

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

### 8.1. TEST CONDITIONS

Test performed by : Mathieu CERISIER  
Date of test : November 16, 2016  
Ambient temperature : 25 °C  
Relative humidity : 41 %

### 8.2. TEST SETUP

- The Equipment Under Test is installed:

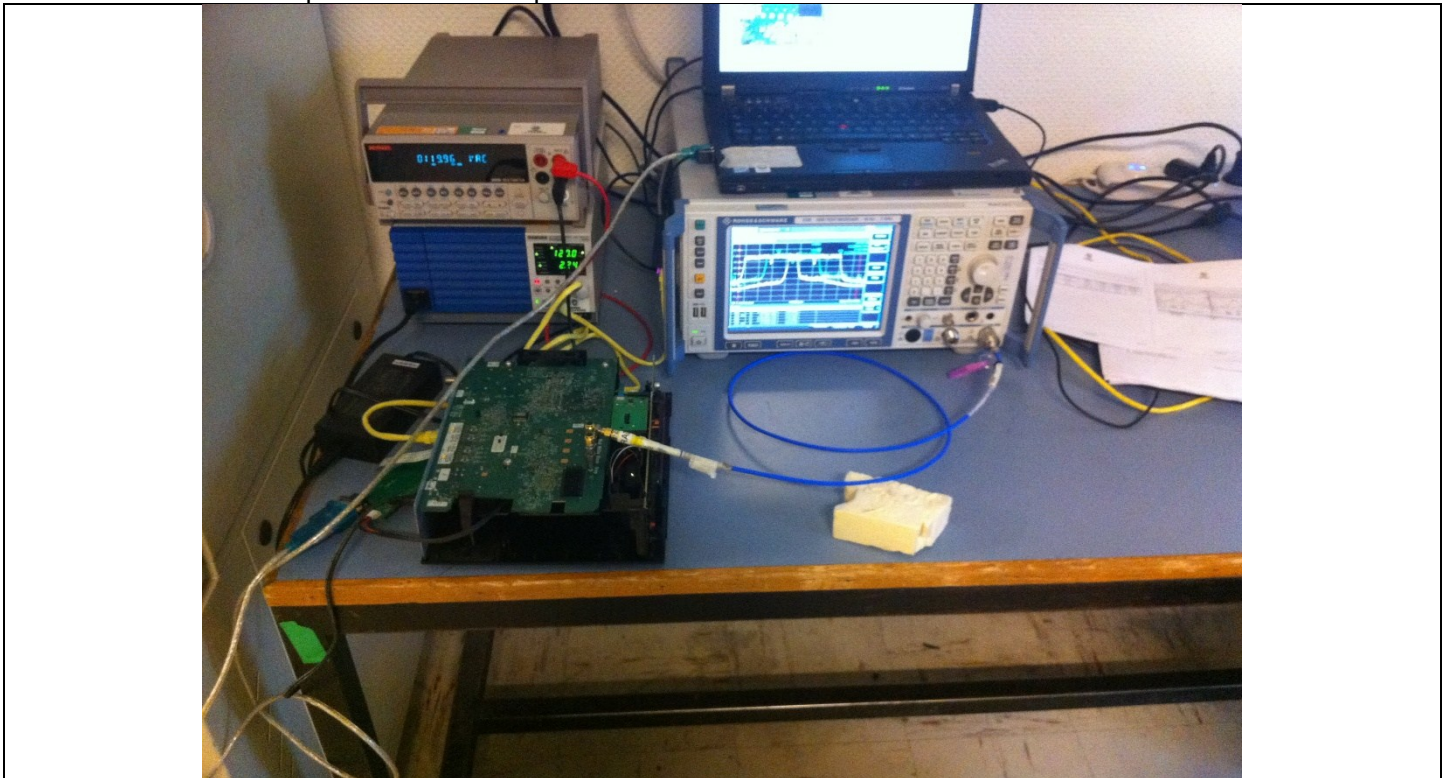
- On a table
- In an anechoic chamber

- 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

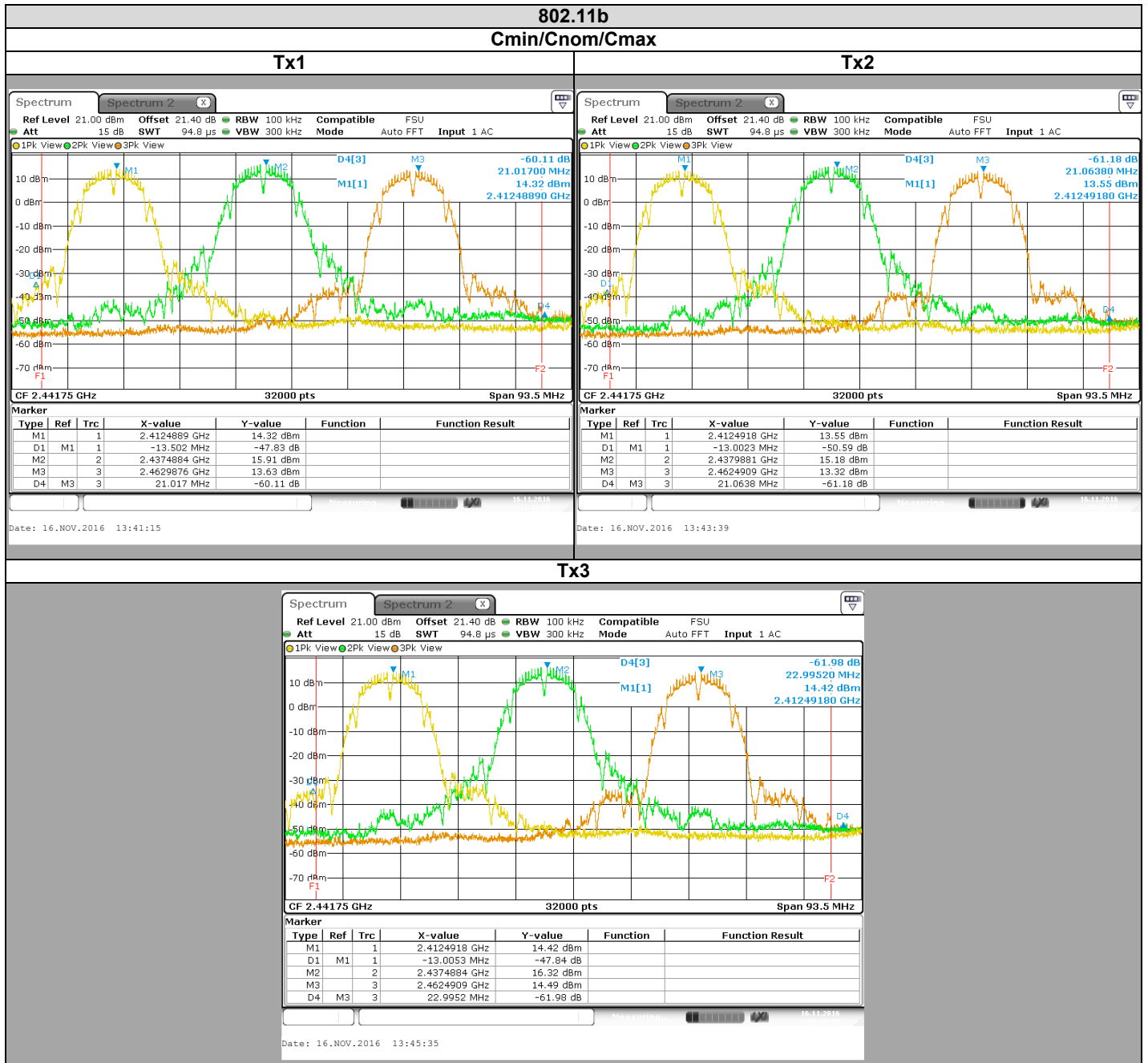
DESCRIPTION	MANUFACTURER	MODEL	N° LCIE	Cal_Date	Cal_Due
Multi-meter	KEITHLEY	2000	A1242090	2016/05	2018/05
Programmable AC/DC power supply	-; KIKUSUI	PCR500M	A7040079	Verified with calibrated multimeter	Verified with calibrated multimeter
EMI receiver	ROHDE & SCHWARZ	ESR 7	A2642023	2016/03	2017/03
RF cable & 20 dB attenuator	Télédyne	920-0202-048	A5329674	2016/10	2017/10

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



L C I E

8.5. RESULTS



Frequency (MHz)	Level (dBc)	Limit (dBc)
2400	47,83	30
2483.5	60,11	30



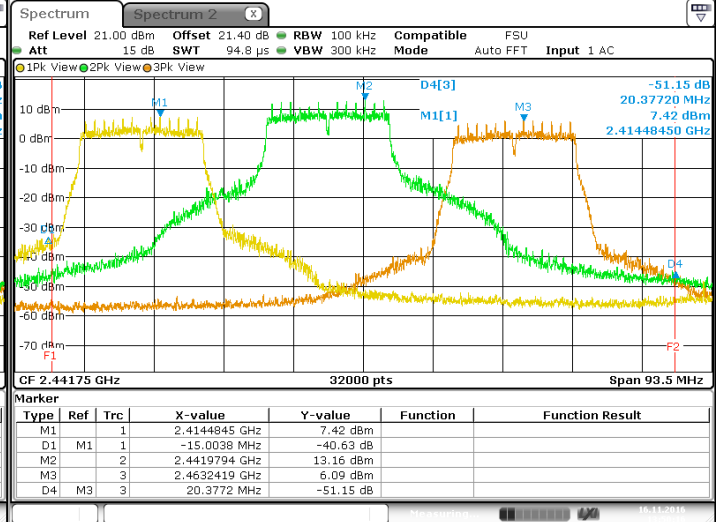
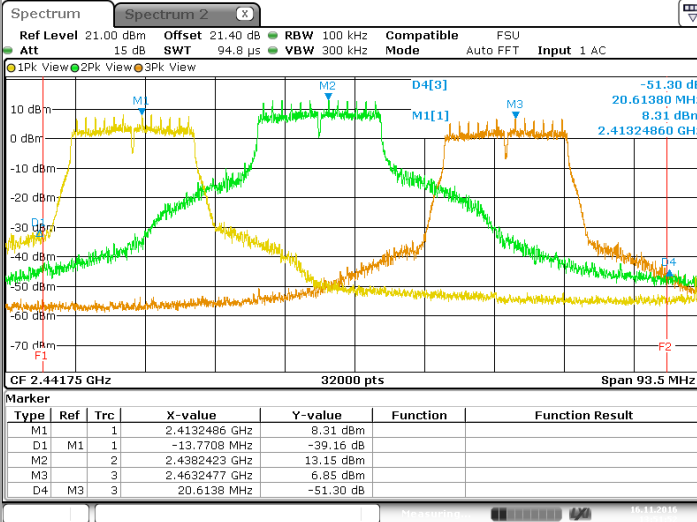
L C I E

802.11g

Cmin/Cnom/Cmax

Tx1

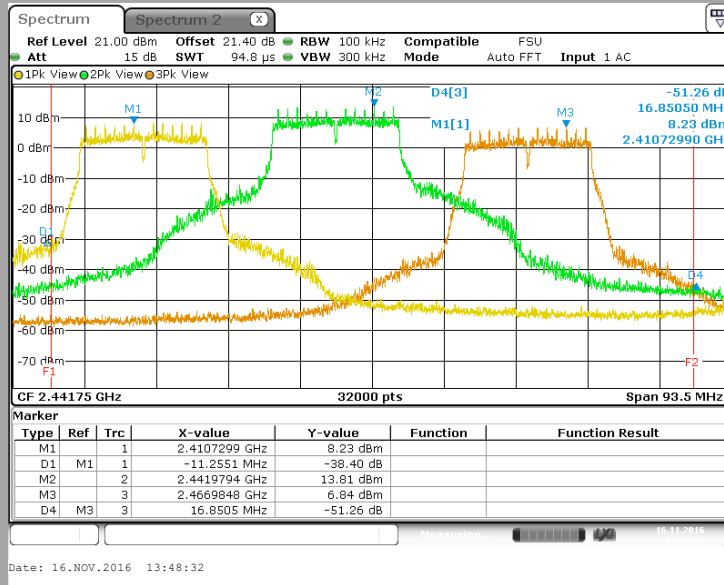
Tx2



Date: 16.NOV.2016 13:51:52

Date: 16.NOV.2016 13:50:16

Tx3



Date: 16.NOV.2016 13:48:32

Frequency (MHz)	Level (dBc)	Limit (dBc)
2400	38,4	30
2483.5	51,26	30



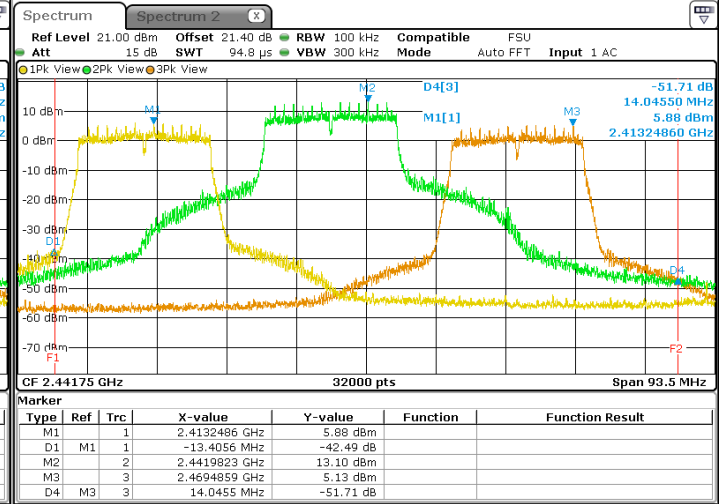
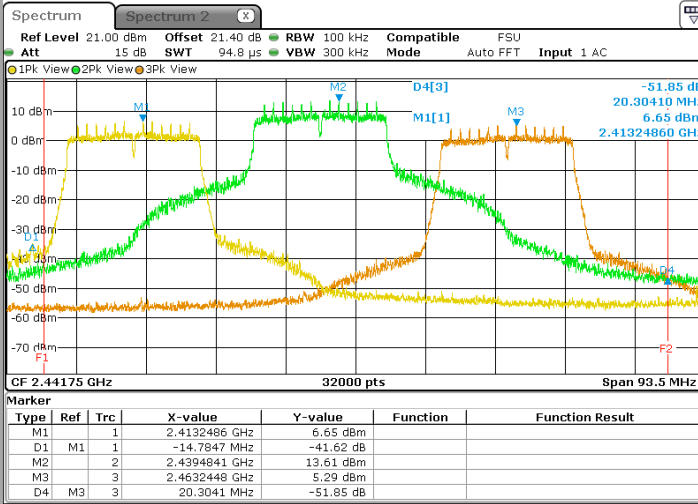
L C I E

802.11nHT20

Cmin/Cnom/Cmax

Tx1

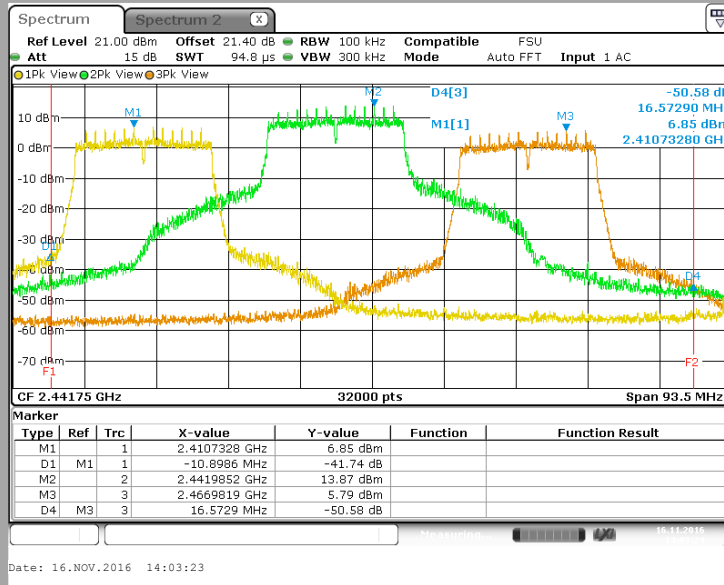
Tx2



Date: 16.NOV.2016 13:54:40

Date: 16.NOV.2016 13:56:59

Tx3

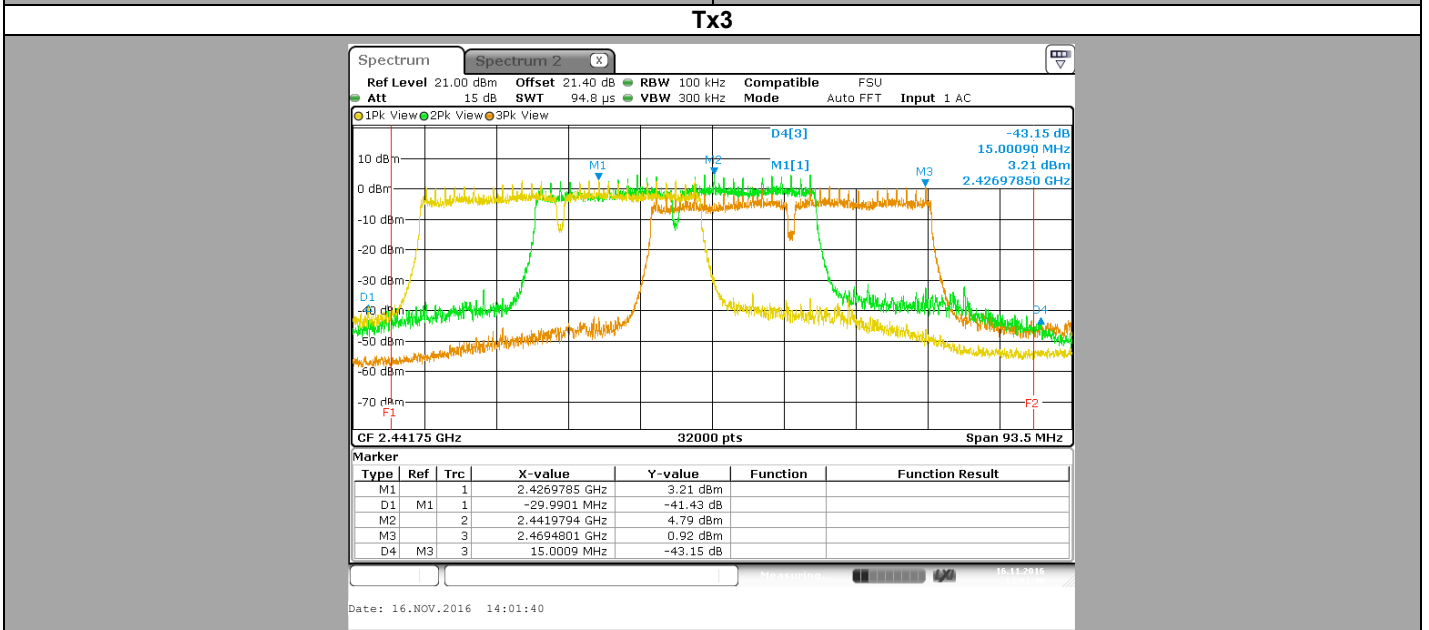
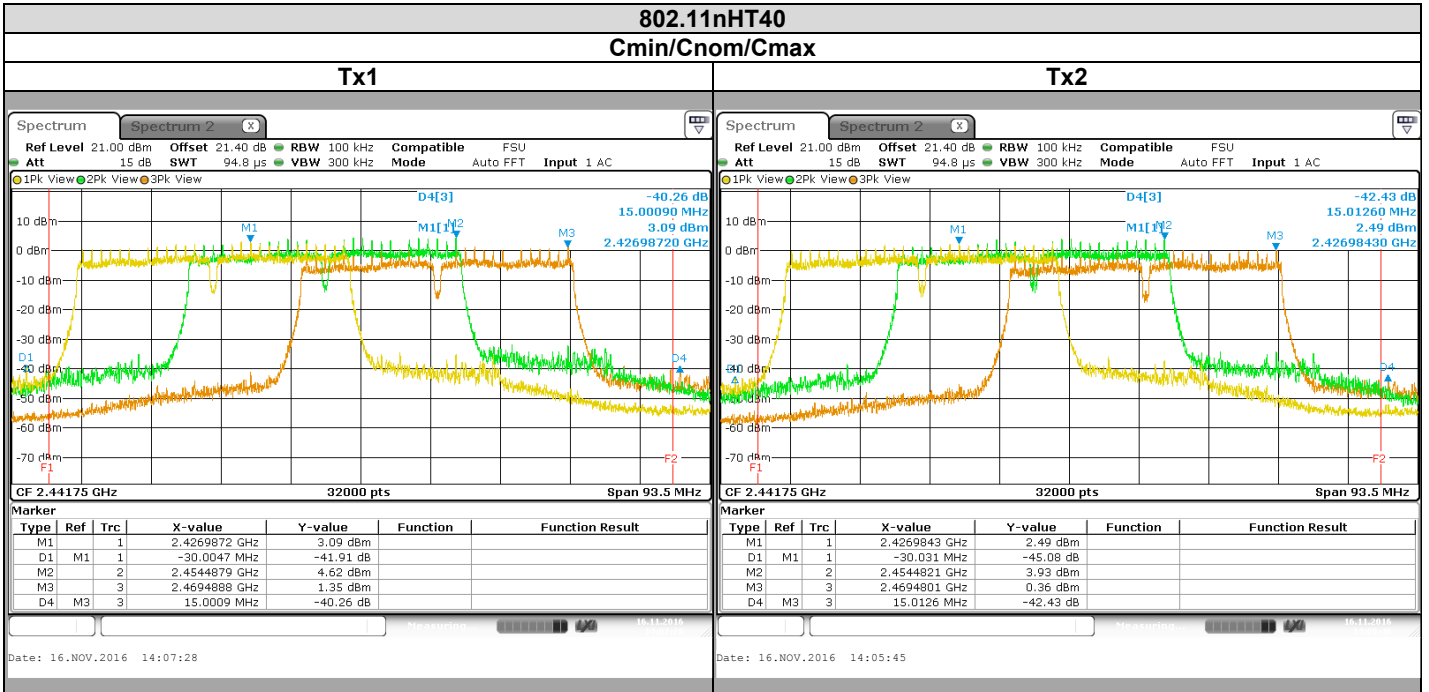


Date: 16.NOV.2016 14:03:23

Frequency (MHz)	Level (dBc)	Limit (dBc)
2400	41,62	30
2483.5	50,58	30



L C I E



Frequency (MHz)	Level (dBc)	Limit (dBc)
2400	41,43	30
2483.5	40,26	30

**8.6. CONCLUSION**

Unwanted Emission into non-restricted frequency bands at the band edge measurement performed on the sample of the product **SAGEMCOM TheBox (253697282)**, SN: **616400107098**, 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 : November 7, 2016  
Ambient temperature : 23 °C  
Relative humidity : 40 %

### 9.2. TEST SETUP

- The Equipment Under Test is installed:

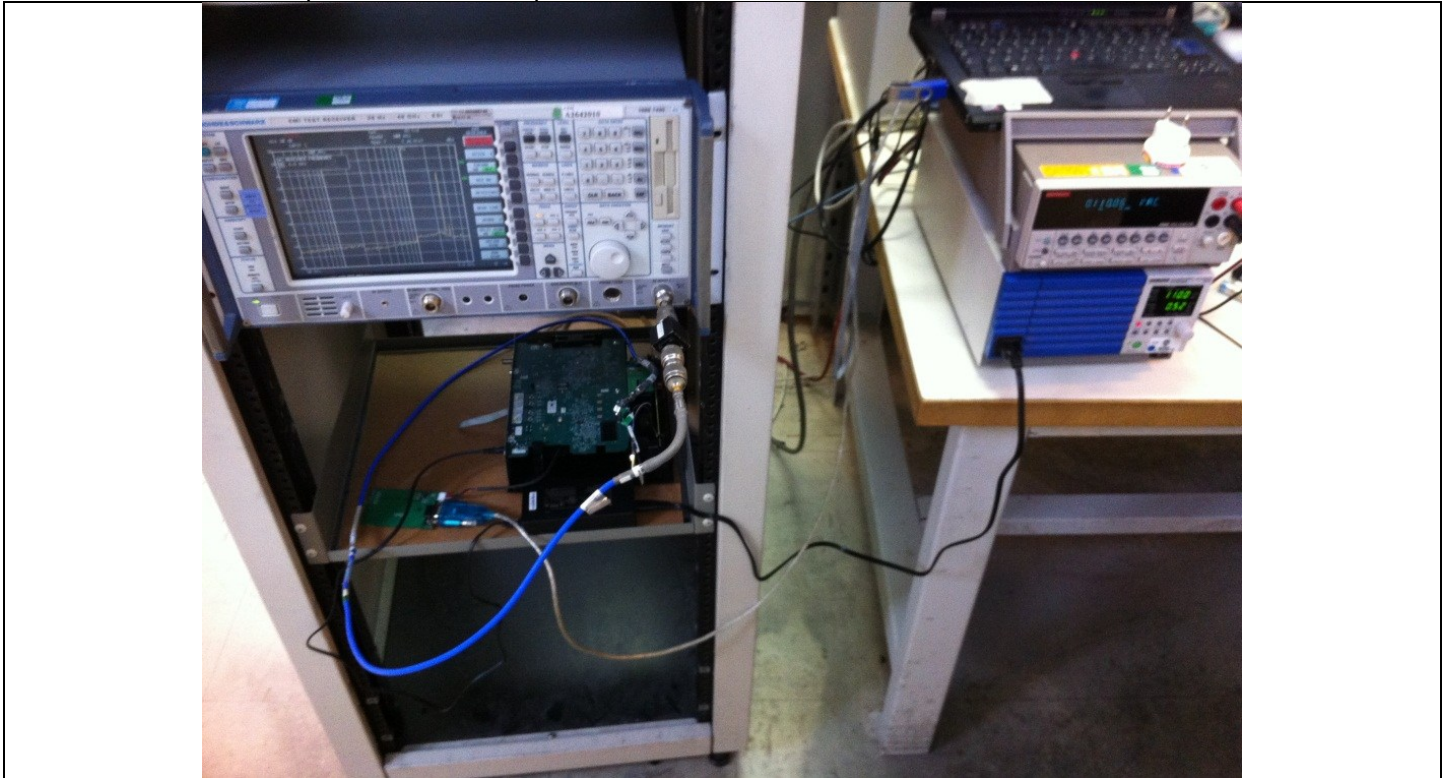
- On a table
- In an anechoic chamber

- 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
Preamplifier	LCIE; LCIE	LCIE-ALB-001	A7080073	2016/07	2017/07
EMI receiver	ROHDE & SCHWARZ	ESI40 1088 740K40	A2642010	2016/07	2017/07
Measurement RF cable	-	Cordon 082-5454-1.5mtr	A5329624	2016/07	2018/07
Measurement RF cable	-	082-0404-1MTR	A5329625	2016/07	2018/07
Measurement RF cable	-	-	A5329626	2016/07	2018/07
Full anechoic chamber	SIEPEL	-	D3044019	2013/05	2017/05
Horn antenna	AH SYSTEMS	SAS 571	C2042041	2016/04	2017/04
Rejector filter 2,4GHz	-	2.45GHz	A7484048	2015/12	2016/12
Programmable AC/DC power supply	-; KIKUSUI	PCR500M	A7040079	2016/06	2018/06

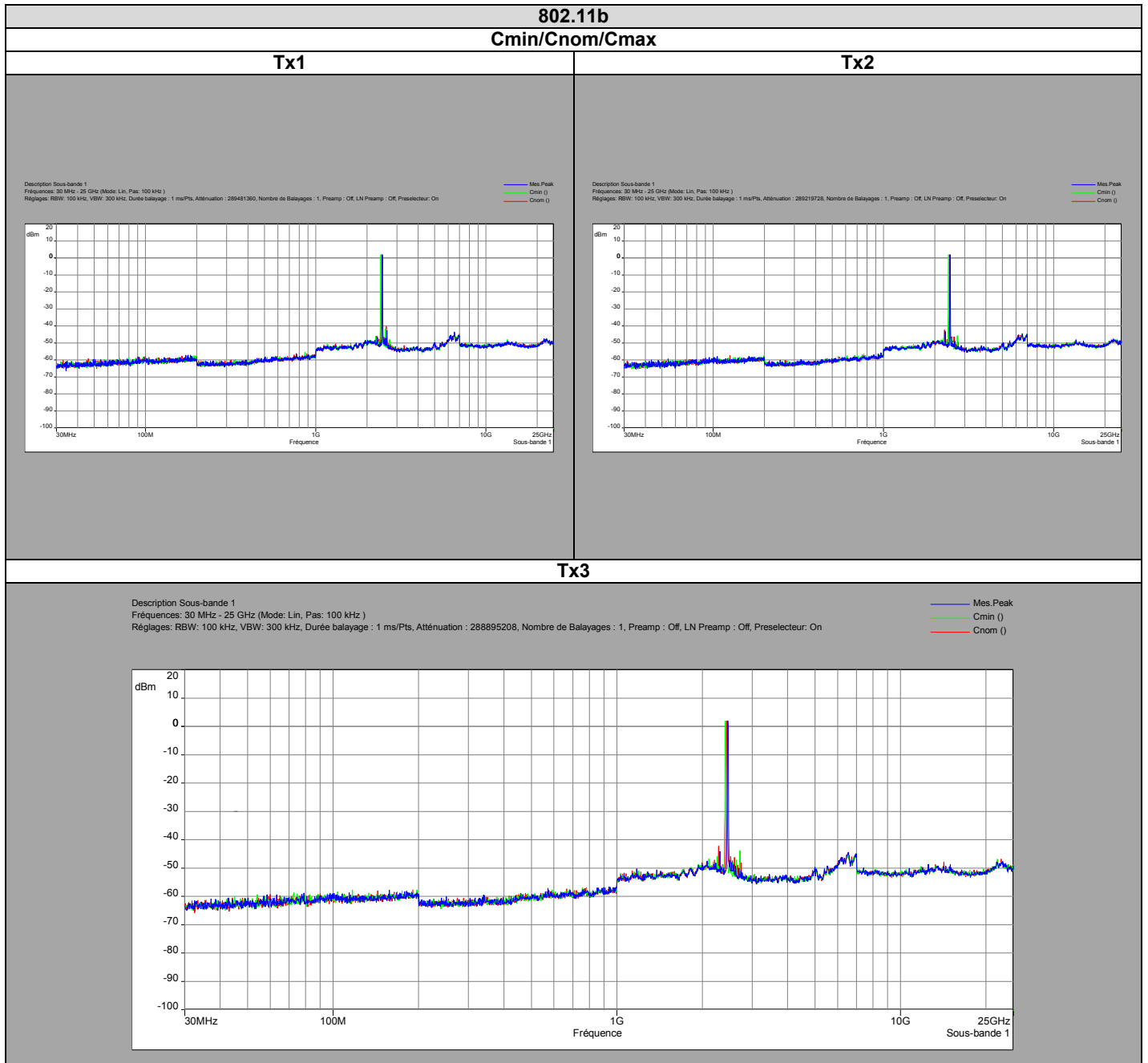
Note: In our quality system, the test equipment calibration due is more & less 2 months





L C I E

## 9.5. RESULTS





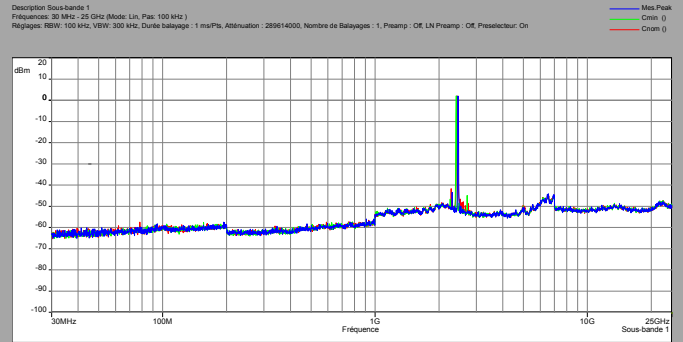
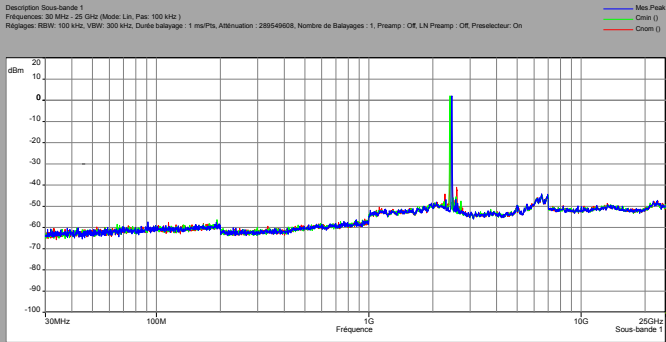
L C I E

### 802.11g

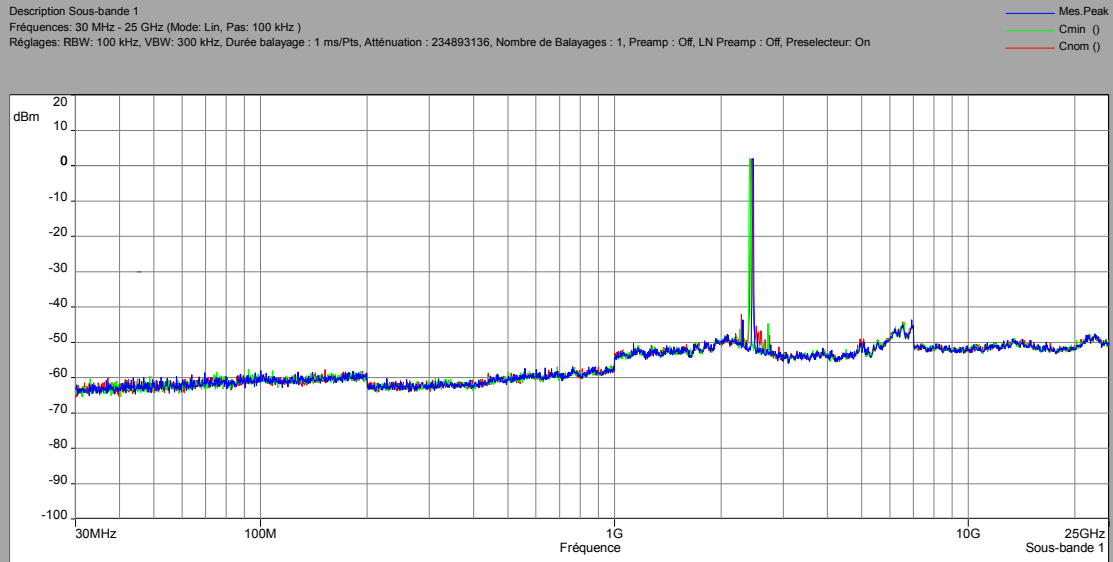
#### Cmin/Cnom/Cmax

##### Tx1

##### Tx2



##### Tx3





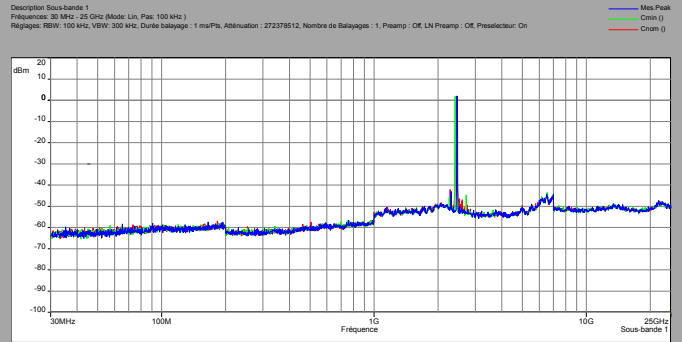
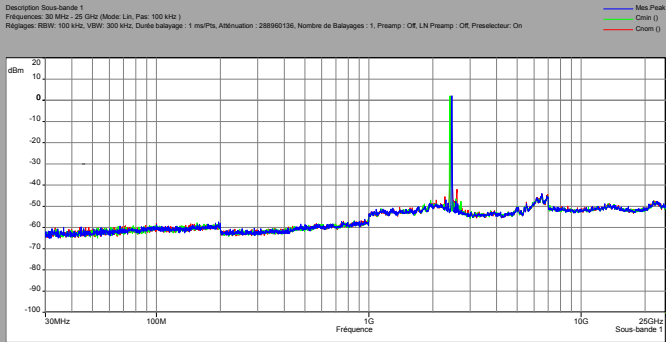
L C I E

### 802.11nHT20

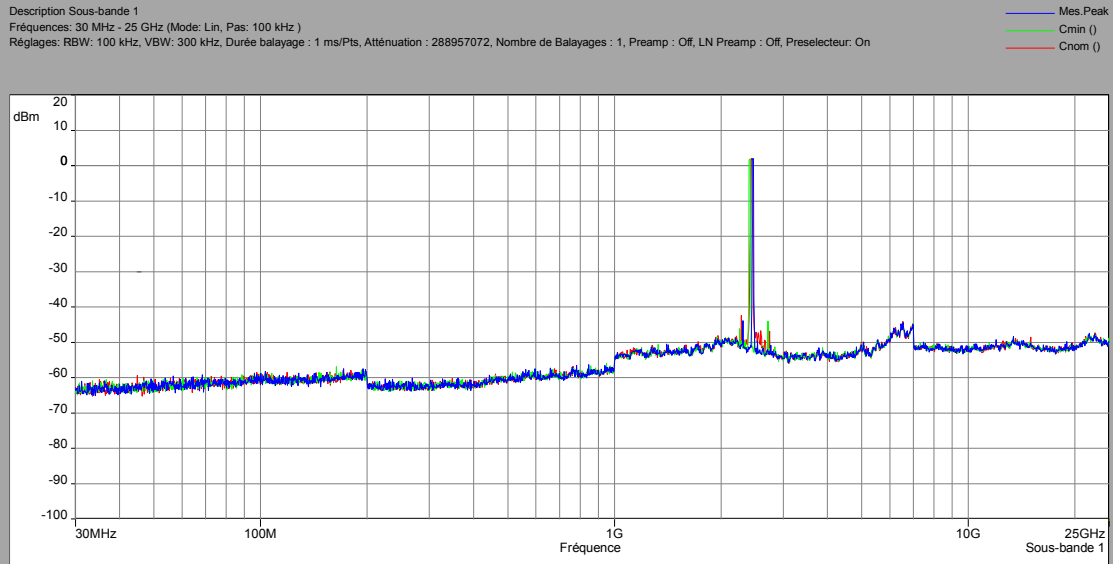
#### Cmin/Cnom/Cmax

##### Tx1

##### Tx2



##### Tx3





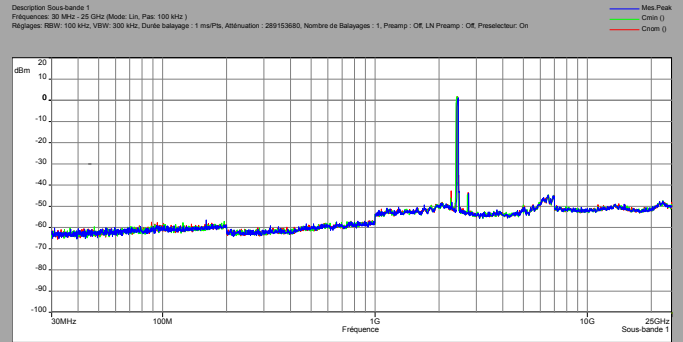
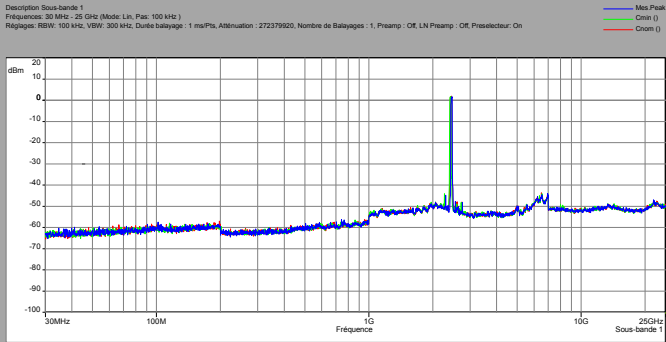
L C I E

### 802.11nHT40

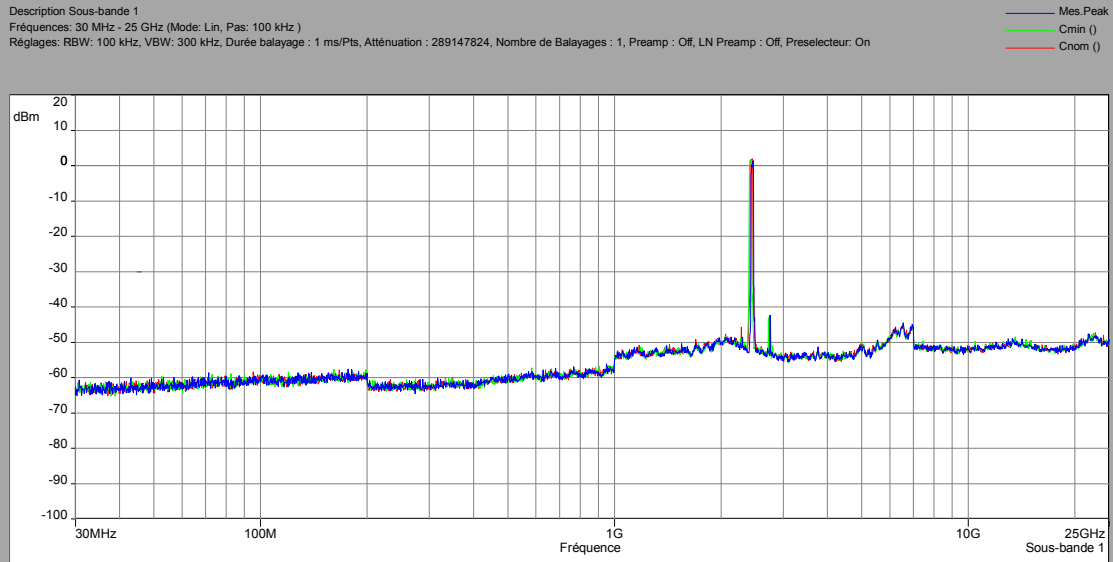
#### Cmin/Cnom/Cmax

##### Tx1

##### Tx2



##### Tx3





L C I E

802.11b			
Frequency (MHz)	Level (dBm)	Level (dBc)	Limit (dBc)
2412	1,891		
2713,5	-41,651	43,542	30
6550,8	-44,456	46,347	30
863,7	-55,536	57,427	30
2437	1,894		
2598,5	-40,424	42,318	30
6536,8	-44,836	46,73	30
746,7	-57,056	58,95	30
2462	1,896		
2624	-43,264	45,16	30
6538,7	-43,68	45,576	30
770,1	-56,188	58,084	30

802.11g			
Frequency (MHz)	Level (dBm)	Level (dBc)	Limit (dBc)
2412	2,021		
2713,5	-44,654	46,675	30
6578,1	-44,326	46,347	30
689,3	-56,942	58,963	30
2437	1,895		
2592	-41,038	42,933	30
6208,8	-45,984	47,879	30
720,4	-57,726	59,621	30
2462	1,897		
2308,1	-43,421	45,318	30
6551,8	-44,068	45,965	30
916,1	-56,038	57,935	30



L C I E

802.11n HT20			
Frequency (MHz)	Level (dBm)	Level (dBc)	Limit (dBc)
2412	1,891		
2713,5	-44,005	45,896	30
6493,3	-44,713	46,604	30
659,6	-57,206	59,097	30
2437	1,895		
2602	-42,022	43,917	30
6559,5	-44,327	46,222	30
760,3	-57,054	58,949	30
2462	1,896		
2308,1	-43,051	44,947	30
6522,2	-44,459	46,355	30
760,4	-56,681	58,577	30

802.11n HT40			
Frequency (MHz)	Level (dBm)	Level (dBc)	Limit (dBc)
2422	1,631		
2724,8	-43,1	44,731	30
6541,8	-44,4	46,031	30
584,1	-57,22	58,851	30
2437	1,895		
2741,6	-42,381	44,276	30
6534,1	-44,836	46,731	30
638,7	-57,873	59,768	30
2452	1,377		
2758,5	-42,379	43,756	30
6541,4	-44,538	45,915	30
768,4	-56,928	58,305	30

## CONCLUSION

Unwanted Emission into non-restricted frequency bands measurement performed on the sample of the product **SAGEMCOM TheBox (253697282)**, SN: **616400107098**, 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 : November 23, 2016  
Ambient temperature : Temperature 21°C  
Relative humidity : Humidity 53%

### 10.2. TEST SETUP

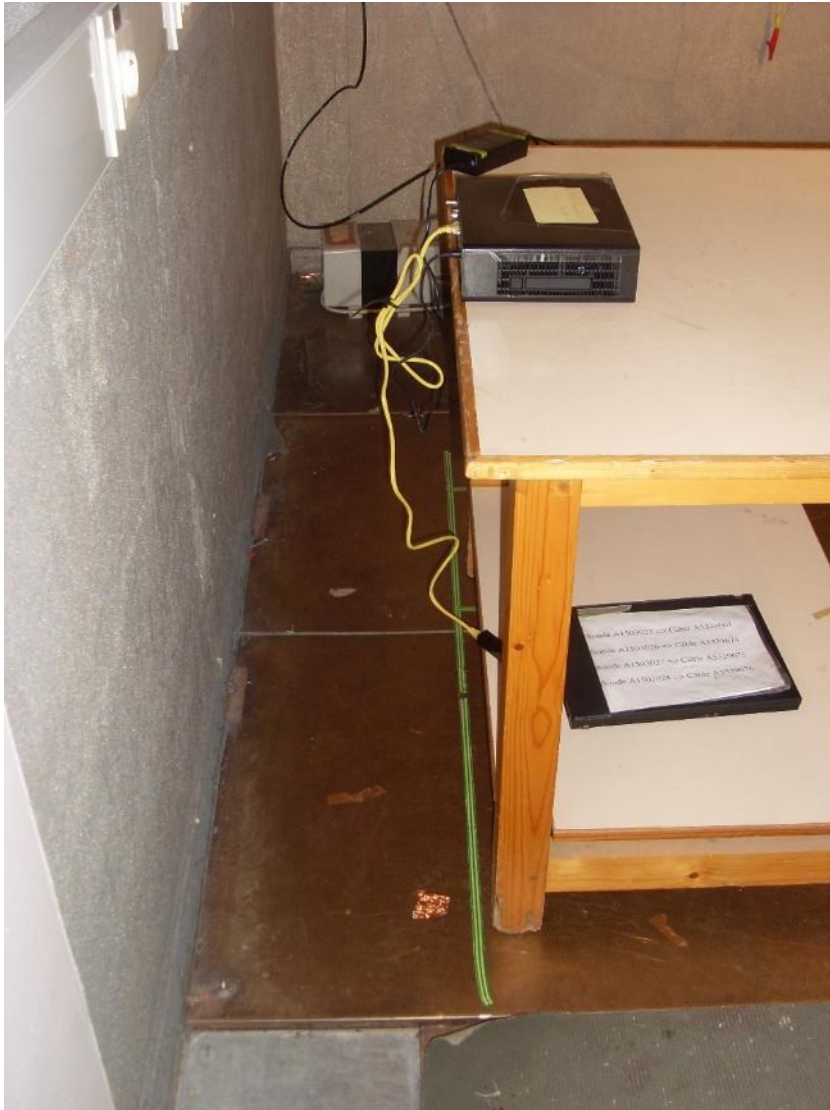
The product has been tested according to ANSI C63.10 (2013) method. The EUT is placed on the ground reference plane, at 80cm from the LISN. The distance between the EUT and the vertical ground plane is 40cm. Auxiliaries are powered by another LISN. The cable has been shorted to 1meter length. The EUT 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)



L C I E



Photograph for AC Power Line Conducted Emissions (Rear view)

### 10.3. LIMIT

#### Quasi-Peak

0,15kHz to 0,5MHz: 66dB $\mu$ V to 56dB $\mu$ V\*

0,5MHz to 5MHz: 56dB $\mu$ V

5MHz to 30MHz: 60dB $\mu$ V

#### Average

0,15kHz to 0,5MHz: 56dB $\mu$ V to 46dB $\mu$ V\*

0,5MHz to 5MHz: 46dB $\mu$ V

5MHz to 30MHz: 50dB $\mu$ 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:

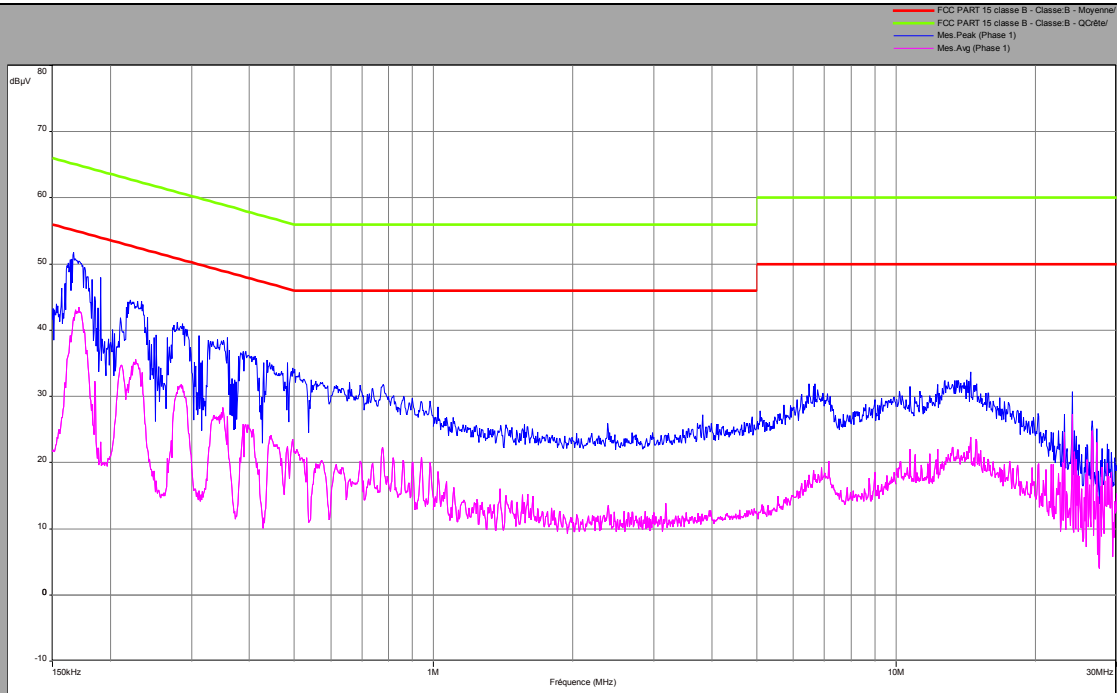
## 10.6. RESULTS

Power supply n°1 NBS60C120500M2

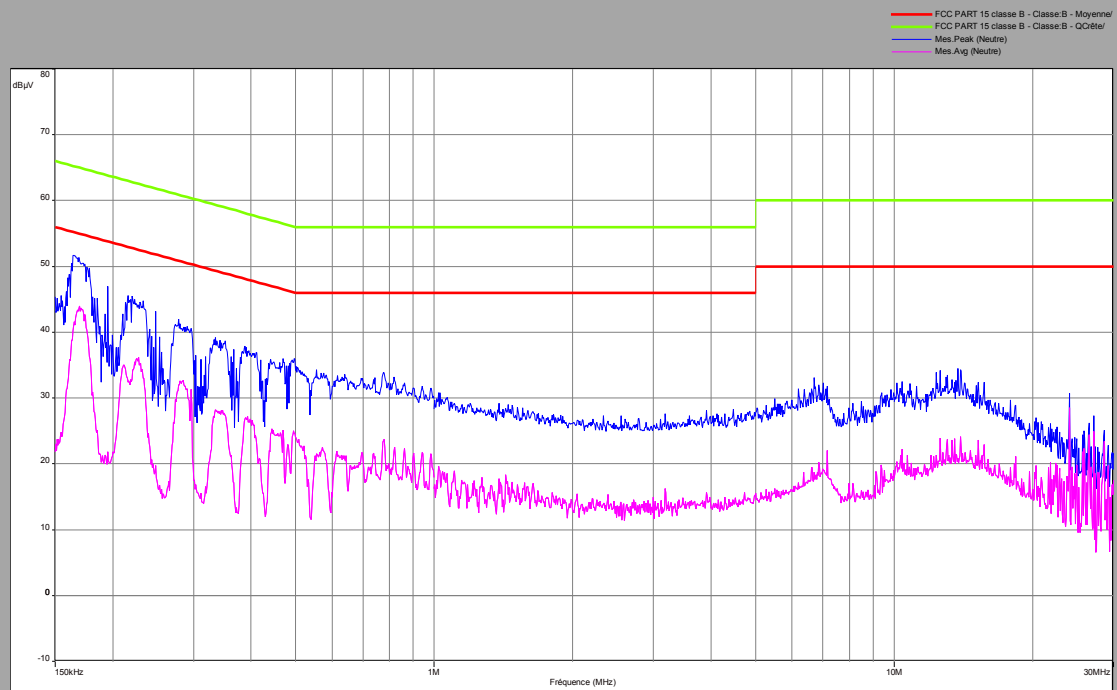
802.11b

Channel

Phase



Line





L C I E

Phase Line							
Frequency (MHz)	Peak Level (dB $\mu$ V)	Quasi-Peak Level (dB $\mu$ V)	Quasi-Peak Limit (dB $\mu$ V)	Margin Quasi-peak limit	Average Level (dB $\mu$ V)	Average Limit (dB $\mu$ V)	Margin Average Limit
0,166	51,7	-	65,1	13,4	43,5	55,1	11,6
0,229	44,4	-	62,4	18	35,6	52,4	16,8
0,778	31,7	-	56	24,3	22,3	46	23,7
14,44	33,7	-	60	26,3	23,8	50	26,2
24	30,6	-	60	29,4	26,5	50	23,5

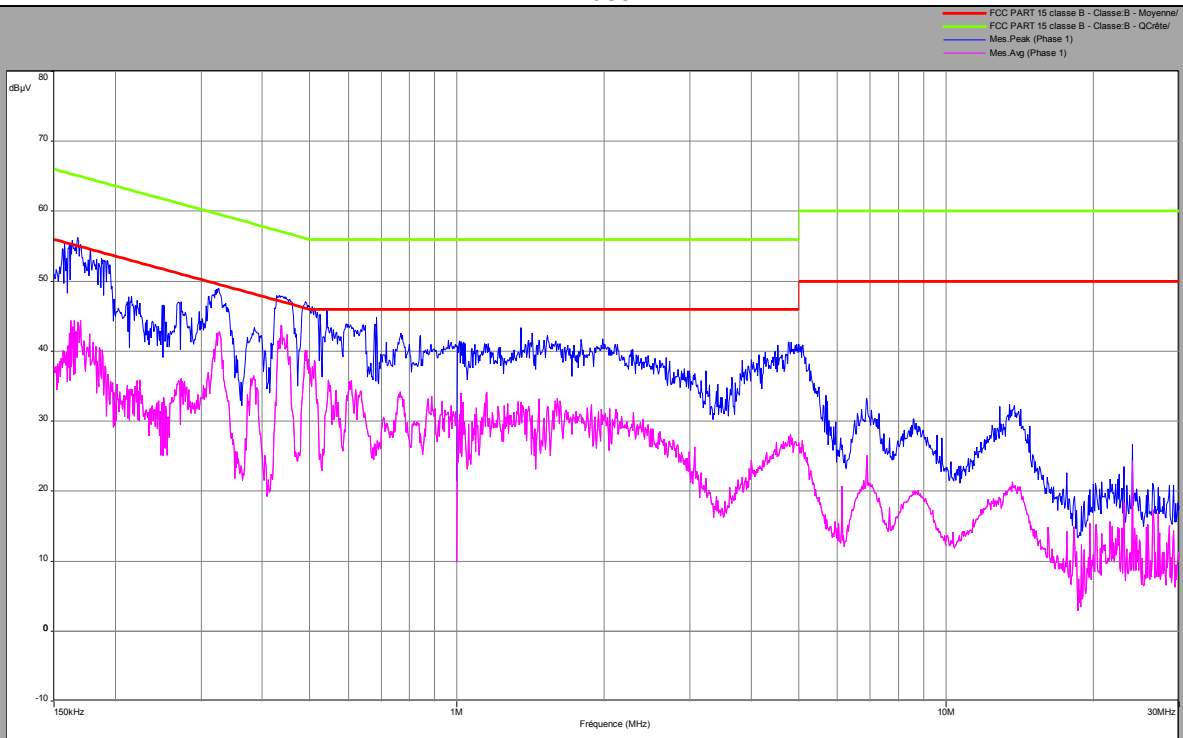
Neutral Line							
Frequency (MHz)	Peak Level (dB $\mu$ V)	Quasi-Peak Level (dB $\mu$ V)	Quasi-Peak Limit (dB $\mu$ V)	Margin Quasi-peak limit	Average Level (dB $\mu$ V)	Average Limit (dB $\mu$ V)	Margin Average Limit
0,164	51,6	-	65	13,4	44	55	11
0,23	40,4	-	62,4	22	36,2	52,4	16,2
0,774	34	-	56	22	23,7	46	22,3
13,77	34,4	-	60	25,6	21	50	29
24	31	-	60	29	28,5	50	21,5



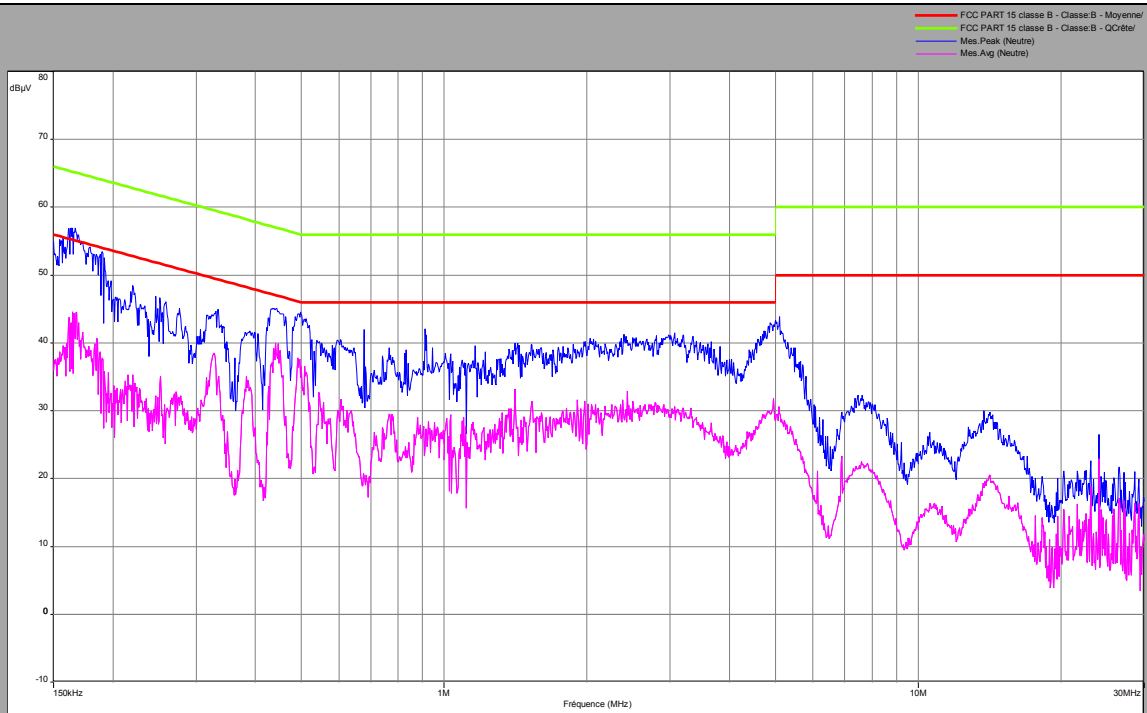
L C I E

Power supply n°2 LPL-C060120500ZS

802.11b  
Channel  
Phase



Line







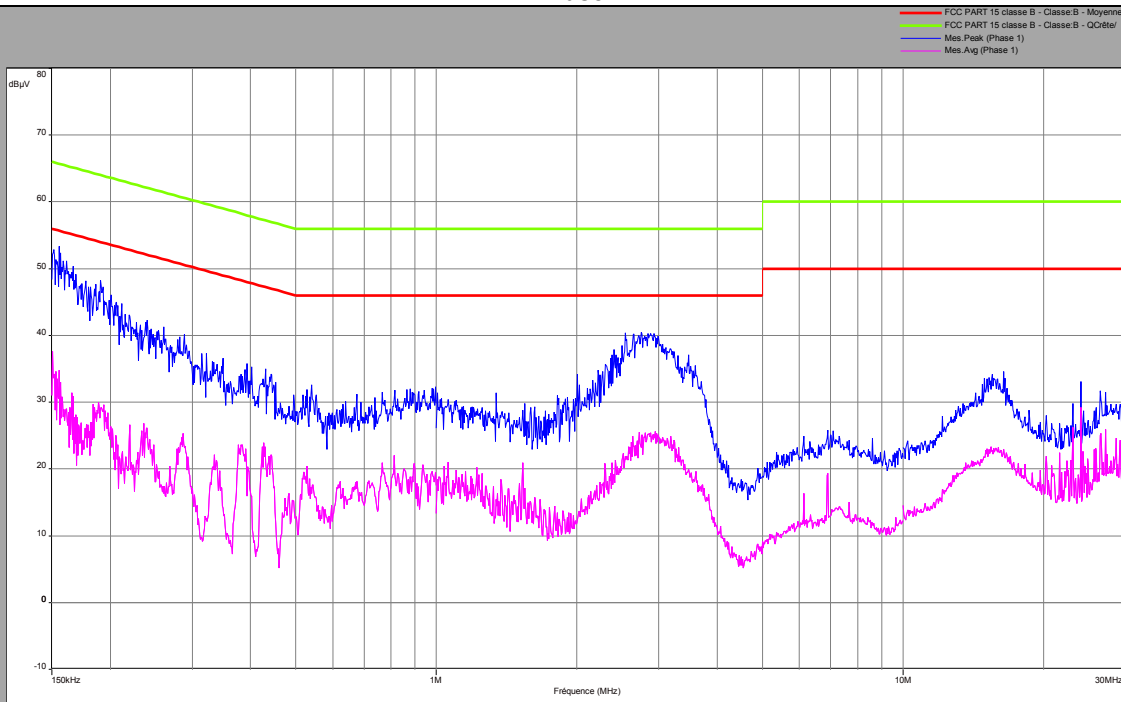
L C I E

Phase Line							
Frequency (MHz)	Peak Level (dB $\mu$ V)	Quasi-Peak Level (dB $\mu$ V)	Quasi-Peak Limit (dB $\mu$ V)	Margin Quasi-peak limit	Average Level (dB $\mu$ V)	Average Limit (dB $\mu$ V)	Margin Average Limit
0,167	56,3	-	65	8,7	44,2	55	10,8
0,325	49	-	59,6	10,6	42,6	49,6	7
0,444	47,7	-	57	9,3	43,7	47	3,3
5,006	41	-	60	19	26,9	50	23,1
24	26,7	-	60	33,3	24,3	50	25,7

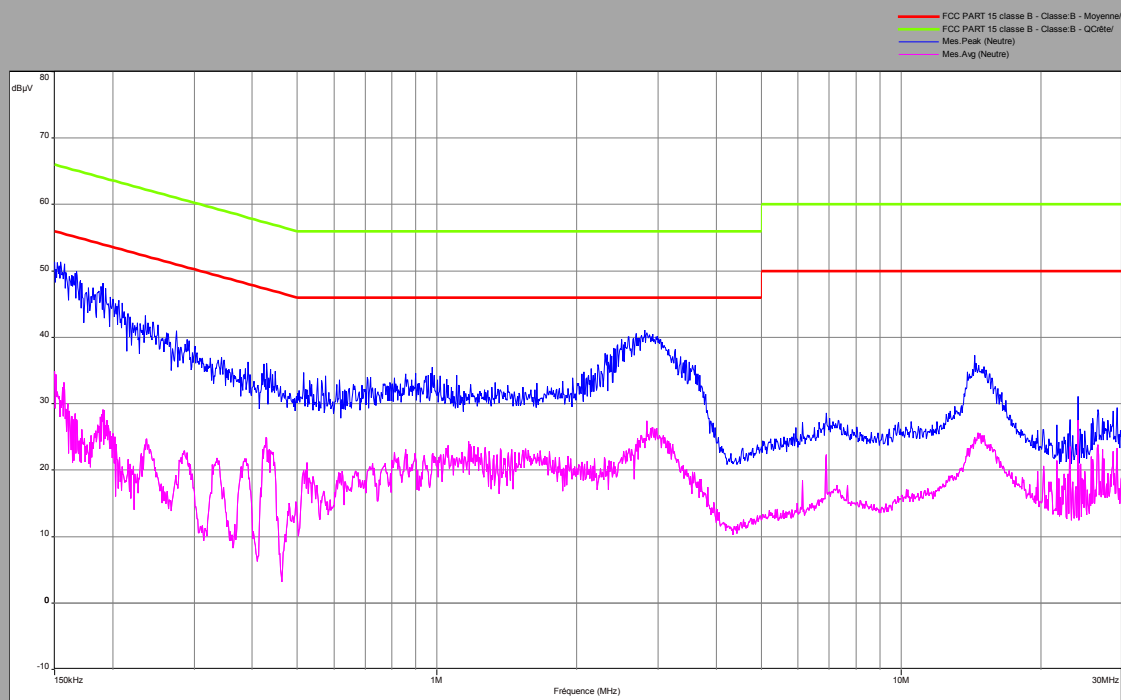
Neutral Line							
Frequency (MHz)	Peak Level (dB $\mu$ V)	Quasi-Peak Level (dB $\mu$ V)	Quasi-Peak Limit (dB $\mu$ V)	Margin Quasi-peak limit	Average Level (dB $\mu$ V)	Average Limit (dB $\mu$ V)	Margin Average Limit
0,162	56,8	-	65,4	8,6	44,6	55,4	10,8
0,444	45	-	57	12	40	47	7
1,412	40	-	56	16	33,25	46	12,75
5,108	43,9	-	60	16,1	31	50	19
24	26,5	-	60	33,5	23	50	27

Power supply n°3 MSA-Z5000IS12.0-60A-P

802.11b  
Channel  
Phase



Line





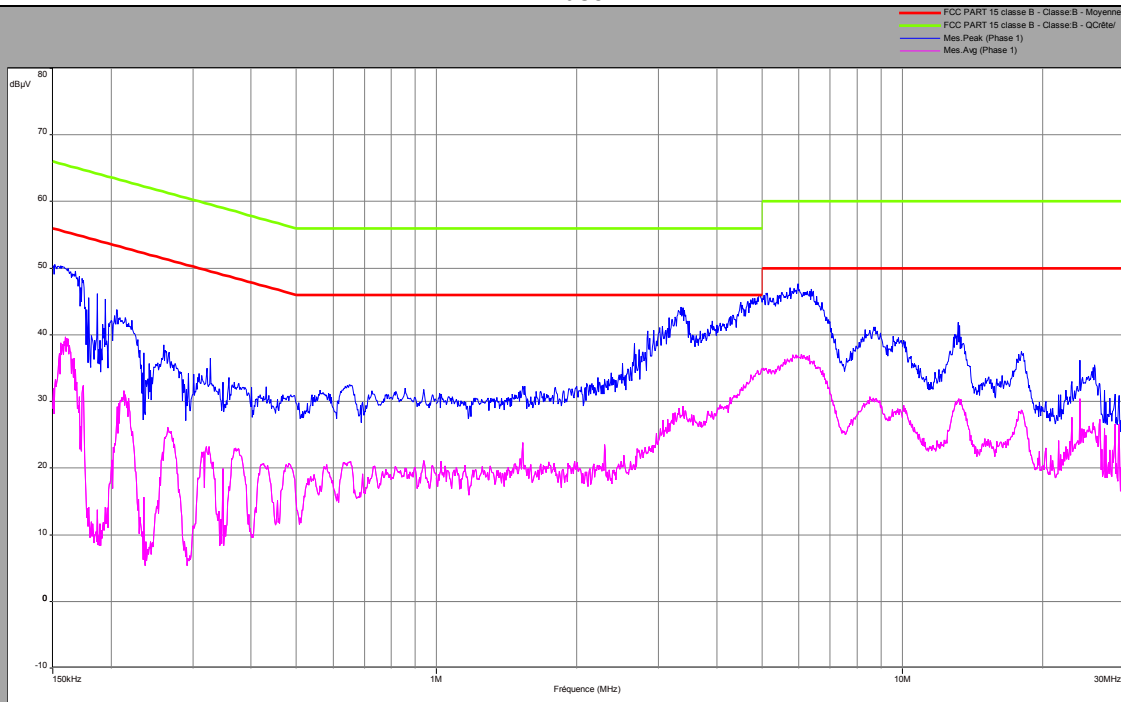
L C I E

Phase Line							
Frequency (MHz)	Peak Level (dB $\mu$ V)	Quasi-Peak Level (dB $\mu$ V)	Quasi-Peak Limit (dB $\mu$ V)	Margin Quasi-peak limit	Average Level (dB $\mu$ V)	Average Limit (dB $\mu$ V)	Margin Average Limit
0,155	53,4	-	65,7	12,3	37,5	55,7	18,2
0,431	35	-	57,3	22,3	23	47,3	24,3
2,95	39,7	-	56	16,3	25,6	46	20,4
15,55	33,7	-	60	26,3	23	50	27
24	33	-	60	27	29	50	21

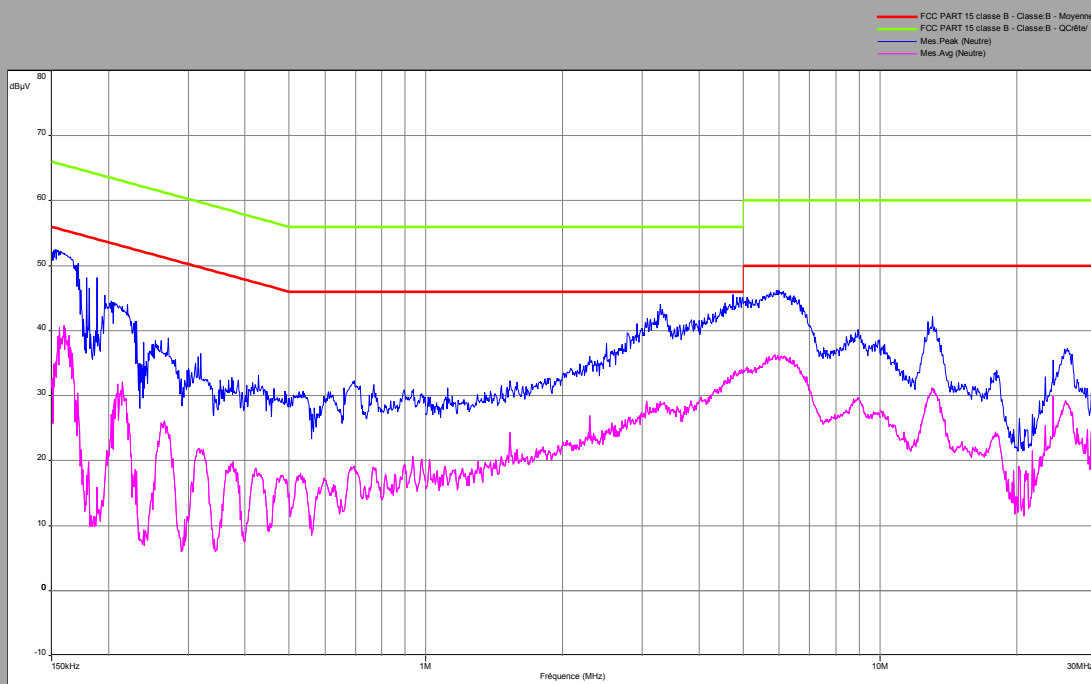
Neutral Line							
Frequency (MHz)	Peak Level (dB $\mu$ V)	Quasi-Peak Level (dB $\mu$ V)	Quasi-Peak Limit (dB $\mu$ V)	Margin Quasi-peak limit	Average Level (dB $\mu$ V)	Average Limit (dB $\mu$ V)	Margin Average Limit
0,156	52,2	-	65,7	13,5	40,7	55,7	15
0,215	43	-	63	20	32,1	53	20,9
3,288	44,1	-	56	11,9	29,2	46	16,8
13,058	42,2	-	60	17,8	31,2	50	18,8
24	35,5	-	60	24,5	30	50	20

Power supply n° 4 A15-060P1A

**802.11b**  
**Channel**  
**Phase**



**Line**





L C I E

Phase Line							
Frequency (MHz)	Peak Level (dB $\mu$ V)	Quasi-Peak Level (dB $\mu$ V)	Quasi-Peak Limit (dB $\mu$ V)	Margin Quasi-peak limit	Average Level (dB $\mu$ V)	Average Limit (dB $\mu$ V)	Margin Average Limit
0,156	50,4	-	65,7	15,3	39,7	55,7	16
0,215	42,3	-	63	20,7	31,5	53	21,5
5,972	47,7	-	60	12,3	36,8	50	13,2
13,186	42	-	60	18	29	50	21
24	36	-	60	24	30,3	50	19,7

Neutral Line							
Frequency (MHz)	Peak Level (dB $\mu$ V)	Quasi-Peak Level (dB $\mu$ V)	Quasi-Peak Limit (dB $\mu$ V)	Margin Quasi-peak limit	Average Level (dB $\mu$ V)	Average Limit (dB $\mu$ V)	Margin Average Limit
0,164	51,6	-	65	13,4	44	55	11
0,23	40,4	-	62,4	22	36,2	52,4	16,2
774	34	-	56	22	23,7	46	22,3
13,77	34,4	-	60	25,6	21	50	29
24	31	-	60	29	28,5	50	21,5

## 10.7. CONCLUSION

Ac Power Line Conducted Emission measurement performed on the sample of the product **SAGEMCOM TheBox (253697282)**, SN: **616400107098**, 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 : November 21, 2016 to November 25, 2016  
Ambient temperature : 19 °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

### 11.3. LIMIT

#### Limit at 3m:

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

#### Limit at 10m:

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

### 11.4. TEST EQUIPMENT LIST

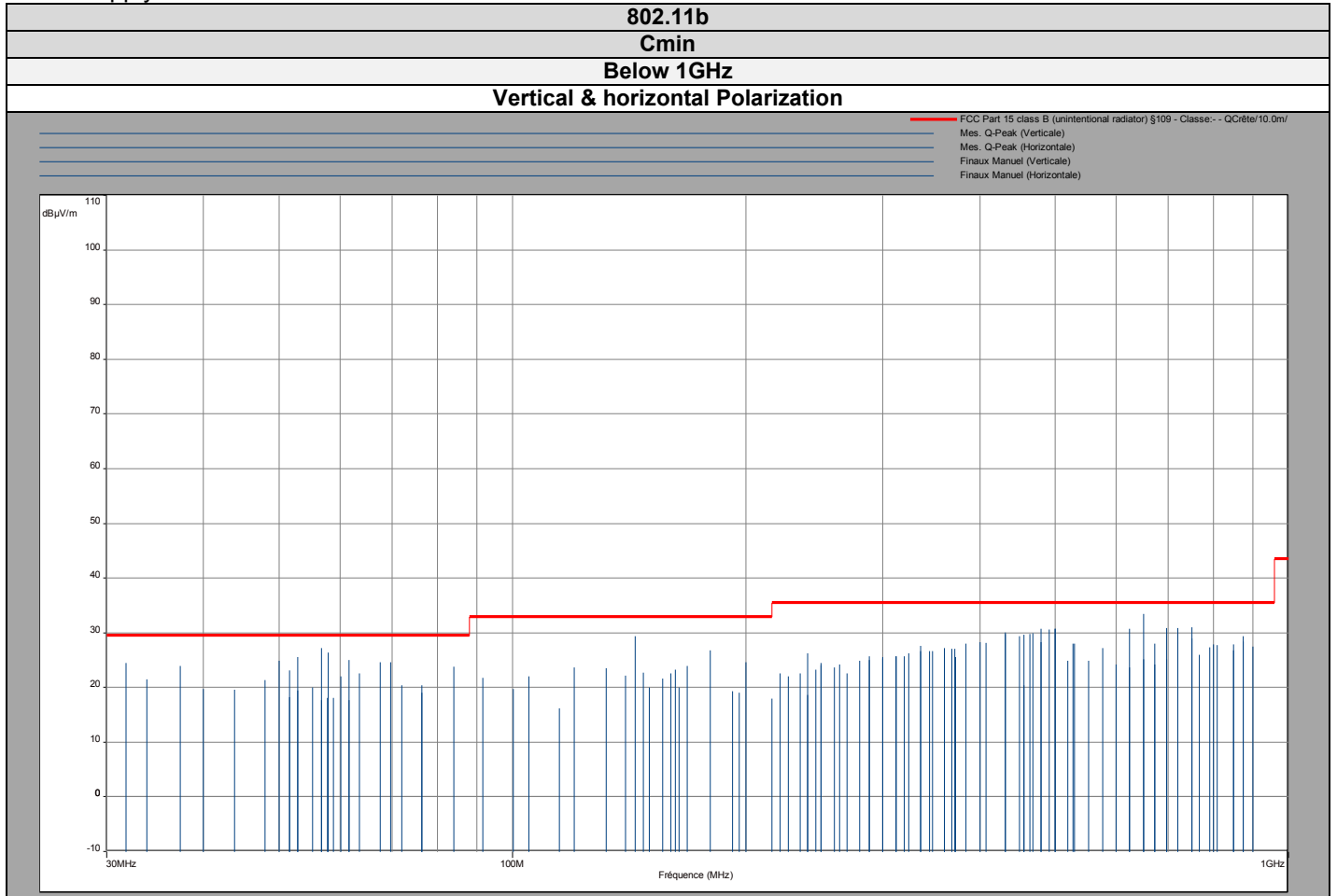
Apparatus	Trade Mark	Type	Registration number	Cal. Date	Cal. Due
Open test site	LCIE	-	F2000400	2016-05	2017-05
EMI Test Receiver	ROHDE & SCHWARZ	ESIB26	A2642021	2015-12	2016-12
Preamplifier	HELWETT PACKARD	8449B	A7080071	2016-01	2017-01
Bilog antenna	CHASE	CBL 6112A	C2040040	2016-01	2017-01
Loop antenna	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

### 11.5. DIVERGENCE, ADDITION OR SUPPRESSION ON THE TEST SPECIFICATION

None       Divergence:

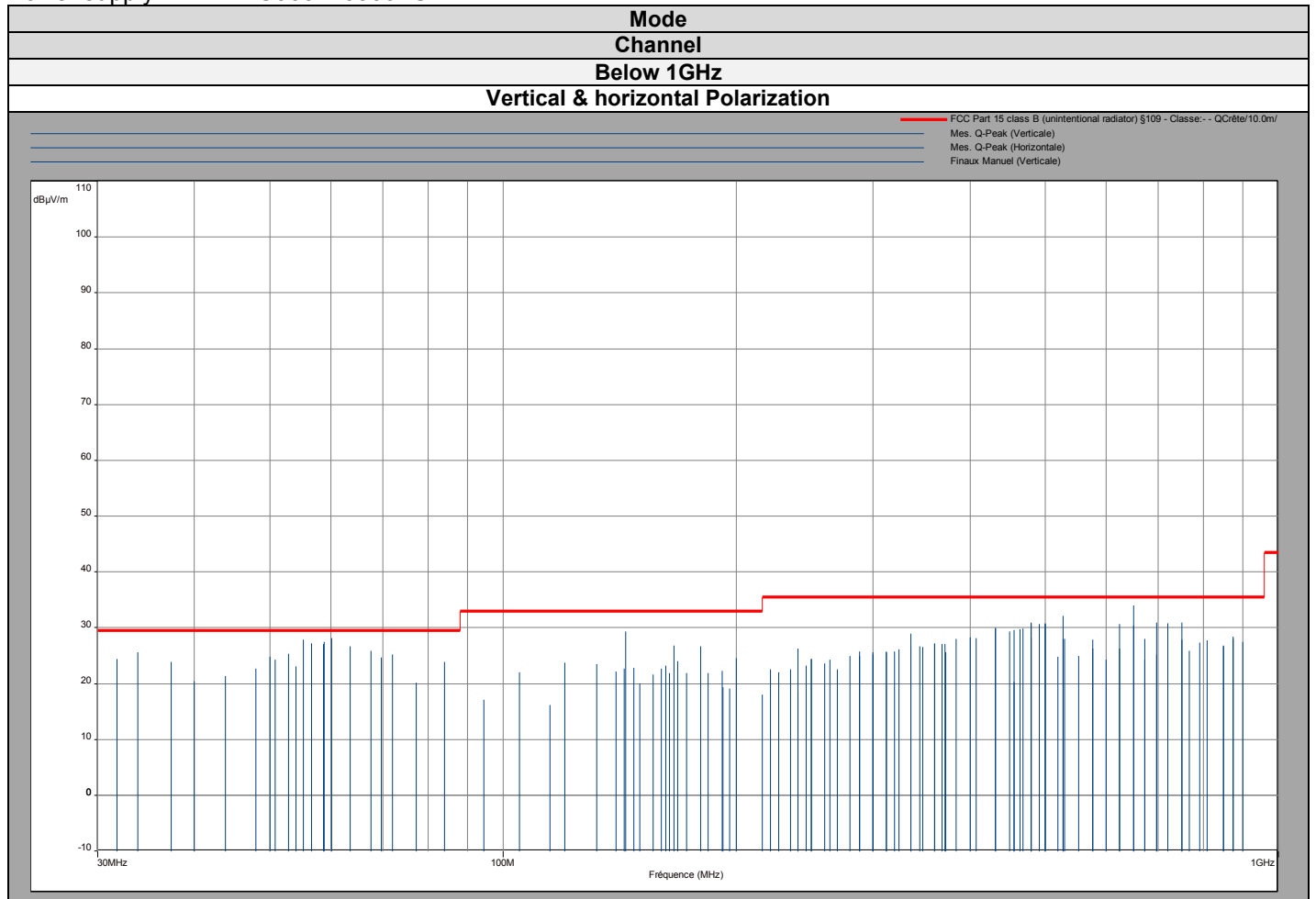
## 11.6. RESULTS

Power supply n°1 NBS60C120500M2



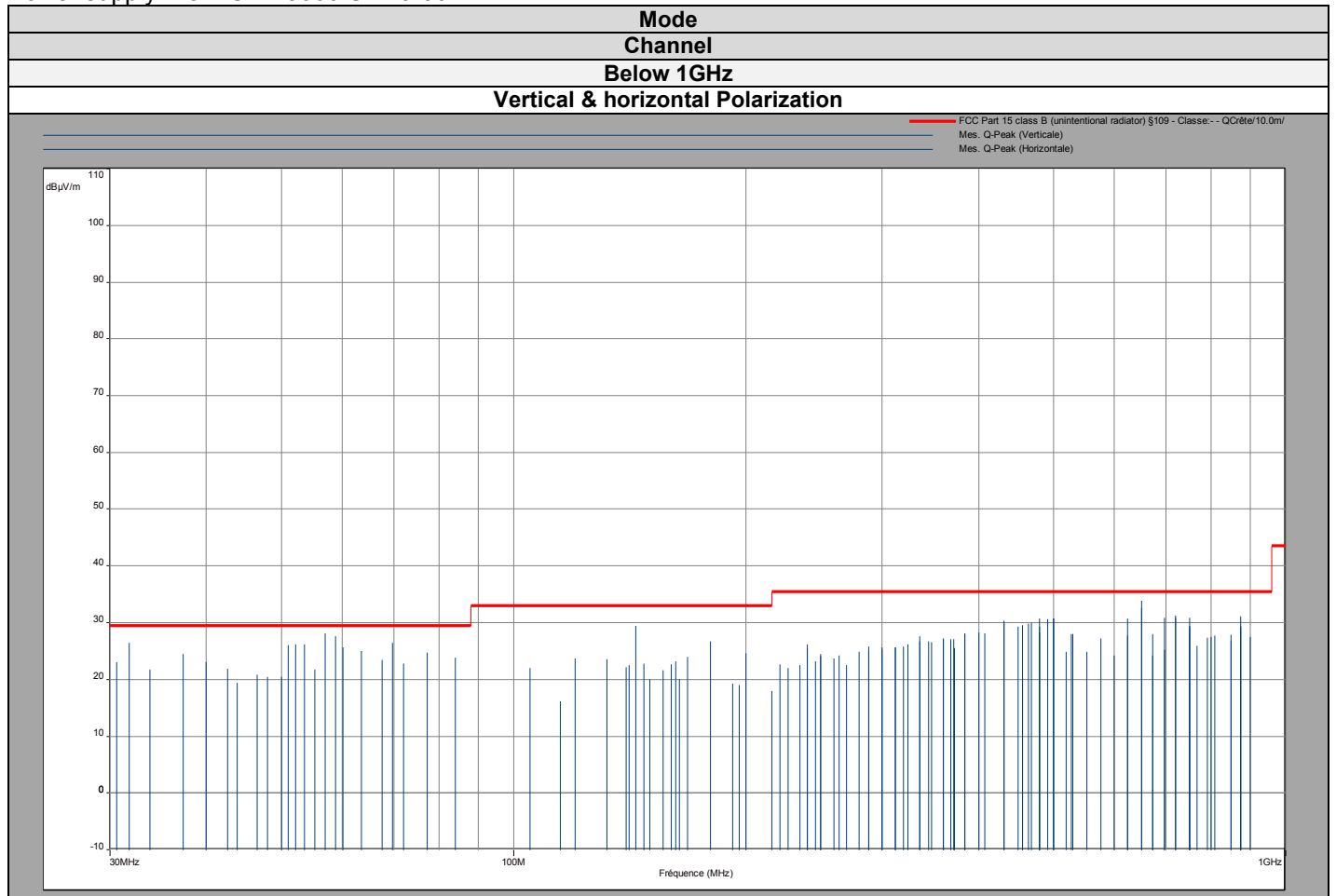


Power supply n°2 LPL-C060120500ZS





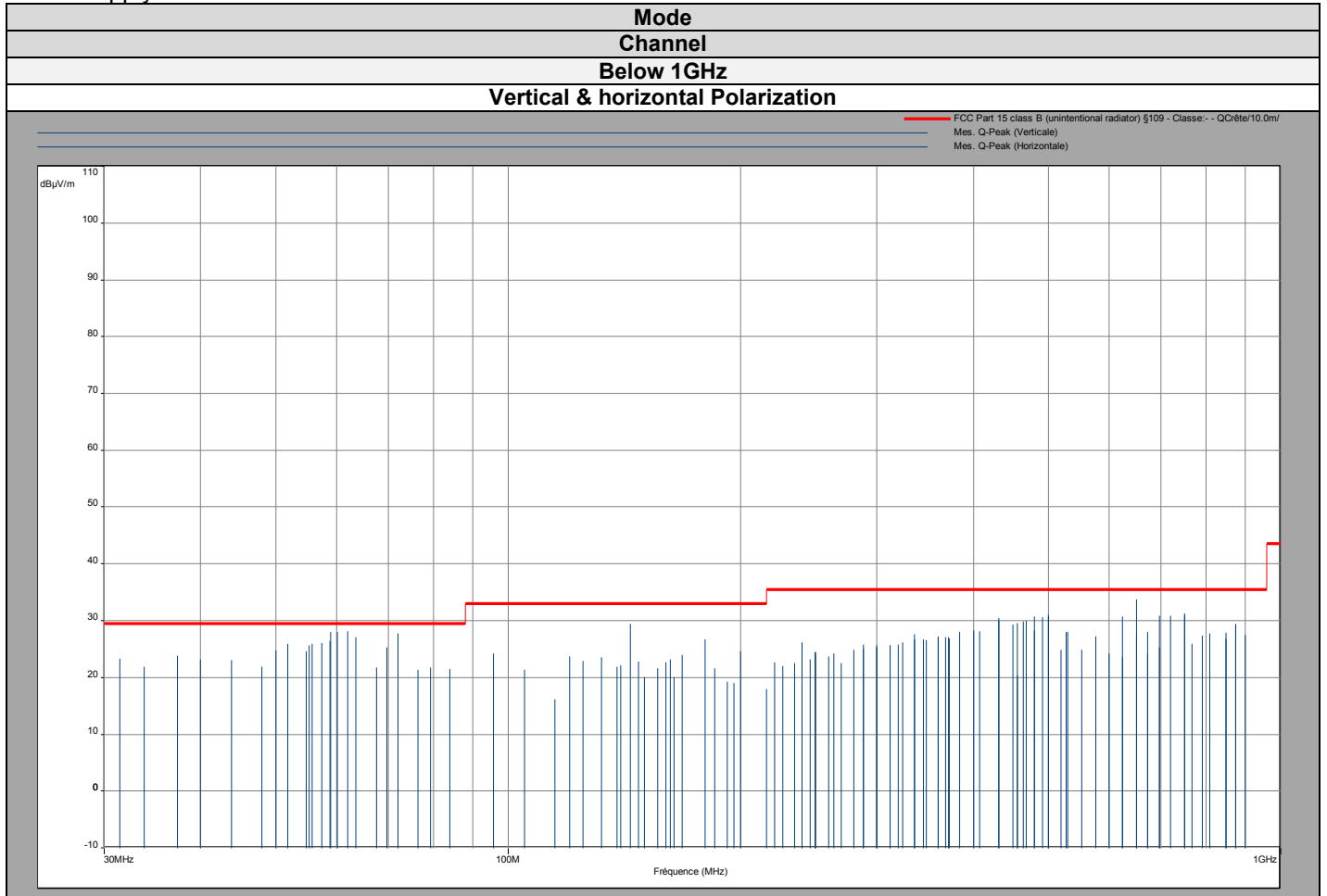
Power supply n°3 MSA-Z5000IS12.0-60A-P







Power supply n° 4 A15-060P1A





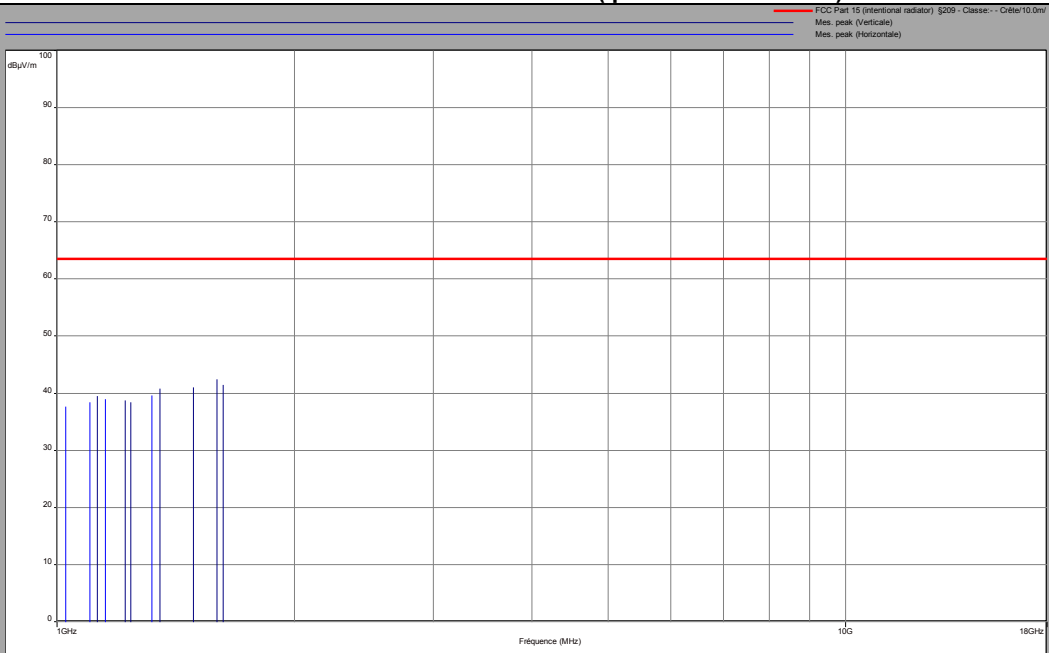
L C I E

802.11b

Cmin/Cnom/Cmax

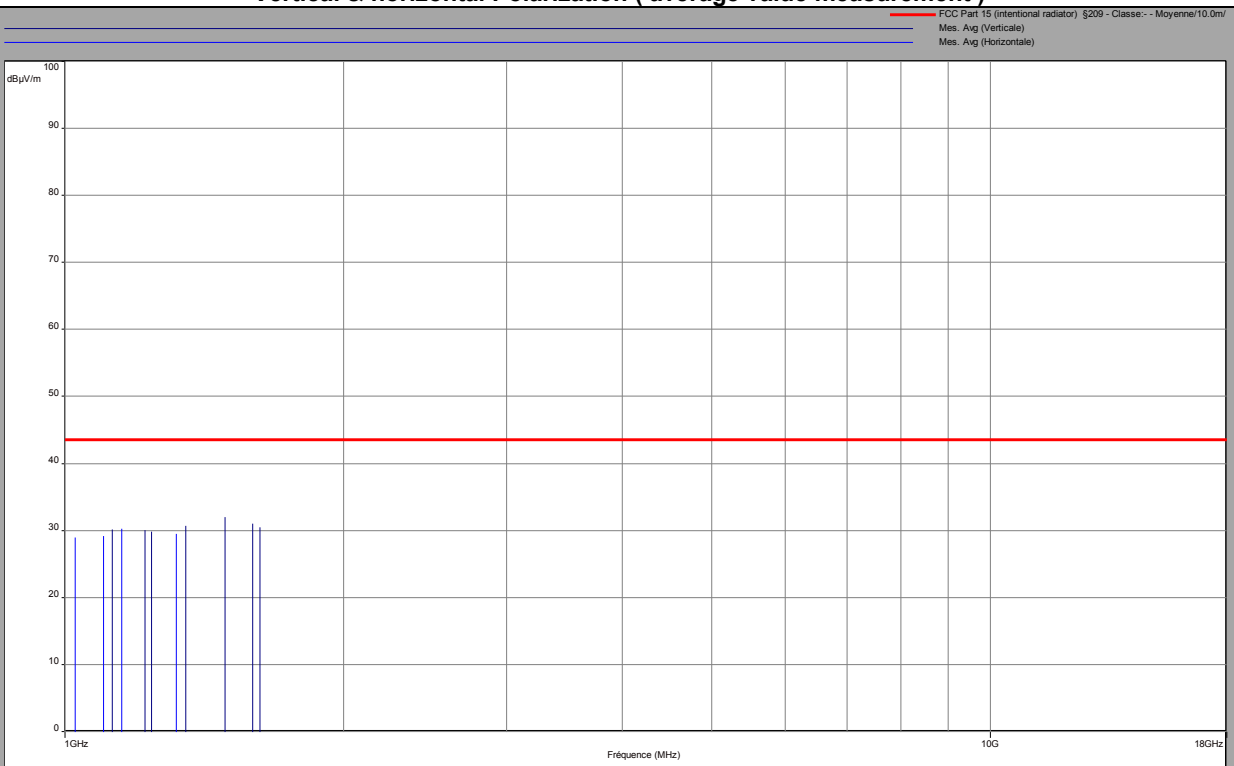
Above 1GHz

Vertical & horizontal Polarization ( peak measurement )



No interference has been observed between 18GHz and 26GHz

Vertical & horizontal Polarization ( average value measurement )



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 : 41243184, Nombre de Balayages : 1, Preamp : On: 20 dB, LN Preamp: Off, Resolution: 0.1

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)

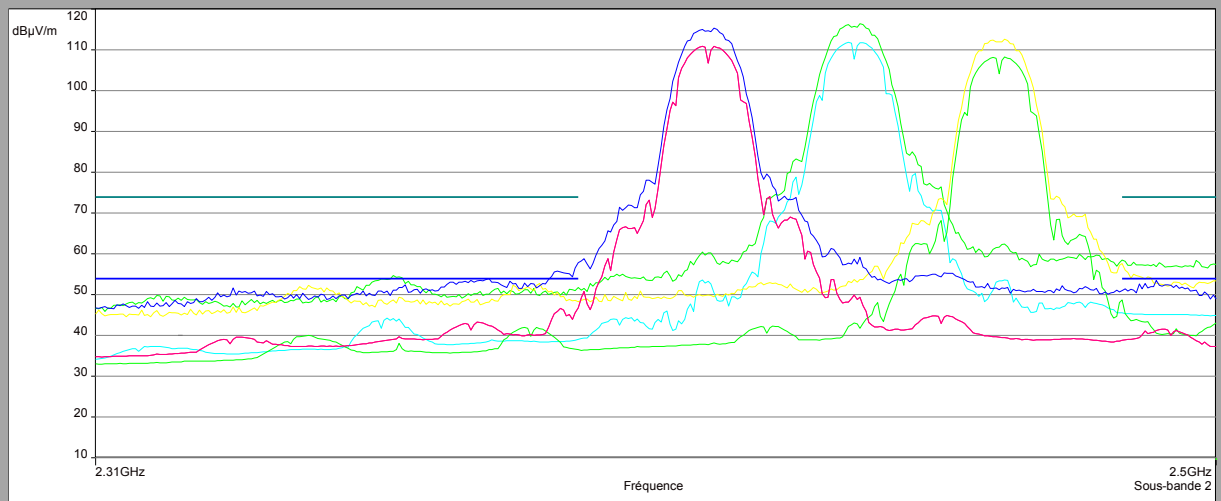
Mes. Avg (Verticale)

Cmax Avg (Verticale)

Cmax Peak (Verticale)

Cnom Avg (Verticale)

Cnom Peak (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 : 41243088, Nombre de Balayages : 1, Preamp : On: 20 dB, LN Preamp: Off, Resolution: 0.1

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)

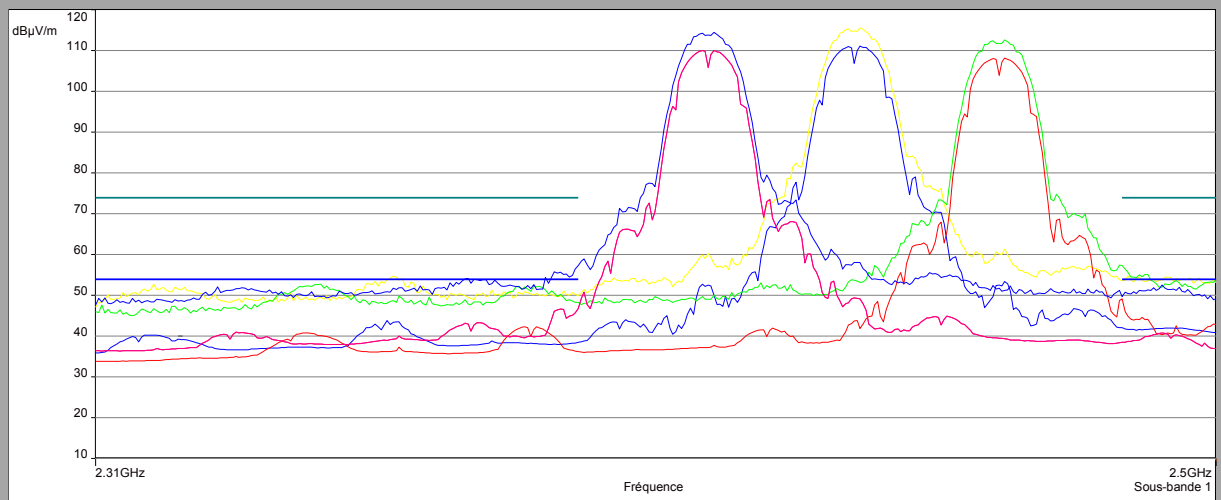
Mes. Avg (Horizontale)

Cmax Avg (Horizontale)

Cmax Peak (Horizontale)

Cnom Avg (Horizontale)

Cnom Peak (Horizontale)





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 : 181769304, Nombre de Balayages : 1, Preamp : On: 20 dB, LN Preamp: Off, Resolution: 2483MHz Band - Classe:1 - 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/

Mes. Peak (Verticale)

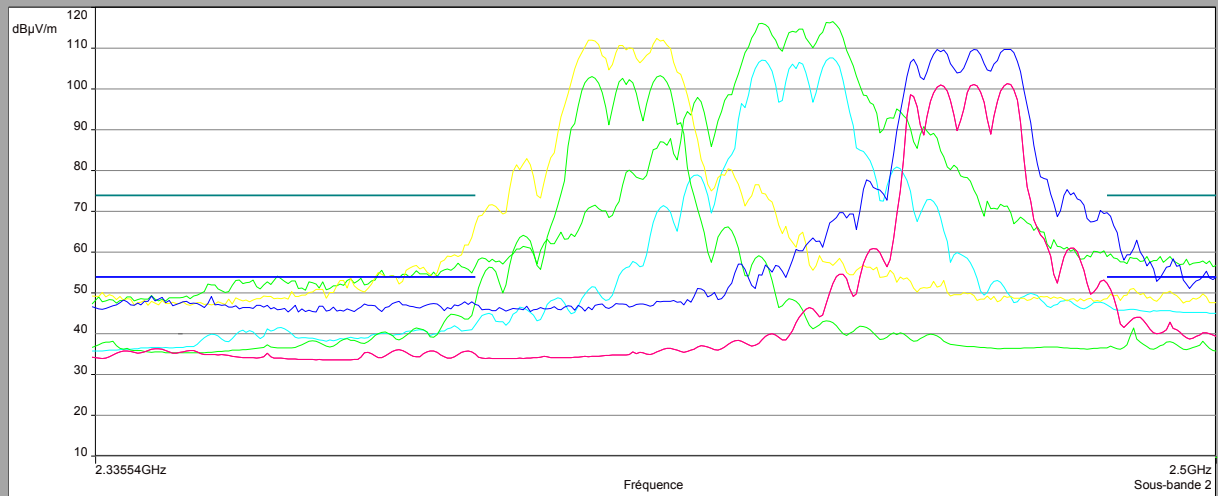
Mes. Avg (Verticale)

Cmin Avg (Verticale)

Cmin Peak (Verticale)

Cnom Avg (Verticale)

Cnom Peak (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 : 181769304, Nombre de Balayages : 1, Preamp : On: 20 dB, LN Preamp: Off, Resolution: 2483MHz Band - Classe:1 - 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/

Mes. Peak (Horizontale)

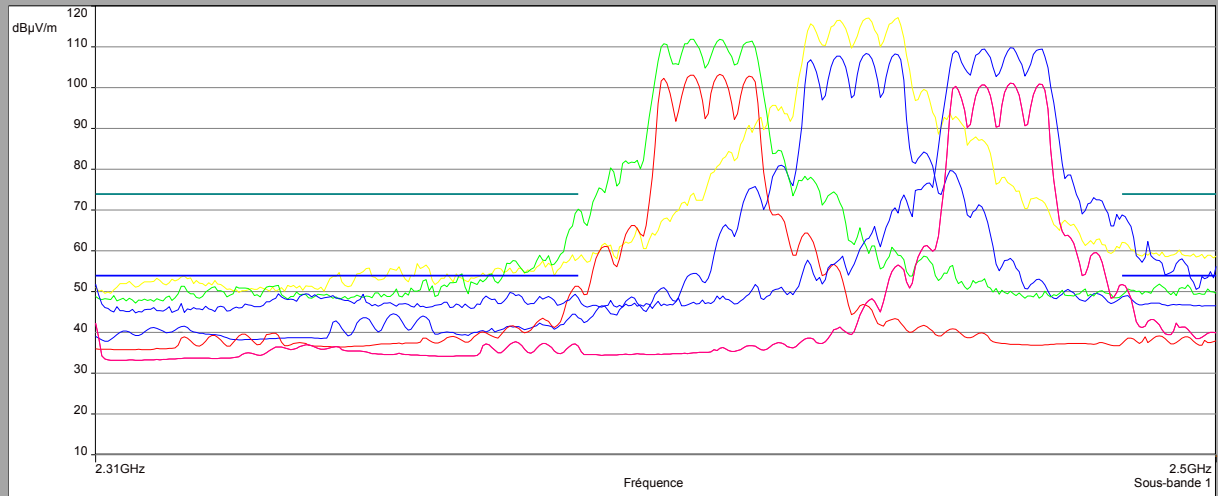
Mes. Avg (Horizontale)

Cmin Avg (Horizontale)

Cmin Peak (Horizontale)

Cnom Avg (Horizontale)

Cnom Peak (Horizontale)





L C I E

### 802.11n HT20

### 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 : 157065896, Nombre de Balayages : 1, Preamp : On: 20 dB, LN Preamp: Off, Resolution: 2483MHz - Classe:1 - 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/

Mes. Peak (Verticale)

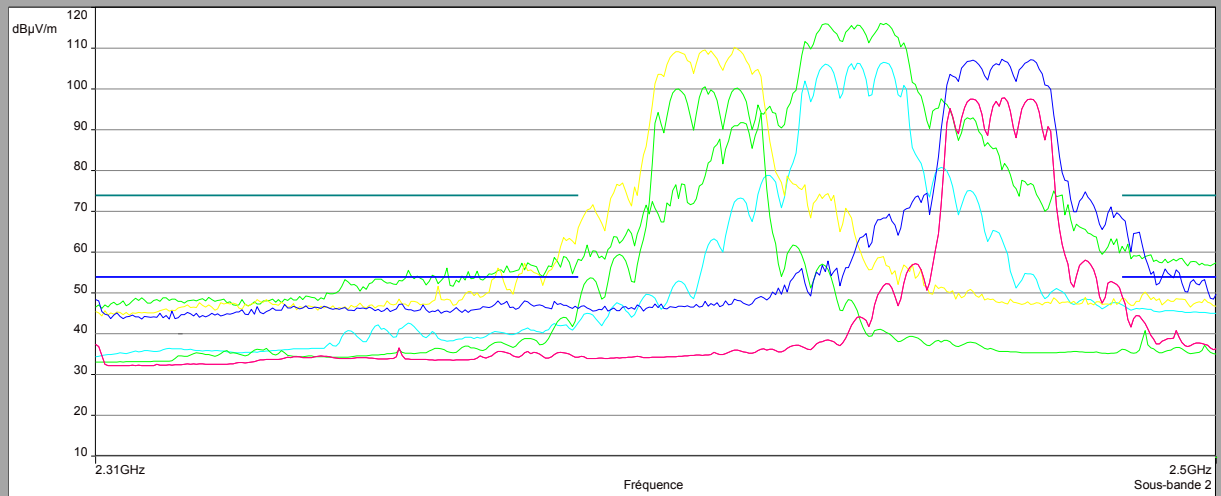
Mes. Avg (Verticale)

Cmin Avg (Verticale)

Cmin Peak (Verticale)

Cnom Avg (Verticale)

Cnom Peak (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 : 155851200, Nombre de Balayages : 1, Preamp : On: 20 dB, LN Preamp: Off, Resolution: 2483MHz - Classe:1 - 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/

Mes. Peak (Horizontale)

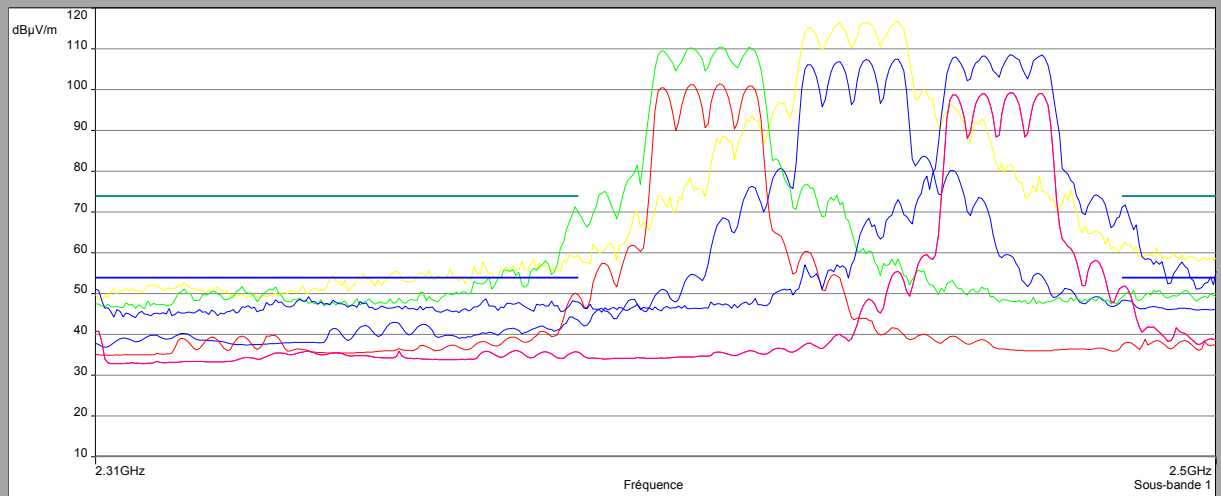
Mes. Avg (Horizontale)

Cmin Avg (Horizontale)

Cmin Peak (Horizontale)

Cnom Avg (Horizontale)

Cnom Peak (Horizontale)





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 : 156453576, Nombre de Balayages : 1, Preamp : On: 20 dB, LN Preamp: Off, Resolution: 2483MHz Band - Classe:1 - 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/

Mes. Peak (Verticale)

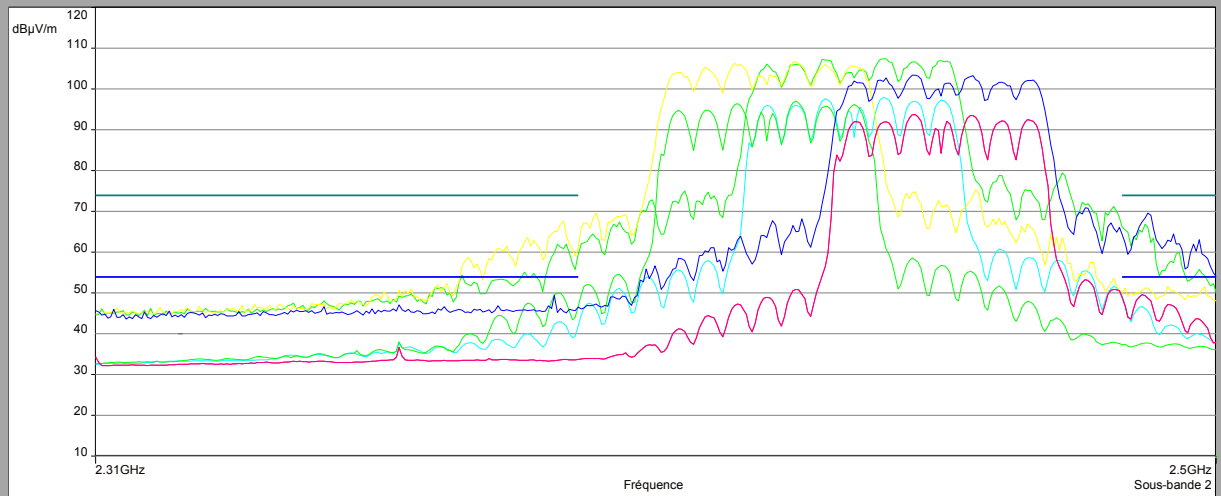
Mes. Avg (Verticale)

Cmin Avg (Verticale)

Cmin Peak (Verticale)

Cnom Avg (Verticale)

Cnom Peak (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 : 156453544, Nombre de Balayages : 1, Preamp : On: 20 dB, LN Preamp: Off, Resolution: 2483MHz Band - Classe:1 - 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/

Mes. Peak (Horizontale)

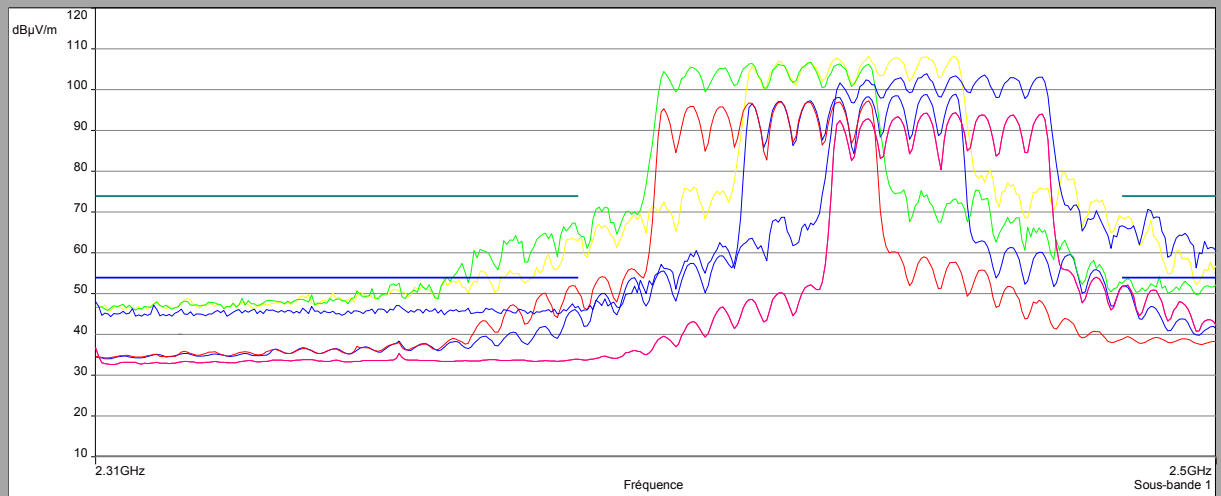
Mes. Avg (Horizontale)

Cmin Avg (Horizontale)

Cmin Peak (Horizontale)

Cnom Avg (Horizontale)

Cnom Peak (Horizontale)





L C I E

Power supply n°1 NBS60C120500M2

Polarisation	Frequency (MHz)	level Quasi peak (dBµV/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
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



L C I E

Power supply n°1 NBS60C120500M2

Polarisation	Frequency (MHz)	level Quasi peak (dB $\mu$ V/m)	limit FCC	Margin
vertical	200	24.63	33	8.37
vertical	216	18.01	33	14.99
vertical	221.2	22.65	35.5	12.85
vertical	240	26.28	35.5	9.22
vertical	250	24.5	35.5	11
vertical	264	24.3	35.5	11.2
vertical	288	25.8	35.5	9.7
vertical	300	25.64	35.5	9.86
vertical	312	25.74	35.5	9.76
vertical	336	27.64	35.5	7.86
vertical	348	26.65	35.5	8.85
vertical	360	27.13	35.5	8.37
vertical	368	27.09	35.5	8.41
vertical	371.8	27.13	35.5	8.37
vertical	400	28.31	35.5	7.19
vertical	408	28.19	35.5	7.31
vertical	432	29.88	35.5	5.62
vertical	450	29.35	35.5	6.15
vertical	456	29.62	35.5	5.88
vertical	464	29.82	35.5	5.68
vertical	468	29.97	35.5	5.53
vertical	480	28.3	35.5	7.2
vertical	492	30.67	35.5	4.83
vertical	500	30.81	35.5	4.69
vertical	520	24.91	35.5	10.59
vertical	530	28.08	35.5	7.42
vertical	600	24.31	35.5	11.19
vertical	624	23.68	35.5	11.82
vertical	650	25.15	35.5	10.35
vertical	672	28.03	35.5	7.47
vertical	696	30.92	35.5	4.58
vertical	750	30.98	35.5	4.52
vertical	768	25.96	35.5	9.54
vertical	792	27.37	35.5	8.13
vertical	808.7	27.74	35.5	7.76
vertical	850	27.92	35.5	7.58
vertical	875	29.43	35.5	6.07





L C I E

Power supply n°1 NBS60C120500M2

Polarisation	Frequency (MHz)	level Quasi peak (dBµV/m)	limit FCC	Margin
Horizontal	226.8	22.04	35.5	13.46
Horizontal	235	22.63	35.5	12.87
Horizontal	240	18.66	35.5	16.84
Horizontal	245.8	23.24	35.5	12.26
Horizontal	250	24.17	35.5	11.33
Horizontal	260	23.7	35.5	11.8
Horizontal	270	22.63	35.5	12.87
Horizontal	280	24.97	35.5	10.53
Horizontal	288	25.02	35.5	10.48
Horizontal	300	25.29	35.5	10.21
Horizontal	312	25.68	35.5	9.82
Horizontal	320	25.79	35.5	9.71
Horizontal	324	26.25	35.5	9.25
Horizontal	336	26.7	35.5	8.8
Horizontal	345	26.69	35.5	8.81
Horizontal	360	27.3	35.5	8.2
Horizontal	372	25.6	35.5	9.9
Horizontal	384	28.05	35.5	7.45
Horizontal	432	30.03	35.5	5.47
Horizontal	456	20.38	35.5	15.12
Horizontal	480	30.81	35.5	4.69
Horizontal	500	30.75	35.5	4.75
Horizontal	528	28.03	35.5	7.47
Horizontal	552	24.96	35.5	10.54
Horizontal	576	27.21	35.5	8.29
Horizontal	624	30.75	35.5	4.75
Horizontal	650	33.53	35.5	1.97
Horizontal	672	24.28	35.5	11.22
Horizontal	696	25.25	35.5	10.25
Horizontal	720	30.87	35.5	4.63
Horizontal	750	29.07	35.5	6.43
Horizontal	800	27.88	35.5	7.62
Horizontal	850	26.82	35.5	8.68
Horizontal	875	28.43	35.5	7.07
Horizontal	900	27.51	35.5	7.99



L C I E

Power supply n°2 LPL-C060120500ZS

Polarisation	Frequency (MHz)	level Quasi peak (dBµV/m)	limit FCC	Margin
vertical	31.8	24.49	29.5	5.01
vertical	33.8	25.59	29.5	3.91
vertical	37.3	23.92	29.5	5.58
vertical	40	20.42	29.5	9.08
vertical	43.8	21.42	29.5	8.08
vertical	48	22.74	29.5	6.76
vertical	50.1	24.89	29.5	4.61
vertical	50.8	24.39	29.5	5.11
vertical	52.9	25.33	29.5	4.17
vertical	54.1	23.08	29.5	6.42
vertical	55.3	27.85	29.5	1.65
vertical	56.6	27.25	29.5	2.25
vertical	58.7	27.15	29.5	2.35
vertical	58.8	27.54	29.5	1.96
vertical	60.1	28.13	29.5	1.37
vertical	63.5	26.72	29.5	2.78
vertical	67.6	25.89	29.5	3.61
vertical	69.7	24.68	29.5	4.82
vertical	72	25.25	29.5	4.25
vertical	77.2	20.26	29.5	9.24
vertical	84	23.86	29.5	5.64
vertical	94.5	17.19	33	15.81
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	143.3	22.76	33	10.24
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	21.99	33	11.01
vertical	166	26.88	33	6.12
vertical	168	24	33	9



L C I E

Power supply n°2 LPL-C060120500ZS

Polarisation	Frequency (MHz)	level Quasi peak (dB $\mu$ V/m)	limit FCC	Margin
vertical	172.5	21.99	33	11.01
vertical	180	26.77	33	6.23
vertical	183.8	21.92	33	11.08
vertical	191.6	22.32	33	10.68
vertical	192	19.34	33	13.66
vertical	196	19.08	33	13.92
vertical	200	24.63	33	8.37
vertical	216	18.01	33	14.99
vertical	221.2	22.65	35.5	12.85
vertical	240	26.28	35.5	9.22
vertical	250	24.5	35.5	11
vertical	264	24.3	35.5	11.2
vertical	288	25.8	35.5	9.7
vertical	300	25.64	35.5	9.86
vertical	312	25.74	35.5	9.76
vertical	336	28.99	35.5	6.51
vertical	348	26.65	35.5	8.85
vertical	360	27.13	35.5	8.37
vertical	368	27.09	35.5	8.41
vertical	371.8	27.13	35.5	8.37
vertical	400	28.31	35.5	7.19
vertical	408	28.19	35.5	7.31
vertical	432	29.88	35.5	5.62
vertical	450	29.35	35.5	6.15
vertical	456	29.62	35.5	5.88
vertical	464	29.82	35.5	5.68
vertical	468	29.97	35.5	5.53
vertical	480	30.92	35.5	4.58
vertical	492	30.67	35.5	4.83
vertical	500	30.81	35.5	4.69
vertical	520	24.91	35.5	10.59



L C I E

Power supply n°2 LPL-C060120500ZS

Polarisation	Frequency (MHz)	level Quasi peak (dBµV/m)	limit FCC	Margin
vertical	520	24.91	35.5	10.59
vertical	528	28.03	35.5	7.47
vertical	530	28.08	35.5	7.42
vertical	576	26.28	35.5	9.22
vertical	600	24.31	35.5	11.19
vertical	624	26.27	35.5	9.23
vertical	650	30.45	35.5	5.05
vertical	672	28.03	35.5	7.47
vertical	696	30.92	35.5	4.58
vertical	750	30.98	35.5	4.52
vertical	768	25.96	35.5	9.54
vertical	792	27.37	35.5	8.13
vertical	808.7	27.74	35.5	7.76
vertical	850	26.68	35.5	8.82
vertical	875	28.05	35.5	7.45



L C I E

Power supply n°2 LPL-C060120500ZS

Polarisation	Frequency (MHz)	level Quasi peak (dB $\mu$ V/m)	limit FCC	Margin
Horizontal	226.8	22.04	35.5	13.46
Horizontal	235	22.63	35.5	12.87
Horizontal	240	18.66	35.5	16.84
Horizontal	245.8	23.24	35.5	12.26
Horizontal	250	24.45	35.5	11.05
Horizontal	260	23.7	35.5	11.8
Horizontal	270	22.63	35.5	12.87
Horizontal	280	24.97	35.5	10.53
Horizontal	288	25.02	35.5	10.48
Horizontal	300	25.29	35.5	10.21
Horizontal	312	25.68	35.5	9.82
Horizontal	320	25.79	35.5	9.71
Horizontal	324	26.25	35.5	9.25
Horizontal	336	26.7	35.5	8.8
Horizontal	345	26.69	35.5	8.81
Horizontal	360	27.3	35.5	8.2
Horizontal	372	25.6	35.5	9.9
Horizontal	384	28.05	35.5	7.45
Horizontal	432	30.03	35.5	5.47
Horizontal	456	20.38	35.5	15.12
Horizontal	480	30.81	35.5	4.69
Horizontal	500	30.75	35.5	4.75
Horizontal	528	32.16	35.5	3.34
Horizontal	552	24.96	35.5	10.54
Horizontal	576	27.97	35.5	7.53
Horizontal	624	30.75	35.5	4.75
Horizontal	650	34.04	35.5	1.46
Horizontal	672	24.28	35.5	11.22
Horizontal	696	25.25	35.5	10.25
Horizontal	720	30.87	35.5	4.63
Horizontal	750	27.98	35.5	7.52
Horizontal	850	26.82	35.5	8.68
Horizontal	875	28.43	35.5	7.07
Horizontal	900	27.51	35.5	7.99



L C I E

Power supply n°3 MSA-Z5000IS12.0-60A-P

Polarisation	Frequency (MHz)	level Quasi peak (dB $\mu$ V/m)	limit FCC	Margin
vertical	30.6	23.06	29.5	6.44
vertical	31.8	26.44	29.5	3.06
vertical	33.8	21.8	29.5	7.7
vertical	37.3	24.5	29.5	5
vertical	40	23.12	29.5	6.38
vertical	42.6	21.96	29.5	7.54
vertical	43.8	19.5	29.5	10
vertical	46.5	20.83	29.5	8.67
vertical	48	20.45	29.5	9.05
vertical	50.1	20.43	29.5	9.07
vertical	51	26.03	29.5	3.47
vertical	52.2	26.23	29.5	3.27
vertical	53.6	26.22	29.5	3.28
vertical	55.3	21.78	29.5	7.72
vertical	57	28.15	29.5	1.35
vertical	58.8	27.72	29.5	1.78
vertical	60.1	25.64	29.5	3.86
vertical	63.5	24.99	29.5	4.51
vertical	67.6	23.45	29.5	6.05
vertical	69.7	26.5	29.5	3
vertical	72	22.79	29.5	6.71
vertical	77.2	24.82	29.5	4.68
vertical	84	23.86	29.5	5.64
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	141.2	22.54	33	10.46
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
vertical	168	24	33	9



L C I E

Power supply n°3 MSA-Z5000IS12.0-60A-P

Polarisation	Frequency (MHz)	level Quasi peak (dBµV/m)	limit FCC	Margin
vertical	180	26.77	33	6.23
vertical	192	19.34	33	13.66
vertical	196	19.08	33	13.92
vertical	200	24.63	33	8.37
vertical	216	18.01	33	14.99
vertical	221.2	22.65	35.5	12.85
vertical	240	26.28	35.5	9.22
vertical	250	24.5	35.5	11
vertical	264	24.3	35.5	11.2
vertical	288	25.8	35.5	9.7
vertical	300	25.64	35.5	9.86
vertical	312	25.74	35.5	9.76
vertical	336	27.64	35.5	7.86
vertical	348	26.65	35.5	8.85
vertical	360	27.13	35.5	8.37
vertical	368	27.09	35.5	8.41
vertical	371.8	27.13	35.5	8.37
vertical	384	28.16	35.5	7.34
vertical	400	28.31	35.5	7.19
vertical	408	28.19	35.5	7.31
vertical	432	29.88	35.5	5.62
vertical	450	29.35	35.5	6.15
vertical	456	29.62	35.5	5.88
vertical	464	29.82	35.5	5.68
vertical	468	29.97	35.5	5.53
vertical	480	29.31	35.5	6.19
vertical	492	30.67	35.5	4.83
vertical	500	30.81	35.5	4.69
vertical	520	24.91	35.5	10.59
vertical	530	28.08	35.5	7.42
vertical	600	24.31	35.5	11.19
vertical	624	27.85	35.5	7.65



L C I E

Power supply n°3 MSA-Z5000IS12.0-60A-P

Polarisation	Frequency (MHz)	level Quasi peak (dB $\mu$ V/m)	limit FCC	Margin
vertical	650	32.67	35.5	2.83
vertical	672	28.03	35.5	7.47
vertical	696	30.92	35.5	4.58
vertical	720	30.98	35.5	4.52
vertical	750	30.98	35.5	4.52
vertical	750	29.49	35.5	6.01
vertical	768	25.96	35.5	9.54
vertical	792	27.37	35.5	8.13
vertical	808.7	27.74	35.5	7.76
vertical	850	27.92	35.5	7.58
vertical	875	31.12	35.5	4.38





L C I E

Power supply n°3 MSA-Z5000IS12.0-60A-P

Polarisation	Frequency (MHz)	level Quasi peak (dB $\mu$ V/m)	limit FCC	Margin
Horizontal	226.8	22.04	35.5	13.46
Horizontal	235	22.63	35.5	12.87
Horizontal	240	18.66	35.5	16.84
Horizontal	245.8	23.24	35.5	12.26
Horizontal	250	24.17	35.5	11.33
Horizontal	260	23.7	35.5	11.8
Horizontal	270	22.63	35.5	12.87
Horizontal	280	24.97	35.5	10.53
Horizontal	288	25.02	35.5	10.48
Horizontal	300	25.29	35.5	10.21
Horizontal	312	25.68	35.5	9.82
Horizontal	320	25.79	35.5	9.71
Horizontal	324	26.25	35.5	9.25
Horizontal	336	26.7	35.5	8.8
Horizontal	345	26.69	35.5	8.81
Horizontal	360	27.3	35.5	8.2
Horizontal	372	25.6	35.5	9.9
Horizontal	384	28.05	35.5	7.45
Horizontal	432	30.36	35.5	5.14
Horizontal	456	20.38	35.5	15.12
Horizontal	480	30.81	35.5	4.69
Horizontal	500	30.75	35.5	4.75
Horizontal	528	28.03	35.5	7.47
Horizontal	552	24.96	35.5	10.54
Horizontal	576	27.21	35.5	8.29
Horizontal	624	30.75	35.5	4.75
Horizontal	650	33.85	35.5	1.65
Horizontal	672	24.28	35.5	11.22
Horizontal	696	25.25	35.5	10.25
Horizontal	720	31.36	35.5	4.14
Horizontal	750	29.07	35.5	6.43
Horizontal	800	27.46	35.5	8.04
Horizontal	850	26.82	35.5	8.68
Horizontal	875	29.21	35.5	6.29
Horizontal	900	27.51	35.5	7.99



L C I E

Power supply n° 4 A15-060P1A

Polarisation	Frequency (MHz)	level Quasi peak (dBµV/m)	limit FCC	Margin
vertical	31.4	23.36	29.5	6.14
vertical	33.8	21.96	29.5	7.54
vertical	37.3	23.92	29.5	5.58
vertical	40	23.28	29.5	6.22
vertical	43.8	23.12	29.5	6.38
vertical	48	21.9	29.5	7.6
vertical	50.1	24.77	29.5	4.73
vertical	51.8	25.99	29.5	3.51
vertical	54.8	24.65	29.5	4.85
vertical	55.3	25.75	29.5	3.75
vertical	55.7	25.96	29.5	3.54
vertical	57.4	26.13	29.5	3.37
vertical	58.4	26.53	29.5	2.97
vertical	58.9	28.01	29.5	1.49
vertical	60.1	28.05	29.5	1.45
vertical	62	28.18	29.5	1.32
vertical	63.5	27.09	29.5	2.41
vertical	67.6	21.82	29.5	7.68
vertical	69.7	25.31	29.5	4.19
vertical	72	27.74	29.5	1.76
vertical	76.5	21.37	29.5	8.13
vertical	79.3	21.76	29.5	7.74
vertical	84	21.57	29.5	7.93
vertical	95.7	24.28	33	8.72
vertical	105	21.4	33	11.6
vertical	115	16.23	33	16.77
vertical	120	23.75	33	9.25
vertical	125	22.99	33	10.01
vertical	132	23.58	33	9.42
vertical	138.4	21.96	33	11.04
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



L C I E

Power supply n° 4 A15-060P1A

Polarisation	Frequency (MHz)	level Quasi peak (dBµV/m)	limit FCC	Margin
vertical	164	20.08	33	12.92
vertical	168	24	33	9
vertical	180	26.77	33	6.23
vertical	185.2	21.62	33	11.38
vertical	192	19.34	33	13.66
vertical	196	19.08	33	13.92
vertical	200	24.63	33	8.37
vertical	216	18.01	33	14.99
vertical	221.2	22.65	35.5	12.85
vertical	240	26.28	35.5	9.22
vertical	250	24.5	35.5	11
vertical	250	24.56	35.5	10.94
vertical	264	24.3	35.5	11.2
vertical	288	25.8	35.5	9.7
vertical	300	25.64	35.5	9.86
vertical	312	25.74	35.5	9.76
vertical	336	27.69	35.5	7.81
vertical	348	26.65	35.5	8.85
vertical	360	27.13	35.5	8.37
vertical	368	27.09	35.5	8.41
vertical	371.8	27.13	35.5	8.37
vertical	400	28.31	35.5	7.19
vertical	408	28.19	35.5	7.31
vertical	432	30.52	35.5	4.98
vertical	450	29.35	35.5	6.15
vertical	456	29.62	35.5	5.88
vertical	464	29.82	35.5	5.68
vertical	468	29.97	35.5	5.53
vertical	480	28.3	35.5	7.2
vertical	492	30.67	35.5	4.83
vertical	500	30.81	35.5	4.69
vertical	520	24.91	35.5	10.59
vertical	530	28.08	35.5	7.42



Power supply n° 4 A15-060P1A

Polarisation	Frequency (MHz)	level Quasi peak (dB $\mu$ V/m)	limit FCC	Margin
vertical	600	24.31	35.5	11.19
vertical	624	23.68	35.5	11.82
vertical	650	27.69	35.5	7.81
vertical	672	28.03	35.5	7.47
vertical	696	30.92	35.5	4.58
vertical	750	30.98	35.5	4.52
vertical	768	25.96	35.5	9.54
vertical	792	27.37	35.5	8.13
vertical	808.7	27.74	35.5	7.76
vertical	850	27.92	35.5	7.58
vertical	875	29.43	35.5	6.07



L C I E

Power supply n° 4 A15-060P1A

Polarisation	Frequency (MHz)	level Quasi peak (dBµV/m)	limit FCC	Margin
Horizontal	226.8	22.04	35.5	13.46
Horizontal	235	22.63	35.5	12.87
Horizontal	240	18.66	35.5	16.84
Horizontal	245.8	23.24	35.5	12.26
Horizontal	250	24.17	35.5	11.33
Horizontal	260	23.7	35.5	11.8
Horizontal	270	22.63	35.5	12.87
Horizontal	280	24.97	35.5	10.53
Horizontal	288	25.02	35.5	10.48
Horizontal	300	25.29	35.5	10.21
Horizontal	312	25.68	35.5	9.82
Horizontal	320	25.79	35.5	9.71
Horizontal	324	26.25	35.5	9.25
Horizontal	336	26.7	35.5	8.8
Horizontal	345	26.69	35.5	8.81
Horizontal	360	27.3	35.5	8.2
Horizontal	372	26.91	35.5	8.59
Horizontal	384	28.05	35.5	7.45
Horizontal	432	30.03	35.5	5.47
Horizontal	456	20.38	35.5	15.12
Horizontal	480	30.81	35.5	4.69
Horizontal	500	31.03	35.5	4.47
Horizontal	528	28.03	35.5	7.47
Horizontal	552	24.96	35.5	10.54
Horizontal	576	27.21	35.5	8.29
Horizontal	624	30.75	35.5	4.75
Horizontal	650	33.79	35.5	1.71
Horizontal	672	24.28	35.5	11.22
Horizontal	696	25.25	35.5	10.25
Horizontal	720	30.87	35.5	4.63
Horizontal	750	31.25	35.5	4.25
Horizontal	850	26.82	35.5	8.68
Horizontal	875	29.21	35.5	6.29
Horizontal	900	27.51	35.5	7.99



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802.11b								
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)
Horizontale	2316	0.01	36,988	17.012	54	49,272	24.728	74
Horizontale	2330	0.01	40,14	13.86	54	52,111	21.889	74
Horizontale	2387	0.01	46,694	7.306	54	55,798	18.202	74
Horizontale	2390	0.01	46,726	7.274	54	57,282	16.718	74
Verticale	2483.5	0.01	45,517	8.483	54	57,66	16.340	74
Verticale	2496,5	0.01	45,037	8.963	54	58,391	15.609	74

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)
Horizontale	2320	0.08	41,119	12.881	54	53,303	20.697	74
Horizontale	2363	0.08	43,055	10.945	54	56,806	17.194	74
Horizontale	2379	0.08	41,684	12.316	54	57,613	16.387	74
Horizontale	2390	0.08	51,433	2.567	54	70,174	3.826	74
Horizontale	2483.5	0.08	51,822	2.178	54	68,768	5.232	74
Horizontale	2488	0.08	42,858	11.142	54	62,238	11.762	74
Horizontale	2494	0.08	41,388	12.612	54	58,078	15.922	74
Horizontale	2496	0.08	46,610	7.39	54	59,267	14.732	74

802.11n HT20								
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)
Horizontale	2324,5	0.09	40,317	13.683	54	52,703	21.297	74
Verticale	2361,5	0.09	42,269	11.731	54	55,573	18.427	74
Horizontale	2384,5	0.09	40,685	13.315	54	58,012	15.988	74
Horizontale	2390	0.09	49,736	4.264	54	69,414	4.586	74
Horizontale	2483.5	0.09	51,764	2.236	54	71,17	2.830	74
Horizontale	2494	0.09	40,520	13.480	54	57,702	16.298	74
Horizontale	2498	0.09	46,155	7.845	54	58,918	15.082	74



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802.11n HT40								
Cmin/Cnom/Cmax								
Above 1GHz								
Polarization	Frequency (MHz)	Duty cycle correction (dB)	Average Level (dB $\mu$ V/m)	Marge Average Level (dB $\mu$ V/m)	Average Limit (dB $\mu$ V/m)	Peak Level (dB $\mu$ V/m)	Marge Peak Level (dB $\mu$ V/m)	Peak Limit (dB $\mu$ V/m)
Horizontale	2390	0.18	50,622	3.378	54	64,824	9.176	74
Horizontale	2483.5	0.18	51,968	2.032	54	66,598	7.402	74
Horizontale	2488	0.18	49,845	4.155	54	70,696	3.304	74

## 11.7. CONCLUSION

Unwanted emissions measurement performed on the sample of the product **SAGEMCOM TheBox (253697282)**, SN: **616400107098**, 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) $\pm x(\text{dB}) / (\text{Hz}) /$ 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