



LCIE

TEST REPORT

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Composition of document

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166175 (FAR)
6230B

Standards

47 CFR Part 15.247
RSS-210, Issue 8
RSS-Gen, Issue 3

Issued to

NETATMO
17 route de la Reine
92100 BOULOGNE-BILLANCOURT

Apparatus under test

Trade mark
Manufacturer
Type
Serial number
IC
FCC ID

SOLAR SENSOR TRANSMITTER
JUNE BY NETATMO
NETATMO
JUNE
No serial number
10860A-NJB1
N3A-NJB1

Test date

2014/02/26 to 2014/02/28 & 2014/03/03

Tests performed by

Armand MAHOUNGOU & Arnaud FAYETTE

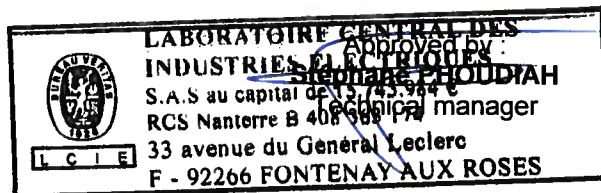
Test site

Fontenay aux Roses

Date of issue

2014/03/26

Written by :
Armand MAHOUNGOU
Tests operator



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SUMMARY

1. TEST PROGRAM 3

2. EQUIPMENT DESCRIPTION..... 4

3. OCCUPIED BANDWIDTH..... 7

4. -6DB BANDWIDTH 10

5. MAXIMUM CONDUCTED POWER..... 13

6. POWER SPECTRAL DENSITY 16

7. UNWANTED EMISSIONS INTO NON-RESTRICTED FREQUENCY BANDS AT THE BAND EDGE 19

8. UNWANTED EMISSIONS INTO NON-RESTRICTED FREQUENCY BANDS..... 22

9. AC POWER LINE CONDUCTED EMISSIONS..... 25

10. UNWANTED EMISSIONS INTO RESTRICTED FREQUENCY BANDS..... 29

11. TEST EQUIPMENT LIST 42

12. UNCERTAINTIES CHART 43



1. TEST PROGRAM

• References

Standards:

- 47 CFR Part 15C
- RSS-210
- RSS-Gen
- CISPR 16-4-2
- ANSI C63.10

Standard Section	Test Description	TEST RESULT - Comments
RSS-Gen § 4.6.1	Occupied Bandwidth	PASS
CFR 47 § 15.247 (a) (2) RSS-210 § A8.2(a)	-6dB Bandwidth	PASS
CFR 47 § 15.247 (b) RSS-210 § A8.4(4)	Maximum Output Power	PASS
CFR 47 § 15.247 (e) RSS-210 § A8.2 (b)	Power Spectral Density	PASS
CFR 47 § 15.247 (d) RSS-210 § A8.5	Conducted Spurious Emission at the Band Edge	PASS
CFR 47 § 15.247 (d) RSS-210 § A8.5	Unwanted Emissions into Non-Restricted Frequency Bands	PASS
CFR 47 § 15.207 RSS-Gen § 7.2.4	AC Power Line Conducted Emissions	PASS
CFR 47 § 15.209 (a) CFR 47 § 15.205 (a) CFR 47 § 15.247 (d) RSS-210 § A8.5	Unwanted Emissions into Restricted Frequency Bands	PASS
RSS-Gen § 4.10	Receiver Radiated emissions	PASS (Include in Unwanted Emissions into Restricted Frequency Bands)

PASS: EUT complies with standard's requirement

FAIL: EUT does not comply with standard's requirement

NA: Not Applicable

NP: Test Not Performed



2. EQUIPMENT DESCRIPTION

2.1. HARDWARE & SOFTWARE IDENTIFICATION

- **Equipment under test (EUT):**



Photograph of EUT

The EUT is housed in a single cabinet that cannot be readily opened. The electronic part is not accessible directly.



Photograph of EUT for conducted test

- **Auxiliary equipment (AE) used for testing:**



Personal Computer with Lairtech BT820 Bluetooth V4 USB key.
Ipod with June application

Photograph of AE

- **Input/output:**
- Input Power



• **Equipment information:**

- Wifi Version: Bluetooth V4
- Modulation technology: GFSK
- Transmit operating mode: Single antenna
- Number of transmit chains: 1
- Number of receiver chains: 1
- Type of the equipment: Stand-alone equipment
- Type of power source: External power supply
- Antenna type: Integral
- Test sequence/test software used: See 2.2. Running Mode
- Unmodulated mode: Yes
- Duty Cycle: Continuous operation for testing purposes

- Operating frequency range

Frequency Band (MHz)
2400MHz to 2483,5MHz

- Antenna Characteristics:

Frequency (MHz)	Antenna Gain (dBi)
2450MHz	-15.29dBi

-Channel plan:

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

-Data Rate

Data Rate (Mbps)	Modulation Type
1	GFSK



2.2. RUNNING MODE

Tests commands use for RF setting:

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

./tx.sh 4 2402 37 2

./tx.sh 4 2442 37 2

./tx.sh 4 2480 37 2

- Permanent emission without modulation:

./unmodulated_tx.sh 4 2402

./unmodulated_tx.sh 4 2442

./unmodulated_tx.sh 4 2480

- Permanent reception:

./rx.sh 2402

./rx.sh 2442

./rx.sh 2480

2.3. EQUIPEMENT LABELLING

IC: 10860A-NJB1

FCC ID: N3A-NJB1



CMIIT ID:
XXXXXXXX



® 207-
14NJB1

netatmo NJB1

2.4. EQUIPMENT MODIFICATIONS

No equipment modification has been necessary during testing.

3. OCCUPIED BANDWIDTH

3.1. TEST CONDITIONS

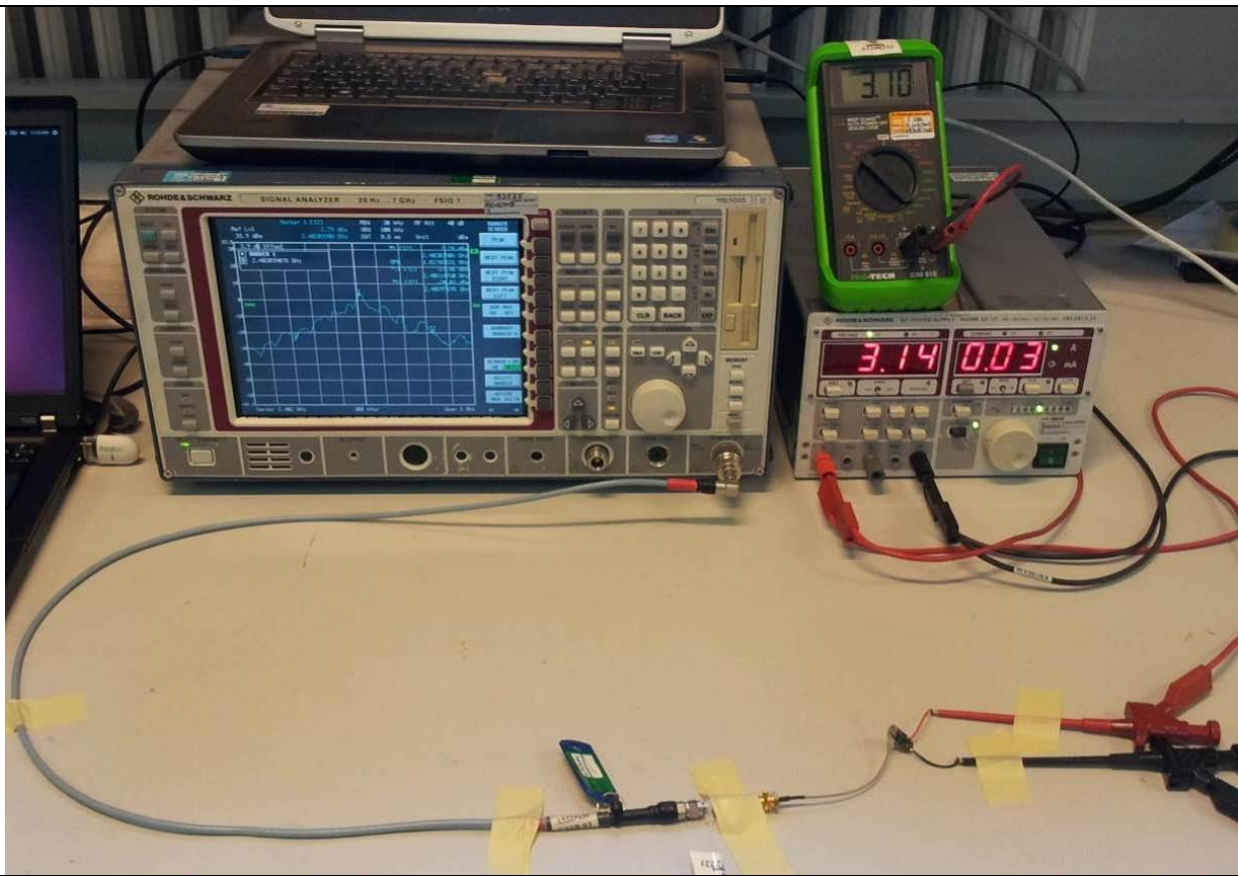
Test performed by : Armand MAHOUNGOU
Date of test : 2014/02/27
Ambient temperature : 22°C
Relative humidity : 34%

3.2. TEST SETUP

The Equipment Under Test is installed on a table and set in permanent emission with modulation. Measurement is performed with a spectrum analyzer on the EUT conducted access. The product has been tested according to the RSS-GEN § 4.6.1 reference method.

Spectrum Analyzer Setting:

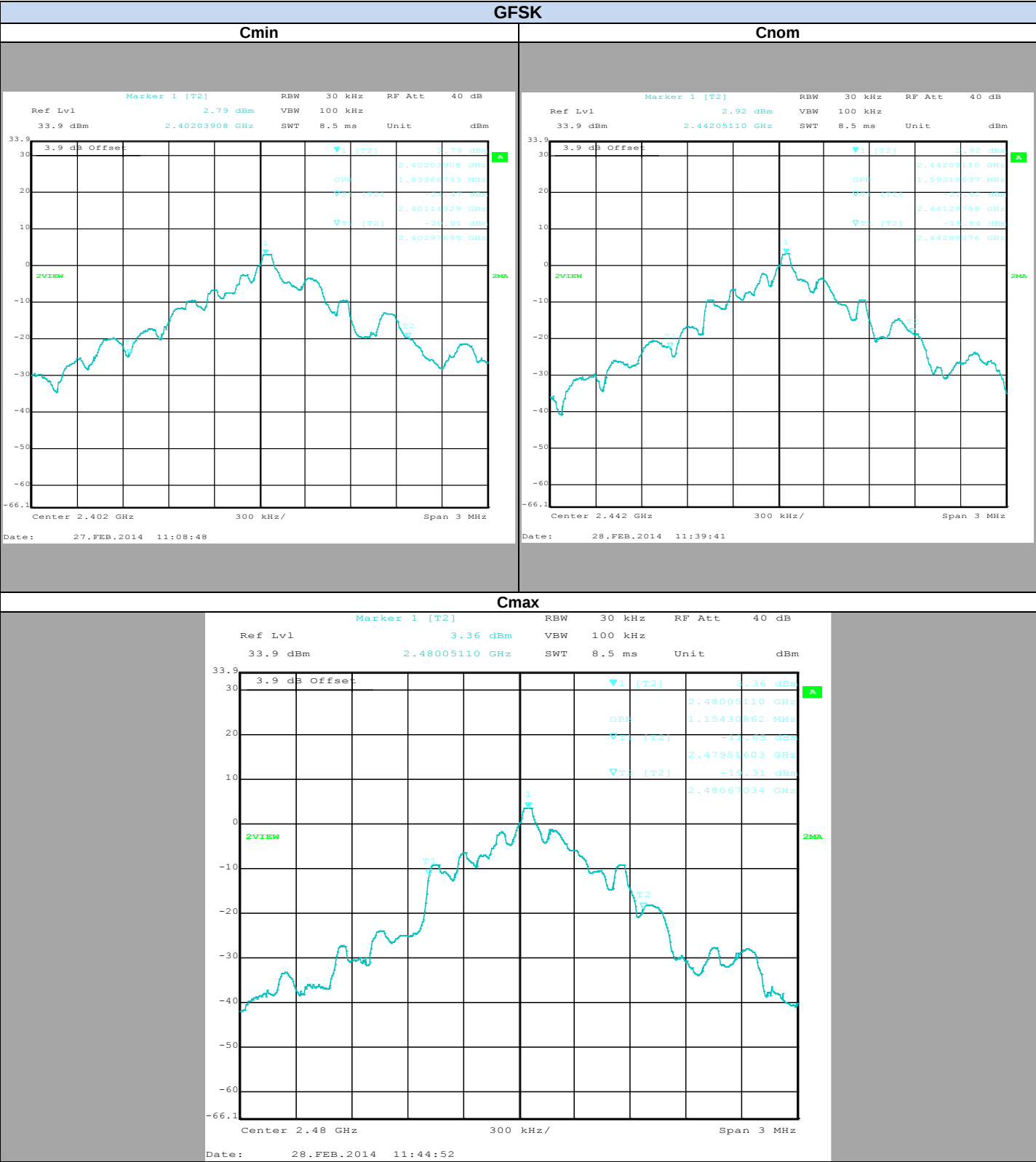
Center frequency= Cmin or Cnom or Cmax
Span= Above the emission spectrum
Amplitude= Sufficient to observe the signal amplitude
RBW= 1% of span
VBW= 3*RBW
Sweep= Auto
Trace= Max Hold
Detector= Peak
Occupied Bandwidth 99% activated



Photograph for Occupied Bandwidth



3.3. GRAPHICS & RESULTS





Temperature	Tnom		
Voltage	Vnom		
Frequency	Cmin	Cnom	Cmax
Occupied Bandwidth (MHz)	1.8337	1.5932	1.1543

Result: **PASS**

Limit: → None

4. -6dB BANDWIDTH

4.1. TEST CONDITIONS

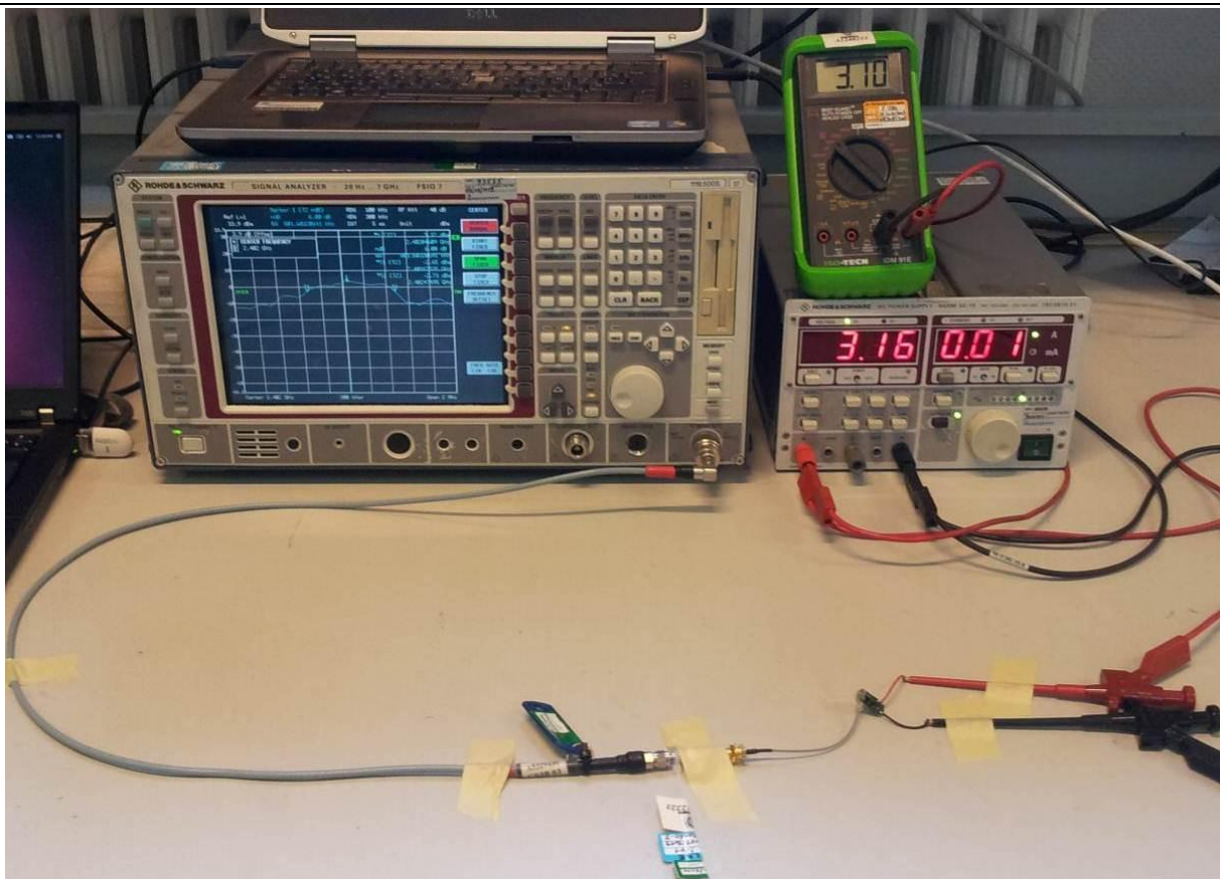
Test performed by : Armand MAHOUNGOU
Date of test : 2014/02/27
Ambient temperature : 22°C
Relative humidity : 34%

4.2. TEST SETUP

The Equipment Under Test is installed on a table and set in permanent emission with modulation. Measurement is performed with a spectrum analyzer on the EUT conducted access. The product has been tested according to the FCC KDB 558074 D01 DTS Meas Guidance v03r1 § 8.1.

Spectrum Analyzer Setting:

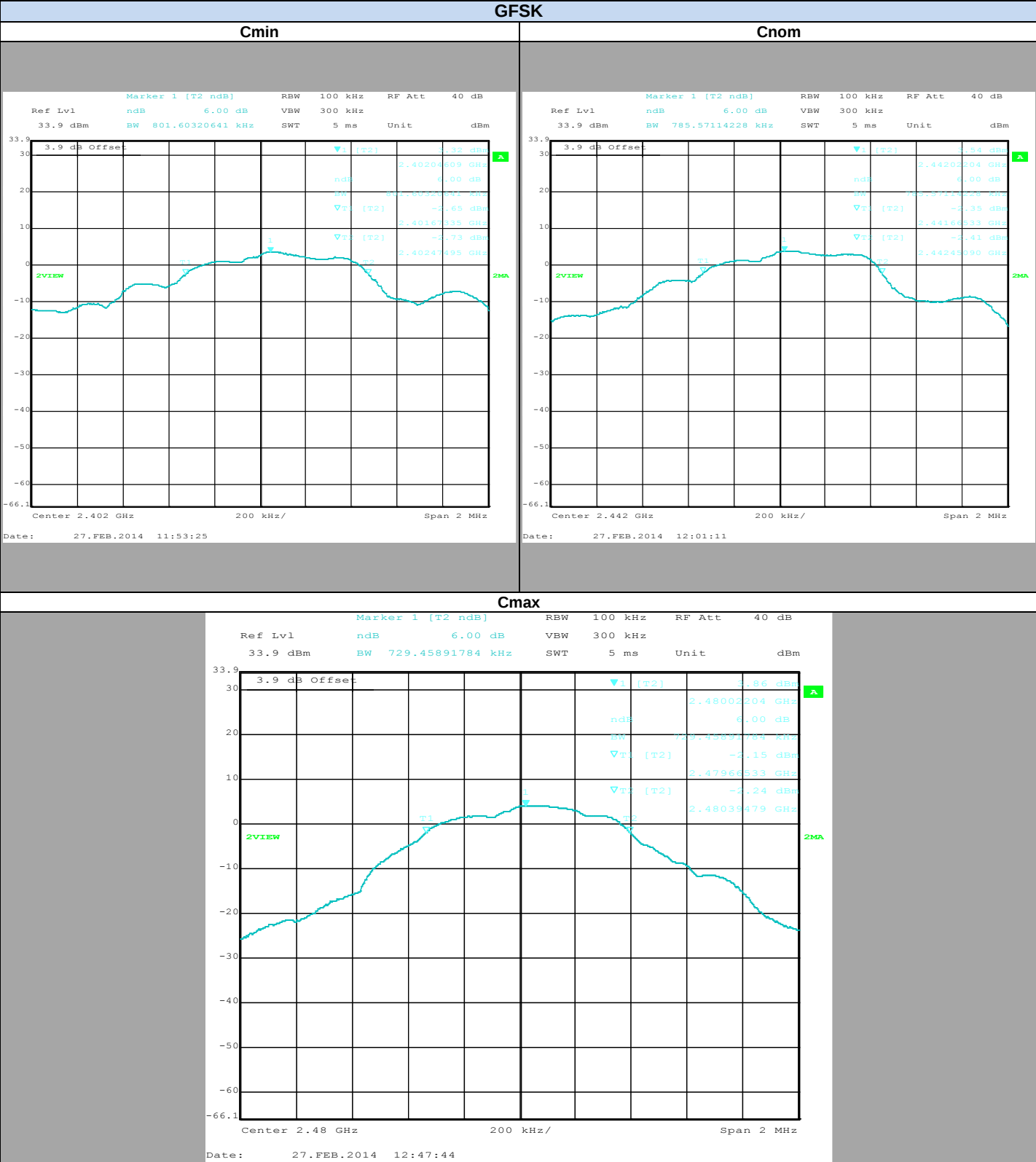
Center frequency= Cmin or Cnom or Cmax
Span= At least twice the emission spectrum
Amplitude= Sufficient to observe the signal amplitude
RBW= 100kHz
VBW= 300kHz
Sweep= Auto
Trace= Max Hold
Detector= Peak



Photograph for -6dB Bandwidth



4.3. GRAPHICS & RESULTS





Temperature	Tnom		
Voltage	Vnom		
Frequency	Cmin	Cnom	Cmax
-6dB Bandwidth (MHz)	0.8016	0.7856	0.7295

Result: **PASS**

Limit: → The -6dB bandwidth must be greater than 500kHz

5. MAXIMUM CONDUCTED POWER

5.1. TEST CONDITIONS

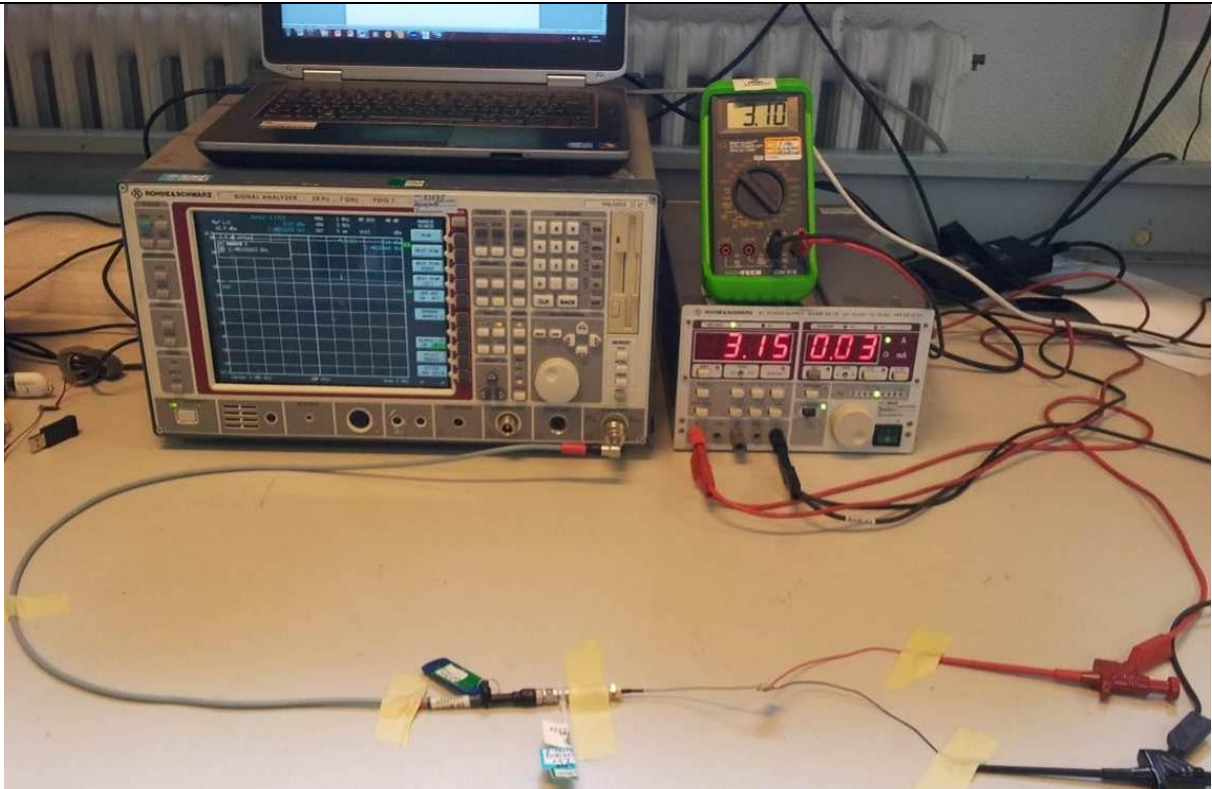
Test performed by : Armand MAHOUNGOU
Date of test : 2014/02/28
Ambient temperature : 22°C
Relative humidity : 34%

5.2. TEST SETUP

The Equipment Under Test is installed on a table and set in permanent emission with modulation. Measurement is performed with a spectrum analyzer on the EUT conducted access. The product has been tested according to the FCC KDB 558074 D01 DTS Meas Guidance v03r1 § 9.1.2 .

Spectrum Analyzer Setting (Maximum Peak Conducted Power):

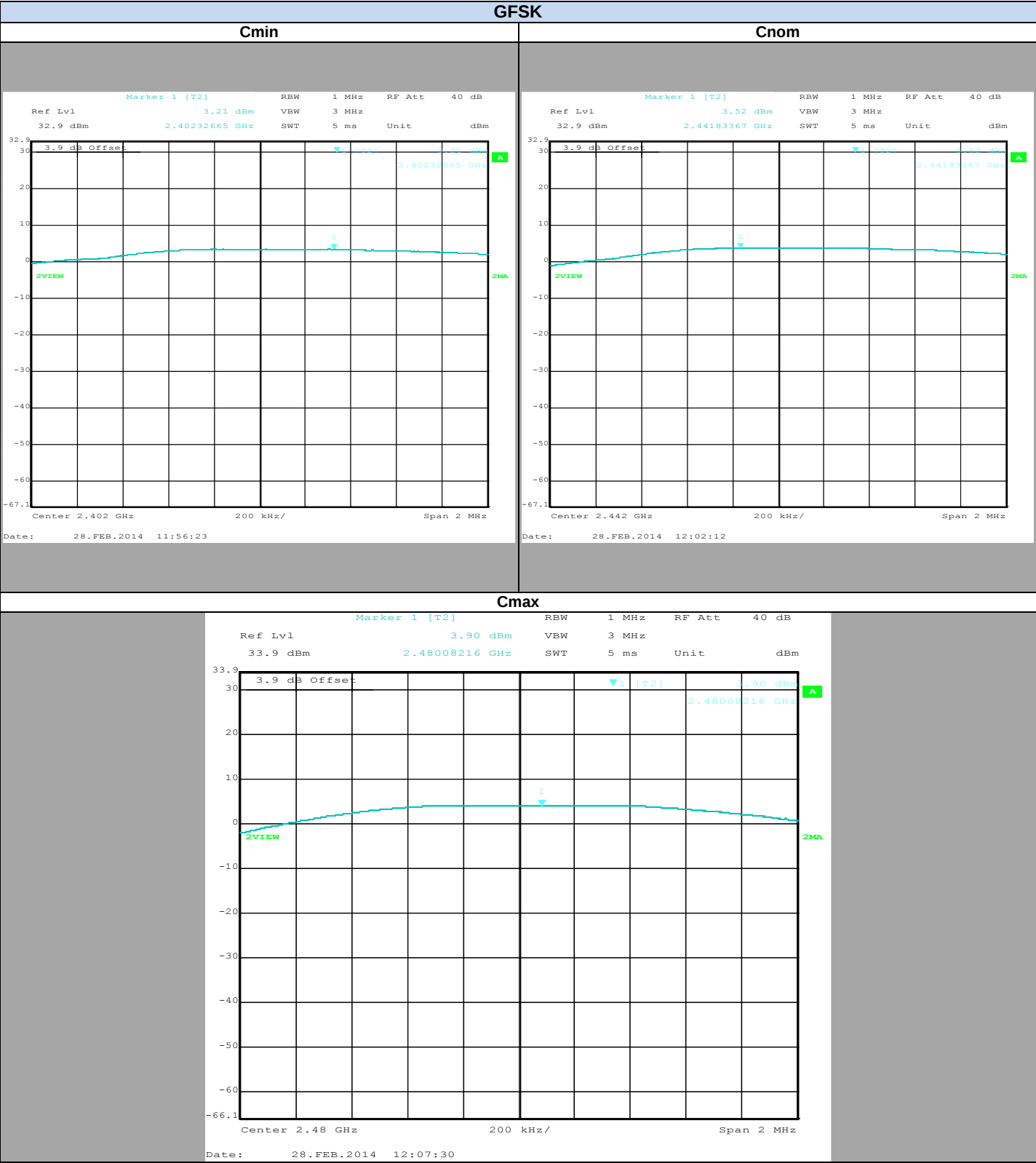
Center frequency= Cmin or Cnom or Cmax
Span= At least twice the emission spectrum
Amplitude= Sufficient to observe the signal amplitude
RBW= 1MHz
VBW= 3MHz
Sweep= Auto
Trace= Max Hold
Detector= Peak
Meas Fonction= Channel Power inside of the emission spectrum



Photograph for Maximum Conducted Power



5.3. GRAPHICS & RESULTS





Spectrum Analyzer Offset:
Cable Loss=0.9 dB + Attenuator= 3 dB

Channel	Antenna Gain (dBi)	Maximum Conducted Power (dBm)	Limit (dBm)
Cmin	-15.29	3.21	30
Cnom	-15.29	3.52	30
Cmax	-15.29	3.90	30

Result: **PASS**

Limit: → The Maximum Conducted Power must be lower than 30dBm
Limits are reduced by G-6dBi if Overall Antenna Gain above 6dBi

6. POWER SPECTRAL DENSITY

6.1. TEST CONDITIONS

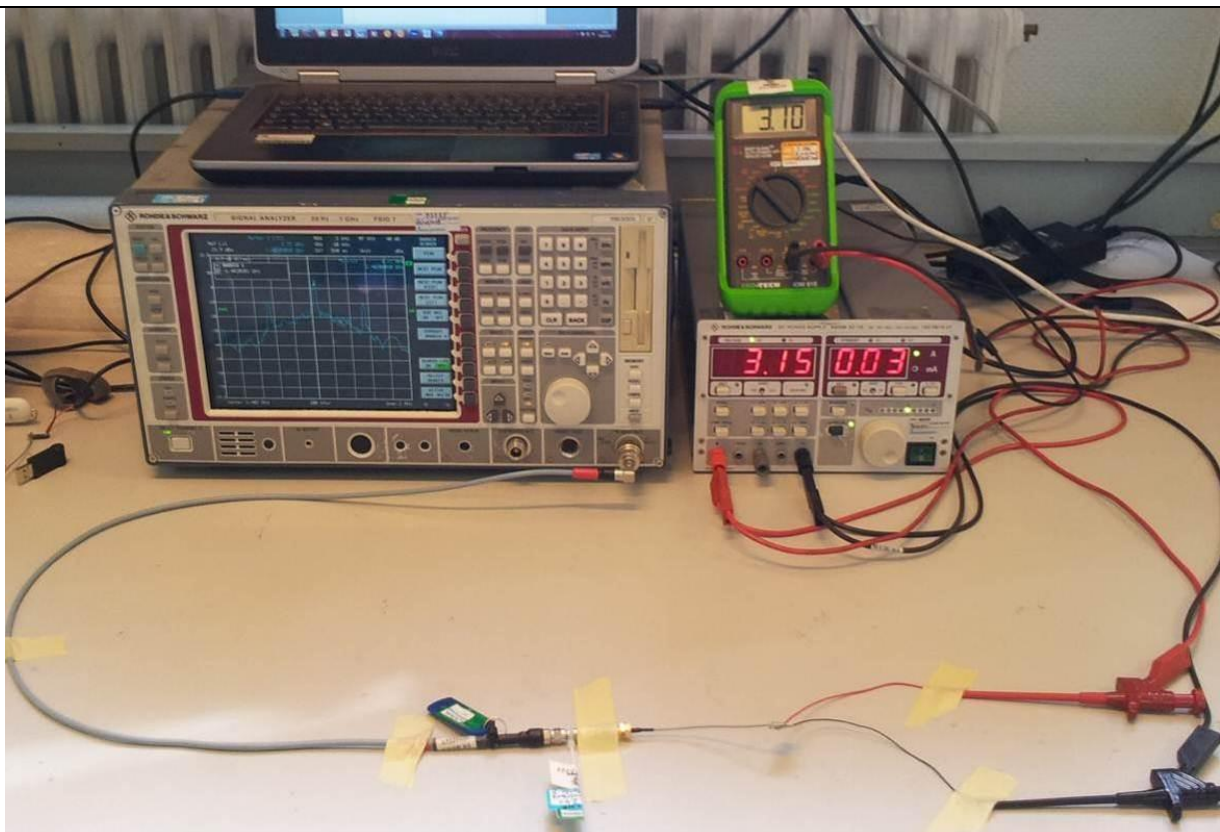
Test performed by : Armand MAHOUNGOU
Date of test : 2014/02/28
Ambient temperature : 22°C
Relative humidity : 34%

6.2. TEST SETUP

The Equipment Under Test is installed on a table and set in permanent emission with modulation. Measurement is performed with a spectrum analyzer on the EUT conducted access. The product has been tested according to the FCC KDB 558074 D01 DTS Meas Guidance v03r1 § 10.2.

Spectrum Analyzer Setting:

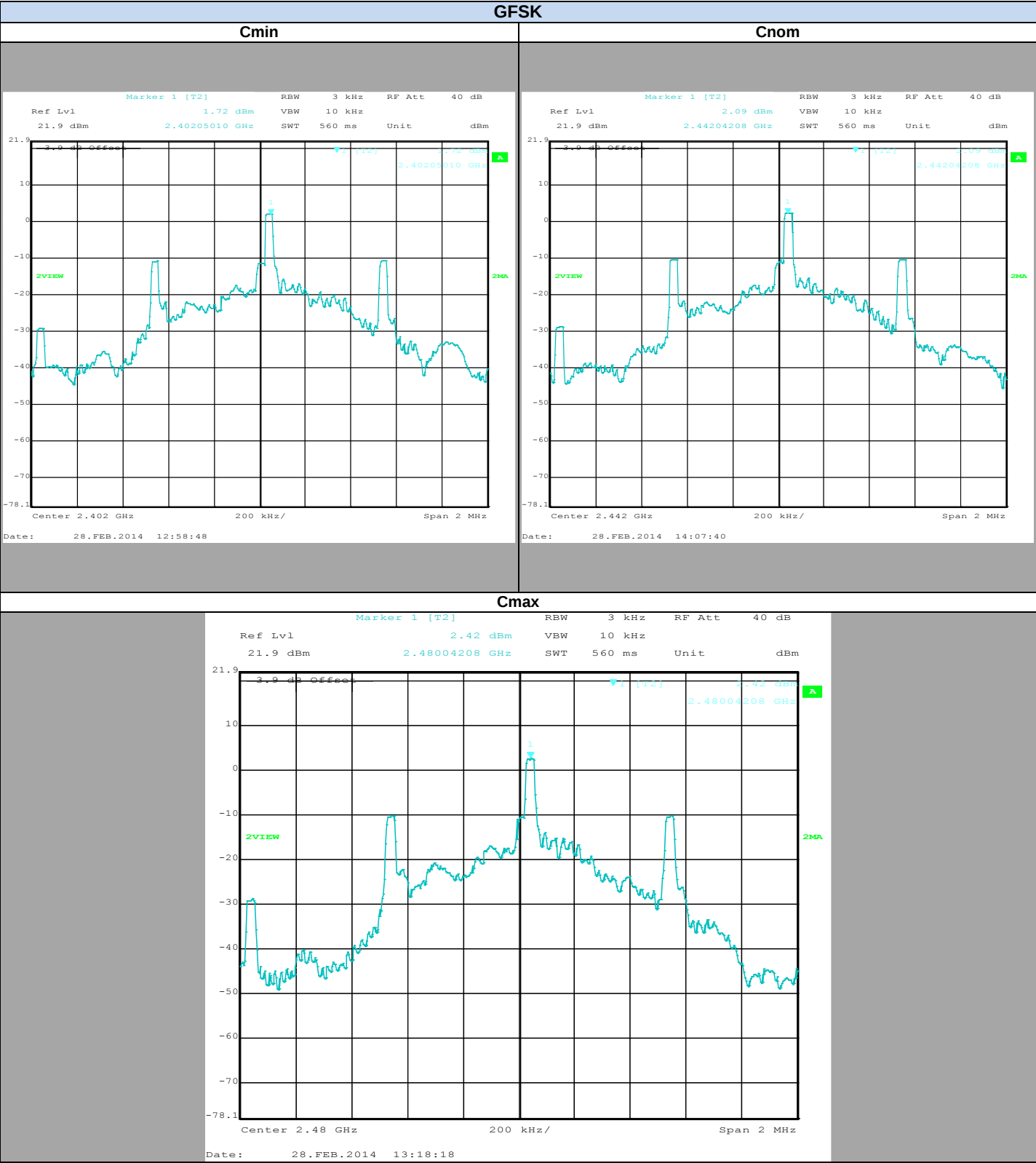
Center frequency= Cmin or Cnom or Cmax
Span= At least twice the emission spectrum
Amplitude= Sufficient to observe the signal amplitude
RBW= 3kHz
VBW= 10kHz
Sweep= Auto
Trace= Max Hold
Detector= Peak



Photograph for Power Spectral Density



6.3. GRAPHICS & RESULTS





Spectrum Analyzer Offset:
Cable Loss= 0.9 dB + Attenuator= 3 dB

Channel	Antenna Gain (dBi)	Power spectral density (dBm/3kHz)	Limit (dBm)
Cmin	-15.29	1.72	8
Cnom	-15.29	2.09	8
Cmax	-15.29	2.42	8

Result: **PASS**

Limit: → The Power Spectral Density must be lower than 8dBm/3kHz
Limits are reduced by G-6dBi if Overall Antenna Gain above 6dBi

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

7.1. TEST CONDITIONS

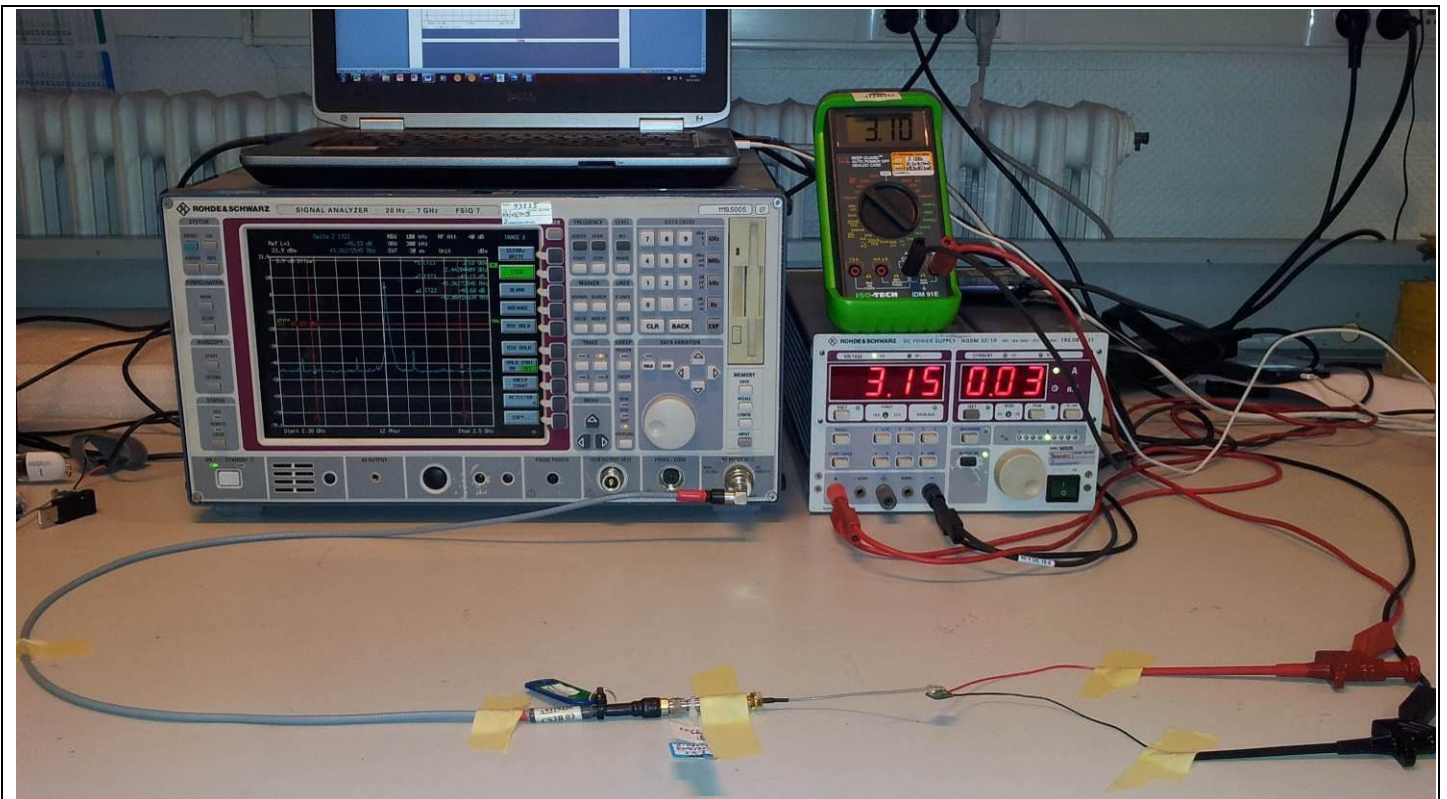
Test performed by : Armand MAHOUNGOU
Date of test : 2014/02/28
Ambient temperature : 22°C
Relative humidity : 34%

7.2. TEST SETUP

The Equipment Under Test is installed on a table and set in permanent emission with modulation. Measurement is performed with a spectrum analyzer on the EUT conducted access. The product has been tested according to the FCC KDB 558074 D01 DTS Meas Guidance v03r1 § 11.2.

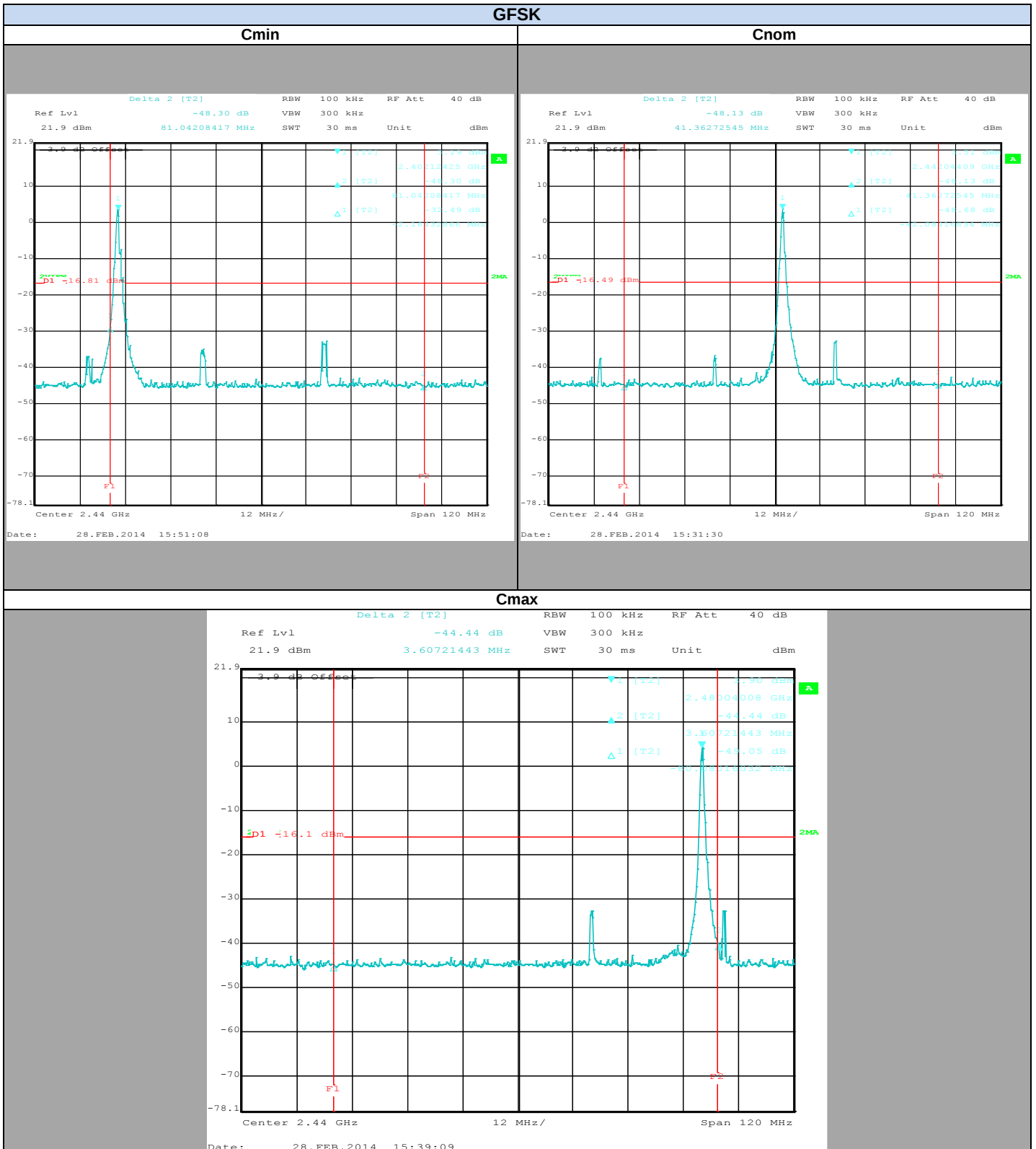
Spectrum Analyzer Setting:

Start frequency= 2380MHz
Stop frequency= 2500MHz
Amplitude= Sufficient to observe the signal amplitude
RBW= 100kHz
VBW= 300kHz
Sweep Time= Auto
Sweep Point= 1200
Trace= Max Hold
Detector= Peak



Photograph for Unwanted Emissions into Non-Restricted Frequency Bands At the Band Edge

7.3. GRAPHICS & RESULTS





Cmin

Temperature	Tnom	
Voltage	Vnom	
Channel	Cmin	
Conducted Spurious Emission at the Band Edge (MHz)	2400	2483,5
Spurious Level (dBc)	32.49	48.30

Cnom

Temperature	Tnom	
Voltage	Vnom	
Channel	Cnom	
Conducted Spurious Emission at the Band Edge (MHz)	2400	2483,5
Spurious Level (dBc)	48.68	48.13

Cmax

Temperature	Tnom	
Voltage	Vnom	
Channel	Cmax	
Conducted Spurious Emission at the Band Edge (MHz)	2400	2483,5
Spurious Level (dBc)	49.05	42.55

Result: PASS

Limit: → All Spurious Emissions must be at least 20dB below the Fundamental Radiator Level at the Band Edge Edge "2400MHz & 2483,5MHz"

8. UNWANTED EMISSIONS INTO NON-RESTRICTED FREQUENCY BANDS

8.1. TEST CONDITIONS

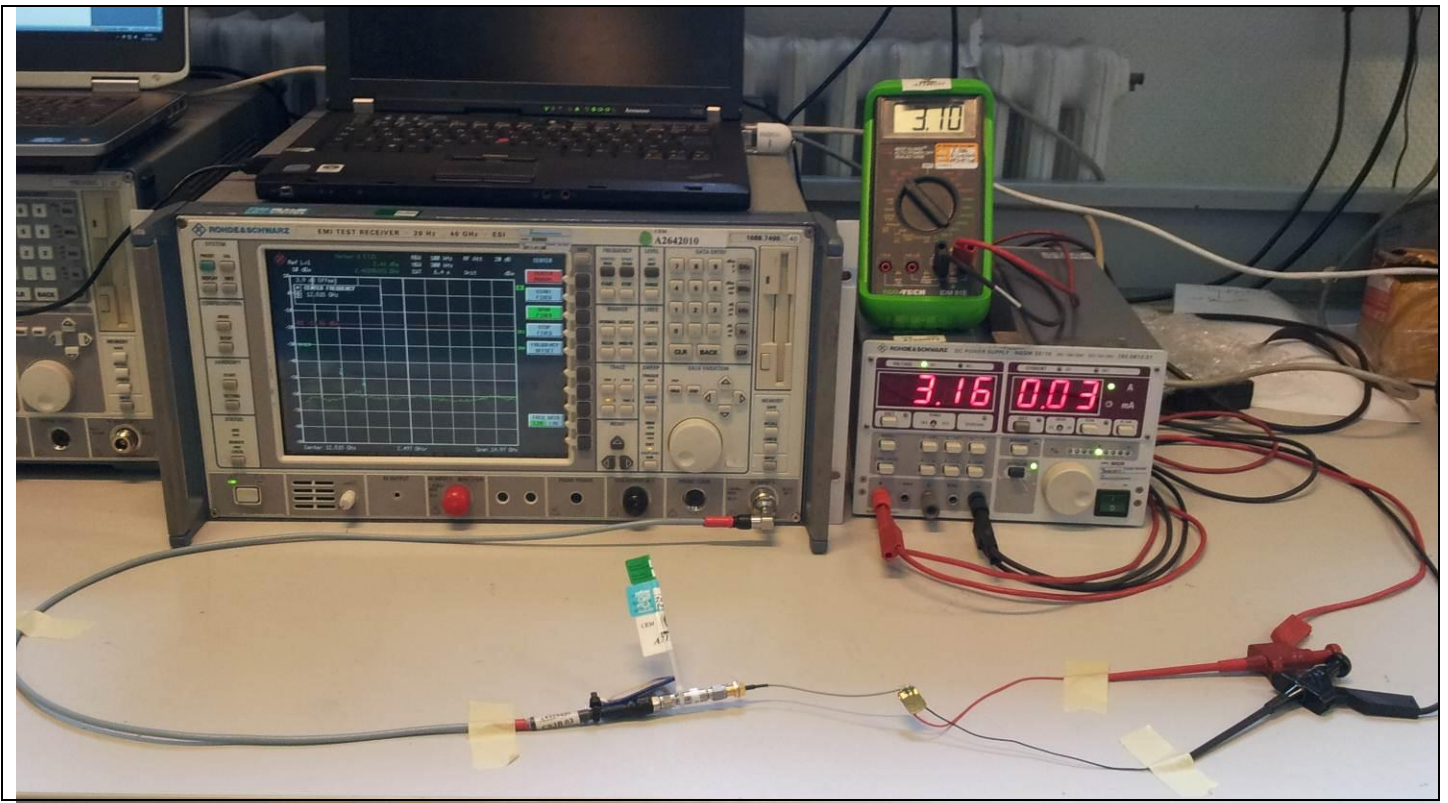
Test performed by : Armand MAHOUNGOU
Date of test : 2014/03/03
Ambient temperature : 21°C
Relative humidity : 35%

8.2. TEST SETUP

The Equipment Under Test is installed on a table and set in permanent emission with modulation. Measurement is performed with a spectrum analyzer on the EUT conducted access. The product has been tested according to the FCC KDB 558074 D01 DTS Meas Guidance v03r1 § 11.3.

Spectrum Analyzer Setting:

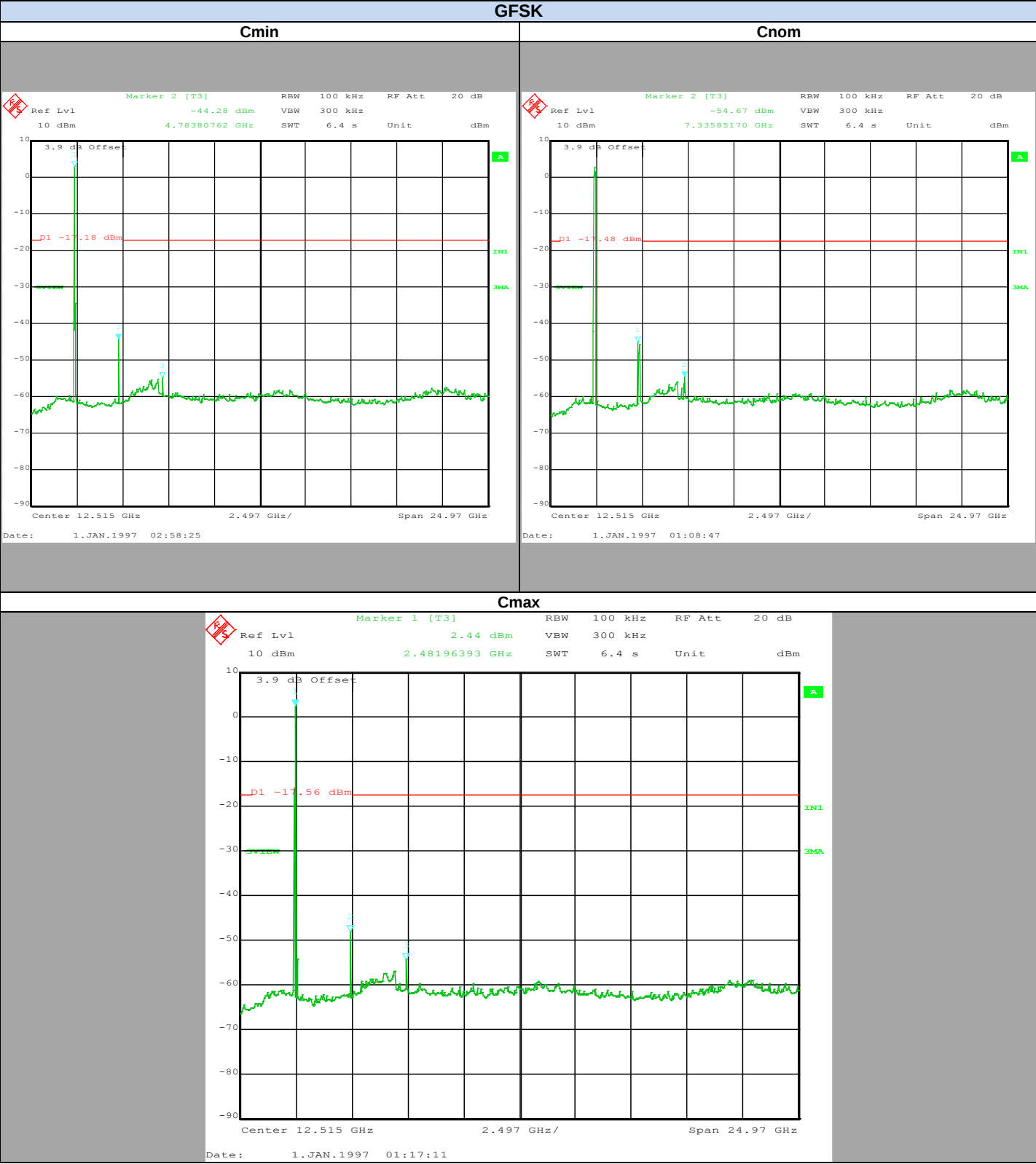
Start frequency= 30MHz
Stop frequency= 25GHz
Amplitude= Sufficient to observe the signal amplitude
RBW= 100kHz
VBW= 300kHz
Sweep Time= Auto
Sweep Point= 249700
Trace= Max Hold
Detector= Peak



Photograph for Unwanted Emissions into Non-Restricted Frequency Bands



8.3. GRAPHICS & RESULTS





Cmin= 2.82dBm

Frequency (MHz)	Spurious Level (dBm)	Spurious Level (dBc)
4783.81	-44.28	47.10
7185.53	-56.31	58.74

Cnom= 2.52dBm

Frequency (MHz)	Spurious Level (dBm)	Spurious Level (dBc)
4783.81	-45.10	47.62
7185.53	-54.67	52.19

Cmax= 2.44dBm

Frequency (MHz)	Spurious Level (dBm)	Spurious Level (dBc)
4933.93	-48.04	50.48
7435.93	-54.47	56.91

Result: PASS

Limit: → All Spurious Emissions must be at least 20dB (Maximum Conducted Power) below the Fundamental Radiator Level outside of the 2400MHz-2483,5MHz band



9. AC POWER LINE CONDUCTED EMISSIONS

9.1. TEST CONDITIONS

Test performed by : Arnaud Fayette
Date of test : 2014/03/10
Ambient temperature : 23°C
Relative humidity : 33%

9.2. TEST SETUP

The product has been tested according to ANSI C63.10 (2009) 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)



Photograph for AC Power Line Conducted Emissions (Global view)

9.3. RESULTS

Phase Line

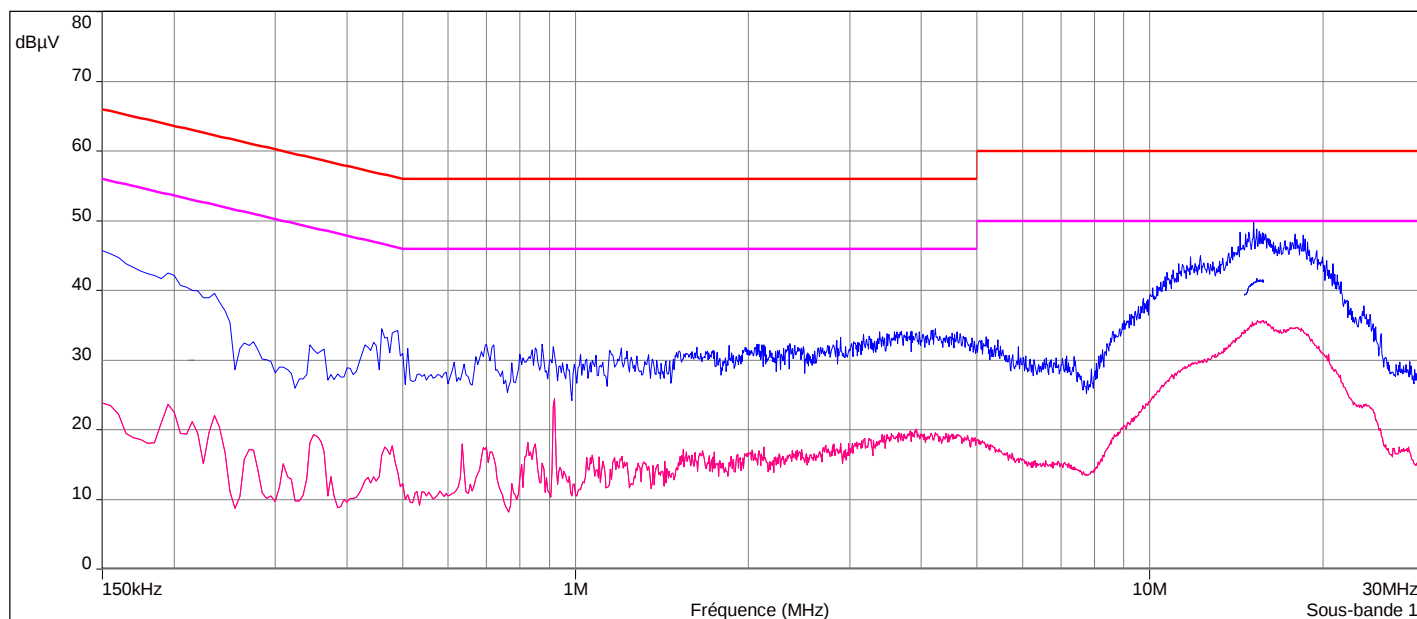
Description Sous-bande 1

Fréquences: 150 kHz - 30 MHz (Mode: Lin, Pas: 5 kHz)

Réglages: RBW: 9 kHz, VBW: Auto, Temps de mesure: 50 ms/Pts, Nombre de Balayages: 1, Preamp: Off, LN Preamp: Off, Preselecteur: On

Ligne: Phase 1

FCC/FCC 15.109 - Classe: B - Moyenne/
FCC/FCC 15.109 - Classe: B - QCrête/
Mes. Peak (Phase 1)
Mes. QPeak (Phase 1)
Mes. Avg (Phase 1)



Neutral Line

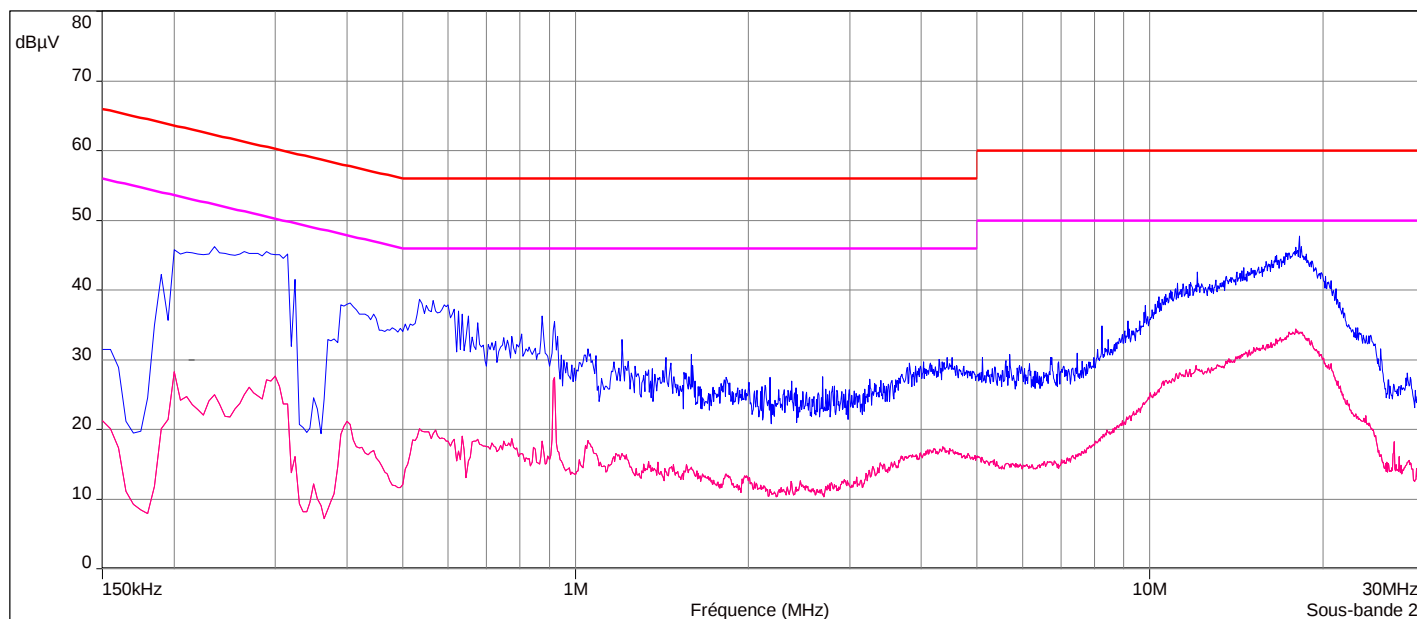
Description Sous-bande 2

Fréquences: 150 kHz - 30 MHz (Mode: Lin, Pas: 5 kHz)

Réglages: RBW: 9 kHz, VBW: Auto, Temps de mesure: 50 ms/Pts, Nombre de Balayages: 1, Preamp: Off, LN Preamp: Off, Preselecteur: On

Ligne: Neutre

FCC/FCC 15.109 - Classe: B - Moyenne/
FCC/FCC 15.109 - Classe: B - QCrête/
Mes. Peak (Neutre)
Mes. Avg (Neutre)





Phase Line

Frequency (MHz)	Peak Level (dBμV/m)	Quasi-Peak Level (dBμV/m)	Quasi-Peak Limit (dBμV/m)	Average Level (dBμV/m)	Average Limit (dBμV/m)
0.235	39.577	/	62.259	22.090	52.288
0.7	32.233	/	56	17.513	46
0.92	30.726	/	56	24.489	46
2.07	32.284	/	56	15.557	46
15.355	48.845	41.71	60	35.667	50
17.88	48.111	/	60	34.601	50

Neutral Line

Frequency (MHz)	Peak Level (dBμV/m)	Quasi-Peak Level (dBμV/m)	Quasi-Peak Limit (dBμV/m)	Average Level (dBμV/m)	Average Limit (dBμV/m)
0.235	46.184	/	62.273	24.955	52.273
0.535	38.701	/	56	20.132	46
0.875	36.295	/	56	18.331	46
1.205	32.903	/	56	16.525	46
12.08	42.538	/	60	28.536	50
18.23	47.725	/	60	33.532	50

Result: **PASS**

Limit: → Quasi-Peak
 0,15kHz to 0,5MHz: 66dBμV/m to 56dBμV/m*
 0,5MHz to 5MHz: 56dBμV/m
 5MHz to 30MHz: 60dBμV/m

Average
 0,15kHz to 0,5MHz: 56dBμV/m to 46dBμV/m*
 0,5MHz to 5MHz: 46dBμV/m
 5MHz to 30MHz: 50dBμV/m

*Decreases with the logarithm of the frequency



10. UNWANTED EMISSIONS INTO RESTRICTED FREQUENCY BANDS

10.1. TEST CONDITIONS

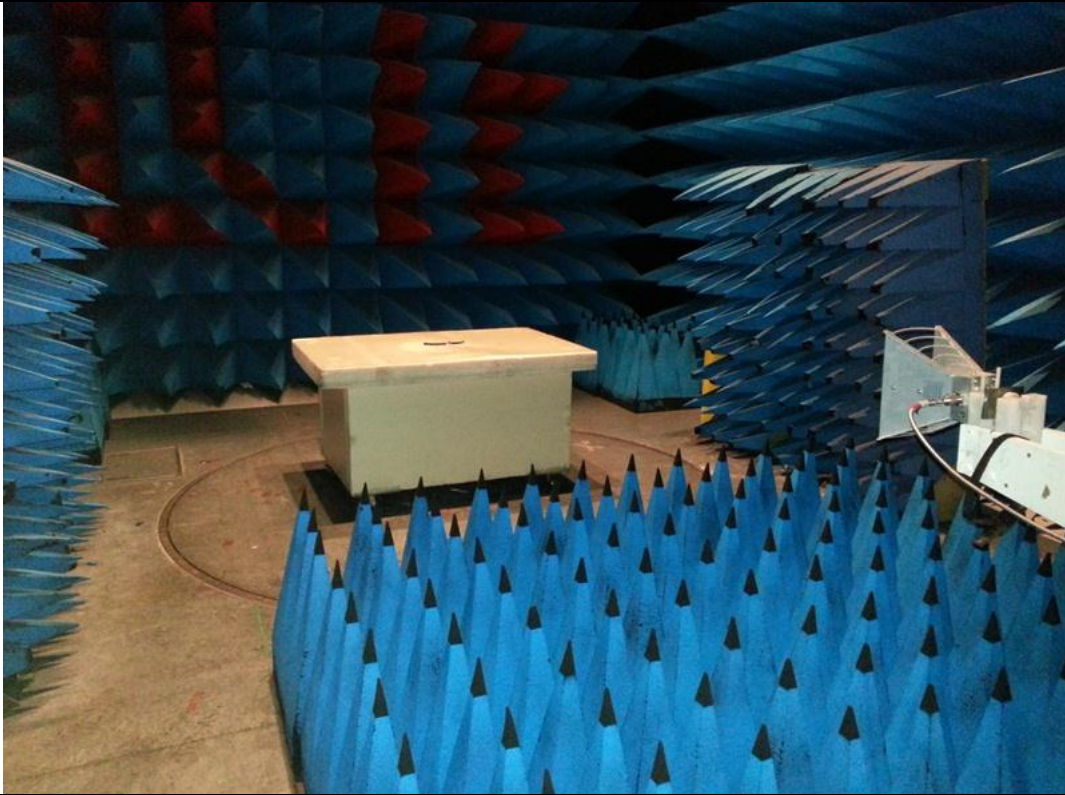
Test performed by : Arnaud Fayette
Date of test : 2014/03/17
Ambient temperature : 23°C
Relative humidity : 40%

10.2. TEST SETUP

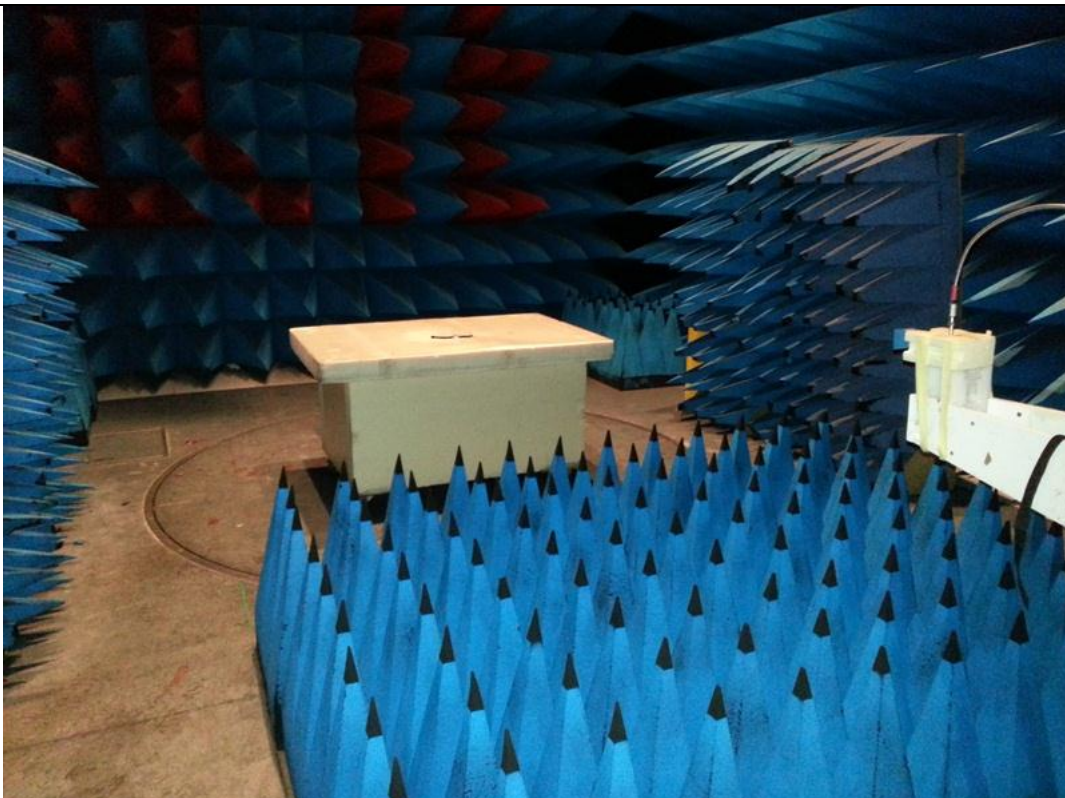
The product has been tested according to ANSI C63.10 (2009). The EUT is placed in a semi-anechoic chamber. Distance between measuring antenna and the EUT is 3m. Test is performed in horizontal (H) and vertical (V) polarization with bilog antenna below 1GHz and with a horn antenna above 1GHz. Measurement 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.



Photograph for Unwanted Emissions into Restricted Frequency Bands



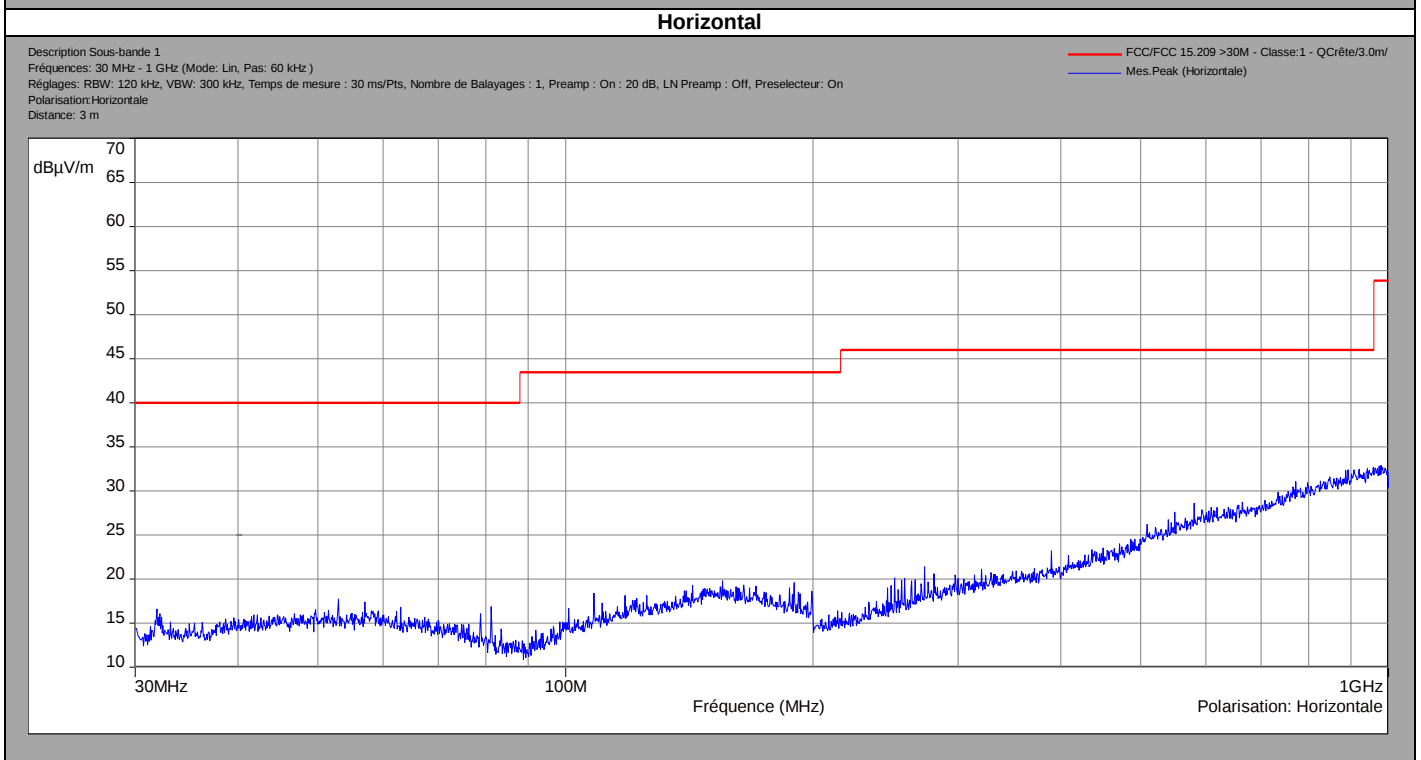
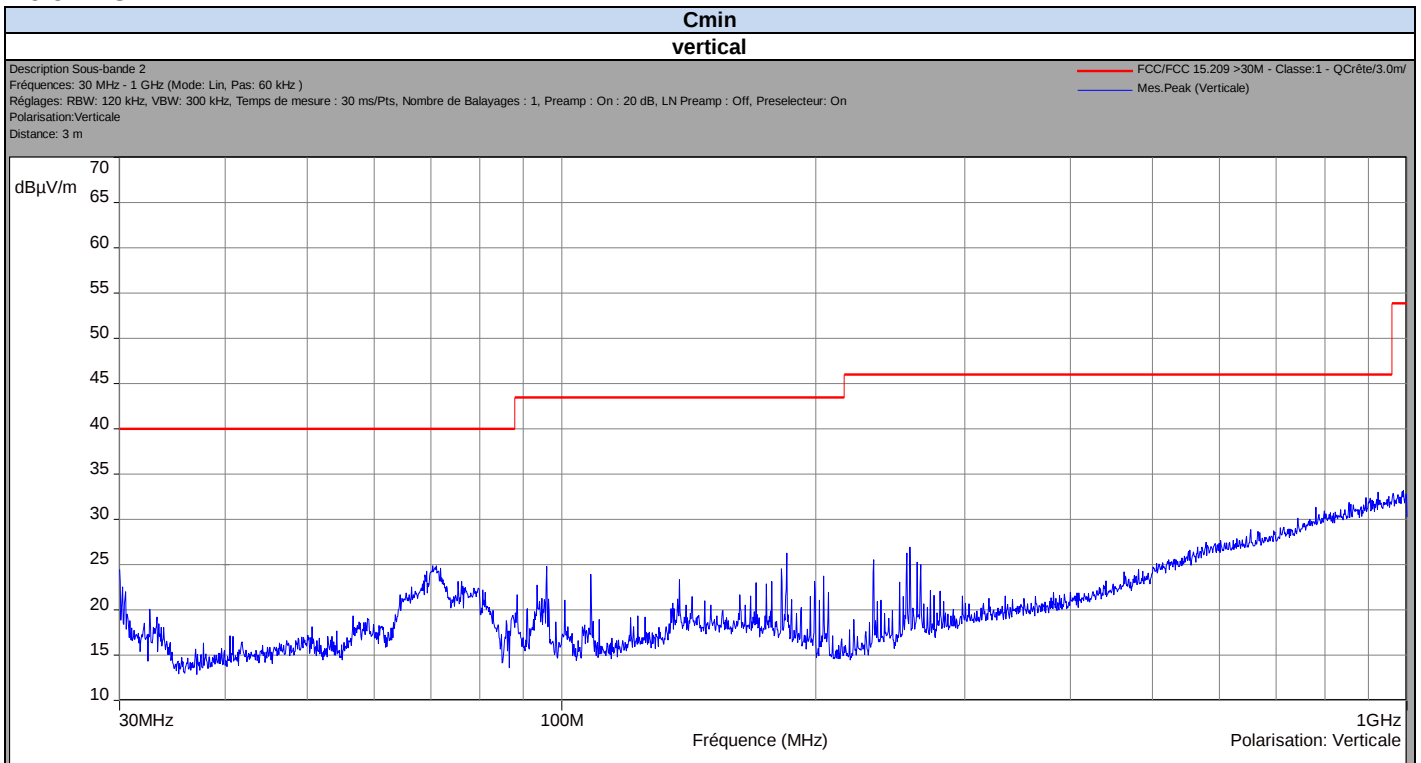
Photograph for Unwanted Emissions into Restricted Frequency Bands



Photograph for Unwanted Emissions into Restricted Frequency Bands

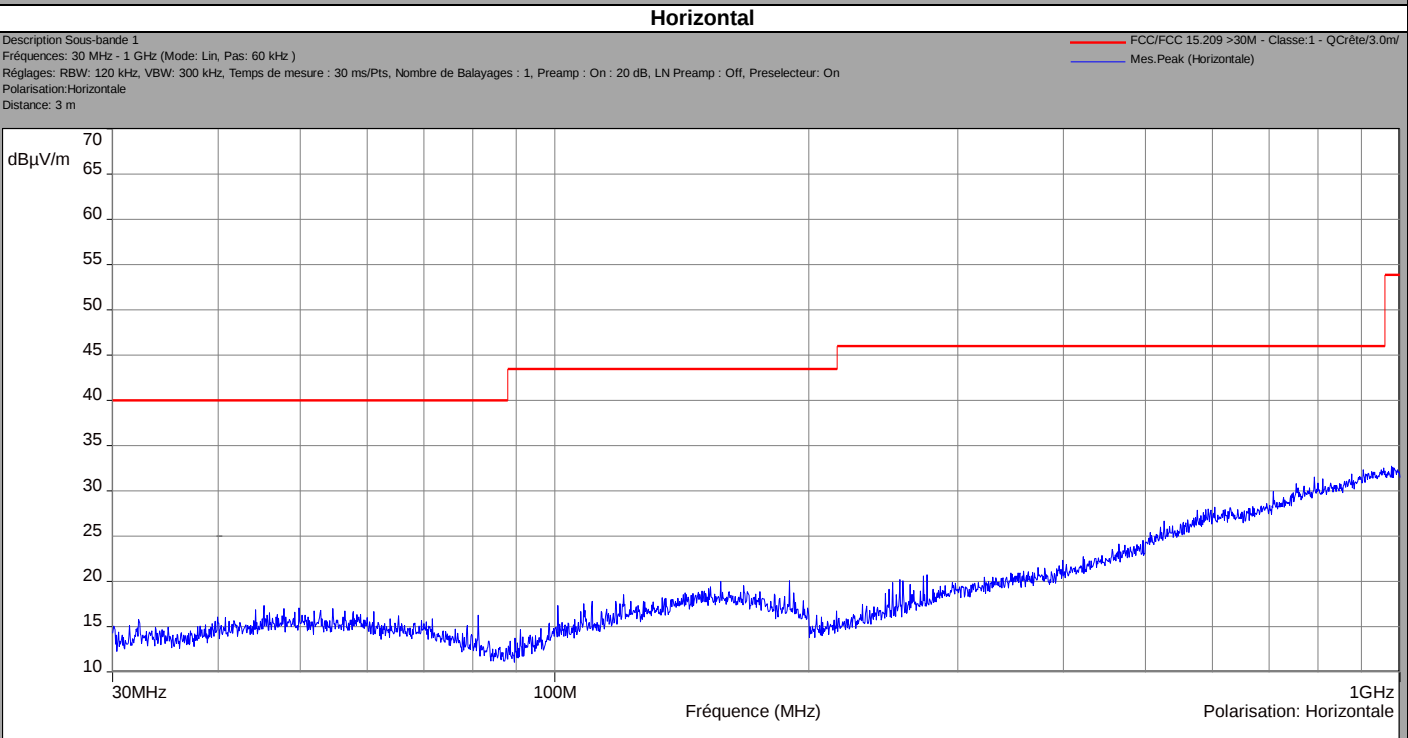
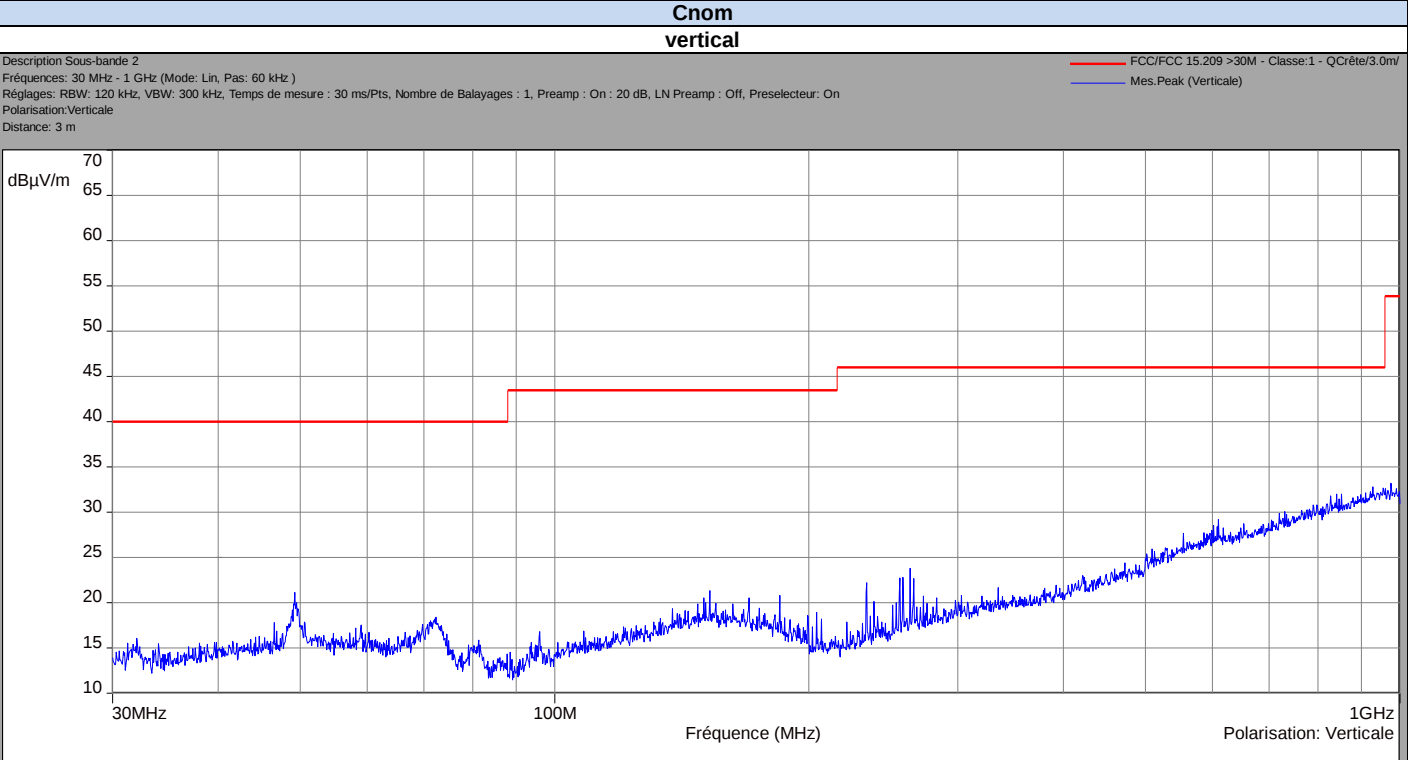
10.3. RESULTS

Below 1GHz



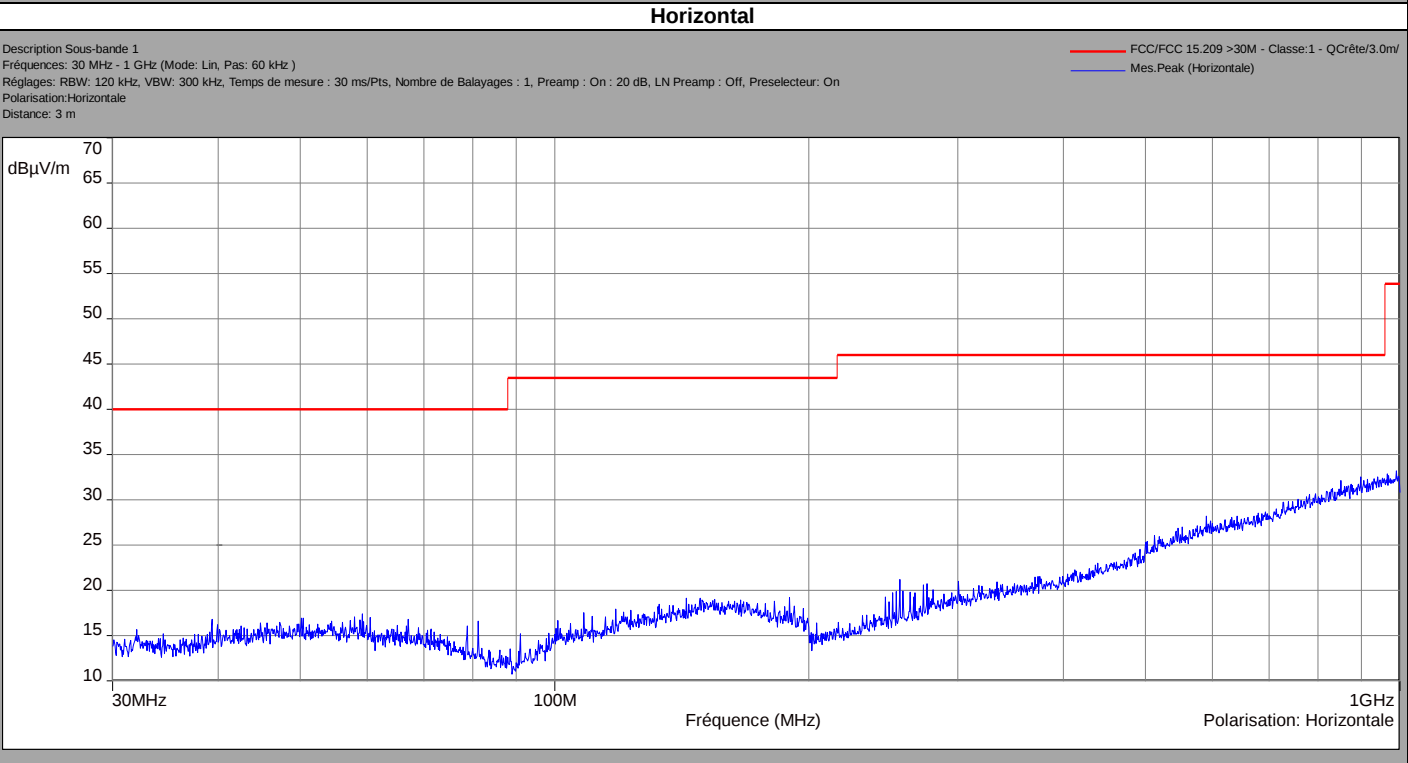
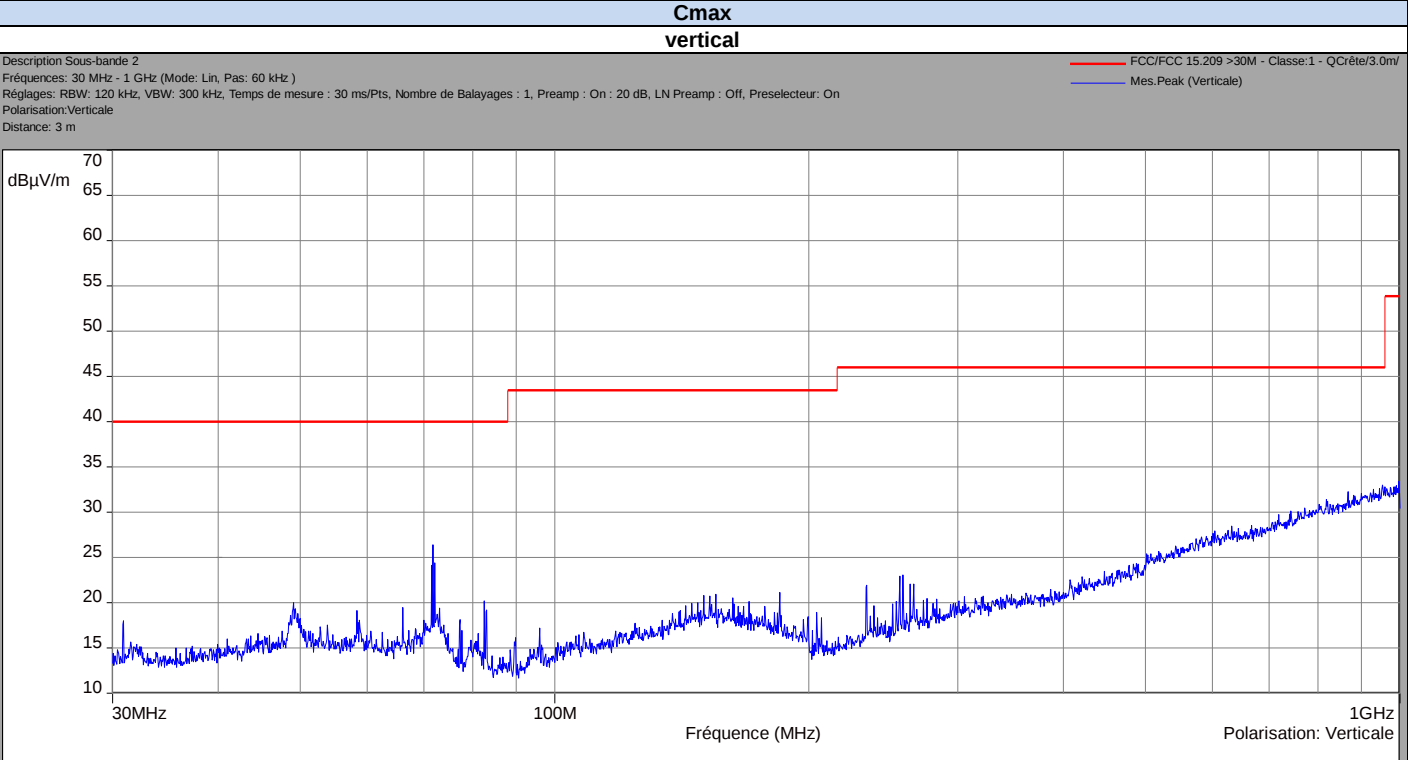


Below 1GHz



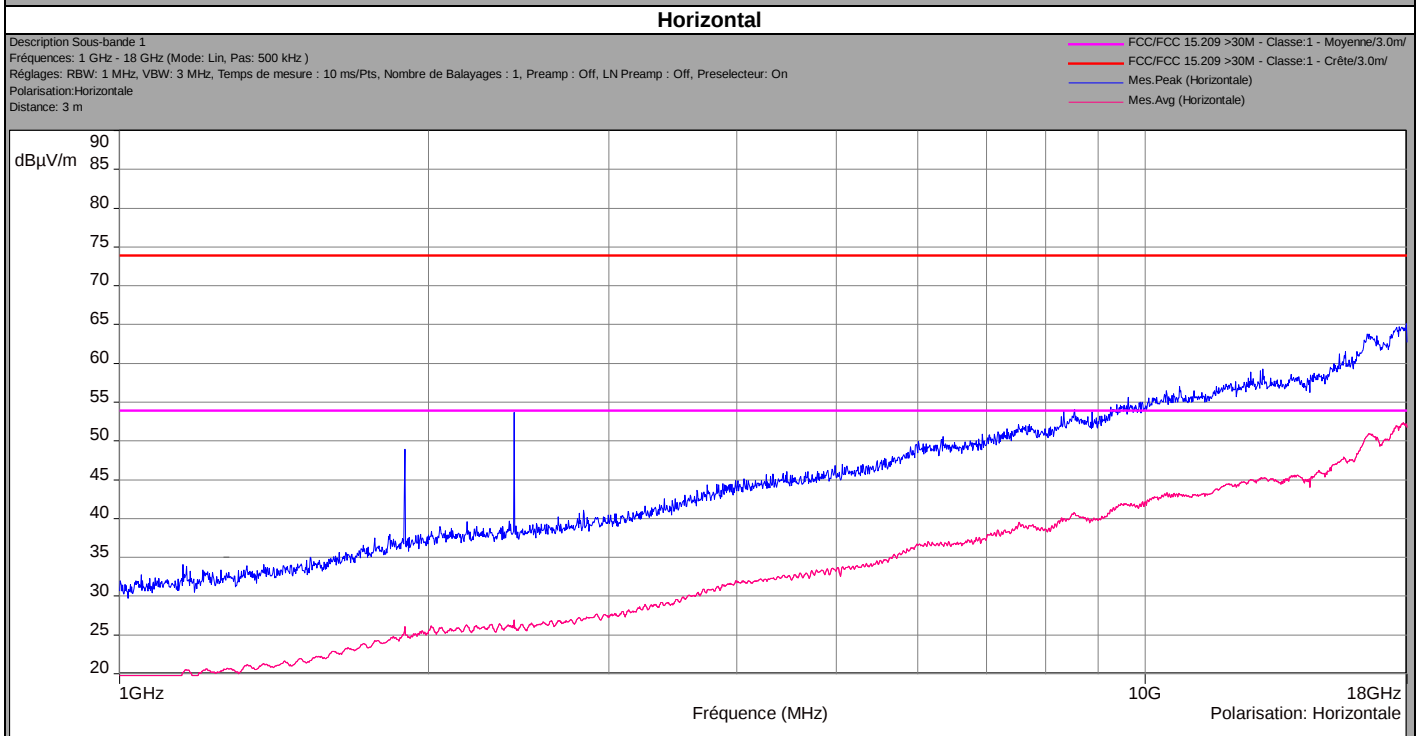
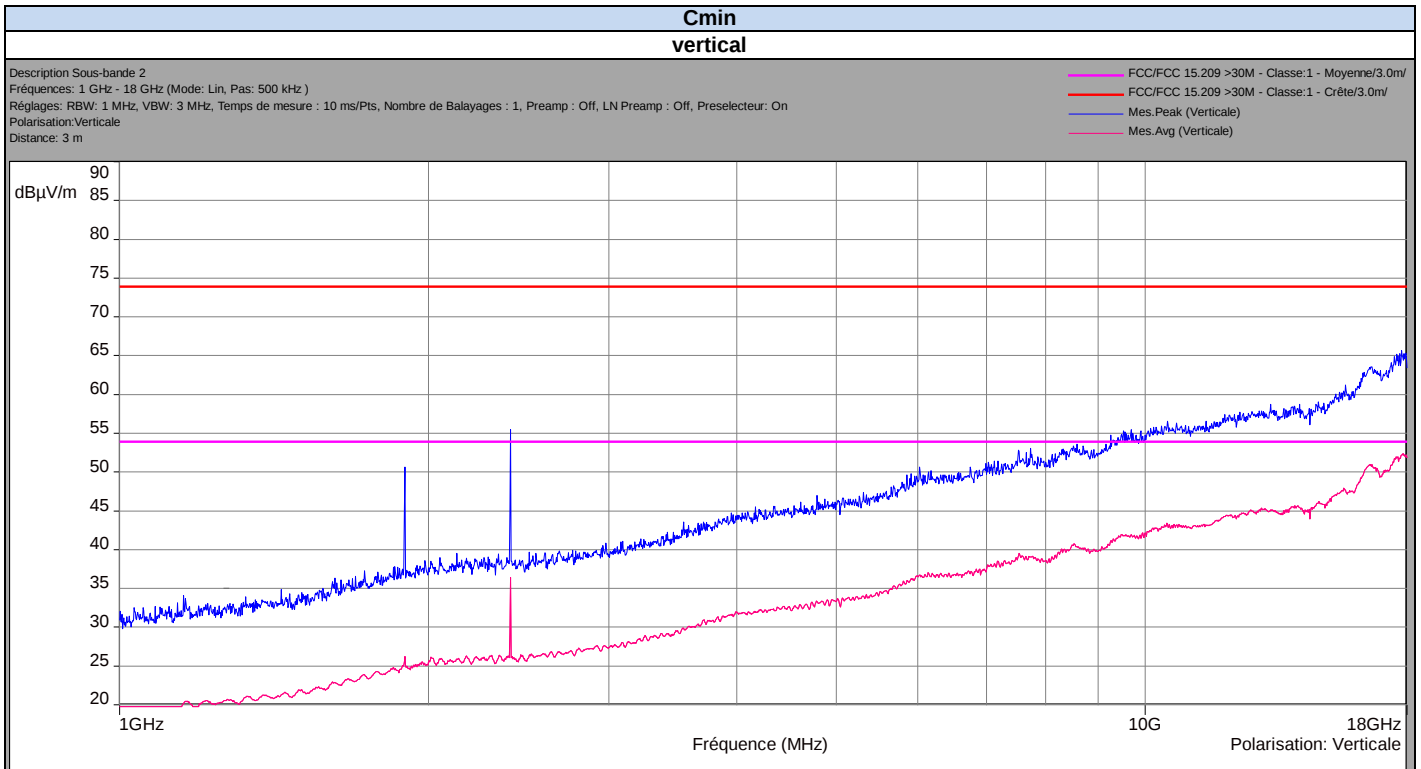


Below 1GHz



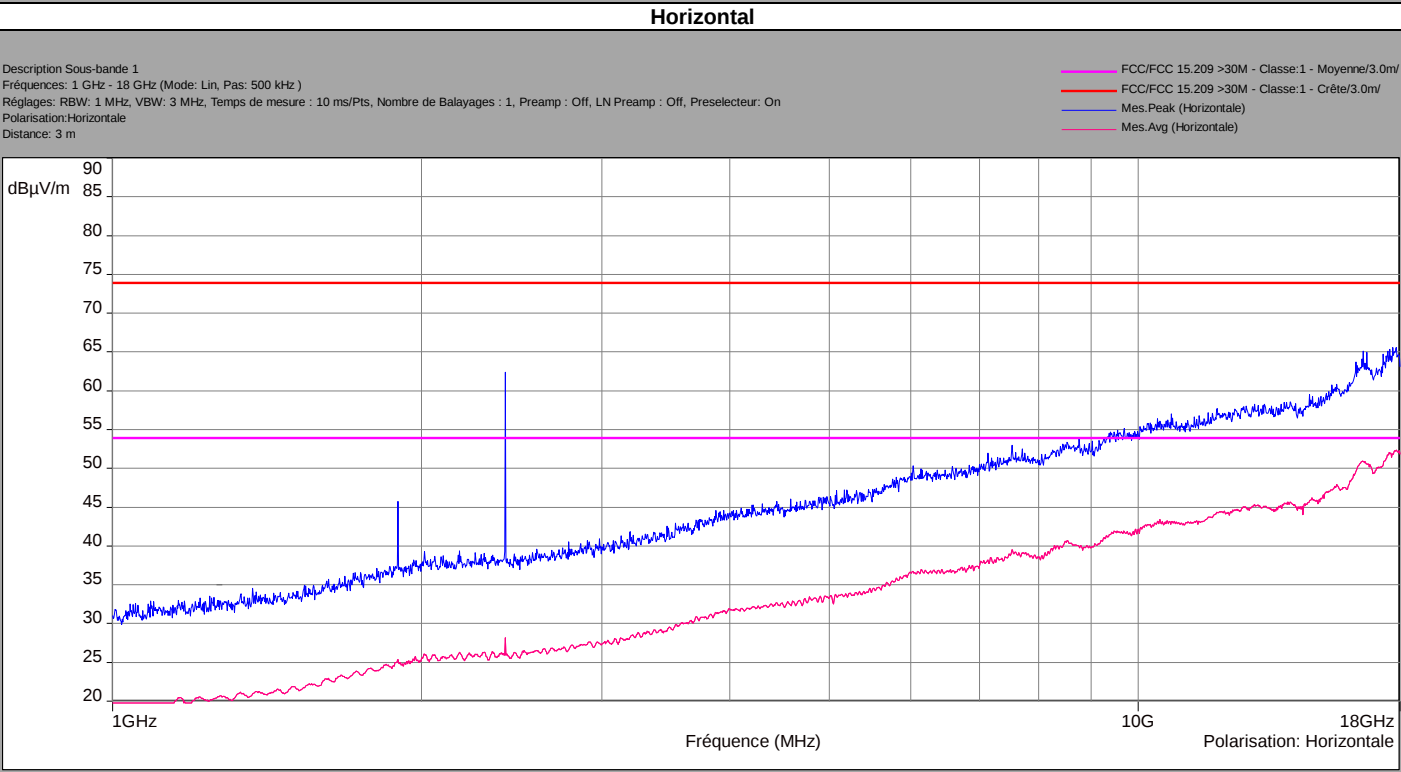
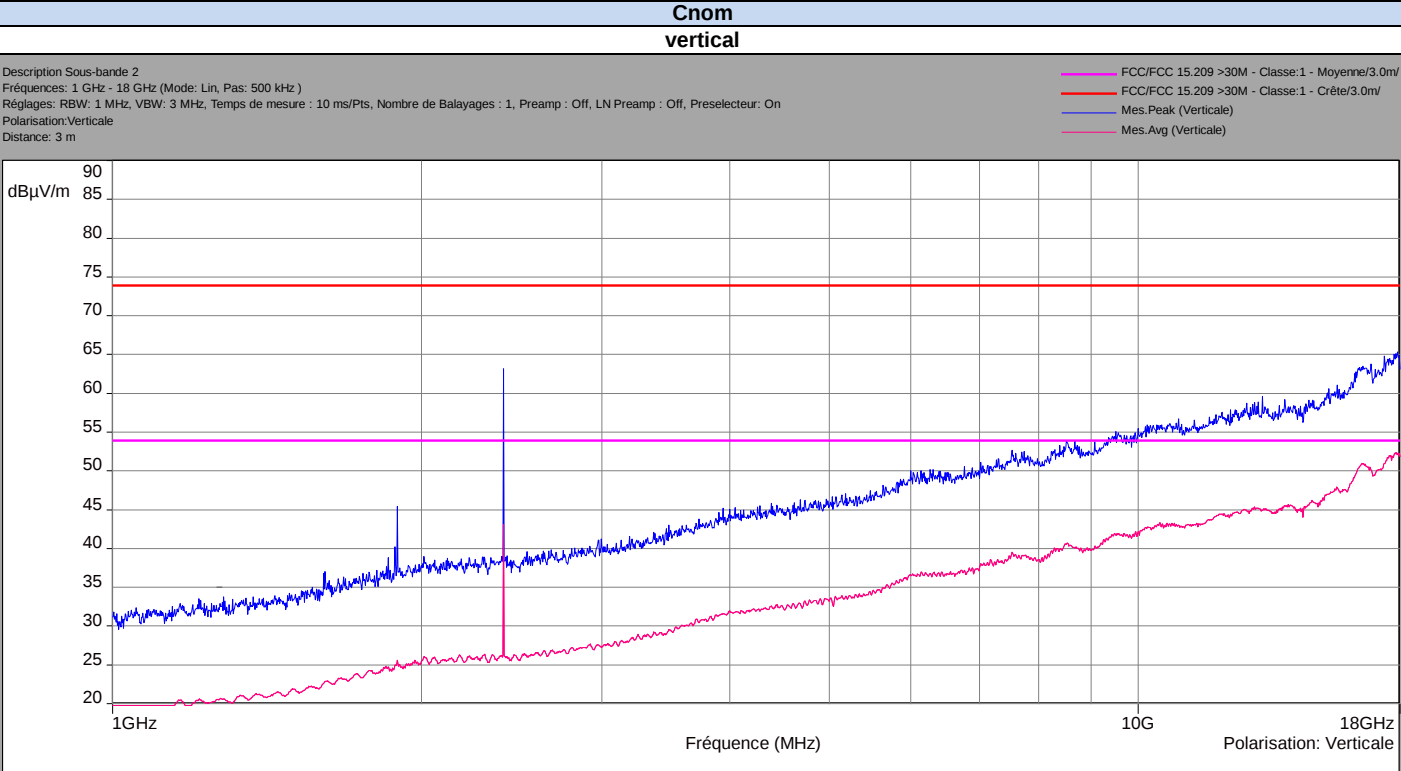


Above 1-18GHz



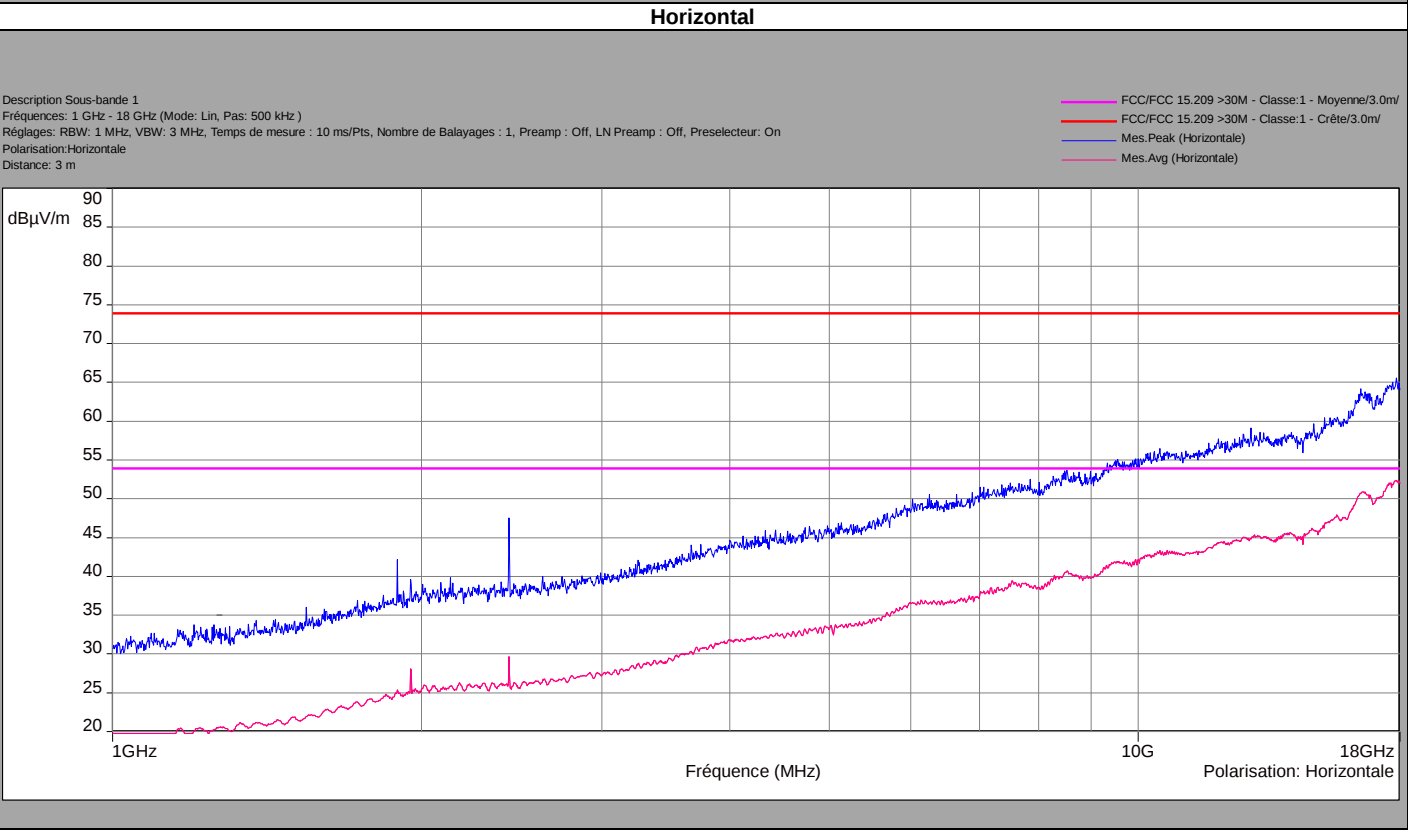
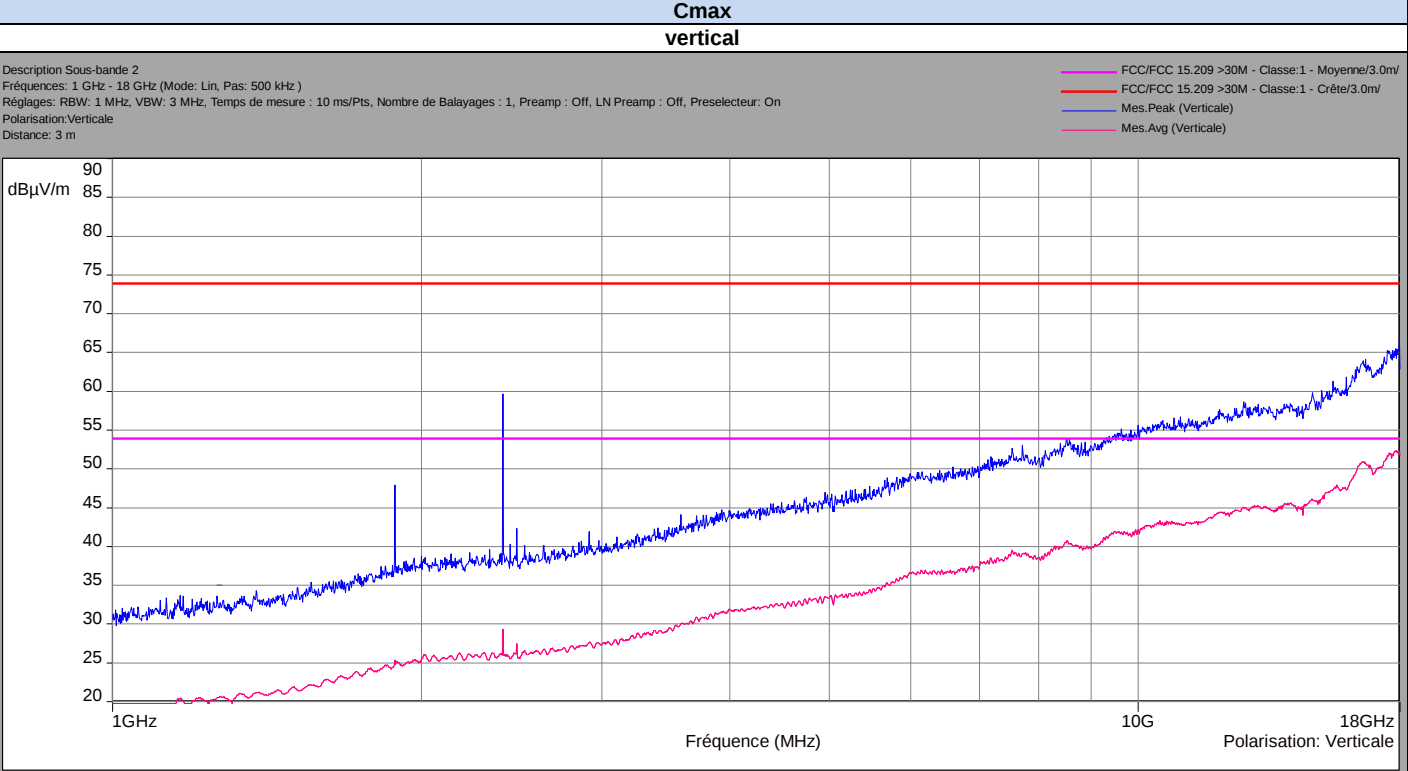


Above 1-18GHz



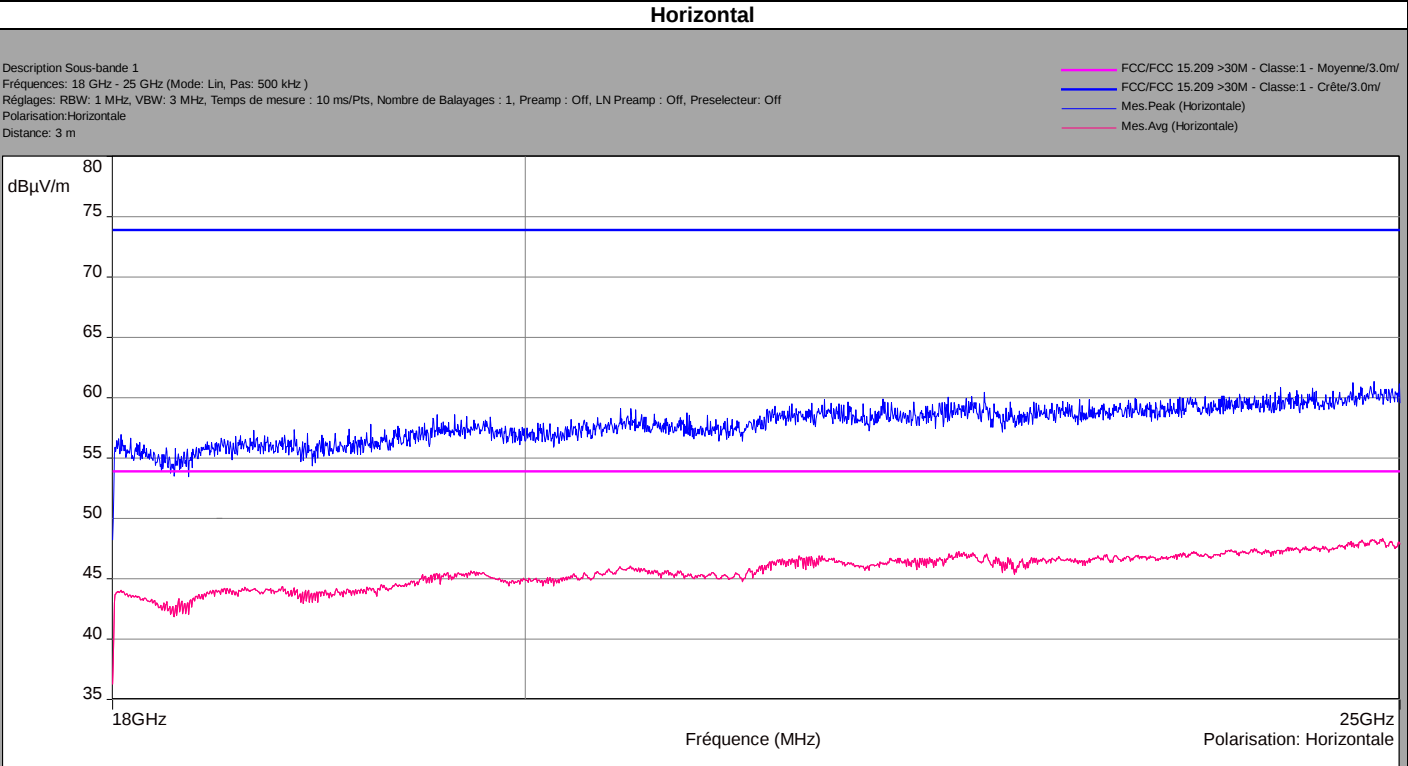
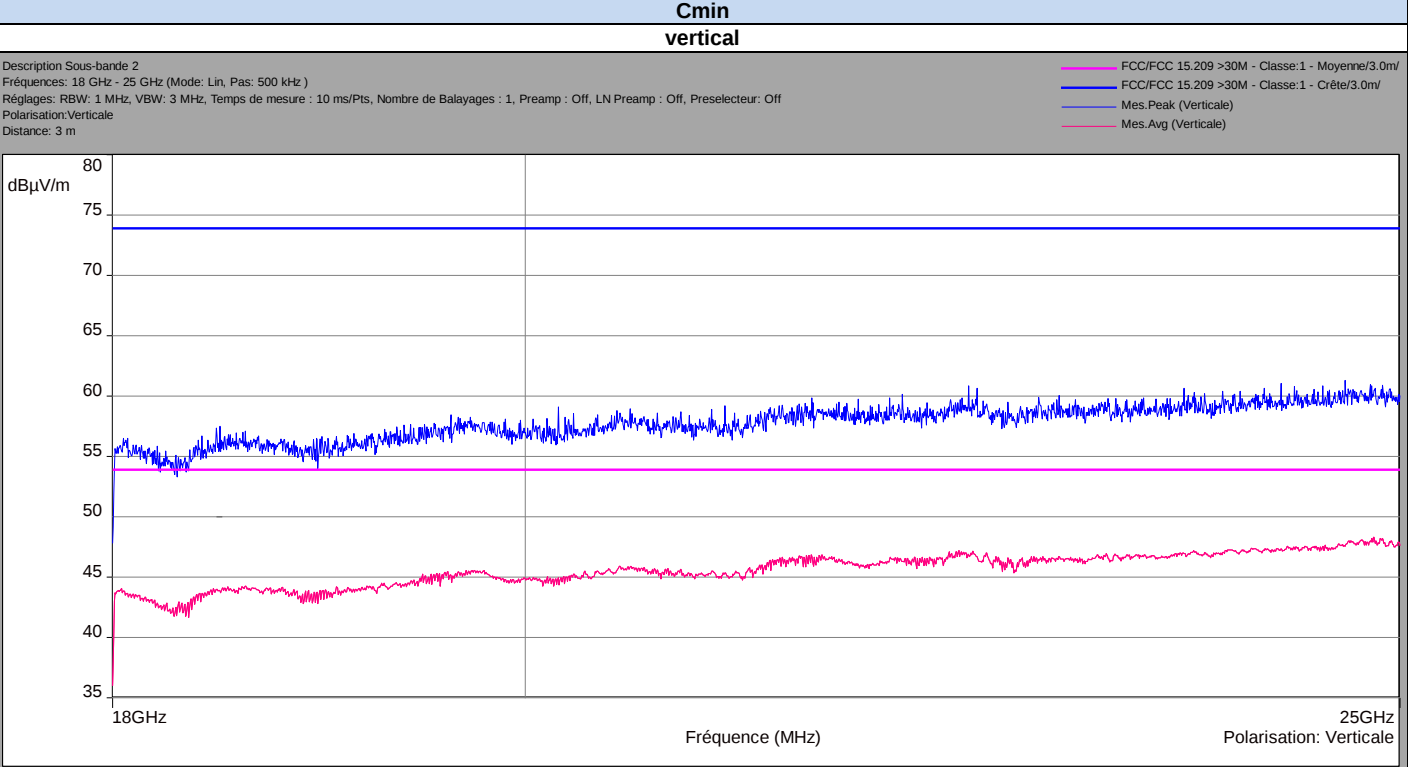


Above 1-18GHz



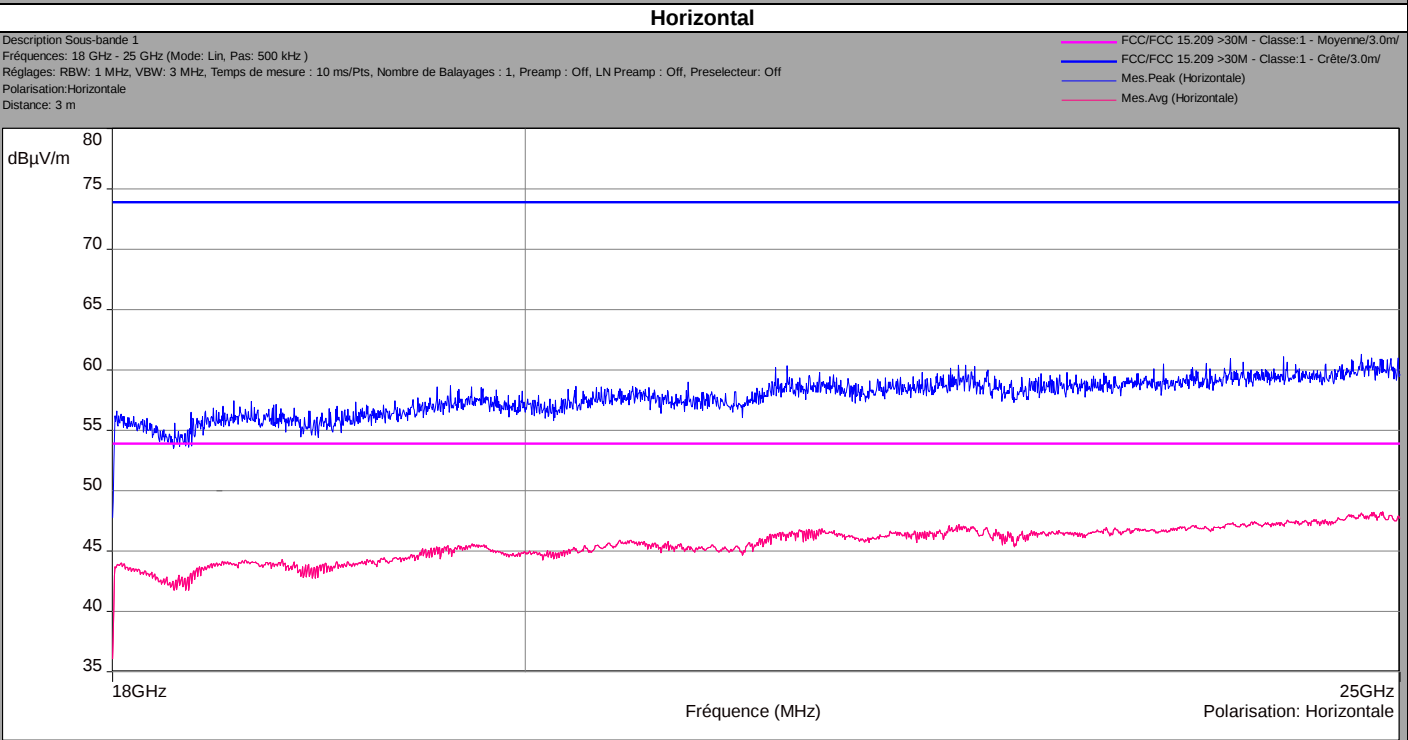
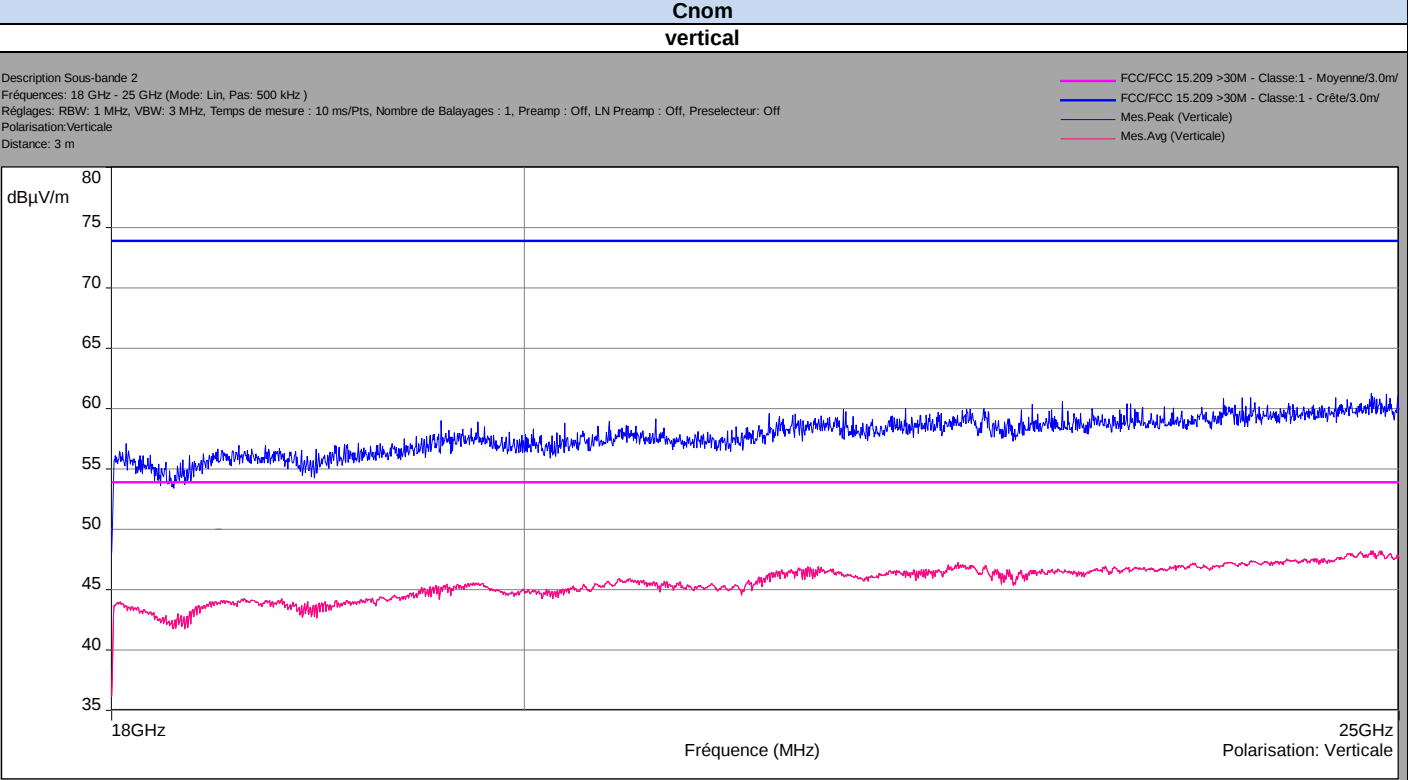


Above 18-25GHz



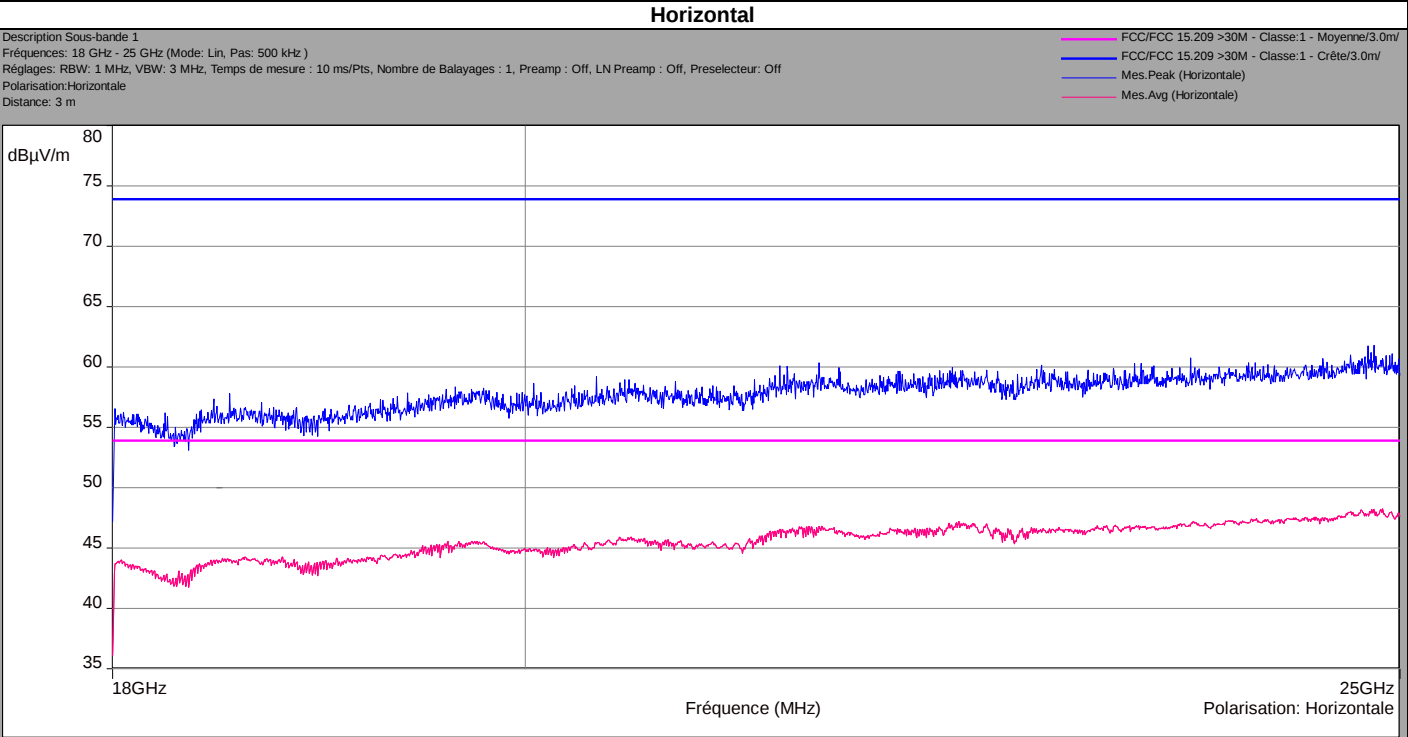
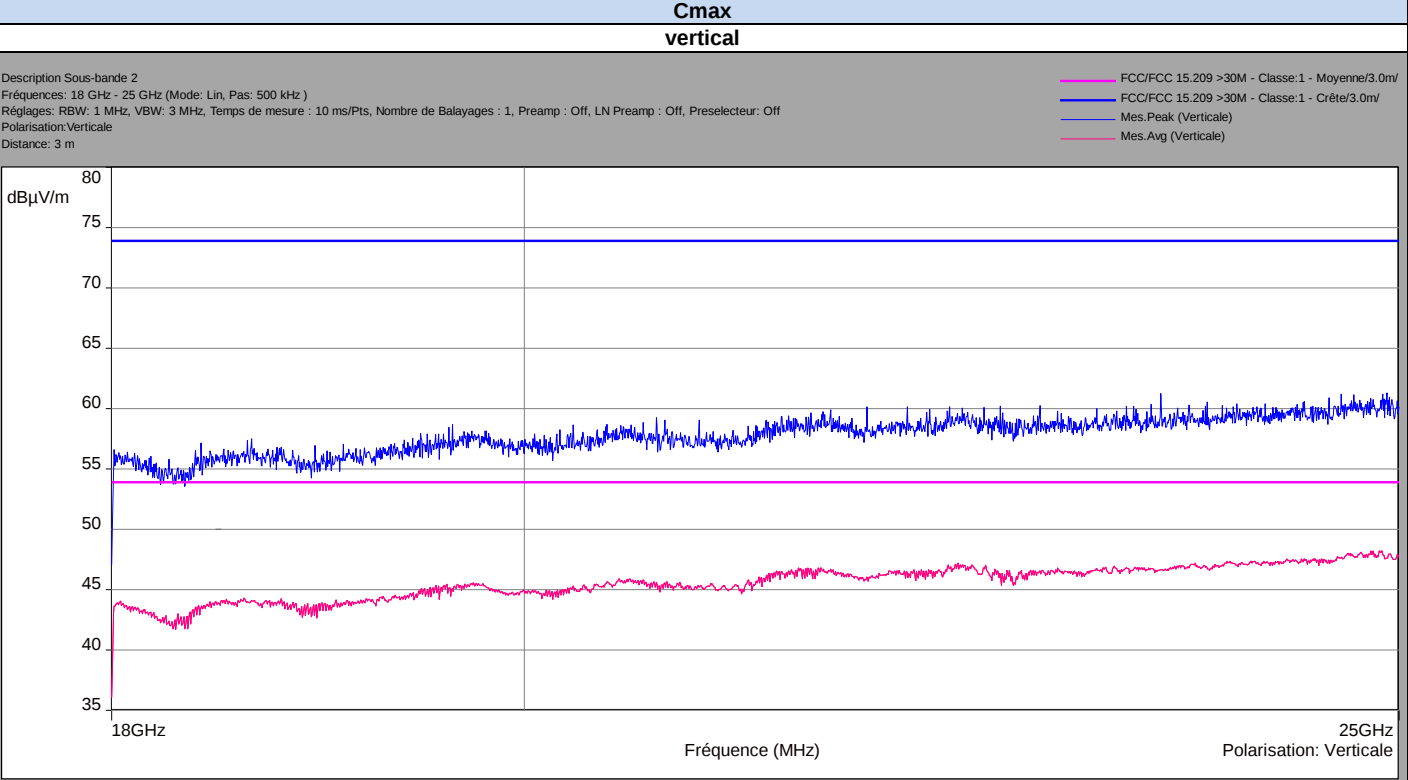


Above 18-25GHz





Above 18-25GHz





• Characterization in a semi anechoic chamber (30MHz to 40GHz):

Below 1GHz

Cmin

Polarisation	Frequency (MHz)	Peak Level (dB μ V/m)	QPeak Level (dB μ V/m)	Limit (dB μ V/m)
V	71.04	24.871	/	40
V	96	24.822	/	43.5
V	108.3	23.961	/	43.5
V	184.56	26.265	/	43.5
V	233.82	25.541	/	46
V	258.42	26.914	/	46

Cnom

Polarisation	Frequency (MHz)	Peak Level (dB μ V/m)	QPeak Level (dB μ V/m)	Limit (dB μ V/m)
V	49.26	21.107	/	40
V	72.42	18.409	/	40
V	152.58	21.365	/	43.5
V	233.82	22.209	/	46
V	258.42	22.824	/	46
V	263.34	23.782	/	46

Cmax

Polarisation	Frequency (MHz)	Peak Level (dB μ V/m)	QPeak Level (dB μ V/m)	Limit (dB μ V/m)
V	30.84	17.625	/	40
V	49.14	19.985	/	40
V	58.38	19.114	/	40
V	71.76	26.415	/	40
V	184.56	21.162	/	43.5
V	258.42	23.068	/	46

Above 1GHz

Cmin

Polarisation	Frequency (GHz)	Average Level (dB μ V/m)	Average Limit (dB μ V/m)	Peak Level (dB μ V/m)	Peak Limit (dB μ V/m)
V	1.8975	26.201	54	50.679	74
H	1.8975	26.084	54	48.913	74
H	17.774	52.226	54	64.221	74
V	17.964	52.204	54	65.368	74
H	24.703	47.957	54	61.237	74
V	24.654	47.771	54	61.305	74



Cnom

Polarisation	Frequency (GHz)	Average Level (dBµV/m)	Average Limit (dBµV/m)	Peak Level (dBµV/m)	Peak Limit (dBµV/m)
H	1.898	25.534	54	45.718	74
V	1.898	25.634	54	45.467	74
H	17.845	52.368	54	65.543	74
V	17.892	52.347	54	65.309	74
H	24.765	48.202	54	61.282	74
V	24.822	48.202	54	61.227	74

Cmax

Polarisation	Frequency (GHz)	Average Level (dBµV/m)	Average Limit (dBµV/m)	Peak Level (dBµV/m)	Peak Limit (dBµV/m)
H	1.898	25.355	54	42.149	74
V	1.898	25.386	54	47.9	74
H	17.859	52.340	54	65.555	74
V	17.97	52.224	54	66.831	74
H	24.7985	61.75	54	47.814	74
V	24.9235	61.314	54	47.461	74

Result: **PASS**

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



11. TEST EQUIPMENT LIST

Occupied Bandwidth, -6dB Bandwidth, Maximum Peak Output Power, Power Spectral Density and Unwanted Emissions into Non-Restricted Frequency Bands					
Apparatus	Trade Mark	Type	Registration number	Calibration date	Calibration due
RF Cable	-	-	A5329430	2013/03	2014/03
Attenuator	Weinschel Associates	WA54-3-12	A7122223	2013/12	2014/12
EMI Test Receiver	ROHDE & SCHWARZ	ESI	A2642010	2014/02	2015/02
EMI Test receiver	RHODE & SCHWARZ	FSIQ	A4060040	2013/11	2014/11
DC Power Supply	RHODE & SCHWARZ	NGSM 32/10	A7040074	2014/01	2015/01
Unwanted Emissions into Restricted Frequency Bands & Receiver Spurious Emissions					
Apparatus	Trade Mark	Type	Registration number	Calibration date	Calibration due
Semi anechoic chamber 11,8x8,1x9,5m	SIEPEL	C01	D3044008	2013/02	2014/04
EMI Test Receiver	ROHDE & SCHWARZ	ESIB26	A2642021	2013/04	2014/04
Bilog antenna	SCHWARZBEK	VULB 9160	A2040150	2013/03	2014/03
Cable	-	-	A5329374	2013/03	2014/03
Cable	-	-	A5329459	2013/03	2014/03
Preamplifier	LCIE; LCIE	LCIE-ALB-001	A7080073	2013/11	2014/11
Horn antenna	-; A-INFOMW	LB-10180-NF	C2042050	2013/04	2014/04
Horn antenna 18-26,5GHz	PASTERNAK	PE9852/2F-20	C2042049	2013/02	2014/02
AC Power Line Conducted Emissions					
Apparatus	Trade Mark	Type	Registration number	Calibration date	Calibration due
Semi anechoic chamber 11,8x8,1x9,5m	SIEPEL	C01	D3044008	2013/02	2014/04
EMI Test Receiver	ROHDE & SCHWARZ	ESIB26	A2642021	2013/04	2014/04
V LISN	ROHDE & SCHWARZ	ENV216	C2320163	2013/12	2014/12
Cable	-	-	A5329411	2013/03	2014/03
Cable	-	-	A5329530	2013/03	2014/03
Variated power supply	Adaptive power system	FC210	A7360017	2013/01	2014/01



12. UNCERTAINTIES CHART

Kind of test	Measurement uncertainties (k=2) $\pm x(\text{dB})$ / (Hz)	Limit for uncertainties $\pm y(\text{dB})$
TRANSMITTER REQUIREMENTS		
Radio frequency	$\pm 2.10^{-8}$ Hz	$\pm 1.10^{-7}$ Hz
RF Conducted power	± 0.6 dB	± 1.5 dB
Spurious emissions - Frequency < 1000 MHz - Frequency > 1000 MHz	± 3.9 dB ± 3.1 dB	± 6 dB
Spurious in conduction	± 1.6 dB	± 3 dB
Temperature	$\pm 0.5^{\circ}\text{C}$	$\pm 1^{\circ}\text{C}$
Humidity	± 2.5 %	± 10 %
RECEIVER REQUIREMENTS		
Spurious emissions - Frequency < 1000 MHz - Frequency > 1000 MHz	± 3.9 dB ± 3.1 dB	± 6 dB