

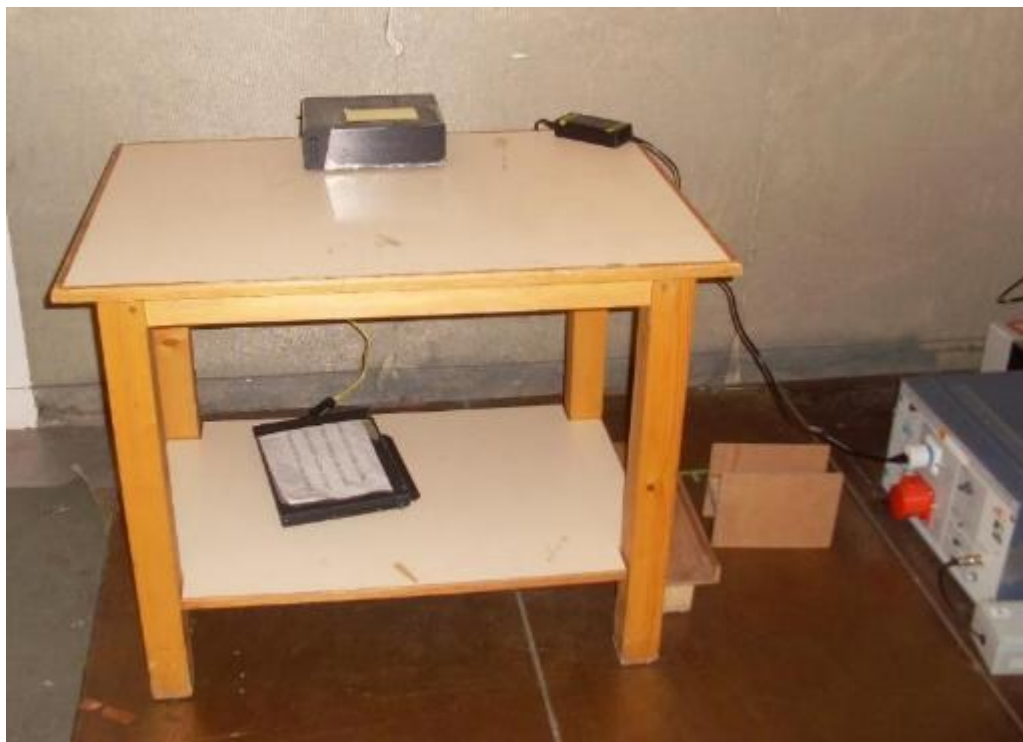
10. AC POWER LINE CONDUCTED EMISSIONS

10.1. TEST CONDITIONS

Test performed by : Laurent DENEUX
Date of test : November 24, 2016
Ambient temperature : 21°C
Relative 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)



Photograph for AC Power Line Conducted Emissions (Rear 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

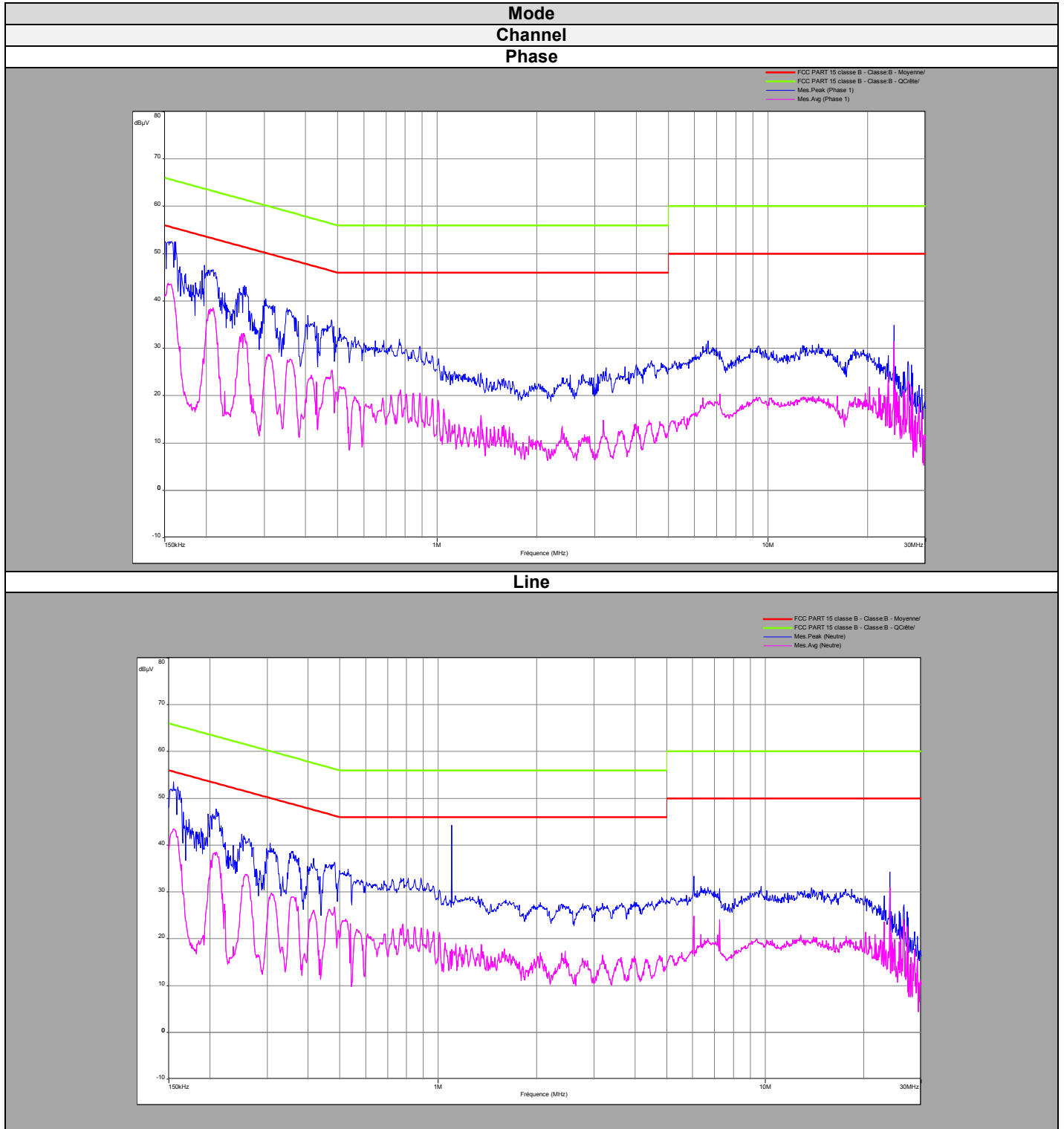
Test Equipment Used					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
EMI Test Receiver	ROHDE & SCHWARZ	ESIB26	A2642021	2015-12	2016-12
V ISLN	ROHDE & SCHWARZ	ESH2-Z5	C2322001	2016-05	2017-05
Pulse limiter	ROHDE & SCHWARZ	ESH3-Z2	A2649008	2016-03	2017-03
Cable	-	-	A5329417	2016-10	2017-10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





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
0,157	52,5	-	65,6	13,1	43,7	55,6	11,9
0,21	46,2	-	63,4	17,2	38,4	53,4	15
0,886	31	-	56	25	20,5	46	25,5
7,156	29,4	-	60	30,6	20,6	50	29,4
24	35	-	60	25	31,5	50	18,5

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
0,155	53,5	-	65,7	12,2	43,5	55,7	12,2
0,212	47,2	-	63,2	16	38,3	53,2	14,9
0,847	32,5	-	56	23,5	22,6	46	23,4
6,046	32,6	-	60	27,4	34,4	50	15,6
24	35,2	-	60	24,8	31	50	19

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 15.407 limits.

11. UNWANTED EMISSIONS & UNDESIRABLE EMISSION

11.1. TEST CONDITIONS

Test performed by : Mathieu CERISIER & Laurent DENEUX
Date of test : November 8, 2016 to November 9, 2016
Ambient temperature : 23 °C
Relative humidity : 44 %

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.

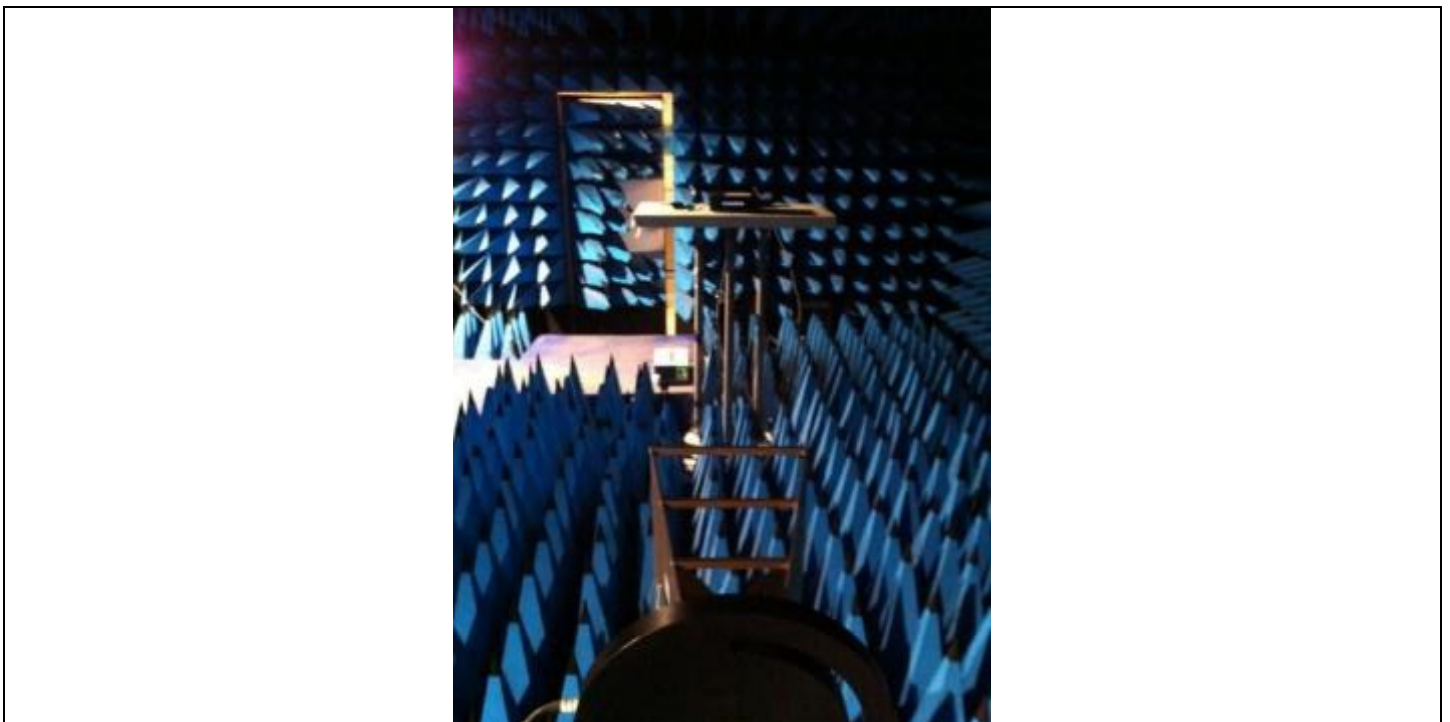
The product has been tested according to the FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r02. The following factor is applied to convert E[dBμV/m] to EIRP[dBm]. $EIRP[dBm] = E[dBμV/m] + 20 \log(d[meters]) - 104.77$



Photograph for Unwanted Emissions & Undesirable Emission limits



Photograph for Unwanted Emissions & Undesirable Emission limits



Photograph for Unwanted Emissions & Undesirable Emission limits

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 3m:

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

Limit (dBm):

5150MHz-5250MHz:	Shall not exceed EIRP of -27dBm/MHz outside of the band
5250MHz-5350MHz:	Shall not exceed EIRP of -27dBm/MHz outside of the band
5470MHz-5725MHz:	Shall not exceed EIRP of -27dBm/MHz outside of the band

FCC 15.407

5725MHz-5850MHz: Shall not exceed EIRP of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of EIRP of 27 dBm/MHz at the band edge.



11.4. TEST EQUIPMENT LIST

DESCRIPTION	MANUFACTURER	MODEL	N° LCIE	Cal_Date	Cal_Due
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
Open test site	LCIE	-	F2000400	2016-05	2017-05
EMI Test Receiver	ROHDE & SCHWARZ	ESIB26	A2642021	2015-12	2016-12
Preamplifier	HELVETT PACKARD	8449B	A7080071	2016-01	2017-01
Bilog antenna	CHASE	CBL 6112A	C2040040	2016-01	2017-01
Horn	ETS	3115	C2042023	2016-01	2017-01
Measurement horn antenna 18-26,5GHz	PASTERNAK	PE9852/2F-20	C2042048	2015/05	2017/05
Horn antenna 26,5-40GHz	PASTERNAK	PE9850/2F-20	C2042052	2016/04	2018/04
Cable	-	-	A5329542	2016-03	2017-03
Cable	-	-	A5329449	2016-10	2017-10
Cable	-	-	A5329368	2016-05	2017-05
Cable	-	-	A5329444	2016-10	2017-10

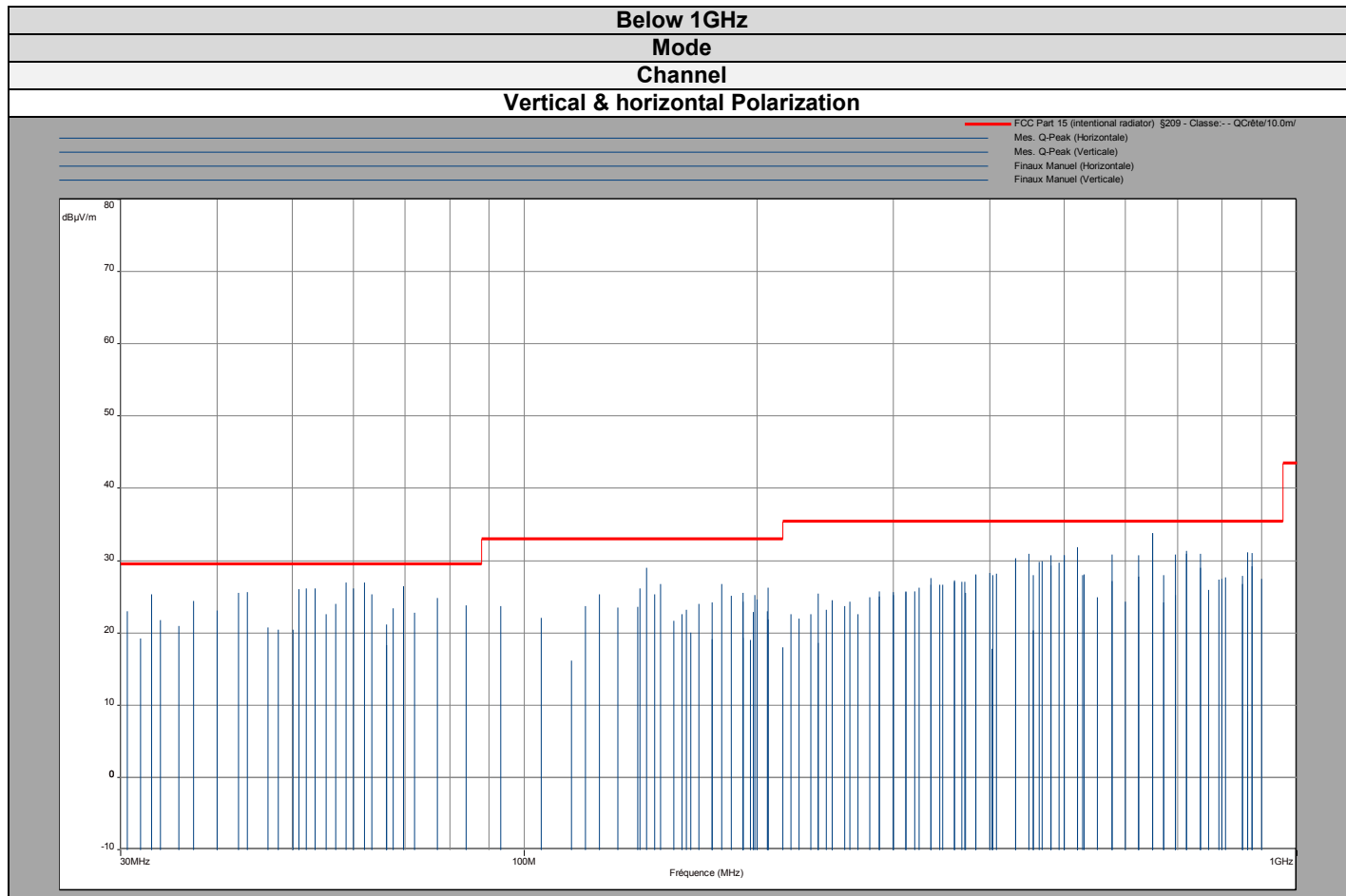
Note: In our quality system, the test equipment calibration due is more & less 2 months

11.5. DIVERGENCE, ADDITION OR SUPPRESSION ON THE TEST SPECIFICATION

None Divergence:

11.6. RESULTS

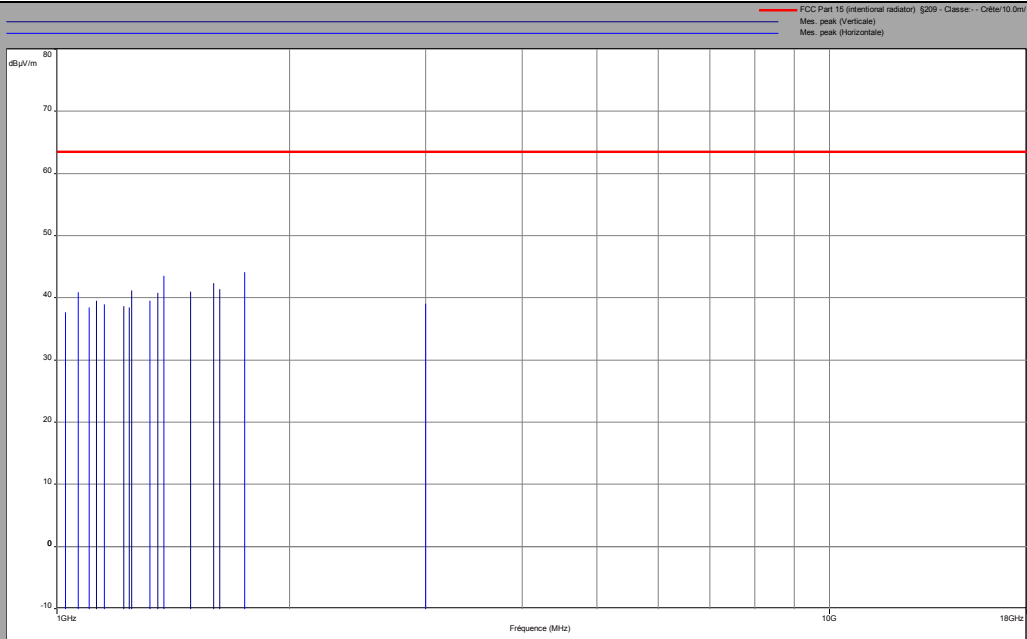
11.6.1. Without Beamforming





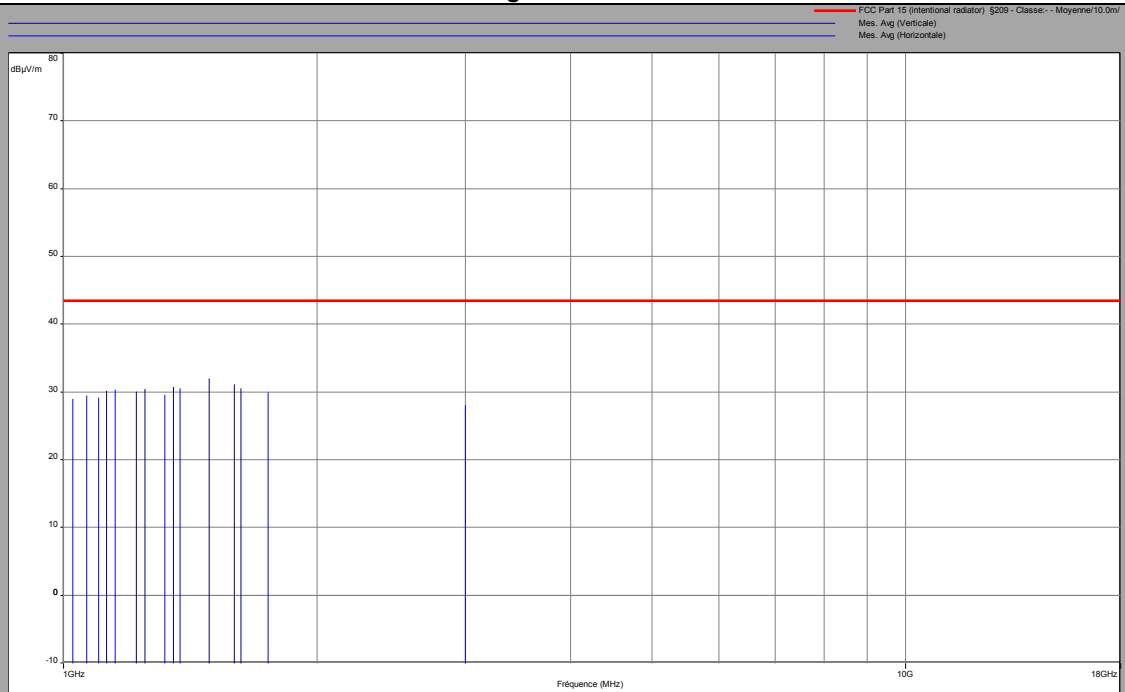
L C I E

Above 1GHz Peak measurement



No interference have been observed between 18GHz to 40GHz

Average measurement



No interference have been observed between 18GHz to 40GHz



L C I E

Above 1GHz

802.11a

C1/C2/C3

Vertical Polarization

Description Sous-bande 2

Fréquences: 5.1 GHz - 5.4 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage: 50 ms/Pts, Atténuation: 258703064, Nombre de Balayages: 1, Preamp: On: 20 dB, LN Preamp: Off, Preselector: Off

Polarisation: Verticale

Distance: 3 m

FCC/FCC 15.209 5150MHz-5350MHz Band - Classe:1 - Moyenne/3.0m/

FCC/FCC 15.209 5150MHz-5350MHz Band - Classe:1 - Crête/3.0m/

Mes. Peak (Verticale)

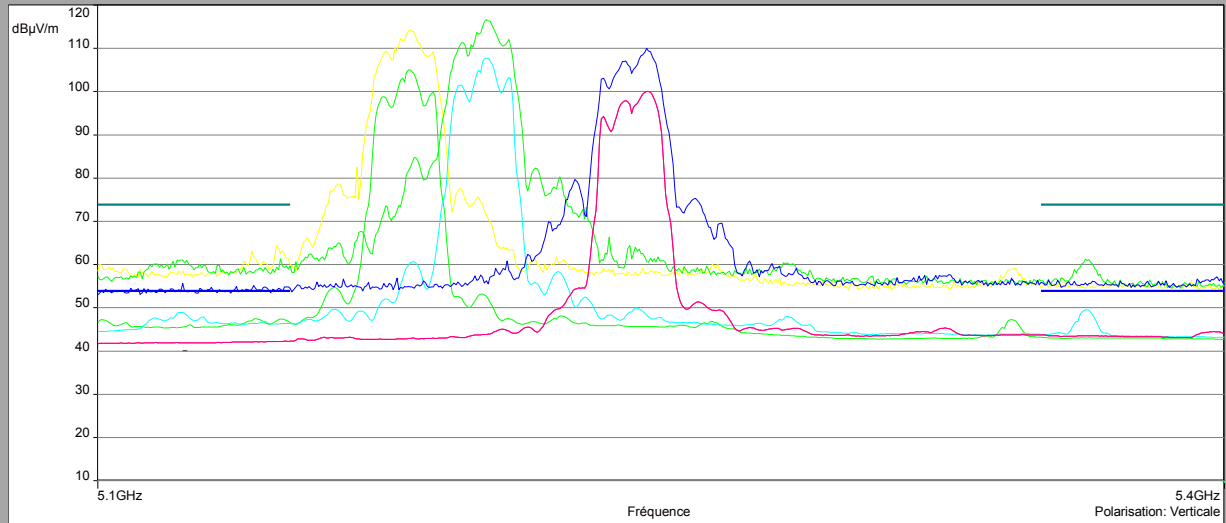
Mes. Avg (Verticale)

Cnom Avg (Verticale)

Cnom Peak (Verticale)

Cmin Avg (Verticale)

Cmin Peak (Verticale)



Horizontal polarization

Description Sous-bande 1

Fréquences: 5.1 GHz - 5.4 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage: 50 ms/Pts, Atténuation: 258703000, Nombre de Balayages: 1, Preamp: On: 20 dB, LN Preamp: Off, Preselector: Off

Polarisation: Horizontale

Distance: 3 m

FCC/FCC 15.209 5150MHz-5350MHz Band - Classe:1 - Moyenne/3.0m/

FCC/FCC 15.209 5150MHz-5350MHz Band - Classe:1 - Crête/3.0m/

Mes. Peak (Horizontale)

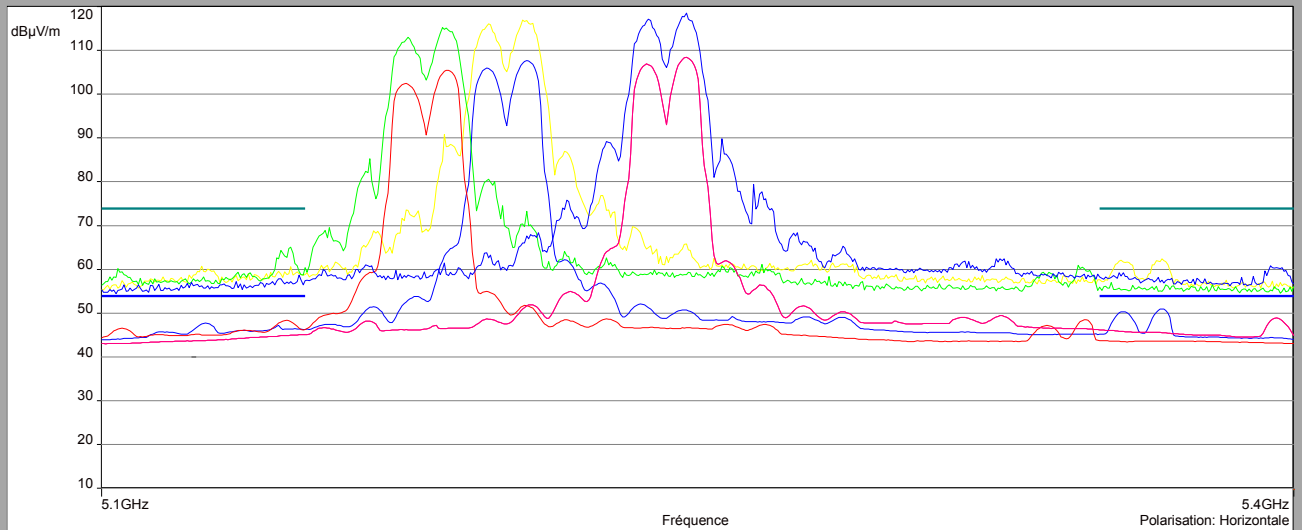
Mes. Avg (Horizontale)

Cmin Avg (Horizontale)

Cmin Peak (Horizontale)

Cnom Avg (Horizontale)

Cnom Peak (Horizontale)





L C I E

Above 1GHz

802.11a

C4/C5/C6

Vertical Polarization

Description Sous-bande 2

Fréquences: 5.1 GHz - 5.4 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage : 10 ms/Pts, Atténuation : 259049560, Nombre de Balayages : 1, Preamp : On: 20 dB, LN Preamp : Off, Preselection : Off

Polarisation: Verticale

Distance: 3 m

FCC/FCC 15.209 5150MHz-5350MHz Band - Classe:1 - Moyenne/3.0m/

FCC/FCC 15.209 5150MHz-5350MHz Band - Classe:1 - Crête/3.0m/

Mes Peak (Verticale): Off

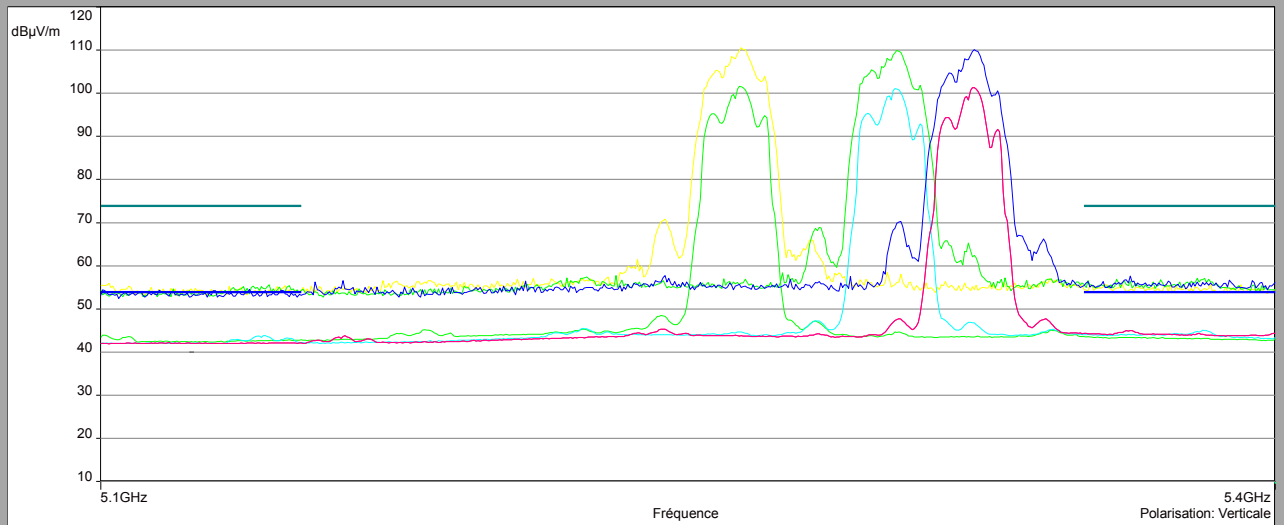
Mes Avg (Verticale)

Cnom Avg (Verticale)

Cnom Peak (Verticale)

Cmin Avg (Verticale)

Cmin Peak (Verticale)



Horizontal polarization

Description Sous-bande 1

Fréquences: 5.1 GHz - 5.4 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage : 10 ms/Pts, Atténuation : 259049560, Nombre de Balayages : 1, Preamp : On: 20 dB, LN Preamp : Off, Preselection : Off

Polarisation: Horizontale

Distance: 3 m

FCC/FCC 15.209 5150MHz-5350MHz Band - Classe:1 - Moyenne/3.0m/

FCC/FCC 15.209 5150MHz-5350MHz Band - Classe:1 - Crête/3.0m/

Mes Peak (Horizontale): Off

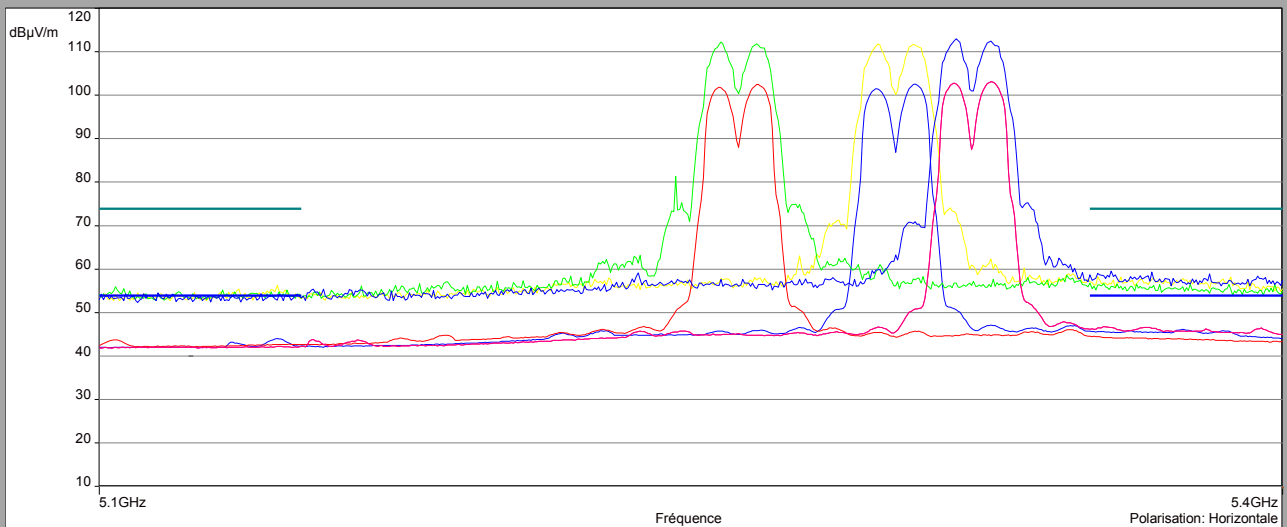
Mes Avg (Horizontale)

Cmin Avg (Horizontale)

Cmin Peak (Horizontale)

Cnom Avg (Horizontale)

Cnom Peak (Horizontale)





L C I E

Above 1GHz

802.11a

C7/C8/C9

Vertical Polarization

Description Sous-bande 2

Fréquences: 5.45 GHz - 5.8 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage: 50 ms/Pts, Atténuation: 61944792, Nombre de Balayages: 1, Preamp: Off, Preampl: Off, Preselecteur: Off

Polarisation: Verticale

Distance: 3 m

FCC/FCC 15.209 5470MHz-5725MHz Band - Classe:1 - Moyenne/3.0m/

FCC/FCC 15.209 5470MHz-5725MHz Band - Classe:1 - Crête/3.0m/

Mes Avg (Verticale)

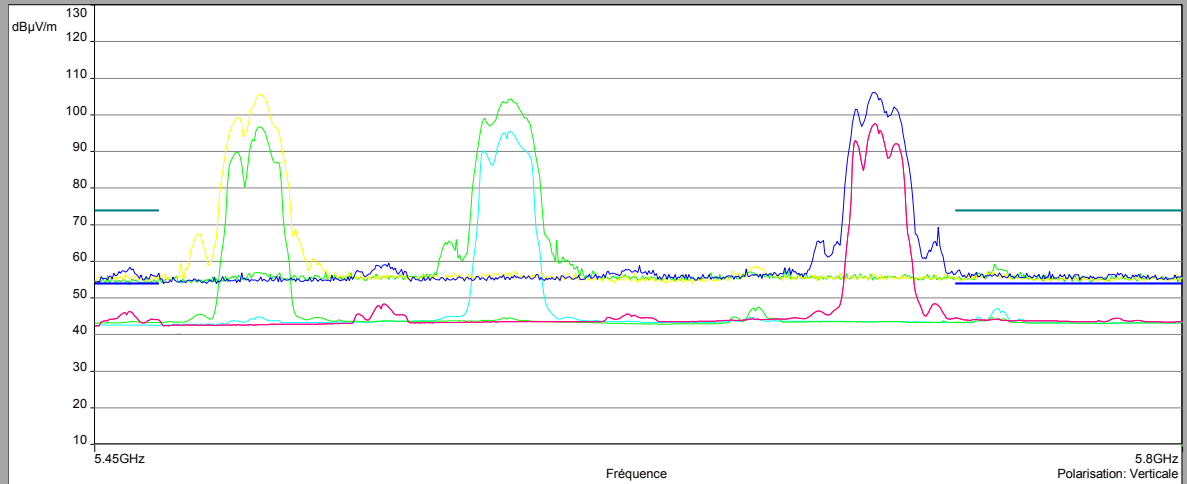
Mes Peak (55) (Verticale)

Emissions rayonnées classique 5470MHz-5725MHz Cmin Mode a - Mes.Avg (55) (Verticale)

Emissions rayonnées classique 5470MHz-5725MHz Cmin Mode a - Mes.Peak (55) (Verticale)

Emissions rayonnées classique 5470MHz-5725MHz Cnom Mode a - Mes.Avg (77) (Verticale)

Emissions rayonnées classique 5470MHz-5725MHz Cnom Mode a - Mes.Peak (77) (Verticale)



Horizontal polarization

Description Sous-bande 1

Fréquences: 5.45 GHz - 5.8 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage: 50 ms/Pts, Atténuation: 61944760, Nombre de Balayages: 1, Preamp: Off, Preampl: Off, Preselecteur: Off

Polarisation: Horizontale

Distance: 3 m

FCC/FCC 15.209 5470MHz-5725MHz Band - Classe:1 - Moyenne/3.0m/

FCC/FCC 15.209 5470MHz-5725MHz Band - Classe:1 - Crête/3.0m/

Mes Avg (Horizontale)

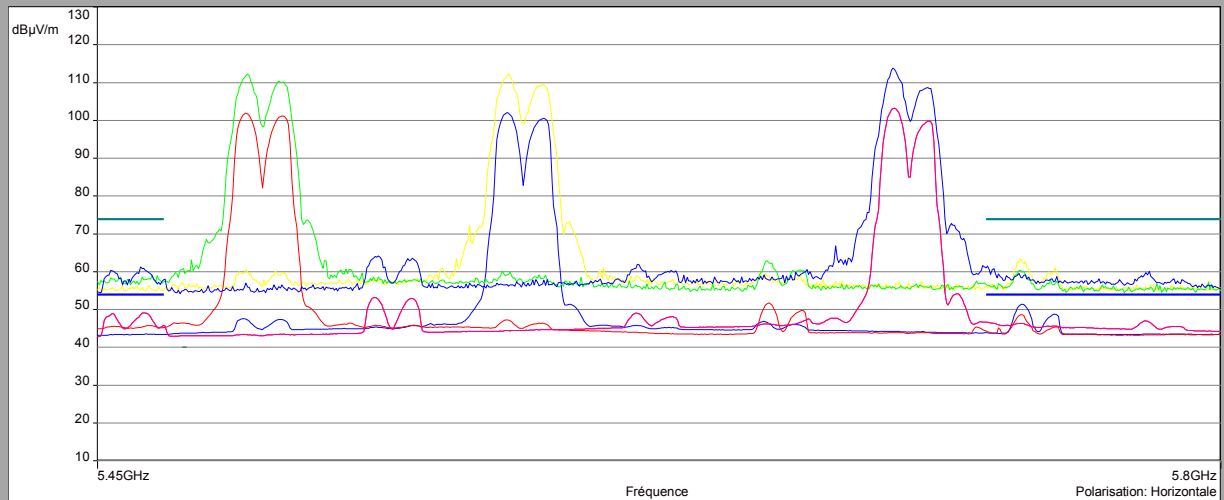
Mes Peak (55) (Horizontale)

Emissions rayonnées classique 5470MHz-5725MHz Cmin Mode a - Mes.Avg (55) (Horizontale)

Emissions rayonnées classique 5470MHz-5725MHz Cmin Mode a - Mes.Peak (55) (Horizontale)

Emissions rayonnées classique 5470MHz-5725MHz Cnom Mode a - Mes.Avg (77) (Horizontale)

Emissions rayonnées classique 5470MHz-5725MHz Cnom Mode a - Mes.Peak (77) (Horizontale)





L C I E

Above 1GHz

802.11a

C11/C12/C13

Vertical Polarization

Description Sous-bande 6

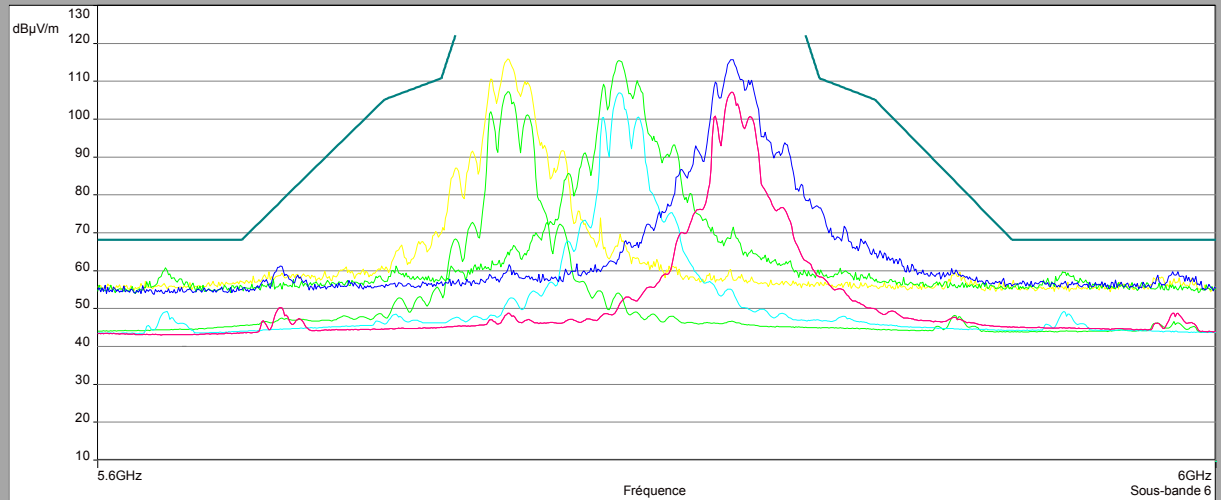
Fréquences: 5.6 GHz - 6 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage: 10 ms/Pts, Atténuation: 42297512, Nombre de Balayages: 1, Preamp: On: 20 dB, LN Preamp: Off, Reselecteur: Off

Polarisation: Verticale

Distance: 3 m

FCC/FCC 15.407 b (4) (i) 5725MHz-5850MHz - 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 5

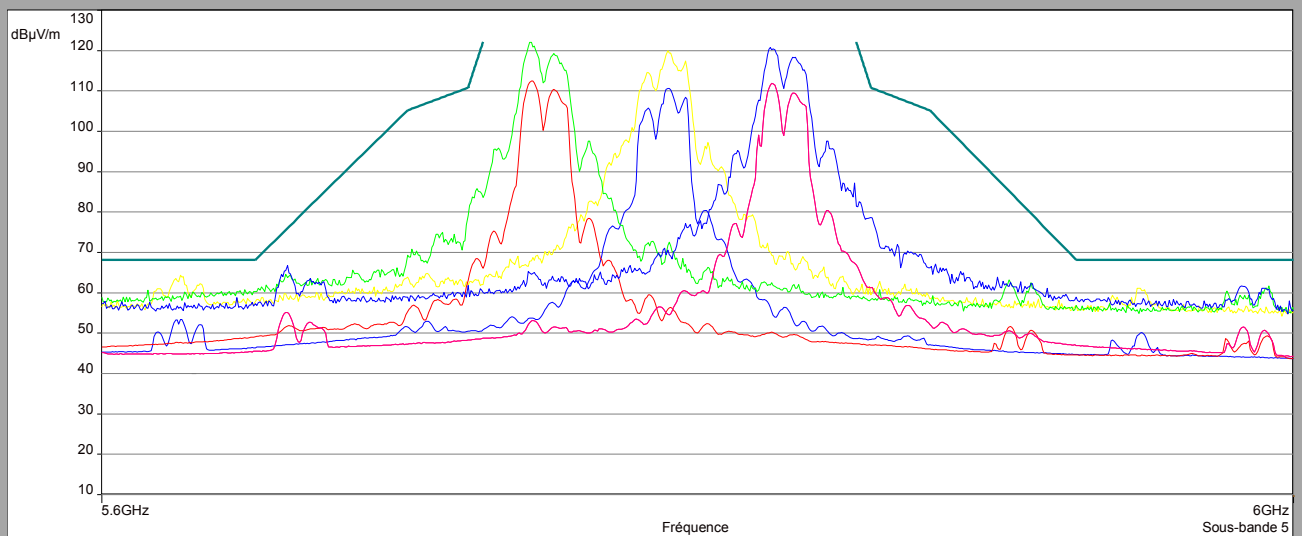
Fréquences: 5.6 GHz - 6 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage: 10 ms/Pts, Atténuation: 42297672, Nombre de Balayages: 1, Preamp: On: 20 dB, LN Preamp: Off, Reselecteur: Off

Polarisation: Horizontale

Distance: 3 m

FCC/FCC 15.407 b (4) (i) 5725MHz-5850MHz - Classe:1 - Crête/3.0m/
Mes Peak (Horizontale)
Mes Avg (Horizontale)
Cmin Avg (Horizontale)
Cmin Peak (Horizontale)
Cnom Avg (Horizontale)
Cnom Peak (Horizontale)



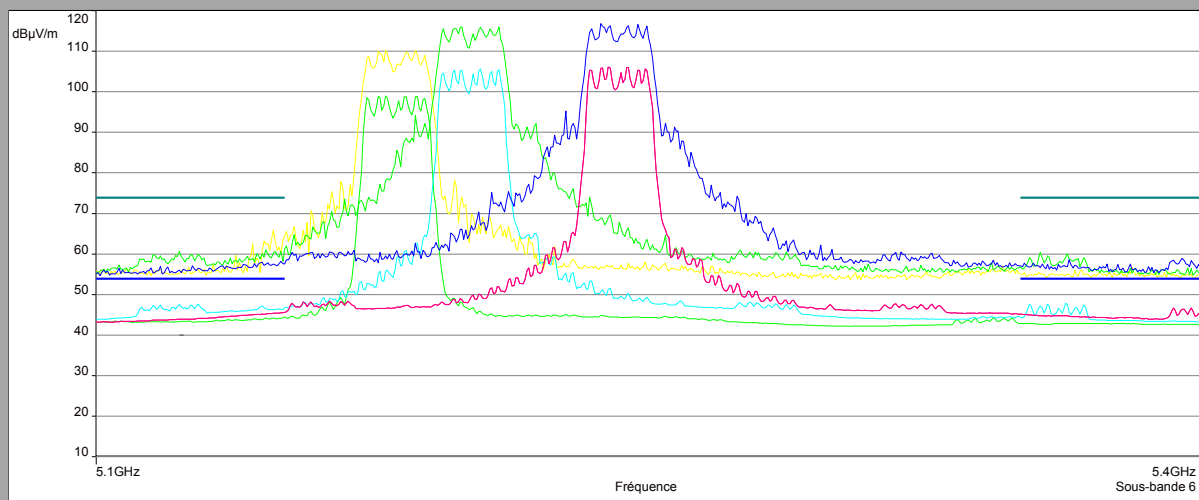


L C I E

Above 1GHz
802.11n HT20/ac VHT20
C1/C2/C3
Vertical Polarization

Description Sous-bande 6
Fréquences: 5.1 GHz - 5.4 GHz (Mode: Lin, Pas: 500 kHz)
Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage : 50 ms/Pts, Atténuation : 221029648, Nombre de Balayages : 1, Preamp : On: 20 dB, LN Preamp : Off, Preset: Off
Polarisation: Verticale
Distance: 3 m

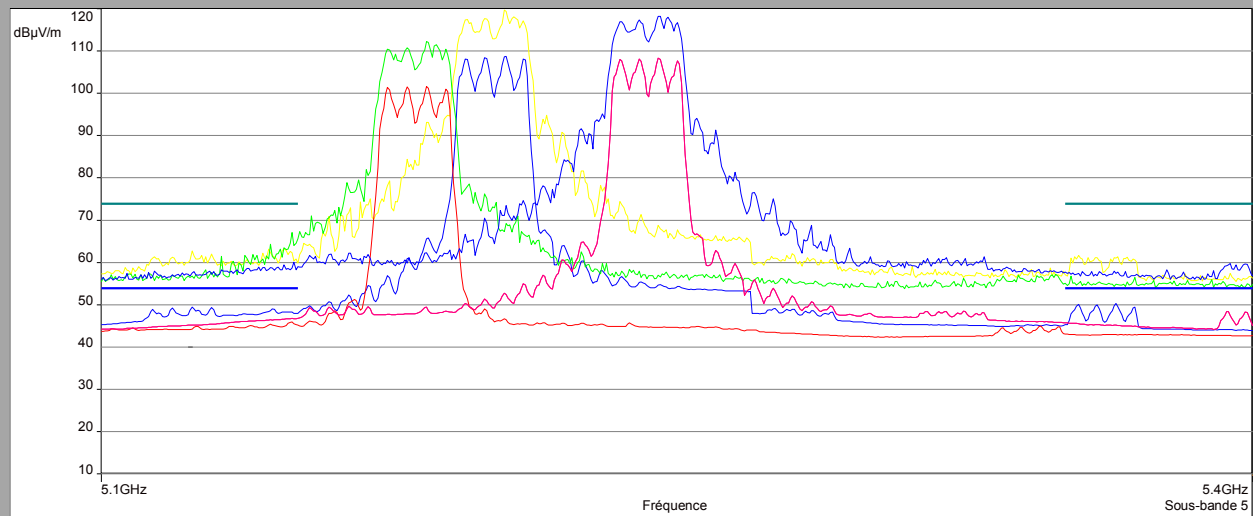
FCC/FCC 15.209 5150MHz-5350MHz Band - Classe:1 - Moyenne/3.0m/
FCC/FCC 15.209 5150MHz-5350MHz Band - Classe:1 - Crête/3.0m/
Mes. Peak (Verticale)
Mes. Peak (Horizontale)
Mes. Avg (Verticale)
Cnom Avg (Verticale)
Cnom Peak (Verticale)
Cmin Avg (Verticale)
Cmin Peak (Verticale)



Horizontal polarization

Description Sous-bande 5
Fréquences: 5.1 GHz - 5.4 GHz (Mode: Lin, Pas: 500 kHz)
Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage : 50 ms/Pts, Atténuation : 221029648, Nombre de Balayages : 1, Preamp : On: 20 dB, LN Preamp : Off, Preset: Off
Polarisation: Horizontale
Distance: 3 m

FCC/FCC 15.209 5150MHz-5350MHz Band - Classe:1 - Moyenne/3.0m/
FCC/FCC 15.209 5150MHz-5350MHz Band - Classe:1 - Crête/3.0m/
Mes. Peak (Verticale)
Mes. Peak (Horizontale)
Mes. Avg (Horizontale)
Cmin Avg (Horizontale)
Cmin Peak (Horizontale)
Cnom Avg (Horizontale)
Cnom Peak (Horizontale)





L C I E

Above 1GHz
802.11n HT20/ac VHT20
C4/C5/C6
Vertical Polarization

Description Sous-bande 6

Fréquences: 5.1 GHz - 5.4 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage : 10 ms/Pts, Atténuation : 259410112, Nombre de Balayages : 1, Preamp : On: 20 dB, LN Preamp : Off, Preset: Off

Polarisation: Verticale

Distance: 3 m

FCC/FCC 15.209 5150MHz-5350MHz Band - Classe:1 - Moyenne/3.0m/

FCC/FCC 15.209 5150MHz-5350MHz Band - Classe:1 - Crête/3.0m/

Mes. Peak (Verticale)

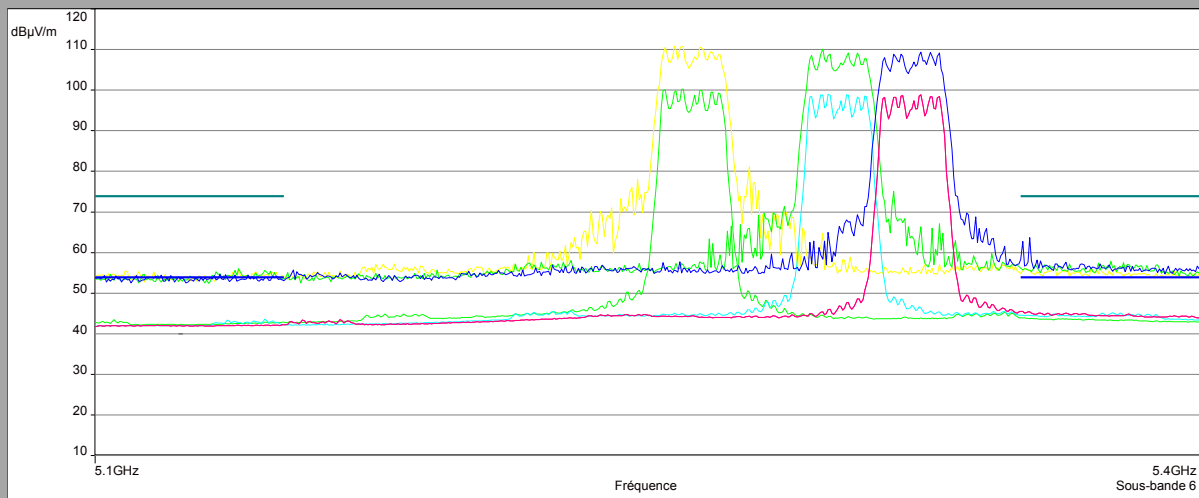
Mes. Avg (Verticale)

Cnom Avg (Verticale)

Cnom Peak (Verticale)

Cmin Avg (Verticale)

Cmin Peak (Verticale)



Horizontal polarization

Description Sous-bande 5

Fréquences: 5.1 GHz - 5.4 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage : 10 ms/Pts, Atténuation : 259410112, Nombre de Balayages : 1, Preamp : On: 20 dB, LN Preamp : Off, Preset: Off

Polarisation: Horizontale

Distance: 3 m

FCC/FCC 15.209 5150MHz-5350MHz Band - Classe:1 - Moyenne/3.0m/

FCC/FCC 15.209 5150MHz-5350MHz Band - Classe:1 - Crête/3.0m/

Mes. Peak (Horizontale)

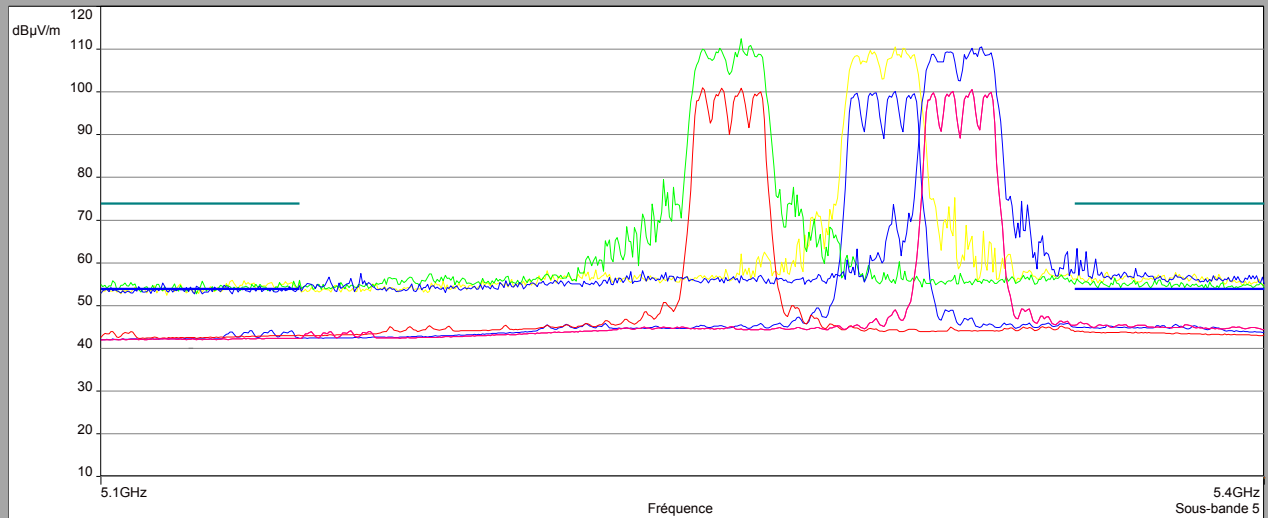
Mes. Avg (Horizontale)

Cmin Avg (Horizontale)

Cmin Peak (Horizontale)

Cnom Avg (Horizontale)

Cnom Peak (Horizontale)





L C I E

Above 1GHz
802.11n HT20/ac VHT20
C7/C8/C9
Vertical Polarization

Description Sous-bande 6

Fréquences: 5.45 GHz - 5.8 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage: 50 ms/Pts, Atténuation: 249809792, Nombre de Balayages: 1, Preamp: On: 20 dB, LN Preamp: Off, Preselecteur: Off

Polarisation: Verticale

Distance: 3 m

FCC/FCC 15.209 5470MHz-5725MHz Band - Classe:1 - Moyenne/3.0m/

FCC/FCC 15.209 5470MHz-5725MHz Band - Classe:1 - Crête/3.0m/

Mes Peak (Verticale)

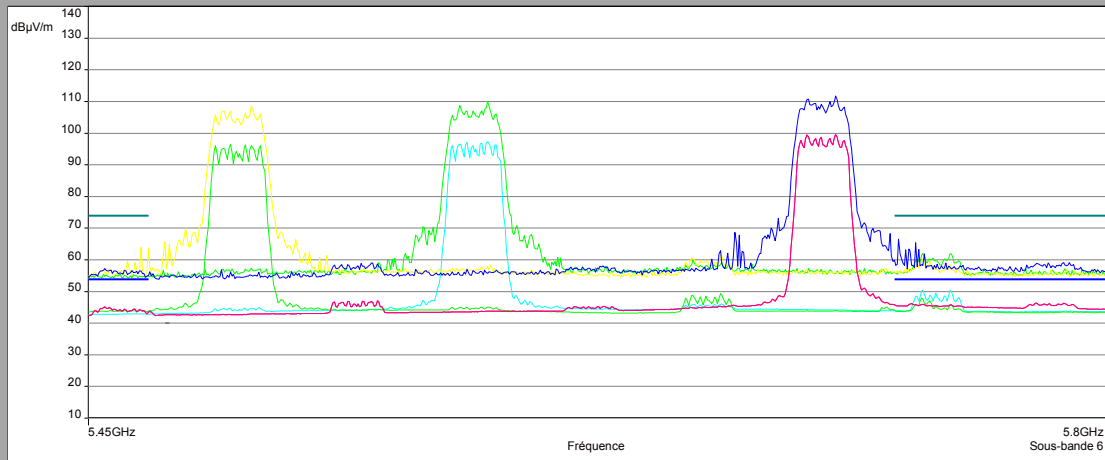
Mes Avg (Verticale)

Emissions rayonnées classique 5470MHz-5725MHz Cmin SANS Beamforming Mode nHT20 - Mes.Avg (87) (Verticale)

Emissions rayonnées classique 5470MHz-5725MHz Cmin SANS Beamforming Mode nHT20 - Mes.Peak (87) (Verticale)

Emissions rayonnées classique 5470MHz-5725MHz Cnom SANS Beamforming Mode nHT20 - Mes.Avg (88) (Verticale)

Emissions rayonnées classique 5470MHz-5725MHz Cnom SANS Beamforming Mode nHT20 - Mes.Peak (88) (Verticale)



Horizontal polarization

Description Sous-bande 5

Fréquences: 5.45 GHz - 5.8 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage: 50 ms/Pts, Atténuation: 249818368, Nombre de Balayages: 1, Preamp: On: 20 dB, LN Preamp: Off, Preselecteur: Off

Polarisation: Horizontale

Distance: 3 m

FCC/FCC 15.209 5470MHz-5725MHz Band - Classe:1 - Moyenne/3.0m/

FCC/FCC 15.209 5470MHz-5725MHz Band - Classe:1 - Crête/3.0m/

Mes Peak (Horizontale)

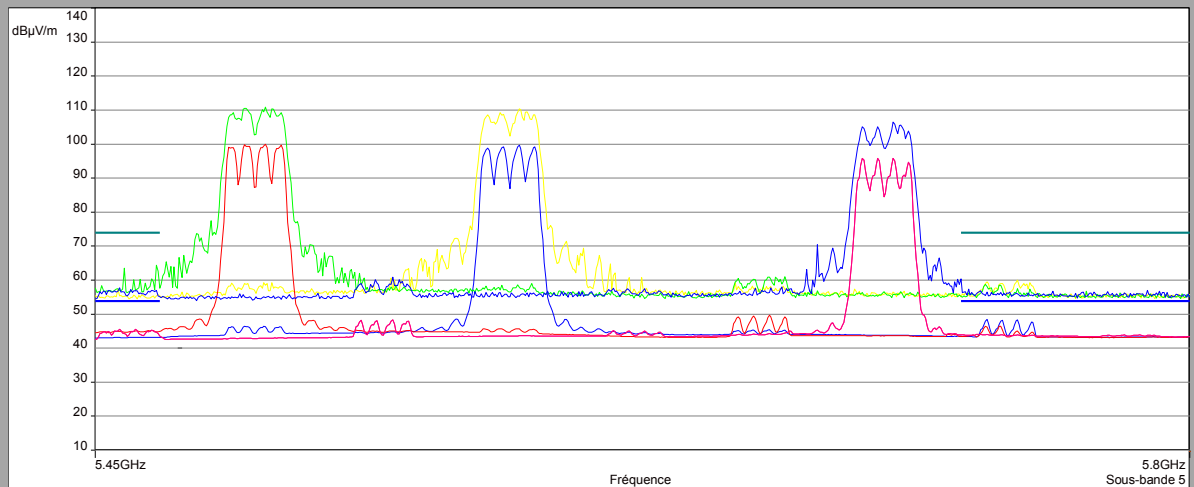
Mes Avg (Horizontale)

Emissions rayonnées classique 5470MHz-5725MHz Cmin SANS Beamforming Mode nHT20 - Mes.Avg (87) (Horizontale)

Emissions rayonnées classique 5470MHz-5725MHz Cmin SANS Beamforming Mode nHT20 - Mes.Peak (87) (Horizontale)

Emissions rayonnées classique 5470MHz-5725MHz Cnom SANS Beamforming Mode nHT20 - Mes.Avg (88) (Horizontale)

Emissions rayonnées classique 5470MHz-5725MHz Cnom SANS Beamforming Mode nHT20 - Mes.Peak (88) (Horizontale)



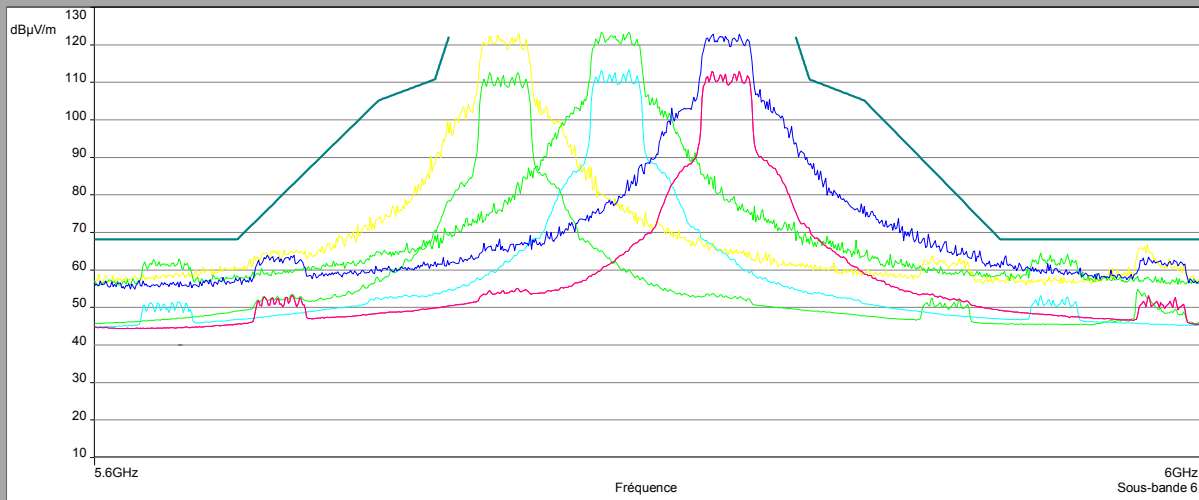


L C I E

Above 1GHz
802.11n HT20/ac VHT20
C11/C12/C13
Vertical Polarization

Description Sous-bande 6
Fréquences: 5.6 GHz - 6 GHz (Mode: Lin, Pas: 500 kHz)
Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage : 10 ms/Pts, Atténuation : 246079136, Nombre de Balayages : 1, Preamp : On: 20 dB, LN Preamp: Off, Pretrigger: Off
Polarisation: Verticale
Distance: 3 m

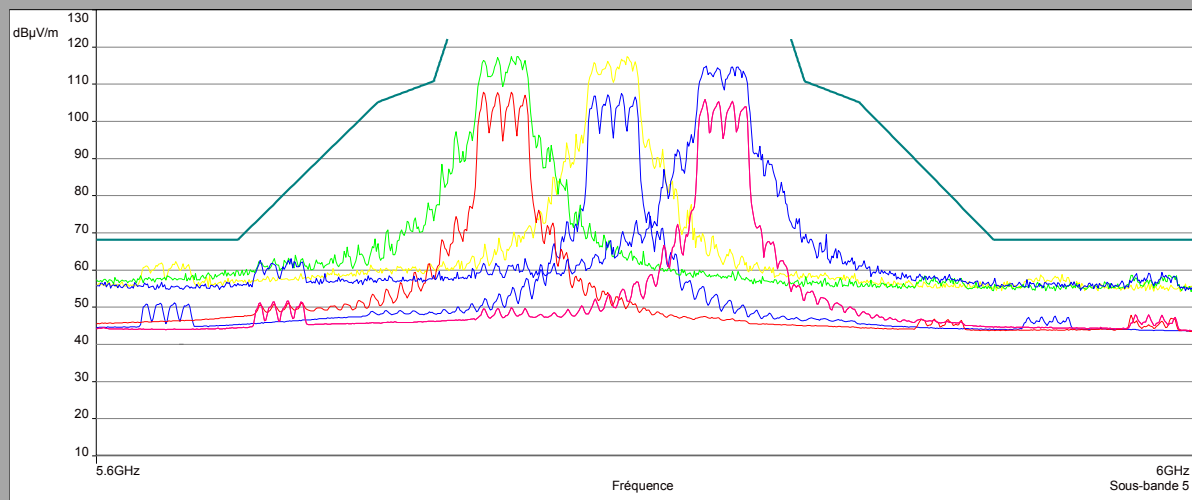
FCC/FCC 15.407 b (4) (i) 5725MHz-5850MHz - Classe:1 - Crête/3.0m/
Mes. Peak (Verticale)
Mes. Avg (Verticale)
Cnom Avg (Verticale)
Cnom Peak (Verticale)
Cmin Avg (Verticale)
Cmin Peak (Verticale)



Horizontal polarization

Description Sous-bande 5
Fréquences: 5.6 GHz - 6 GHz (Mode: Lin, Pas: 500 kHz)
Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage : 10 ms/Pts, Atténuation : 57909920, Nombre de Balayages : 1, Preamp : On: 20 dB, LN Preamp: Off, Pretrigger: Off
Polarisation: Horizontale
Distance: 3 m

FCC/FCC 15.407 b (4) (i) 5725MHz-5850MHz - 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

Above 1GHz
802.11n HT40/ac VHT40
C14/C15
Vertical Polarization

Description Sous-bande 6

Fréquences: 5.1 GHz - 5.4 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage : 50 ms/Pts, Atténuation : 252409744, Nombre de Balayages : 1, Preamp : On: 20 dB, LN Preamp: Off, Preselector: Off

Polarisation: Verticale

Distance: 3 m

FCC/FCC 15.209 5150MHz-5350MHz Band - Classe:1 - Moyenne/3.0m/

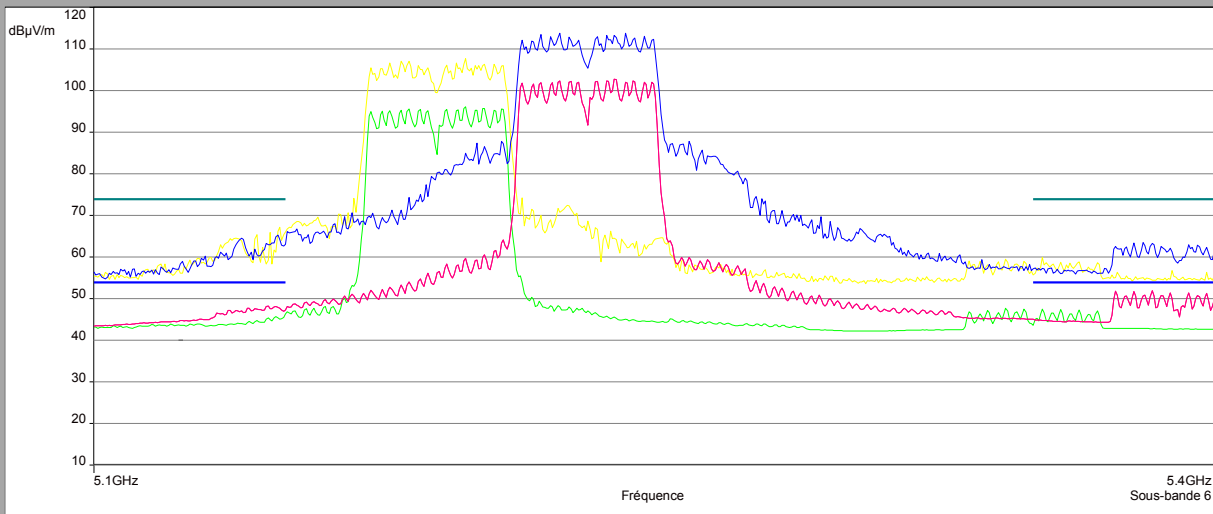
FCC/FCC 15.209 5150MHz-5350MHz Band - Classe:1 - Crête/3.0m/

Mes. Peak (Verticale)

Mes. Avg (Verticale)

Cmin Avg (Verticale)

Cmin Peak (Verticale)



Horizontal polarization

Description Sous-bande 5

Fréquences: 5.1 GHz - 5.4 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage : 50 ms/Pts, Atténuation : 252409648, Nombre de Balayages : 1, Preamp : On: 20 dB, LN Preamp: Off, Preselector: Off

Polarisation: Horizontale

Distance: 3 m

FCC/FCC 15.209 5150MHz-5350MHz Band - Classe:1 - Moyenne/3.0m/

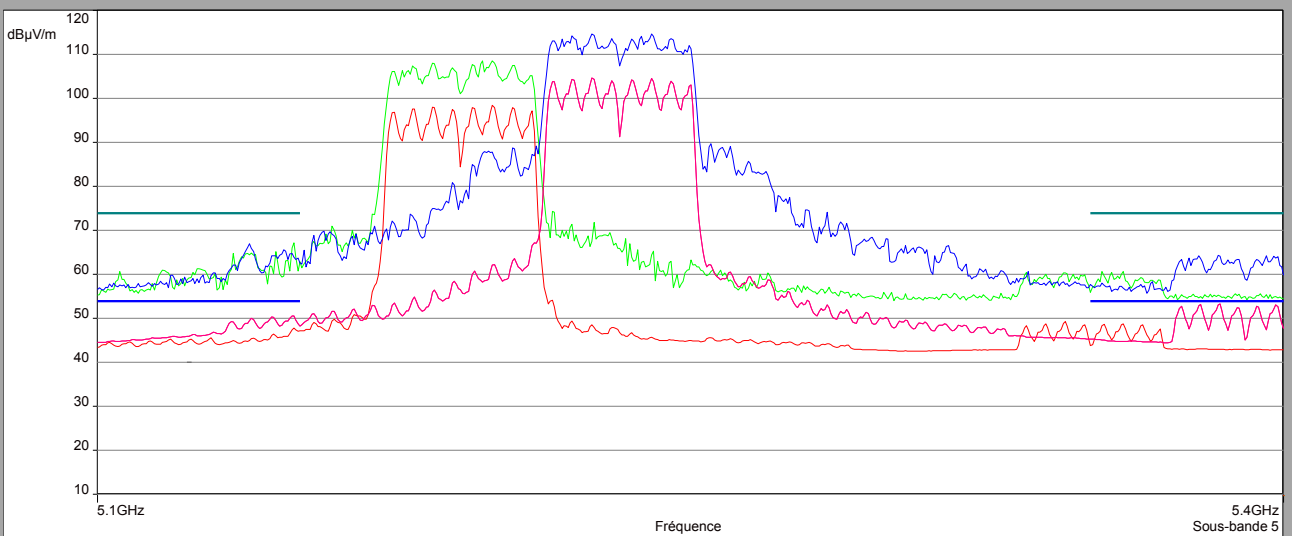
FCC/FCC 15.209 5150MHz-5350MHz Band - Classe:1 - Crête/3.0m/

Mes. Peak (Horizontale)

Mes. Avg (Horizontale)

Cmin Avg (Horizontale)

Cmin Peak (Horizontale)





L C I E

Above 1GHz
802.11n HT40/ac VHT40
C16/C17
Vertical Polarization

Description Sous-bande 6

Fréquences: 5.1 GHz - 5.4 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage : 10 ms/Pts, Atténuation : 253166432, Nombre de Balayages : 1, Preamp : On: 20 dB, LN Preamp : Off, Resolution: Off

Polarisation: Verticale

Distance: 3 m

FCC/FCC 15.209 5150MHz-5350MHz Band - Classe:1 - Moyenne/3.0m/

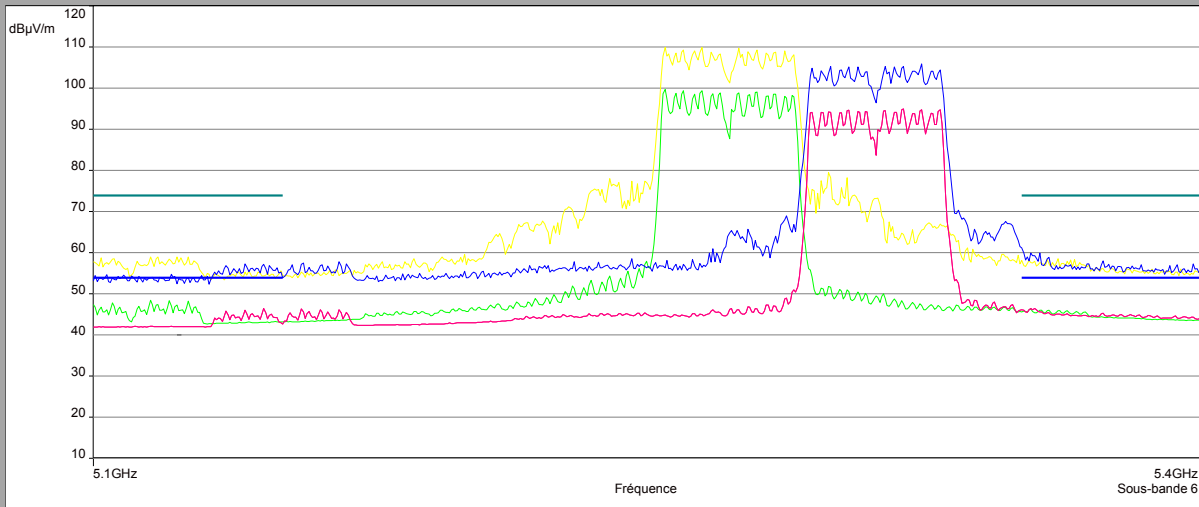
FCC/FCC 15.209 5150MHz-5350MHz Band - Classe:1 - Crête/3.0m/

Mes. Peak (Verticale)

Mes. Avg (Verticale)

Cmin Avg (Verticale)

Cmin Peak (Verticale)



Horizontal polarization

Description Sous-bande 5

Fréquences: 5.1 GHz - 5.4 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage : 10 ms/Pts, Atténuation : 253166368, Nombre de Balayages : 1, Preamp : On: 20 dB, LN Preamp : Off, Resolution: Off

Polarisation: Horizontale

Distance: 3 m

FCC/FCC 15.209 5150MHz-5350MHz Band - Classe:1 - Moyenne/3.0m/

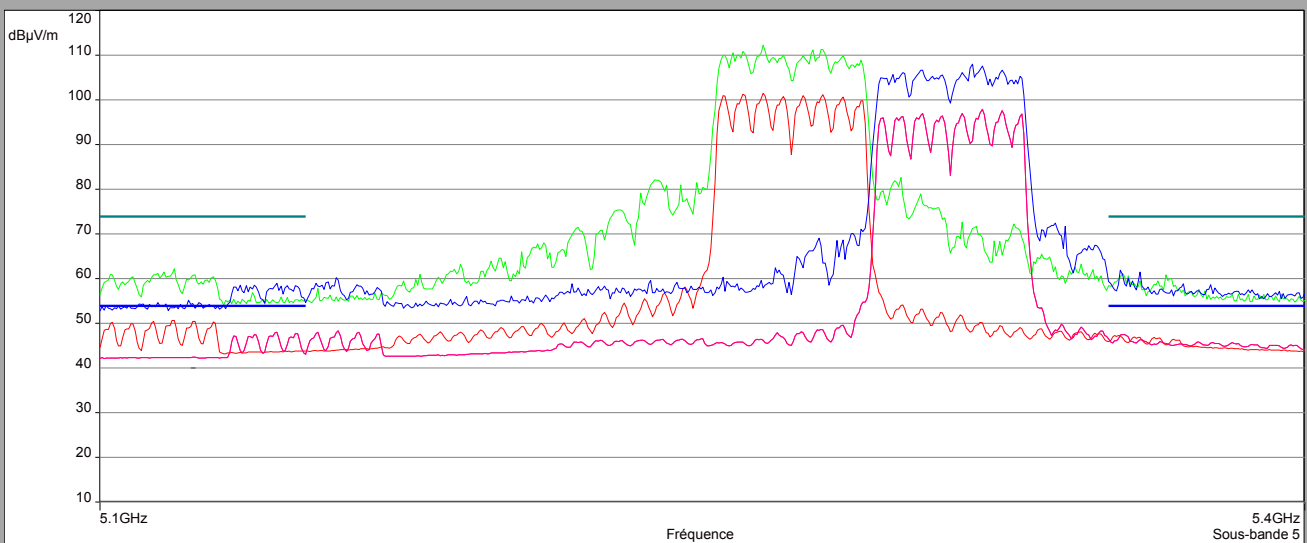
FCC/FCC 15.209 5150MHz-5350MHz Band - Classe:1 - Crête/3.0m/

Mes. Peak (Horizontale)

Mes. Avg (Horizontale)

Cmin Avg (Horizontale)

Cmin Peak (Horizontale)



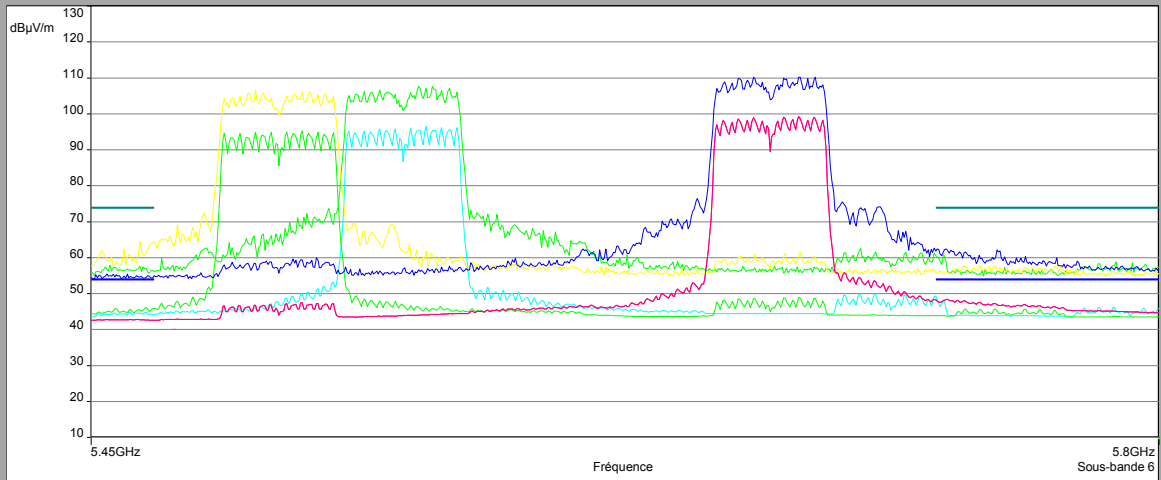


L C I E

Above 1GHz
802.11n HT40/ac VHT40
C18/C19/C20
Vertical Polarization

Description Sous-bande 6
Fréquences: 5.45 GHz - 5.8 GHz (Mode: Lin, Pas: 500 kHz)
Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage: 50 ms/Pts, Atténuation: 248150816, Nombre de Balayages: 1, Preamp: On: 20 dB, LN Preamp: Off, Preselecteur: Off
Polarisation: Verticale
Distance: 3 m

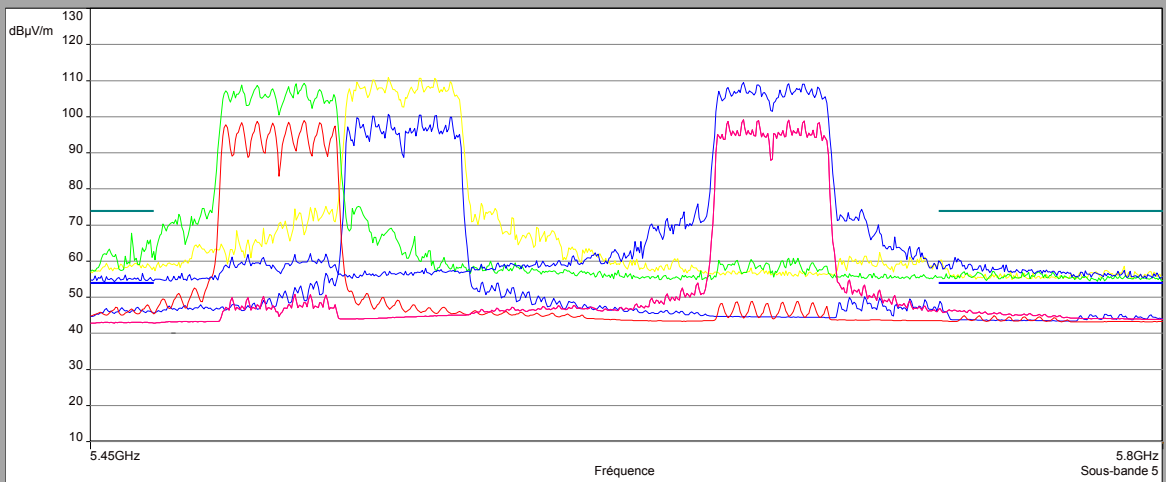
- FCC/FCC 15.209 5470MHz-5725MHz Band - Classe:1 - Moyenne/3.0m/
- FCC/FCC 15.209 5470MHz-5725MHz Band - Classe:1 - Crête/3.0m/
- Mes.Pk (Vertical)
- Mes.Avg (Verticale)
- Emissions rayonnées classique 5470MHz-5725MHz Cmin SANS Beamforming Mode nHT40 - Mes.Avg (110) (Verticale)
- Emissions rayonnées classique 5470MHz-5725MHz Cmin SANS Beamforming Mode nHT40 - Mes.Peak (110) (Verticale)
- Emissions rayonnées classique 5470MHz-5725MHz Cnom SANS Beamforming Mode nHT40 - Mes.Avg (111) (Verticale)
- Emissions rayonnées classique 5470MHz-5725MHz Cnom SANS Beamforming Mode nHT40 - Mes.Peak (111) (Verticale)



Horizontal polarization

Description Sous-bande 5
Fréquences: 5.45 GHz - 5.8 GHz (Mode: Lin, Pas: 500 kHz)
Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage: 50 ms/Pts, Atténuation: 248150624, Nombre de Balayages: 1, Preamp: On: 20 dB, LN Preamp: Off, Preselecteur: Off
Polarisation: Horizontale
Distance: 3 m

- FCC/FCC 15.209 5470MHz-5725MHz Band - Classe:1 - Moyenne/3.0m/
- FCC/FCC 15.209 5470MHz-5725MHz Band - Classe:1 - Crête/3.0m/
- Mes.Pk (Horizontal)
- Mes.Avg (Horizontale)
- Emissions rayonnées classique 5470MHz-5725MHz Cmin SANS Beamforming Mode nHT40 - Mes.Avg (110) (Horizontale)
- Emissions rayonnées classique 5470MHz-5725MHz Cmin SANS Beamforming Mode nHT40 - Mes.Peak (110) (Horizontale)
- Emissions rayonnées classique 5470MHz-5725MHz Cnom SANS Beamforming Mode nHT40 - Mes.Avg (111) (Horizontale)
- Emissions rayonnées classique 5470MHz-5725MHz Cnom SANS Beamforming Mode nHT40 - Mes.Peak (111) (Horizontale)





L C I E

Above 1GHz

802.11n HT40/ac VHT40

C22/C23

Vertical Polarization

Description Sous-bande 6

Fréquences: 5.6 GHz - 6 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage: 10 ms/Pts, Atténuation: 65131624, Nombre de Balayages: 1, Preamp: On: 20 dB, LN Preamp: Off, Protecteur: Off

Polarisation: Verticale

Distance: 3 m

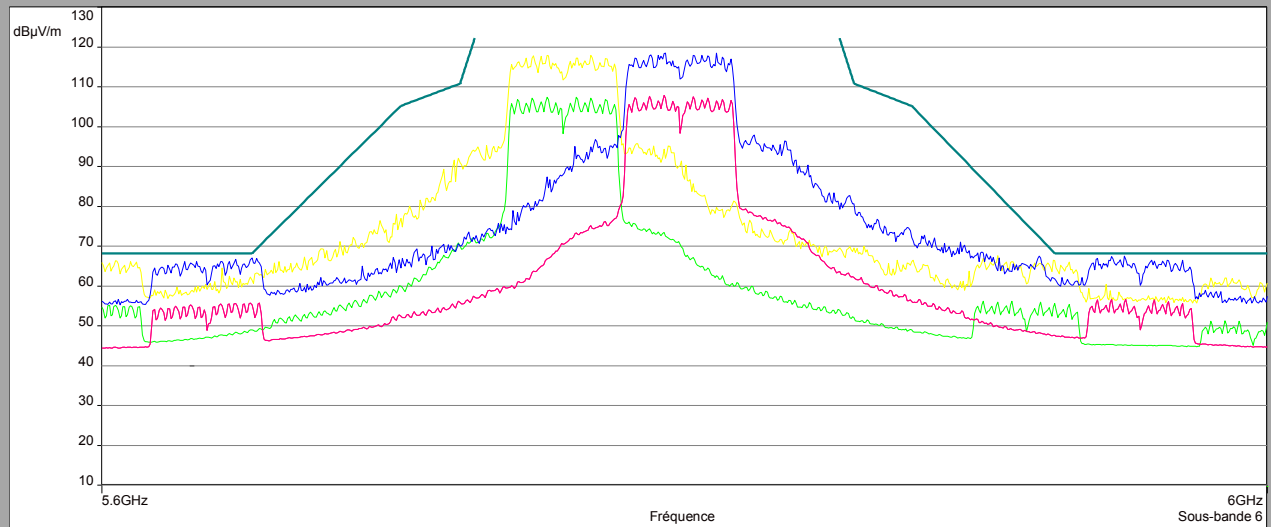
FCC/FCC 15.407 b (4) (i) 5725MHz-5850MHz - Classe:1 - Crête/3.0m/

Mes.Peak (Verticale)

Mes.Avg (Verticale)

Cmin Avg (Verticale)

Cmin Peak (Verticale)



Horizontal polarization

Description Sous-bande 5

Fréquences: 5.6 GHz - 6 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage: 10 ms/Pts, Atténuation: 43557736, Nombre de Balayages: 1, Preamp: On: 20 dB, LN Preamp: Off, Protecteur: Off

Polarisation: Horizontale

Distance: 3 m

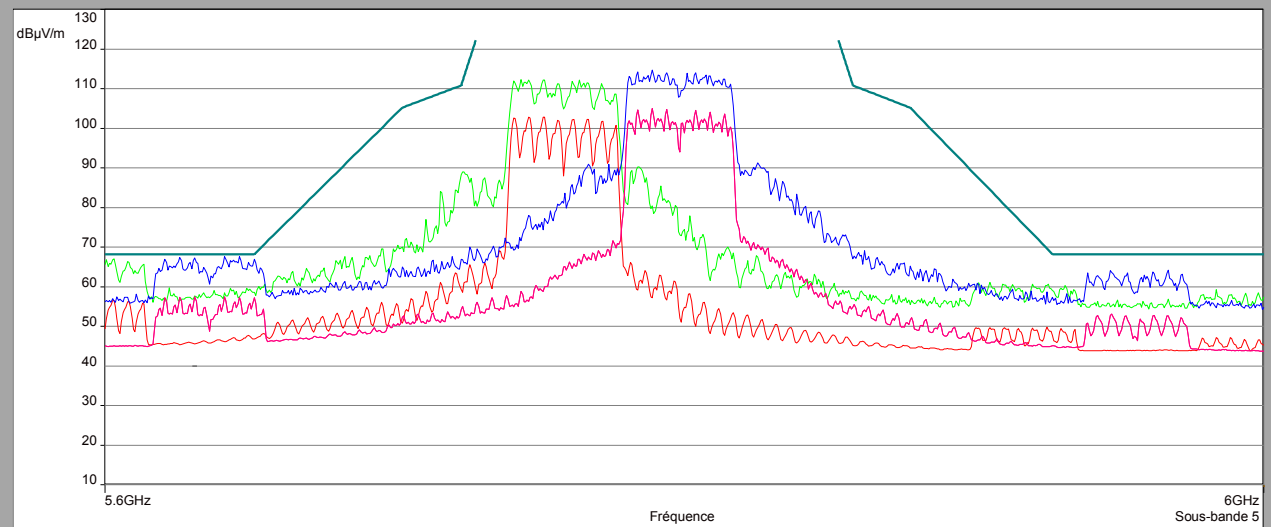
FCC/FCC 15.407 b (4) (i) 5725MHz-5850MHz - Classe:1 - Crête/3.0m/

Mes.Peak (Horizontale)

Mes.Avg (Horizontale)

Cmin Avg (Horizontale)

Cmin Peak (Horizontale)





L C I E

Above 1GHz

802.11ac VHT80

C24

Vertical Polarization

Description Sous-bande 6

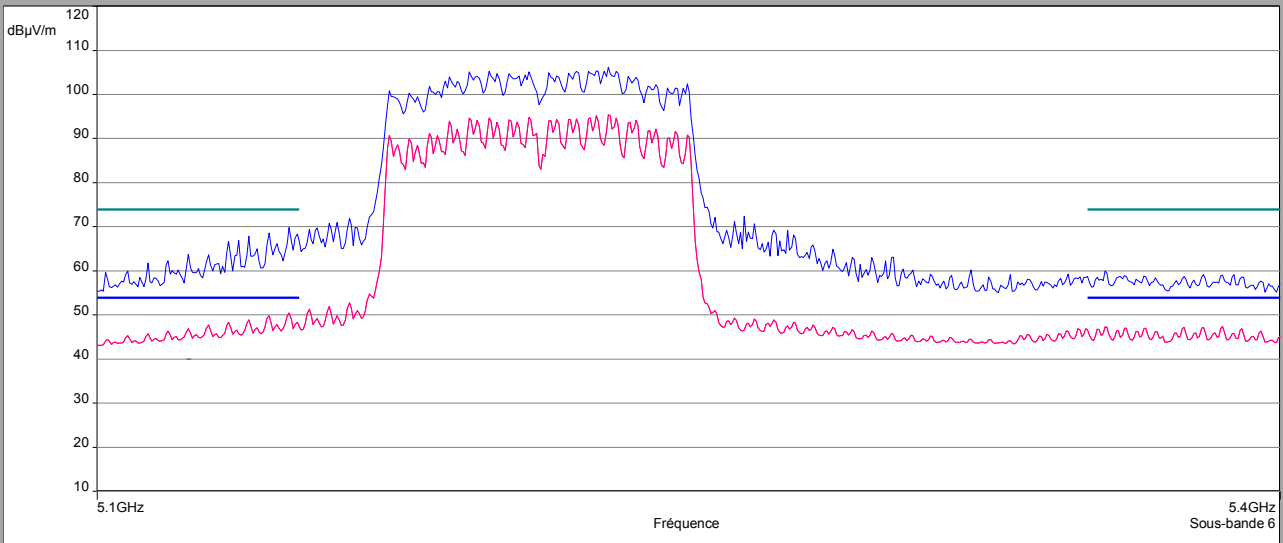
Fréquences: 5.1 GHz - 5.4 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage: 50 ms/Pts, Atténuation: 247344928, Nombre de Balayages: 1, Preamp: On: 20 dB, LN Preamp: Off, Preselector: Off

Polarisation: Verticale

Distance: 3 m

FCC/FCC 15.209 5150MHz-5350MHz Band - Classe:1 - Moyenne/3.0m/
FCC/FCC 15.209 5150MHz-5350MHz Band - Classe:1 - Crête/3.0m/
Mes. Peak (Verticale)
Mes. Avg (Verticale)



Horizontal polarization

Description Sous-bande 5

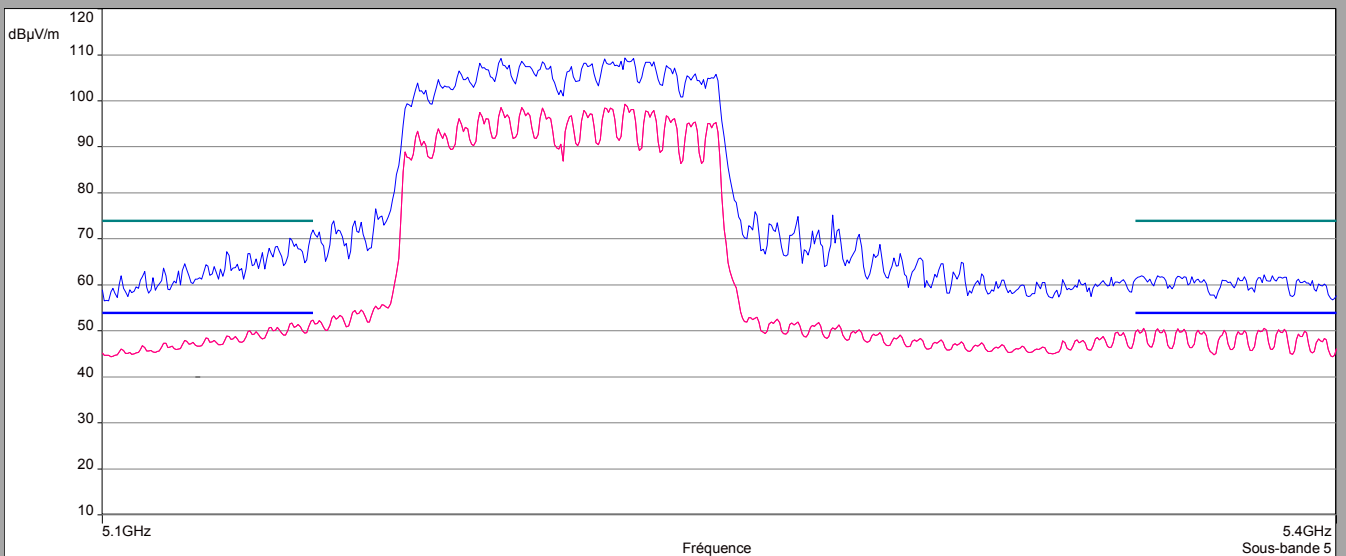
Fréquences: 5.1 GHz - 5.4 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage: 50 ms/Pts, Atténuation: 247344992, Nombre de Balayages: 1, Preamp: On: 20 dB, LN Preamp: Off, Preselector: Off

Polarisation: Horizontale

Distance: 3 m

FCC/FCC 15.209 5150MHz-5350MHz Band - Classe:1 - Moyenne/3.0m/
FCC/FCC 15.209 5150MHz-5350MHz Band - Classe:1 - Crête/3.0m/
Mes. Peak (Horizontale)
Mes. Avg (Horizontale)





L C I E

Above 1GHz

802.11ac VHT80

C25

Vertical Polarization

Description Sous-bande 6

Fréquences: 5.1 GHz - 5.4 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage: 10 ms/Pts, Atténuation: 249902616, Nombre de Balayages: 1, Preamp: On: 20 dB, LN Preamp: Off, Preselector: Off

Polarisation: Verticale

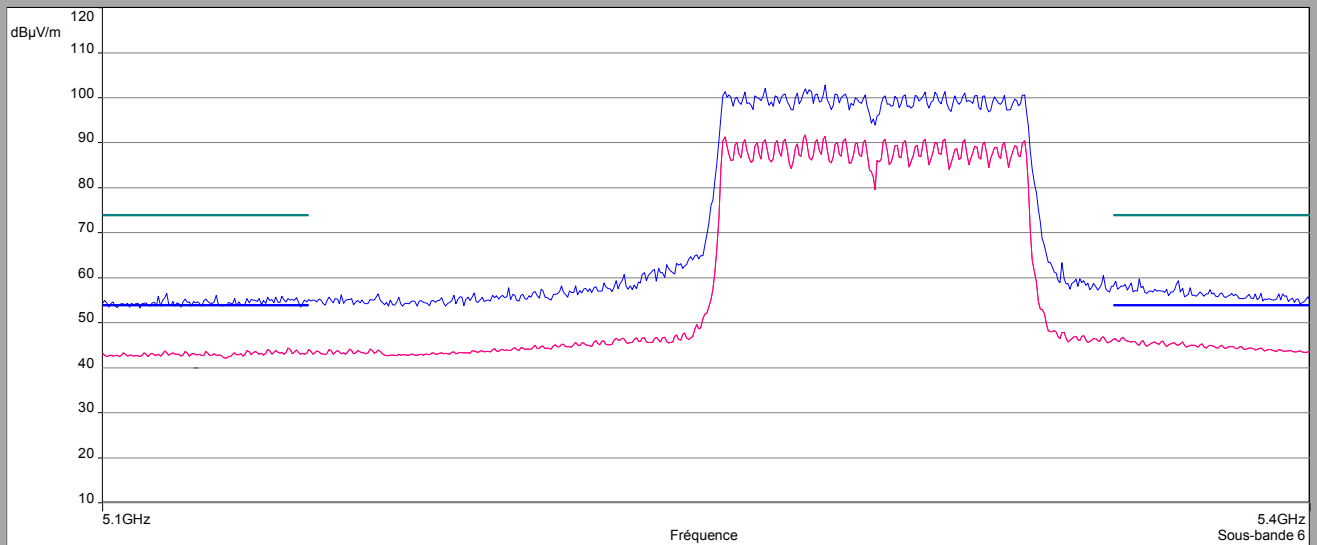
Distance: 3 m

FCC/FCC 15.209 5150MHz-5350MHz Band - Classe:1 - Moyenne/3.0m/

FCC/FCC 15.209 5150MHz-5350MHz Band - Classe:1 - Crête/3.0m/

Mes. Peak (Verticale)

Mes. Avg (Verticale)



Horizontal polarization

Description Sous-bande 5

Fréquences: 5.1 GHz - 5.4 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage: 10 ms/Pts, Atténuation: 249902680, Nombre de Balayages: 1, Preamp: On: 20 dB, LN Preamp: Off, Preselector: Off

Polarisation: Horizontale

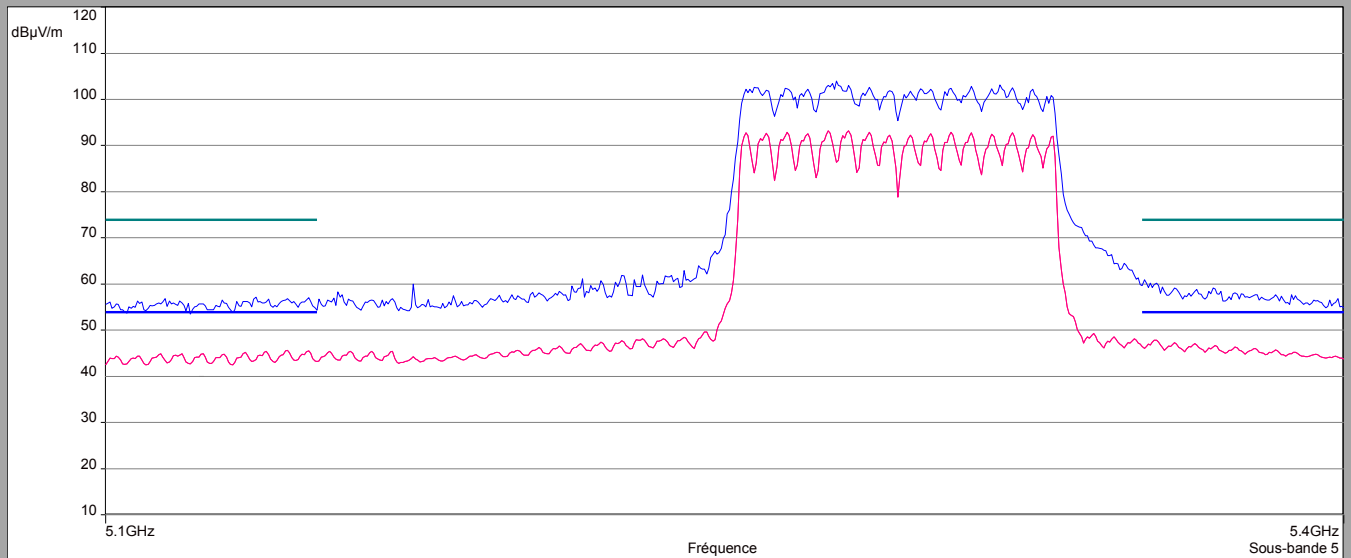
Distance: 3 m

FCC/FCC 15.209 5150MHz-5350MHz Band - Classe:1 - Moyenne/3.0m/

FCC/FCC 15.209 5150MHz-5350MHz Band - Classe:1 - Crête/3.0m/

Mes. Peak (Horizontale)

Mes. Avg (Horizontale)





L C I E

Above 1GHz

802.11ac VHT80

C26/C27

Vertical Polarization

Description Sous-bande 6

Fréquences: 5.45 GHz - 5.8 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage: 50 ms/Pts, Atténuation: 256708272, Nombre de Balayages: 1, Preamp: On: 20 dB, LN Preamp: Off, Reference: Off

Polarisation: Verticale

Distance: 3 m

FCC/FCC 15.209 5470MHz-5725MHz Band - Classe:1 - Moyenne/3.0m/

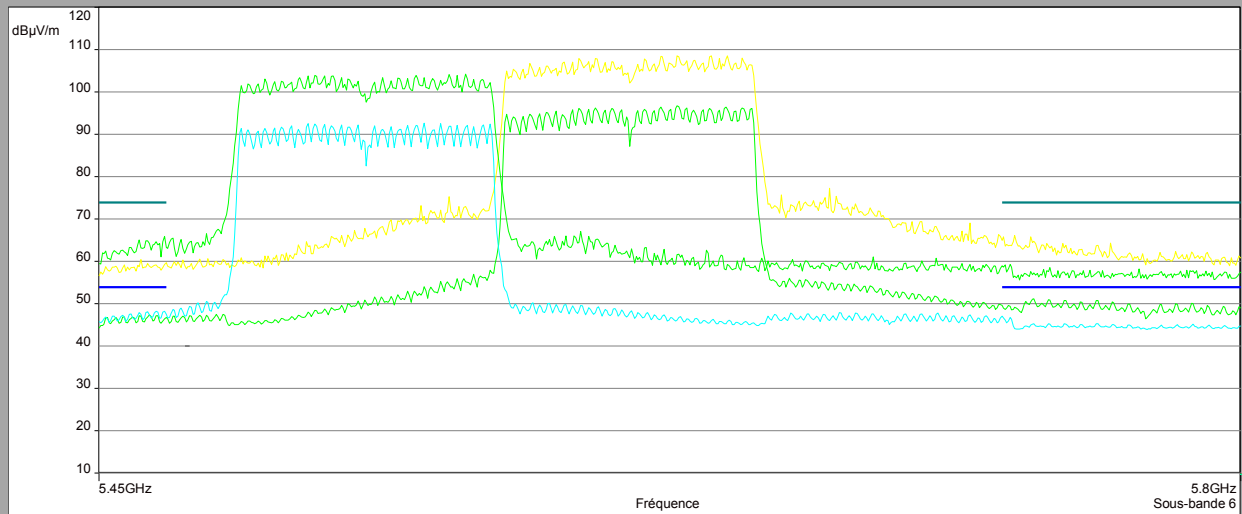
FCC/FCC 15.209 5470MHz-5725MHz Band - Classe:1 - Crête/3.0m/

Cmin Avg (Verticale)

Cmin Peak (Verticale)

Cnom Avg (Verticale)

Cnom Peak (Verticale)



Horizontal polarization

Description Sous-bande 5

Fréquences: 5.45 GHz - 5.8 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage: 50 ms/Pts, Atténuation: 256708240, Nombre de Balayages: 1, Preamp: On: 20 dB, LN Preamp: Off, Reference: Off

Polarisation: Horizontale

Distance: 3 m

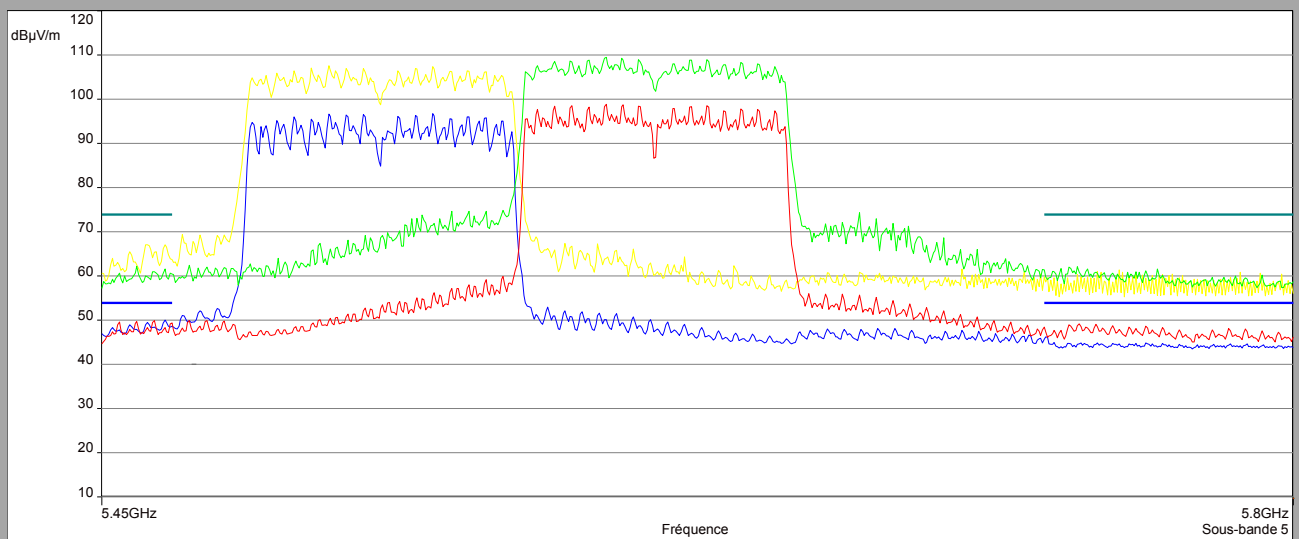
FCC/FCC 15.209 5470MHz-5725MHz Band - Classe:1 - Moyenne/3.0m/

FCC/FCC 15.209 5470MHz-5725MHz Band - Classe:1 - Crête/3.0m/

Cnom Peak (Horizontale)

Cmin Avg (Horizontale)

Cmin Peak (Horizontale)





L C I E

Above 1GHz

802.11ac VHT80

C29

Vertical Polarization

Description Sous-bande 6

Fréquences: 5.6 GHz - 6 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage : 10 ms/Pts, Atténuation : 60271368, Nombre de Balayages : 1, Preamp : On: 20 dB, LN Preamp : Off, Reselecteur : Off

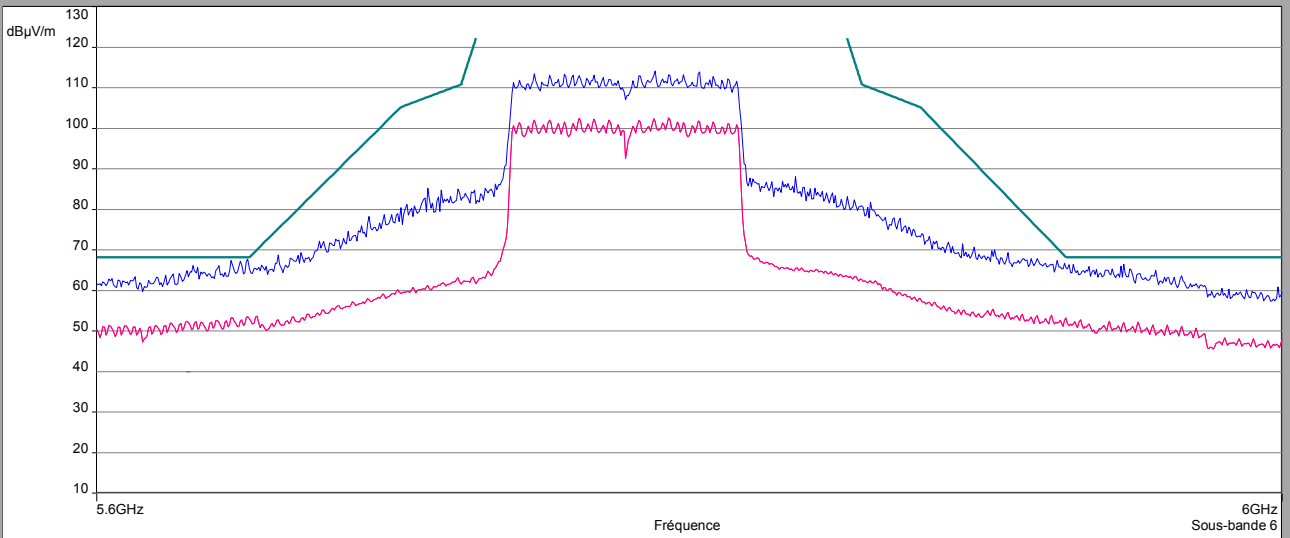
Polarisation:Verticale

Distance: 3 m

FCC/FCC 15.407 b (4) (i) 5725MHz-5850MHz - Classe:1 - Crête/3.0m/

Mes. Peak (Verticale)

Mes. Avg (Verticale)



Horizontal polarization

Description Sous-bande 5

Fréquences: 5.6 GHz - 6 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage : 10 ms/Pts, Atténuation : 246244184, Nombre de Balayages : 1, Preamp : On: 20 dB, LN Preamp : Off, Reselecteur : Off

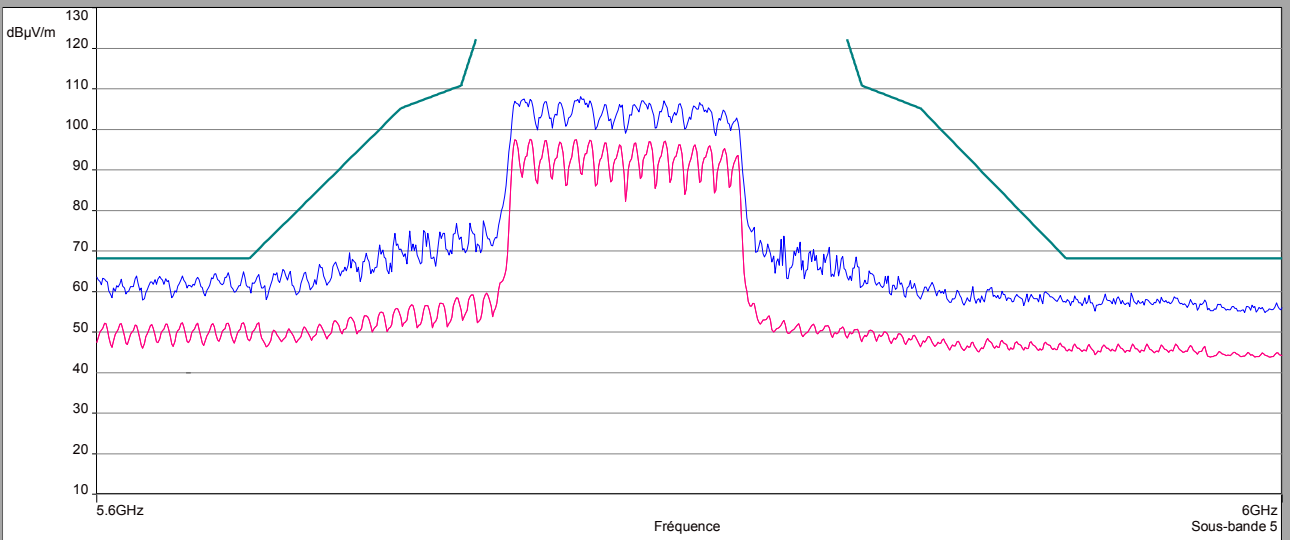
Polarisation:Horizontale

Distance: 3 m

FCC/FCC 15.407 b (4) (i) 5725MHz-5850MHz - Classe:1 - Crête/3.0m/

Mes. Peak (Horizontale)

Mes. Avg (Horizontale)





L C I E

Below 1GHz without Beamforming

Polarisation	Frequency (MHz)	level Quasi peak (dBµV/m)	limit FCC	Margin
vertical	30.6	23.06	29.5	6.44
vertical	31.8	19.26	29.5	10.24
vertical	32.9	25.36	29.5	4.14
vertical	33.8	21.8	29.5	7.7
vertical	35.7	20.97	29.5	8.53
vertical	37.3	24.5	29.5	5
vertical	40	23.12	29.5	6.38
vertical	42.6	25.6	29.5	3.9
vertical	43.8	25.7	29.5	3.8
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	22.6	29.5	6.9
vertical	57	24.05	29.5	5.45
vertical	58.8	27.01	29.5	2.49
vertical	60.1	26.18	29.5	3.32
vertical	62	27.05	29.5	2.45
vertical	63.5	25.41	29.5	4.09
vertical	66.3	21.23	29.5	8.27
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	93.2	23.79	33	9.21
vertical	105	22.09	33	10.91
vertical	115	16.23	33	16.77
vertical	120	23.75	33	9.25
vertical	125	25.36	33	7.64
vertical	132	23.58	33	9.42
vertical	140	23.67	33	9.33
vertical	141.2	26.18	33	6.82
vertical	144	29.08	33	3.92
vertical	147.5	25.36	33	7.64



L C I E

Polarisation	Frequency (MHz)	level Quasi peak (dB μ V/m)	limit FCC	Margin
vertical	147.5	25.36	33	7.64
vertical	150	26.82	33	6.18
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	175.1	24.22	33	8.78
vertical	180	26.77	33	6.23
vertical	185.2	25.13	33	7.87
vertical	192	19.34	33	13.66
vertical	196	19.08	33	13.92
vertical	200	24.63	33	8.37
vertical	206.2	22.98	33	10.02
vertical	216	18.01	33	14.99
vertical	221.2	22.65	35.5	12.85
vertical	240	25.46	35.5	10.04
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	30.28	35.5	5.22
vertical	450	30.98	35.5	4.52
vertical	456	27.97	35.5	7.53
vertical	464	29.82	35.5	5.68
vertical	468	29.97	35.5	5.53
vertical	480	29.31	35.5	6.19



L C I E

Polarisation	Frequency (MHz)	level Quasi peak (dB μ V/m)	limit FCC	Margin
vertical	492	29.72	35.5	5.78
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	576	30.87	35.5	4.63
vertical	600	24.31	35.5	11.19
vertical	624	27.85	35.5	7.65
vertical	650	33.85	35.5	1.65
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	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

Polarisation	Frequency (MHz)	level Quasi peak (dB μ V/m)	limit FCC	Margin
Horizontal	192	24.33	33	8.67
Horizontal	198	22.97	33	10.03
Horizontal	206.5	21.86	33	11.14
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	404	28.02	35.5	7.48
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	520	31.87	35.5	3.63
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	864	31.14	35.5	4.36
Horizontal	875	29.21	35.5	6.29
Horizontal	900	27.51	35.5	7.99



L C I E

Above 1GHz without Beamforming

Polarization	Frequency (MHz)	Duty Cycle Factor (dB μ V/m)	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)
Vertical	1125	0,35	41,01	12,99	54	50,01	23,99	74
Vertical	1220	0,35	40,89	13,11	54	49,21	24,79	74
Vertical	1250	0,35	41,28	12,72	54	51,69	22,31	74
Vertical	1350	0,35	41,62	12,38	54	51,31	22,69	74
Vertical	1488	0,35	42,87	11,13	54	51,55	22,45	74
Vertical	1596	0,35	41,95	12,05	54	52,9	21,1	74
Vertical	1625	0,35	41,41	12,59	54	51,94	22,06	74
Horizontal	1026	0,35	39,81	14,19	54	48,16	25,84	74
Horizontal	1065	0,35	40,3	13,7	54	51,41	22,59	74
Horizontal	1100	0,35	40,01	13,99	54	48,98	25,02	74
Horizontal	1152	0,35	41,19	12,81	54	49,48	24,52	74
Horizontal	1320	0,35	40,43	13,57	54	50,09	23,91	74
Horizontal	1375	0,35	41,37	12,63	54	54,07	19,93	74
Horizontal	1750	0,35	40,84	13,16	54	54,61	19,39	74
Horizontal	3000.1	0,35	38,87	15,13	54	49,59	24,41	74



L C I E

Above 1GHz								
802.11a								
C1/C2/C3 (5150MHz-5250MHz)								
Polarization	Frequency (MHz)	Duty Cycle Factor (dBµV/m)	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	5150	0.08	46,282	7.718	54	60,333	13.667	74
Horizontale	5350	0.08	46,243	7.757	54	58,230	15.770	74

Above 1GHz								
802.11a								
C4/C5/C6 (5250MHz-5350MHz)								
Polarization	Frequency (MHz)	Duty Cycle Factor (dBµV/m)	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	5150	0.08	42,291	11.709	54	53,386	20.614	74
Horizontale	5350	0.08	46,243	7.757	54	58,727	15.273	74

Above 1GHz								
802.11a								
C7/C8/C9 (5470MHz-5725MHz)								
Polarization	Frequency (MHz)	Duty Cycle Factor (dBµV/m)	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	5470	0.08	45,302	8.698	54	57,278	16.722	74
Horizontale	5725	0.08	46,771	7.229	54	60,968	13.032	74

Above 1GHz								
802.11a								
C11/C12/C13 (5725MHz-5850MHz)								
Polarization	Frequency (MHz)	Duty Cycle Factor (dBµV/m)	Average Level (dBµV/m)	Peak Level (dBµV/m)	Marge Peak Level (dBµV/m)	Peak Limit (dBµV/m)		
Horizontale	5660,5	0.08	55,177	66,784	9.213	75.997		
Horizontale	5725	0.08	66,170	83,677	38.323	122.2		
Horizontale	5850	0.08	67,003	81,397	40.603	122.2		
Horizontale	5982	0.08	51,397	61,743	6.457	68.2		



L C I E

Above 1GHz								
802.11n HT20/ac VHT20								
C1/C2/C3 (5150MHz-5250MHz)								
Polarization	Frequency (MHz)	Duty Cycle Factor (dBµV/m)	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	5150	0.09	43,777	10.223	54	66,141	7.859	74
Horizontale	5350	0.09	45,939	8.061	54	58,1	15.9	74
Horizontale	5397	0.09	49,278	4.722	54	64,486	9.514	74

Above 1GHz								
802.11n HT20/ac VHT20								
C4/C5/C6 (5250MHz-5350MHz)								
Polarization	Frequency (MHz)	Duty Cycle Factor (dBµV/m)	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	5145	0.09	44,918	9.02	54	60,331	13.669	74
Horizontale	5150	0.09	43,288	10.712	54	56,334	17.666	74
Horizontale	5350	0.09	45,613	8.387	54	65,822	8.178	74

Above 1GHz								
802.11n HT20/ac VHT20								
C7/C8/C9 (5470MHz-5725MHz)								
Polarization	Frequency (MHz)	Duty Cycle Factor (dBµV/m)	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	5460,5	0.09	43.019	10.981	54	60,309	13.691	74
Horizontale	5470	0.09	42,947	11.053	54	58,52	15.48	74
Verticale	5725	0.09	44,269	9.731	54	57,446	16.554	74
Verticale	5745,5	0.09	50,467	3.533	54	67,182	6.818	74

Above 1GHz								
802.11n HT20/ac VHT20								
C11/C12/C13 (5725MHz-5850MHz)								
Polarization	Frequency (MHz)	Duty Cycle Factor (dBµV/m)	Average Level (dBµV/m)	Peak Level (dBµV/m)	Marge Peak Level (dBµV/m)	Peak Limit (dBµV/m)		
Verticale	5630,5	0.09	49,069	62,322	5,878	68.2		
Verticale	5725	0.09	62,319	91,362	30,838	122.2		
Verticale	5850	0.09	66,60	91,655	30,545	122.2		
Verticale	5979	0.09	49,731	66,827	1,373	68.2		



L C I E

Above 1GHz								
802.11n HT40/ac VHT40								
C14/C15 (5150MHz-5250MHz)								
Polarization	Frequency (MHz)	Duty Cycle Factor (dBµV/m)	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	5150	0.18	45,64	8.36	54	64,039	9.961	74
Horizontale	5350	0.18	44,196	9.804	54	56,873	17.127	74
Horizontale	5398,5	0.18	52,378	1.622	54	63,744	10.256	74

Above 1GHz								
802.11n HT40/ac VHT40								
C16/C17 (5250MHz-5350MHz)								
Polarization	Frequency (MHz)	Duty Cycle Factor (dBµV/m)	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	5141,5	0.18	47,34	6.66	54	58,292	15.708	74
Horizontale	5150	0.18	43.086	10.914	54	54,431	19.569	74
Horizontale	5350	0.18	47,849	6.151	54	61,509	12.491	74
Horizontale	5357,5	0.18	47,588	6.412	54	66,333	7.667	74

Above 1GHz								
802.11n HT40/ac VHT40								
C18/C19/C20 (5470MHz-5725MHz)								
Polarization	Frequency (MHz)	Duty Cycle Factor (dBµV/m)	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	5468	0.18	46,533	7.467	54	65,482	8.518	74
Horizontale	5470	0.18	45.05	8.95	54	58,897	15.103	74
Horizontale	5725	0.18	46,212	7.788	54	59,31	14.69	74
Horizontale	5739	0.18	45,727	8.273	54	60,097	13.903	74



L C I E

Above 1GHz						
802.11n HT40/ac VHT40						
C22/C23 (5725MHz-5850MHz)						
Polarization	Frequency (MHz)	Duty Cycle Factor (dBµV/m)	Average Level (dBµV/m)	Peak Level (dBµV/m)	Marge Peak Level (dBµV/m)	Peak Limit (dBµV/m)
Horizontale	5609	0.18	53,308	67,038	1,162	68.2
Horizontale	5725	0.18	61,337	85,486	36,714	122.2
Horizontale	5850	0.18	54,144	69,985	52,215	122.2
Horizontale	5949	0.18	53,24	64,697	3,503	68.2

Above 1GHz								
802.11ac VHT80								
C24 (5150MHz-5250MHz)								
Polarization	Frequency (MHz)	Duty Cycle Factor (dBµV/m)	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	5141,5	0.35	47,465	6.535	54	62,563	11.437	74
Horizontale	5150	0.35	47,467	6.533	54	60,949	13.051	74
Horizontale	5350	0.35	45,477	8.523	54	57,495	16.505	74
Horizontale	5355,5	0.35	45.303	8.697	54	60,768	13.232	74

Above 1GHz								
802.11ac VHT80								
C25 (5250MHz-5350MHz)								
Polarization	Frequency (MHz)	Duty Cycle Factor (dBµV/m)	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	5113,5	0.35	45,575	8.425	54	58,904	15.096	74
Horizontale	5150	0.35	43,90	10.10	54	54,929	19.071	74
Horizontale	5350	0.35	47.012	6.988	54	60,89	13.110	74
Horizontale	5353	0.35	49,596	4.404	54	66,462	7.538	74

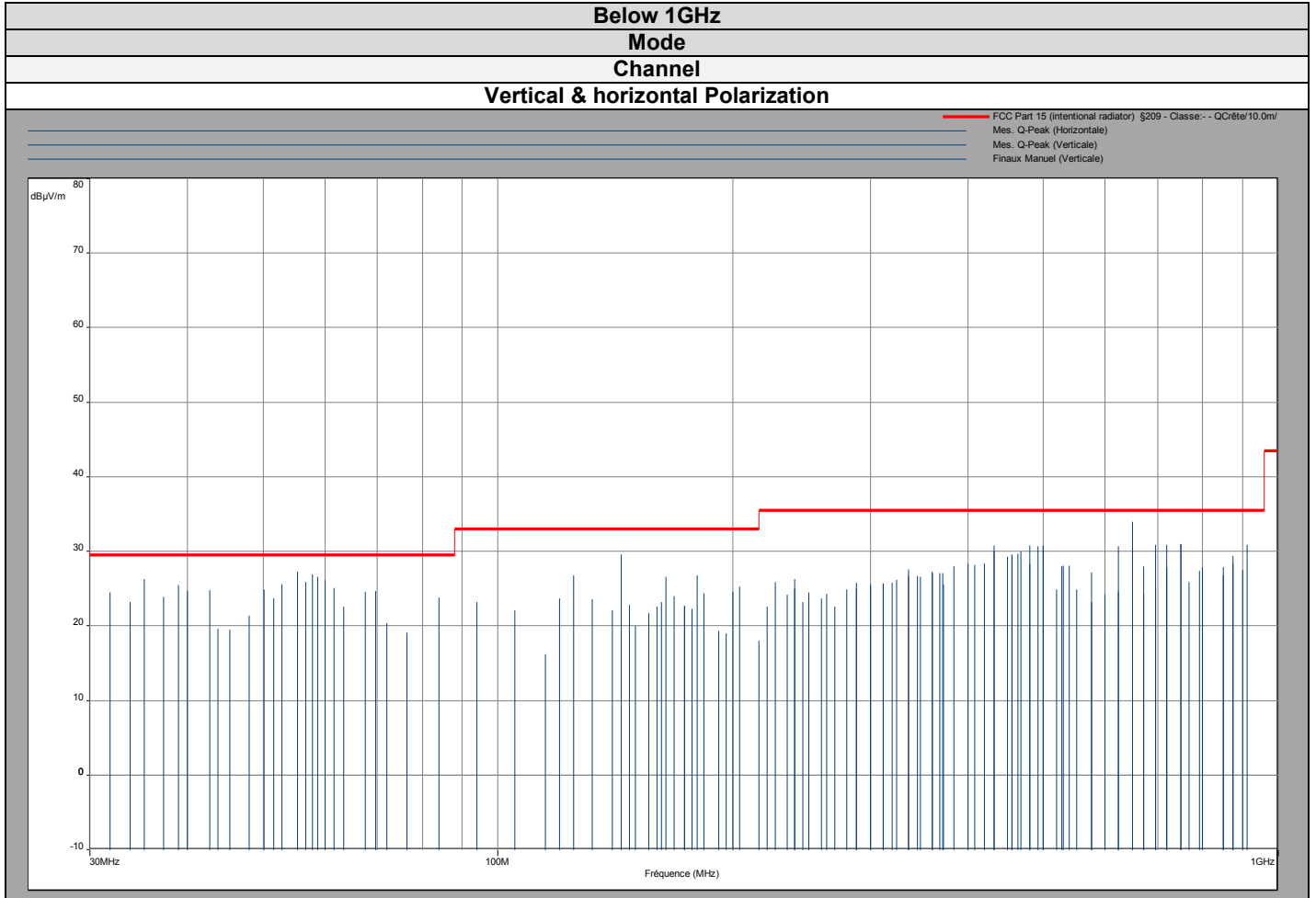


L C I E

Above 1GHz								
802.11ac VHT80								
C26/C27 (5470MHz-5725MHz)								
Polarization	Frequency (MHz)	Duty Cycle Factor (dBµV/m)	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	5468	0.35	49.226	4.774	54	66,881	7.119	74
Horizontale	5470	0.35	46,703	7.297	54	60,433	13.567	74
Verticale	5725	0.35	47.329	6.671	54	59,569	14.431	74
Verticale	5734,5	0.35	49.23	4.770	54	61,588	12.412	74

Above 1GHz						
802.11ac VHT80						
C29 (5725MHz-5850MHz)						
Polarization	Frequency (MHz)	Duty Cycle Factor (dBµV/m)	Average Level (dBµV/m)	Peak Level (dBµV/m)	Marge Peak Level (dBµV/m)	Peak Limit (dBµV/m)
Verticale	5645,5	0.35	52,803	65,639	2,561	68.2
Verticale	5725	0.35	61.213	84,534	37,666	122.2
Verticale	5850	0.35	62,931	80,763	41,437	122.2
Verticale	5944	0.35	50.294	66,952	1,248	68.2

11.6.2. With Beamforming



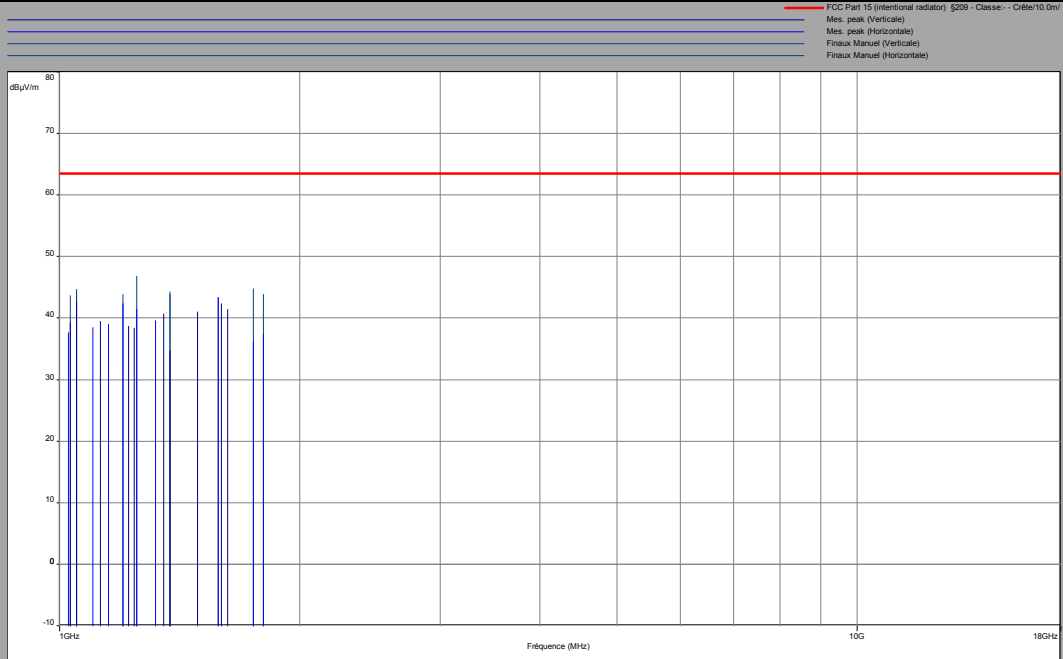


L C I E

Above 1GHz

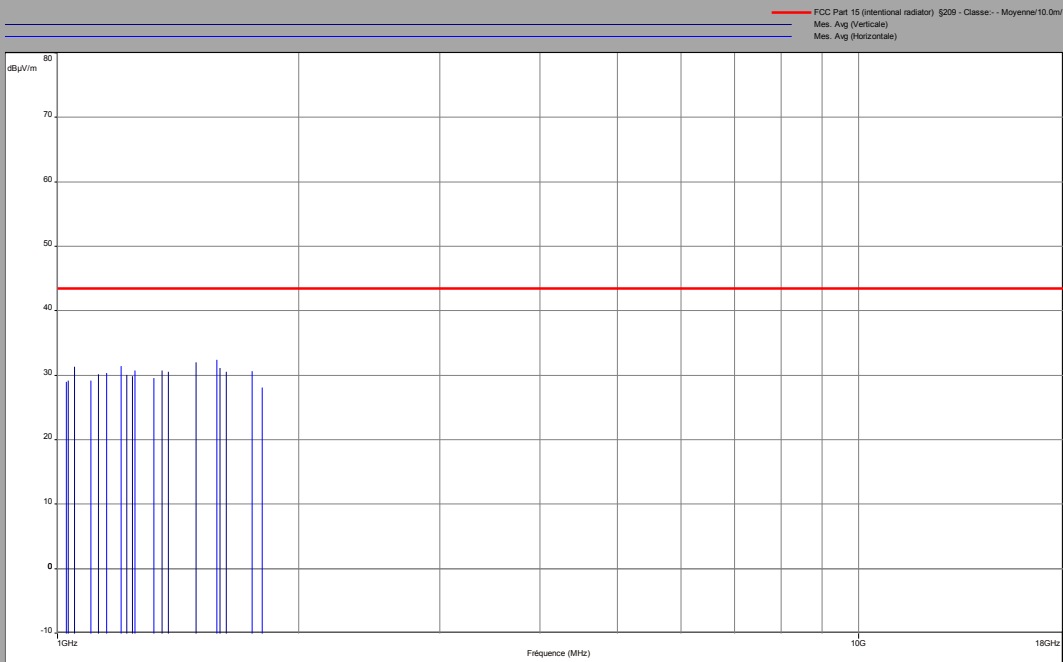
802.11a

Peak measurement



No interference have been observed between 18GHz to 40GHz

Average measurement



No interference have been observed between 18GHz to 40GHz



L C I E

Above 1GHz
802.11n HT20/ac VHT20
C1/C2/C3
Vertical Polarization

Description Sous-bande 6

Fréquences: 5.1 GHz - 5.4 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage: 50 ms/Pts, Atténuation: 42142088, Nombre de Balayages: 1, Preamp: On: 20 dB, LN Preamp: Off, Resol: Off

Polarisation: Verticale

Distance: 3 m

FCC/FCC 15.209 5150MHz-5350MHz Band - Classe:1 - Moyenne/3.0m/

FCC/FCC 15.209 5150MHz-5350MHz Band - Classe:1 - Crête/3.0m/

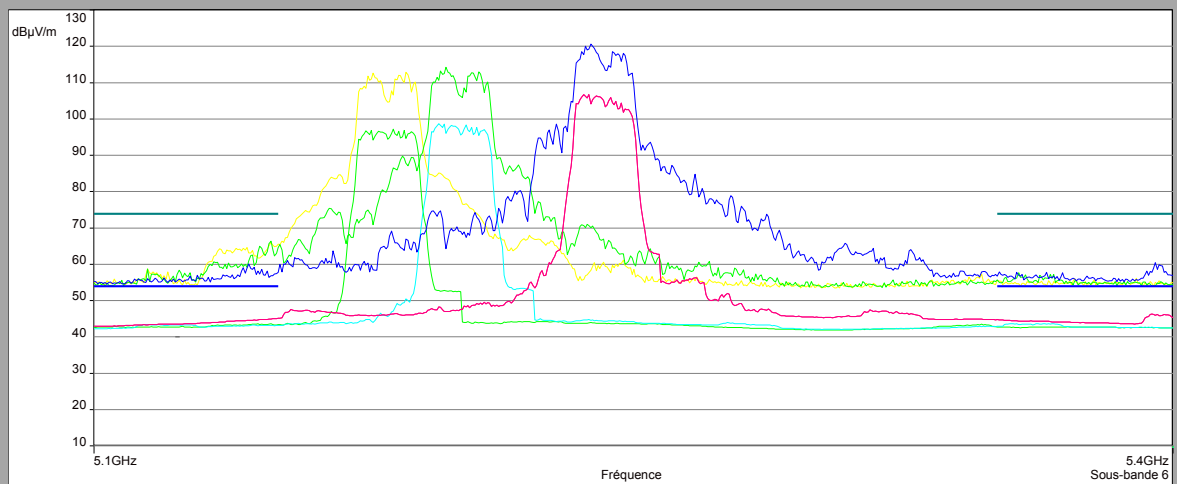
Mes. Avg (Verticale)

Cnom Avg (Verticale)

Cnom Peak (Verticale)

Cmin Avg (Verticale)

Cmin Peak (Verticale)



Horizontal polarization

Description Sous-bande 5

Fréquences: 5.1 GHz - 5.4 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage: 50 ms/Pts, Atténuation: 42141832, Nombre de Balayages: 1, Preamp: On: 20 dB, LN Preamp: Off, Resol: Off

Polarisation: Horizontale

Distance: 3 m

FCC/FCC 15.209 5150MHz-5350MHz Band - Classe:1 - Moyenne/3.0m/

FCC/FCC 15.209 5150MHz-5350MHz Band - Classe:1 - Crête/3.0m/

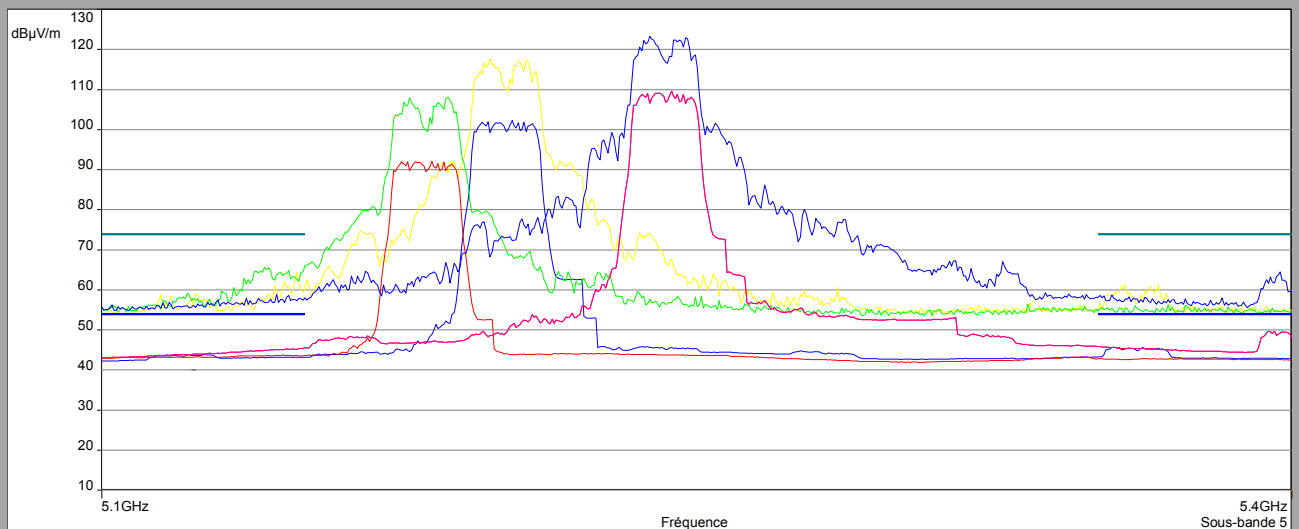
Mes. Avg (Horizontale)

Cmin Avg (Horizontale)

Cmin Peak (Horizontale)

Cnom Avg (Horizontale)

Cnom Peak (Horizontale)



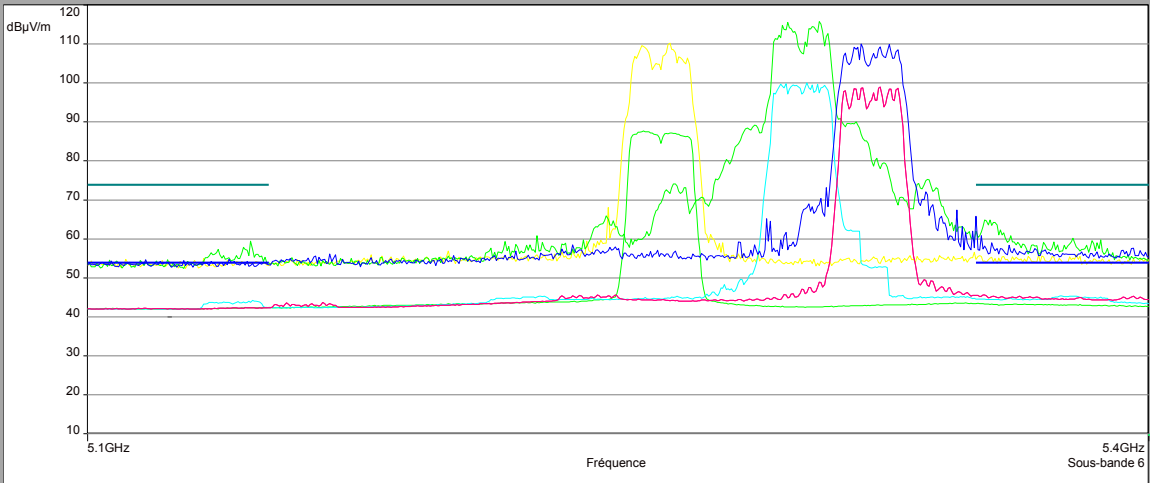


L C I E

Above 1GHz
802.11n HT20/ac VHT20
C4/C5/C6
Vertical Polarization

Description Sous-bande 6
Fréquences: 5.1 GHz - 5.4 GHz (Mode: Lin, Pas: 500 kHz)
Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage : 10 ms/Pts, Atténuation : 260508480, Nombre de Balayages : 1, Preamp : On: 20 dB, LN Preamp: Off, Preselection: Off
Polarisation: Verticale
Distance: 3 m

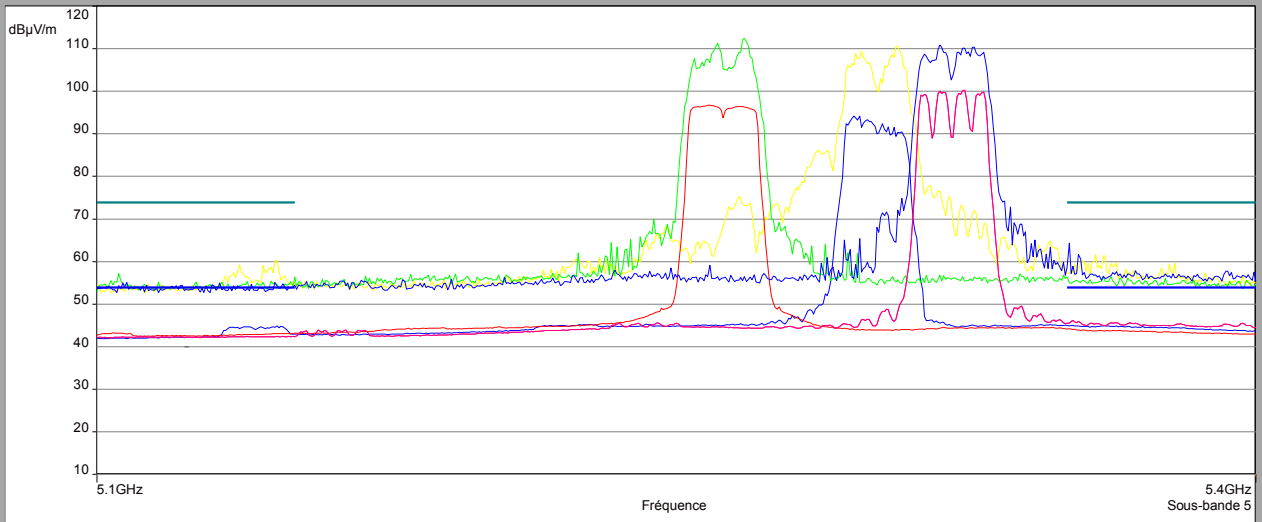
— FCC/FCC 15.209 5150MHz-5350MHz Band - Classe:1 - Moyenne/3.0m/
— FCC/FCC 15.209 5150MHz-5350MHz Band - Classe:1 - Crête/3.0m/
— Mes. Peak (Verticale)
— Mes. Avg (Verticale)
— Cnom Avg (Verticale)
— Cnom Peak (Verticale)
— Cmin Avg (Verticale)
— Cmin Peak (Verticale)



Horizontal polarization

Description Sous-bande 5
Fréquences: 5.1 GHz - 5.4 GHz (Mode: Lin, Pas: 500 kHz)
Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage : 10 ms/Pts, Atténuation : 260508064, Nombre de Balayages : 1, Preamp : On: 20 dB, LN Preamp: Off, Preselection: Off
Polarisation: Horizontale
Distance: 3 m

— FCC/FCC 15.209 5150MHz-5350MHz Band - Classe:1 - Moyenne/3.0m/
— FCC/FCC 15.209 5150MHz-5350MHz 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

Above 1GHz

802.11n HT20/ac VHT20

C7/C8/C9

Vertical Polarization

Description Sous-bande 6

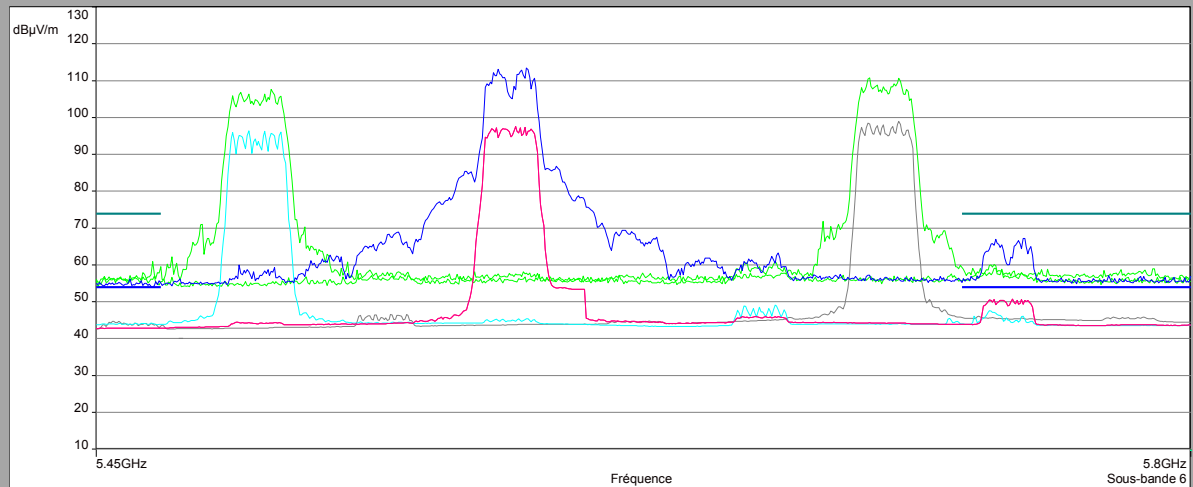
Fréquences: 5.45 GHz - 5.8 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage : 50 ms/Pts, Atténuation : 248337736, Nombre de Balayages : 1, Preamp : On: 20 dB, LN Preamp : Off, Preselecteur: Off

Polarisation: Verticale

Distance: 3 m

- FCC/FCC 15.209 5470MHz-5725MHz Band - Classe:1 - Moyenne/3.0m/
- FCC/FCC 15.209 5470MHz-5725MHz Band - Classe:1 - Crête/3.0m/
- Mes. Peak (Verticale)
- Mes. Avg (Verticale)
- Emissions rayonnées classique 5470MHz-5725MHz Cmin AVEC Beamforming Mode nHT20 - Mes. Avg (99) (Verticale)
- Emissions rayonnées classique 5470MHz-5725MHz Cmin AVEC Beamforming Mode nHT20 - Mes. Peak (99) (Verticale)
- Emissions rayonnées classique 5470MHz-5725MHz Cnom 2 AVEC Beamforming Mode nHT20 - Mes. Peak (137) (Verticale)
- Emissions rayonnées classique 5470MHz-5725MHz Cnom 2 AVEC Beamforming Mode nHT20 - Mes. Avg (137) (Verticale)



Horizontal polarization

Description Sous-bande 5

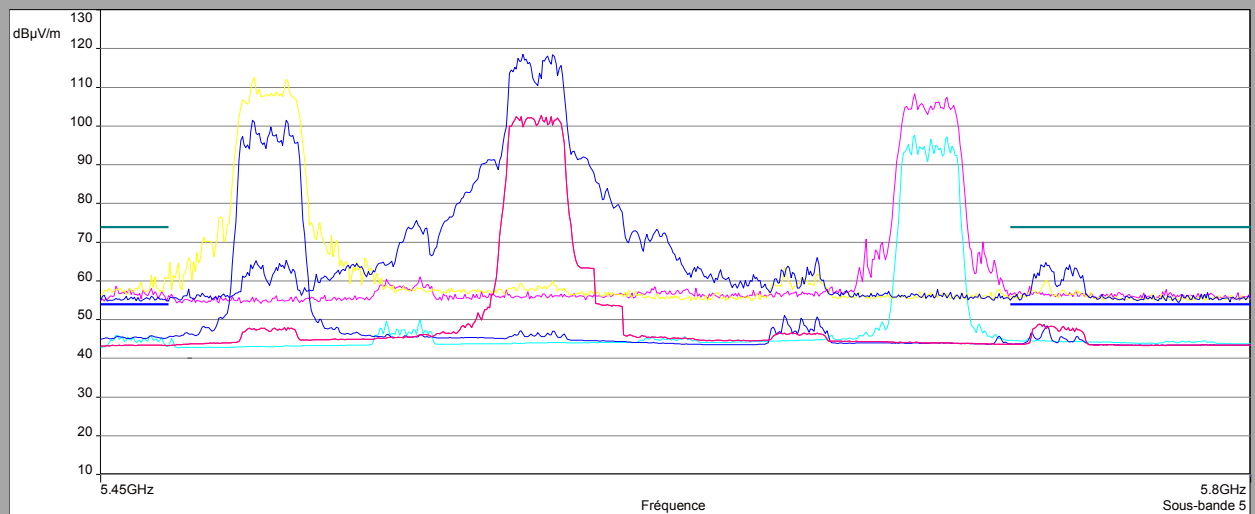
Fréquences: 5.45 GHz - 5.8 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage : 50 ms/Pts, Atténuation : 248337448, Nombre de Balayages : 1, Preamp : On: 20 dB, LN Preamp : Off, Preselecteur: Off

Polarisation: Horizontale

Distance: 3 m

- FCC/FCC 15.209 5470MHz-5725MHz Band - Classe:1 - Moyenne/3.0m/
- FCC/FCC 15.209 5470MHz-5725MHz Band - Classe:1 - Crête/3.0m/
- Mes. Peak (Horizontale)
- Mes. Avg (Horizontale)
- Emissions rayonnées classique 5470MHz-5725MHz Cmin AVEC Beamforming Mode nHT20 - Mes. Avg (99) (Horizontale)
- Emissions rayonnées classique 5470MHz-5725MHz Cmin AVEC Beamforming Mode nHT20 - Mes. Peak (99) (Horizontale)
- Emissions rayonnées classique 5470MHz-5725MHz Cnom 2 AVEC Beamforming Mode nHT20 - Mes. Peak (137) (Horizontale)
- Emissions rayonnées classique 5470MHz-5725MHz Cnom 2 AVEC Beamforming Mode nHT20 - Mes. Avg (137) (Horizontale)





L C I E

Above 1GHz
802.11n HT20/ac VHT20
C11/C12/C13
Vertical Polarization

Description Sous-bande 6

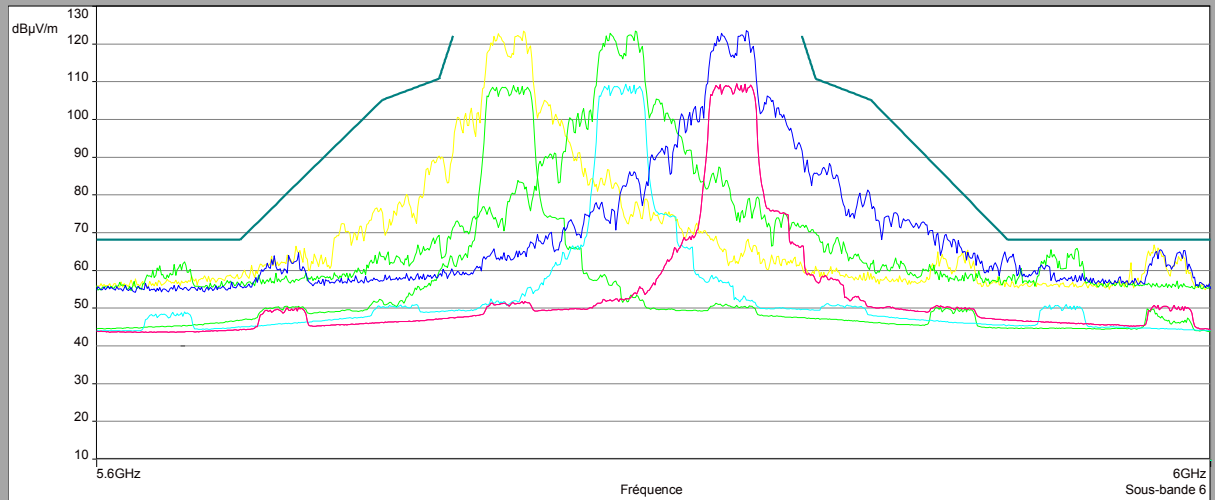
Fréquences: 5.6 GHz - 6 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage: 10 ms/Pts, Atténuation: 81072600, Nombre de Balayages: 1, Preamp: On: 20 dB, LN Preamp: Off, Reselecteur: Off

Polarisation: Verticale

Distance: 3 m

- FCC/FCC 15.407 b (4) (i) 5725MHz-5850MHz - Classe:1 - Crête/3.0m/
- Mes Peak (Verticale)
- Mes Avg (Verticale)
- Cnom Avg (Verticale)
- Cnom Peak (Verticale)
- Cmin Avg (Verticale)
- Cmin Peak (Verticale)



Horizontal polarization

Description Sous-bande 5

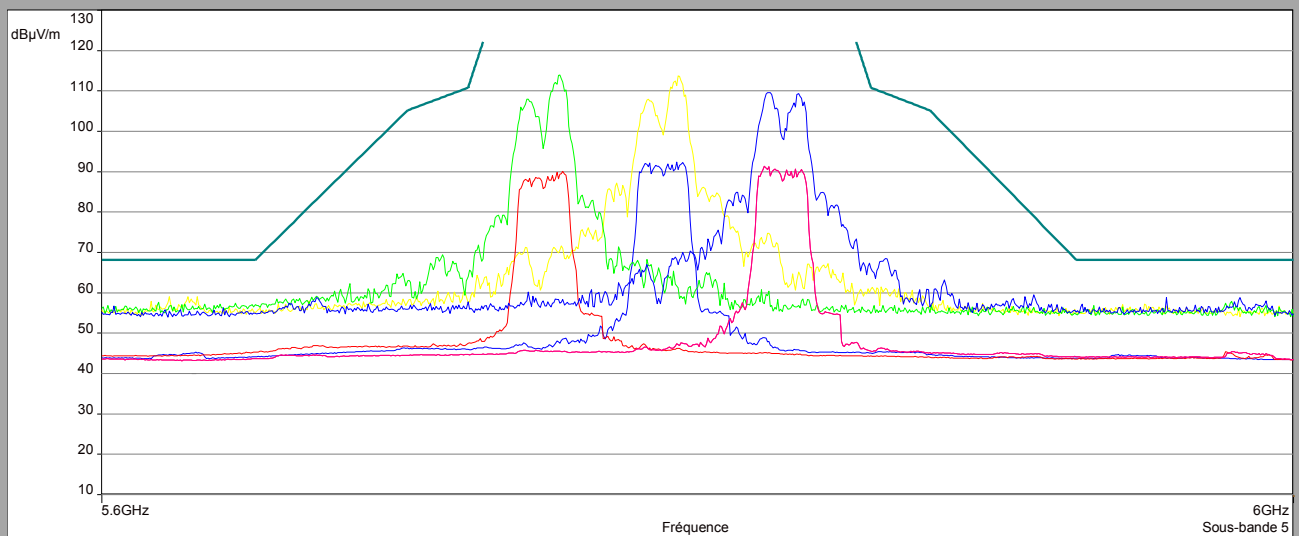
Fréquences: 5.6 GHz - 6 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage: 10 ms/Pts, Atténuation: 80452504, Nombre de Balayages: 1, Preamp: On: 20 dB, LN Preamp: Off, Reselecteur: Off

Polarisation: Horizontale

Distance: 3 m

- FCC/FCC 15.407 b (4) (i) 5725MHz-5850MHz - 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

Above 1GHz
802.11n HT40/ac VHT40
C14/C15
Vertical Polarization

Description Sous-bande 6

Fréquences: 5.1 GHz - 5.4 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage : 50 ms/Pts, Atténuation : 251539824, Nombre de Balayages : 1, Preamp : On: 20 dB, LN Preamp: Off, Preselector: Off

Polarisation: Verticale

Distance: 3 m

FCC/FCC 15.209 5150MHz-5350MHz Band - Classe:1 - Moyenne/3.0m/

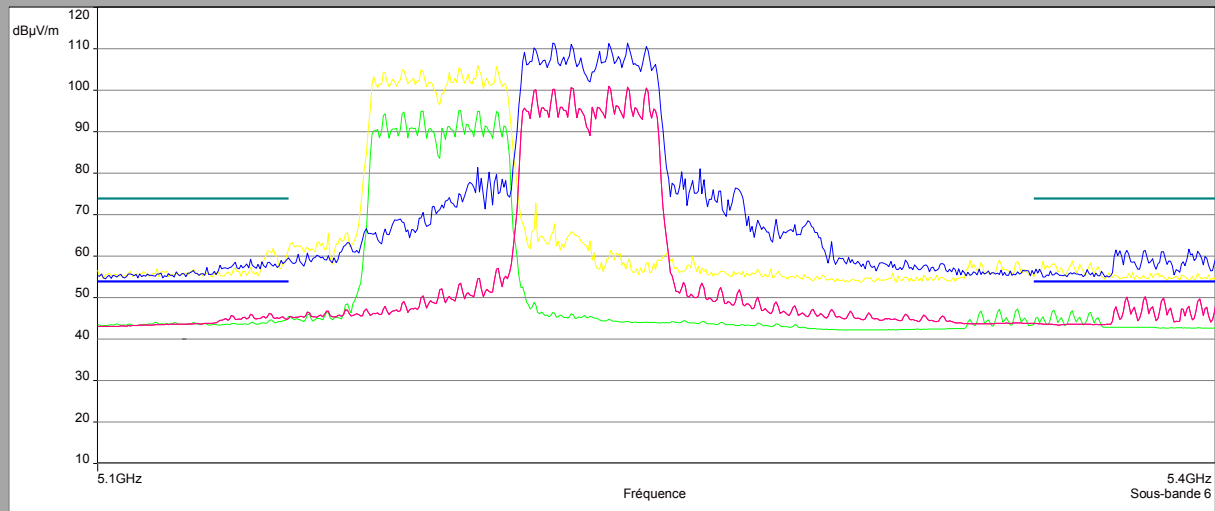
FCC/FCC 15.209 5150MHz-5350MHz Band - Classe:1 - Crête/3.0m/

Mes. Peak (Verticale)

Mes. Avg (Verticale)

Cmin Avg (Verticale)

Cmin Peak (Verticale)



Horizontal polarization

Description Sous-bande 5

Fréquences: 5.1 GHz - 5.4 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage : 50 ms/Pts, Atténuation : 251539856, Nombre de Balayages : 1, Preamp : On: 20 dB, LN Preamp: Off, Preselector: Off

Polarisation: Horizontale

Distance: 3 m

FCC/FCC 15.209 5150MHz-5350MHz Band - Classe:1 - Moyenne/3.0m/

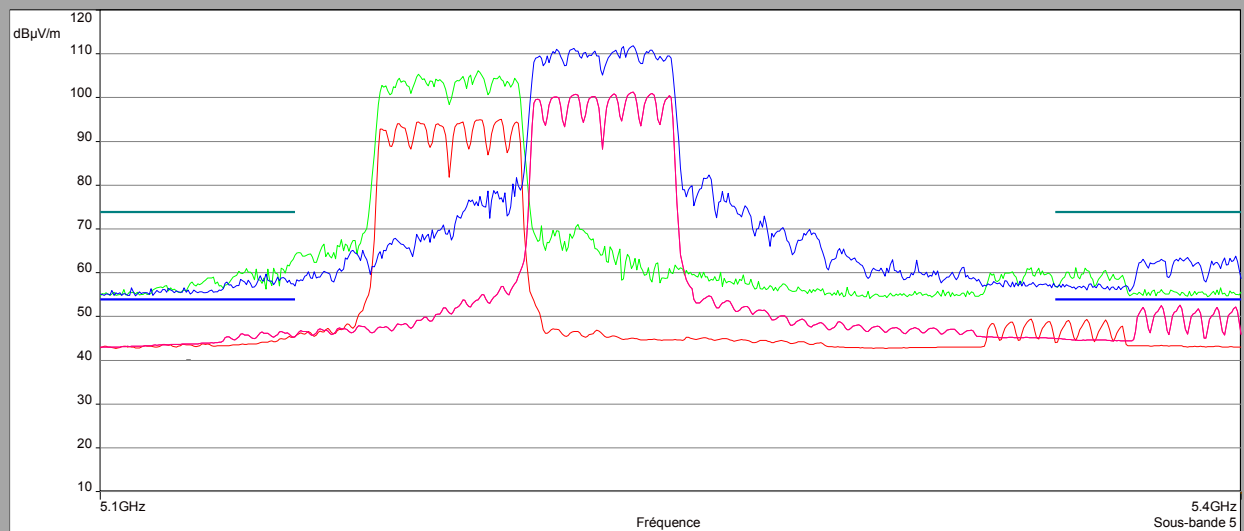
FCC/FCC 15.209 5150MHz-5350MHz Band - Classe:1 - Crête/3.0m/

Mes. Peak (Horizontale)

Mes. Avg (Horizontale)

Cmin Avg (Horizontale)

Cmin Peak (Horizontale)





L C I E

Above 1GHz
802.11n HT40/ac VHT40
C16/C17
Vertical Polarization

Description Sous-bande 6

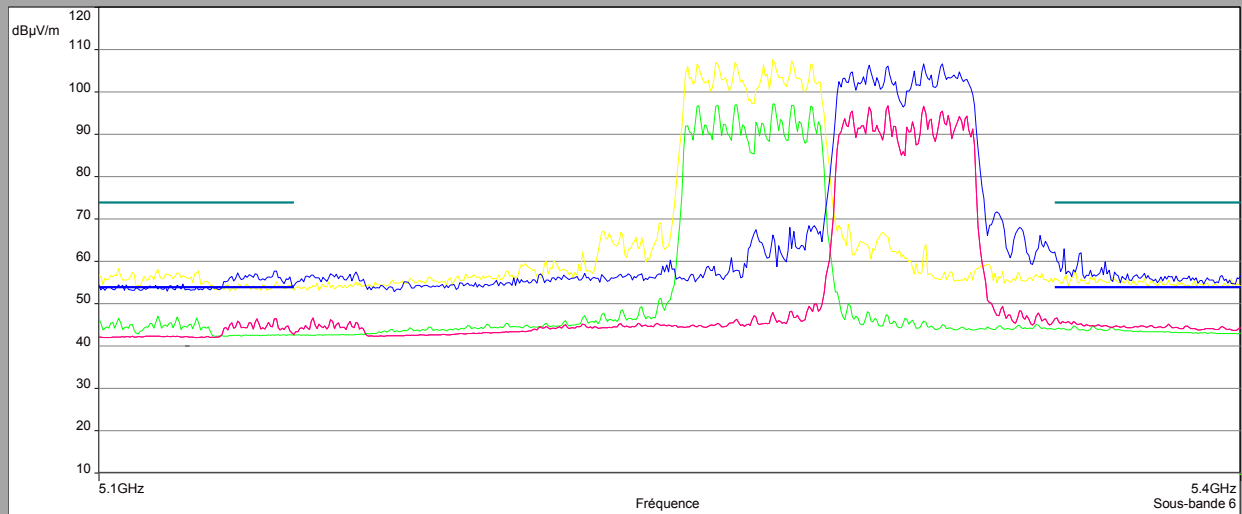
Fréquences: 5.1 GHz - 5.4 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage: 10 ms/Pts, Atténuation: 251635696, Nombre de Balayages: 1, Preamp: On: 20 dB, LN Preamp: Off, Mes. Peak (Verticale): Off

Polarisation: Verticale

Distance: 3 m

FCC/FCC 15.209 5150MHz-5350MHz Band - Classe:1 - Moyenne/3.0m/
FCC/FCC 15.209 5150MHz-5350MHz Band - Classe:1 - Crête/3.0m/
Mes. Peak (Verticale)
Mes. Avg (Verticale)
Cmin Avg (Verticale)
Cmin Peak (Verticale)



Horizontal polarization

Description Sous-bande 5

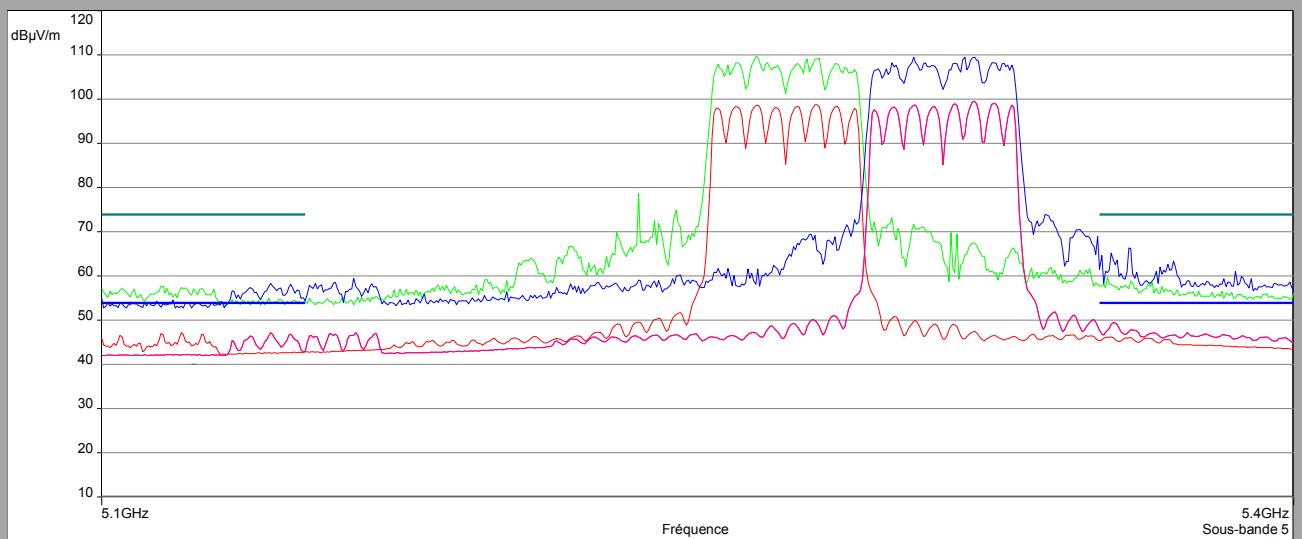
Fréquences: 5.1 GHz - 5.4 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage: 10 ms/Pts, Atténuation: 251635920, Nombre de Balayages: 1, Preamp: On: 20 dB, LN Preamp: Off, Mes. Peak (Horizontale): Off

Polarisation: Horizontale

Distance: 3 m

FCC/FCC 15.209 5150MHz-5350MHz Band - Classe:1 - Moyenne/3.0m/
FCC/FCC 15.209 5150MHz-5350MHz Band - Classe:1 - Crête/3.0m/
Mes. Peak (Horizontale)
Mes. Avg (Horizontale)
Cmin Avg (Horizontale)
Cmin Peak (Horizontale)



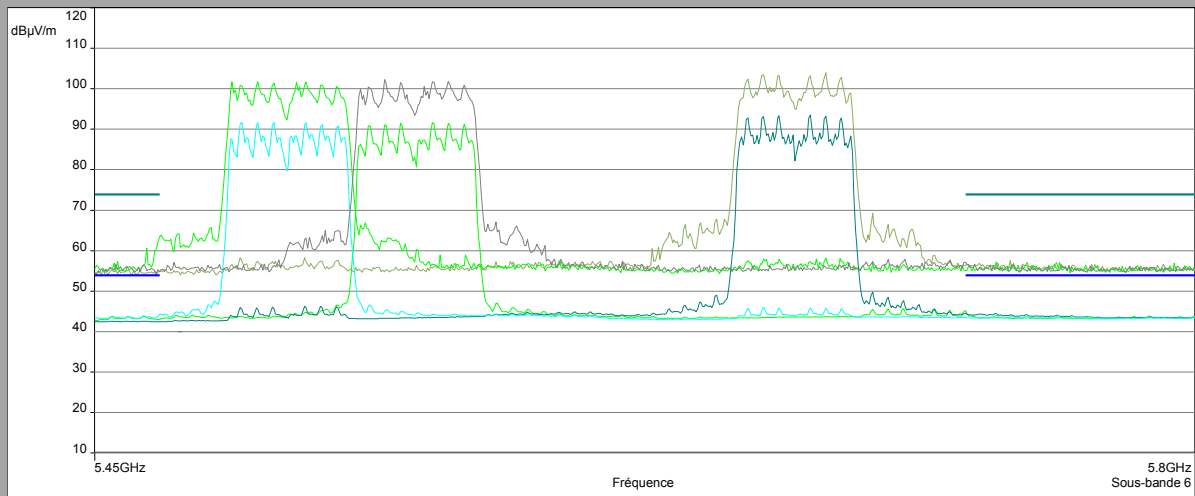


L C I E

Above 1GHz
802.11n HT40/ac VHT40
C18/C19/C20
Vertical Polarization

Description Sous-bande 6
Fréquences: 5.45 GHz - 5.8 GHz (Mode: Lin, Pas: 500 kHz)
Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage : 50 ms/Pts, Atténuation : 250303368, Nombre de Balayages : 1, Preamp : On: 20 dB, LN Preamp: Off, Preset: 40
Polarisation: Verticale
Distance: 3 m

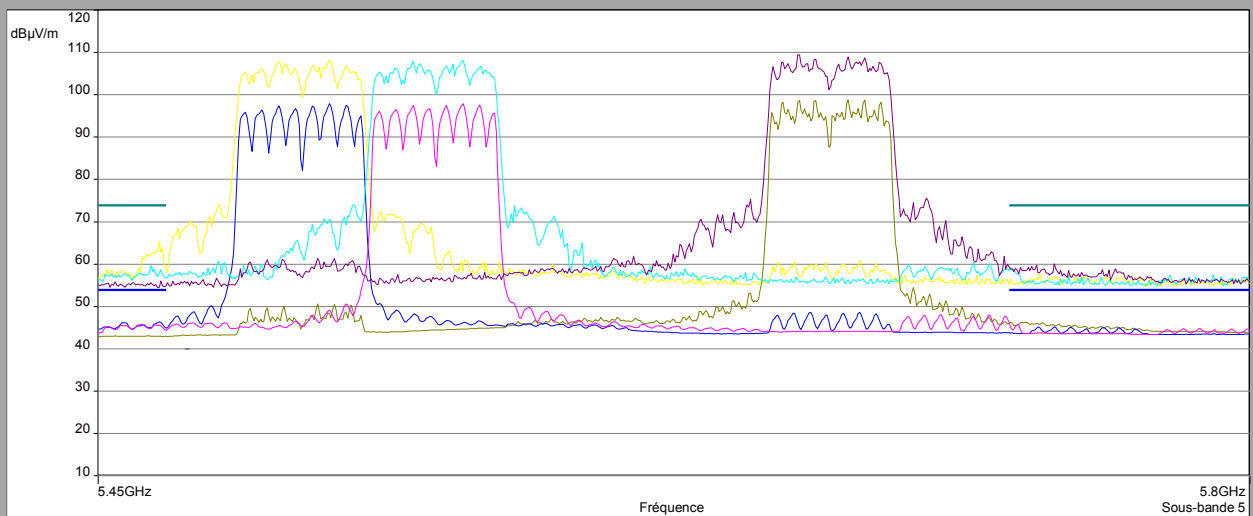
FCC/FCC 15.209 5470MHz-5725MHz Band - Classe:1 - Moyenne/3.0m/
FCC/FCC 15.209 5470MHz-5725MHz Band - Classe:1 - Crête/3.0m/
LN Preamp: Off, Preset: 40
Cnom bi Peak (Verticale)
Cmin Avg (Verticale)
Cnom bi Avg (Verticale)
Cmin Peak (Verticale)
Cnom bi Peak (Verticale)
Cnom Avg (Verticale)



Horizontal polarization

Description Sous-bande 5
Fréquences: 5.45 GHz - 5.8 GHz (Mode: Lin, Pas: 500 kHz)
Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage : 50 ms/Pts, Atténuation : 44738232, Nombre de Balayages : 1, Preamp : On: 20 dB, LN Preamp: Off, Preset: 40
Polarisation: Horizontale
Distance: 3 m

FCC/FCC 15.209 5470MHz-5725MHz Band - Classe:1 - Moyenne/3.0m/
FCC/FCC 15.209 5470MHz-5725MHz Band - Classe:1 - Crête/3.0m/
LN Preamp: Off, Preset: 40
Cnom bi Peak (Horizontale)
Cmin Avg (Horizontale)
Cnom Peak (Horizontale)
Cmin Avg (Horizontale)
Cnom bi Avg (Horizontale)
Cmin Peak (Horizontale)





L C I E

Above 1GHz

802.11n HT40/ac VHT40

C22/C23

Vertical Polarization

Description Sous-bande 6

Fréquences: 5.6 GHz - 6 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage: 10 ms/Pts, Atténuation: 246157168, Nombre de Balayages: 1, Preamp: On: 20 dB, LN Preamp: Off, Preselcteur: Off

Polarisation: Verticale

Distance: 3 m

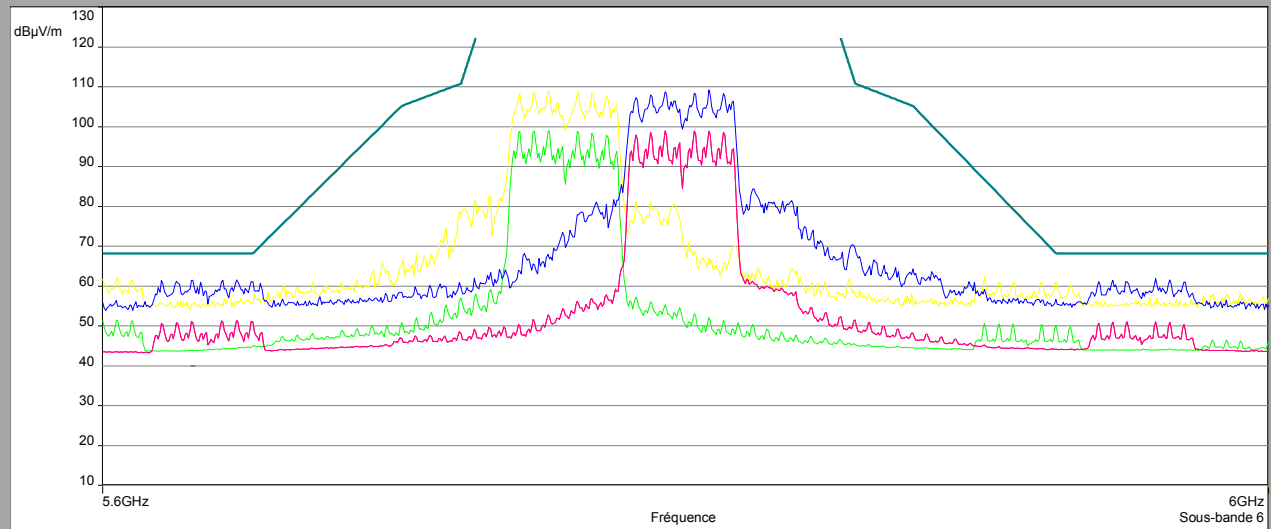
FCC/FCC 15.407 b (4) (i) 5725MHz-5850MHz - Classe:1 - Crête/3.0m/

Mes. Peak (Verticale)

Mes. Avg (Verticale)

Cmin Avg (Verticale)

Cmin Peak (Verticale)



Horizontal polarization

Description Sous-bande 5

Fréquences: 5.6 GHz - 6 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage: 10 ms/Pts, Atténuation: 81141296, Nombre de Balayages: 1, Preamp: On: 20 dB, LN Preamp: Off, Preselcteur: Off

Polarisation: Horizontale

Distance: 3 m

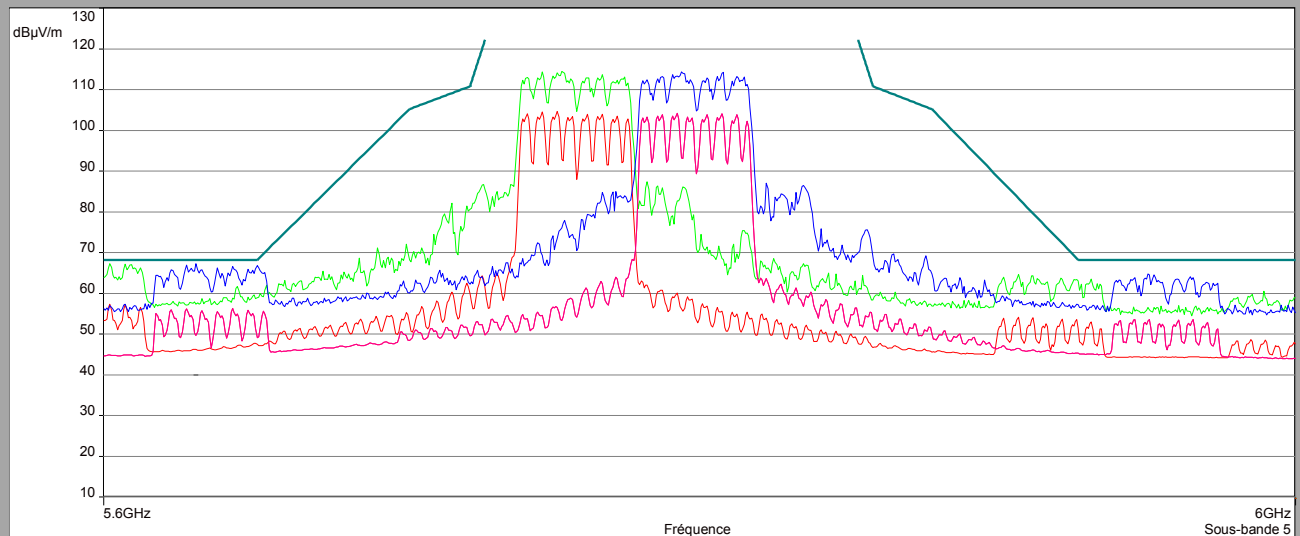
FCC/FCC 15.407 b (4) (i) 5725MHz-5850MHz - Classe:1 - Crête/3.0m/

Mes. Peak (Horizontale)

Mes. Avg (Horizontale)

Cmin Avg (Horizontale)

Cmin Peak (Horizontale)





L C I E

Above 1GHz

802.11ac VHT80

C24

Vertical Polarization

Description Sous-bande 6

Fréquences: 5.1 GHz - 5.4 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage : 50 ms/Pts, Atténuation : 246827768, Nombre de Balayages : 1, Preamp : On: 20 dB, LN Preamp: Off, Reselect: Off

Polarisation: Verticale

Distance: 3 m

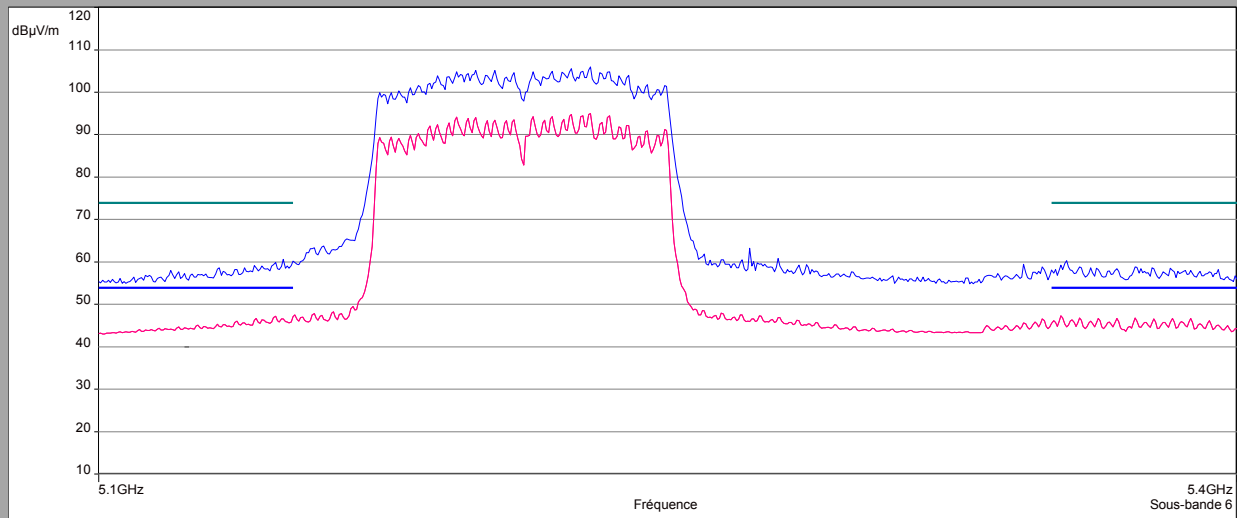
FCC/FCC 15.209 5150MHz-5350MHz Band - Classe:1 - Moyenne/3.0m/

FCC/FCC 15.209 5150MHz-5350MHz Band - Classe:1 - Crête/3.0m/

LN Preamp: Off, Reselect: Off

Mes. Peak (Verticale)

Mes. Avg (Verticale)



Horizontal polarization

Description Sous-bande 5

Fréquences: 5.1 GHz - 5.4 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage : 50 ms/Pts, Atténuation : 246827736, Nombre de Balayages : 1, Preamp : On: 20 dB, LN Preamp: Off, Reselect: Off

Polarisation: Horizontale

Distance: 3 m

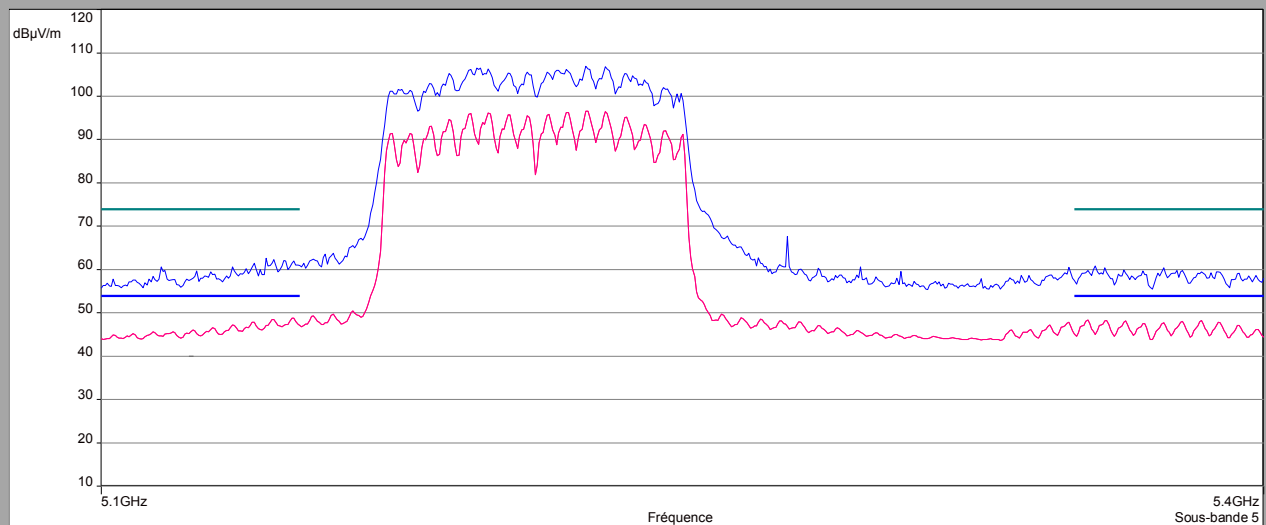
FCC/FCC 15.209 5150MHz-5350MHz Band - Classe:1 - Moyenne/3.0m/

FCC/FCC 15.209 5150MHz-5350MHz Band - Classe:1 - Crête/3.0m/

LN Preamp: Off, Reselect: Off

Mes. Peak (Horizontale)

Mes. Avg (Horizontale)





L C I E

Above 1GHz

802.11ac VHT80

C25

Vertical Polarization

Description Sous-bande 6

Fréquences: 5.1 GHz - 5.4 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage : 10 ms/Pts, Atténuation : 8083984, Nombre de Balayages : 1, Preamp : On: 20 dB, LN Preamp : Off, PAV: On

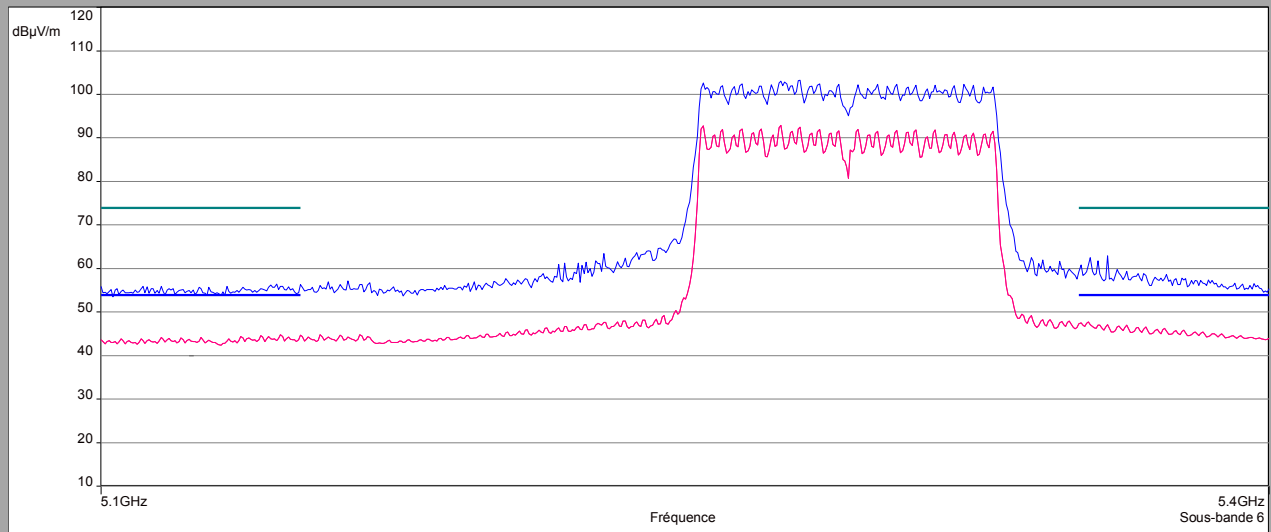
Polarsation: Verticale

Distance: 3 m

FCC/FCC 15.209 5150MHz-5350MHz Band - Classe:1 - Moyenne/3.0m/

FCC/FCC 15.209 5150MHz-5350MHz Band - Classe:1 - Crête/3.0m/

Mes. Avg (Verticale)



Horizontal polarization

Description Sous-bande 5

Fréquences: 5.1 GHz - 5.4 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage : 10 ms/Pts, Atténuation : 79441104, Nombre de Balayages : 1, Preamp : On: 20 dB, LN Preamp : Off, PAV: On

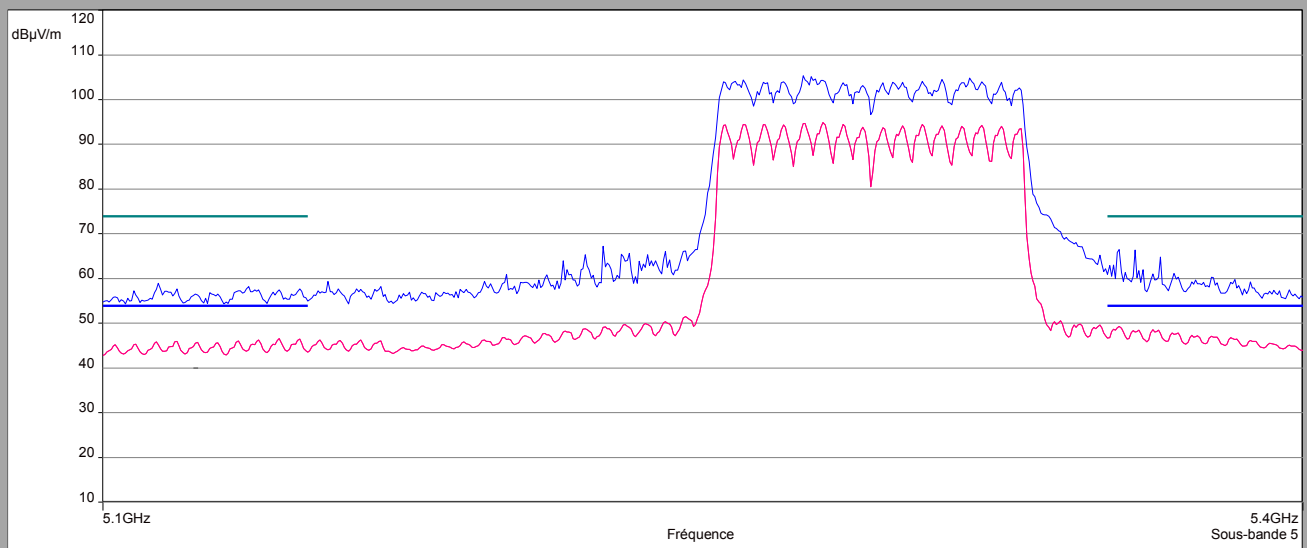
Polarsation: Horizontale

Distance: 3 m

FCC/FCC 15.209 5150MHz-5350MHz Band - Classe:1 - Moyenne/3.0m/

FCC/FCC 15.209 5150MHz-5350MHz Band - Classe:1 - Crête/3.0m/

Mes. Avg (Horizontale)





L C I E

Above 1GHz

802.11ac VHT80

C26/C27

Vertical Polarization

Description Sous-bande 6

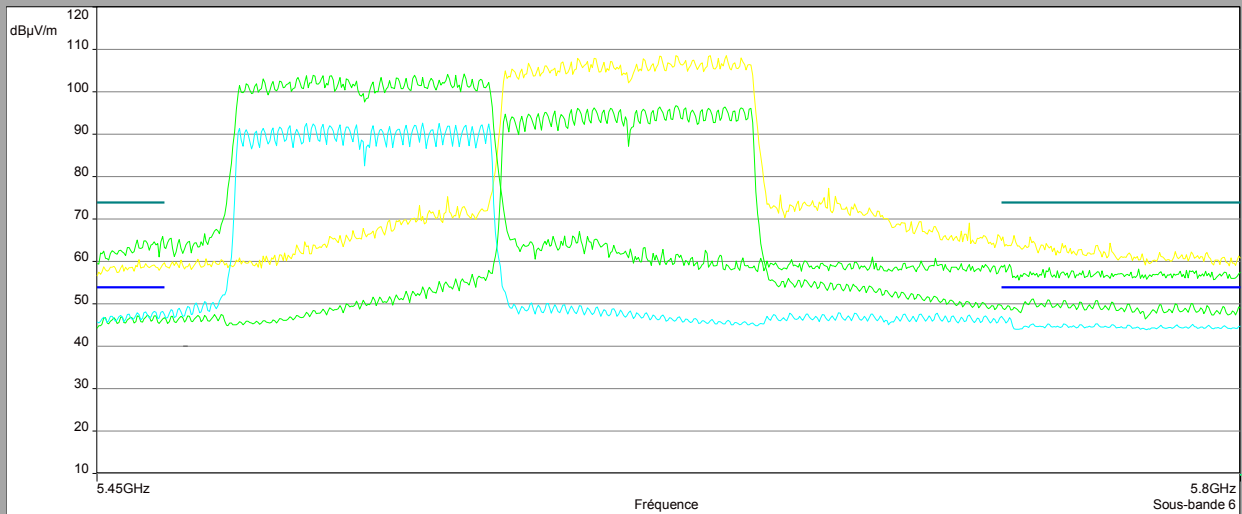
Fréquences: 5.45 GHz - 5.8 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage: 50 ms/Pts, Atténuation: 261850696, Nombre de Balayages: 1, Preamp: On: 20 dB, LN Preamp: Off, Presel: Off

Polarisation: Verticale

Distance: 3 m

- FCC/FCC 15.209 5470MHz-5725MHz Band - Classe:1 - Moyenne/3.0m/
- FCC/FCC 15.209 5470MHz-5725MHz Band - Classe:1 - Crête/3.0m/
- Cmin Avg (Verticale)
- Cnom Peak (Verticale)
- Cnom Avg (Verticale)
- Cnom Peak (Verticale)



Horizontal polarization

Description Sous-bande 5

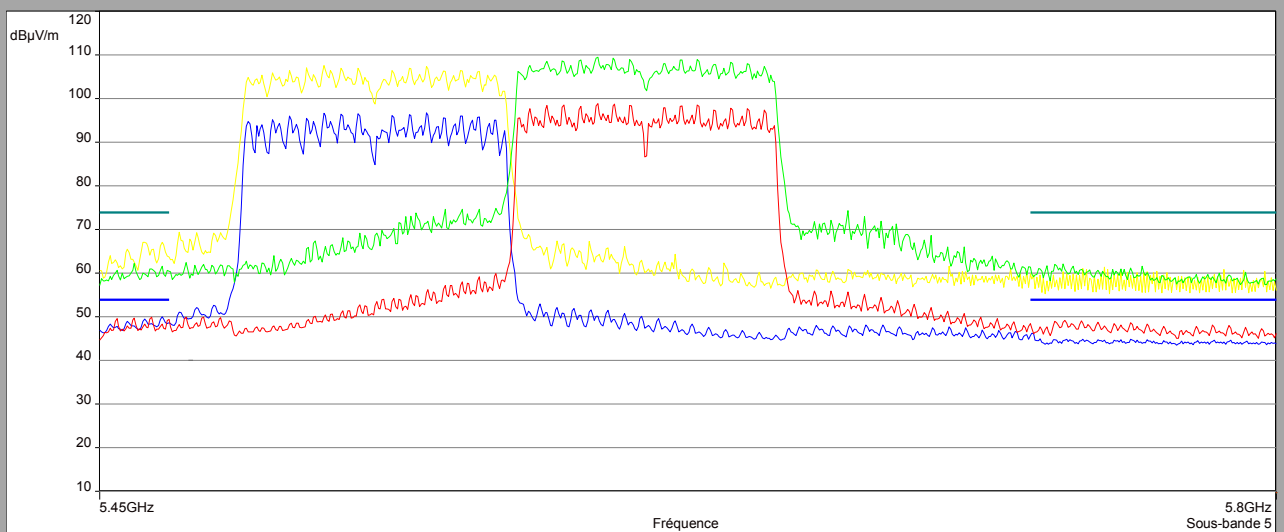
Fréquences: 5.45 GHz - 5.8 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage: 50 ms/Pts, Atténuation: 261850632, Nombre de Balayages: 1, Preamp: On: 20 dB, LN Preamp: Off, Presel: Off

Polarisation: Horizontale

Distance: 3 m

- FCC/FCC 15.209 5470MHz-5725MHz Band - Classe:1 - Moyenne/3.0m/
- FCC/FCC 15.209 5470MHz-5725MHz Band - Classe:1 - Crête/3.0m/
- Cmin Avg (Horizontale)
- Cnom Peak (Horizontale)
- Cmin Avg (Horizontale)
- Cmin Peak (Horizontale)





L C I E

Above 1GHz

802.11ac VHT80

C29

Vertical Polarization

Description Sous-bande 6

Fréquences: 5.6 GHz - 6 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage: 10 ms/Pts, Atténuation: 243996008, Nombre de Balayages: 1, Preamp: On: 20 dB, LN Preamp: Off, Preselect: Off

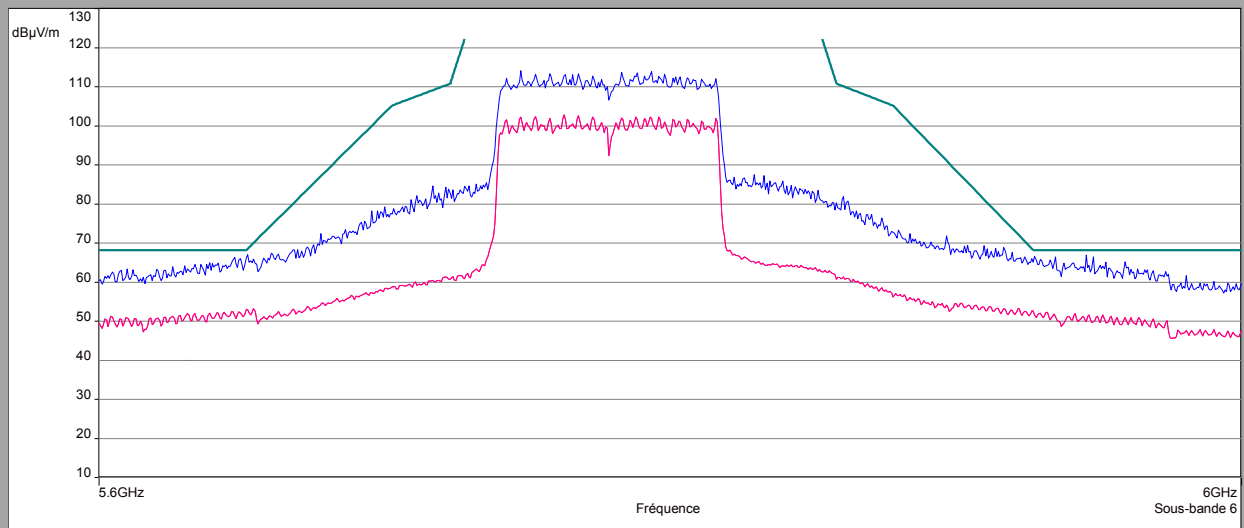
Polarisation: Verticale

Distance: 3 m

FCC/FCC 15.407 b (4) (i) 5725MHz-5850MHz - Classe:1 - Crête/3.0m/

Mes.Peak (Verticale)

Mes.Avg (Verticale)



Horizontal polarization

Description Sous-bande 5

Fréquences: 5.6 GHz - 6 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage: 10 ms/Pts, Atténuation: 243762920, Nombre de Balayages: 1, Preamp: On: 20 dB, LN Preamp: Off, Preselect: Off

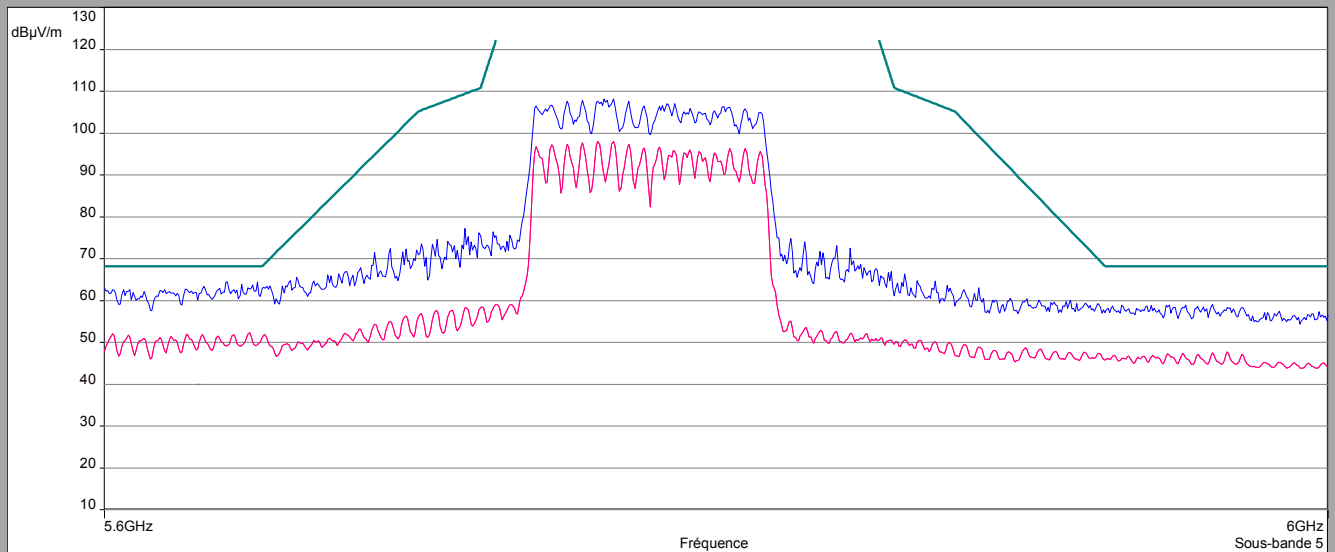
Polarisation: Horizontale

Distance: 3 m

FCC/FCC 15.407 b (4) (i) 5725MHz-5850MHz - Classe:1 - Crête/3.0m/

Mes.Peak (Horizontale)

Mes.Avg (Horizontale)





L C I E

Below 1GHz with Beamforming

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	23.26	29.5	6.24
vertical	35.2	26.3	29.5	3.2
vertical	37.3	23.92	29.5	5.58
vertical	39	25.53	29.5	3.97
vertical	40	24.76	29.5	4.74
vertical	42.7	24.84	29.5	4.66
vertical	43.8	19.59	29.5	9.91
vertical	45.3	19.55	29.5	9.95
vertical	48	21.46	29.5	8.04
vertical	50.1	24.89	29.5	4.61
vertical	51.6	23.73	29.5	5.77
vertical	52.9	25.65	29.5	3.85
vertical	55.3	27.32	29.5	2.18
vertical	56.7	25.94	29.5	3.56
vertical	57.9	26.89	29.5	2.61
vertical	58.8	26.66	29.5	2.84
vertical	60.1	26.19	29.5	3.31
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	94	23.26	33	9.74
vertical	105	22.09	33	10.91
vertical	115	16.23	33	16.77
vertical	120	23.75	33	9.25
vertical	125	26.86	33	6.14
vertical	132	23.58	33	9.42
vertical	140	22.18	33	10.82
vertical	144	29.66	33	3.34
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



L C I E

Polarisation	Frequency (MHz)	level Quasi peak (dB μ V/m)	limit FCC	Margin
vertical	160	22.67	33	10.33
vertical	162	23.27	33	9.73
vertical	164	26.59	33	6.41
vertical	168	24	33	9
vertical	173.6	22.7	33	10.3
vertical	177.1	22.35	33	10.65
vertical	180	26.77	33	6.23
vertical	183.7	24.4	33	8.6
vertical	192	19.34	33	13.66
vertical	196	19.08	33	13.92
vertical	200	24.63	33	8.37
vertical	204	25.35	33	7.65
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	420	28.45	35.5	7.05
vertical	432	30.85	35.5	4.65
vertical	450	29.35	35.5	6.15
vertical	456	29.62	35.5	5.88
vertical	464	29.76	35.5	5.74
vertical	468	29.97	35.5	5.53



L C I E

Polarisation	Frequency (MHz)	level Quasi peak (dB μ V/m)	limit FCC	Margin
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	540	28.14	35.5	7.36
vertical	576	23.25	35.5	12.25
vertical	600	24.31	35.5	11.19
vertical	624	24.6	35.5	10.9
vertical	650	30.98	35.5	4.52
vertical	672	28.03	35.5	7.47
vertical	696	30.92	35.5	4.58
vertical	720	27.91	35.5	7.59
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	800	27.42	35.5	8.08
vertical	850	27.92	35.5	7.58
vertical	875	29.43	35.5	6.07
vertical	912	30.92	35.5	4.58



L C I E

Polarisation	Frequency (MHz)	level Quasi peak (dB μ V/m)	limit FCC	Margin
Horizontal	226.8	25.92	35.5	9.58
Horizontal	235	24.22	35.5	11.28
Horizontal	240	25.04	35.5	10.46
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	29.56	35.5	5.94
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	33.97	35.5	1.53
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	31.03	35.5	4.47
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

Above 1GHz without Beamforming

Polarization	Frequency (MHz)	Duty Cycle Factor (dB μ V/m)	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)
Vertical	1032	0,35	40,03	13,97	54	49,82	24,18	74
Vertical	1050	0,35	42,15	11,85	54	53,12	20,88	74
Vertical	1125	0,35	41,01	12,99	54	50,01	23,99	74
Vertical	1220	0,35	40,89	13,11	54	49,21	24,79	74
Vertical	1240	0,35	40,73	13,27	54	48,94	25,06	74
Vertical	1350	0,35	41,62	12,38	54	51,31	22,69	74
Vertical	1375	0,35	41,4	12,6	54	45,21	28,79	74
Vertical	1488	0,35	42,87	11,13	54	51,55	22,45	74
Vertical	1596	0,35	41,95	12,05	54	52,9	21,1	74
Vertical	1625	0,35	41,41	12,59	54	51,94	22,06	74
Horizontal	1026	0,35	39,81	14,19	54	48,16	25,84	74
Horizontal	1100	0,35	40,01	13,99	54	48,98	25,02	74
Horizontal	1152	0,35	41,19	12,81	54	49,48	24,52	74
Horizontal	1200	0,35	42,28	11,72	54	52,88	21,12	74
Horizontal	1250	0,35	41,63	12,37	54	51,96	22,04	74
Horizontal	1320	0,35	40,43	13,57	54	50,09	23,91	74
Horizontal	1579.9	0,35	43,3	10,7	54	53,88	20,12	74
Horizontal	1750	0,35	41,54	12,46	54	46,81	27,19	74
Horizontal	1800	0,35	38,94	15,06	54	47,94	26,06	74



L C I E

Above 1GHz								
802.11n HT20/ac VHT20								
C1/C2/C3 (5150MHz-5250MHz)								
Polarization	Frequency (MHz)	Duty Cycle Factor (dBµV/m)	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	5147	0.09	49,126	4.874	54	70,858	3.142	74
Horizontale	5150	0.09	49,416	4.584	54	70,606	3.394	74
Horizontale	5350	0.09	45,777	8.223	54	57,729	16.271	74
Horizontale	5353,5	0.09	50,128	3.872	54	61,632	12.638	74

Above 1GHz								
802.11n HT20/ac VHT20								
C4/C5/C6 (5250MHz-5350MHz)								
Polarization	Frequency (MHz)	Duty Cycle Factor (dBµV/m)	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	5103	0.09	44.029	9.971	54	55,798	18.202	74
Horizontale	5150	0.09	43,143	10.857	54	55,946	18.054	74
Horizontale	5350	0.09	45,445	8.555	54	57,619	16.381	74
Verticale	5352,5	0.09	45,502	8.498	54	63,73	10.270	74

Above 1GHz								
802.11n HT20/ac VHT20								
C7/C8/C9 (5470MHz-5725MHz)								
Polarization	Frequency (MHz)	Duty Cycle Factor (dBµV/m)	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	5469	0.09	44,899	9.101	54	64,383	9.617	74
Horizontale	5470	0.09	44,960	9.040	54	57,657	16.343	74
Horizontale	5725	0.09	48,739	5.261	54	63,806	10.194	74
Horizontale	5725,5	0.09	48,581	5.419	54	66,281	7.719	74

Above 1GHz								
802.11n HT20/ac VHT20								
C11/C12/C13 (5725MHz-5850MHz)								
Polarization	Frequency (MHz)	Duty Cycle Factor (dBµV/m)	Average Level (dBµV/m)	Peak Level (dBµV/m)	Marge Peak Level (dBµV/m)	Peak Limit (dBµV/m)		
Verticale	5629,5	0.09	51,559	62,929	5,271	68.2		
Verticale	5725	0.09	78,506	96,575	25,625	122.2		
Verticale	5850	0.09	75,432	93,857	28,343	122.2		
Verticale	5979,5	0.09	52,385	66,827	1,373	68.2		



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Above 1GHz								
802.11n HT40/ac VHT40								
C14/C15 (5150MHz-5250MHz)								
Polarization	Frequency (MHz)	Duty Cycle Factor (dBµV/m)	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	5145	0.18	49,031	4.969	54	72,272	1.728	74
Horizontale	5150	0.18	51.148	2.852	54	71,24	2.76	74
Horizontale	5350	0.18	45,422	8.578	54	57,729	16.271	74
Horizontale	5383	0.18	53,276	0.724	54	64,356	9.644	74

Above 1GHz								
802.11n HT40/ac VHT40								
C16/C17 (5250MHz-5350MHz)								
Polarization	Frequency (MHz)	Duty Cycle Factor (dBµV/m)	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	5118	0.18	50,870	3.130	54	62,185	11.815	74
Horizontale	5150	0.18	43,934	10.066	54	55,293	18.707	74
Horizontale	5350	0.18	46,744	7.256	54	59,369	14.631	74
Horizontale	5353	0.18	47,542	6.458	54	61,888	12.112	74

Above 1GHz								
802.11n HT40/ac VHT40								
C18/C19/C20 (5470MHz-5725MHz)								
Polarization	Frequency (MHz)	Duty Cycle Factor (dBµV/m)	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	5463	0.18	46,926	7.074	54	67,79	6.210	74
Horizontale	5470	0.18	45,573	8.427	54	62,666	11.334	74
Verticale	5725	0.18	48,430	5.570	54	61,837	12.163	74
Verticale	5745,5	0.18	47.114	6.886	54	62,216	11.784	74

Above 1GHz								
802.11n HT40/ac VHT40								
C22/C23 (5725MHz-5850MHz)								
Polarization	Frequency (MHz)	Duty Cycle Factor (dBµV/m)	Average Level (dBµV/m)	Peak Level (dBµV/m)	Marge Peak Level (dBµV/m)	Peak Limit (dBµV/m)		
Horizontale	5630	0.18	57,641	67,295	0,905	68.2		
Horizontale	5725	0.18	59,626	81,707	40,493	122.2		
Horizontale	5850	0.18	55,806	70,508	51,692	122.2		
Horizontale	5966	0.18	52,826	64,212	3,988	68.2		



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Above 1GHz								
802.11ac VHT80								
C24 (5150MHz-5250MHz)								
Polarization	Frequency (MHz)	Duty Cycle Factor (dBµV/m)	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	5150	0.35	52,674	1.326	54	71,884	2.116	74
Horizontale	5350	0.35	50.086	3.914	54	61,259	12.741	74
Horizontale	5351,5	0.35	50.052	3.948	54	62,013	11.987	74

Above 1GHz								
802.11ac VHT80								
C25 (5250MHz-5350MHz)								
Polarization	Frequency (MHz)	Duty Cycle Factor (dBµV/m)	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	5148	0.35	45,920	8.080	54	57,061	16.939	74
Horizontale	5150	0.35	43,548	10.452	54	54,312	19.688	74
Horizontale	5350	0.35	46,816	7.184	54	59,623	14.377	74

Above 1GHz								
802.11ac VHT80								
C26/C27 (5470MHz-5725MHz)								
Polarization	Frequency (MHz)	Duty Cycle Factor (dBµV/m)	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	5468	0.35	50.325	3.675	54	67,013	6.987	74
Horizontale	5470	0.35	48,998	5.002	54	63,643	10.357	74
Horizontale	5725	0.35	48,802	5.198	54	61,337	12.663	74
Horizontale	5735	0.35	49.077	4.923	54	62,091	11.909	74

Above 1GHz								
802.11ac VHT80								
C29 (5725MHz-5850MHz)								
Polarization	Frequency (MHz)	Duty Cycle Factor (dBµV/m)	Average Level (dBµV/m)	Peak Level (dBµV/m)	Marge Peak Level (dBµV/m)	Peak Limit (dBµV/m)		
Verticale	5649,5	0.35	53,888	67,693	0,507	68.2		
Verticale	5725	0.35	61,971	81,455	40,745	122.2		
Verticale	5850	0.35	63,848	83,103	39,097	122.2		
Verticale	5945	0.35	52,432	66,438	1,762	68.2		



11.7. CONCLUSION

Unwanted emissions & Undesirable 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 15.407 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