Ecuellas site	5.16	/
Measurement of radiated electric field from 30 to 1000MHz in vertical position on the OATS (Ecuellas)	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 (Ecuellas)	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