

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

10.1. TEST CONDITIONS

Test performed by : Mathieu CERISIER
Date of test : January 5, 2017
Ambient temperature : 23 °C
Relative humidity : 42 %

10.2. TEST SETUP

- The Equipment Under Test is installed:

- On a table
- In an anechoic chamber
- In climatic 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

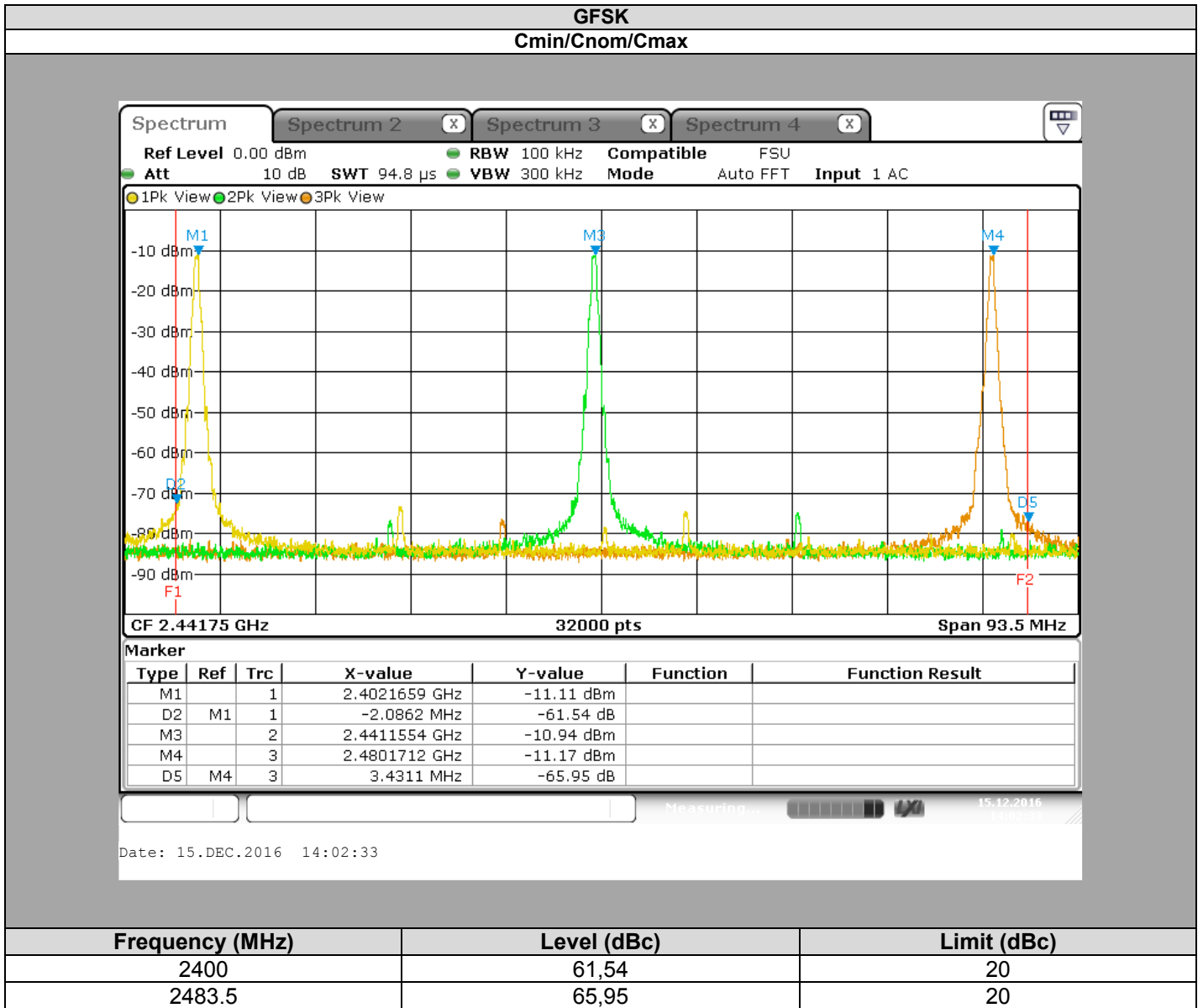
DESCRIPTION	MANUFACTURER	MODEL	N° LCIE	Calibration date	Calibration due
Multi-meter	KEITHLEY	2000	A1241084	2016/05	2018/05
Programmable AC/DC power supply	-; KIKUSUI	PCR500M	A7049006	Verified with calibrated multimeter	Verified with calibrated multimeter
EMI receiver	ROHDE & SCHWARZ	ESR 7	A2642023	2016/09	2017/09
RF cable & 20 dB attenuator	Télédyne	920-0202-048	A5329676	2016/09	2017/09

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



L C I E

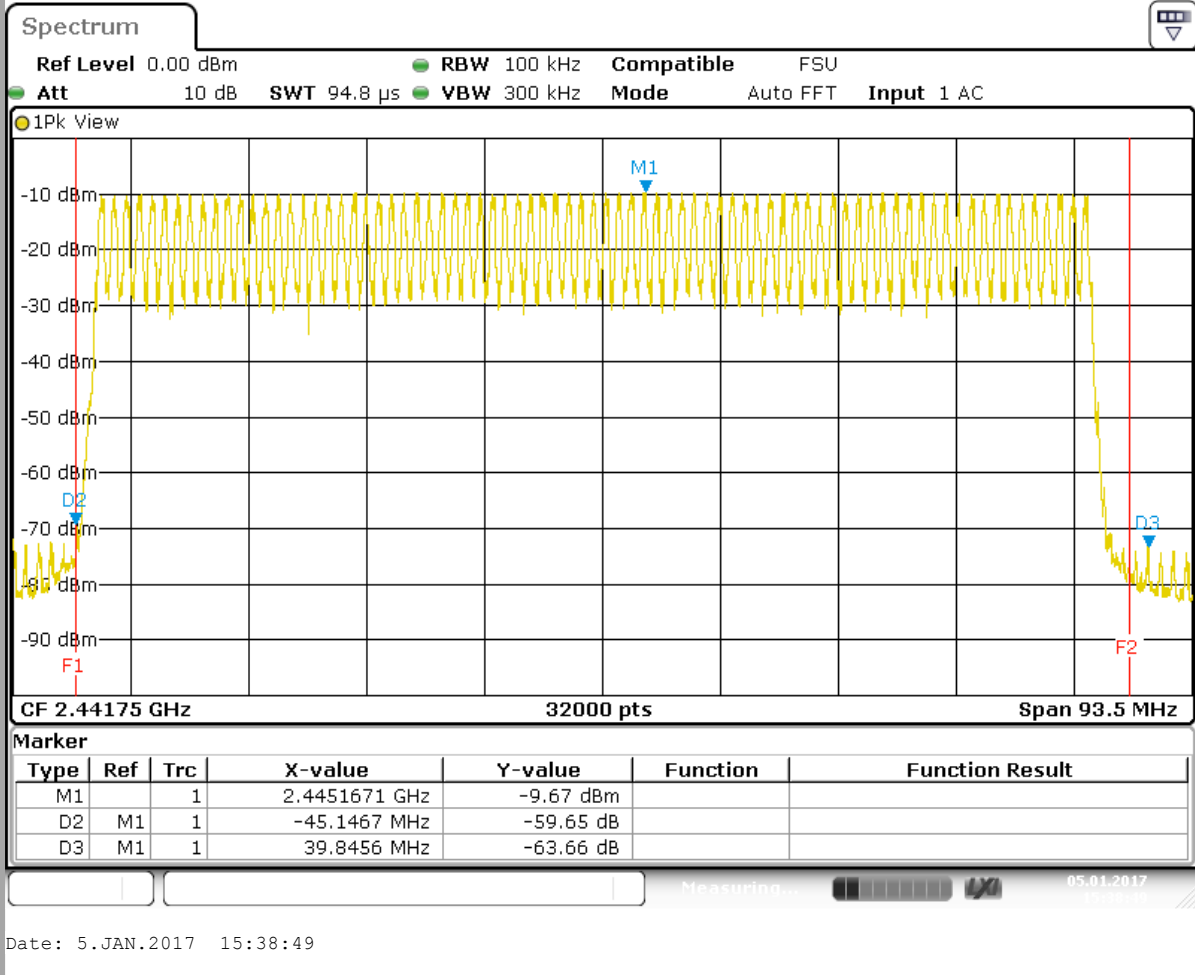
10.5. RESULTS





L C I E

GFSK
Call

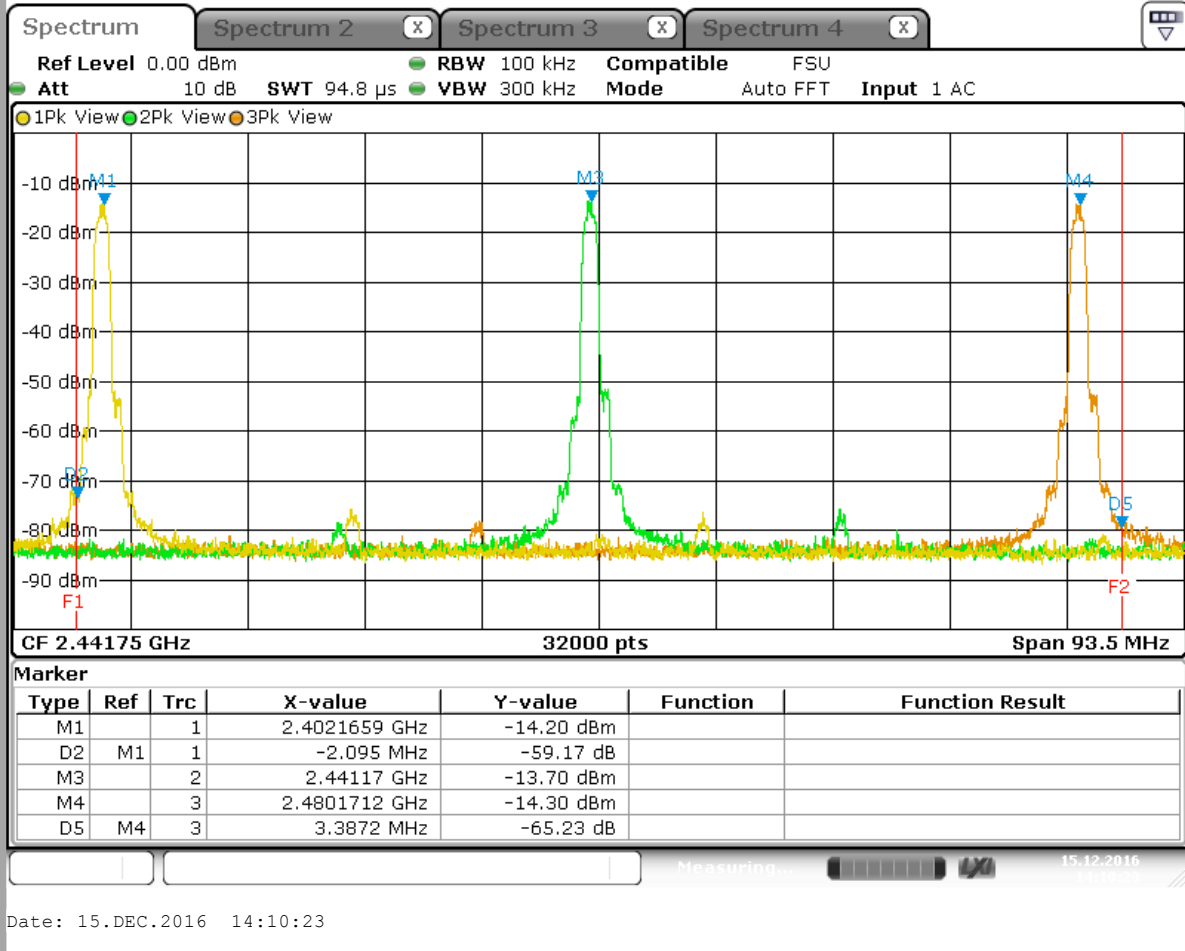


Frequency (MHz)	Level (dBc)	Limit (dBc)
2400	59,65	20
2483.5	63,66	20



L C I E

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

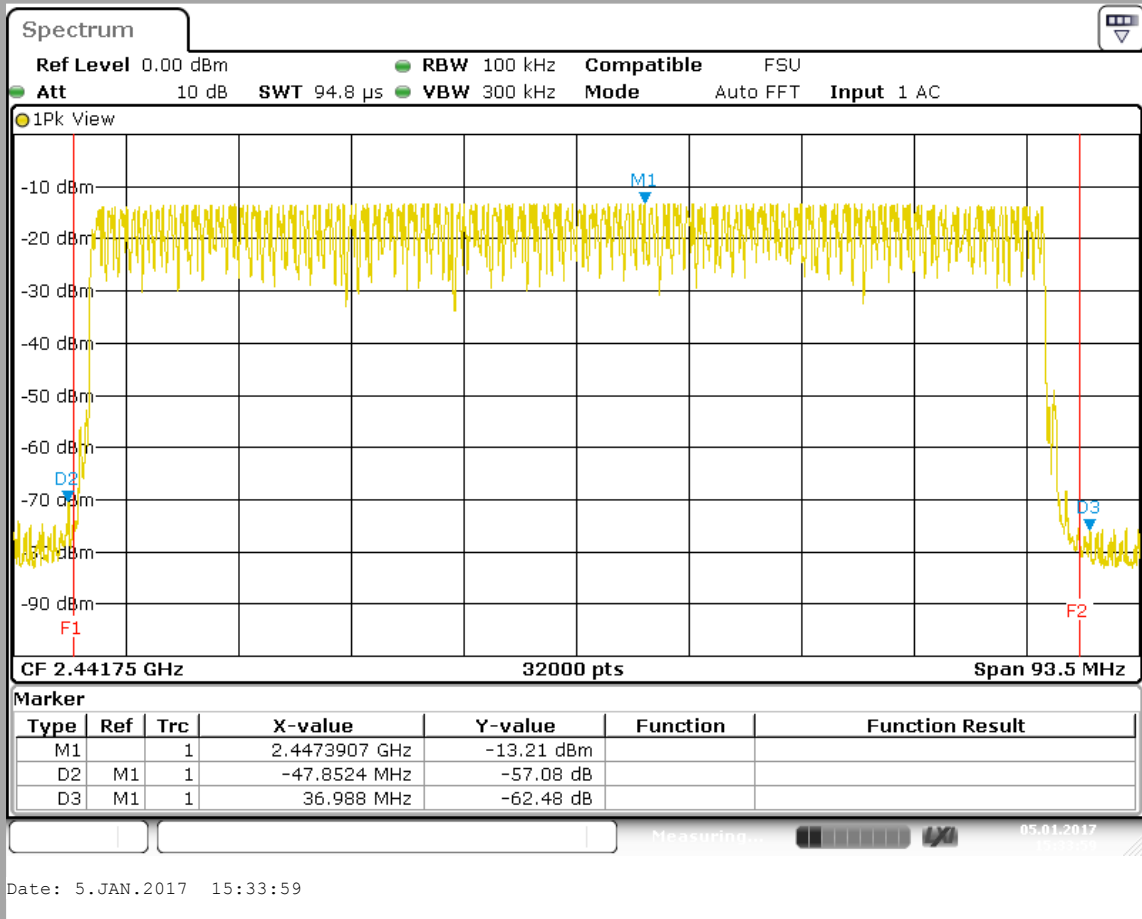


Frequency (MHz)	Level (dBc)	Limit (dBc)
2400	59,17	20
2483.5	65,23	20



L C I E

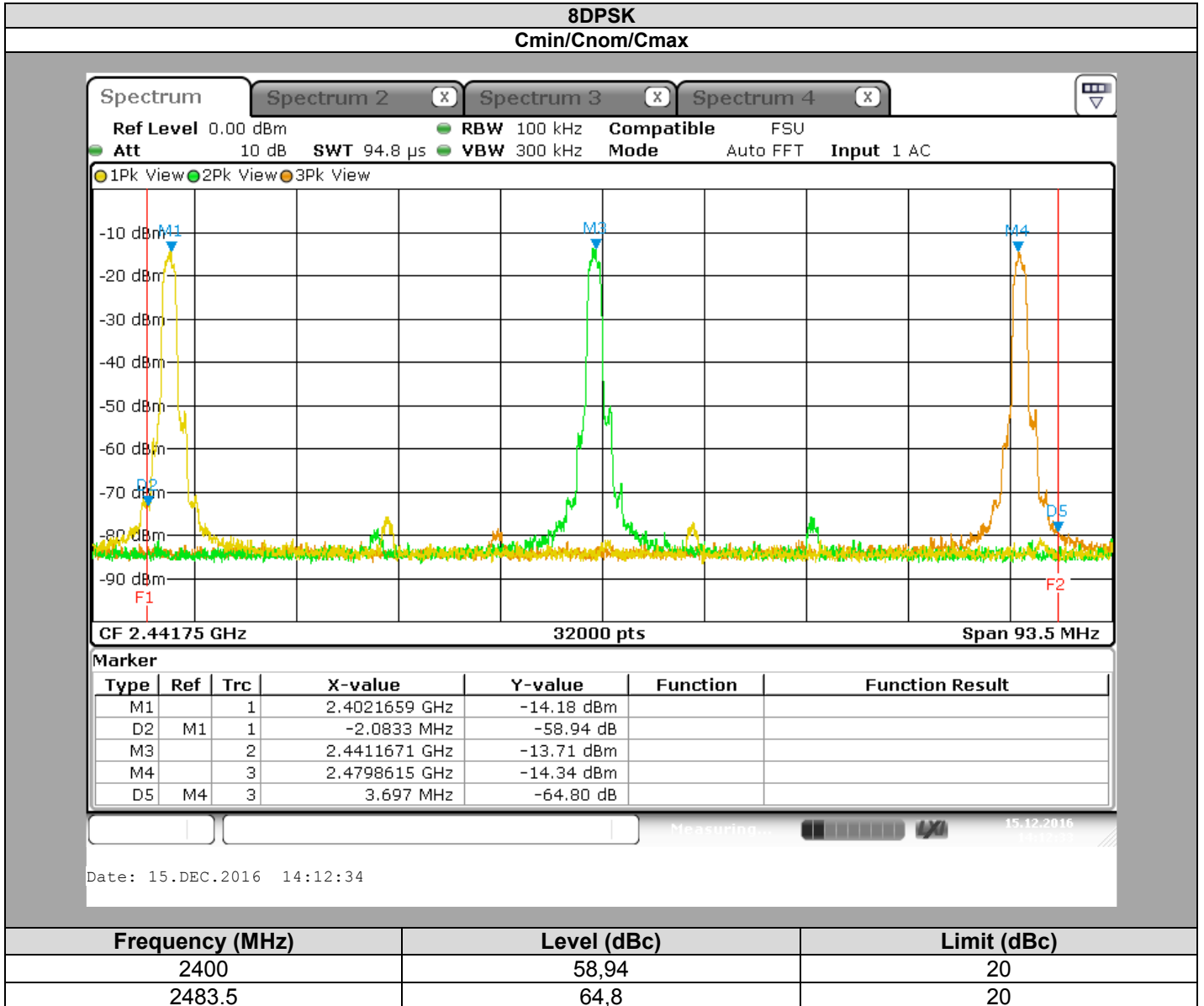
$\pi/4$ DQPSK
Call



Frequency (MHz)	Level (dBc)	Limit (dBc)
2400	57,08	20
2483.5	62,48	20



L C I E

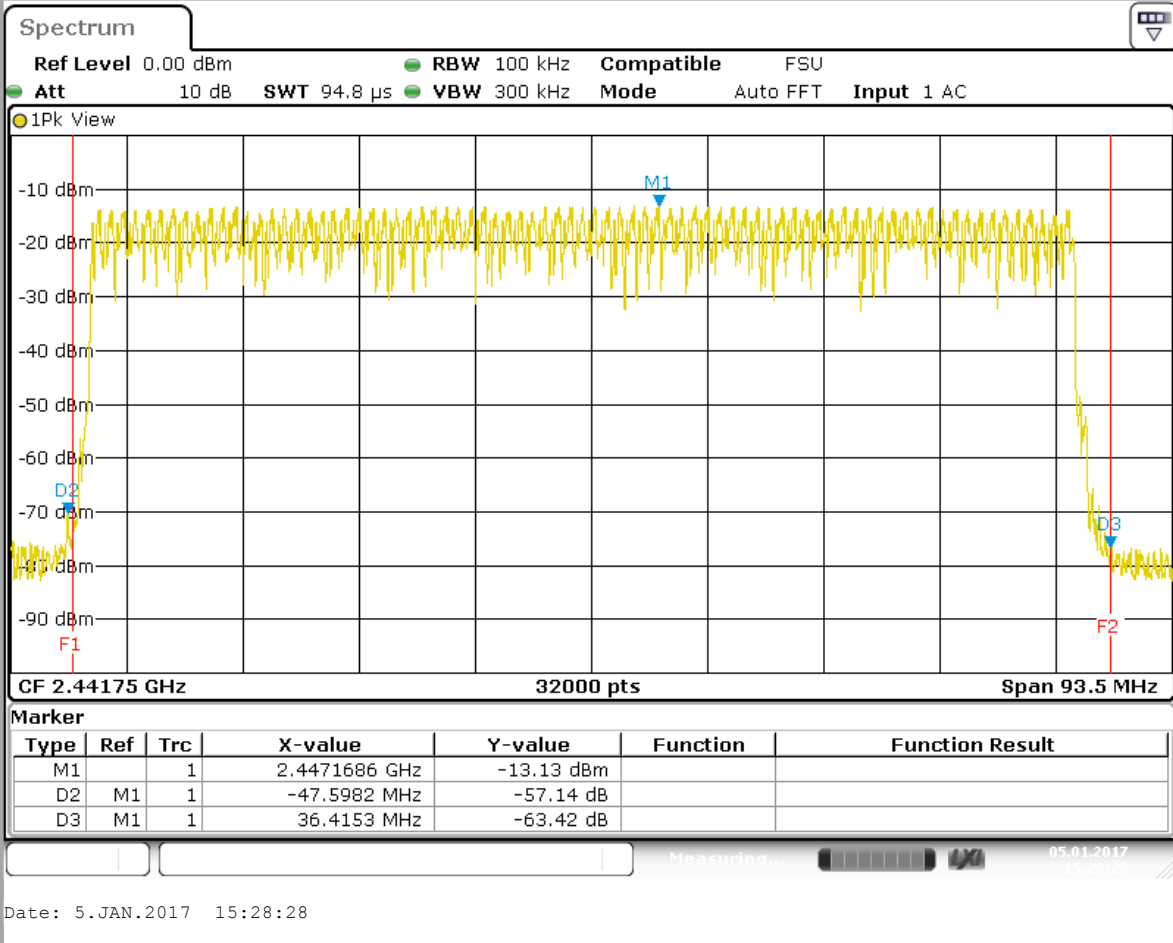




L C I E

8DPSK

Call



Frequency (MHz)	Level (dBc)	Limit (dBc)
2400	57,14	20
2483.5	63,42	20

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**, SN: **616476080862**, 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 : Select Author
Date of test : December 21, 2016
Ambient temperature : 24 °C
Relative humidity : 41 %

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



11.3. LIMIT

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

11.4. TEST EQUIPMENT LIST

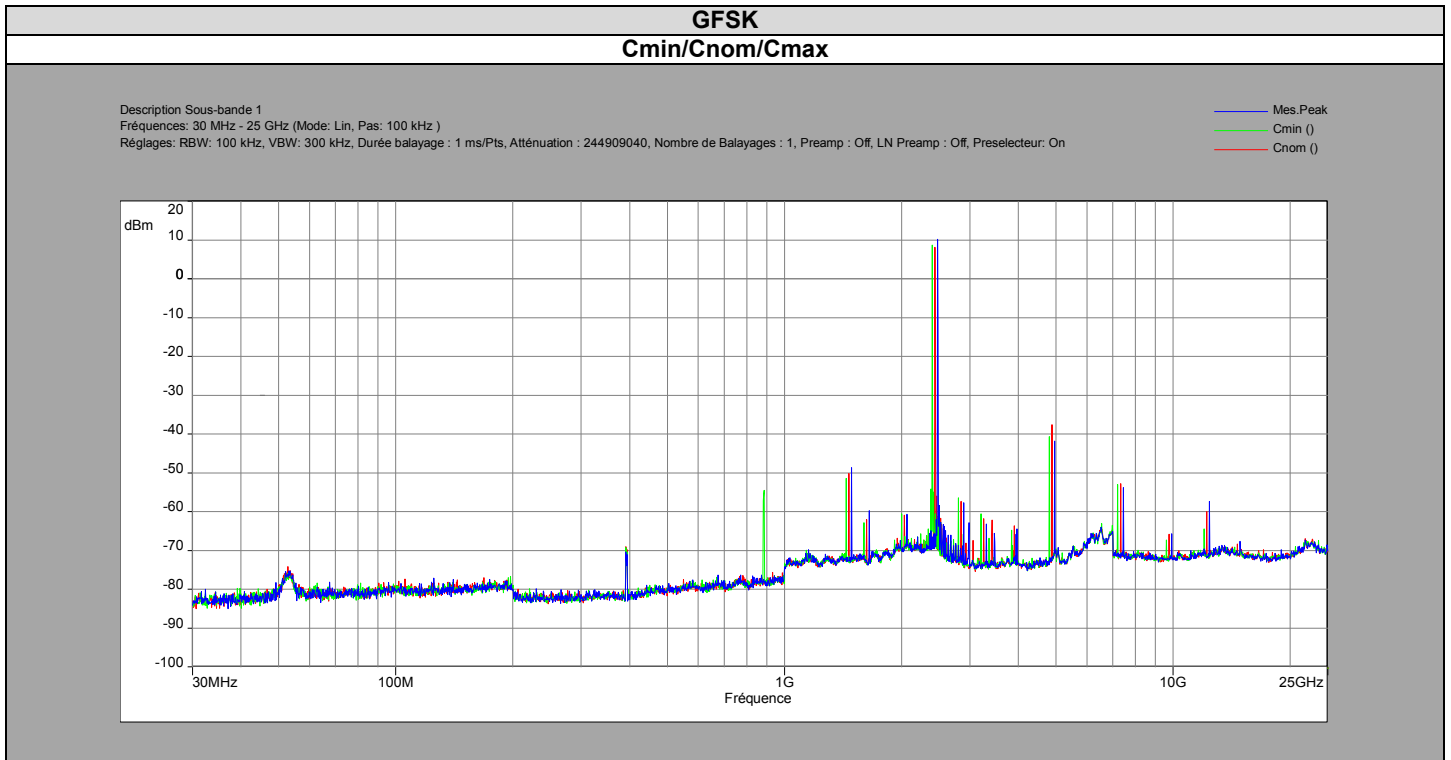
DESCRIPTION	MANUFACTURER	MODEL	N° LCIE	Cal_Date	Cal_Due
EMI receiver	ROHDE & SCHWARZ	ESI40 1088 740K40	A2642010	2016/07	2017/07
cable	Télédyne	084-0555-2MTR	A5329758	2016/10	2017/10
Attenuator 3dB	WEINSCHEL	WA54-3-12	A7122223	2016/10	2017/10
Programmable AC/DC power supply	-; KIKUSUI	PCR500M	A7040079	2016/06	2018/06
Multi-meter	KEITHLEY	2000	A1242090	voir etiquette	voir étiquette
Filter	PASTERNAK	PE8213	A7480048	2015/09	2017/09

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



L C I E

11.5. RESULTS



Frequency (MHz)	Level (dBm)	Level (dBc)	Limit (dBc)
2402	8,697		
4804,1	-40,668	49,365	20
1441,2	-51,397	60,094	20
390,9	-69,241	77,938	20
2441	8,079		
4882	-37,618	45,697	20
1464,6	-50,125	58,204	20
390,5	-68,989	77,068	20
2480	10,18		
4959,9	-41,773	51,953	20
1488	-48,706	58,886	20
390,5	-70,376	80,556	20



L C I E

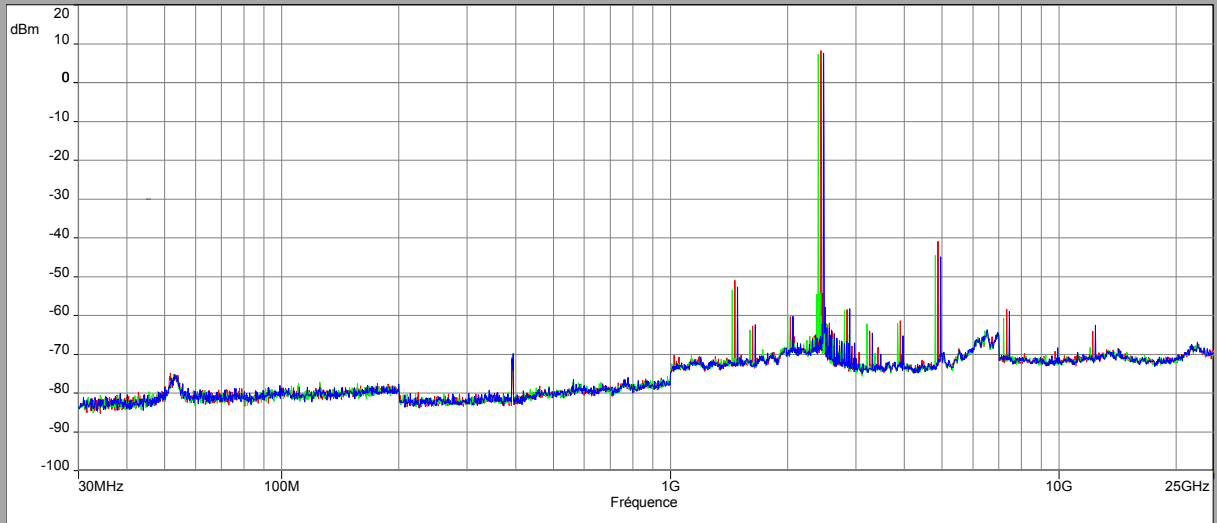
$\pi/4$ DQPSK
Cmin/Cnom/Cmax

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 : 245499696, Nombre de Balayages : 1, Preamp : Off, LN Preamp : Off, Preselecteur: On

Mes.Peak
Cmin ()
Cnom ()



Frequency (MHz)	Level (dBm)	Level (dBc)	Limit (dBc)
2402	7,361		
4804,8	-44,587	51,948	20
1441,3	-53,47	60,831	20
390,7	-70,767	78,128	20
2441	8,187		
4882,8	-40,894	49,081	20
1464,5	-50,991	59,178	20
390,5	-71,298	79,485	20
2480	7,495		
4960,8	-44,944	52,439	20
1487,7	-52,698	60,193	20
393,5	-69,865	77,36	20



L C I E

8DPSK

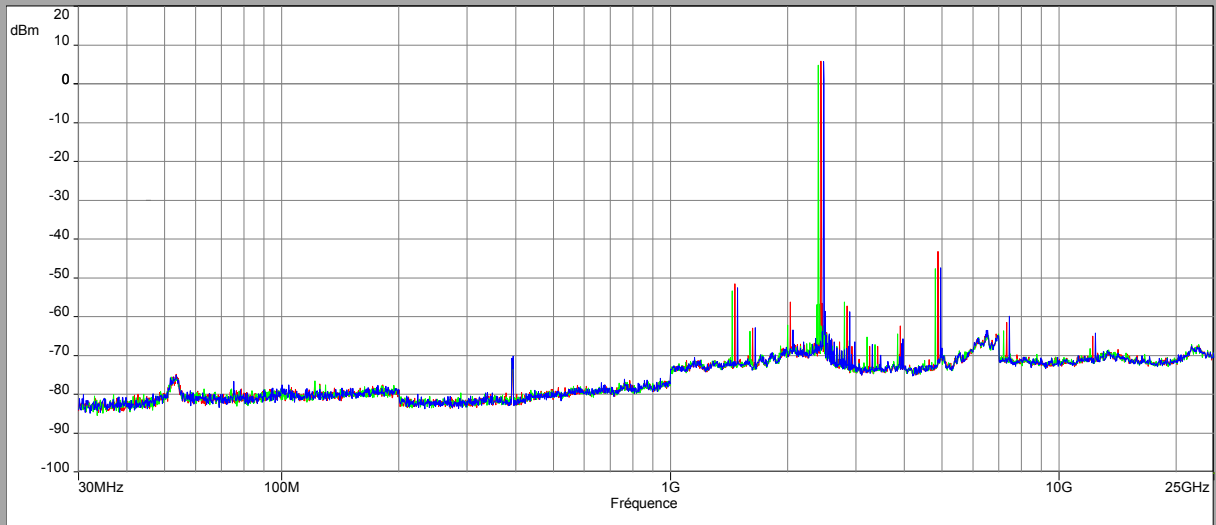
Cmin/Cnom/Cmax

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: 248499088, Nombre de Balayages: 1, Preamp: Off, LN Preamp: Off, Preselecteur: On

Mes.Peak
Cmin ()
Cnom ()



Frequency (MHz)	Level (dBm)	Level (dBc)	Limit (dBc)
2402	4,851		
4803,7	-47,605	52,456	20
1441,3	-53,342	58,193	20
393,5	-71,297	76,148	20
2441	5,876		
4881,7	-43,164	49,04	20
1464,7	-51,526	57,402	20
390,9	-72,123	77,999	20
2480	5,757		
4959,7	-47,466	53,223	20
1488,1	-52,57	58,327	20
393,5	-70,115	75,872	20

11.6. CONCLUSION

Unwanted Emission into non-restricted frequency bands measurement performed on the sample of the product **SAGEMCOM DCIWA384 UHD AIt US**, SN: **616476080862**, 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 : December 5, 2016
Ambient temperature : 21°C
Relative humidity : 48%

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)



Photograph for AC Power Line Conducted Emissions (Rear view)



12.3. LIMIT

Quasi-Peak

0,15kHz to 0,5MHz: 66dB μ V to 56dB μ V*

0,5MHz to 5MHz: 56dB μ V

5MHz to 30MHz: 60dB μ V

Average

0,15kHz to 0,5MHz: 56dB μ V to 46dB μ V*

0,5MHz to 5MHz: 46dB μ V

5MHz to 30MHz: 50dB μ V

*Decreases with the logarithm of the frequency

12.4. TEST EQUIPMENT LIST

Test Equipment Used					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
EMI Test Receiver	ROHDE & SCHWARZ	ESIB26	A2642021	2015-12	2016-12
V ISLN	ROHDE & SCHWARZ	ESH2-Z5	C2322001	2016-05	2017-05
Pulse limiter	ROHDE & SCHWARZ	ESH3-Z2	A2649008	2016-03	2017-03
Cable	-	-	A5329417	2016-10	2017-10
Cable	-	-	A5329589	2016-10	2017-10
Ground plane	LCIE	-	-	-	-

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

12.5. DIVERGENCE, ADDITION OR SUPPRESSION ON THE TEST SPECIFICATION

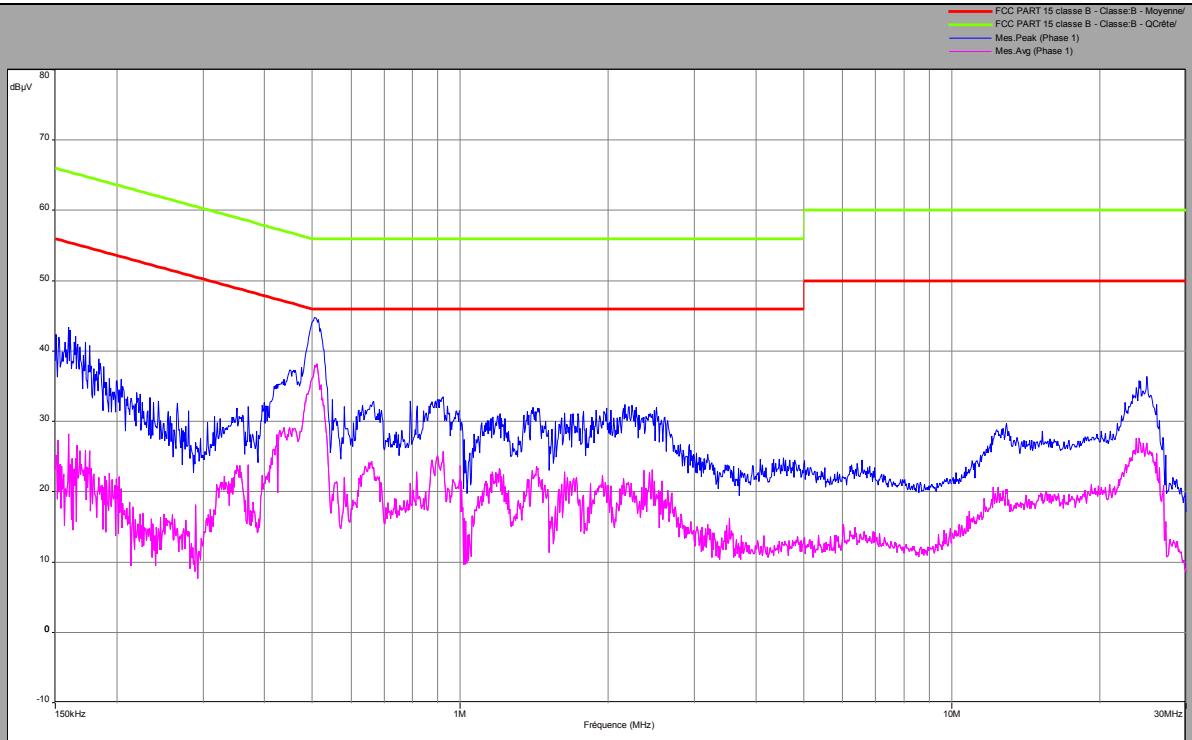
None Divergence:



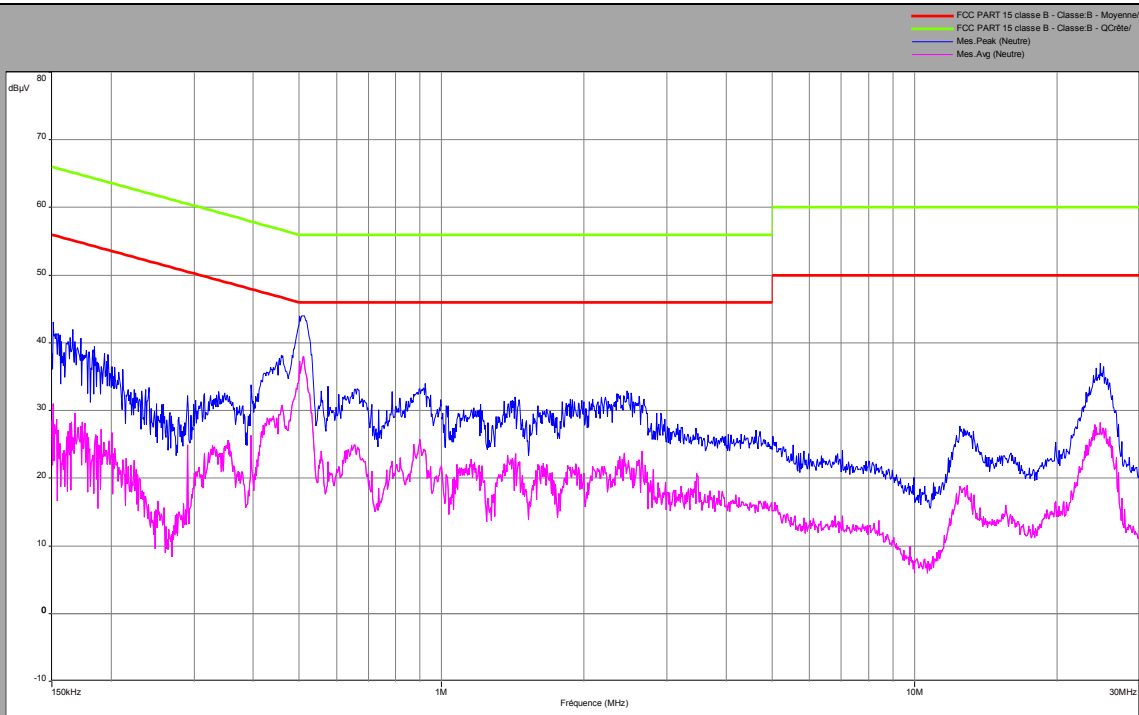
L C I E

12.6. RESULTS

Phase



Line





L C I E

Phase Line							
Frequency (MHz)	Peak Level (dB μ V)	Quasi-Peak Level (dB μ V)	Quasi-Peak Limit (dB μ V)	Margin Quasi-peak limit	Average Level (dB μ V)	Average Limit (dB μ V)	Margin Average Limit
0,16	43,4	-	65,5	22,1	28,2	55,5	27,3
0,505	44,6	-	60	15,4	38,2	50	11,8
2,456	31	-	56	25	23,2	46	22,8
12,93	29,7	-	60	30,3	19,7	50	30,3
25	36,4	-	60	23,6	26,7	50	23,3

Neutral Line							
Frequency (MHz)	Peak Level (dB μ V)	Quasi-Peak Level (dB μ V)	Quasi-Peak Limit (dB μ V)	Margin Quasi-peak limit	Average Level (dB μ V)	Average Limit (dB μ V)	Margin Average Limit
0,166	42	-	65,2	23,2	29,6	55,2	25,6
0,51	44	-	56	12	38	46	8
2,652	31	-	56	25	24	46	22
12,486	26,8	-	60	33,2	18,8	50	31,2
24,696	37	-	60	23	27,4	50	22,6

12.7. CONCLUSION

Ac Power Line Conducted Emission measurement performed on the sample of the product **SAGEMCOM DCIWA384 UHD Alt US**, SN: **616476080862** 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 : Laurent DENEUX
Date of test : December 5, 2016 to December 9, 2016
Ambient temperature : 18°C
Relative humidity : 46%

13.2. TEST SETUP

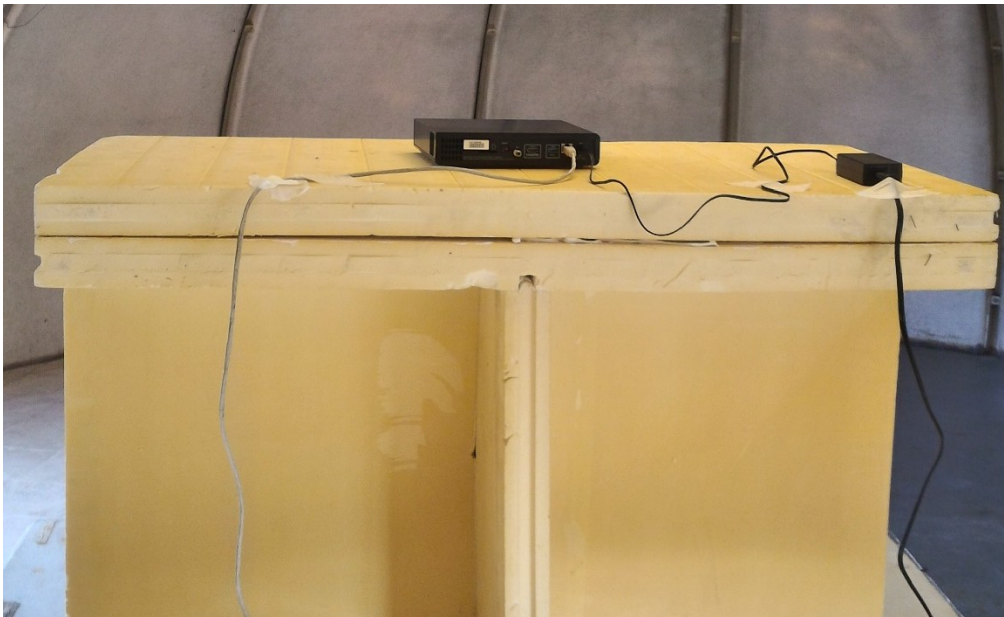
The product has been tested according to ANSI C63.10 (2013). The EUT is placed **on an open area test site**. Distance between measuring antenna and the EUT is **10m**. Test is performed in horizontal (H) and vertical (V) polarization with **bilog** antenna below 1GHz and with a horn antenna above 1GHz.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

13.3. LIMIT

Limit at 3m:

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

Limit at 10m:

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

13.4. TEST EQUIPMENT LIST

Apparatus	Trade Mark	Type	Registration number	Cal. Date	Cal. Due
Open test site	LCIE	-	F2000400	2016-05	2017-05
EMI Test Receiver	ROHDE & SCHWARZ	ESIB26	A2642021	2015-12	2016-12
Preamplifier	HELWETT PACKARD	8449B	A7080071	2016-01	2017-01
Bilog antenna	CHASE	CBL 6112A	C2040040	2016-01	2017-01
Horn	ETS	3115	C2042023	2016-01	2017-01
Measurement horn antenna 18-26,5GHz	PASTERNAK	PE9852/2F-20	C2042048	2015/05	2017/05
Cable	-	-	A5329542	2016-03	2017-03
Cable	-	-	A5329449	2016-10	2017-10
Cable	-	-	A5329368	2016-05	2017-05
Cable	-	-	A5329444	2016-10	2017-10

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:



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13.6. RESULTS

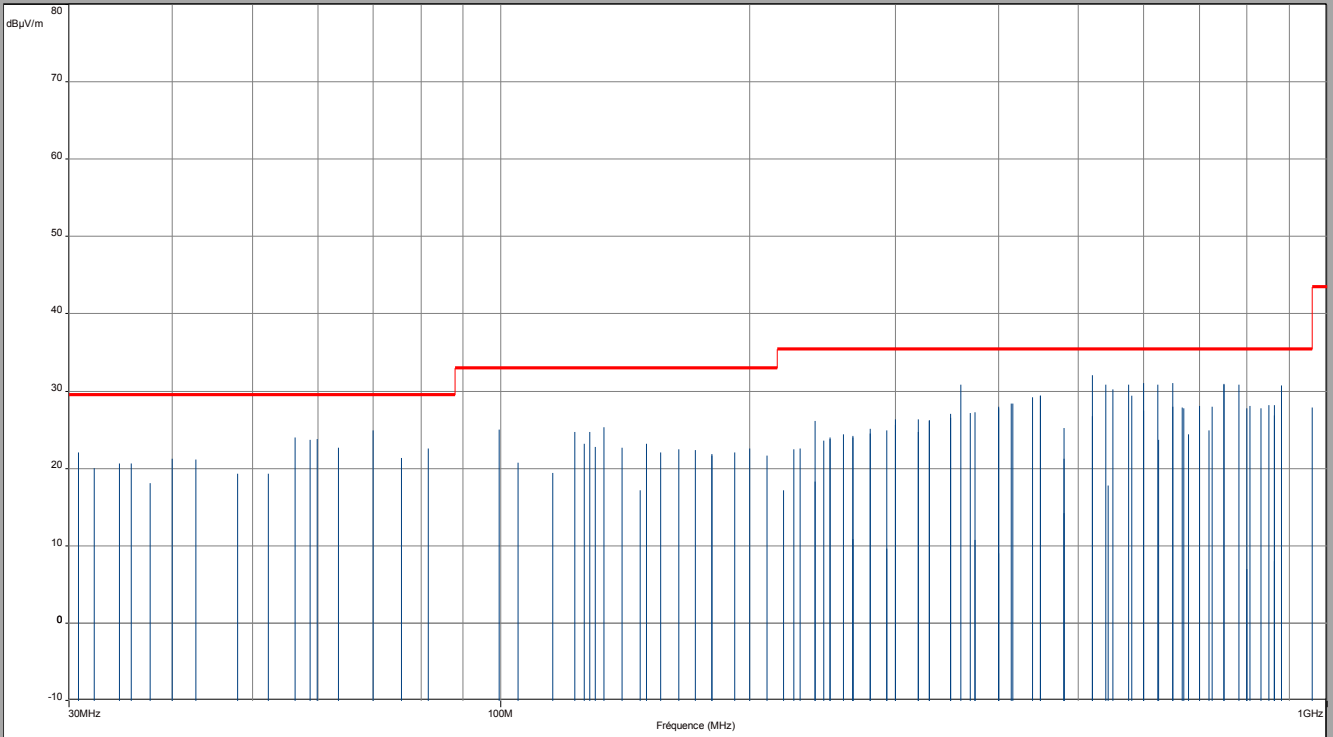
GFSK

Below 1GHz

Cnom

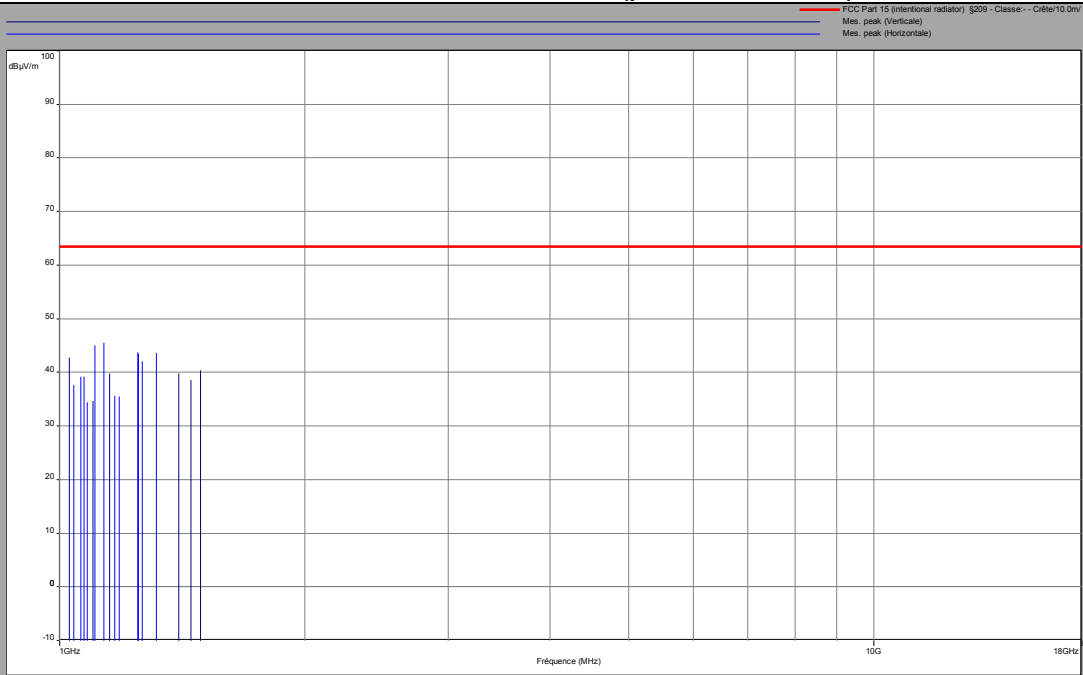
Vertical & horizontal Polarization

FCC Part 15 (intentional radiator) §209 - Classe: - - QCléte/10.0m/
Mes. Q-Peak (Horizontale)
Mes. Q-Peak (Verticale)
Finaux Manuel (Horizontale)
Finaux Manuel (Verticale)

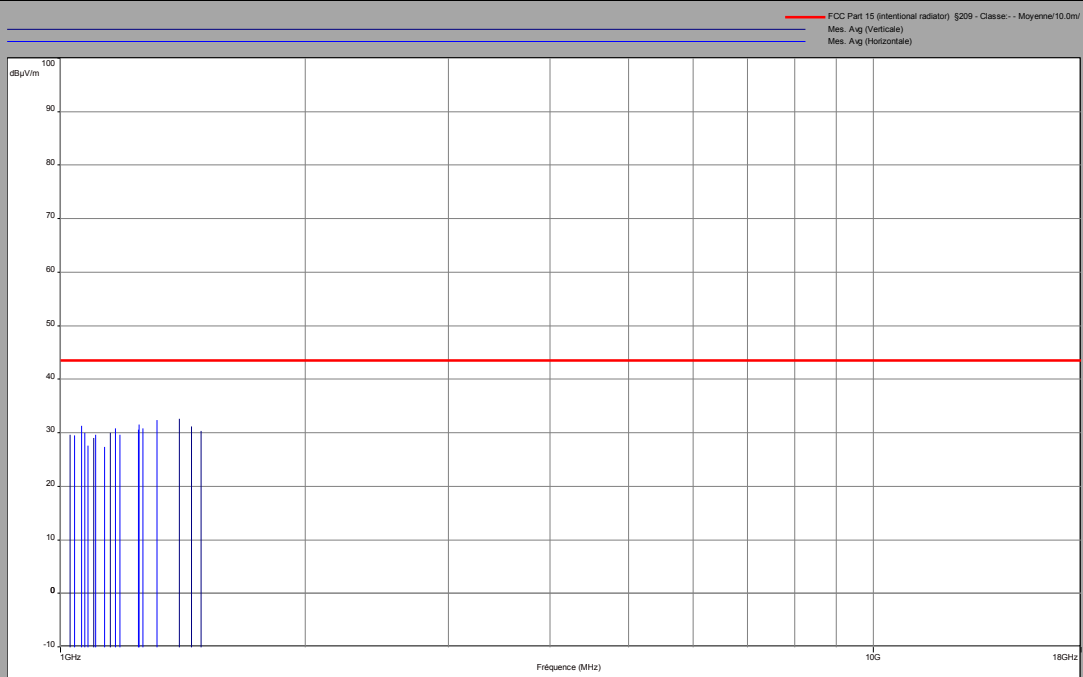


GFSK
Above 1GHz
Cnom

Vertical & horizontal Polarization (peak measurement)



No interference has been observed between 18GHz and 26GHz
Vertical & horizontal Polarization (average value measurement)



No interference has been observed between 18GHz and 26GHz



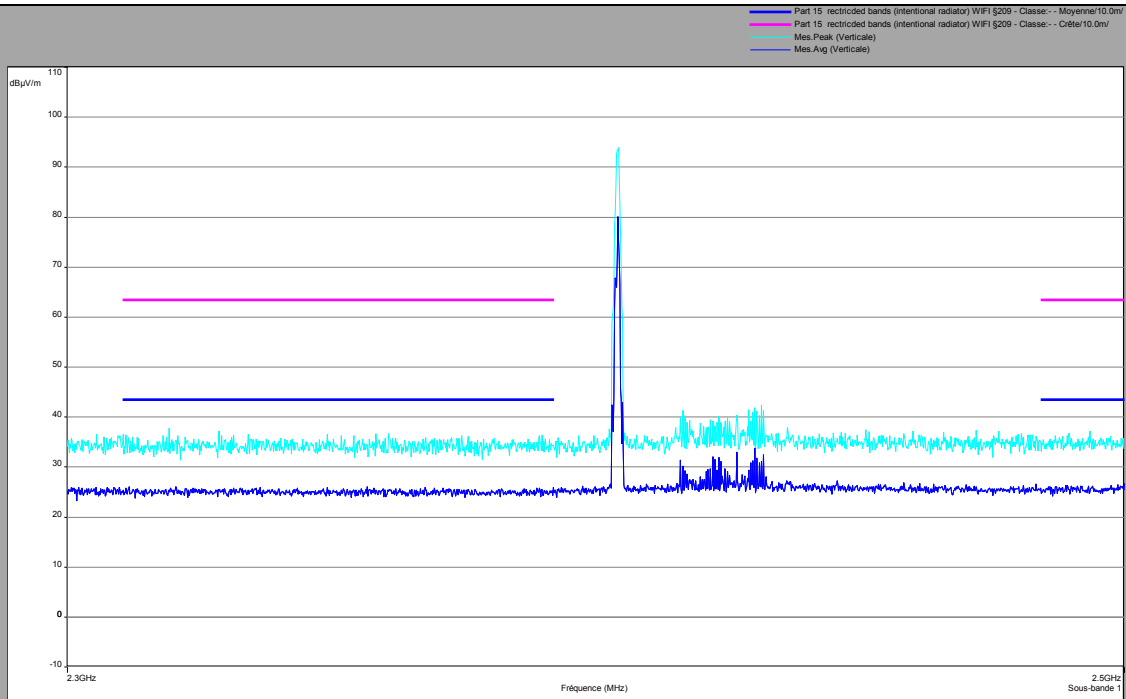
L C I E

GFSK

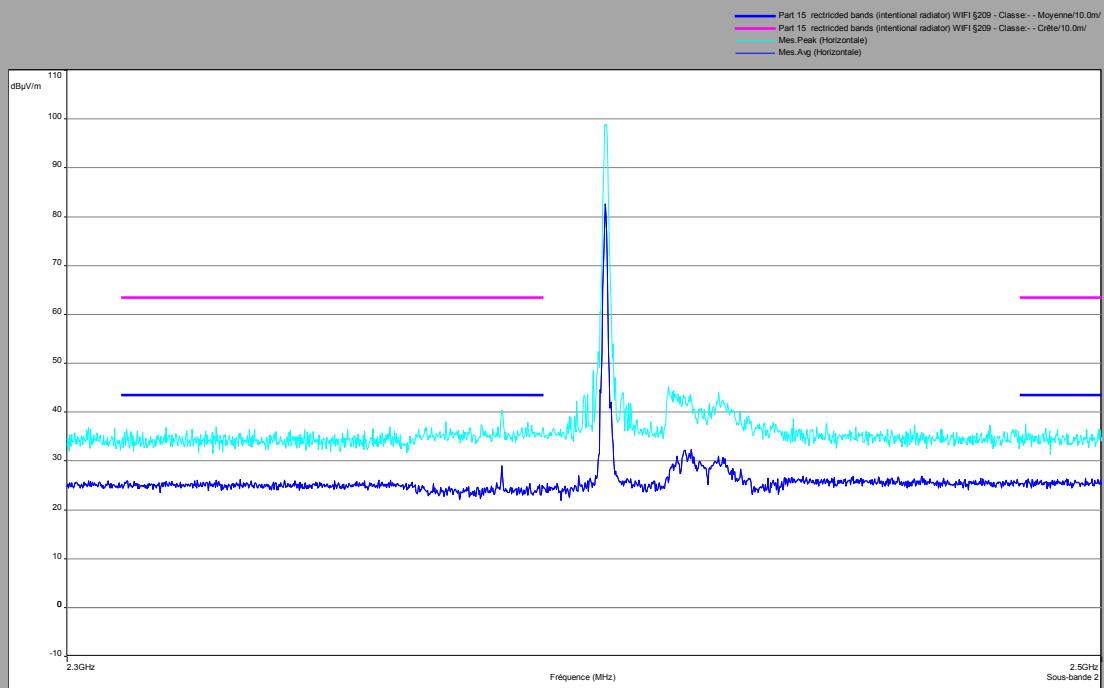
Above 1GHz Zoom 2310MHz-2500MHz

Cmin

Vertical Polarization



Horizontal polarization

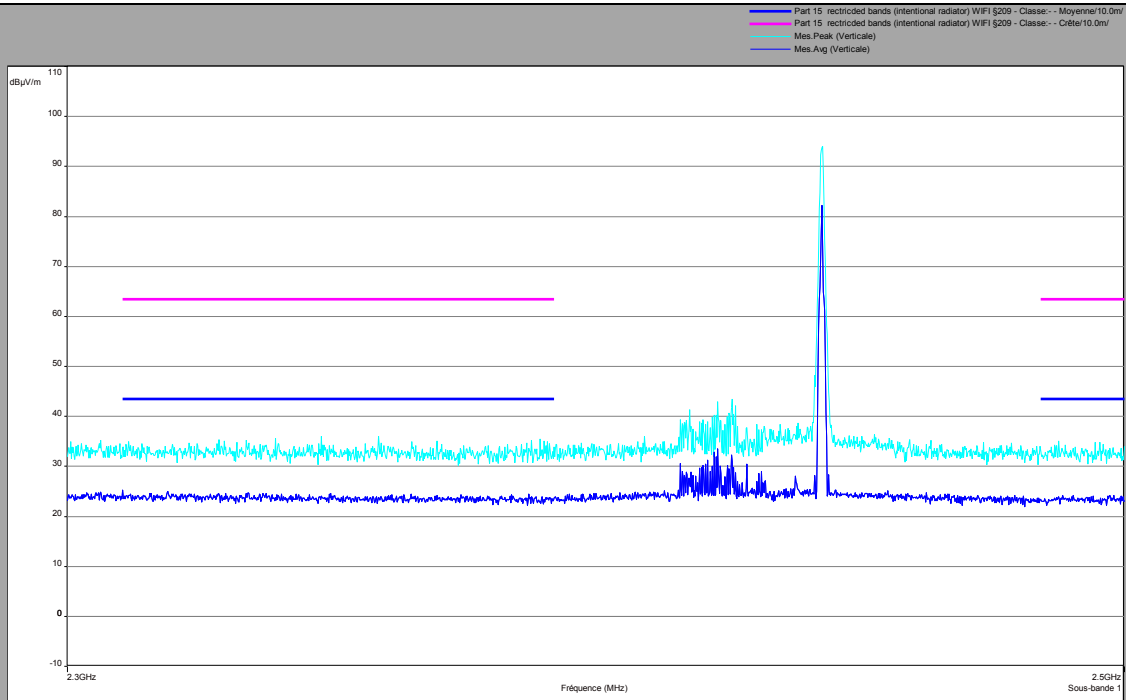


GFSK

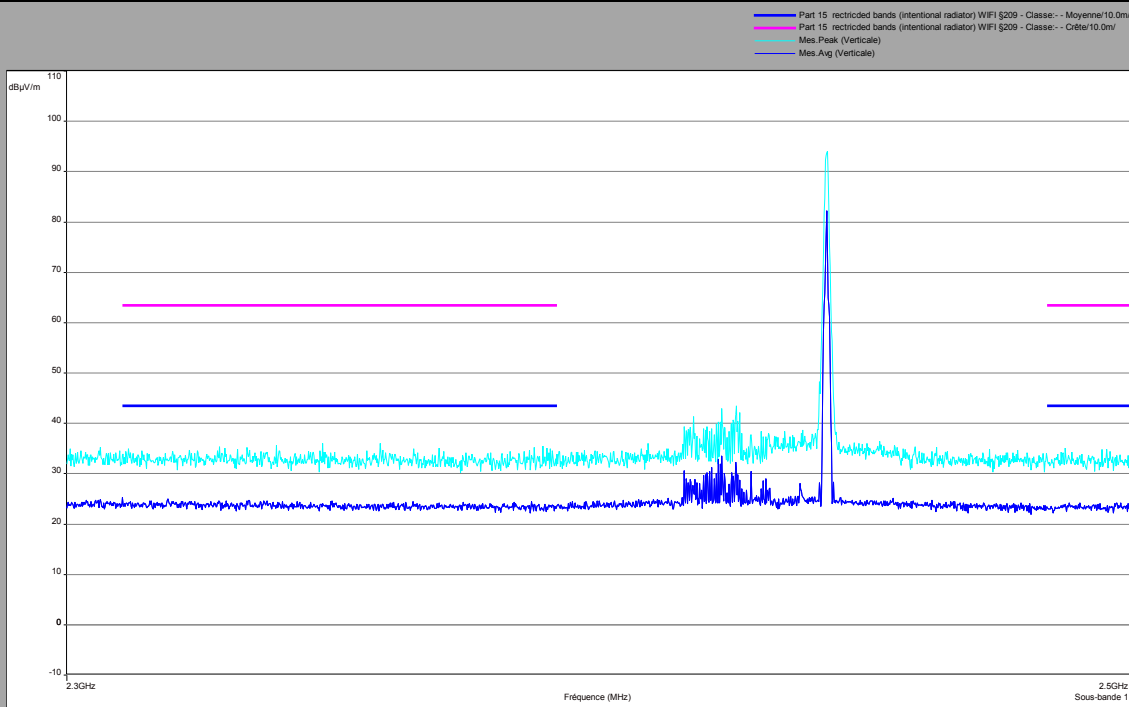
Above 1GHz Zoom 2310MHz-2500MHz

Cnom

Vertical Polarization



Horizontal polarization

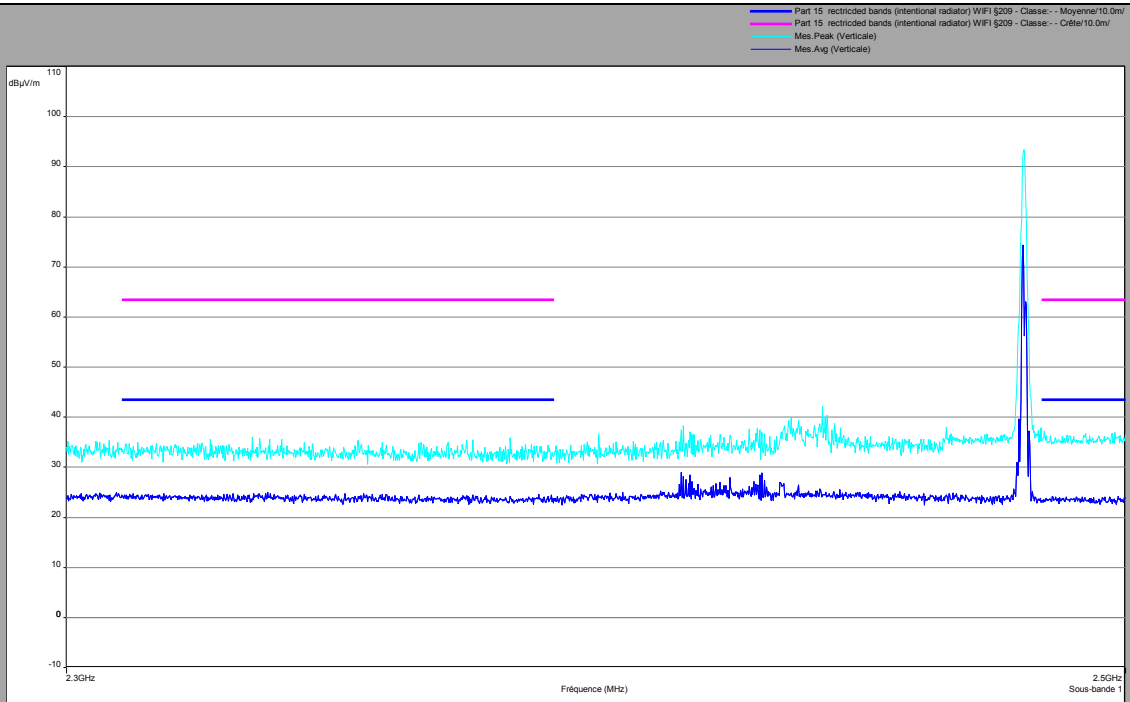


GFSK

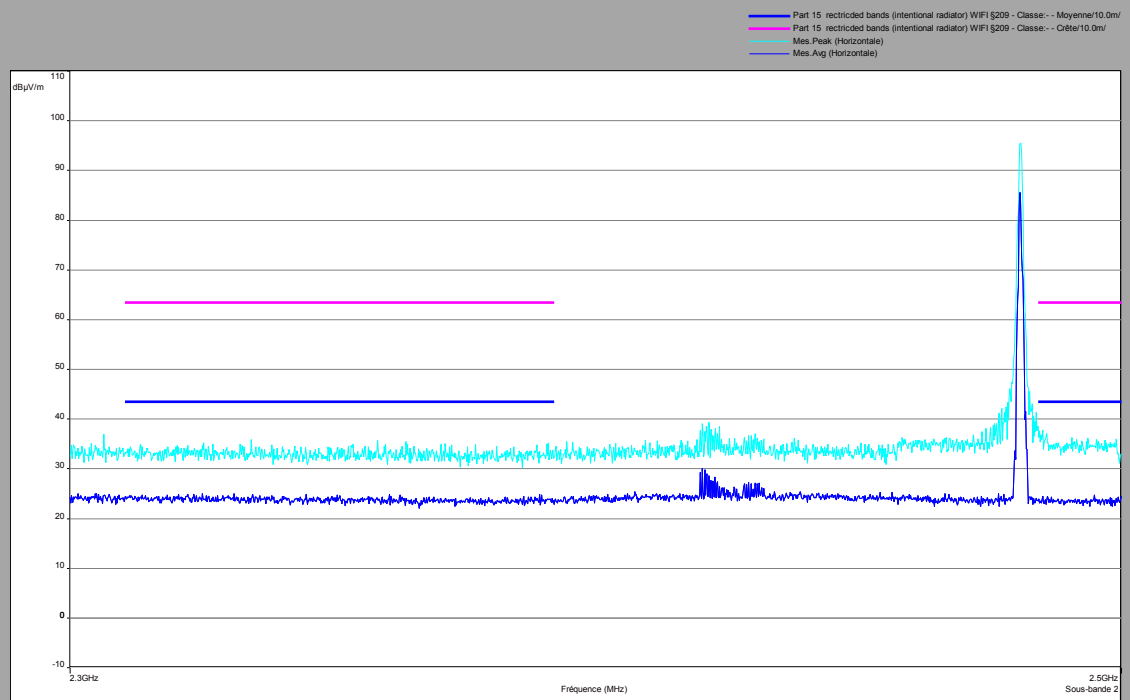
Above 1GHz Zoom 2310MHz-2500MHz

Cmax

Vertical Polarization



Horizontal polarization

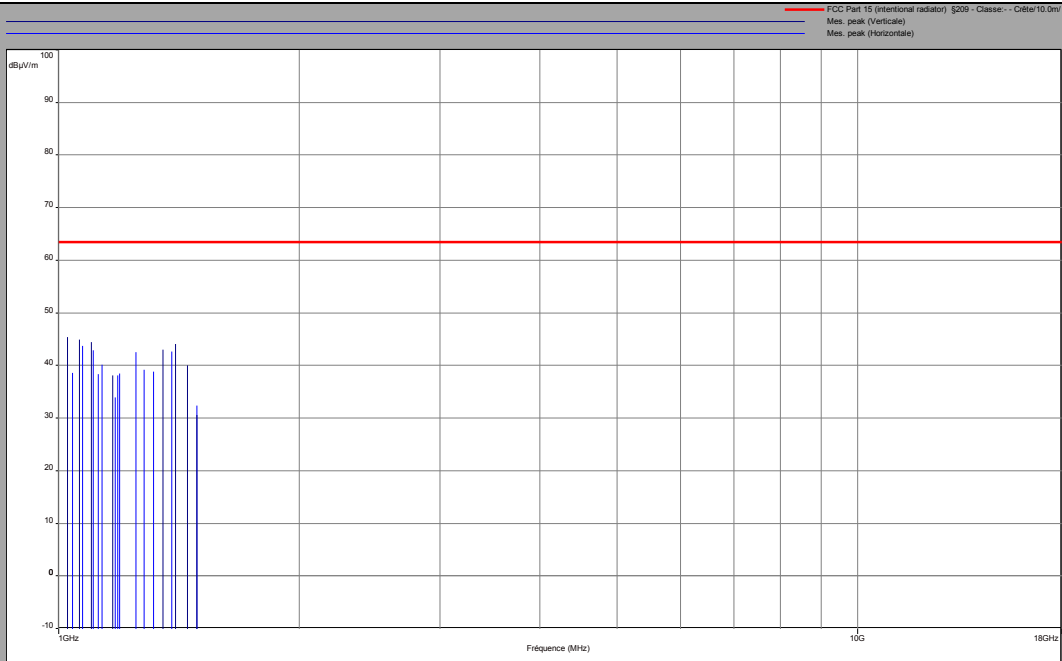




L C I E

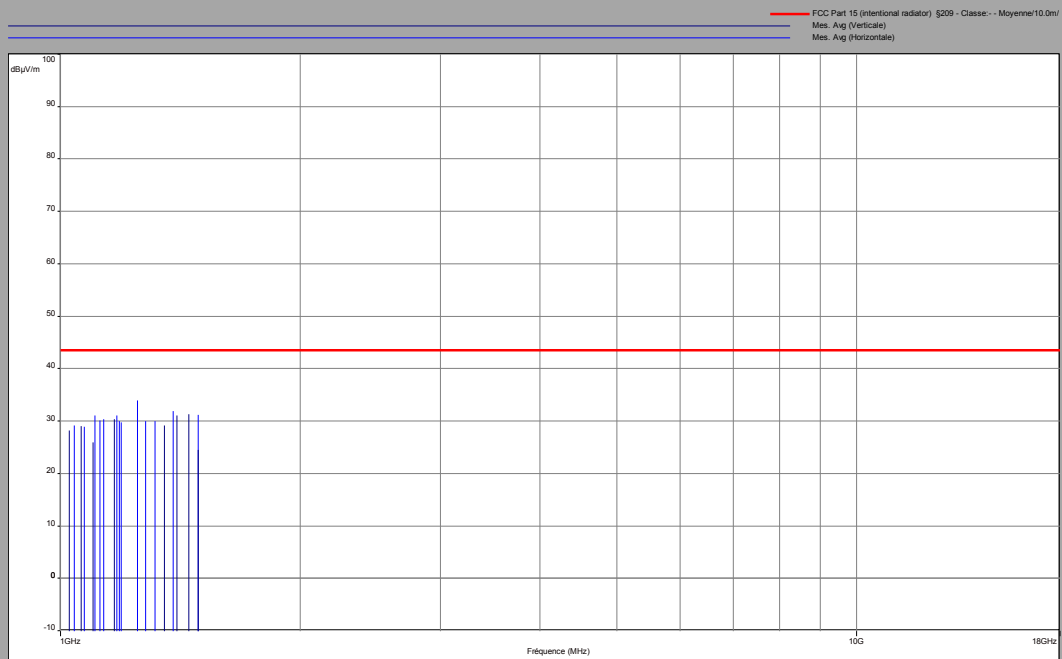
$\pi/4$ DQPSK
Above 1GHz

Cmin
Vertical Polarization



No interference has been observed between 18GHz and 26GHz

Horizontal polarization



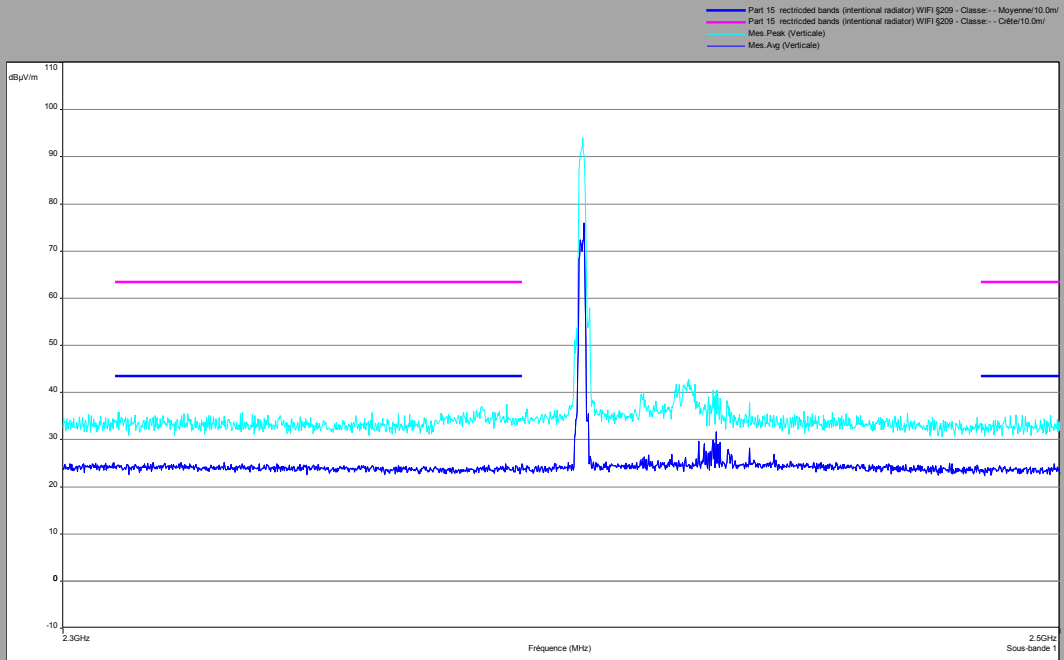
No interference has been observed between 18GHz and 26GHz

$\pi/4$ DQPSK

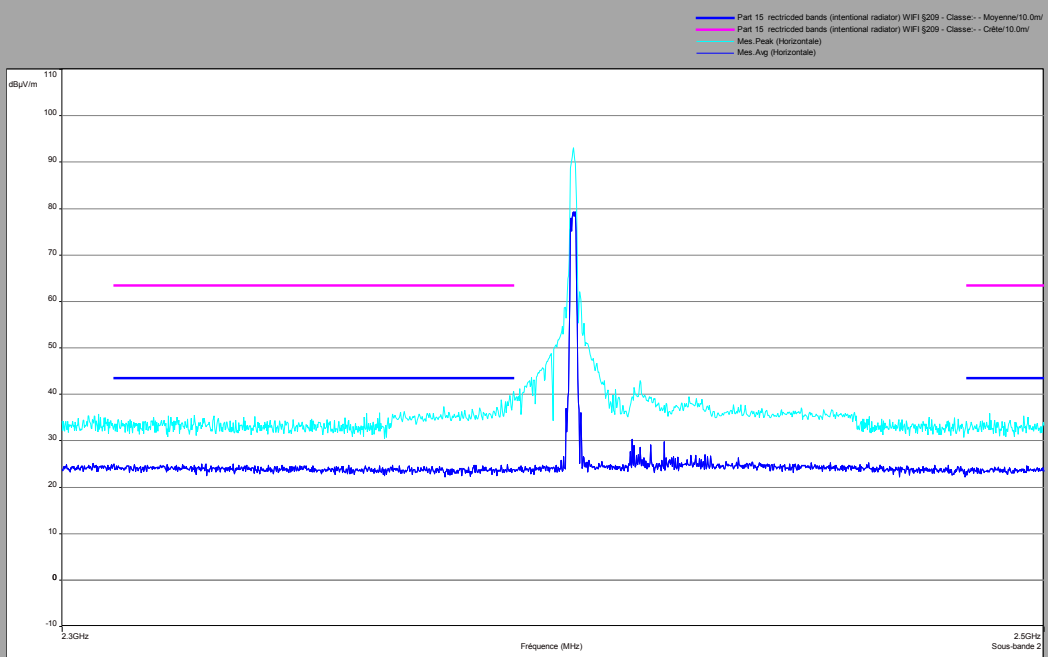
Above 1GHz Zoom 2310MHz-2500MHz

Cmin

Vertical Polarization



Horizontal polarization





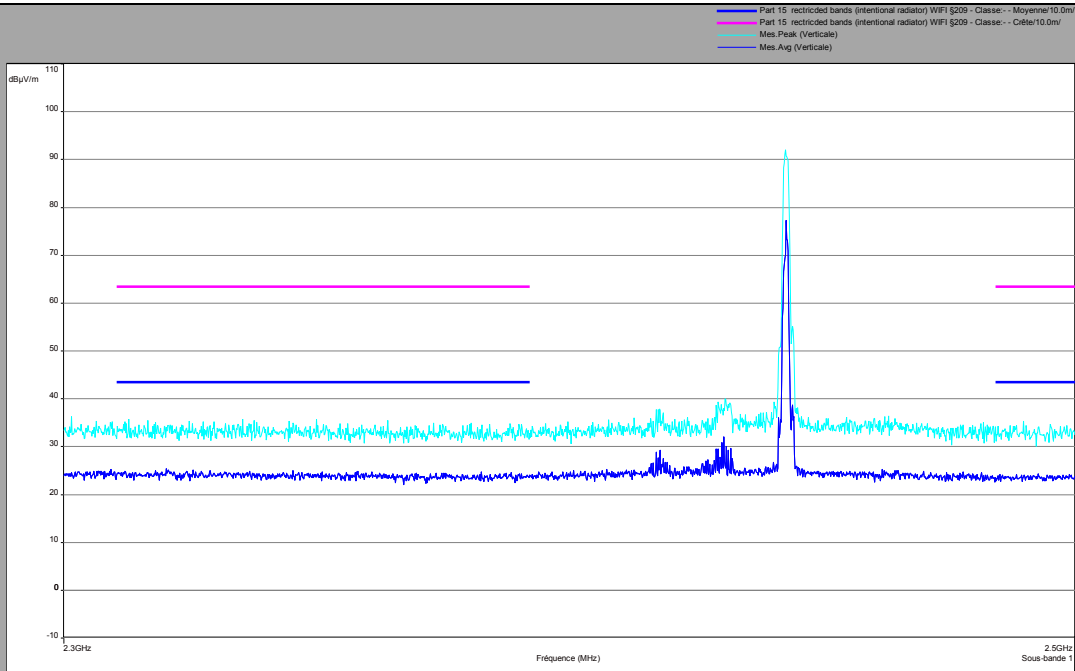
L C I E

$\pi/4$ DQPSK

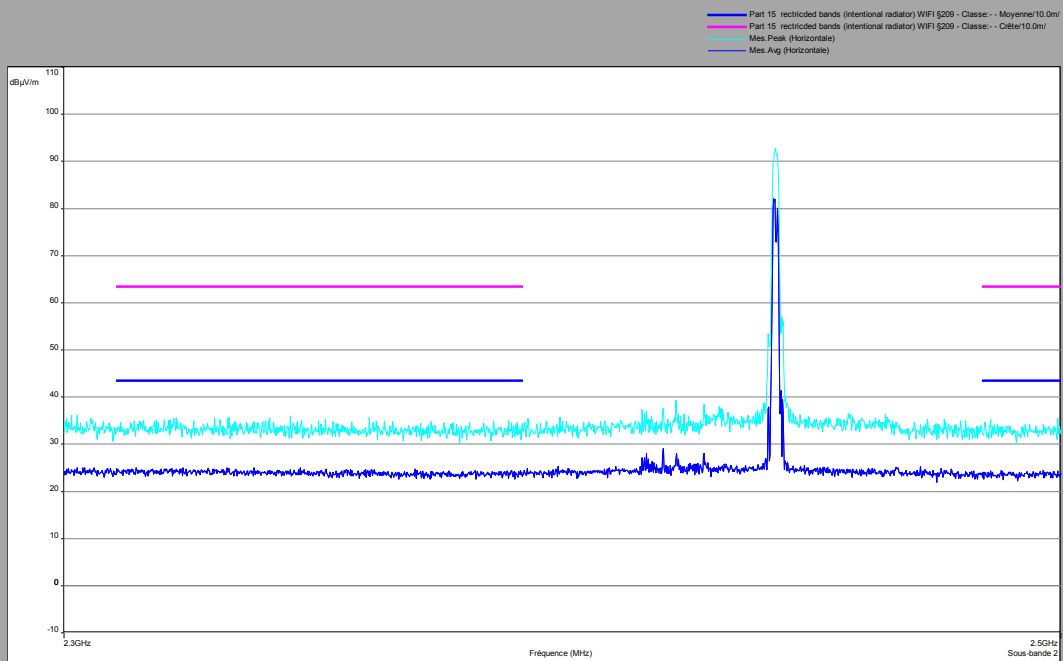
Above 1GHz Zoom 2310MHz-2500MHz

Cnom

Vertical Polarization



Horizontal polarization





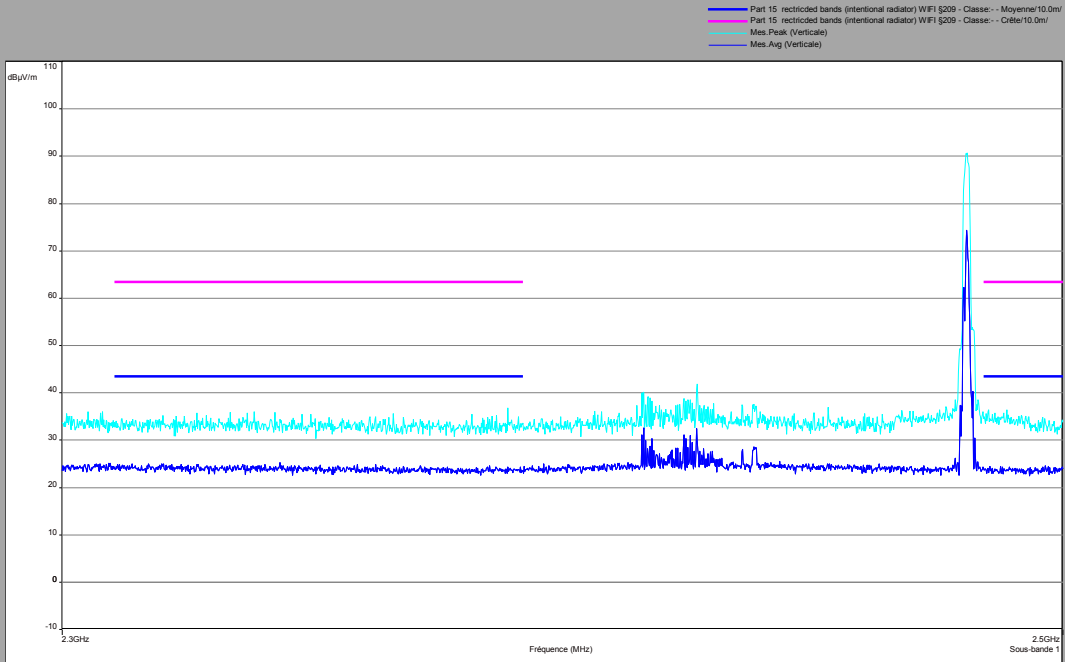
L C I E

$\pi/4$ DQPSK

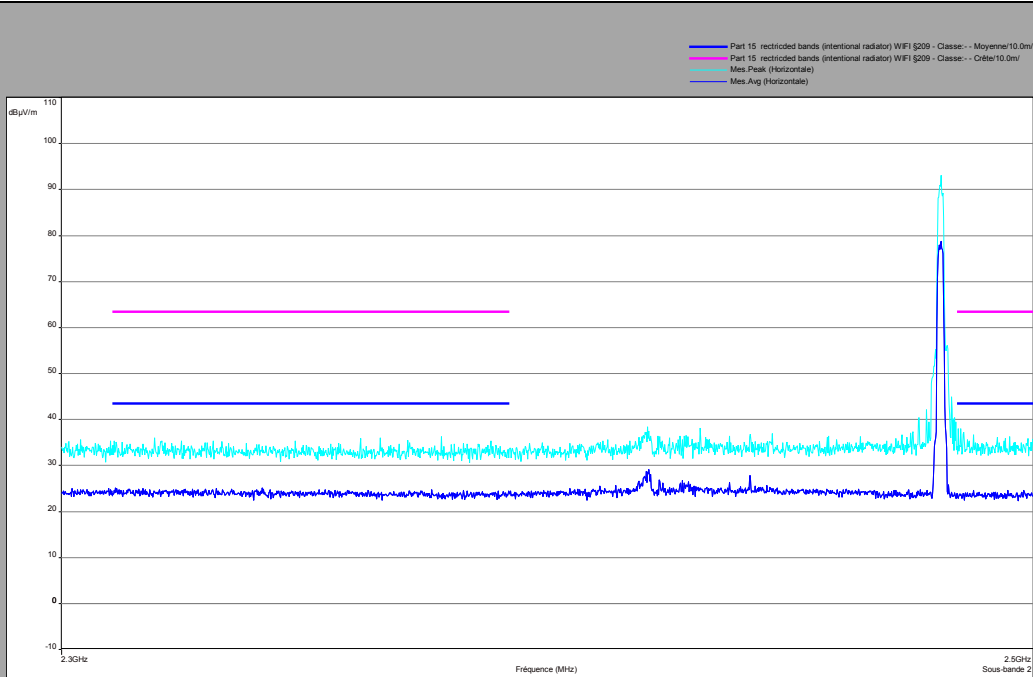
Above 1GHz Zoom 2310MHz-2500MHz

Cmax

Vertical Polarization



Horizontal polarization





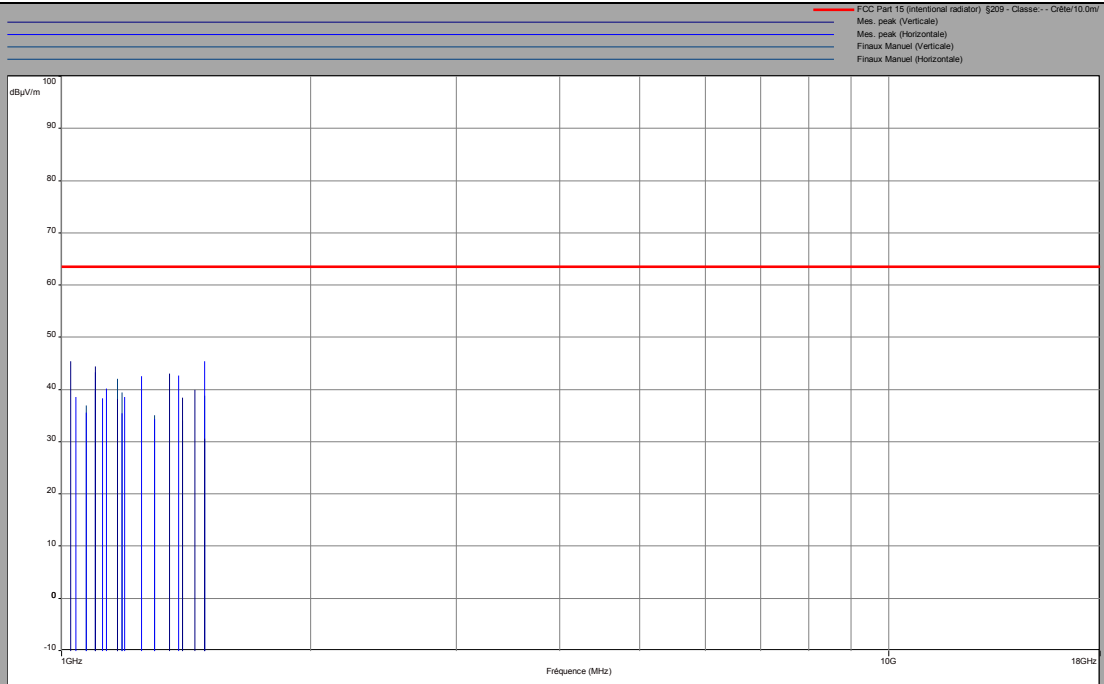
L C I E

8DPSK

Above 1GHz

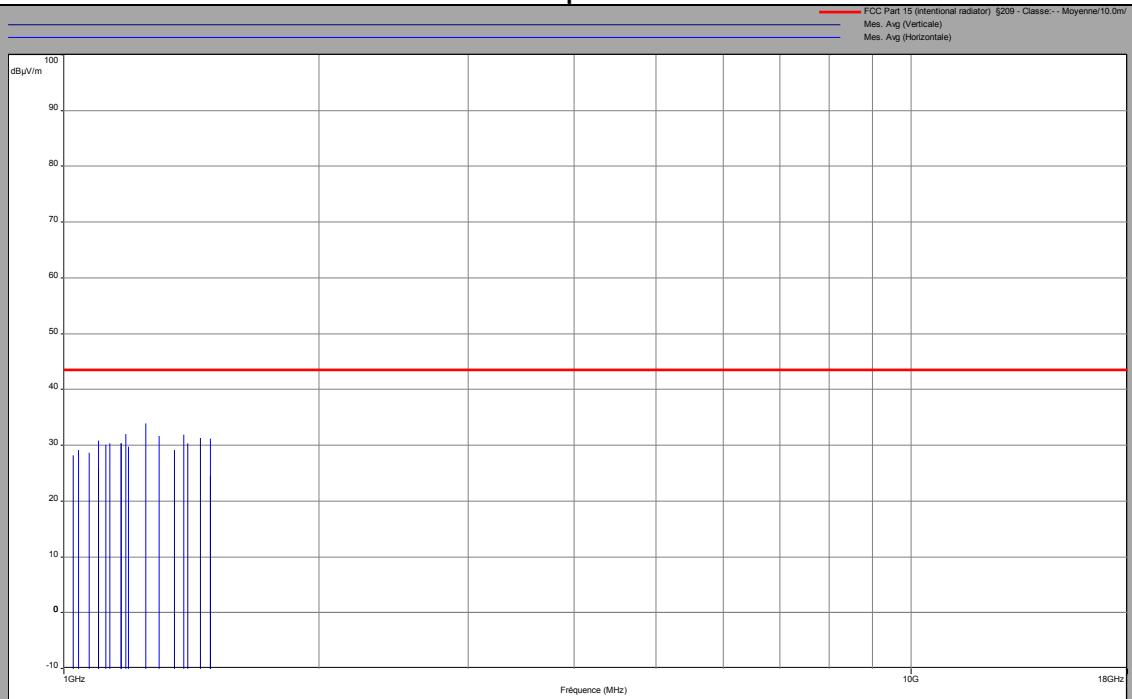
Cmin

Vertical Polarization



No interference has been observed between 18GHz and 26GHz

Horizontal polarization



No interference has been observed between 18GHz and 26GHz



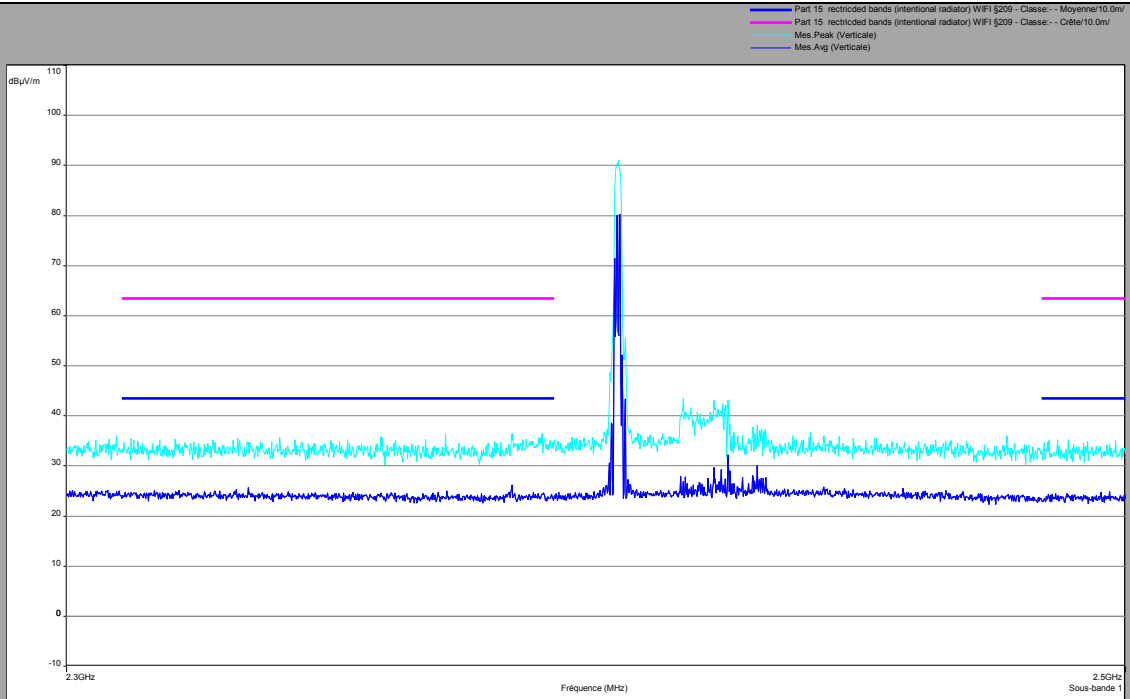
L C I E

8DPSK

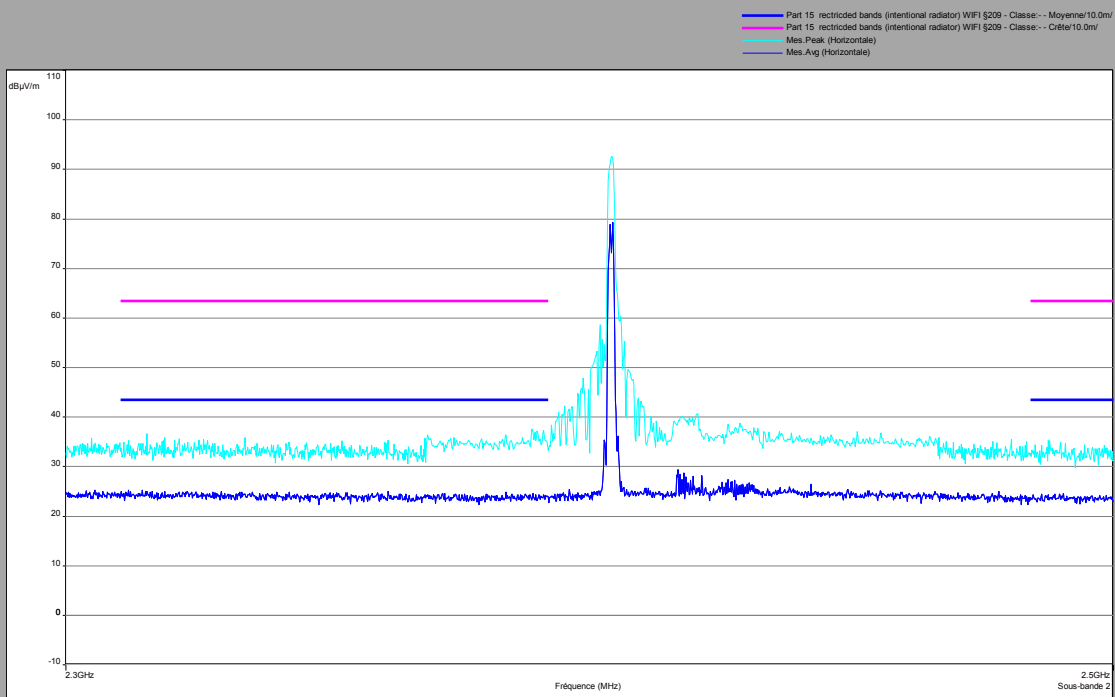
Above 1GHz Zoom 2310MHz-2500MHz

Cmin

Vertical Polarization



Horizontal polarization





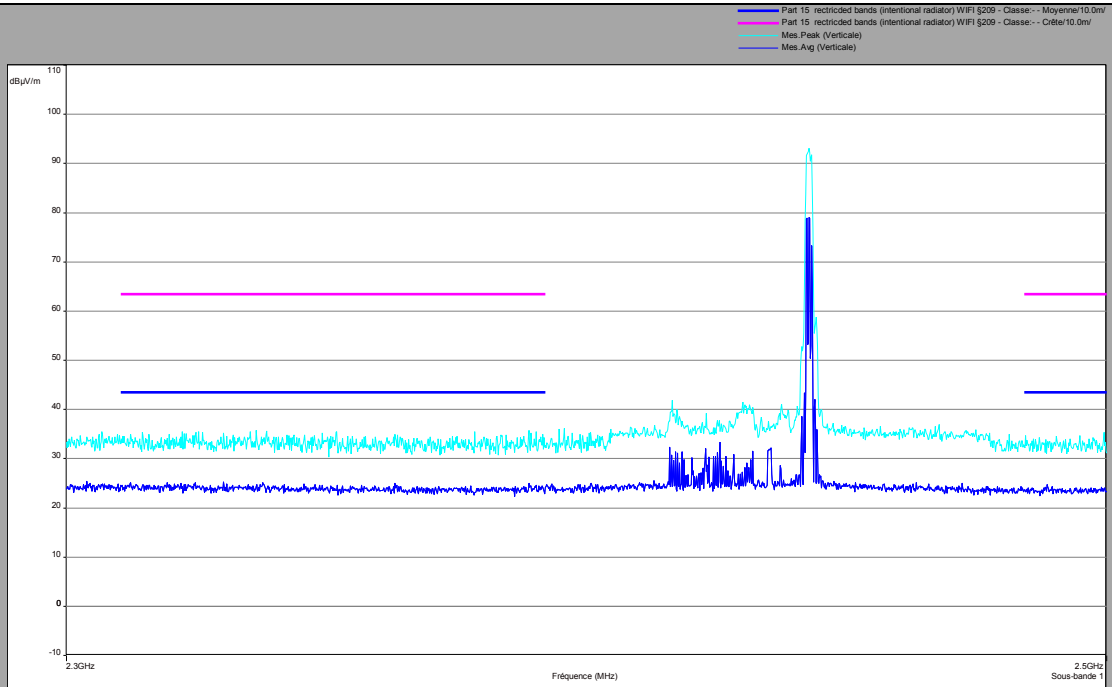
L C I E

8DPSK

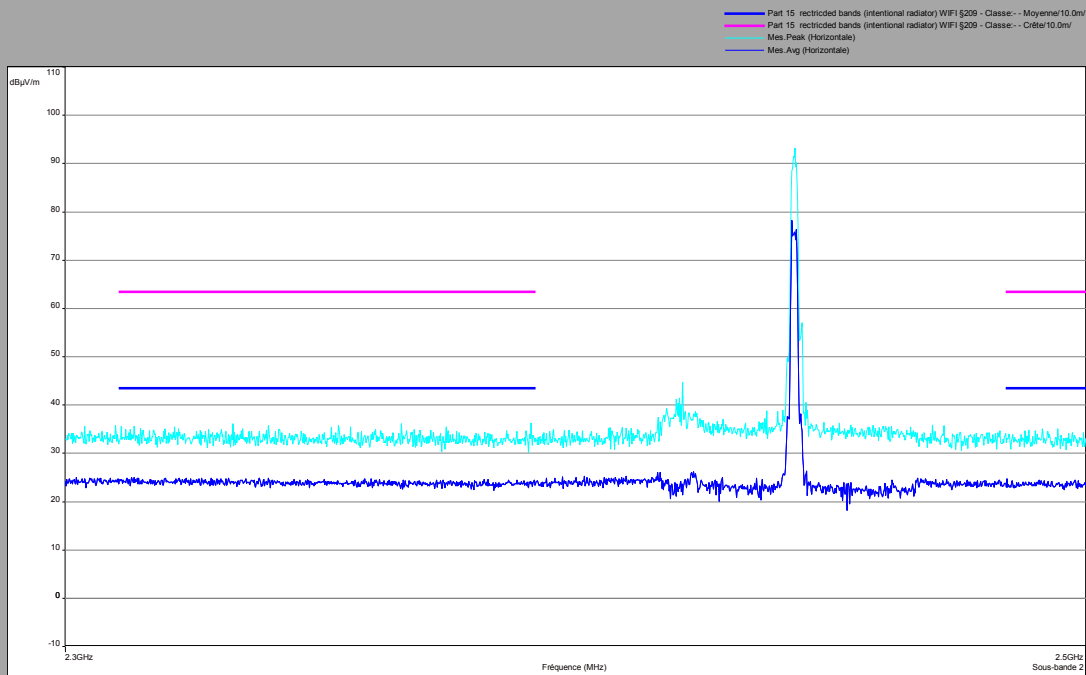
Above 1GHz Zoom 2310MHz-2500MHz

Cnom

Vertical Polarization



Horizontal polarization





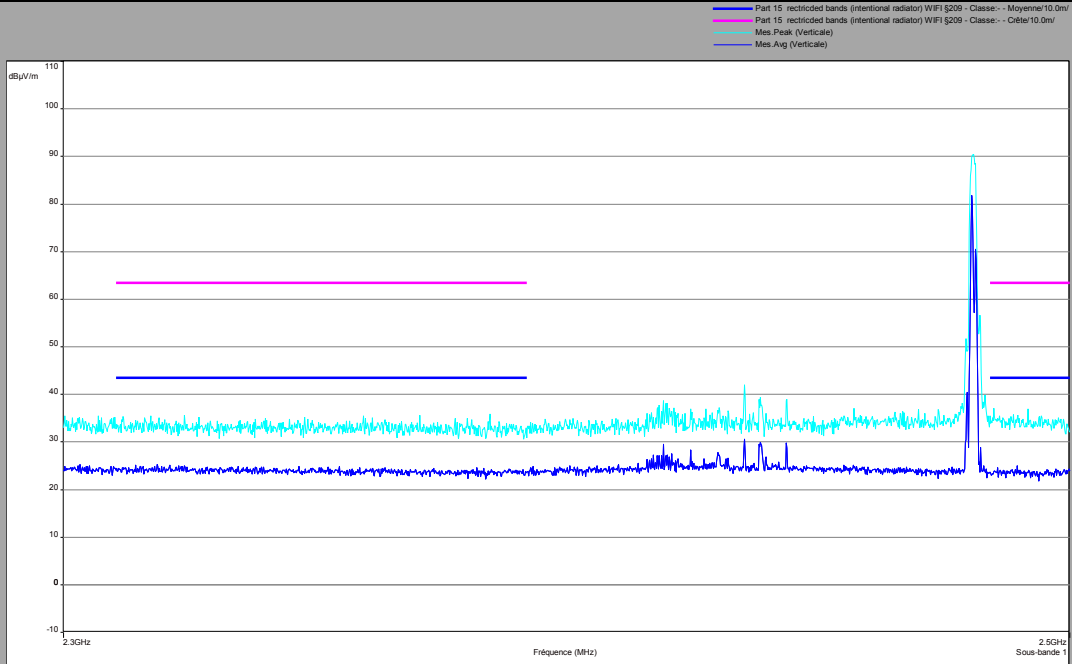
L C I E

8DPSK

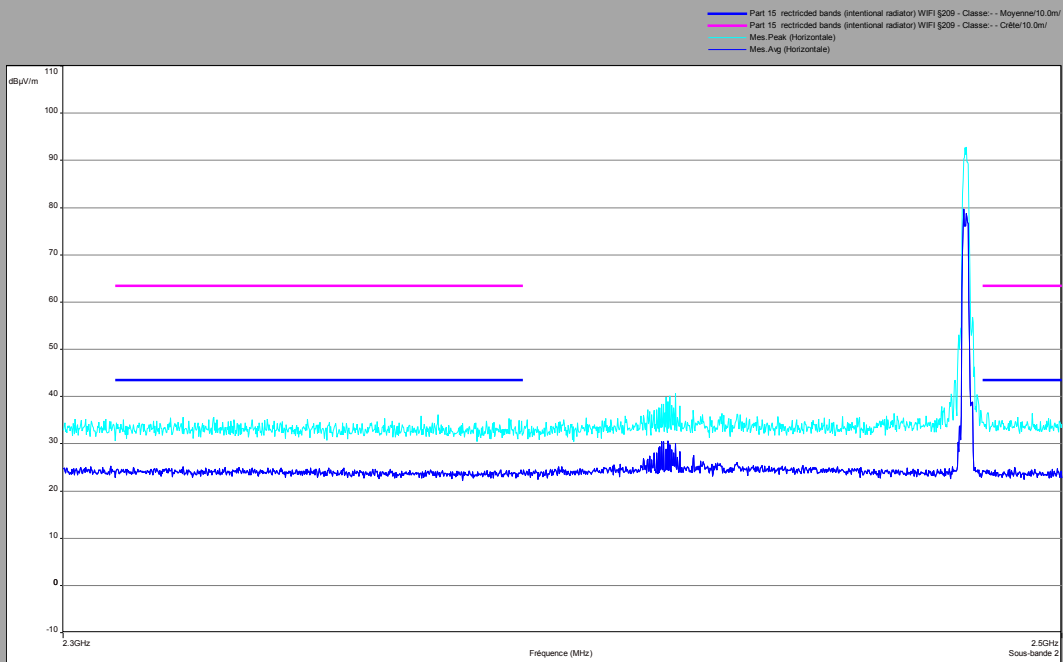
Above 1GHz Zoom 2310MHz-2500MHz

Cmax

Vertical Polarization



Horizontal polarization





L C I E

Below 1 GHz

Polarisation	Frequency (MHz)	level Quasi peak (dBµV/m)	limit FCC	Margin
vertical	30,8	22,1	29,5	7,4
vertical	32,2	20,04	29,5	9,46
vertical	34,5	20,73	29,5	8,77
vertical	35,7	20,66	29,5	8,84
vertical	37,6	18,14	29,5	11,36
vertical	40	21,33	29,5	8,17
vertical	42,7	21,21	29,5	8,29
vertical	48	19,31	29,5	10,19
vertical	52,3	19,37	29,5	10,13
vertical	56,3	24,07	29,5	5,43
vertical	58,8	23,69	29,5	5,81
vertical	59,9	23,82	29,5	5,68
vertical	63,6	22,76	29,5	6,74
vertical	70	24,94	29,5	4,56
vertical	75,8	21,43	29,5	8,07
vertical	81,7	22,62	29,5	6,88
vertical	99,5	25,02	33	7,98
vertical	105	21	33	12
vertical	115,4	19,46	33	13,54
vertical	122,9	24,71	33	8,29
vertical	128	24,81	33	8,19
vertical	133,3	25,35	33	7,65
vertical	147,5	17,22	33	15,78
vertical	150	23,24	33	9,76
vertical	156	22,1	33	10,9
vertical	164,1	22,53	33	10,47
vertical	172	22,39	33	10,61
vertical	180	21,92	33	11,08
vertical	192	22,07	33	10,93
vertical	200	22,62	33	10,38
vertical	210	21,73	33	11,27
vertical	220	17,26	35,5	18,24
vertical	226	22,53	35,5	12,97
vertical	230	22,59	35,5	12,91
vertical	240	18,37	35,5	17,13
vertical	245,8	23,6	35,5	11,9
vertical	250	24	35,5	11,5



L C I E

Polarisation	Frequency (MHz)	level Quasi peak (dB μ V/m)	limit FCC	Margin
vertical	266,6	24,2	35,5	11,3
vertical	280	25,19	35,5	10,31
vertical	300	25,7	35,5	9,8
vertical	320	24,71	35,5	10,79
vertical	330	26,29	35,5	9,21
vertical	350	27,1	35,5	8,4
vertical	370	27,2	35,5	8,3
vertical	400	28,03	35,5	7,47
vertical	416	28,46	35,5	7,04
vertical	440	29,22	35,5	6,28
vertical	450	29,47	35,5	6,03
vertical	480	21,3	35,5	14,2
vertical	520	26,82	35,5	8,68
vertical	580	29,47	35,5	6,03
vertical	600	27,46	35,5	8,04
vertical	625	23,74	35,5	11,76
vertical	650	28,03	35,5	7,47
vertical	668	27,92	35,5	7,58
vertical	700	28,14	35,5	7,36
vertical	725	27,97	35,5	7,53
vertical	750	30,98	35,5	4,52
vertical	782	30,87	35,5	4,63
vertical	806	28,14	35,5	7,36
vertical	850	28,26	35,5	7,24
vertical	864	28,21	35,5	7,29
vertical	880	30,75	35,5	4,75



L C I E

Polarisation	Frequency (MHz)	level Quasi peak (dB μ V/m)	limit FCC	Margin
Horizontal	126	23,19	33	9,81
Horizontal	130	22,86	33	10,14
Horizontal	140	22,73	33	10,27
Horizontal	180	21,66	33	11,34
Horizontal	240	26,21	35,5	9,29
Horizontal	250	23,82	35,5	11,68
Horizontal	260	24,41	35,5	11,09
Horizontal	266,7	24,03	35,5	11,47
Horizontal	280	24,55	35,5	10,95
Horizontal	292,8	24,97	35,5	10,53
Horizontal	300	26,35	35,5	9,15
Horizontal	320	26,36	35,5	9,14
Horizontal	330	26,18	35,5	9,32
Horizontal	350	26,58	35,5	8,92
Horizontal	360	30,92	35,5	4,58
Horizontal	375	27,32	35,5	8,18
Horizontal	400	27,85	35,5	7,65
Horizontal	415	28,44	35,5	7,06
Horizontal	450	29,47	35,5	6,03
Horizontal	480	25,25	35,5	10,25
Horizontal	520	32,08	35,5	3,42
Horizontal	540	30,92	35,5	4,58
Horizontal	550	30,23	35,5	5,27
Horizontal	575	30,87	35,5	4,63
Horizontal	600	31,03	35,5	4,47
Horizontal	624	30,92	35,5	4,58
Horizontal	650	31,03	35,5	4,47
Horizontal	670	27,85	35,5	7,65
Horizontal	680	24,47	35,5	11,03
Horizontal	720	24,95	35,5	10,55
Horizontal	750	30,87	35,5	4,63
Horizontal	800	27,85	35,5	7,65
Horizontal	832	27,85	35,5	7,65
Horizontal	864	26,92	35,5	8,58
Horizontal	960,1	27,93	43,5	15,57



L C I E

GFSK								
Above 1GHz								
Cmin/Cnom/Cmax								
Polarization	Frequency (MHz)	Duty cycle correction (dB)	Average Level (dB μ V/m)	Average Limit (dB μ V/m)	Margin average	Peak Level (dB μ V/m)	Peak Limit (dB μ V/m)	Margin Peak level
Vertical	1027	3,33	32,95	43.5	10,55	42.84	63.5	20,66
Vertical	1098	3,33	32,37	43.5	11,13	34.65	63.5	28,85
Vertical	1152	3,33	33,37	43.5	10,13	39.78	63.5	23,72
Vertical	1400	3,33	35,94	43.5	7,56	39.78	63.5	23,72
Vertical	1450	3,33	34,49	43.5	9,01	38.65	63.5	24,85
Vertical	1488	3,33	33,72	43.5	9,78	40.37	63.5	23,13
Vertical	2390	3,33	29,73	43.5	13,77	36.4	63.5	27,1
Vertical	2483.5	3,33	30,43	43.5	13,07	38	63.5	25,5
Horizontal	1040	3,33	32,89	43.5	10,61	37.63	63.5	25,87
Horizontal	1062	3,33	34,72	43.5	8,78	39.23	63.5	24,27
Horizontal	1072	3,33	33,37	43.5	10,13	39.18	63.5	24,32
Horizontal	1080	3,33	31,01	43.5	12,49	34.4	63.5	29,1
Horizontal	1104	3,33	32,96	43.5	10,54	45	63.5	18,5
Horizontal	1134	3,33	30,67	43.5	12,83	45.57	63.5	17,93
Horizontal	1168	3,33	34,17	43.5	9,33	35.66	63.5	27,84
Horizontal	1184	3,33	32,95	43.5	10,55	35.46	63.5	28,04
Horizontal	1248	3,33	33,96	43.5	9,54	43.69	63.5	19,81
Horizontal	1250	3,33	34,89	43.5	8,61	43.52	63.5	19,98
Horizontal	1264	3,33	34,19	43.5	9,31	42.08	63.5	21,42
Horizontal	1314.1	3,33	35,68	43.5	7,82	43.69	63.5	19,81
Horizontal	2390	3,33	32,33	43.5	11,17	40.4	63.5	23,1
Horizontal	2483.5	3,33	30,53	43.5	12,97	37.7	63.5	25,8



L C I E

$\pi/4$ DQPSK								
Above 1GHz								
Cmin								
Polarization	Frequency (MHz)	Duty cycle correction (dB)	Average Level (dB μ V/m)	Average Limit (dB μ V/m)	Margin average	Peak Level (dB μ V/m)	Peak Limit (dB μ V/m)	Margin Peak level
Vertical	1026	3,33	31,57	43,5	11,93	45,39	63,5	18,11
Vertical	1062	3,33	32,37	43,5	11,13	44,99	63,5	18,51
Vertical	1098	3,33	29,3	43,5	14,2	44,41	63,5	19,09
Vertical	1168	3,33	33,71	43,5	9,79	38,15	63,5	25,35
Vertical	1350	3,33	32,52	43,5	10,98	43,04	63,5	20,46
Vertical	1400	3,33	34,44	43,5	9,06	44,1	63,5	19,4
Vertical	1450	3,33	34,66	43,5	8,84	39,99	63,5	23,51
Vertical	1488.4	3,33	27,9	43,5	15,6	30,66	63,5	32,84
Vertical	2390	3,33	32,33	43,5	11,17	37,5	63,5	26
Vertical	2483.5	3,33	29,43	43,5	14,07	38,56	63,5	24,94
Horizontal	1040	3,33	32,52	43,5	10,98	38,56	63,5	24,94
Horizontal	1072	3,33	32,22	43,5	11,28	43,81	63,5	19,69
Horizontal	1104	3,33	34,47	43,5	9,03	42,93	63,5	20,57
Horizontal	1120	3,33	33,47	43,5	10,03	38,36	63,5	25,14
Horizontal	1133.8	3,33	33,7	43,5	9,8	40,17	63,5	23,33
Horizontal	1176	3,33	34,38	43,5	9,12	34,01	63,5	29,49
Horizontal	1185	3,33	33,29	43,5	10,21	38,16	63,5	25,34
Horizontal	1192	3,33	33,15	43,5	10,35	38,53	63,5	24,97
Horizontal	1250	3,33	37,23	43,5	6,27	42,59	63,5	20,91
Horizontal	1279	3,33	33,4	43,5	10,1	39,17	63,5	24,33
Horizontal	1314	3,33	33,38	43,5	10,12	38,8	63,5	24,7
Horizontal	1386	3,33	35,23	43,5	8,27	42,65	63,5	20,85
Horizontal	2390	3,33	30,43	43,5	13,07	36,3	63,5	27,2
Horizontal	2483.5	3,33	30,83	43,5	12,67	40,7	63,5	22,8



L C I E

8DPSK								
Above 1GHz								
Cmin								
Polarization	Frequency (MHz)	Duty cycle correction (dB)	Average Level (dB μ V/m)	Average Limit (dB μ V/m)	Margin average	Peak Level (dB μ V/m)	Peak Limit (dB μ V/m)	Margin Peak level
Vertical	1026	3,33	31,57	43.5	11,93	45,39	63.5	18,11
Vertical	1098	3,33	29,3	43.5	14,2	44,41	63.5	19,09
Vertical	1168	3,33	33,71	43.5	9,79	38,15	63.5	25,35
Vertical	1350	3,33	32,52	43.5	10,98	43,04	63.5	20,46
Vertical	1400	3,33	33,7	43.5	9,8	38,49	63.5	25,01
Vertical	1450	3,33	34,66	43.5	8,84	39,99	63.5	23,51
Vertical	1488.4	3,33	27,9	43.5	15,6	30,66	63.5	32,84
Vertical	2390	3,33	29,83	43.5	13,67	37,5	63.5	26
Vertical	2483.5	3,33	28,83	43.5	14,67	37,4	63.5	26,1
Horizontal	1040	3,33	32,52	43.5	10,98	38,56	63.5	24,94
Horizontal	1072	3,33	32,06	43.5	11,44	35,65	63.5	27,85
Horizontal	1097.9	3,33	34,17	43.5	9,33	43,3	63.5	20,2
Horizontal	1120	3,33	33,47	43.5	10,03	38,36	63.5	25,14
Horizontal	1133.8	3,33	33,7	43.5	9,8	40,17	63.5	23,33
Horizontal	1168	3,33	33,71	43.5	9,79	37,99	63.5	25,51
Horizontal	1184	3,33	35,43	43.5	8,07	35,43	63.5	28,07
Horizontal	1192	3,33	33,15	43.5	10,35	38,53	63.5	24,97
Horizontal	1250	3,33	37,23	43.5	6,27	42,59	63.5	20,91
Horizontal	1296	3,33	34,99	43.5	8,51	34,36	63.5	29,14
Horizontal	1386	3,33	35,23	43.5	8,27	42,65	63.5	20,85
Horizontal	1488.2	3,33	34,58	43.5	8,92	45,38	63.5	18,12
Horizontal	2390	3,33	29,83	43.5	13,67	37	63.5	26,5
Horizontal	2483.5	3,33	29,33	43.5	14,17	36,5	63.5	27

13.7. CONCLUSION

Unwanted Emission in restricted frequency bands measurement performed on the sample of the product **SAGEMCOM DCIWA384 UHD Ait US**, SN: **616476080862** 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 (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