

## 9. MAXIMUM CONDUCTED OUTPUT POWER

### 9.1. TEST CONDITIONS

Test performed by : Armand MAHOUNGOU  
Date of test : January 29, 2018  
Ambient temperature : 26 °C  
Relative humidity : 42 %

### 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:

- FCC DA 00-705 (Peak Output Power)
- ANSI C63.10 § 7.8.5



Photograph for Maximum Conducted Output Power



### 9.3. LIMIT

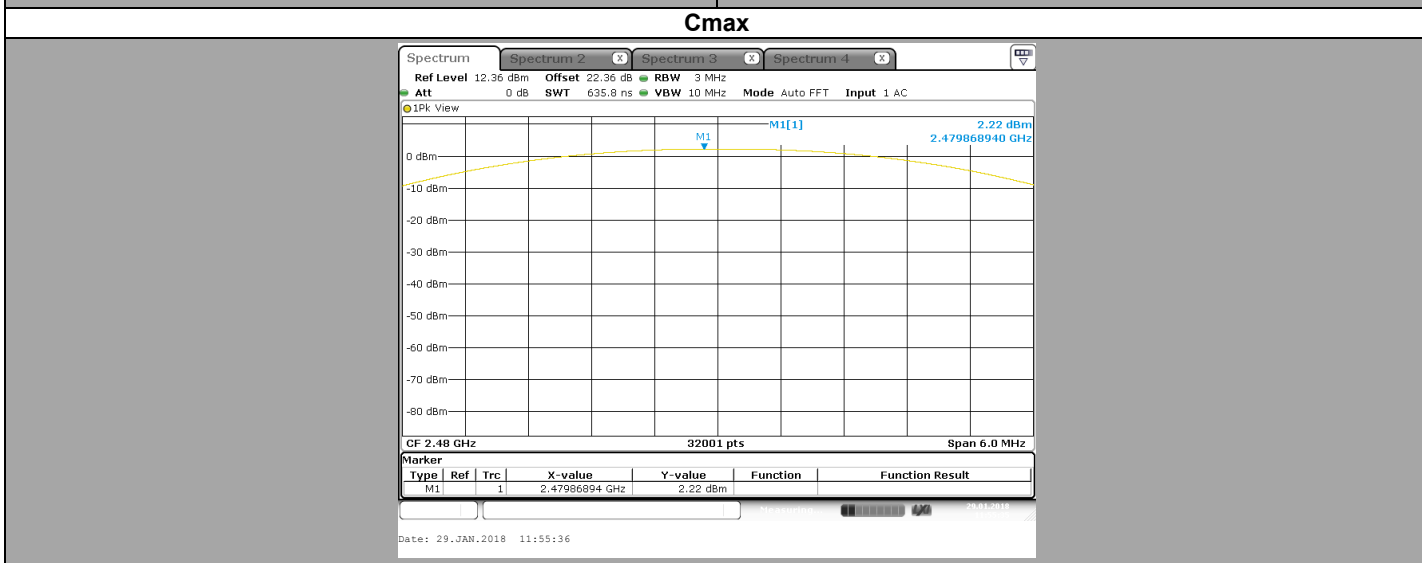
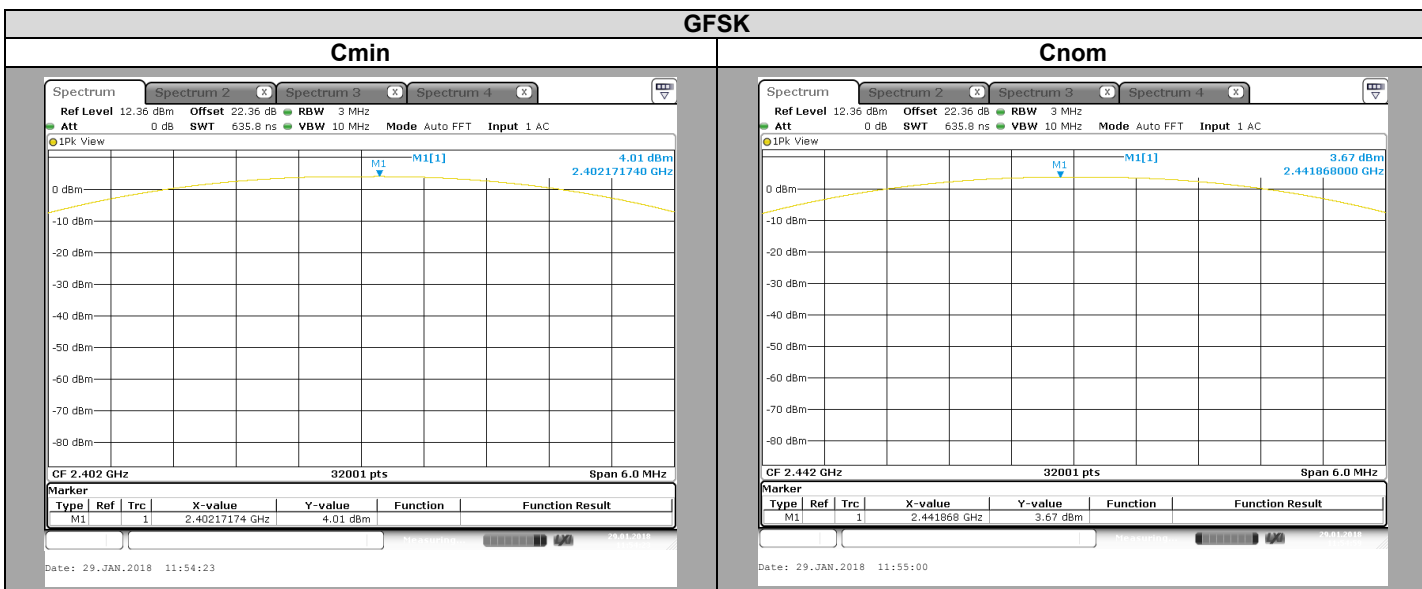
Maximum Conducted Output power:  
Shall not exceed 21dBm  
Limits are reduced by G-6dBi if Antenna Gain above 6dBi

### 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	A5329661	2017/09	2018/09

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

## 9.5. RESULTS



Channel	Offset Cable + Att (dB)	Antenna Gain (dBi)	Maximum Conducted Power (dBm)	Limit (dBm)
<b>Cmin</b>	<b>22.36</b>	<b>3,6</b>	<b>4,01</b>	21dBm
<b>Cnom</b>	<b>22.36</b>	<b>3,6</b>	<b>3,67</b>	21dBm
<b>Cmax</b>	<b>22.36</b>	<b>3,6</b>	<b>2,22</b>	21dBm

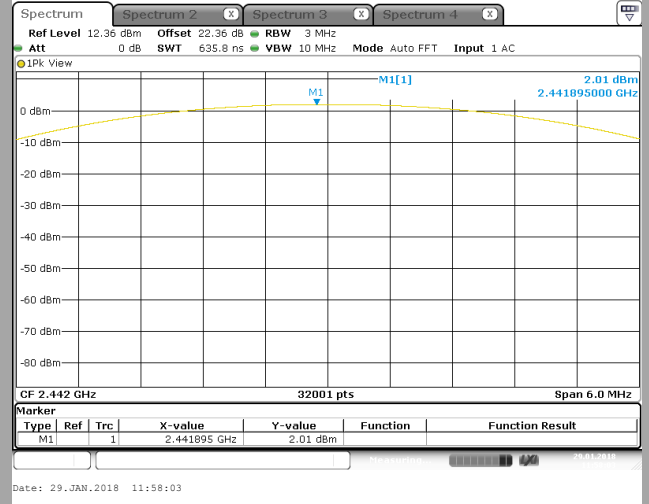
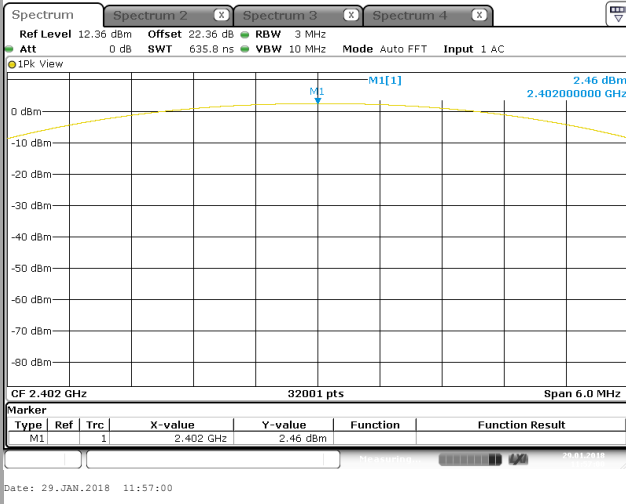


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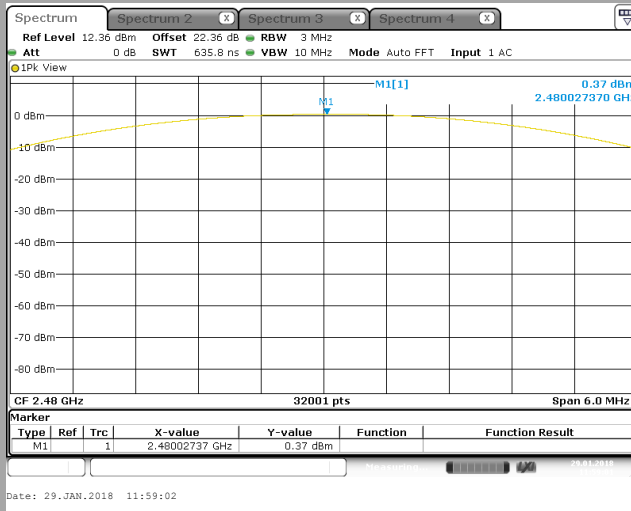
$\pi/4$  DQPSK

Cmin

Cnom



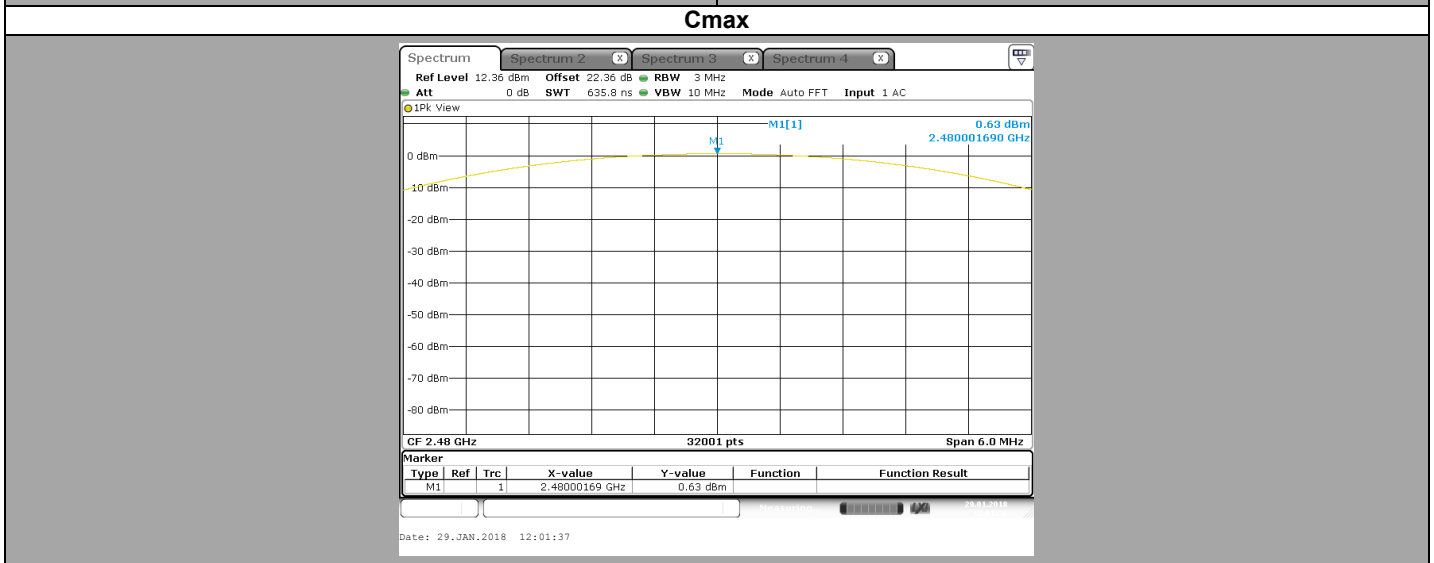
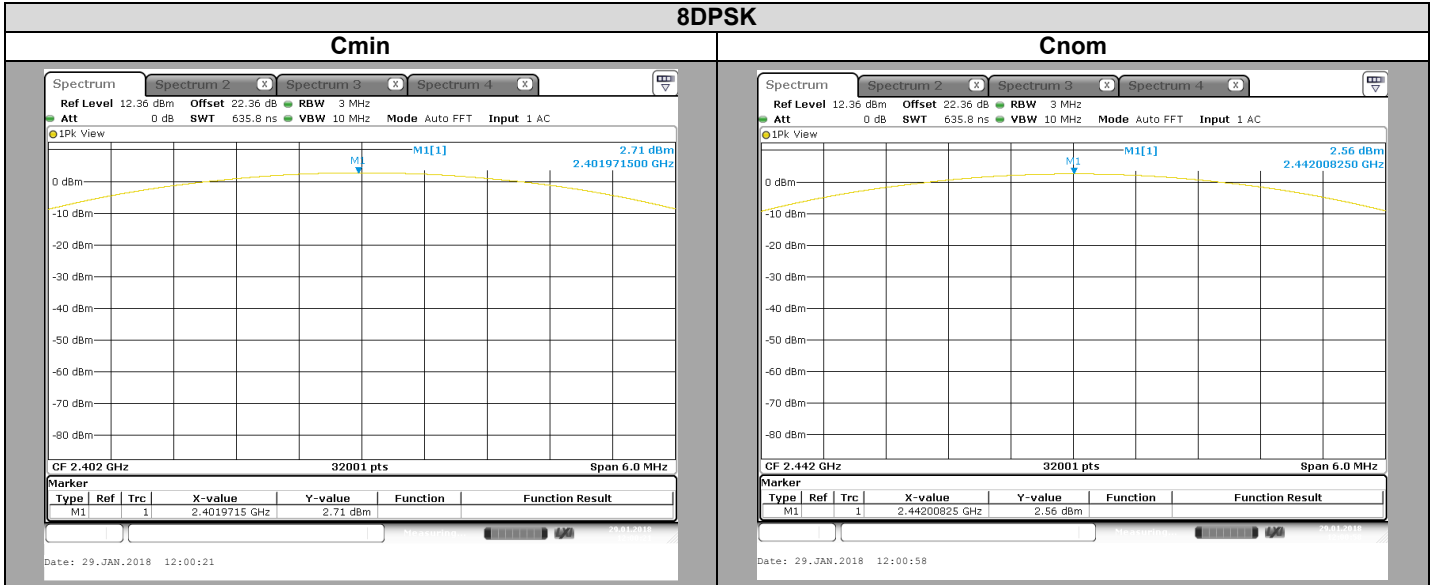
Cmax



Channel	Offset Cable + Att (dB)	Antenna Gain (dBi)	Maximum Conducted Power (dBm)	Limit (dBm)
<b>Cmin</b>	<b>22.36</b>	<b>3,6</b>	<b>2,46</b>	21dBm
<b>Cnom</b>	<b>22.36</b>	<b>3,6</b>	<b>2,01</b>	21dBm
<b>Cmax</b>	<b>22.36</b>	<b>3,6</b>	<b>0,37</b>	21dBm



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Channel	Offset Cable + Att (dB)	Antenna Gain (dBi)	Maximum Conducted Power (dBm)	Limit (dBm)
<b>Cmin</b>	<b>22.36</b>	<b>3,6</b>	<b>2,71</b>	21dBm
<b>Cnom</b>	<b>22.36</b>	<b>3,6</b>	<b>2,56</b>	21dBm
<b>Cmax</b>	<b>22.36</b>	<b>3,6</b>	<b>0,63</b>	21dBm

**9.6. CONCLUSION**

Maximum Conducted Output Power measurement performed on the sample of the product **SAGEMCOM DCIW387 ATN**, SN: **61751000063**, 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 : Armand MAHOUNGOU  
Date of test : January 26, 2018 & January 29, 2018  
Ambient temperature : 26 °C & 27 °C  
Relative humidity : 48 % & 43 %

### 10.2. TEST SETUP

- The Equipment Under Test is installed:

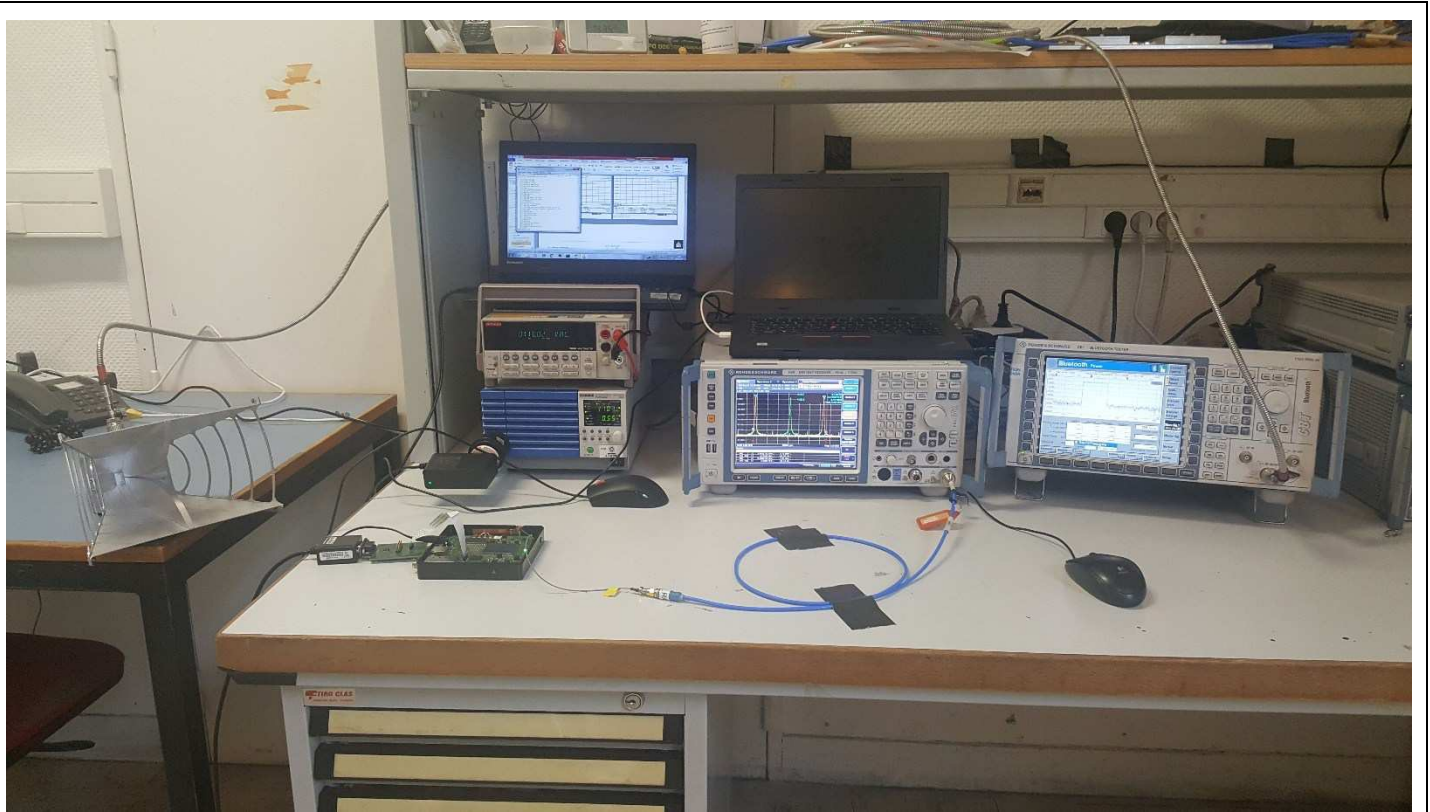
- On a table
- In an anechoic chamber

- Measurement is performed with a spectrum analyzer in:

- Conducted Method
- Radiated Method

- Test Procedure:

- FCC DA 00-705 (Band-edge Compliance of RF Conducted Emissions)
- 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

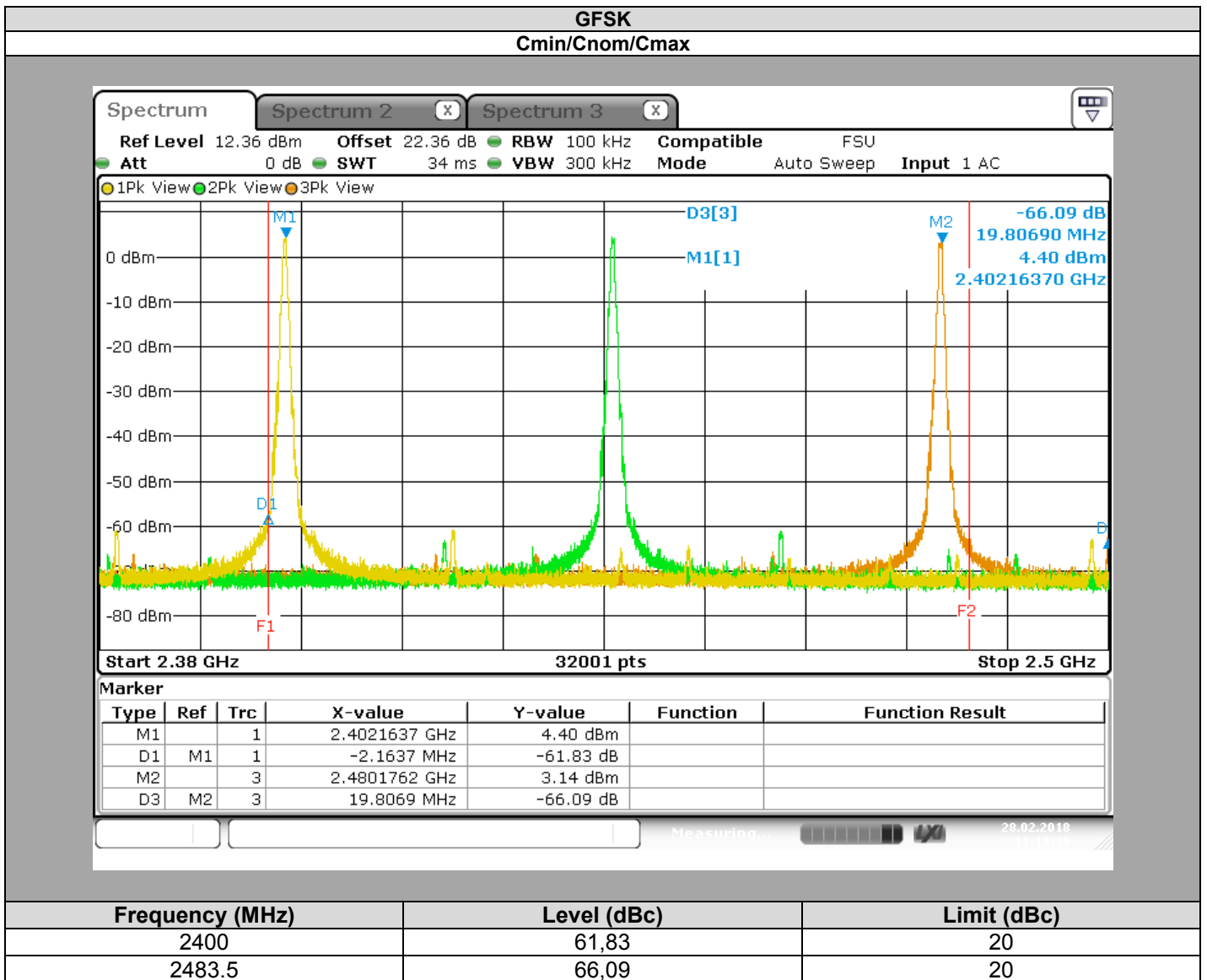
DESCRIPTION	MANUFACTURER	MODEL	N° LCIE	Cal_Date	Cal_Due
EMI receiver	ROHDE & SCHWARZ	ESR 7	A2642023	2017/09	2018/09
Multi-meter	KEITHLEY	2000	A1242090	2016/06	2018/06
Programmable AC/DC power supply	KIKUSUI	PCR500M	A7040079	2016/06	2018/06
RF cable & 20 dB attenuator	Télédyne	920-0202-048	A5329661	2017/09	2018/09

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



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10.5. RESULTS



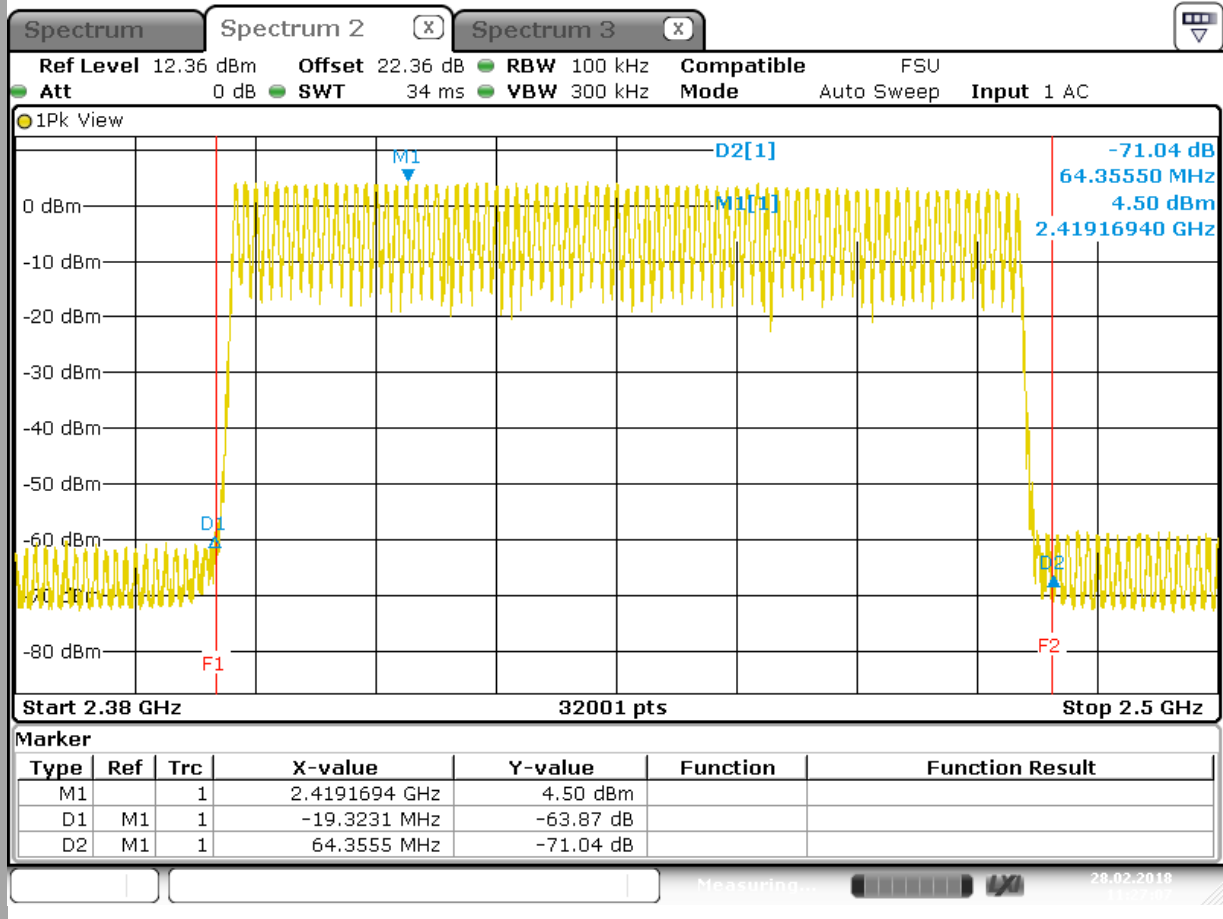




L C I E

GFSK

Call

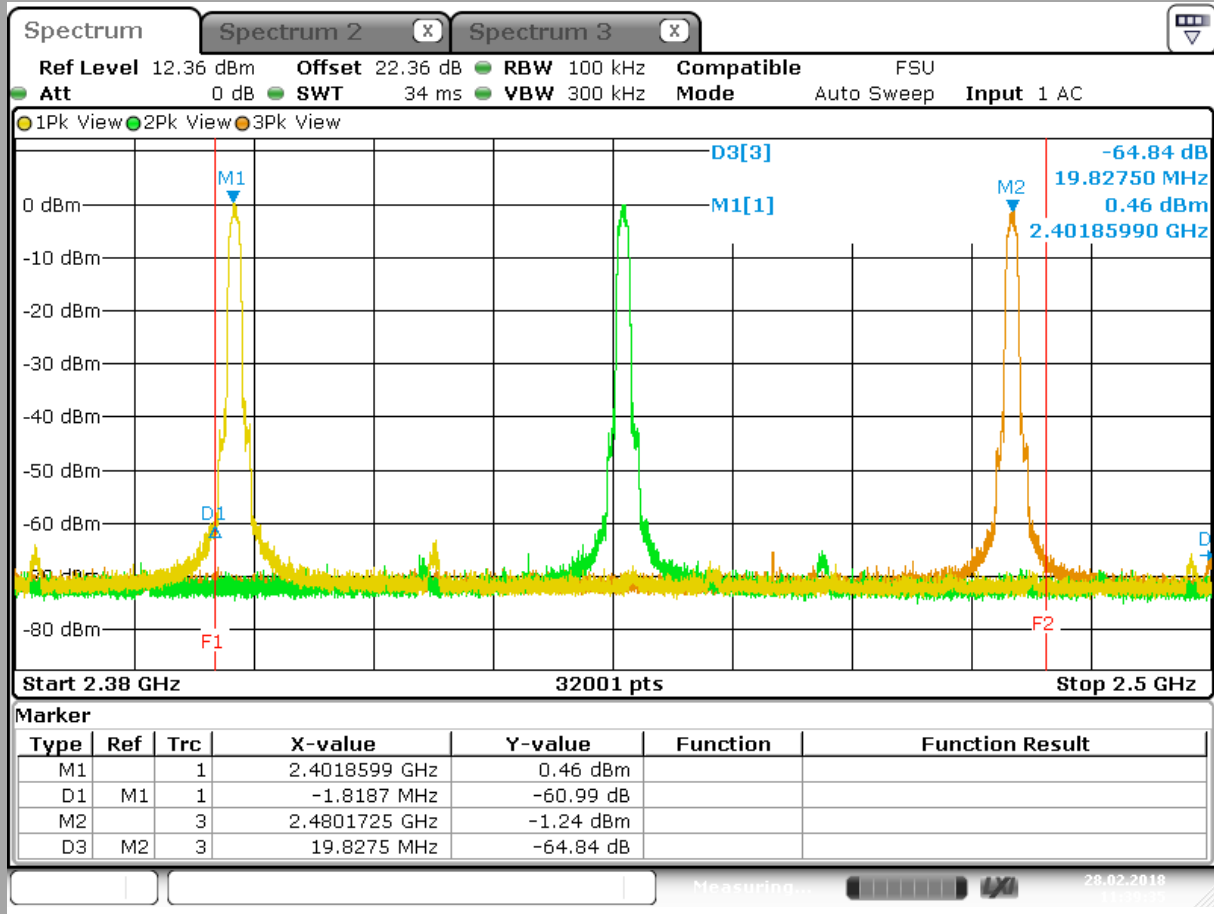


Frequency (MHz)	Level (dBc)	Limit (dBc)
2400	63,87	20
2483.5	71,04	20



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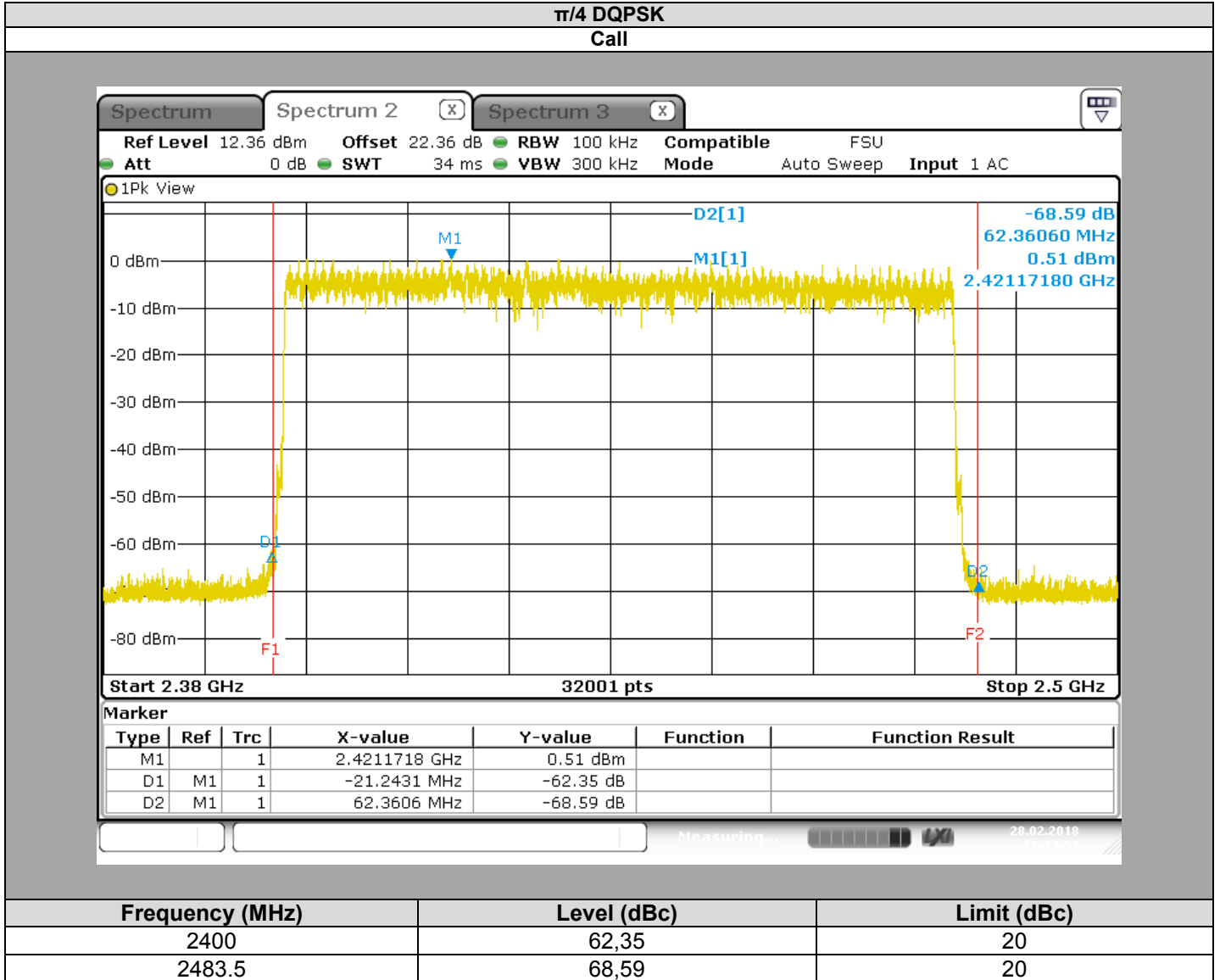
$\pi/4$  DQPSK  
Cmin/Cnom/Cmax



Frequency (MHz)	Level (dBc)	Limit (dBc)
2400	60,99	20
2483.5	64,84	20

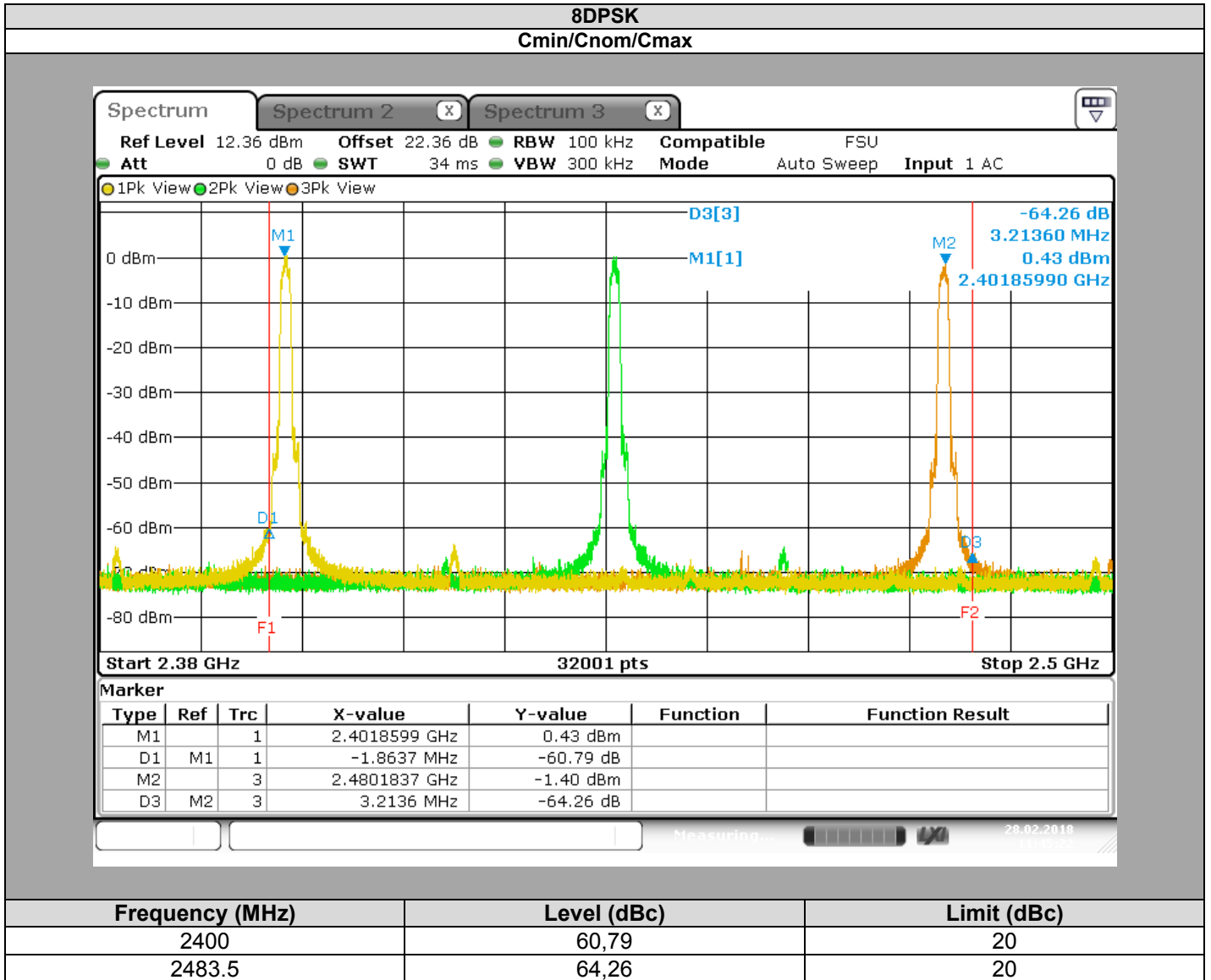


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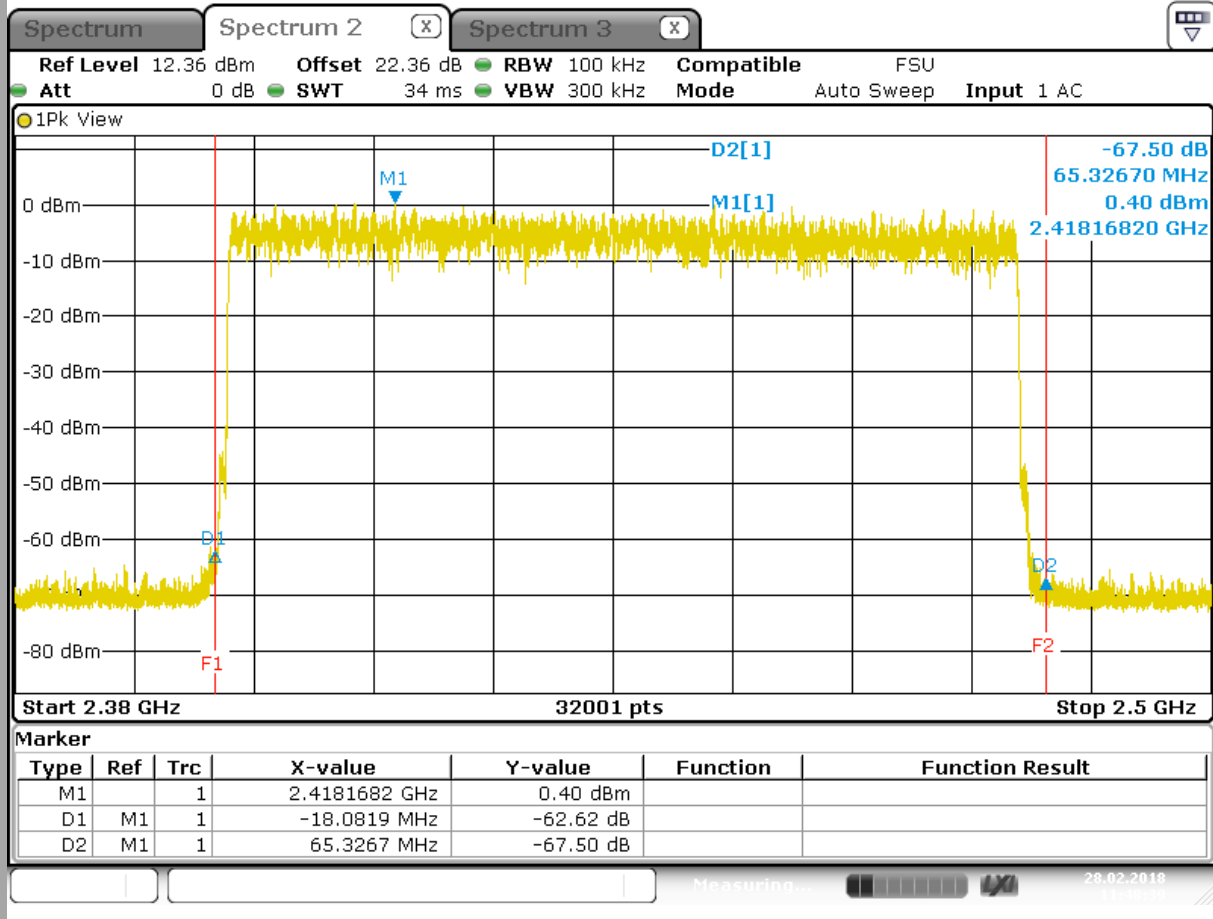




L C I E

8DPSK

Call



Frequency (MHz)	Level (dBc)	Limit (dBc)
2400	62,62	20
2483.5	67,50	20

## 10.6. CONCLUSION

Unwanted Emission into non-restricted frequency bands at the band edge measurement performed on the sample of the product **SAGEMCOM DCIW387 ATN**, SN: **617510000063**, 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 : January 26, 2018  
Ambient temperature : 26 °C  
Relative humidity : 48 %

### 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:

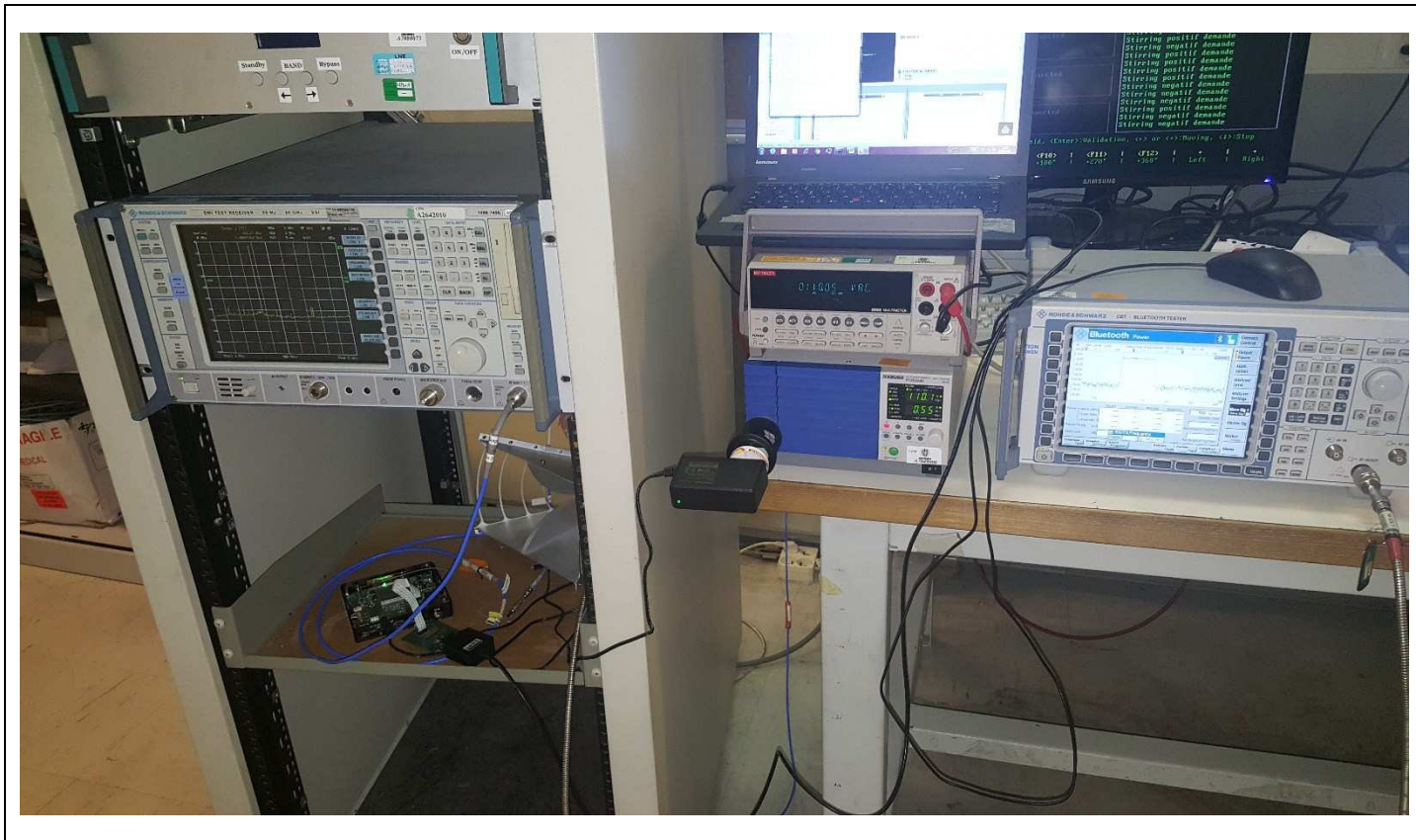
- Conducted Method
- Radiated Method

- Test Procedure:

- FCC DA 00-705 (Spurious RF Conducted Emissions)
- 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	2016/06	2018/06
Multi-meter	KEITHLEY	2000	A1242090	2016/06	2018/06
Filter	PASTERNAK	PE8213	A7480048	2015/09	2017/09

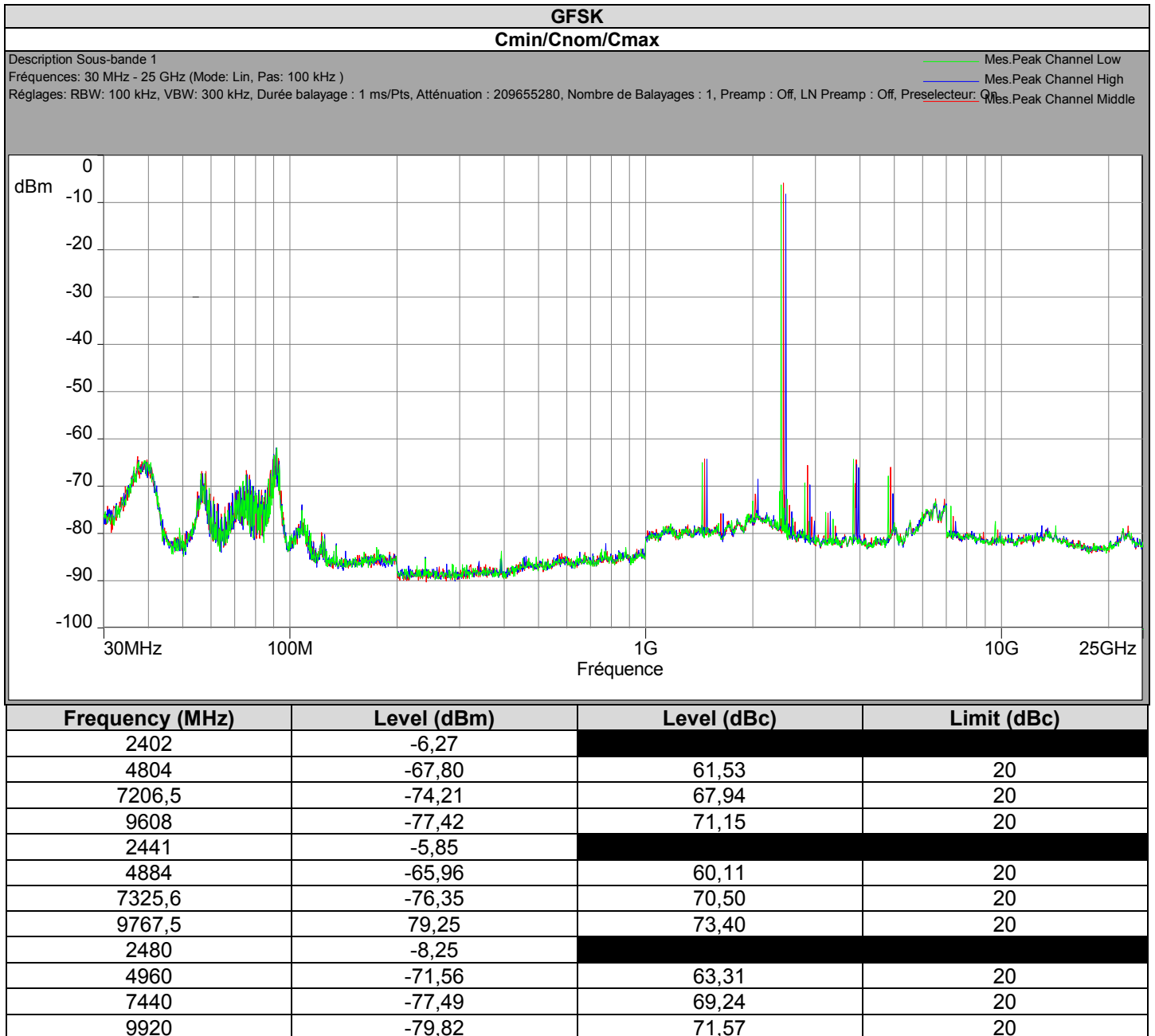
Note: In our quality system, the test equipment calibration due is more & less 2 months





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## 11.5. RESULTS







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$\pi/4$  DQPSK

Cmin/Cnom/Cmax

Description Sous-bande 1

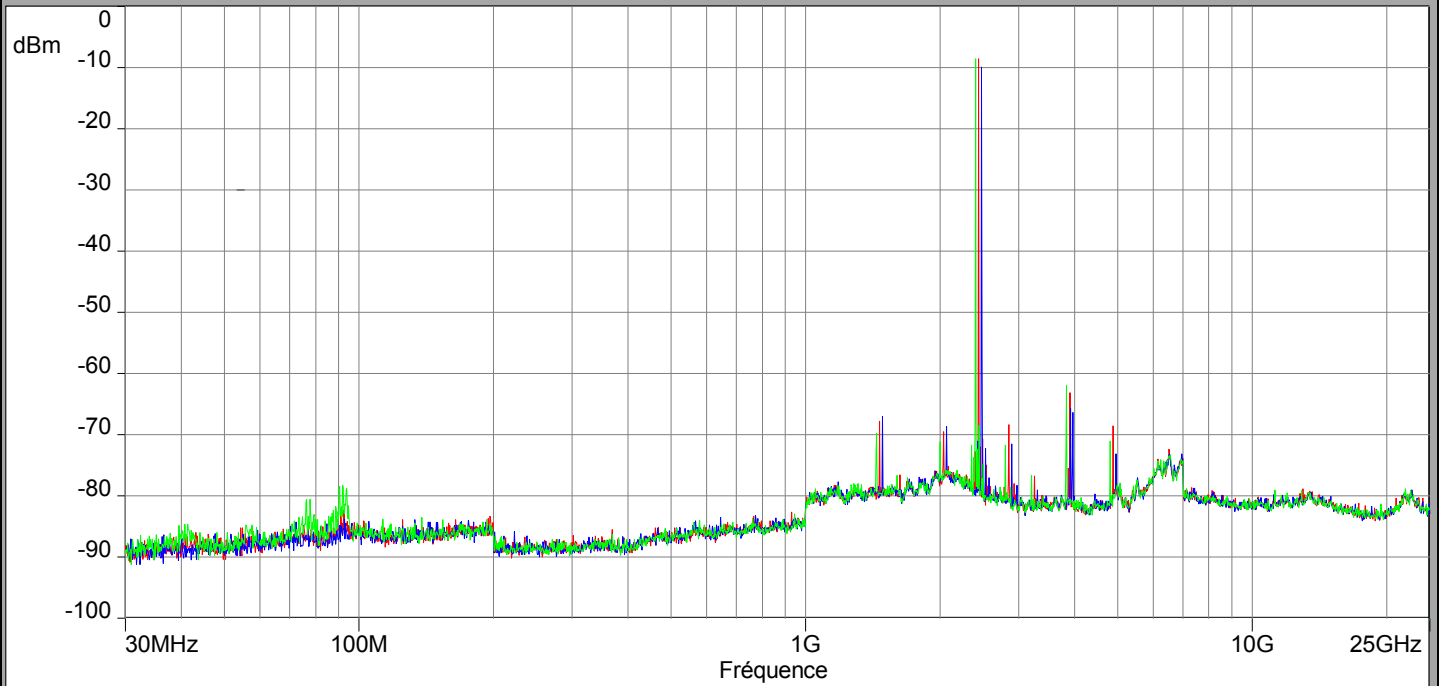
Fréquences: 30 MHz - 25 GHz (Mode: Lin, Pas: 100 kHz)

Réglages: RBW: 100 kHz, VBW: 300 kHz, Durée balayage : 1 ms/Pts, Atténuation : 207874216, Nombre de Balayages : 1, Preamp : Off, LN Preamp : Off, Preselecteur: Off

Mes.Peak Channel Low

Mes.Peak Channel High

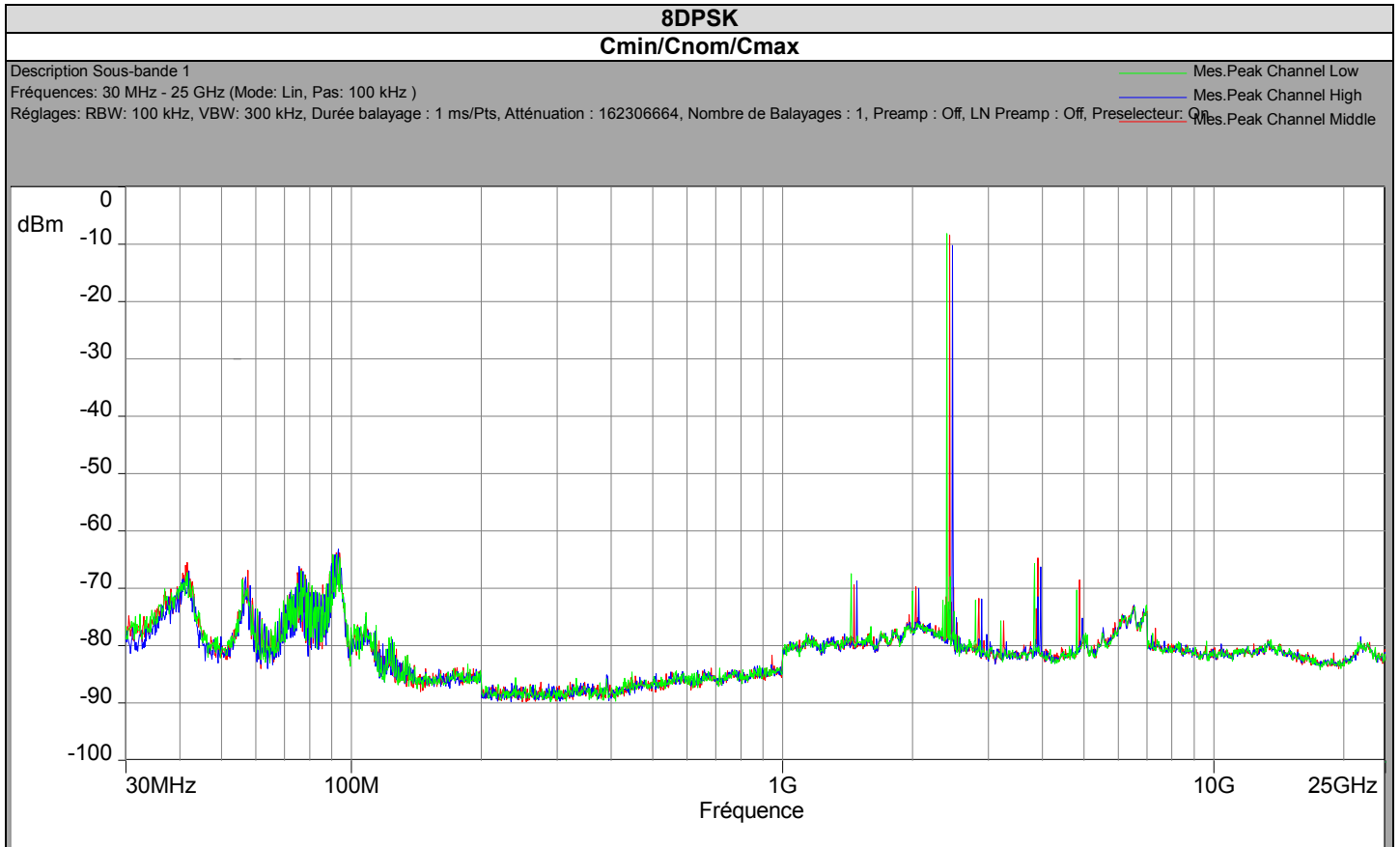
Mes.Peak Channel Middle



Frequency (MHz)	Level (dBm)	Level (dBc)	Limit (dBc)
2402	-8,57		
4804	-71,03	62,46	20
7206,5	-	-	20
9608	-	-	20
2441	-8,58		
4884	-68,56	59,98	20
7325,6	-	-	20
9767,5	-	-	20
2480	-9,93		
4960	-73,09	63,16	20
7440	-	-	20
9920	-	-	20



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Frequency (MHz)	Level (dBm)	Level (dBc)	Limit (dBc)
2402	-8,11		
4804	-70,28	62,17	20
7206,5	-	-	20
9608	-	-	20
2441	-8,47		
4884	-68,56	60,09	20
7326	-76,98	68,51	20
9767,5	-	-	20
2480	-10,17		
4960	-75,20	65,03	20
7440	-	-	20
9920	-	-	20

## 11.6. CONCLUSION

Unwanted Emission into non-restricted frequency bands measurement performed on the sample of the product **SAGEMCOM DCIW387 ATN**, SN: **617510000063**, 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 : February 1, 2018  
Ambient temperature : 21 °C  
Relative humidity : 50 %

### 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  $50\Omega / 50\mu\text{H}$ . Interconnecting cables and equipment's were moved to position that maximized emission.



Photograph for AC Power Line Conducted Emissions (Front view)



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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	2017/12
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.	-	-	-	-
Supplementary information:					

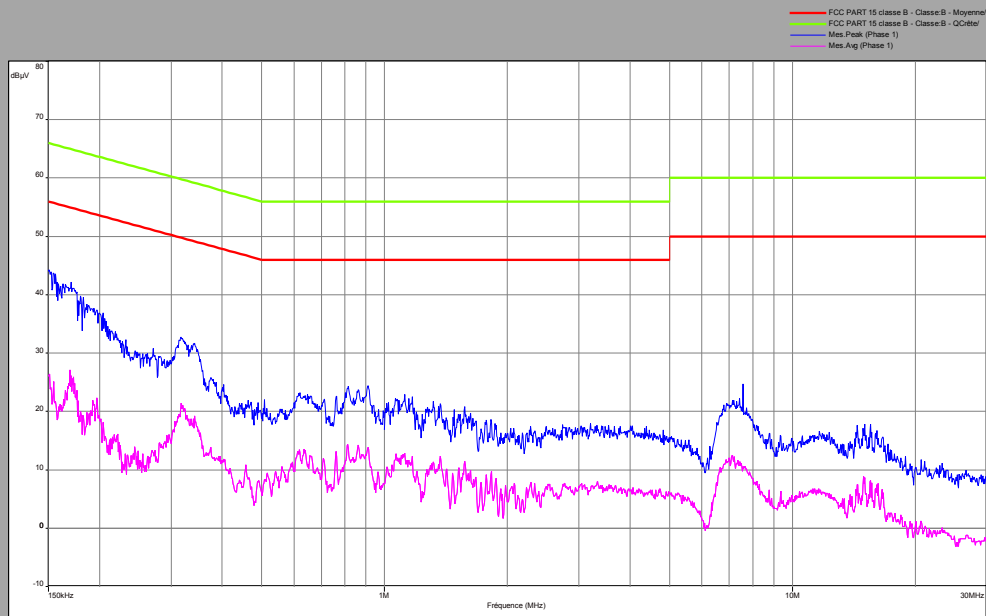
Note: In our quality system, the test equipment calibration due is more & less 2 months

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

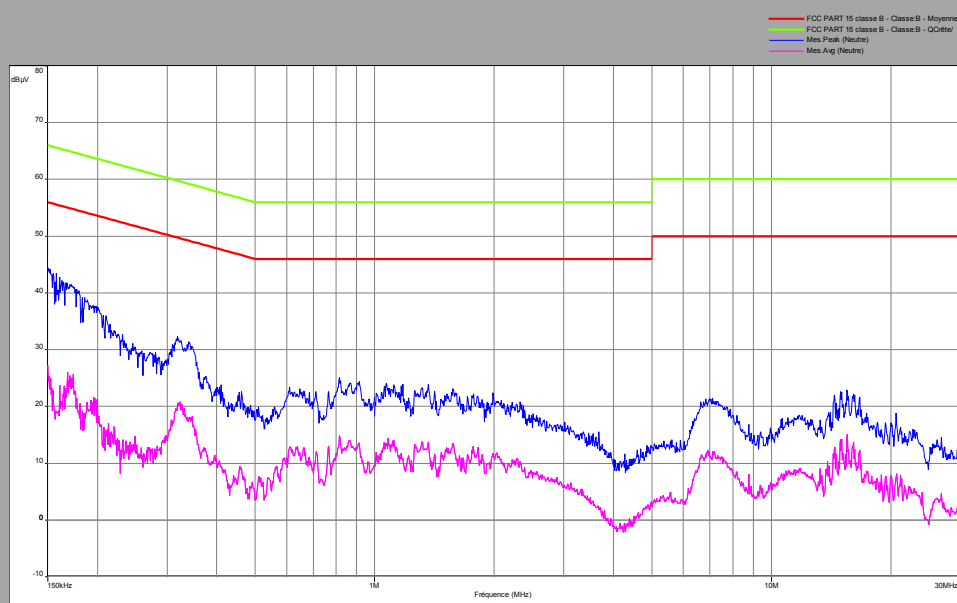
None       Divergence:

## 12.6. RESULTS

### Cmin Phase



### Neutral





### Phase

Frequency (MHz)	Peak Level (dB $\mu$ V)	Quasi-Peak Limit (dB $\mu$ V)	Average Level (dB $\mu$ V)	Average Limit (dB $\mu$ V)
0.170	42.2	64.9	26.1	54.9
0.317	32.6	59.5	21.4	49.5
1.12	22.5	56	18.6	46
7.12	21.6	60	12.4	50
15.52	18	60	8	50

### Neutral

Frequency (MHz)	Peak Level (dB $\mu$ V)	Quasi-Peak Limit (dB $\mu$ V)	Average Level (dB $\mu$ V)	Average Limit (dB $\mu$ V)
0.156	45.3	65.6	31.6	55.6
0.324	33	59.5	24	49.5
1.104	24.6	56	16	46
6.968	21.5	60	12	50
21	19.5	60	17	50

## 12.7. CONCLUSION

Ac Power Line Conducted Emission measurement performed on the sample of the product **SAGEMCOM** DCIW387 **ATN**, SN: **617510000063**, 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 : January 8, 2018 to January 12, 2018  
Ambient temperature : 24 °C & 27 °C  
Relative humidity : 44 % & 46 %

### 13.2. TEST SETUP

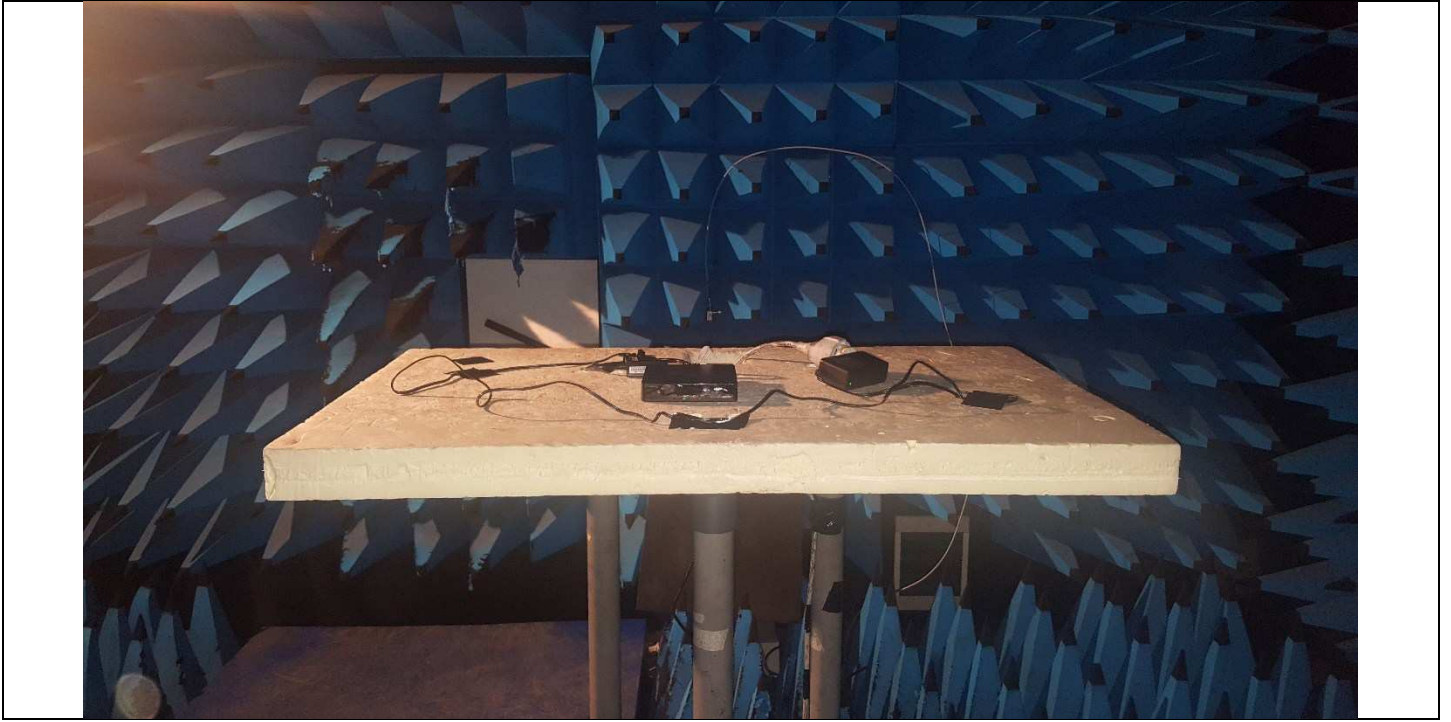
The product has been tested according to ANSI C63.10 (2013). The EUT is placed **on an open area test site**. Distance between measuring antenna and the EUT is **10m**. Test is performed in horizontal (H) and vertical (V) polarization with **bilog** antenna. Measurement bandwidth was 120kHz below 1GHz. 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 0.8m high under 1GHz.







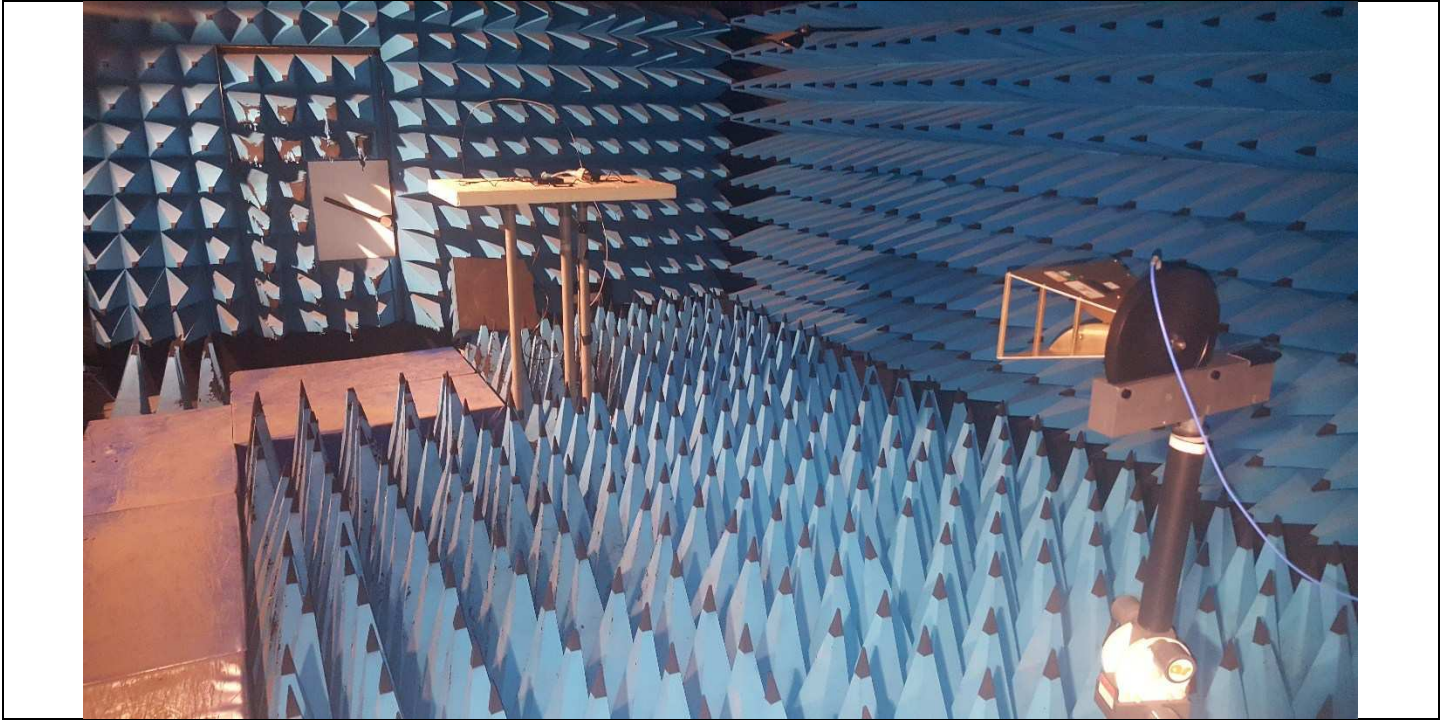
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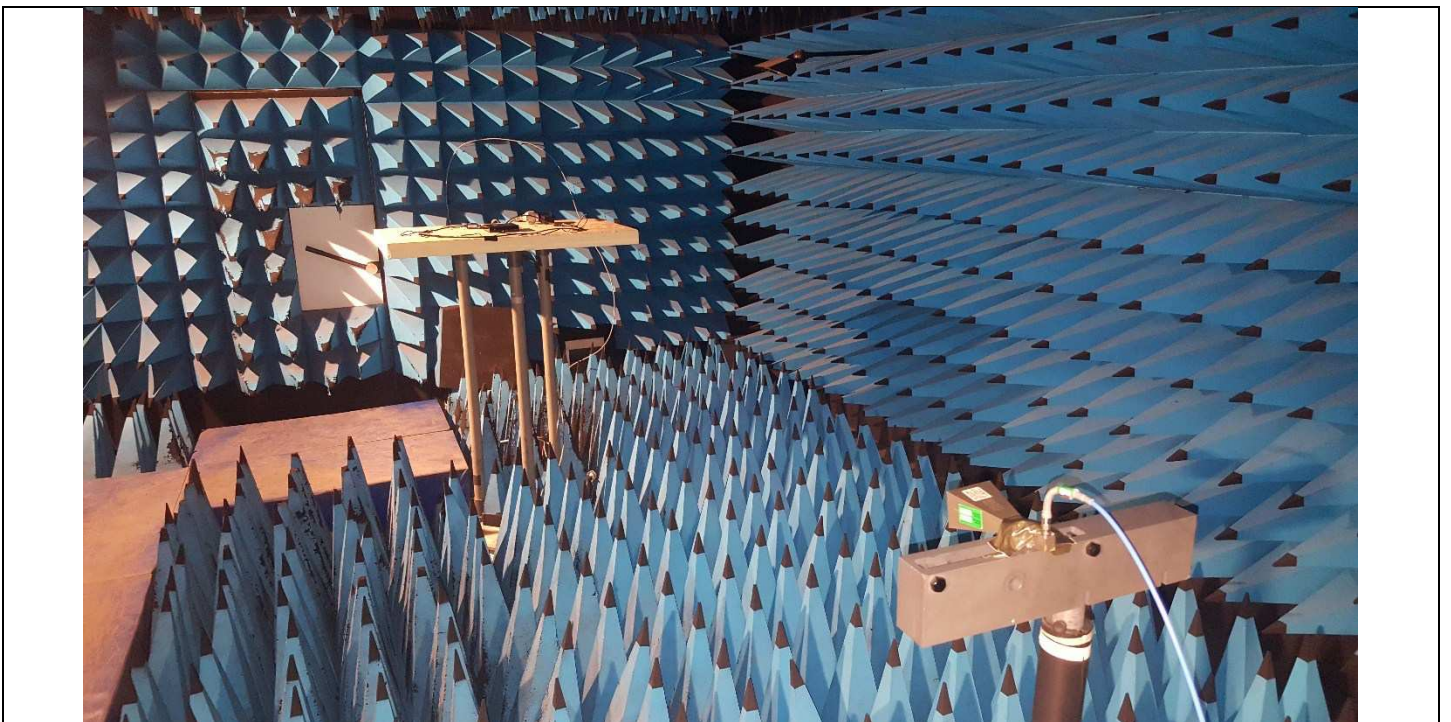
Photograph for Unwanted Emission in restricted frequency bands



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Photograph for Unwanted Emission in restricted frequency bands



Photograph for Unwanted Emission in restricted frequency bands



### 13.3. LIMIT

#### Limit at 3m:

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

#### Limit at 10m:

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

### 13.4. TEST EQUIPMENT LIST

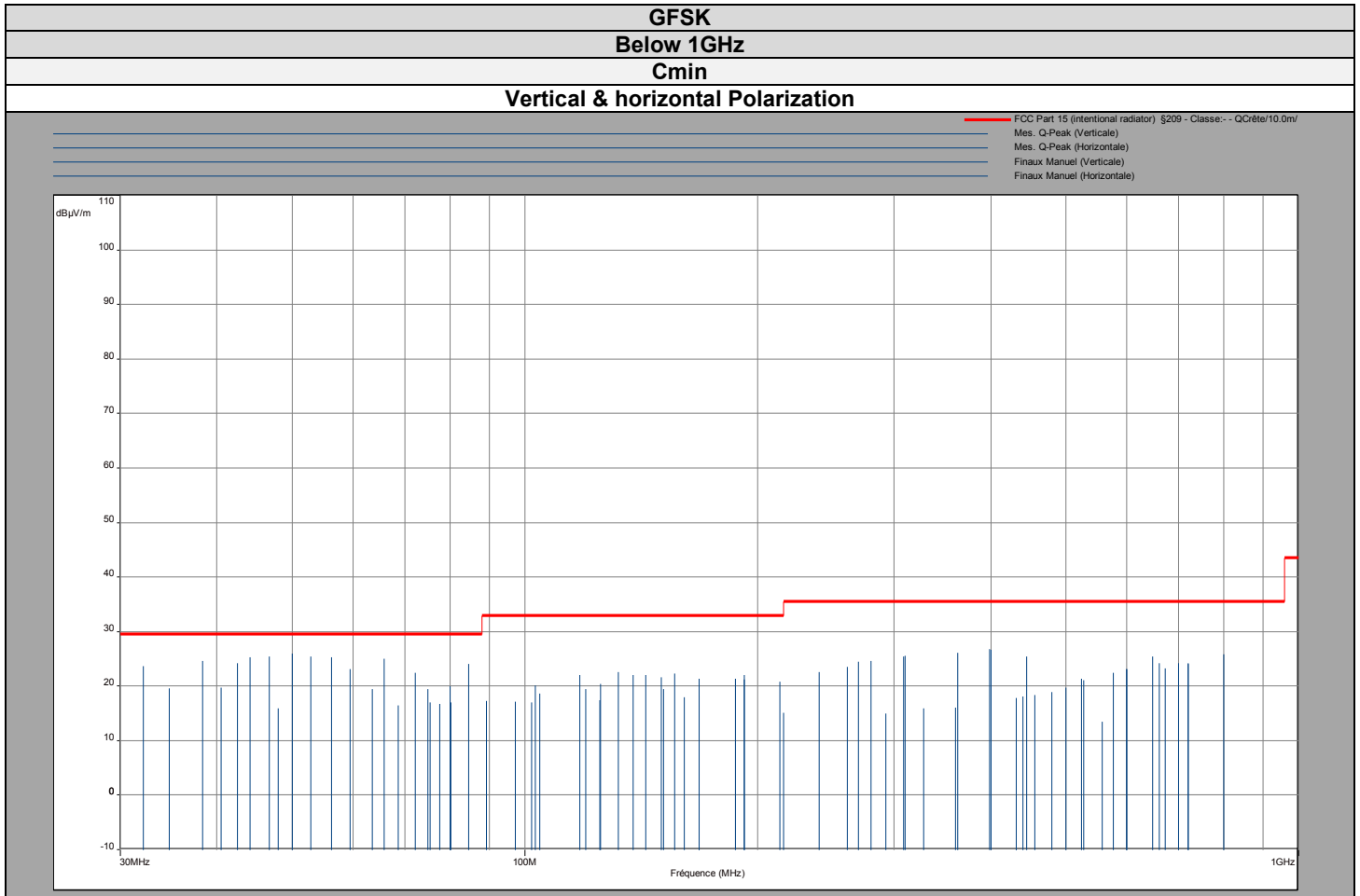
DESCRIPTION	MANUFACTURER	MODEL	N° LCIE	Cal_Date	Cal_Due
Open test site	LCIE	-	F2000400	2017/06	2018/06
EMI Test Receiver	ROHDE & SCHWARZ	ESIB26	A2642021	2015/12	2017/12
Bilog antenna	CHASE	CBL 6112A	C2040040	2017/03	2018/03
Cable	-	-	A5329449	2017/10	2018/10
Cable	-	-	A5329380	2017/06	2018/06
cable	-	-	A5329444	2017/10	2018/10
Full anechoic chamber	SIEPEL	-	D3044019	2017/05	2021/05
Preamplifier	LCIE; LCIE	LCIE-ALB-001	A7080073	2017/08	2018/08
Measurement horn antenna 18-26,5GHz	PASTERNAK	PE9852/2F-20	C2042048	2017/05	2019/05
Horn antenna	AH SYSTEMS	SAS 571	C2042041	2017/04	2018/04
EMI receiver	ROHDE & SCHWARZ	ESI40 1088 740K40	A2642010	2017/07	2018/07
Rejector filter 2,4GHz	-	2.45GHz	A7484048	2017/09	2018/09
cable	Télédyne	084-0505-1MTR	A5329757	2017/03	2018/03
cable	Télédyne	084-0555-3MTR	A5329760	2017/03	2018/03
cable	Télédyne	084-555-1.5MTR	A5329759	2017/03	2018/03

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

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

None       Divergence:

### 13.6. RESULTS





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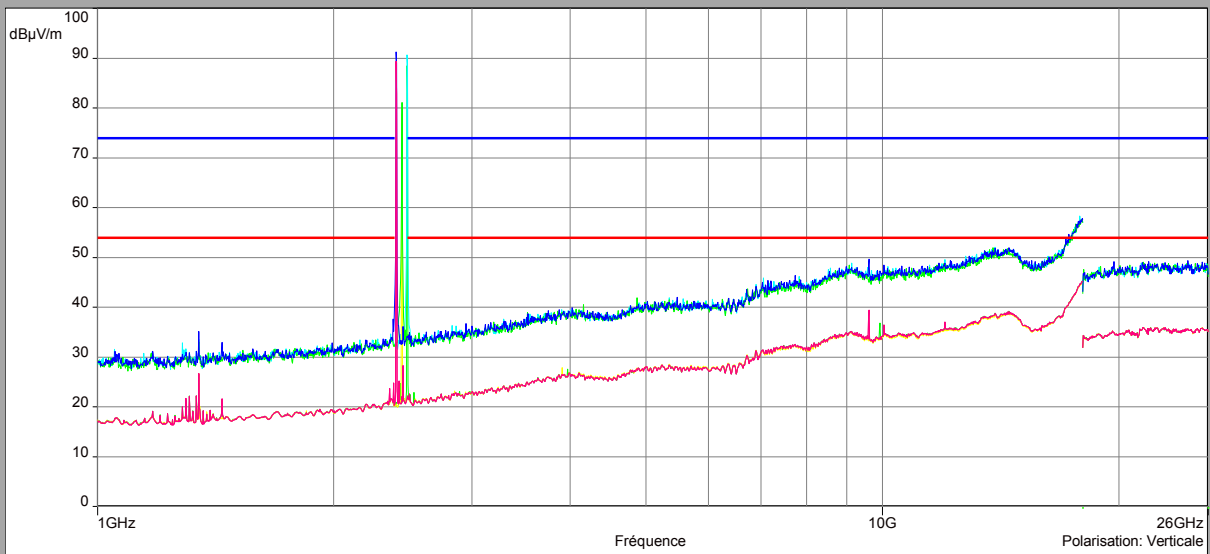
### GFSK

### Above 1GHz

### Cmin/Cnom/Cmax

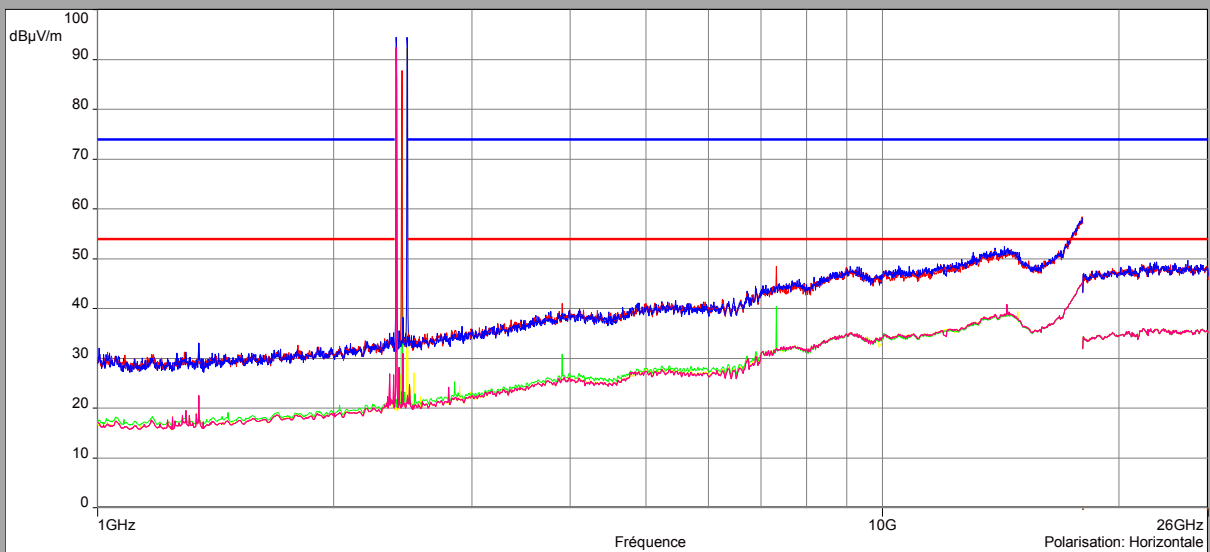
### Vertical Polarization

- 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.Peak (Verticale)
- Mes.Avg (Verticale)
- Mes.Peak Channel Middle (Verticale)
- Mes.Avg Channel Middle (Verticale)
- Mes.Peak Channel High (Verticale)
- Mes.Avg 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.Peak (Horizontale)
- Mes.Avg (Horizontale)
- Mes.Peak Channel Middle (Horizontale)
- Mes.Avg Channel Middle (Horizontale)
- Mes.Peak Channel High (Horizontale)
- Mes.Avg Channel High (Horizontale)





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### 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 : 154928664, Nombre de Balayages : 1, Préampli: On, Préampli: Off, Préselecteur: 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 High (Verticale)

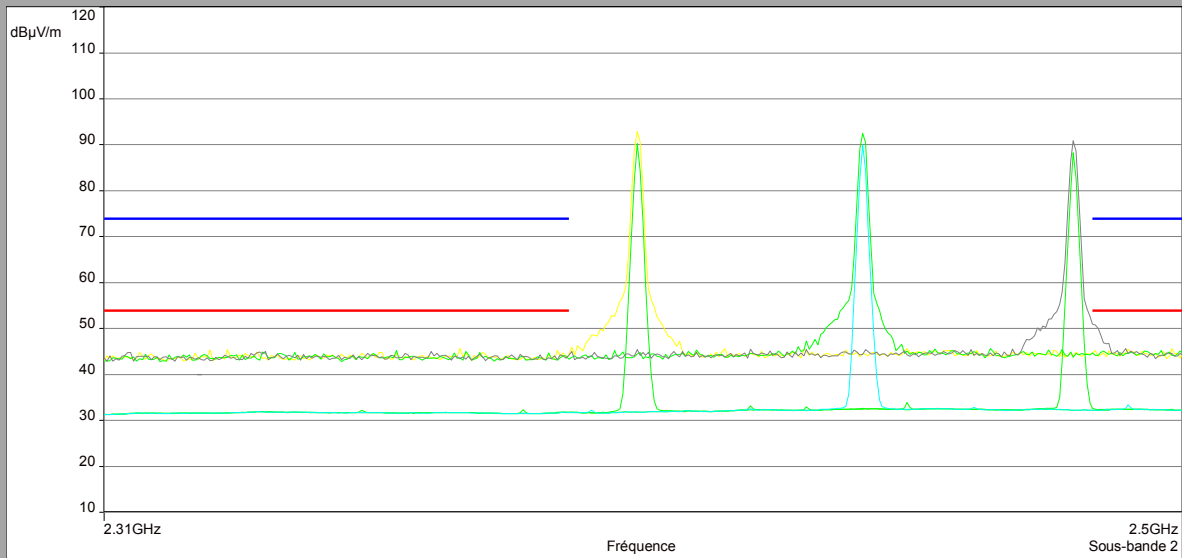
Mes. Avg Channel Middle (Verticale)

Mes. Peak Channel Middle (Verticale)

Mes. Avg Channel Low (Verticale)

Mes. Avg Channel High (Verticale)

Mes. Peak Channel Low (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 : 154928664, Nombre de Balayages : 1, Préampli: On, Préampli: Off, Préselecteur: 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/

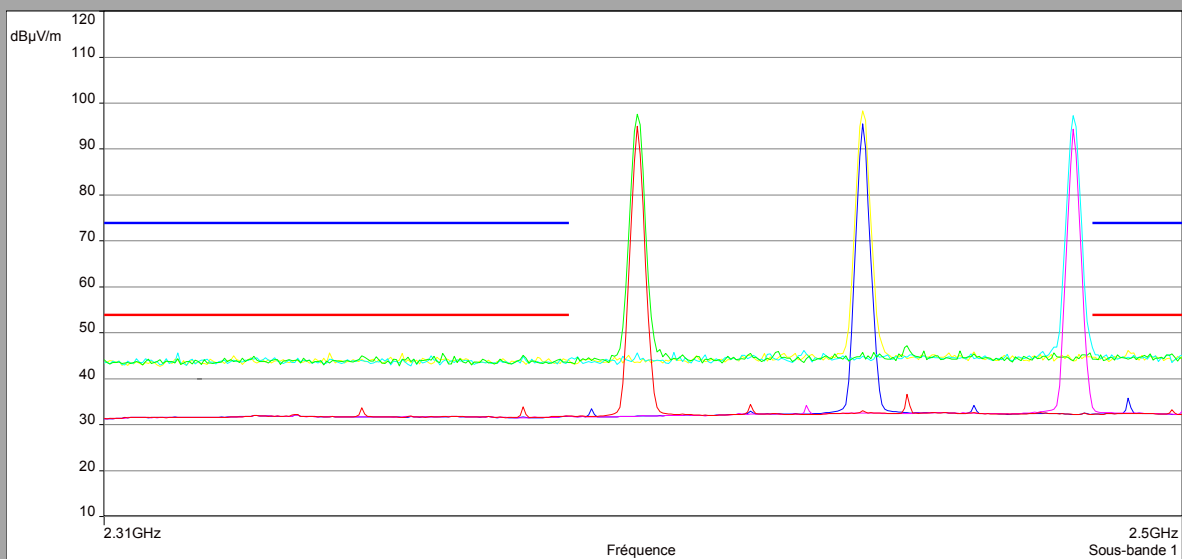
Mes. Peak Channel High (Horizontale)

Mes. Avg Channel Low (Horizontale)

Mes. Peak Channel High (Horizontale)

Mes. Avg Channel Middle (Horizontale)

Mes. Peak Channel Middle (Horizontale)





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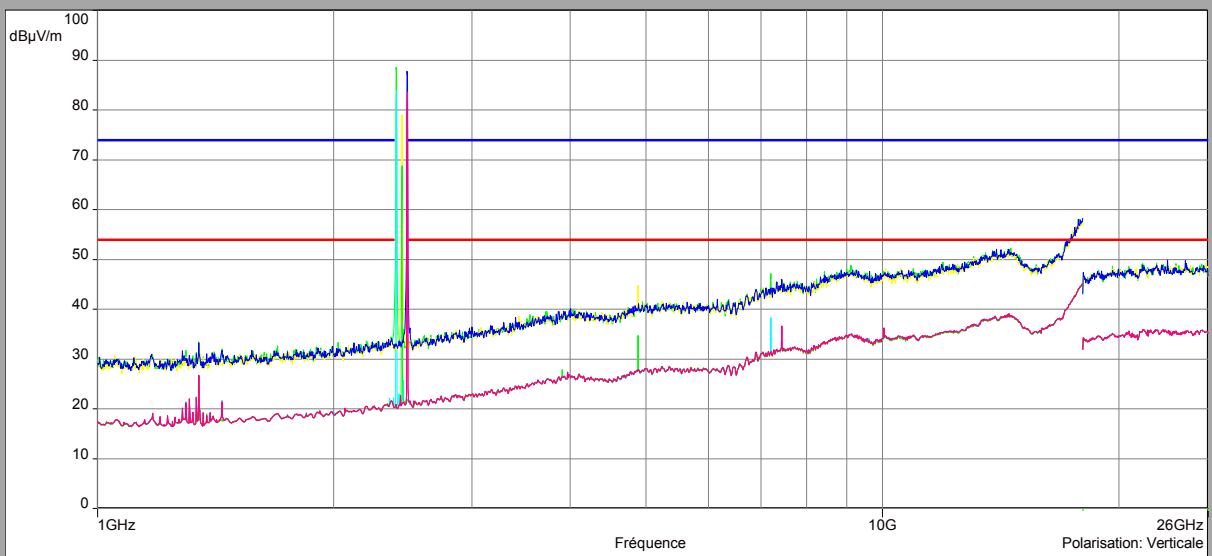
### $\pi/4$ DQPSK

Above 1GHz

Cmin/Cnom/Cmax

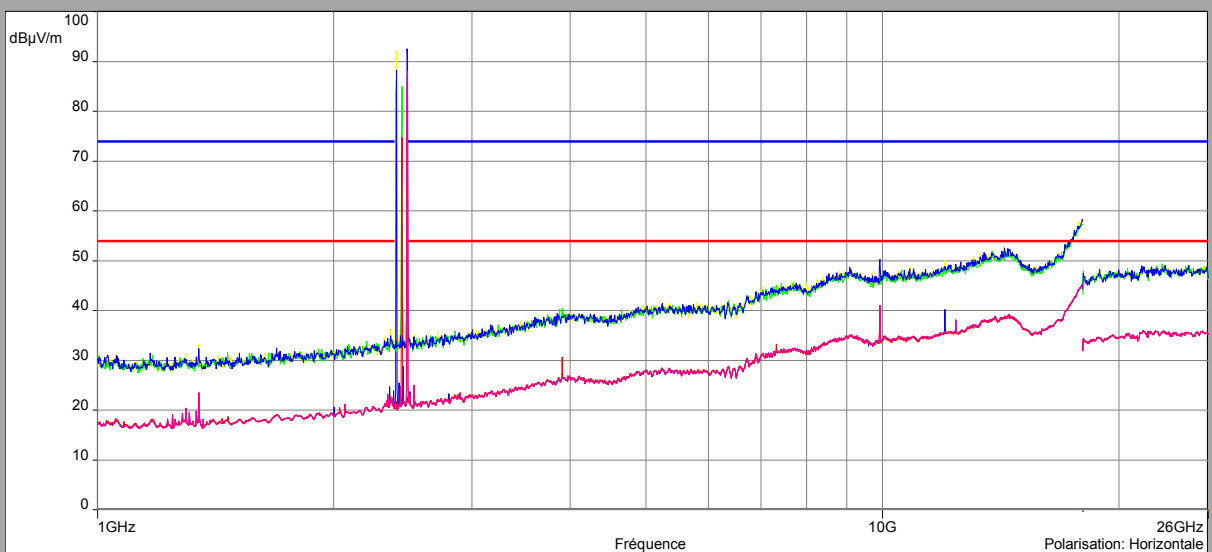
Vertical Polarization

- 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.Peak (Verticale)
- Mes.Avg (Verticale)
- Mes.Avg Channel Middle (Verticale)
- Mes.Peak Channel Middle (Verticale)
- Mes.Avg Channel Low (Verticale)
- Mes.Peak Channel Low (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.Peak (Horizontale)
- Mes.Avg (Horizontale)
- Mes.Avg Channel Middle (Horizontale)
- Mes.Peak Channel Middle (Horizontale)
- Mes.Avg Channel Low (Horizontale)
- Mes.Peak Channel Low (Horizontale)





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### $\pi/4$ DQPSK

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

### Cmin/Cnom/Cmax

### Vertical Polarization

Description Sous-bande 2

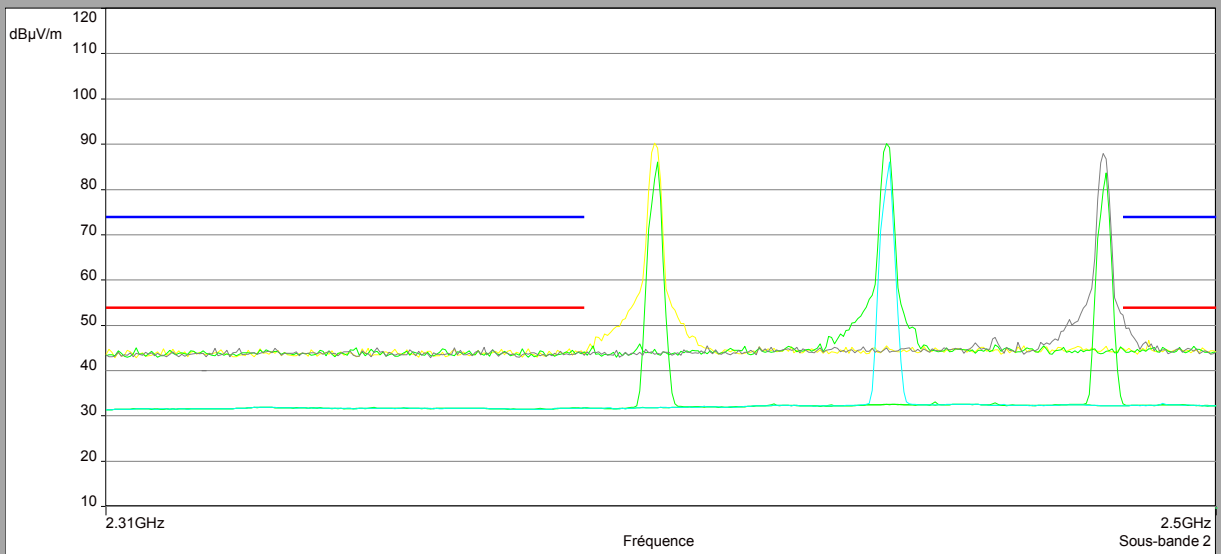
Fréquences: 2.31 GHz - 2.5 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage : 50 ms/Pts, Atténuation : 155772920, Nombre de Balayages : 1, Preamp: On, 20 dB, LIN, Preamp: Off, Preselecteur: 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 High (Verticale)
- Mes. Avg Channel High (Verticale)
- Mes. Avg Channel Middle (Verticale)
- Mes. Peak Channel Middle (Verticale)
- Mes. Avg Channel Low (Verticale)
- Mes. Avg Channel High (Verticale)
- Mes. Peak Channel Low (Verticale)



### Horizontal polarization

Description Sous-bande 1

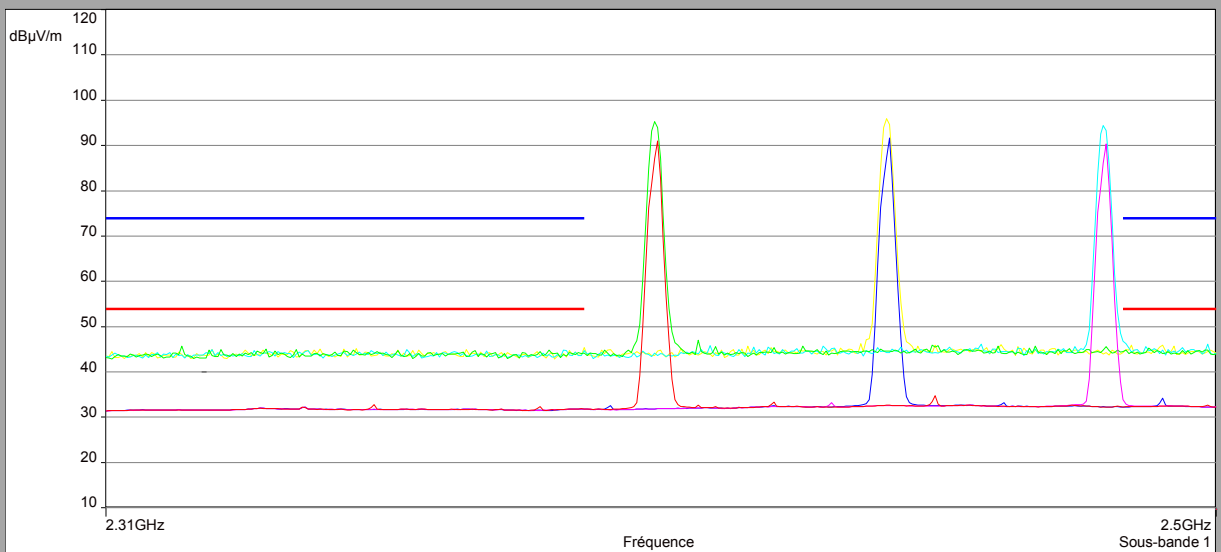
Fréquences: 2.31 GHz - 2.5 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage : 50 ms/Pts, Atténuation : 155772952, Nombre de Balayages : 1, Preamp: On, 20 dB, LIN, Preamp: Off, Preselecteur: 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 Low (Horizontale)
- Mes. Avg Channel High (Horizontale)
- Mes. Peak Channel Low (Horizontale)
- Mes. Peak Channel High (Horizontale)
- Mes. Avg Channel Middle (Horizontale)
- Mes. Peak Channel Middle (Horizontale)







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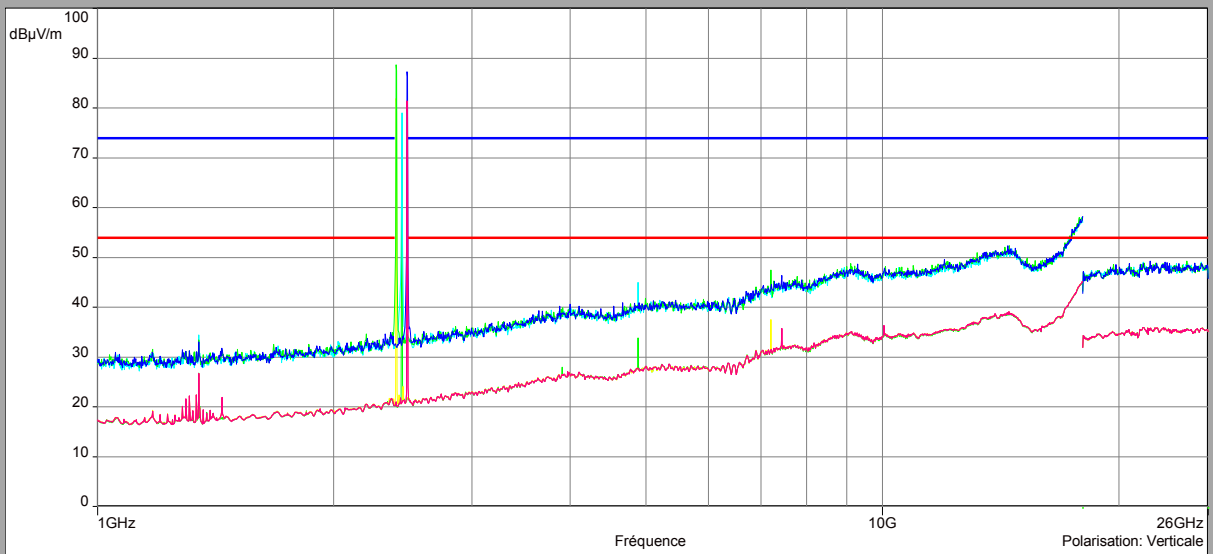
### 8DPSK

### Above 1GHz

### Cmin/Cnom/Cmax

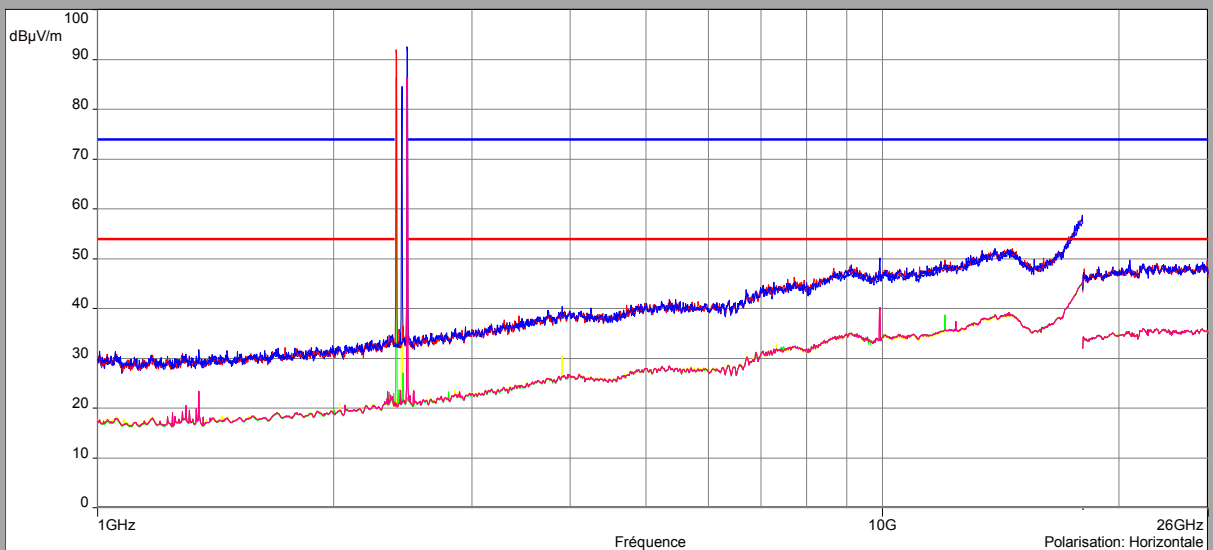
### Vertical Polarization

- 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.Peak (Verticale)
- Mes.Avg (Verticale)
- Mes.Peak Channel Low (Verticale)
- Mes.Avg Channel Low (Verticale)
- Mes.Peak Channel Middle (Verticale)
- Mes.Avg Channel Middle (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.Peak (Horizontale)
- Mes.Avg (Horizontale)
- Mes.Peak Channel Low (Horizontale)
- Mes.Avg Channel Low (Horizontale)
- Mes.Peak Channel Middle (Horizontale)
- Mes.Avg Channel Middle (Horizontale)





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### 8DPSK

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

### Cmin/Cnom/Cmax

### Vertical Polarization

Description Sous-bande 2

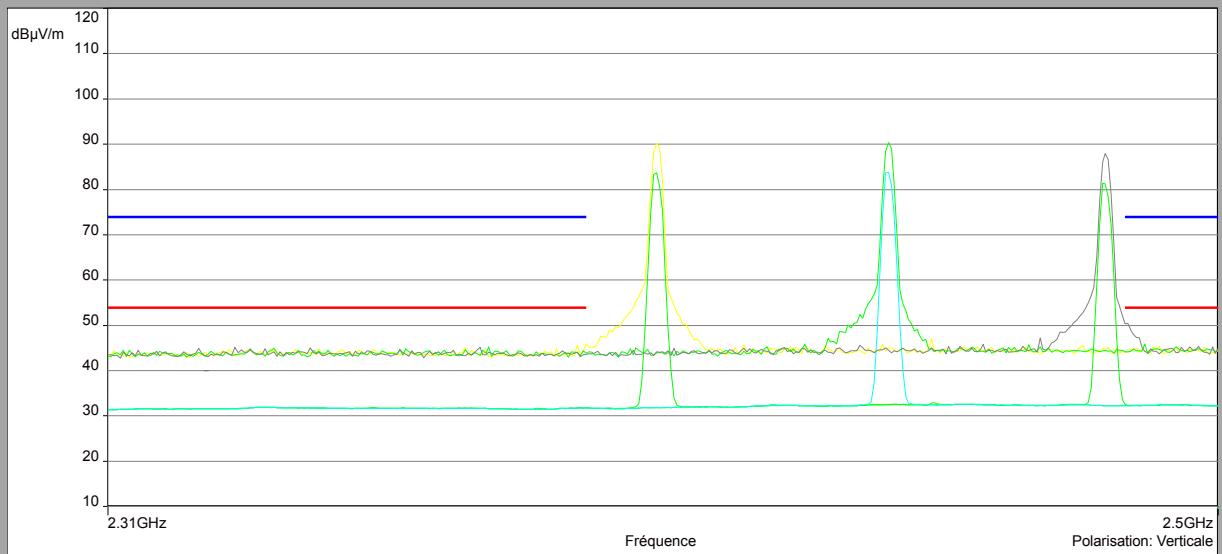
Fréquences: 2.31 GHz - 2.5 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage : 50 ms/Pts, Atténuation : 156899608, Nombre de Balayages : 1, Preamp: On, 20 dB Lin Preamp: Off, Preselecteur: 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 High (Verticale)
- Mes.Avg Channel Middle (Verticale)
- Mes.Peak Channel Middle (Verticale)
- Mes.Avg Channel Low (Verticale)
- Mes.Avg Channel High (Verticale)
- Mes.Peak Channel Low (Verticale)



### Horizontal polarization

Description Sous-bande 1

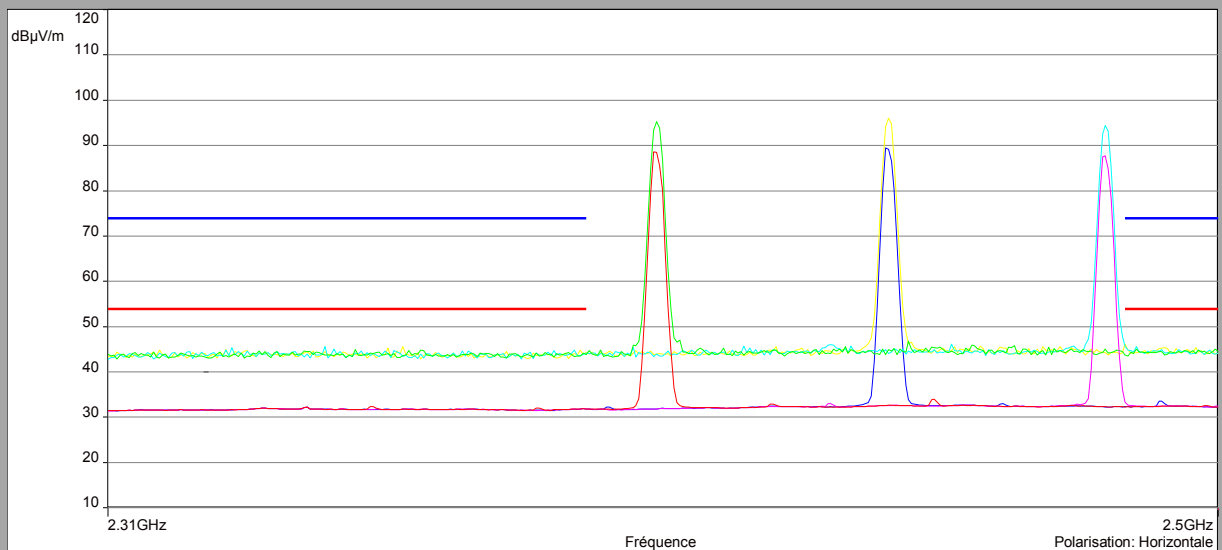
Fréquences: 2.31 GHz - 2.5 GHz (Mode: Lin, Pas: 500 kHz)

Réglages: RBW: 1 MHz, VBW: Auto, Durée balayage : 50 ms/Pts, Atténuation : 156899480, Nombre de Balayages : 1, Preamp: On, 20 dB Lin Preamp: Off, Preselecteur: 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 High (Horizontale)
- Mes.Peak Channel Low (Horizontale)
- Mes.Peak Channel High (Horizontale)
- Mes.Avg Channel Middle (Horizontale)
- Mes.Peak Channel Middle (Horizontale)





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Below 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	44.1	-	25.29	29.5	4.21
Vertical	270	-	24.48	35.5	11.02
Vertical	400	-	26.73	35.5	8.77
Horizontale	660	-	24.24	35.5	11.26
Horizontale	700	-	24.3	35.5	11.2
Horizontale	800	-	25.81	35.5	9.69

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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	1346	26,72	28,95	54	25,05	35,12	74	38,88
Verticale	1440	21,57	23,80	54	30,20	33,20	74	40,80
Horizontale	2390	31,87	34,10	54	19,90	44,70	74	29,30
Verticale	2390	31,76	33,99	54	20,01	45,83	74	28,17
Horizontale	2483.5	33,75	35,98	54	18,02	46,82	74	27,18
Verticale	2483.5	32,47	34,70	54	19,30	50,81	74	23,19
Horizontale	39,07	30,83	33,06	54	20,94	40,96	74	33,04
Horizontale	7326	40,40	42,63	54	11,37	48,44	74	25,56
Verticale	9608	39,42	41,65	54	12,35	46,64	74	27,36

$\pi/4$ DQPSK								
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	1346	26,64	28,89	54	25,11	33,38	74	40,62
Verticale	1440	21,18	23,43	54	30,57	32,22	74	41,78
Horizontale	2390	31,77	34,02	54	19,98	44,15	74	29,85
Verticale	2390	31,87	34,12	54	19,88	44,54	74	29,46
Horizontale	2483.5	32,89	35,14	54	18,86	46,80	74	27,40
Verticale	2483.5	32,68	34,93	54	19,07	52,20	74	21,80
Horizontale	3907	30,70	32,95	54	21,05	39,42	74	34,58
Verticale	4885	34,69	36,94	54	17,06	44,75	74	29,25
Verticale	7207	38,32	40,57	54	13,43	47,22	74	26,78
Verticale	7440	36,64	38,89	54	15,11	46,10	74	27,90
Horizontale	9920	40,99	43,24	54	10,76	50,29	74	23,71
Horizontale	12011	40,21	42,46	54	11,54	48,30	74	25,70



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8DPSK								
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	1346	26,68	28,91	54	25,09	34,45	74	39,55
Verticale	1440	21,94	24,17	54	29,83	31,80	74	42,20
Horizontale	2390	31,78	34,01	54	19,99	44,69	74	29,31
Verticale	2390	31,76	33,99	54	20,01	46,15	74	27,85
Horizontale	2483.5	33,28	35,51	54	18,49	45,75	74	28,25
Verticale	2483.5	31,50	33,73	54	20,27	50,43	74	23,27
Horizontale	3907	30,70	32,93	54	21,07	40,47	74	33,53
Verticale	4884	33,83	36,06	54	17,94	44,97	74	29,03
Verticale	7206	37,50	39,73	54	14,27	47,60	74	26,40
Verticale	7439	35,76	37,99	54	16,01	46,56	74	27,44
Horizontale	9920	40,24	42,47	54	11,53	50,40	74	23,60
Horizontale	1200,9	38,76	40,99	54	13,01	49,45	74	24,55

### 13.7. CONCLUSION

Unwanted Emission in restricted frequency bands measurement performed on the sample of the product **SAGEMCOM DCIW387 ATN**, SN: **617510000063**, 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) ±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