

## 9. MAXIMUM CONDUCTED OUTPUT POWER

### 9.1. TEST CONDITIONS

Test performed by : Mathieu CERISIER  
Date of test : May 29, 2018  
Ambient temperature : 27 °C  
Relative humidity : 43 %

### 9.2. TEST SETUP

- The Equipment Under Test is installed:
  - On a table
  - In an anechoic chamber
- Measurement is performed with a spectrum analyzer in:
  - Conducted Method
  - Radiated Method
- Test Procedure:
  - ANSI C63.10 § 7.8.5



Photograph for Maximum Conducted Output Power



### 9.3. LIMIT

Maximum Conducted Output power:  
Shall not exceed 21dBm  
Limits are reduced by G-6dBi if Antenna Gain above 6dBi

### 9.4. TEST EQUIPMENT LIST

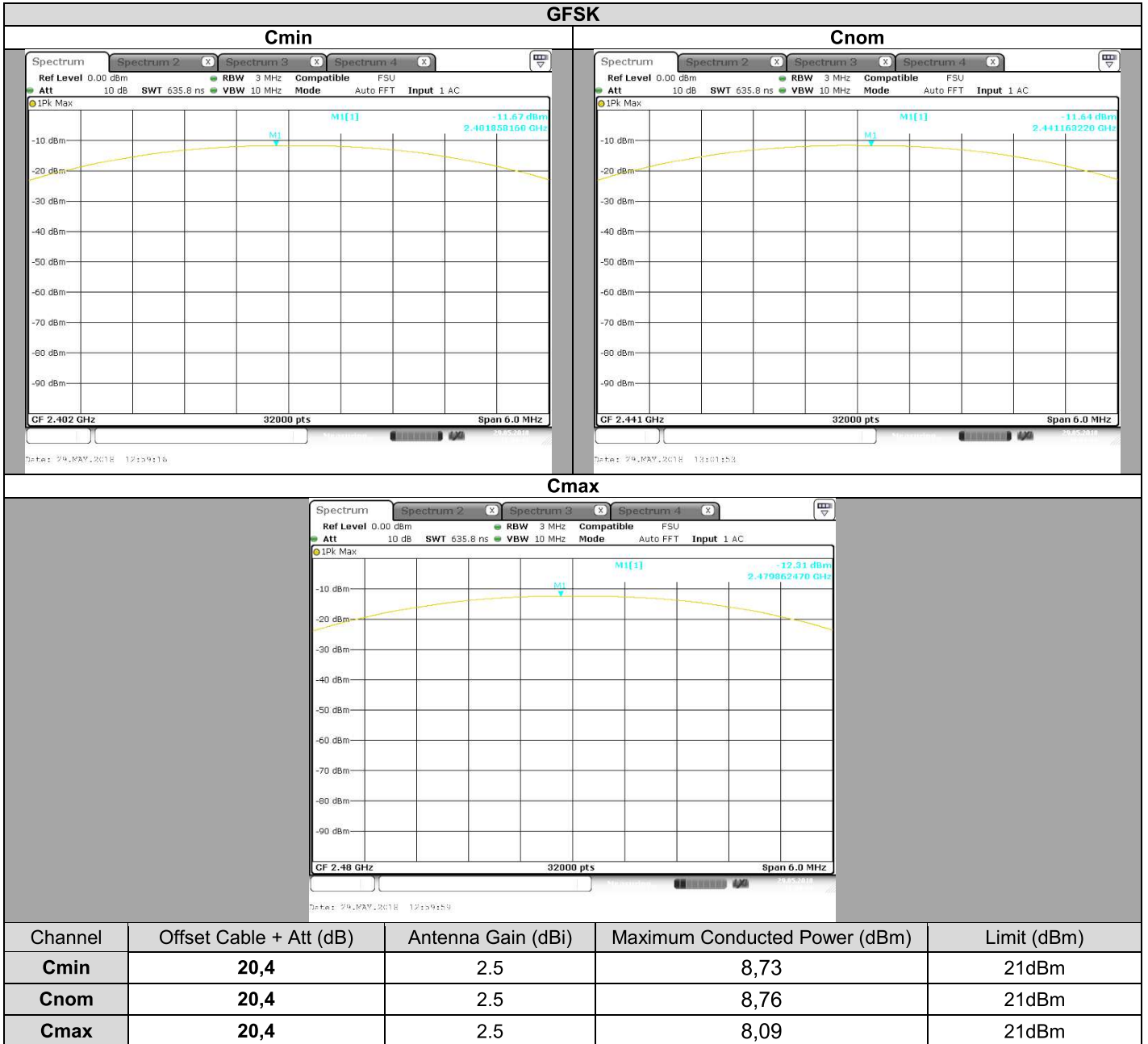
DESCRIPTION	MANUFACTURER	MODEL	N° LCIE	Cal_Date	Cal_Due
EMI receiver	ROHDE & SCHWARZ	ESR 7	A2642023	2017/09	2018/09
Multi-meter	KEITHLEY	2000	A1242090	2016/06	2018/06
Programmable AC/DC power supply	KIKUSUI	PCR500M	A7040079	2016/06	2018/06
RF cable & 20 dB attenuator	Télédyne	920-0202-048	A5329676	2017/09	2018/09

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



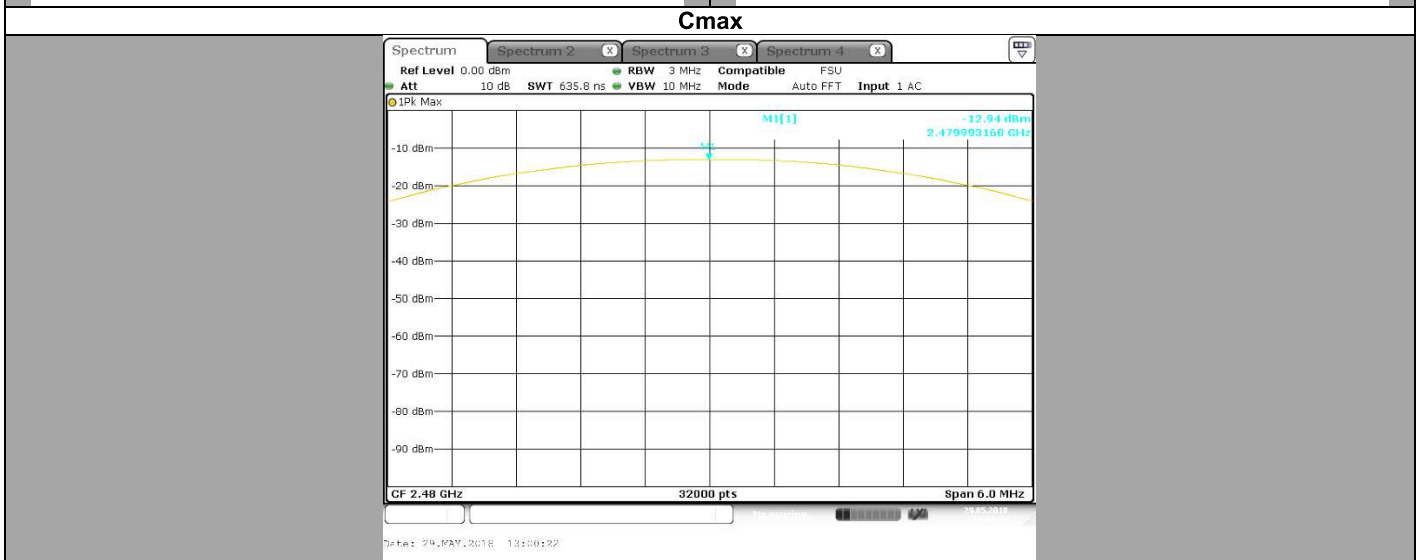
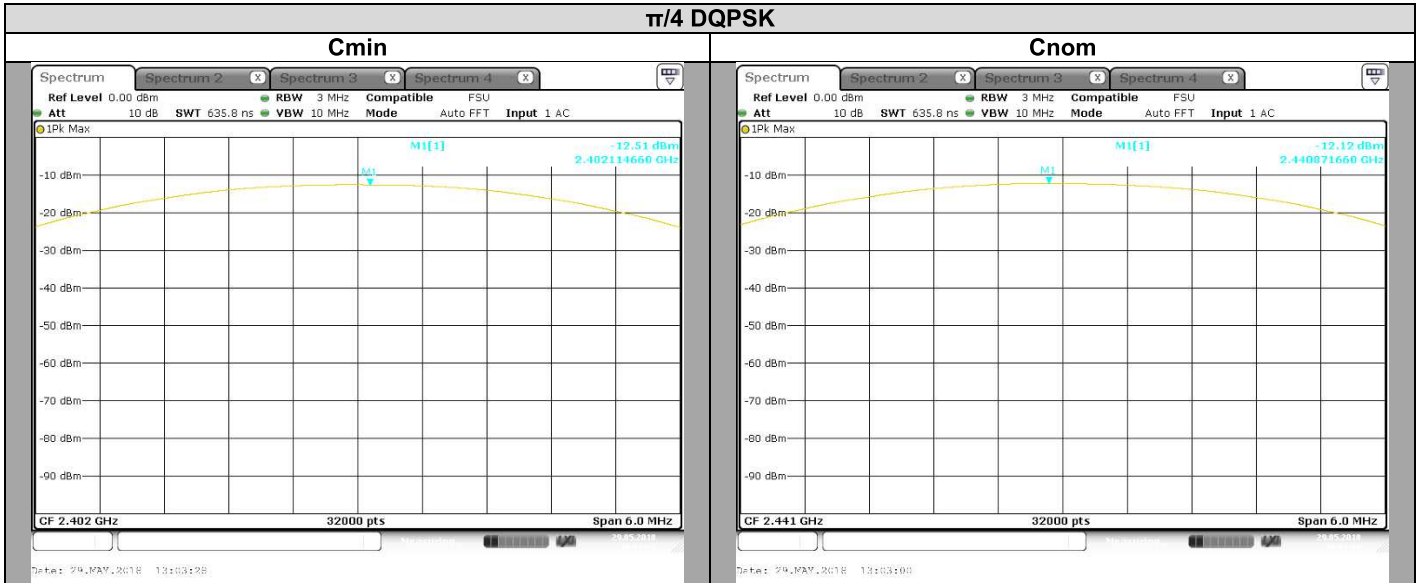
L C I E

## 9.5. RESULTS





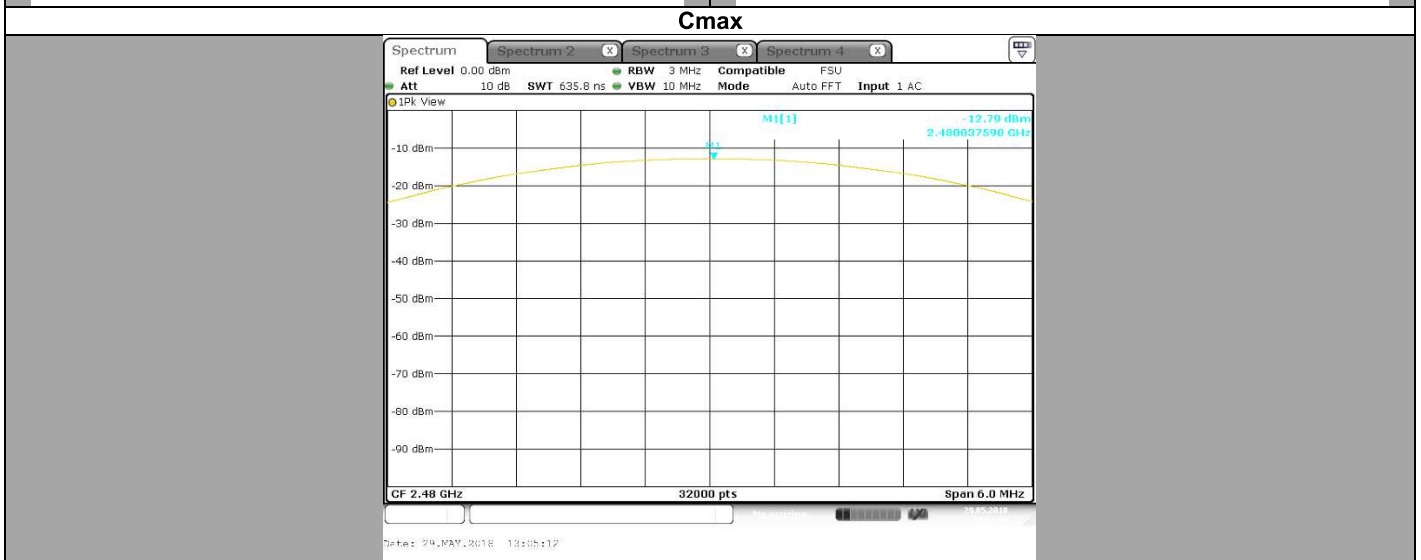
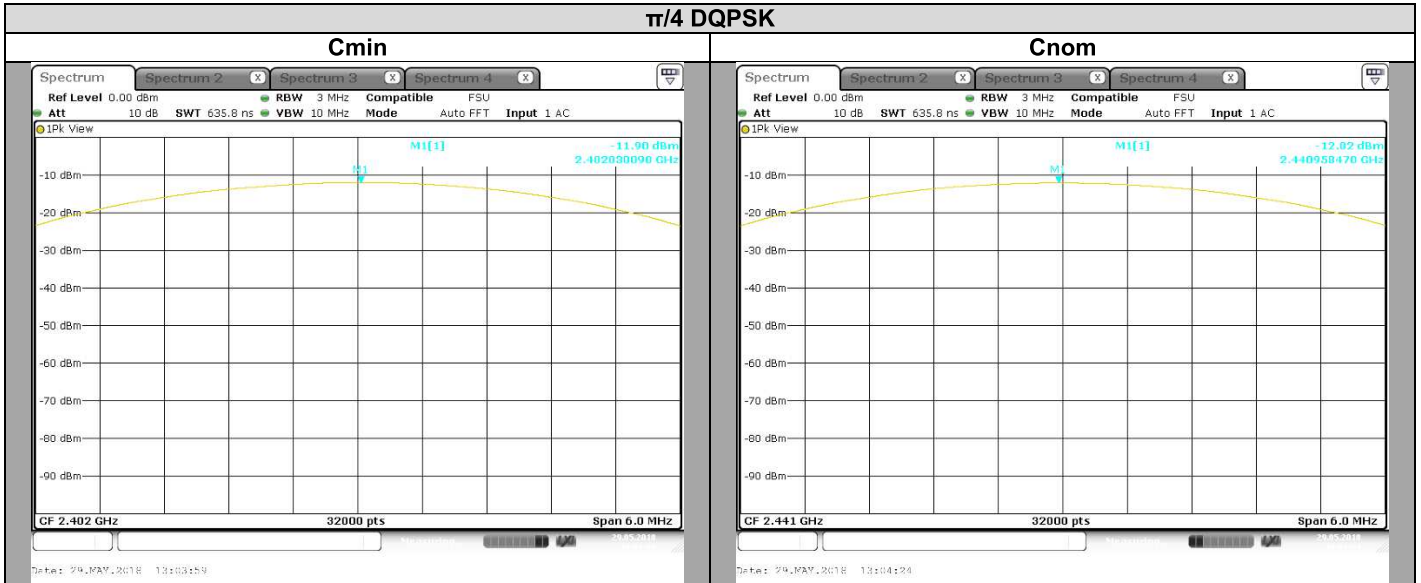
L C I E



Channel	Offset Cable + Att (dB)	Antenna Gain (dBi)	Maximum Conducted Power (dBm)	Limit (dBm)
<b>Cmin</b>	<b>20,4</b>	2.5	7,89	21dBm
<b>Cnom</b>	<b>20,4</b>	2.5	8,28	21dBm
<b>Cmax</b>	<b>20,4</b>	2.5	7,46	21dBm



L C I E



Channel	Offset Cable + Att (dB)	Antenna Gain (dBi)	Maximum Conducted Power (dBm)	Limit (dBm)
Cmin	20,4	2,5	8,5	21dBm
Cnom	20,4	2,5	8,38	21dBm
Cmax	20,4	2,5	7,61	21dBm

**9.6. CONCLUSION**

Maximum Conducted Output Power measurement performed on the sample of the product **SAGEMCOM DCIWA384 UHD Alt US V2**, SN: **253764997**, in configuration and description presented in this test report, show levels **compliant** to the **47 CFR PART 15.247** limits.

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

### 10.1. TEST CONDITIONS

Test performed by : Mathieu CERISIER  
Date of test : May 30, 2018 to June 12, 2018  
Ambient temperature : 27 °C  
Relative humidity : 43 %

### 10.2. TEST SETUP

- The Equipment Under Test is installed:

- On a table
- In an anechoic chamber

- Measurement is performed with a spectrum analyzer in:

- Conducted Method
- Radiated Method

- Test Procedure:

- ANSI C63.10 § 7.8.6



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



### 10.3. LIMIT

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

### 10.4. TEST EQUIPMENT LIST

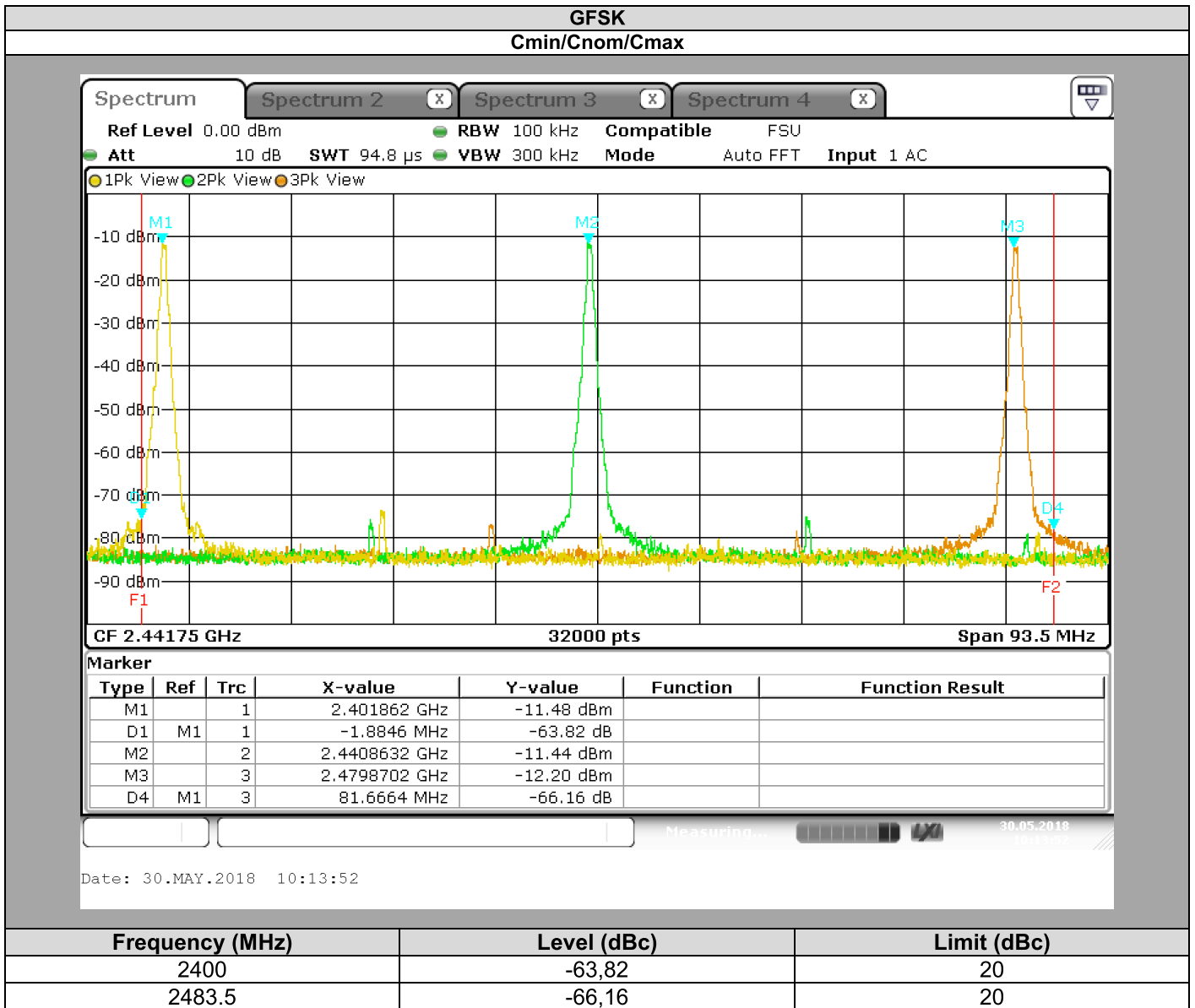
DESCRIPTION	MANUFACTURER	MODEL	N° LCIE	Cal_Date	Cal_Due
EMI receiver	ROHDE & SCHWARZ	ESR 7	A2642023	2017/09	2018/09
Multi-meter	KEITHLEY	2000	A1242090	2016/06	2018/06
Programmable AC/DC power supply	KIKUSUI	PCR500M	A7040079	2016/06	2018/06
RF cable & 20 dB attenuator	Télédyne	920-0202-048	A5329676	2017/09	2018/09

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



L C I E

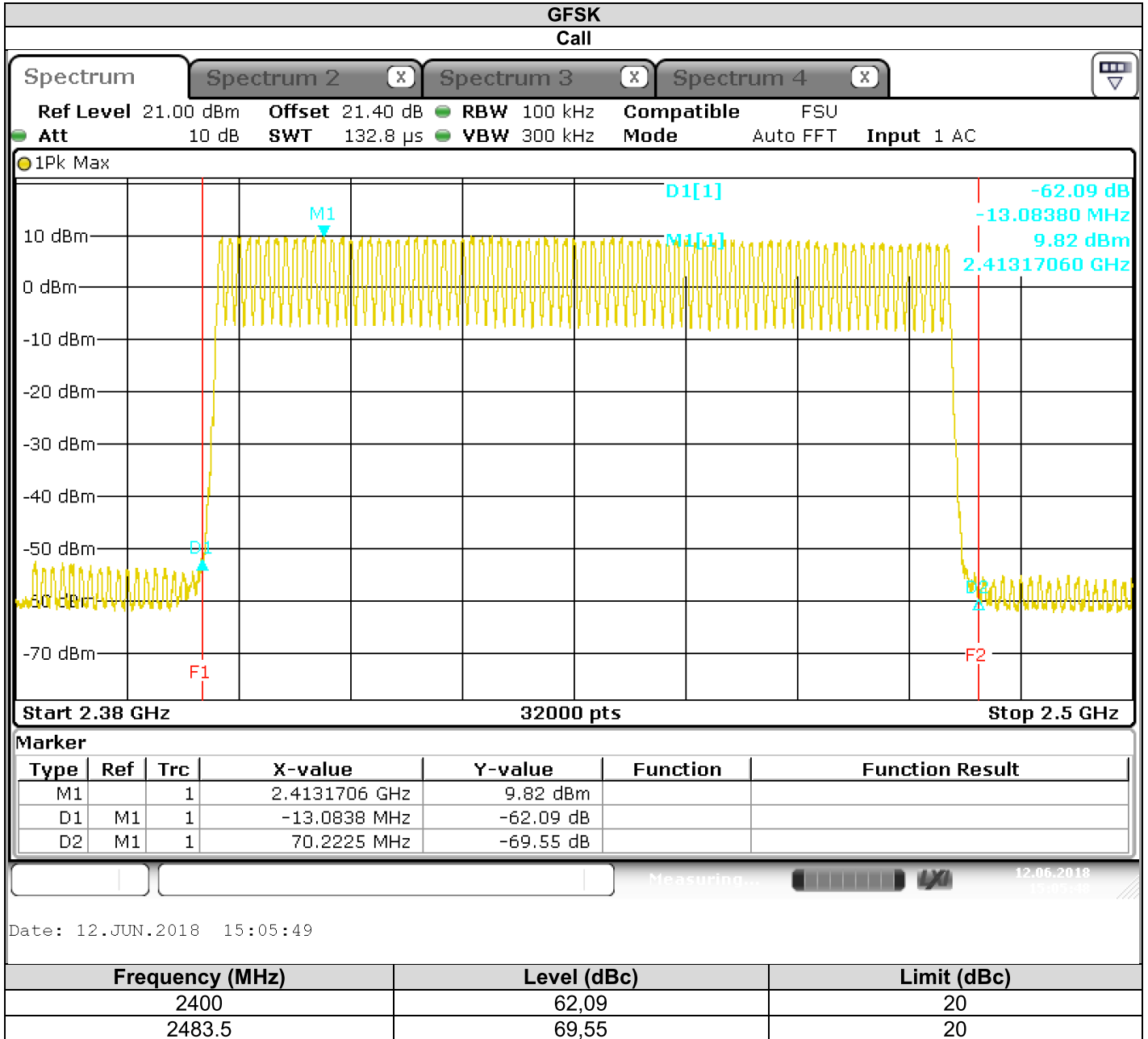
## 10.5. RESULTS





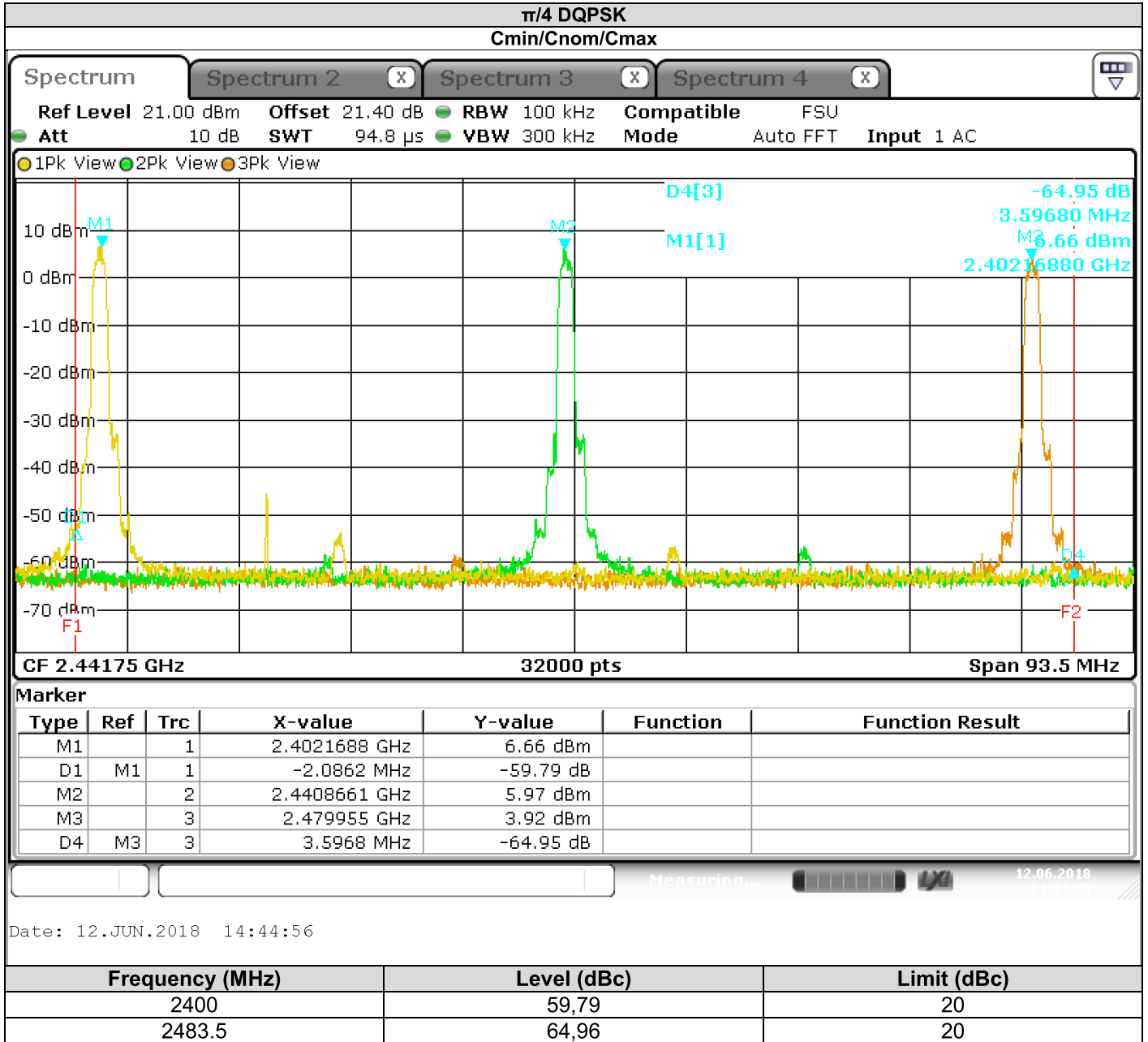


L C I E



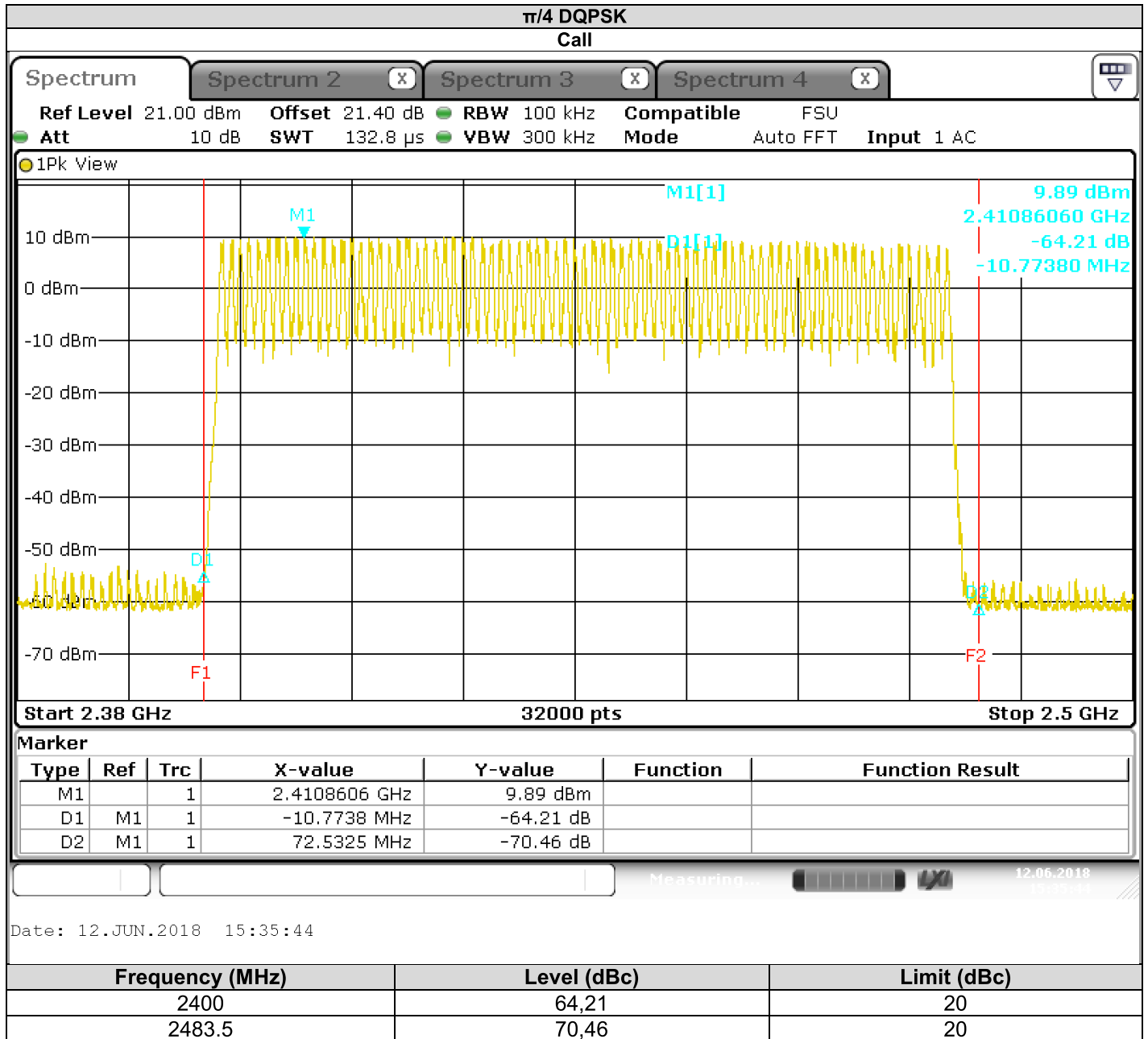


L C I E



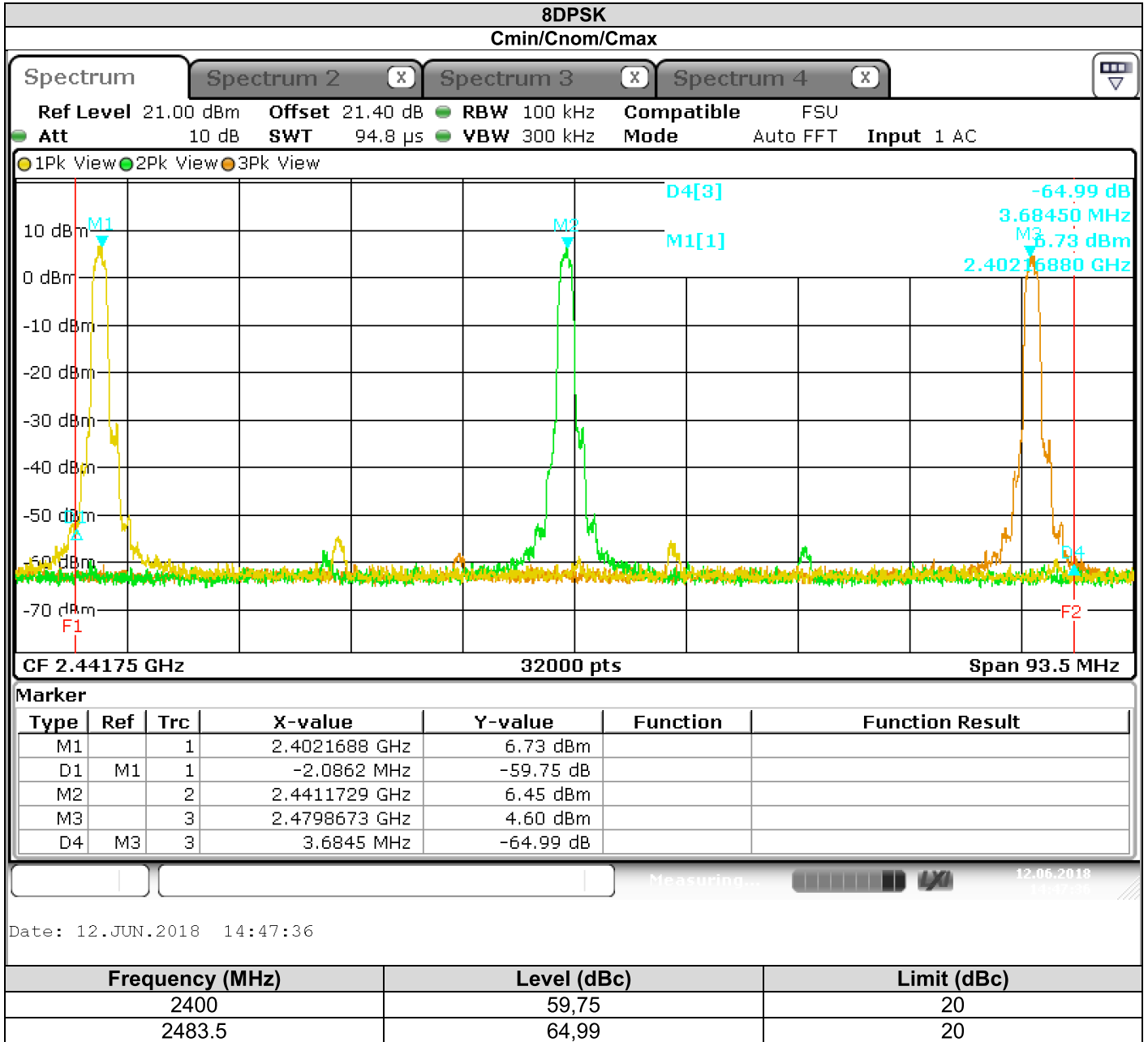


L C I E



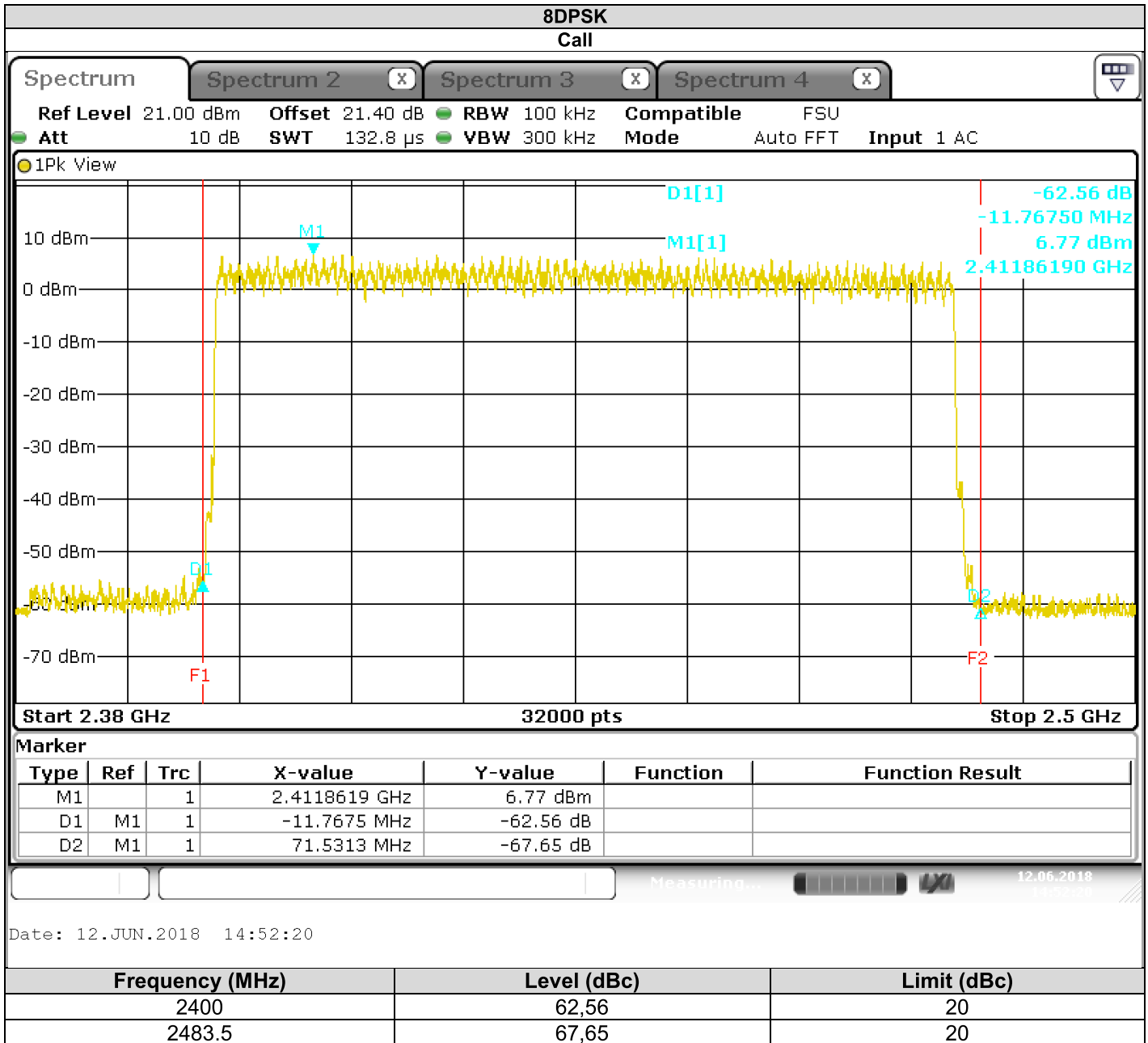


L C I E





L C I E



## 10.6. CONCLUSION

Unwanted Emission into non-restricted frequency bands at the band edge measurement performed on the sample of the product **SAGEMCOM DCIWA384 UHD AIt US V2**, SN: **253764997**, in configuration and description presented in this test report, show levels **compliant** to the **47 CFR PART 15.247** limits.

## 11. UNWANTED EMISSIONS INTO NON-RESTRICTED FREQUENCY BANDS

### 11.1. TEST CONDITIONS

Test performed by : Armand MAHOUNGOU  
Date of test : May 16, 2018  
Ambient temperature : 24 °C  
Relative humidity : 43 %

### 11.2. TEST SETUP

- The Equipment Under Test is installed:

- On a table
- In an anechoic chamber

- Measurement is performed with a spectrum analyzer in:

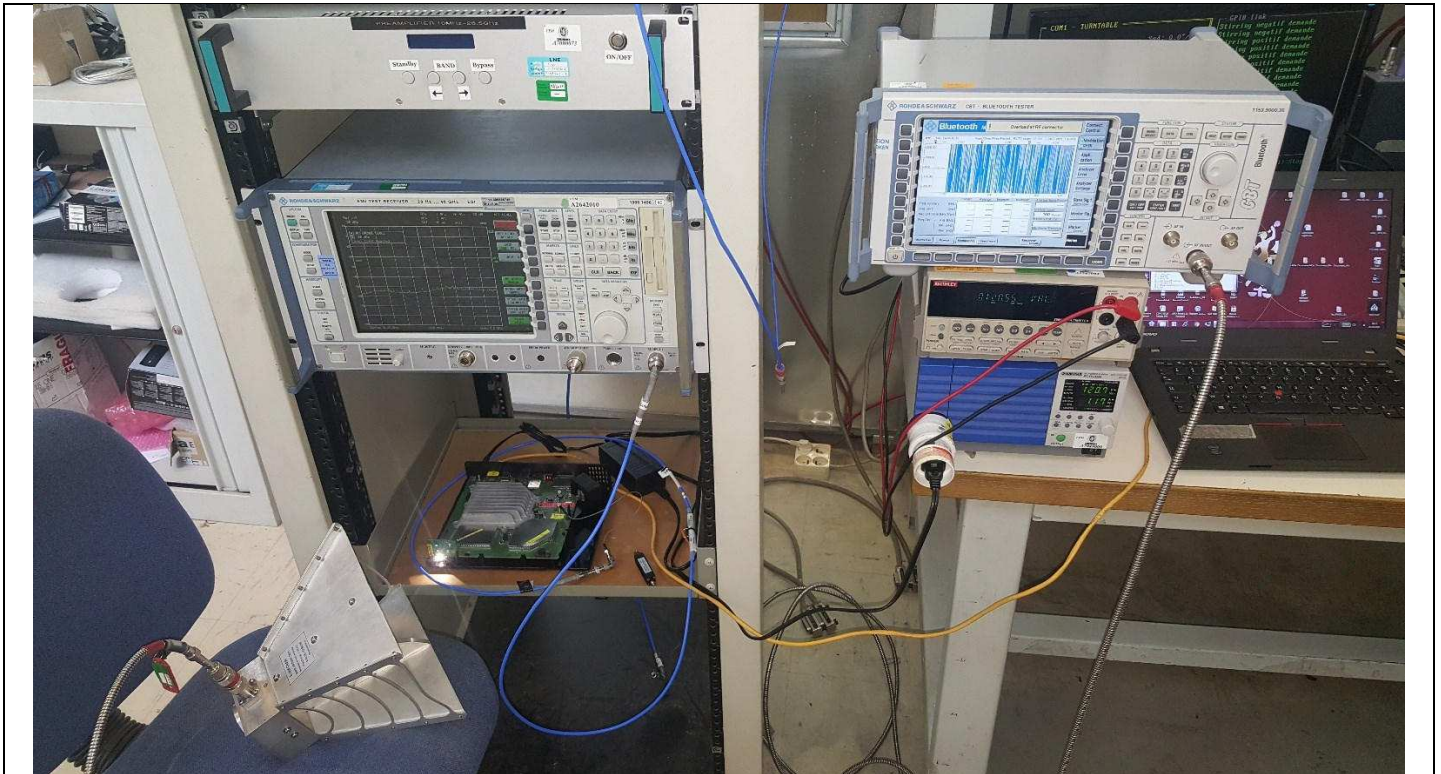
- Conducted Method
- Radiated Method

- Test Procedure:

- ANSI C63.10 § 7.8.8



Photograph for Unwanted Emission into non-restricted frequency bands



Photograph for Unwanted Emission into non-restricted frequency bands

### 11.3. LIMIT

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

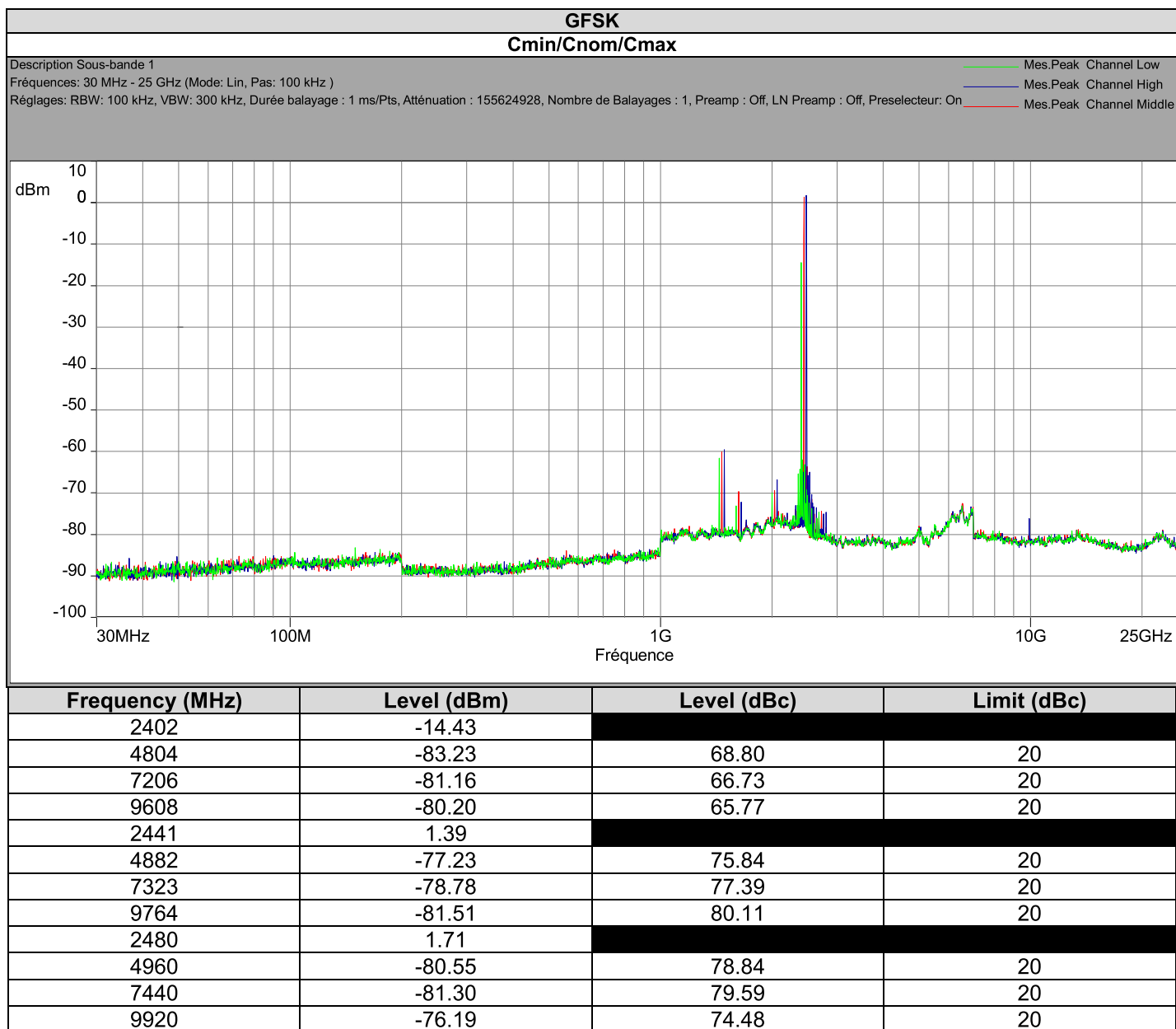
### 11.4. TEST EQUIPMENT LIST

DESCRIPTION	MANUFACTURER	MODEL	N° LCIE	Cal_Date	Cal_Due
EMI receiver	ROHDE & SCHWARZ	ESI40 1088 740K40	A2642010	2017/07	2018/07
cable	Télédyne	084-0555-2MTR	A5329758	2017/10	2018/10
Attenuator 3dB	WEINSCHEL	WA54-3-12	A7122223	2017/10	2018/10
Programmable AC/DC power supply	KIKUSUI	PCR500M	A7040079	Cal with Multi-meter	
Multi-meter	KEITHLEY	2000	A1242090	2016/06	2018/06
Rejector filter 2,4GHz	-	2.45GHz	A7484048	2017/09	2018/09

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



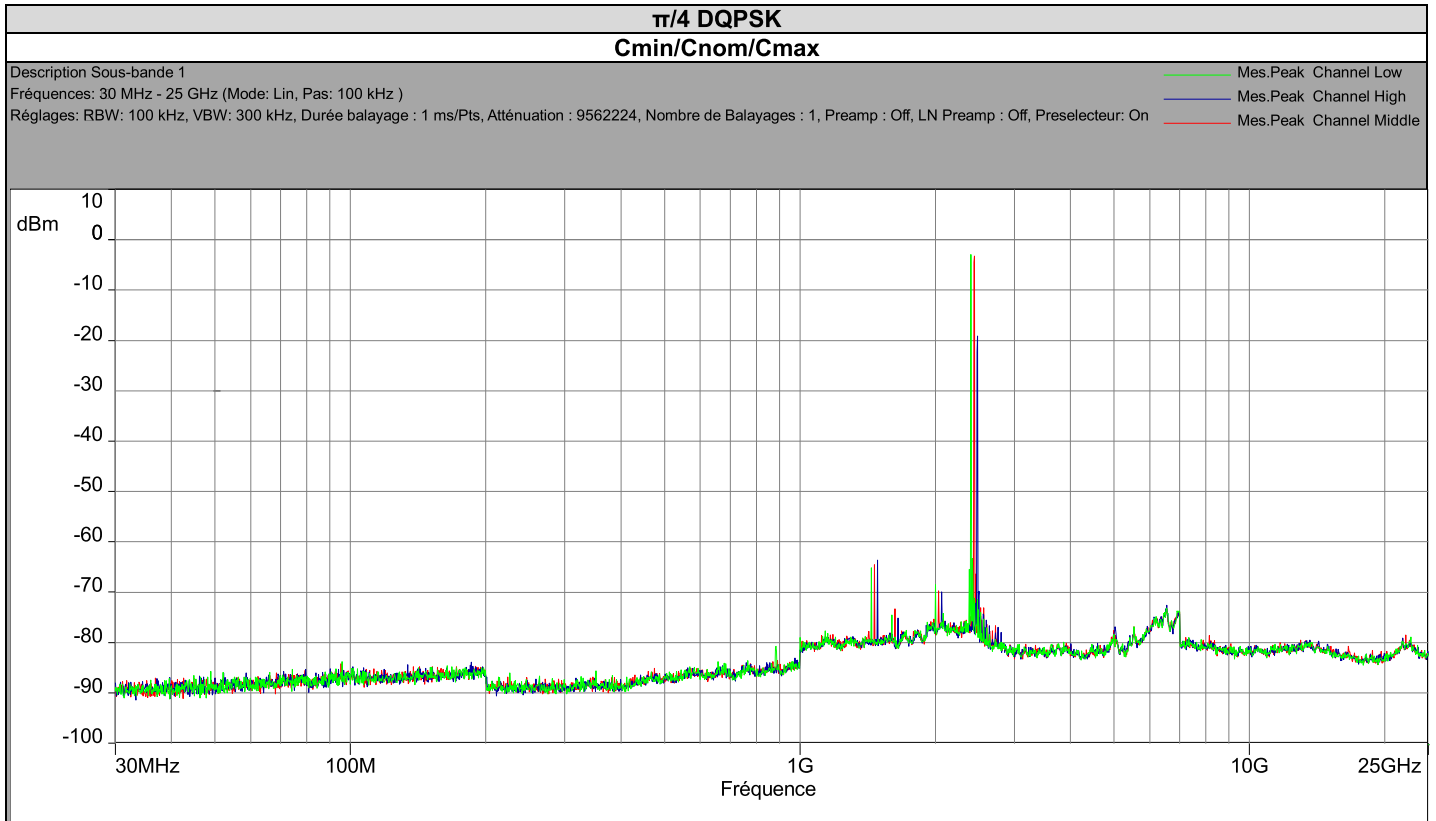
## 11.5. RESULTS







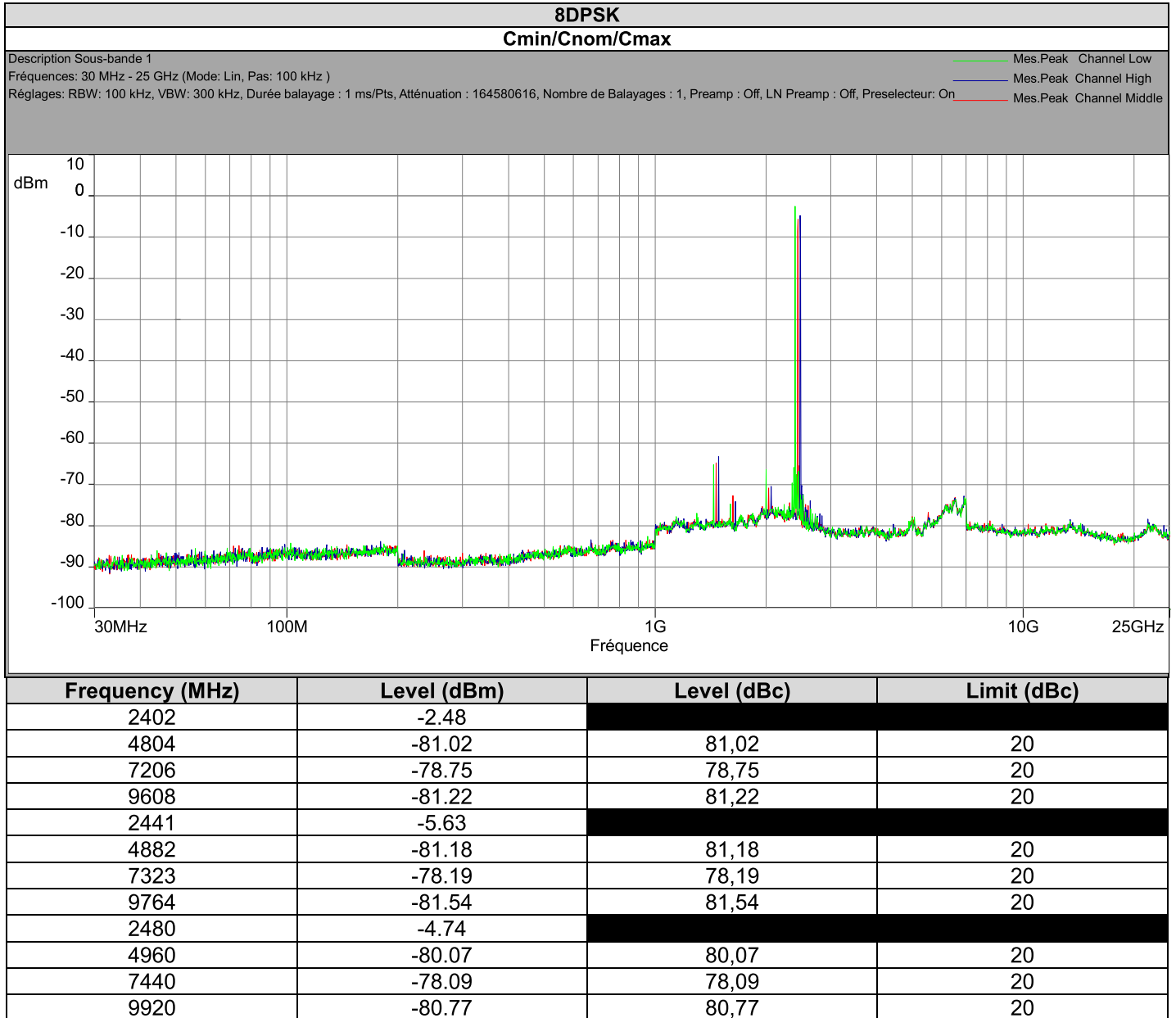
L C I E



Frequency (MHz)	Level (dBm)	Level (dBc)	Limit (dBc)
2402	-2.88		
4804	-80.11	77.23	20
7206	-79.29	76.41	20
9608	-78.98	76.10	20
2441	-3.26		
4882	-80.79	77.53	20
7323	-81.50	78.24	20
9764	-79.99	76.73	20
2480	-19.10		
4960	-79.88	60.78	20
7440	-80.87	61.77	20
9920	-80.70	61.60	20



L C I E



### 11.1. CONCLUSION

Unwanted Emission into non-restricted frequency bands measurement performed on the sample of the product **SAGEMCOM DCIWA384 UHD AIt US V2**, SN: **253764997**, in configuration and description presented in this test report, show levels **compliant** to the **47 CFR PART 15.247** limits.

## 12. AC POWER LINE CONDUCTED EMISSIONS

### 12.1. TEST CONDITIONS

Test performed by : Laurent DENEUX  
Date of test : June 6, 2018  
Ambient temperature : 21 °C  
Relative humidity : 53 %

### 12.2. TEST SETUP

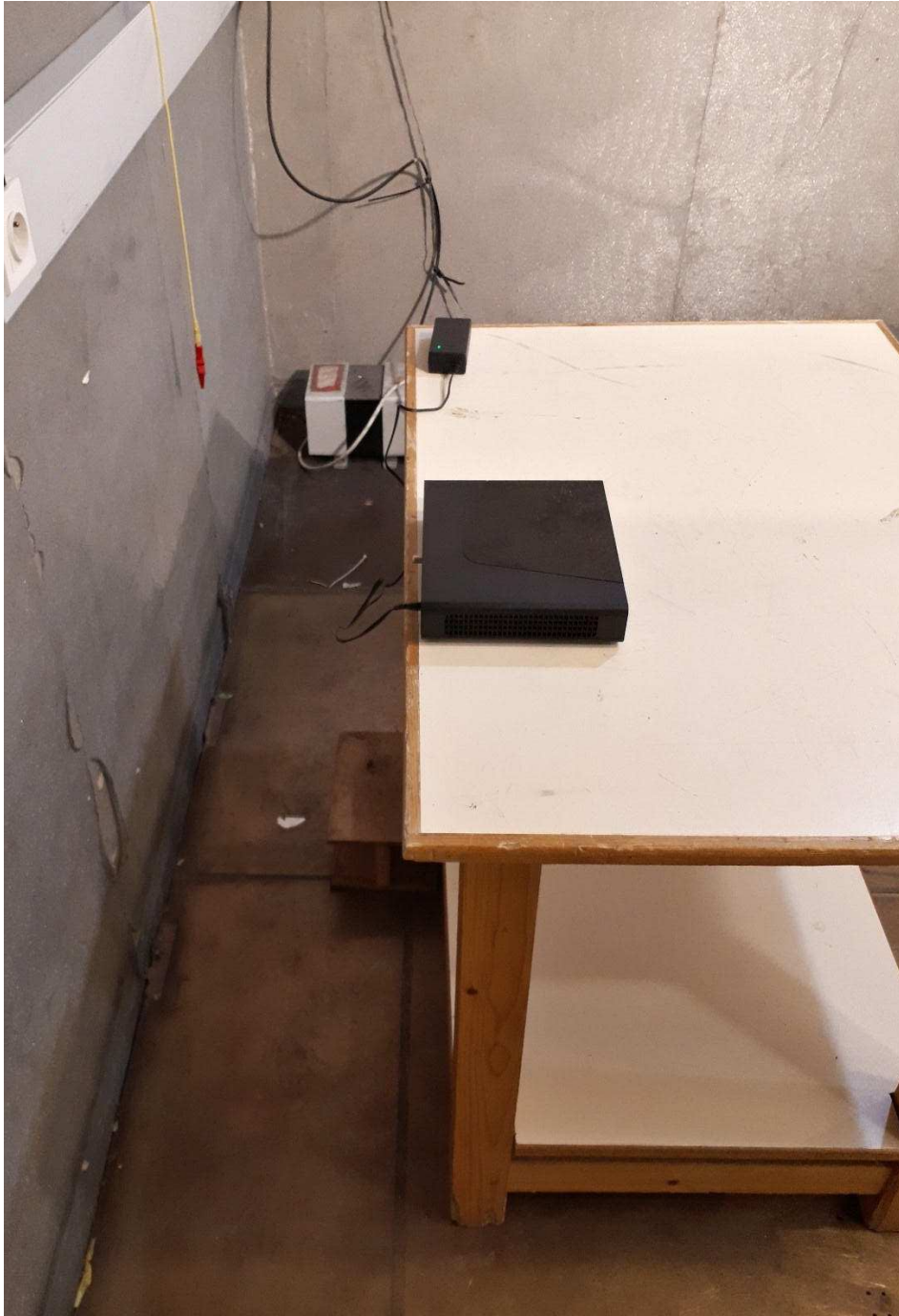
The product has been tested according to ANSI C63.10 (2013) method. The EUT is placed on the ground reference plane, at 80cm from the LISN. The distance between the EUT and the vertical ground plane is 40cm. Auxiliaries are powered by another LISN. The cable has been shorted to 1meter length. The EUT 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 $\mu$ H. Interconnecting cables and equipment's were moved to position that maximized emission.



Photograph for AC Power Line Conducted Emissions (Front view)



L C I E



Photograph for AC Power Line Conducted Emissions (Rear view)

### 12.3. LIMIT

#### Quasi-Peak

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

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

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

#### Average

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

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

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

\*Decreases with the logarithm of the frequency

### 12.4. TEST EQUIPMENT LIST

Test Equipment Used					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Receiver	RHODE & SCHWARZ	ESIB26	A2642021	2015/12	2018/12
V ISLN	ROHDE & SCHWARZ	ESH2-Z5	C2322001	2017/08	2018/08
Pulse limiter	ROHDE & SCHWARZ	ESH3-Z2	A2649008	2017/09	2018/09
Cable	-	-	A5329417	2017/10	2018/10
Cable	-	-	A5329589	2017/08	2018/08
Reference ground plan 2 x 3m	L.C.I.E.	-	-	-	-

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

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

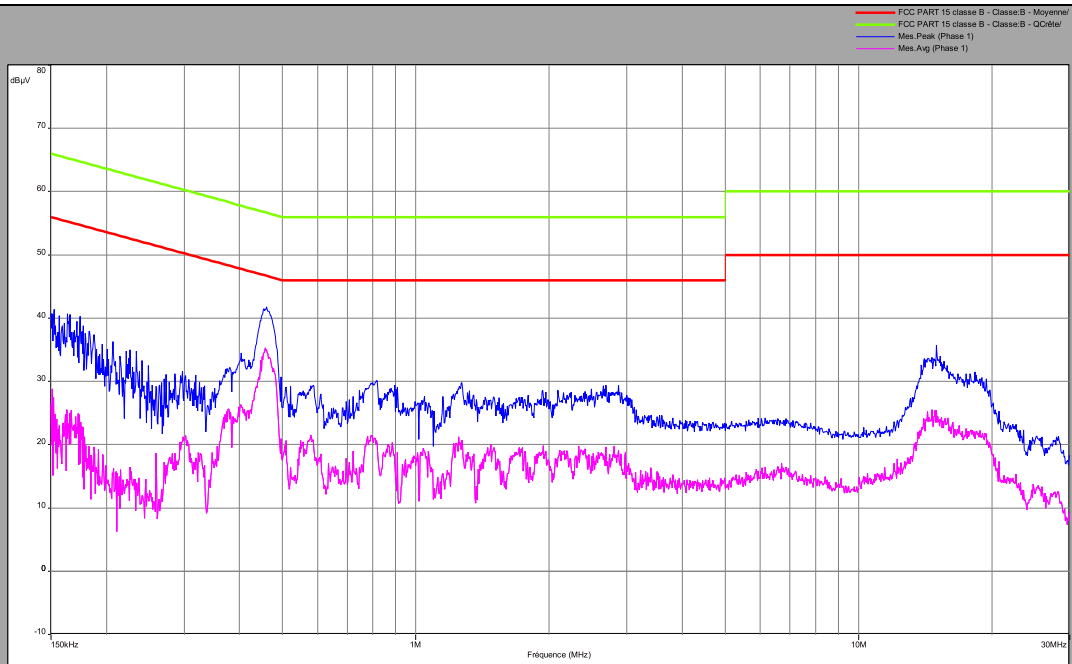
None       Divergence:



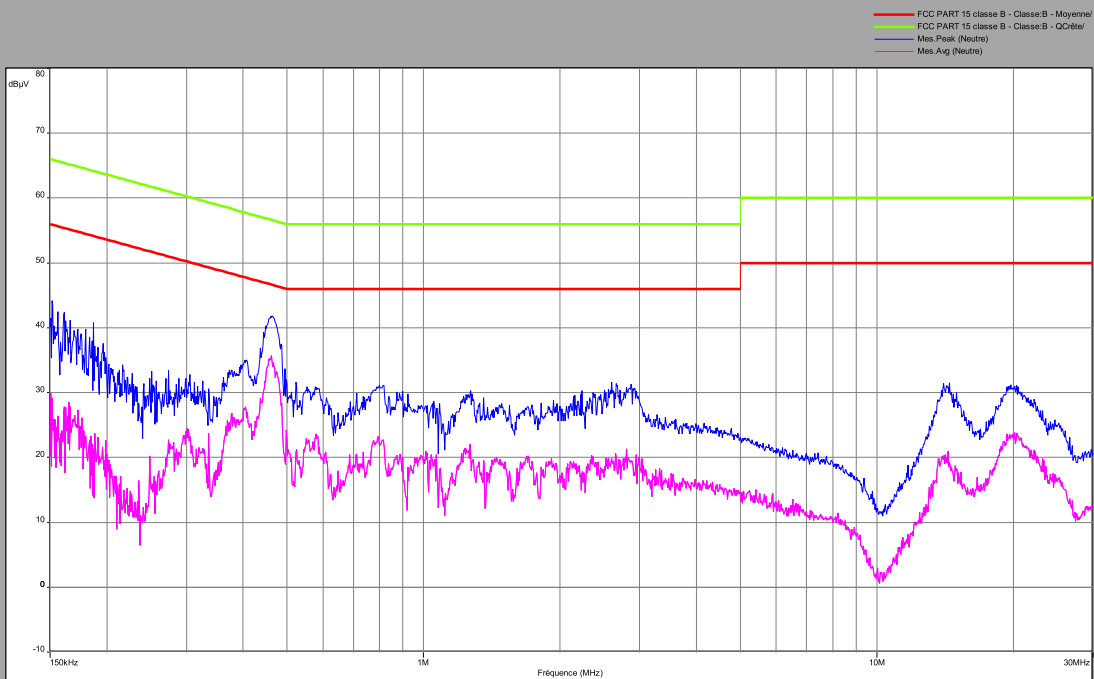
L C I E

## 12.6. RESULTS

### Channel Phase



### Line





L C I E

Phase Line							
Frequency (MHz)	Peak Level (dB $\mu$ V)	Quasi-Peak Level (dB $\mu$ V)	Quasi-Peak Limit (dB $\mu$ V)	Margin Quasi-Peak (dB $\mu$ V)	Average Level (dB $\mu$ V)	Average Limit (dB $\mu$ V)	Margin Average (dB $\mu$ V)
0,152	40,2	-	65,8	25,6	27,6	55,8	28,2
0,457	41,4	-	56,7	15,3	35,3	46,7	11,4
1,268	29,8	-	56	26,2	21,3	46	24,7
2,684	29,4	-	56	26,6	19,6	46	26,4
15	35,6	-	60	24,4	25,4	50	24,6

Neutral Line							
Frequency (MHz)	Peak Level (dB $\mu$ V)	Quasi-Peak Level (dB $\mu$ V)	Quasi-Peak Limit (dB $\mu$ V)	Margin Quasi-Peak (dB $\mu$ V)	Average Level (dB $\mu$ V)	Average Limit (dB $\mu$ V)	Margin Average (dB $\mu$ V)
0,161	42,4	-	65,4	23	27,8	55,4	27,6
0,462	41,4	-	56,6	15,2	35,7	46,6	10,9
2,8	30,8	-	56	25,2	21,4	46	24,6
14	30,5	-	60	29,5	19,5	50	30,5
20,3	31,1	-	60	28,9	23,7	50	26,3

## 12.7. CONCLUSION

Ac Power Line Conducted Emission measurement performed on the sample of the product **SAGEMCOM DCIWA384 UHD AIt US V2**, SN: **253764997**, in configuration and description presented in this test report, show levels **compliant** to the 47 CFR PART 15.247 limits.

## 13. UNWANTED EMISSIONS IN RESTRICTED FREQUENCY BANDS

### 13.1. TEST CONDITIONS

Test performed by : Armand MAHOUNGOU & Laurent DENEUX  
Date of test : May 16, 2018 to June 7, 2018  
Ambient temperature : 20 to 24 °C  
Relative humidity : 43 to 47%

### 13.2. TEST SETUP

The product has been tested according to ANSI C63.10 (2013). The EUT is placed **on an open area test site** below 1GHz and **in a full anechoic chamber** above 1GHz. Distance between measuring antenna and the EUT is **10m** below 1GHz and **3m** above 1GHz and below 30MHz.

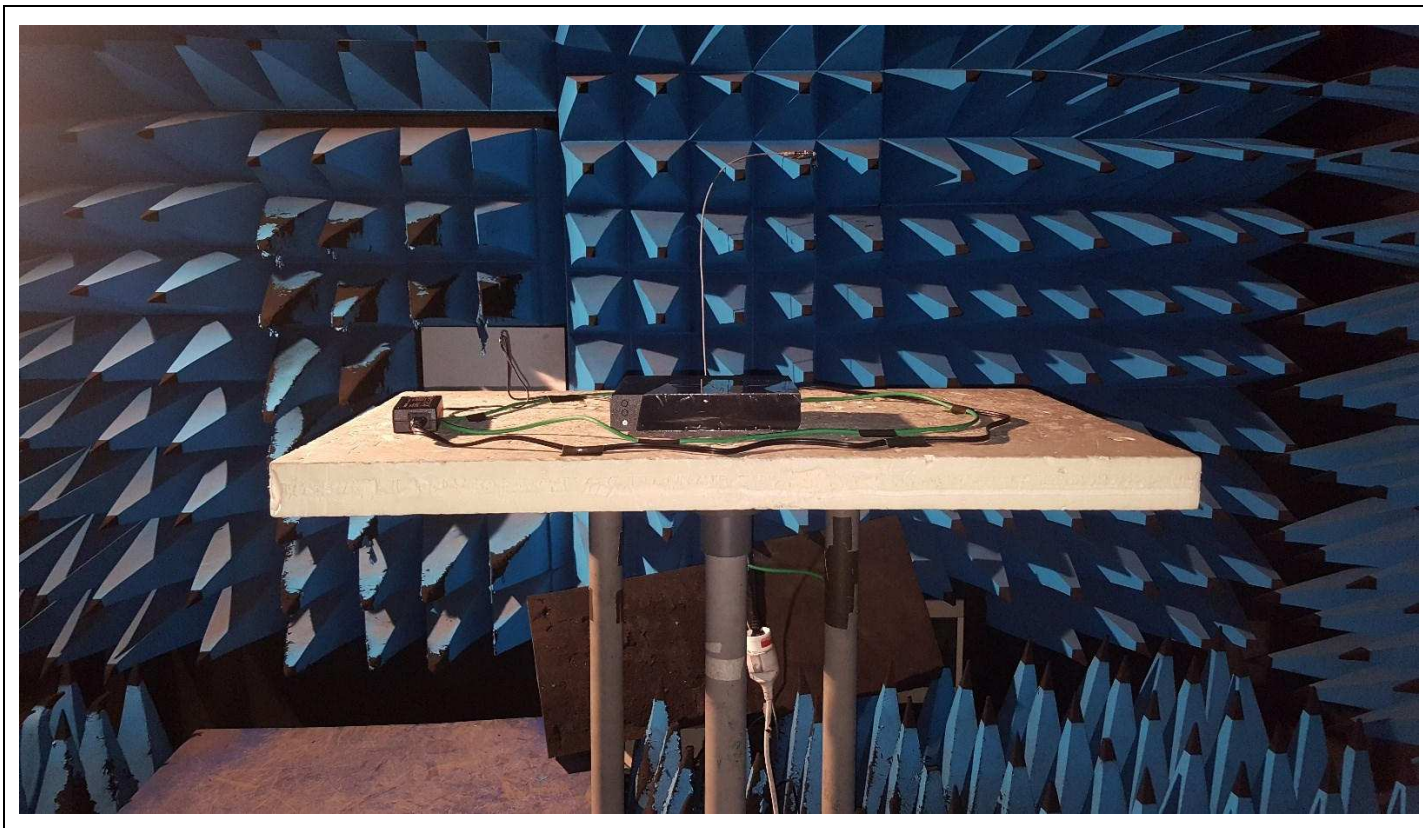
Test is performed in parallel, perpendicular and ground parallel axis with a loop antenna below 30MHz. Measurement bandwidth was 200Hz below 150kHz and 9kHz between 150kHz & 30MHz. The level has been maximised by the turntable rotation of 360 degrees range on the 3 axis of EUT. Antenna height was 1m.

Test is performed in horizontal (H) and vertical (V) polarization with **bilog** antenna below 1GHz and with a horn antenna above 1GHz. Measurement bandwidth was 120kHz below 1GHz and 1MHz above 1GHz. The level has been maximised by the turntable rotation of 360 degrees range on the 3 axis of EUT. Antenna height search was performed from 1 to 4m. The EUT is place at 1.5m high above 1GHz and at 0.8m high under 1GHz.

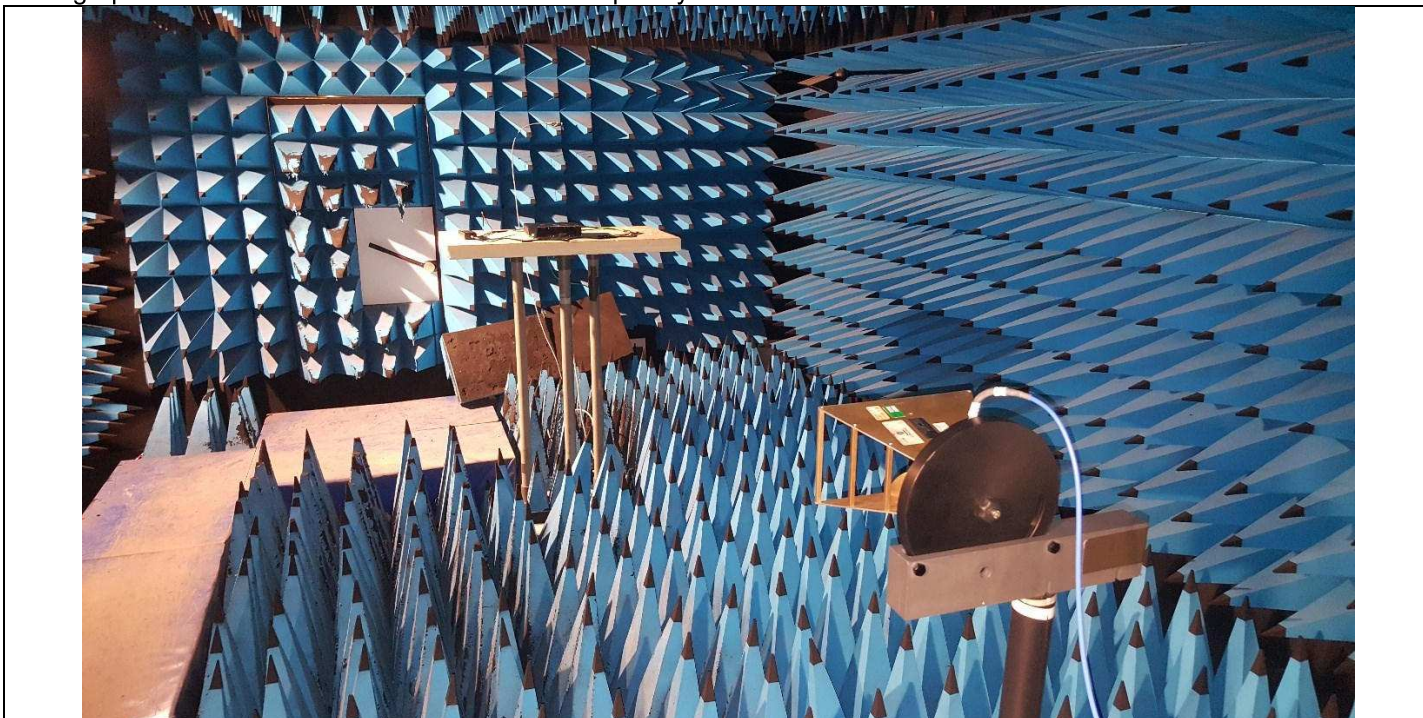


Photograph for Unwanted Emission in restricted frequency bands

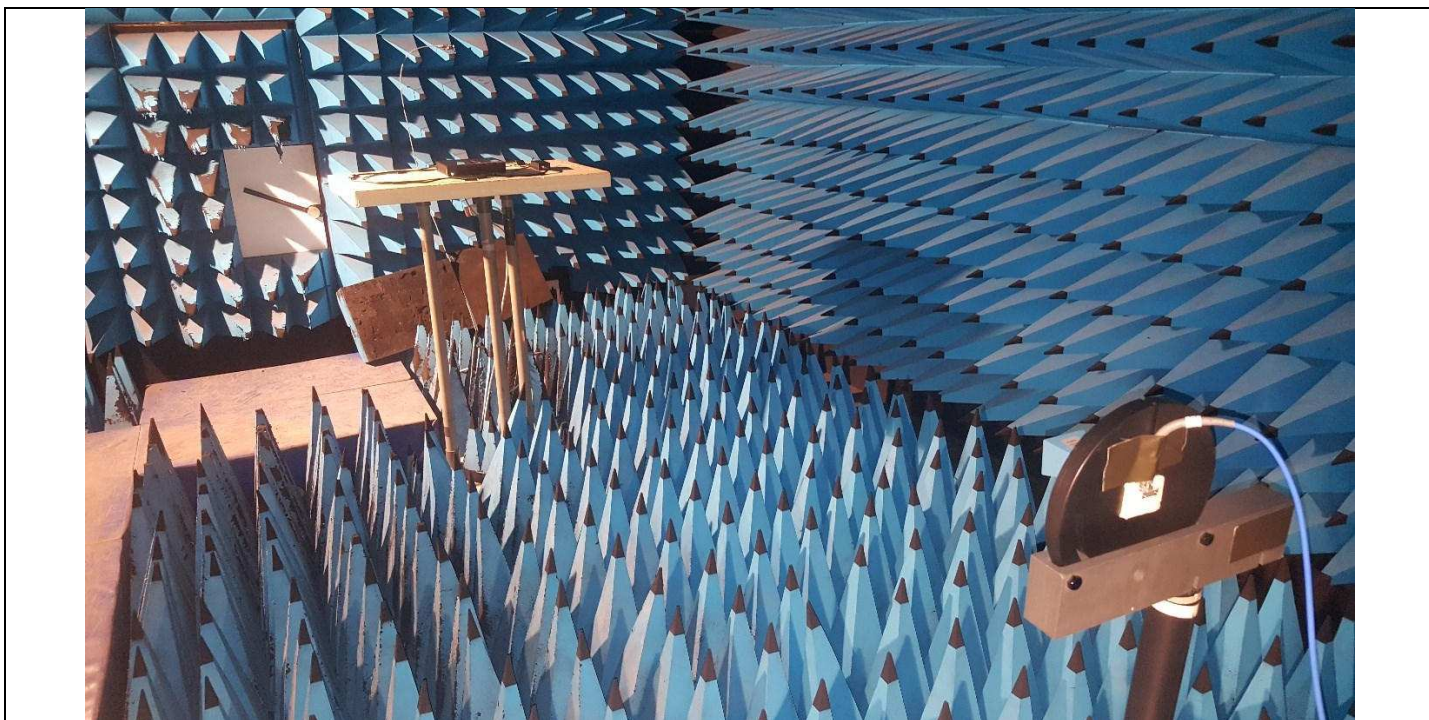




Photograph for Unwanted Emission in restricted frequency bands



Photograph for Unwanted Emission in restricted frequency bands



Photograph for Unwanted Emission in restricted frequency bands

### 13.1. LIMIT

#### Limit at 3m:

9kHz to 0,490MHz:	$2400/F(\text{kHz})\mu\text{V}/\text{m}$ (300m) or $20\log(2400/F(\text{kHz}))\text{dB}\mu\text{V}/\text{m}$ (3m) QPeak
0,490MHz to 1.705MHz:	$240000/F(\text{kHz})\mu\text{V}/\text{m}$ (30m) or $20\log(240000/F(\text{kHz}))\text{dB}\mu\text{V}/\text{m}$ (3m) QPeak
1.705MHz to 30MHz:	$30\mu\text{V}/\text{m}$ (30m) or $\text{dB}\mu\text{V}/\text{m}$ (3m) QPeak
30MHz to 88MHz:	40dB $\mu\text{V}/\text{m}$ QPeak
88MHz to 216MHz:	43,5dB $\mu\text{V}/\text{m}$ QPeak
216MHz to 960MHz:	46dB $\mu\text{V}/\text{m}$ QPeak
960MHz to 1000MHz:	54dB $\mu\text{V}/\text{m}$ QPeak
Above 1000MHz:	74dB $\mu\text{V}/\text{m}$ Peak 54dB $\mu\text{V}/\text{m}$ Average

#### Limit at 10m:

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



LCIE

### 13.2. TEST EQUIPMENT LIST

DESCRIPTION	MANUFACTURER	MODEL	N° LCIE	Cal_Date	Cal_Due
Full anechoic chamber	SIEPEL	-	D3044019	2014/10	2018/10
Open test site	LCIE	-	F2000400	2018/06	2019/06
EMI Test Receiver	ROHDE & SCHWARZ	ESIB 26	A2642021	2016/12	2018/12
Bilog antenna	CHASE	CBL 6112A	C2040040	2018/04	2019/04
Cable	-	-	A5329449	2017/09	2018/09
Cable	-	-	A5329380	2017/09	2018/09
Cable	-	-	A5329444	2017/09	2018/09
Preamplifier	LCIE	LCIE-ALB-001	A7080073	2016/08	2018/08
Horn antenna	AH SYSTEMS	SAS 571	C2042041	2017/09	2018/09
Horn antenna (18-26,5GHz)	PASTERNAK	PE9852/2F-20	C2042048	2017/12	2019/12
Rejector filter 2,4GHz	-	2.45GHz	A7484048	2017/09	2018/09
EMI receiver	ROHDE & SCHWARZ	ESI40 1088 740K40	A2642010	2016/07	2018/07
Cable S36 chamber	TELEDYNE	084-0505-1MTR	A5329757	2018/03	2019/03
Cable S36 chamber	TELEDYNE	084-0555-1.5MTR	A5329759	2018/03	2019/03
Cable S36 chamber	TELEDYNE	084-0555-3MTR	A5329760	2018/03	2019/03
Loop antenna	SCHWARZBECK	FMZB1513	C2040209	2018/03	2020/03

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

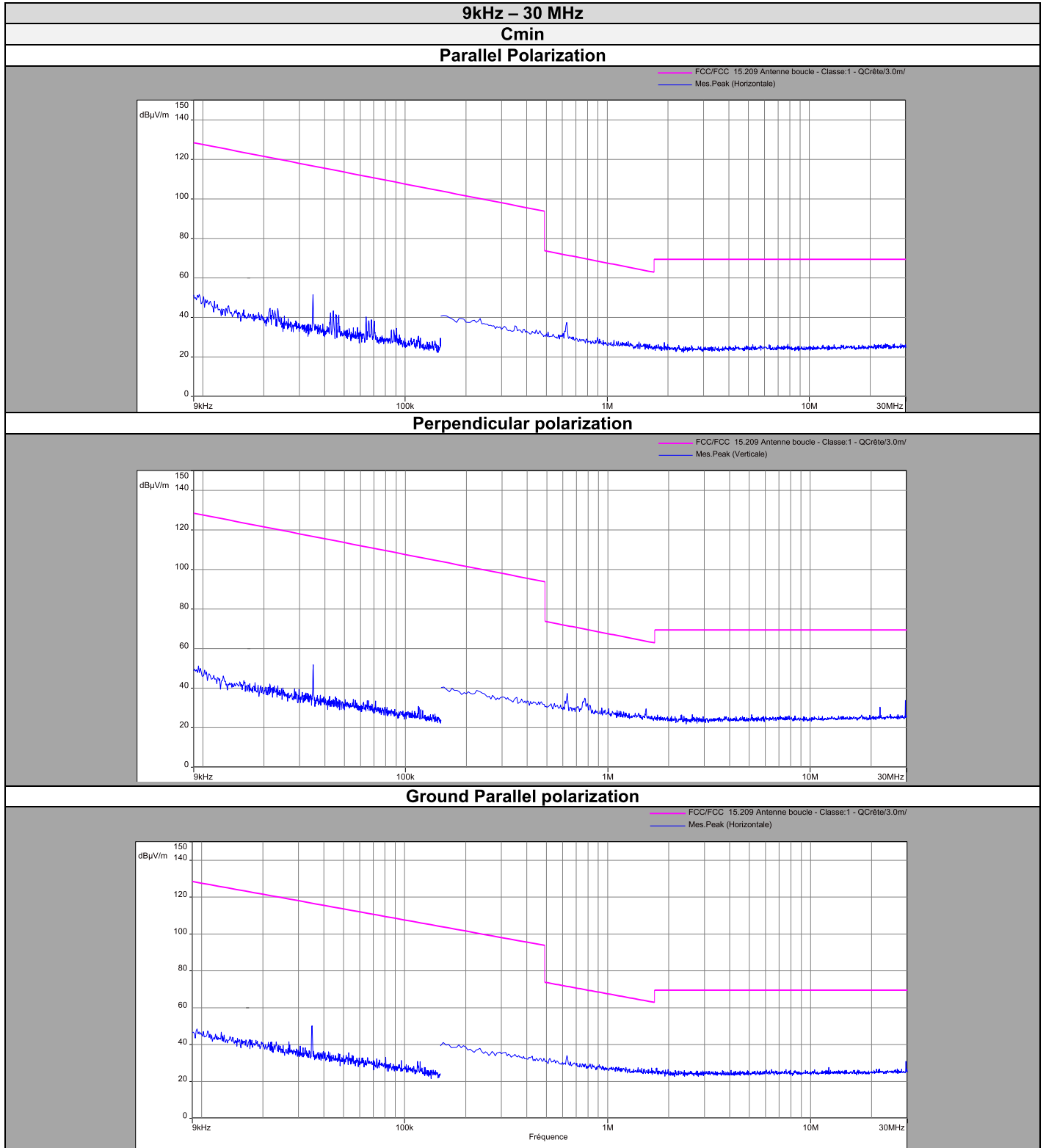
### 13.3. DIVERGENCE, ADDITION OR SUPPRESSION ON THE TEST SPECIFICATION

None       Divergence:



L C I E

## 13.4. RESULTS



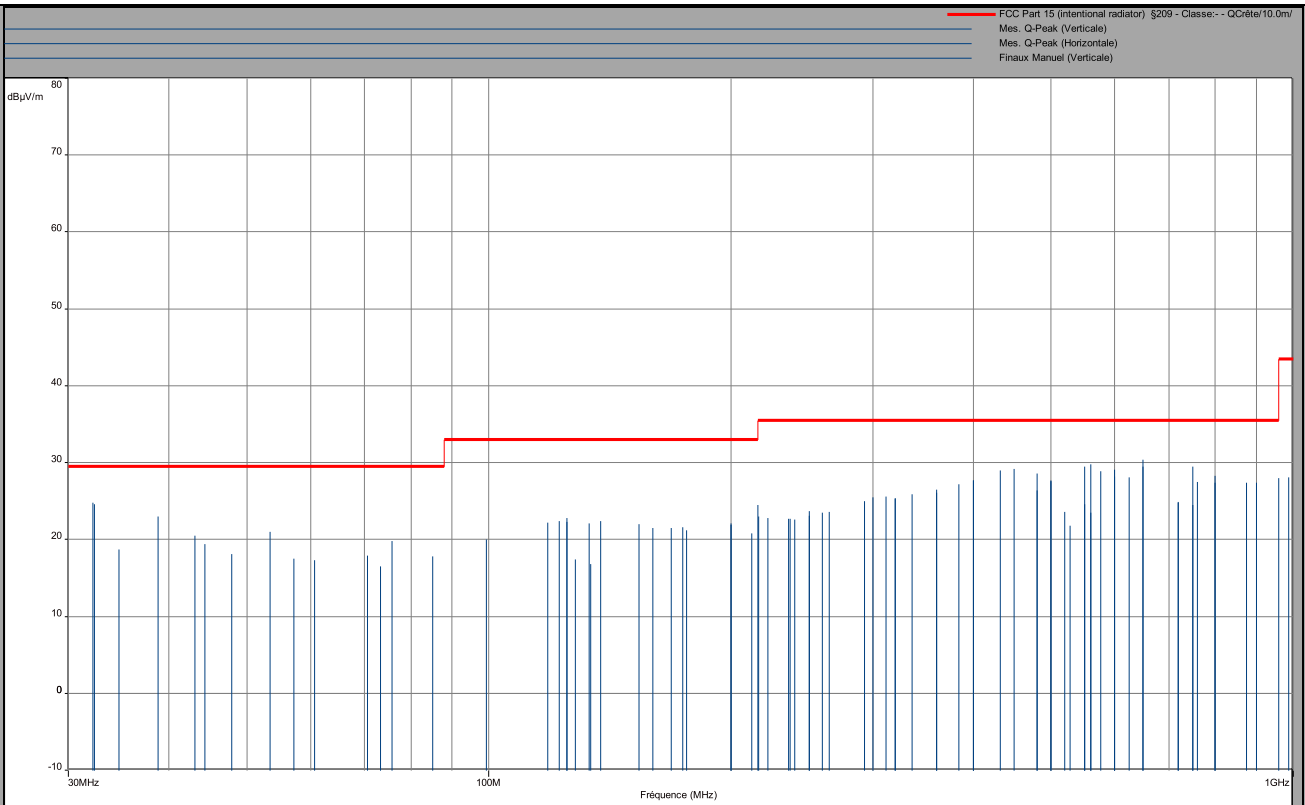


**GFSK**

**Below 1GHz**

**Cmin**

**Vertical & horizontal Polarization**

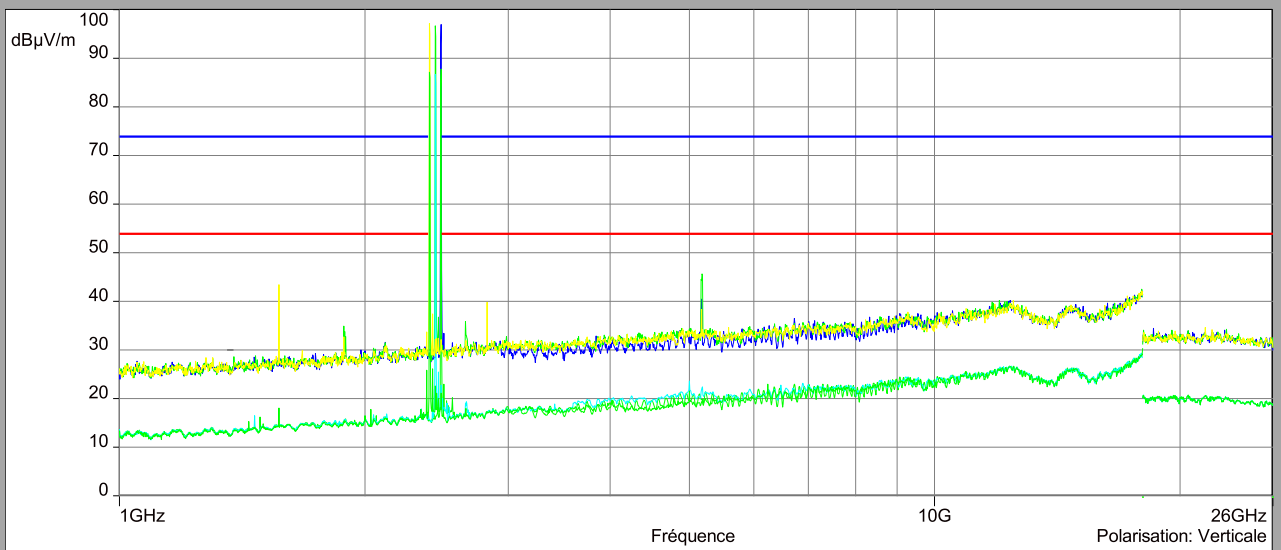




L C I E

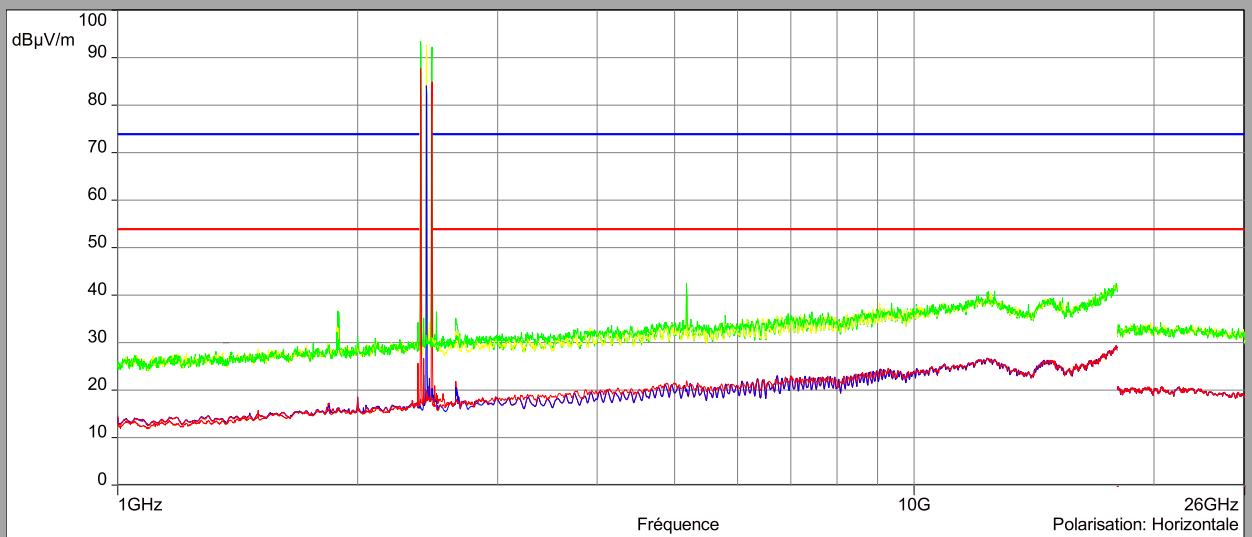
**GFSK**  
**Above 1GHz**  
**Cmin/Cnom/Cmax**  
**Vertical Polarization**

- FCC/FCC 15.209 2400MHz-2483MHz Band - Classe:1 - Moyenne/3.0m/
- FCC/FCC 15.209 2400MHz-2483MHz Band - Classe:1 - Crête/3.0m/
- Mes.Avg Channel Low (Verticale)
- Mes.Peak Channel Low (Verticale)
- Mes.Avg Channel Middle (Verticale)
- Mes.Peak Channel Middle (Verticale)
- Mes.Avg Channel High (Verticale)
- Mes.Peak Channel High (Verticale)



**Horizontal polarization**

- FCC/FCC 15.209 2400MHz-2483MHz Band - Classe:1 - Moyenne/3.0m/
- FCC/FCC 15.209 2400MHz-2483MHz Band - Classe:1 - Crête/3.0m/
- Mes.Avg Channel Low (Horizontale)
- Mes.Peak Channel Low (Horizontale)
- Mes.Avg Channel Middle (Horizontale)
- Mes.Peak Channel Middle (Horizontale)
- Mes.Avg Channel High (Horizontale)
- Mes.Peak Channel High (Horizontale)





L C I E

### GFSK

#### Above 1GHz Zoom 2310MHz-2500MHz

#### Cmin/Cnom/Cmax

#### Vertical Polarization

Description Sous-bande 2

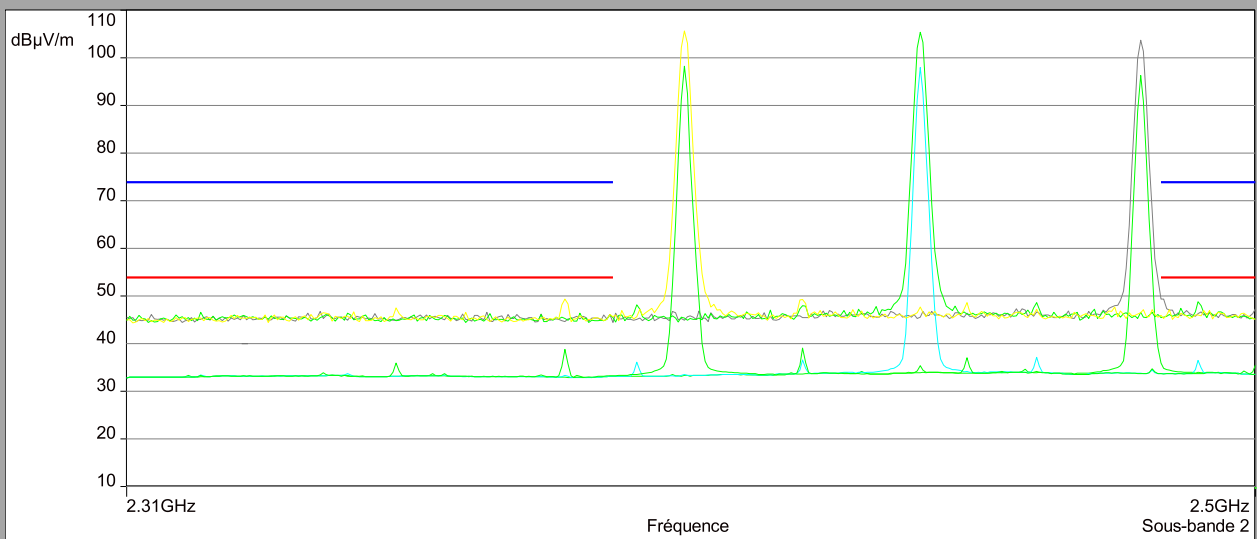
Fréquences: 2.31 GHz - 2.5 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage : 50 ms/Pts, Atténuation : 159620344, Nombre de Balayages : 1, Preamp : On: 20 dB, LN Preamp Off, Preamplifier Off

Polarisation:Verticale

Distance: 3 m

- FCC/FCC 15.209 2400MHz-2483MHz Band - Classe:1 - Moyenne/3.0m/
- FCC/FCC 15.209 2400MHz-2483MHz Band - Classe:1 - Crête/3.0m/
- Mes.Avg Channel Low (Verticale)
- Mes.Avg Channel Middle (Verticale)
- Mes.Peak Channel Low (Verticale)
- Mes.Avg Channel High (Verticale)
- Mes.Peak Channel High (Verticale)



#### Horizontal polarization

Description Sous-bande 1

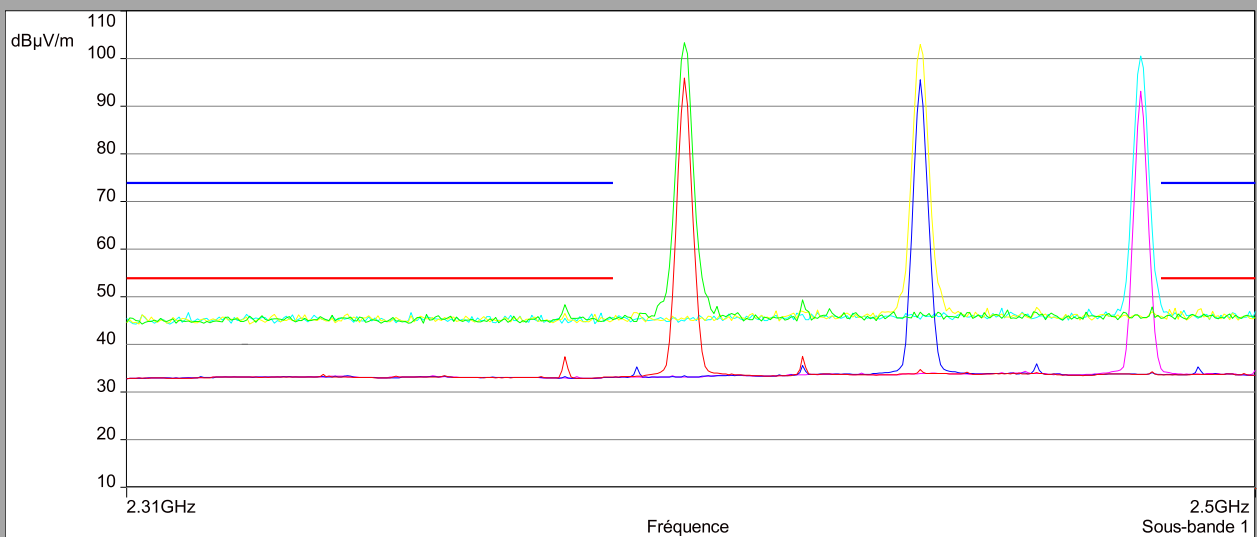
Fréquences: 2.31 GHz - 2.5 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage : 50 ms/Pts, Atténuation : 159620184, Nombre de Balayages : 1, Preamp : On: 20 dB, LN Preamp Off, Preamplifier Off

Polarisation:Horizontale

Distance: 3 m

- FCC/FCC 15.209 2400MHz-2483MHz Band - Classe:1 - Moyenne/3.0m/
- FCC/FCC 15.209 2400MHz-2483MHz Band - Classe:1 - Crête/3.0m/
- Mes.Avg Channel Low (Horizontale)
- Mes.Avg Channel Middle (Horizontale)
- Mes.Peak Channel Low (Horizontale)
- Mes.Avg Channel High (Horizontale)
- Mes.Peak Channel High (Horizontale)

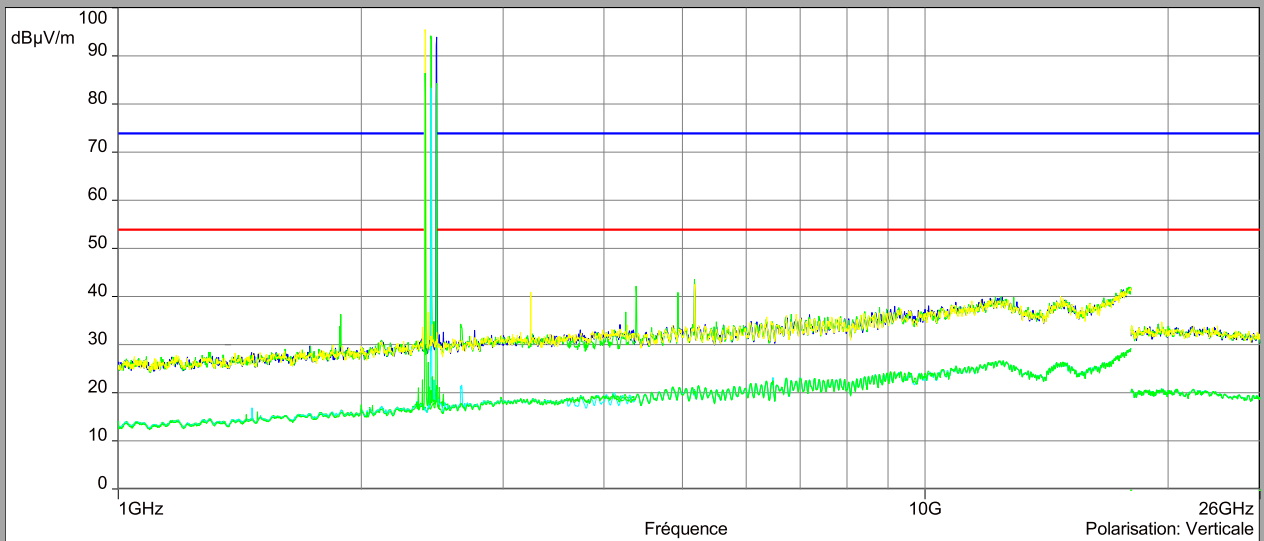




L C I E

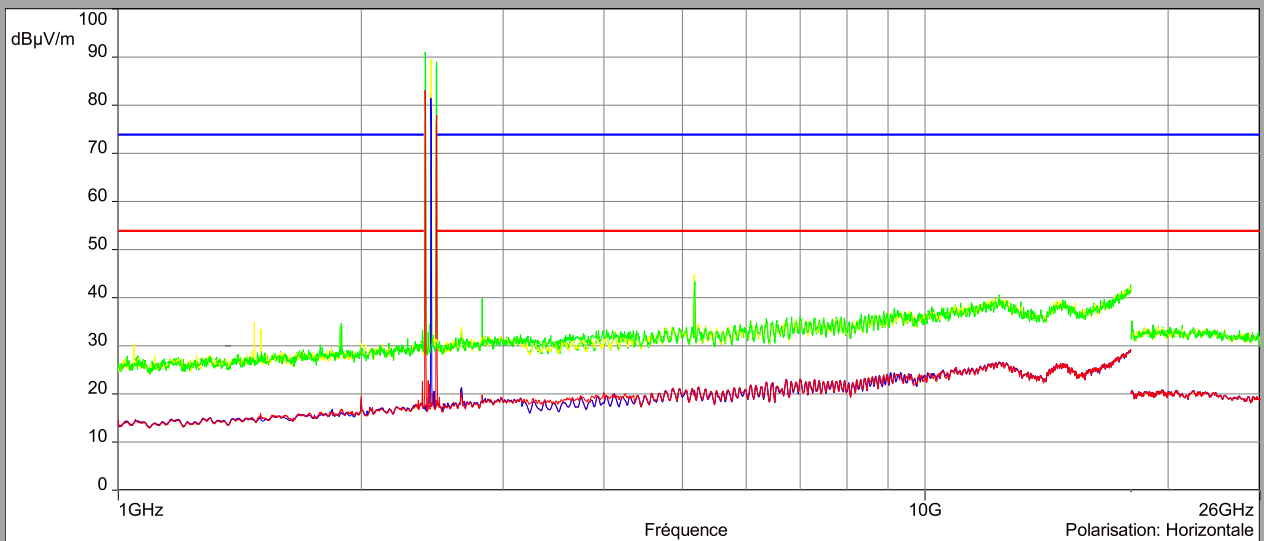
$\pi/4$  DQPSK  
Above 1GHz  
Cmin/Cnom/Cmax  
Vertical Polarization

- FCC/FCC 15.209 2400MHz-2483MHz Band - Classe:1 - Moyenne/3.0m/
- FCC/FCC 15.209 2400MHz-2483MHz Band - Classe:1 - Crête/3.0m/
- Mes.Avg Channel Low (Verticale)
- Mes.Peak Channel Low (Verticale)
- Mes.Avg Channel Middle (Verticale)
- Mes.Peak Channel Middle (Verticale)
- Mes.Avg Channel High (Verticale)
- Mes.Peak Channel High (Verticale)



Horizontal polarization

- FCC/FCC 15.209 2400MHz-2483MHz Band - Classe:1 - Moyenne/3.0m/
- FCC/FCC 15.209 2400MHz-2483MHz Band - Classe:1 - Crête/3.0m/
- Mes.Avg Channel Low (Horizontale)
- Mes.Peak Channel Low (Horizontale)
- Mes.Avg Channel Middle (Horizontale)
- Mes.Peak Channel Middle (Horizontale)
- Mes.Avg Channel High (Horizontale)
- Mes.Peak Channel High (Horizontale)







L C I E

### $\pi/4$ DQPSK

### Above 1GHz Zoom 2310MHz-2500MHz

### Cmin/Cnom/Cmax

### Vertical Polarization

Description Sous-bande 2

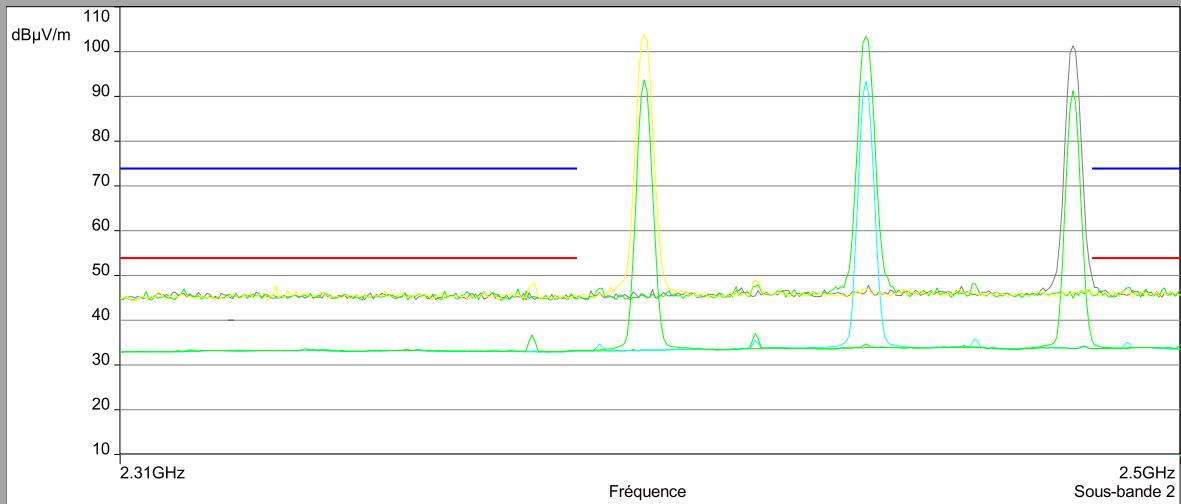
Fréquences: 2.31 GHz - 2.5 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage : 50 ms/Pts, Atténuation : 16097760, Nombre de Balayages : 1, Preamp : On: 20 dB, LN Preamp : Off, Pres

Polarisation: Verticale

Distance: 3 m

- FCC/FCC 15.209 2400MHz-2483MHz Band - Classe:1 - Moyenne/3.0m/
- FCC/FCC 15.209 2400MHz-2483MHz Band - Classe:1 - Crête/3.0m/
- Mes.Avg Channel Low (Verticale)
- Mes.Peak Channel Low (Verticale)
- Mes.Avg Channel Middle (Verticale)
- Mes.Peak Channel Middle (Verticale)
- Mes.Avg Channel High (Verticale)
- Mes.Peak Channel High (Verticale)



### Horizontal polarization

Description Sous-bande 1

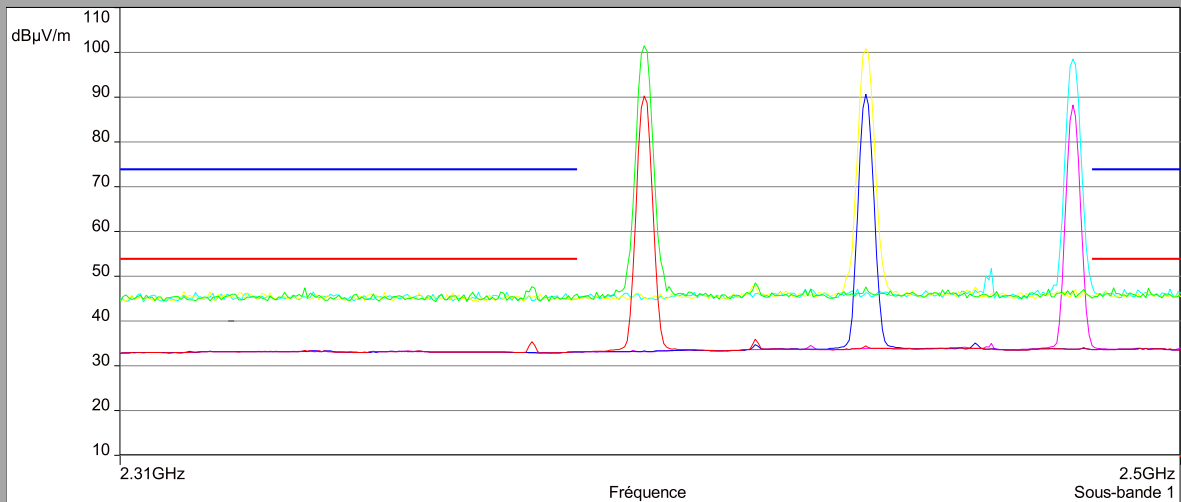
Fréquences: 2.31 GHz - 2.5 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage : 50 ms/Pts, Atténuation : 16097757, Nombre de Balayages : 1, Preamp : On: 20 dB, LN Preamp : Off, Pres

Polarisation: Horizontale

Distance: 3 m

- FCC/FCC 15.209 2400MHz-2483MHz Band - Classe:1 - Moyenne/3.0m/
- FCC/FCC 15.209 2400MHz-2483MHz Band - Classe:1 - Crête/3.0m/
- Mes.Avg Channel Low (Horizontale)
- Mes.Peak Channel Low (Horizontale)
- Mes.Avg Channel Middle (Horizontale)
- Mes.Peak Channel Middle (Horizontale)
- Mes.Avg Channel High (Horizontale)
- Mes.Peak Channel High (Horizontale)





L C I E

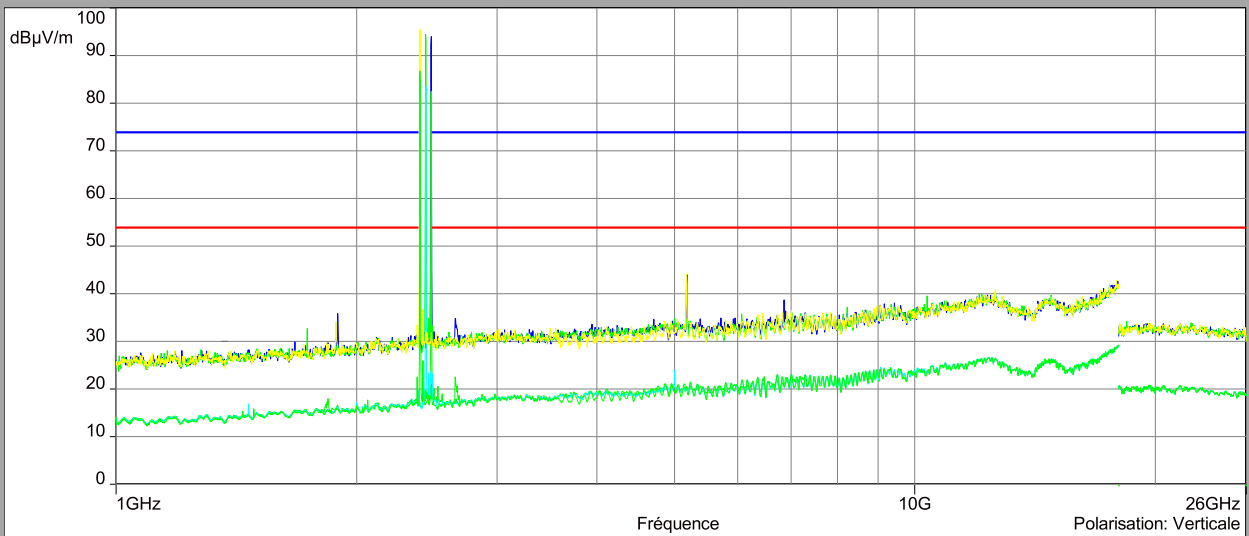
### 8DPSK

Above 1GHz

Cmin/Cnom/Cmax

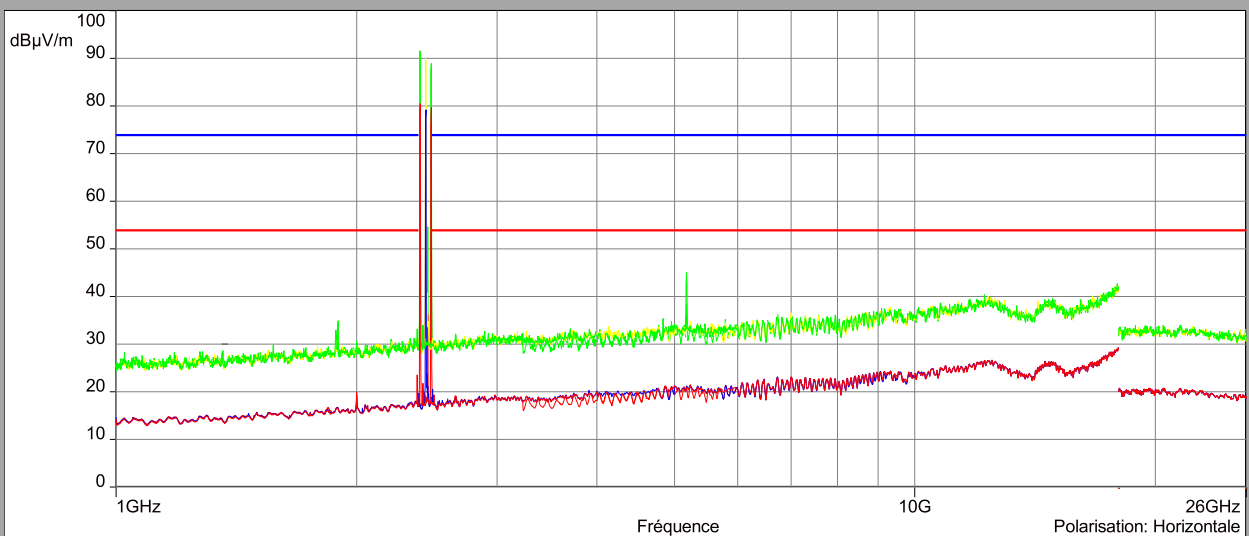
Vertical Polarization

- FCC/FCC 15.209 2400MHz-2483MHz Band - Classe:1 - Moyenne/3.0m/
- FCC/FCC 15.209 2400MHz-2483MHz Band - Classe:1 - Crête/3.0m/
- Mes.Avg Channel Low (Verticale)
- Mes.Peak Channel Low (Verticale)
- Mes.Avg Channel Middle (Verticale)
- Mes.Peak Channel Middle (Verticale)
- Mes.Avg Channel High (Verticale)
- Mes.Peak Channel High (Verticale)



### Horizontal polarization

- FCC/FCC 15.209 2400MHz-2483MHz Band - Classe:1 - Moyenne/3.0m/
- FCC/FCC 15.209 2400MHz-2483MHz Band - Classe:1 - Crête/3.0m/
- Mes.Avg Channel Low (Horizontale)
- Mes.Peak Channel Low (Horizontale)
- Mes.Avg Channel Middle (Horizontale)
- Mes.Peak Channel Middle (Horizontale)
- Mes.Avg Channel High (Horizontale)
- Mes.Peak Channel High (Horizontale)





L C I E

### 8DPSK

### Above 1GHz Zoom 2310MHz-2500MHz

### Cmin/Cnom/Cmax

### Vertical Polarization

Description Sous-bande 2

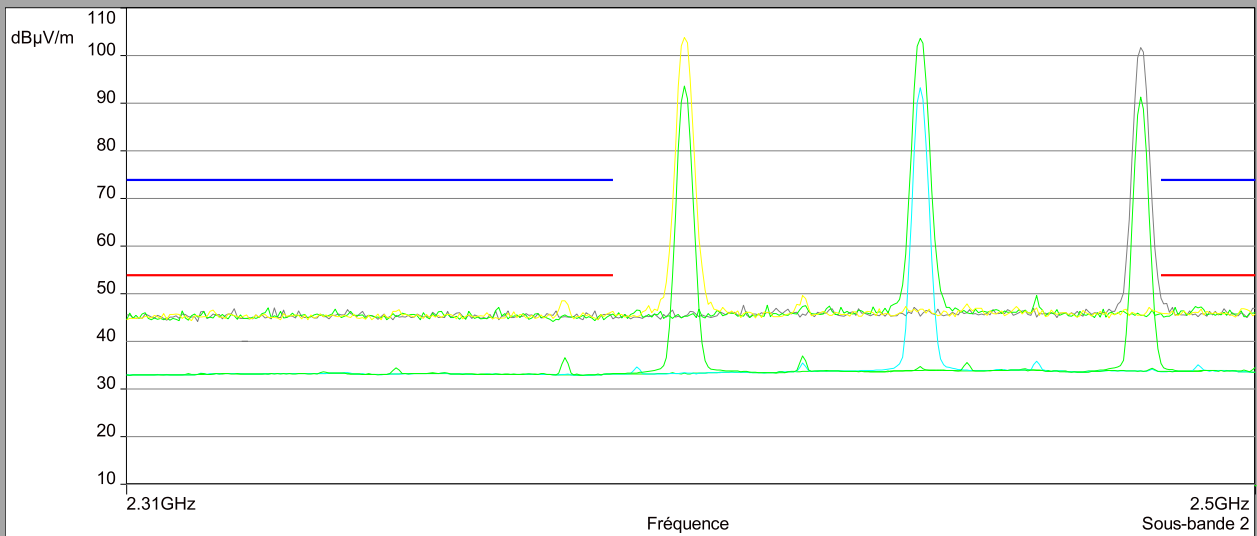
Fréquences: 2.31 GHz - 2.5 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage : 50 ms/Pts, Atténuation : 158761032, Nombre de Balayages : 1, Preamp : On: 20 dB, LN Preamp Off, Preselector Off

Polarisation: Verticale

Distance: 3 m

- FCC/FCC 15.209 2400MHz-2483MHz Band - Classe:1 - Moyenne/3.0m/
- FCC/FCC 15.209 2400MHz-2483MHz Band - Classe:1 - Crête/3.0m/
- Mes. Peak Channel Low (Verticale)
- Mes. Avg Channel Middle (Verticale)
- Mes. Peak Channel Middle (Verticale)
- Mes. Avg Channel High (Verticale)
- Mes. Peak Channel High (Verticale)



### Horizontal polarization

Description Sous-bande 1

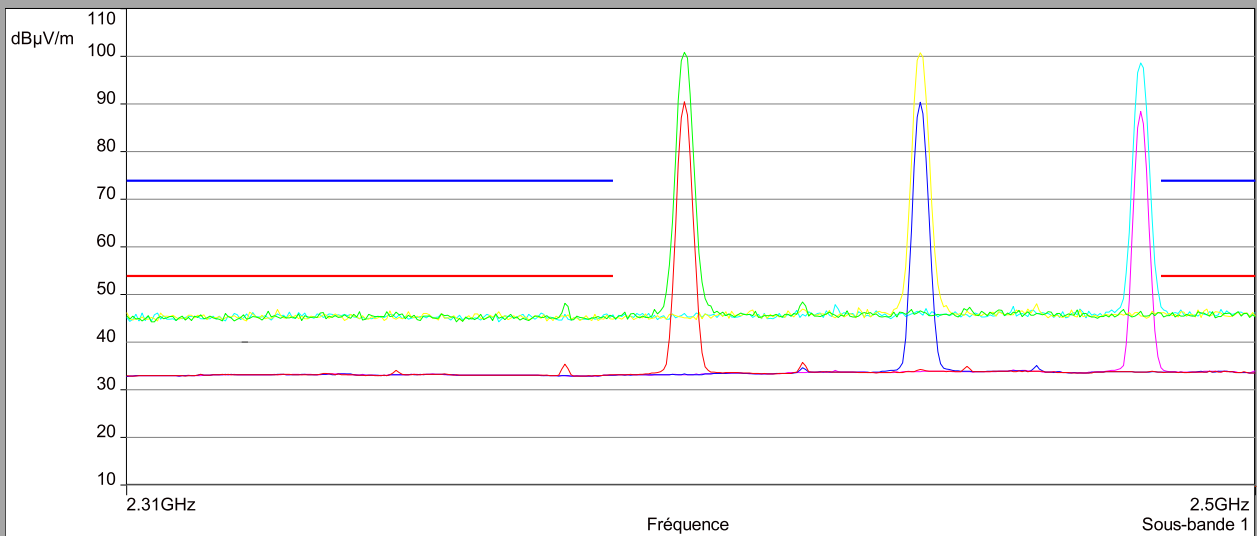
Fréquences: 2.31 GHz - 2.5 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage : 50 ms/Pts, Atténuation : 158760648, Nombre de Balayages : 1, Preamp : On: 20 dB, LN Preamp Off, Preselector Off

Polarisation: Horizontale

Distance: 3 m

- FCC/FCC 15.209 2400MHz-2483MHz Band - Classe:1 - Moyenne/3.0m/
- FCC/FCC 15.209 2400MHz-2483MHz Band - Classe:1 - Crête/3.0m/
- Mes. Peak Channel Low (Horizontale)
- Mes. Avg Channel Middle (Horizontale)
- Mes. Peak Channel Middle (Horizontale)
- Mes. Avg Channel High (Horizontale)
- Mes. Peak Channel High (Horizontale)





L C I E

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

30MHz-1GHz					
Polarization	Frequency (MHz)	Peak Level (dB $\mu$ V/m)	QPeak Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB $\mu$ V/m)
Vertical	32.2	-	24.78	29.5	4.72
Vertical	216	-	24.55	33	8.45
Vertical	384	-	27.18	35.5	8.32
Vertical	560	-	29.8	35.5	5.7
Vertical	650	-	30.42	35.5	5.08
Vertical	750	-	29.5	35.5	6

GFSK								
Above 1GHz								
Cmin/Cnom/Cmax								
Polarization	Frequency (MHz)	Average Level (dB $\mu$ V/m)	Average Level + Duty Cycle Factor (dB $\mu$ V/m)	Average Limit (dB $\mu$ V/m)	Average Margin Level (dB $\mu$ V/m)	Peak Level (dB $\mu$ V/m)	Peak Limit (dB $\mu$ V/m)	Peak Margin Level (dB $\mu$ V/m)
Verticale	1569	18.20	24.20	54	35.80	43.44	74	30.56
Horizontale	1890	17.35	24.01	54	36.65	36.70	74	37.30
Verticale	2380	25.88	32.54	54	28.12	33.70	74	40.30
Horizontale	2380	25.74	32.40	54	28.26	34.22	74	39.78
Horizontale	2390	16.68	23.34	54	37.32	27.60	74	46.40
Verticale	2390	16.43	23.14	54	37.57	27.86	74	46.14
Horizontale	2483.5	18.98	25.64	54	35.02	37.20	74	36.80
Verticale	2483.5	20.85	27.51	54	26.49	41.98	74	32.02
Verticale	2495	18.22	24.88	54	29.12	30.20	74	43.80
Horizontale	2513.5	20.80	27.46	54	33.80	36.48	74	37.52
Horizontale	2659	21.90	28.56	54	32.10	35.80	74	38.20
Verticale	2824.5	18.10	24.76	54	35.90	39.80	74	34.20
Horizontale	5181	22.22	28.88	54	31.78	42.38	74	31.62
Verticale	5183	22.45	29.11	54	31.55	45.70	74	28.30



L C I E

<b><math>\pi/4</math> DQPSK</b>								
<b>Above 1GHz</b>								
<b>Cmin/Cnom/Cmax</b>								
<b>Polarization</b>	<b>Frequency (MHz)</b>	<b>Average Level (dB<math>\mu</math>V/m)</b>	<b>Average Level + Duty Cycle Factor (dB<math>\mu</math>V/m)</b>	<b>Average Limit (dB<math>\mu</math>V/m)</b>	<b>Average Margin Level (dB<math>\mu</math>V/m)</b>	<b>Peak Level (dB<math>\mu</math>V/m)</b>	<b>Peak Limit (dB<math>\mu</math>V/m)</b>	<b>Peak Margin Level (dB<math>\mu</math>V/m)</b>
Horizontale	1045	15.25	21.91	54	38.75	30.44	74	43.56
Horizontale	1474	15.15	21.81	54	38.85	34.95	74	39.05
Horizontale	1502	15.90	22.56	54	38.10	33.40	74	40.60
Verticale	1887	16.60	23.26	54	37.40	36.32	74	37.68
Horizontale	1890	17.10	23.76	54	36.10	36.74	74	37.26
Verticale	2382	36.26	42.92	54	17.74	48.30	74	25.70
Horizontale	2382	35.10	41.76	54	18.90	47.89	74	26.11
Horizontale	2390	33.39	40.05	54	20.61	45.70	74	28.30
Verticale	2390	32.06	38.72	54	21.94	45.03	74	28.97
Horizontale	2483.5	34.77	41.43	54	19.23	46.11	74	27.89
Verticale	2483.5	34.17	40.83	54	19.83	48.20	74	25.80
Verticale	2495	35.18	41.84	54	18.82	47.40	74	26.60
Horizontale	2663	21.35	28.01	54	32.65	33.90	74	40.10
Horizontale	2825	20.05	26.71	54	33.95	39.77	74	34.23
Verticale	3245	18.86	25.52	54	35.14	40.80	74	33.20
Verticale	4253	20.10	26.76	54	33.90	36.85	74	37.15
Verticale	4381	19.99	26.65	54	34.01	42.20	74	31.80
Verticale	4937	21.40	28.06	54	32.60	40.88	74	33.12
Horizontale	5174	21.60	28.26	54	32.40	44.87	74	29.13
Verticale	5181	22.10	28.76	54	31.90	43.55	74	30.45



8DPSK								
Above 1GHz								
Cmin/Cnom/Cmax								
Polarization	Frequency (MHz)	Average Level (dBµV/m)	Average Level + Duty Cycle Factor (dBµV/m)	Average Limit (dBµV/m)	Average Margin Level (dBµV/m)	Peak Level (dBµV/m)	Peak Limit (dBµV/m)	Peak Margin Level (dBµV/m)
Horizontale	1897	16.86	23.51	54	37.14	34.93	74	39.07
Verticale	2385	20.50	27.15	54	33.50	33.87	74	40.50
Horizontale	2390	17.06	23.71	54	36.94	30.15	74	43.85
Verticale	2390	18.44	25.09	54	35.46	28.30	74	45.70
Horizontale	2483.5	19.24	25.89	54	34.76	35.30	74	38.50
Verticale	2483.5	21.05	27.70	54	32.94	37.60	74	36.40
Horizontale	2486	20.11	26.76	54	33.89	33.15	74	40.50
Verticale	2486	18.99	25.64	54	35.01	32.85	74	41.15
Verticale	2659	22.54	29.19	54	31.46	34.77	74	39.23
Horizontale	5178	21.66	28.31	54	32.34	45.04	74	28.96
Verticale	6857	22.25	28.90	54	31.75	38.75	74	35.25

### 13.5. CONCLUSION

Unwanted Emission in restricted frequency bands measurement performed on the sample of the product **SAGEMCOM DCIWA384 UHD Alt US V2**, SN: **253764997**, in configuration and description presented in this test report, show levels **compliant** to the 47 CFR PART 15.247 limits.

## 14. UNCERTAINTIES CHART

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

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