TEST REPORT

N°: 148983-704527-B **Version : 01**

Subject	**Radio spectrum matters** **tests according to standards:** **47 CFR Part 15.247 & RSS-247 Issue 1 & RSS-Gen Issue 4**
Issued to	**Technicolor** 975, Avenue des Champs Blancs CS17616 35576 – Cesson-Sévigné Cedex
FCC/IC registrated contact	5030 Sugarloaf Parkway Building 6 30044 - Lawrenceville United States

Apparatus under test

Product	OTT STB
Trade mark	**Technicolor Player**
Manufacturer	**Technicolor**
Model under test	**UIW4010TCH**
Serial number	**--**
FCC ID	**G95-UIW4010TCH**
IC ID	**431C-UIW4010TCH**

Test date	: August 31, 2016 to October 3, 2016
Test location	Fontenay Aux Roses & Ecuelles
Composition of document	74 pages
Document issued on	June 19, 2017

Written by :
Arnaud FAYETTE
Tests operator

Approved by :
Stéphane PHOUDIAH
Technical manager

LABORATOIRE CENTRAL DES INDUSTRIES ELECTRIQUES
S.A.S au capital de 15.745.984 €
RCS Nanterre B 408 363 174
33 avenue du General Leclerc
F - 92266 FONTENAY AUX ROSES

This document shall not be reproduced, except in full, without the written approval of the LCIE. This document contains results related only to the items tested. It does not imply the conformity of the whole production to the items tested. Unless otherwise specified, the decision of conformity takes into account the uncertainty of measurement. This document doesn't anticipate any certification decision.

PUBLICATION HISTORY

Version	Date	Author	Modification
01	June 7, 2017	Arnaud FAYETTE	Creation of the document

SUMMARY

1. TEST PROGRAM 4
2. EQUIPMENT UNDER TEST: CONFIGURATION (DECLARED BY PROVIDER) 5
3. OCCUPIED BANDWIDTH 8
4. 20DB EMISSION BANDWIDTH 12
5. NUMBER OF HOPPING FREQUENCY 16
6. CARRIER FREQUENCY SEPARATION 20
7. TIME OF OCCUPANCY 24
8. DUTY CYCLE 28
9. MAXIMUM CONDUCTED OUTPUT POWER 32
10. UNWANTED EMISSIONS INTO NON-RESTRICTED FREQUENCY BANDS AT THE BAND EDGE 37
11. UNWANTED EMISSIONS INTO NON-RESTRICTED FREQUENCY BANDS 44
12. AC POWER LINE CONDUCTED EMISSIONS 48
13. UNWANTED EMISSIONS IN RESTRICTED FREQUENCY BANDS 51
14. UNCERTAINTIES CHART 74

1. TEST PROGRAM

References

- **47 CFR Part 15.247**
- **RSS 247 Issue 1**
- **RSS Gen Issue 4**
- **ANSI C63.10-2013**
- **FCC DA 00-705**

Radio requirement:

Clause (47CFR Part 15.407 & RSS-247 Issue 1 & RSS-Gen Issue 4) Test Description	Test result - Comments			
Occupied Bandwidth	☑ PASS	☐ FAIL	☐ NA	☐ NP(1)
20dB Bandwidth	☑ PASS	☐ FAIL	☐ NA	☐ NP(1)
Number of Hopping Frequency	☑ PASS	☐ FAIL	☐ NA	☐ NP(1)
Carrier Frequency Separation	☑ PASS	☐ FAIL	☐ NA	☐ NP(1)
Time of Occupancy	☑ PASS	☐ FAIL	☐ NA	☐ NP(1)
Duty Cycle	☑ PASS	☐ FAIL	☐ NA	☐ NP(1)
Maximum Conducted Output Power	☑ PASS	☐ FAIL	☐ NA	☐ NP(1)
Conducted Spurious Emission at the Band Edge	☑ PASS	☐ FAIL	☐ NA	☐ NP(1)
Unwanted Emissions into Non-Restricted Frequency Bands	☑ PASS	☐ FAIL	☐ NA()	☐ NP(1)
AC Power Line Conducted Emission	☑ PASS	☐ FAIL	☐ NA(2)	☐ NP(1)
Unwanted Emissions into Restricted Frequency Bands	☑ PASS	☐ FAIL	☐ NA	☐ NP(1)
Receiver Radiated emissions	☑ PASS(3)	☐ FAIL	☐ NA	☐ NP(1)
This table is a summary of test report, see conclusion of each clause of this test report for detail.				

(1): Limited program
(2): EUT not directly or indirectly connected to the AC Power Public Network
(3): Include in unwanted emission into non restricted frequency band

PASS: EUT complies with standard's requirement
FAIL: EUT does not comply with standard's requirement
NA: Not Applicable
NP: Test Not Performed

2. EQUIPMENT UNDER TEST: CONFIGURATION (DECLARED BY PROVIDER)

2.1. HARDWARE IDENTIFICATION (EUT AND AUXILIARIES):

Equipment under test (EUT):
Technicolor Player UIW4010TCH **Serial Number: --**

Similarity with already granted equipment:
This equipment is a variant from UIW4010ECH model. The only difference is the model name (HVIN), the color enclosure and the ON/OFF switch position. As a consequence, tests results of this report are fully retrieved from UIW4010ECH test reports Granted in October 2016 under FCC ID: G95-UIW4010ECH; IC: 431C-UIW4010ECH). Only additional tests according to 47CFR Part 15B and ICES 003 have been performed.

Inputs/outputs - Cable:

Access	Type	Length used (m)	Declared <3m	Shielded	Under test	Comments
1	Power Supply	-	☐	☐	☑	-
2	HDMI	1,8	☑	☐	☑	-

Auxiliary equipment used during test:

Type	Reference	Sn	Comments
Laptop	LCIE	-	Use to set the EUT

Equipment information:

Bluetooth Classic Type:	☐ **v1.2**	☐ **v2.0**	☐ **v2.1+EDR**	☐ **v3.0+HS**
	☐ **v4.0**	☑ **v4.1**	☐ **v4.2**	
Frequency band:	[2400 – 2483.5] MHz			
Spectrum Modulation:	☑ FHSS			
Number of Channel:	Maximum:	79	Minimum:	20
Spacing channel:	1MHz			
Channel bandwidth:	1MHz			
Antenna Type:	☑ Integral	☐ External	☐ Dedicated	
Antenna connector:	☑ Yes	☐ No	☐ Temporary for test	
Transmit chains:	☑ 1			
	Single antenna			
Beam forming gain:	No			
Receiver chains	1			
Type of equipment:	☑ Stand-alone	☐ Plug-in	☐ Combined	
Ad-Hoc mode:	☑ Yes	☑ No		
Dwell time:	400ms			
Duty cycle:	☑ Continuous duty	☐ Intermittent duty	☐ 100% duty	
Equipment type:	☐ Production model	☑ Pre-production model		
Operating temperature range:	Tmin:	☐ -20°C	☑ 0°C	☐ X°C
	Tnom:	20°C		
	Tmax:	☐ 35°C	☐ 55°C	☑ 40°C
Type of power source:	☑ AC power supply	☐ DC power supply	☐ Battery	
Operating voltage range:	Vnom:	☑ 120V/60Hz	☐ X Vdc	

Antenna Characteristic			
Antenna assembly	**Gain (dBi)**	**Frequency Band (MHz)**	**Impedance(Ω)**
1	5.4	2400-2483.5	50

CHANNEL PLAN					
Channel	**Frequency (MHz)**	**Channel**	**Frequency (MHz)**	**Channel**	**Frequency (MHz)**
Cmin: 0	**2402**	27	2429	54	2456
1	2403	28	2430	55	2457
2	2404	29	2431	56	2458
3	2405	30	2432	57	2459
4	2406	31	2433	58	2460
5	2407	32	2434	59	2461
6	2408	33	2435	60	2462
7	2409	34	2436	61	2463
8	2410	35	2437	62	2464
9	2411	36	2438	63	2465
10	2412	37	2439	64	2466
11	2413	38	2440	65	2467
12	2414	39	**2441**	66	2468
13	2415	40	2442	67	2469
14	2416	41	2443	68	2470
15	2417	42	2444	69	2471
16	2418	43	2445	70	2472
17	2419	44	2446	71	2473
18	2420	45	2447	72	2474
19	2421	46	2448	73	2475
20	2422	47	2449	74	2476
21	2423	48	2450	75	2477
22	2424	49	2451	76	2478
23	2425	50	2452	77	2479
24	2426	51	2453	**Cmax: 78**	**2480**
25	2427	52	2454		
26	2428	53	2455		

DATA RATE				
Available for EUT	**Modulation type**	**Max. Data Rate (Mbps)**	**Packet type**	**Worst Case Modulation**
☑	GFSK	1	1-DM1	☐
	GFSK	1	1-DH1	☐
	GFSK	1	1-DM3	☐
	GFSK	1	1-DH3	☐
	GFSK	1	1-DM5	☐
	GFSK	1	1-DH5	☑
☐	GFSK	1	AUX1	☐
☑	π/4 DQPSK	2	2-DH1	☐
	π/4 DQPSK	2	2-DH3	☐
	π/4 DQPSK	2	2-DH5	☑
	8DPSK	3	3-DH1	☐
	8DPSK	3	3-DH3	☐
	8DPSK	3	3-DH5	☑

2.2. RUNNING MODE

The EUT is set in the following modes during tests:
- Permanent emission with modulation on a fixed channel in the data rate that produced the highest power
- Permanent emission with modulation & hopping in the data rate that produced the highest power
- Permanent reception

The product is capable of simultaneous emission in WIFI (2.4GHz or 5GHz) and Bluetooth (EDR or LE).

Following commands with the specific test software “DutApiMimoBtFmBridgeEt” are used to set the product:
- See document “UIW4010ECH_ BT control_V03.docx” for the command used during test

2.3. EQUIPMENT MODIFICATION

☑ None ☐ Modification:

3. OCCUPIED BANDWIDTH

3.1. TEST CONDITIONS

Test performed by : Mathieu CERISIER
Date of test : September 5, 2016 to October 3, 2016
Ambient temperature : 27 °C
Relative humidity : 44 %

3.2. 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:
☐ RSS-Gen Issue 4 § 6.6
☑ ANSI C63.10 § 6.9.3

3.1. LIMIT

No Limit

3.2. TEST EQUIPMENT LIST

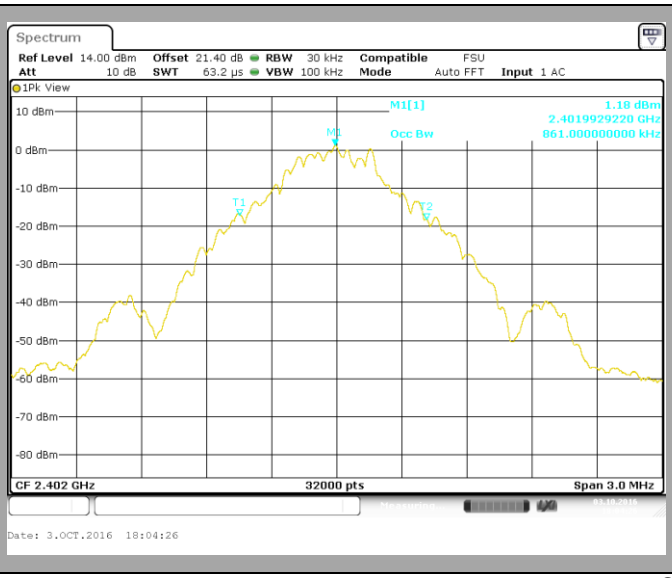
DESCRIPTION	MANUFACTURER	MODEL	N° LCIE	Calibration date	Calibration due
Multi-meter	KEITHLEY	2000	A1242090	2016/05	2018/05
Programmable AC/DC power supply	-; KIKUSUI	PCR500M	A7049006	Verified with calibrated multimeter	Verified with calibrated multimeter
EMI receiver	ROHDE & SCHWARZ	ESR 7	A2642023	2015/03	2016/10
RF cable & 20 dB attenuator	Télédyne	920-0202-048	A5329661	2015/10	2016/10

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

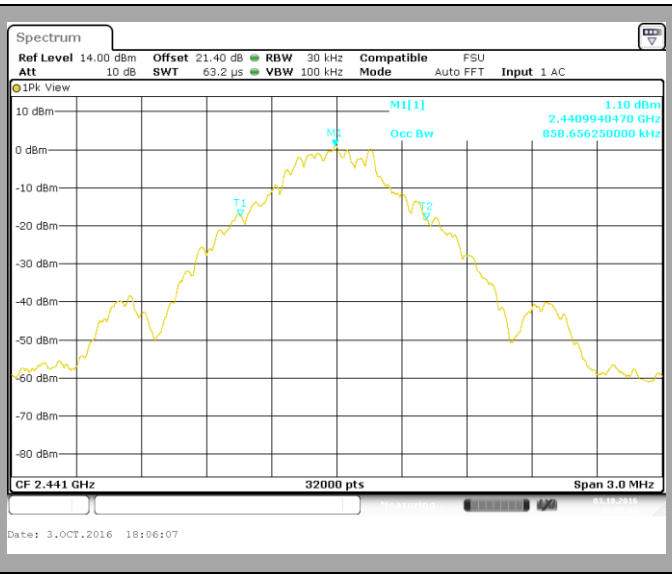
3.3. RESULTS

GFSK

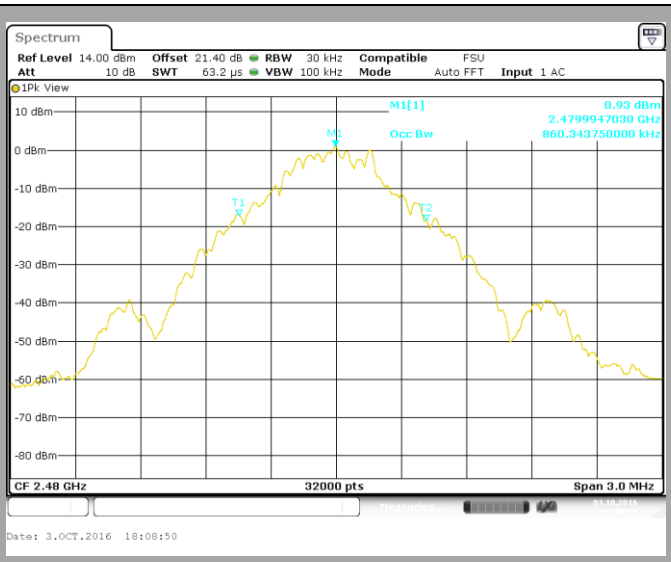
Cmin



Cnom



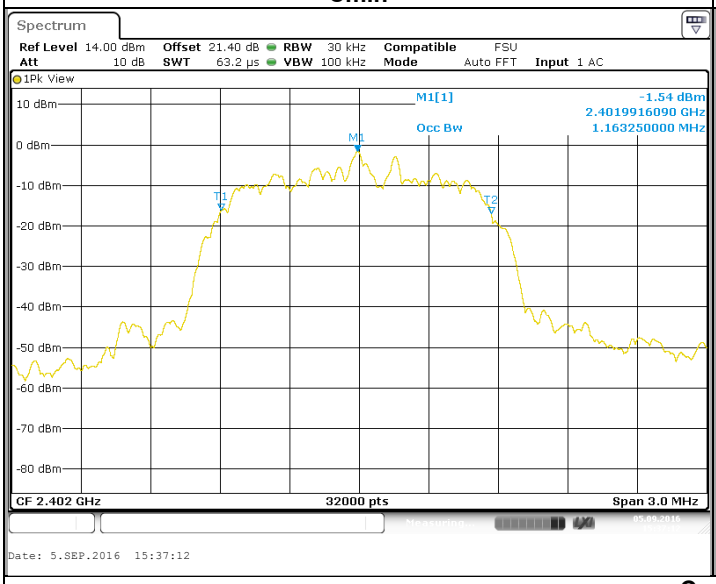
Cmax



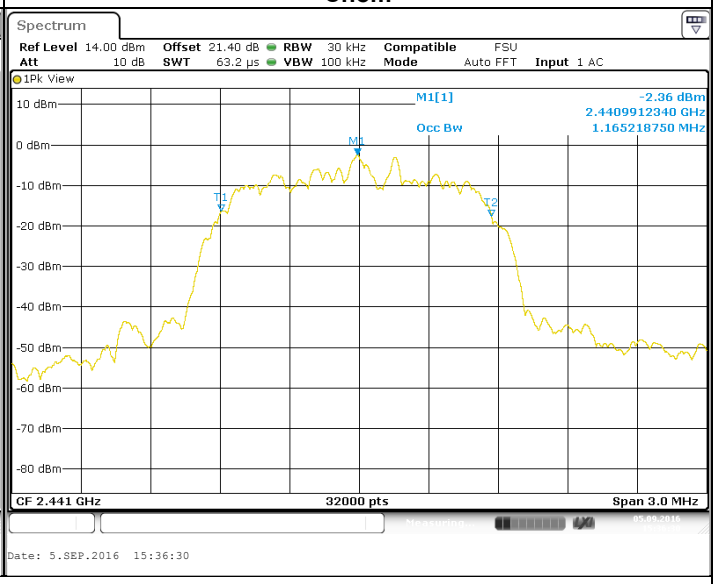
Channel	Occupied Bandwidth (MHz)
Cmin	0,861
Cnom	0,858
Cmax	0,860

π/4 DQPSK

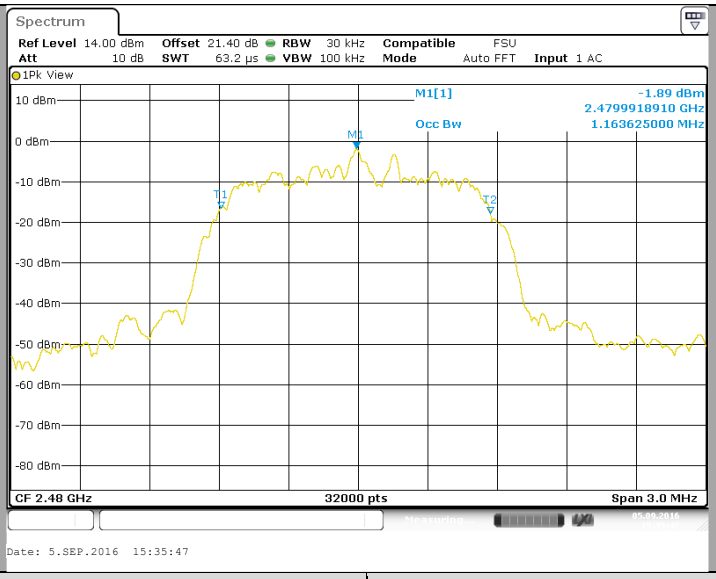
Cmin



Cnom



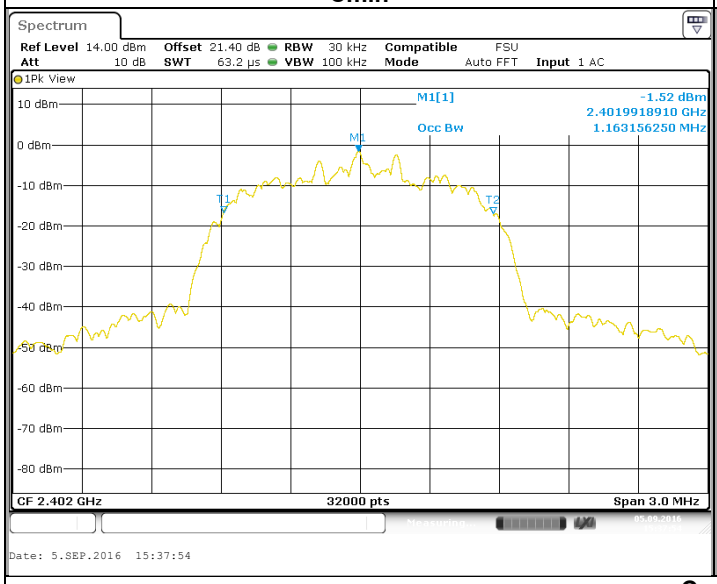
Cmax



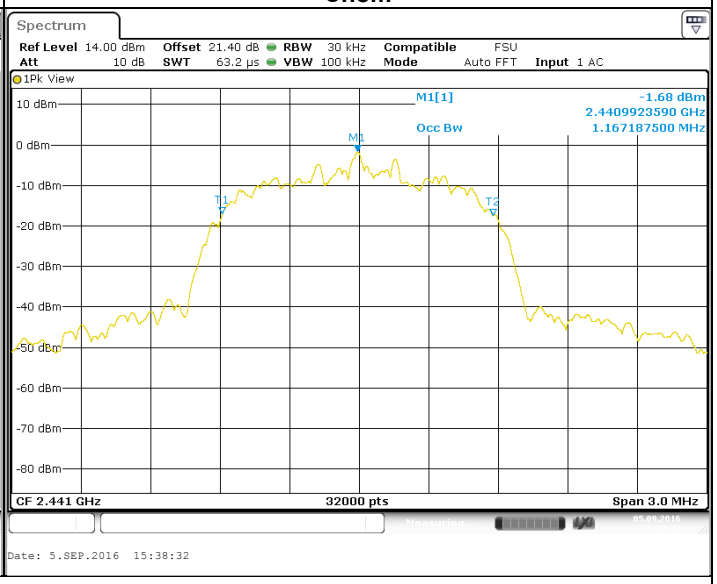
Channel	Occupied Bandwidth (MHz)
Cmin	1,163
Cnom	1,165
Cmax	1,164

8DPSK

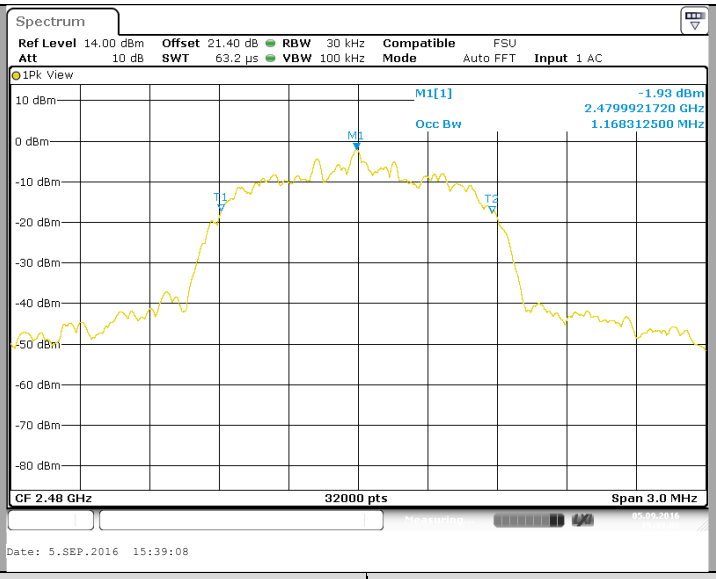
Cmin



Cnom



Cmax



Channel	Occupied Bandwidth (MHz)
Cmin	1,163
Cnom	1,167
Cmax	1,168

3.4. CONCLUSION

Occupied Bandwidth measurement performed on the sample of the product **Technicolor Player UIW4010TCH**, in configuration and description presented in this test report, show levels **compliant** to the **47 CFR PART 15.247 & RSS 247 ISSUE 1** limits.

4. 20DB EMISSION BANDWIDTH

4.1. TEST CONDITIONS

Test performed by : Mathieu CERISIER
Date of test : September 5, 2016 to October 3, 2016
Ambient temperature : 27 °C
Relative humidity : 44 %

4.2. 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 (20dB Bandwidth)
☐ ANSI C63.10 § 6.9.2

4.3. LIMIT

No Limit

4.4. TEST EQUIPMENT LIST

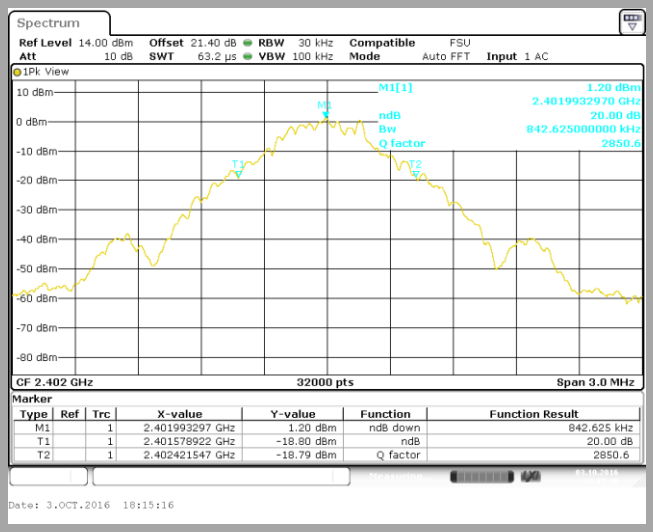
DESCRIPTION	MANUFACTURER	MODEL	N° LCIE	Calibration date	Calibration due
Multi-meter	KEITHLEY	2000	A1242090	2016/05	2018/05
Programmable AC/DC power supply	-; KIKUSUI	PCR500M	A7049006	Verified with calibrated multimeter	Verified with calibrated multimeter
EMI receiver	ROHDE & SCHWARZ	ESR 7	A2642023	2015/03	2016/10
RF cable & 20 dB attenuator	Télédyne	920-0202-048	A5329661	2015/10	2016/10

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

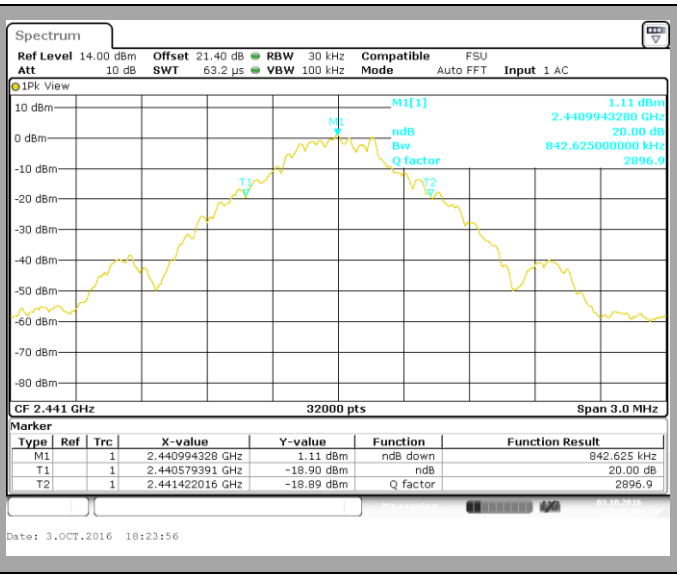
4.5. RESULTS

GFSK

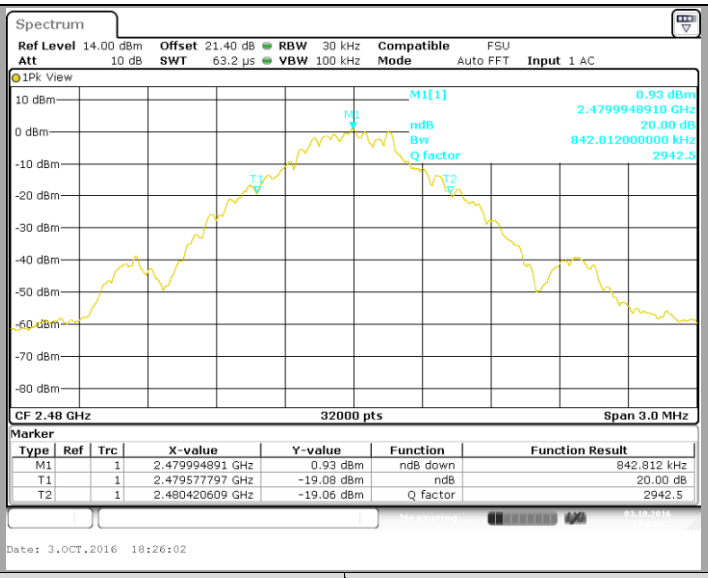
Cmin



Cnom



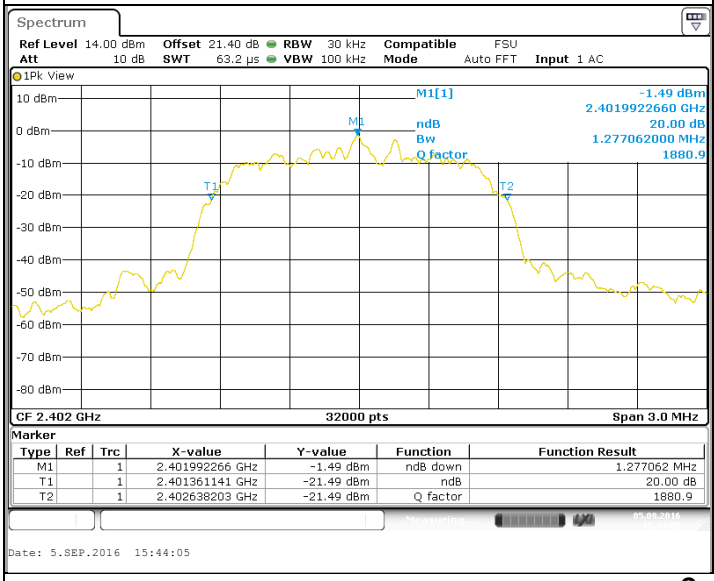
Cmax



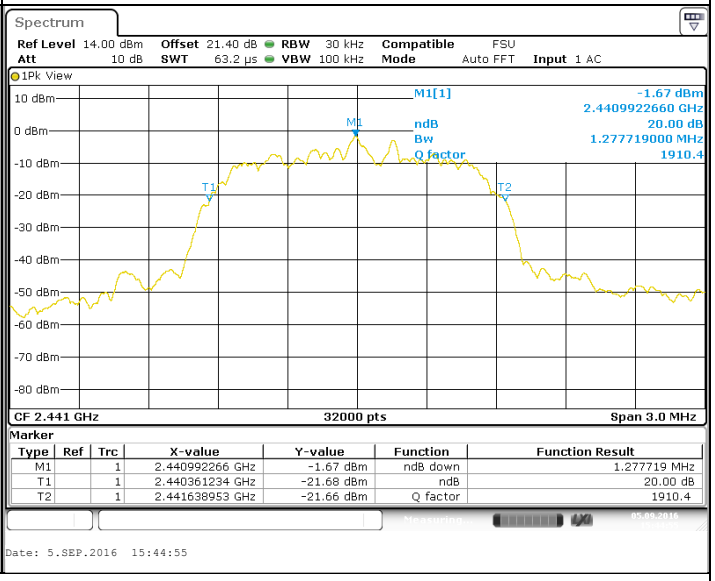
Channel	20dB Bandwidth (MHz)
Cmin	0,842
Cnom	0,842
Cmax	0,842

π/4 DQPSK

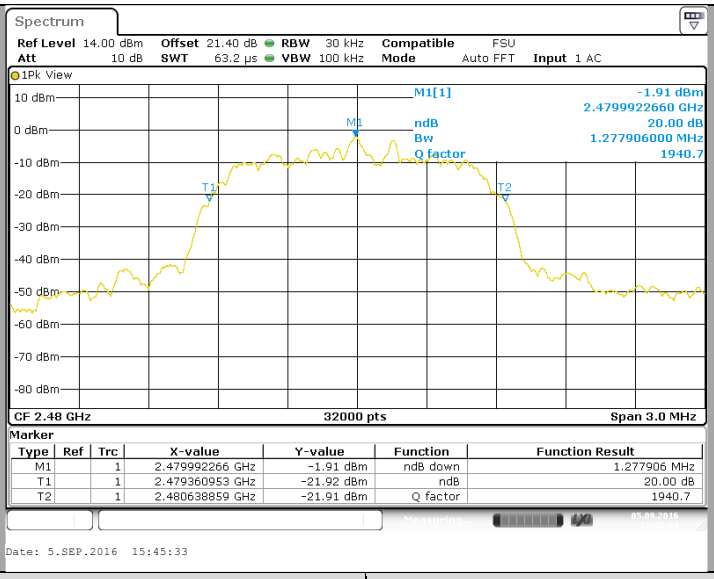
Cmin



Cnom



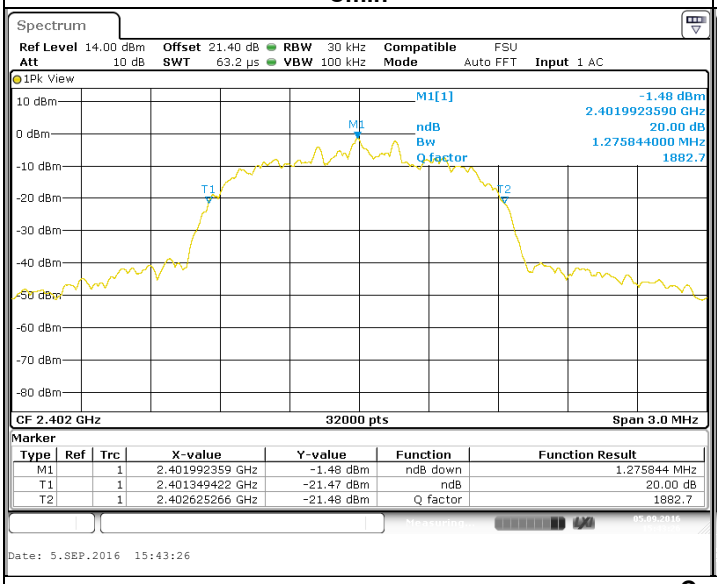
Cmax



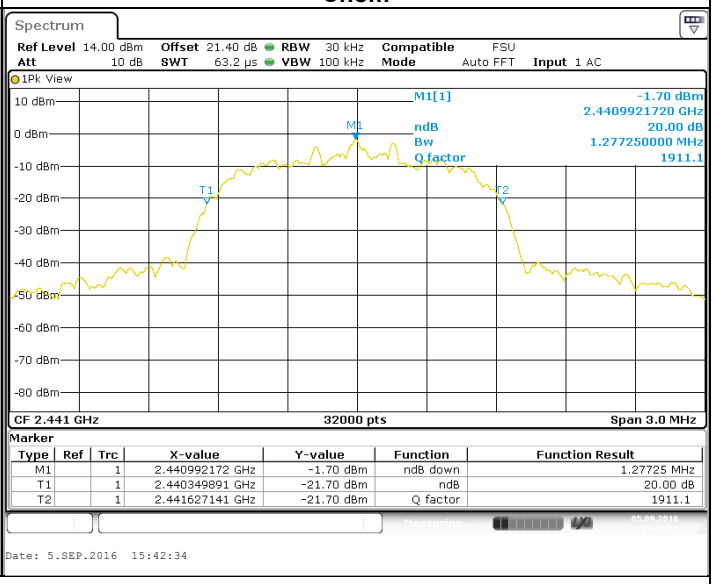
Channel	20dB Bandwidth (MHz)
Cmin	1,277062
Cnom	1,277719
Cmax	1,277906

8DPSK

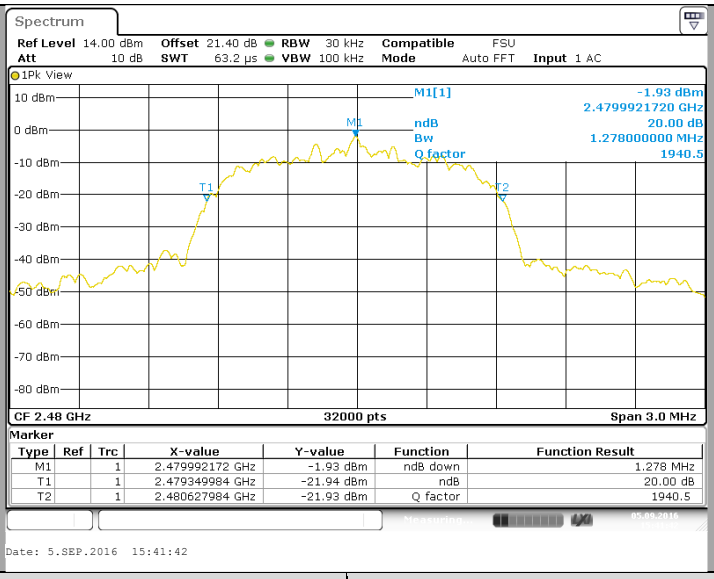
Cmin



Cnom



Cmax



Channel	20dB Bandwidth (MHz)
Cmin	1,275884
Cnom	1,27725
Cmax	1,278

4.6. CONCLUSION

20dB Emission Bandwidth measurement performed on the sample of the product **Technicolor Player UIW4010TCH**, in configuration and description presented in this test report, show levels **compliant** to the **47 CFR PART 15.247 & RSS 247 ISSUE 1** limits.

5. NUMBER OF HOPPING FREQUENCY

5.1. TEST CONDITIONS

Test performed by : Mathieu CERISIER
Date of test : September 6, 2016
Ambient temperature : 26 °C
Relative humidity : 44 %

5.2. 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 (Number of Hopping Frequencies)
☐ ANSI C63.10 § 7.8.3

5.3. LIMIT

Number of Hopping Frequencies shall be at least 15 channels

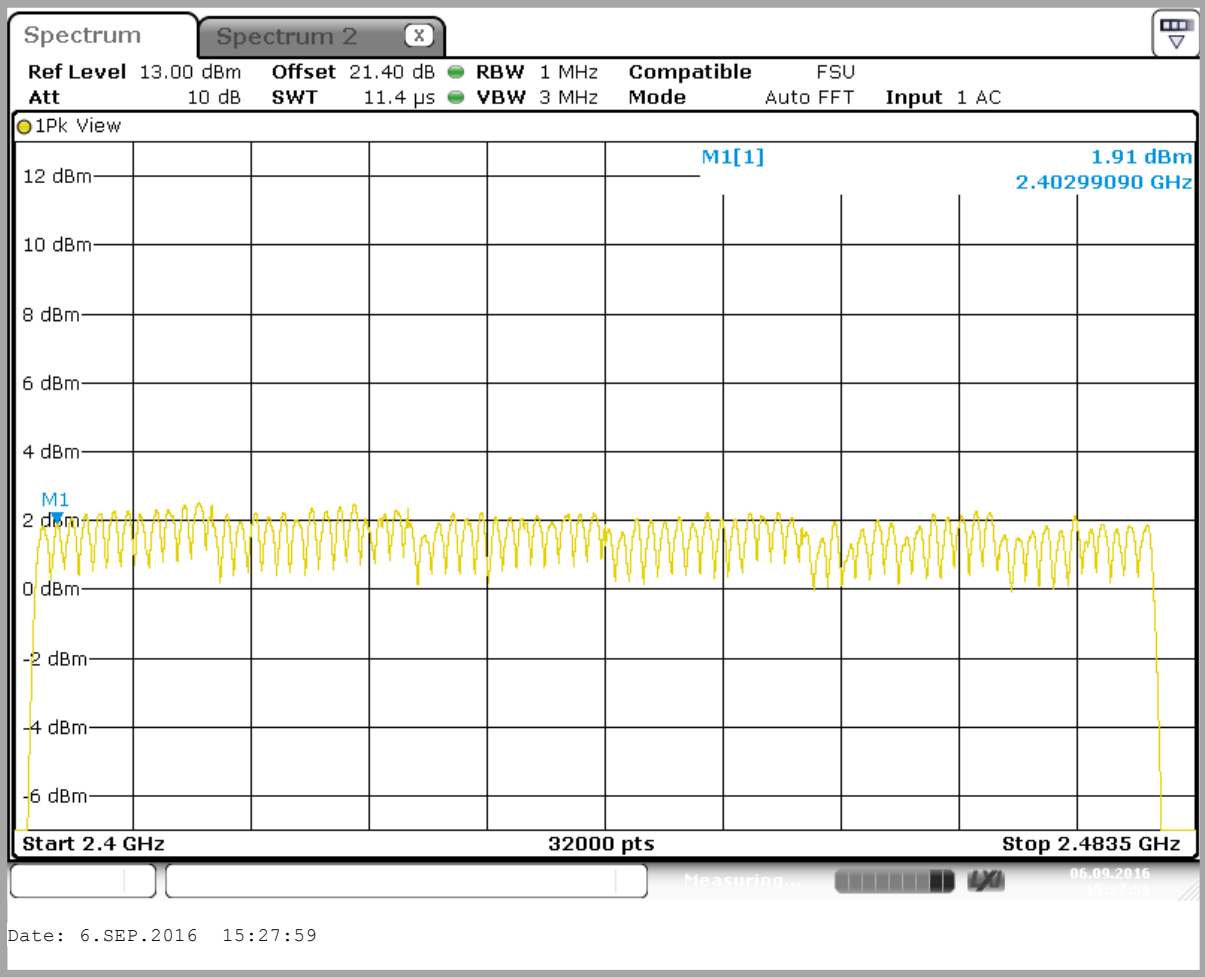
5.4. TEST EQUIPMENT LIST

DESCRIPTION	MANUFACTURER	MODEL	N° LCIE	Calibration date	Calibration due
Multi-meter	KEITHLEY	2000	A1242090	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	2015/03	2016/10
RF cable & 20 dB attenuator	Télédyne	920-0202-048	A5329661	2015/10	2016/10

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

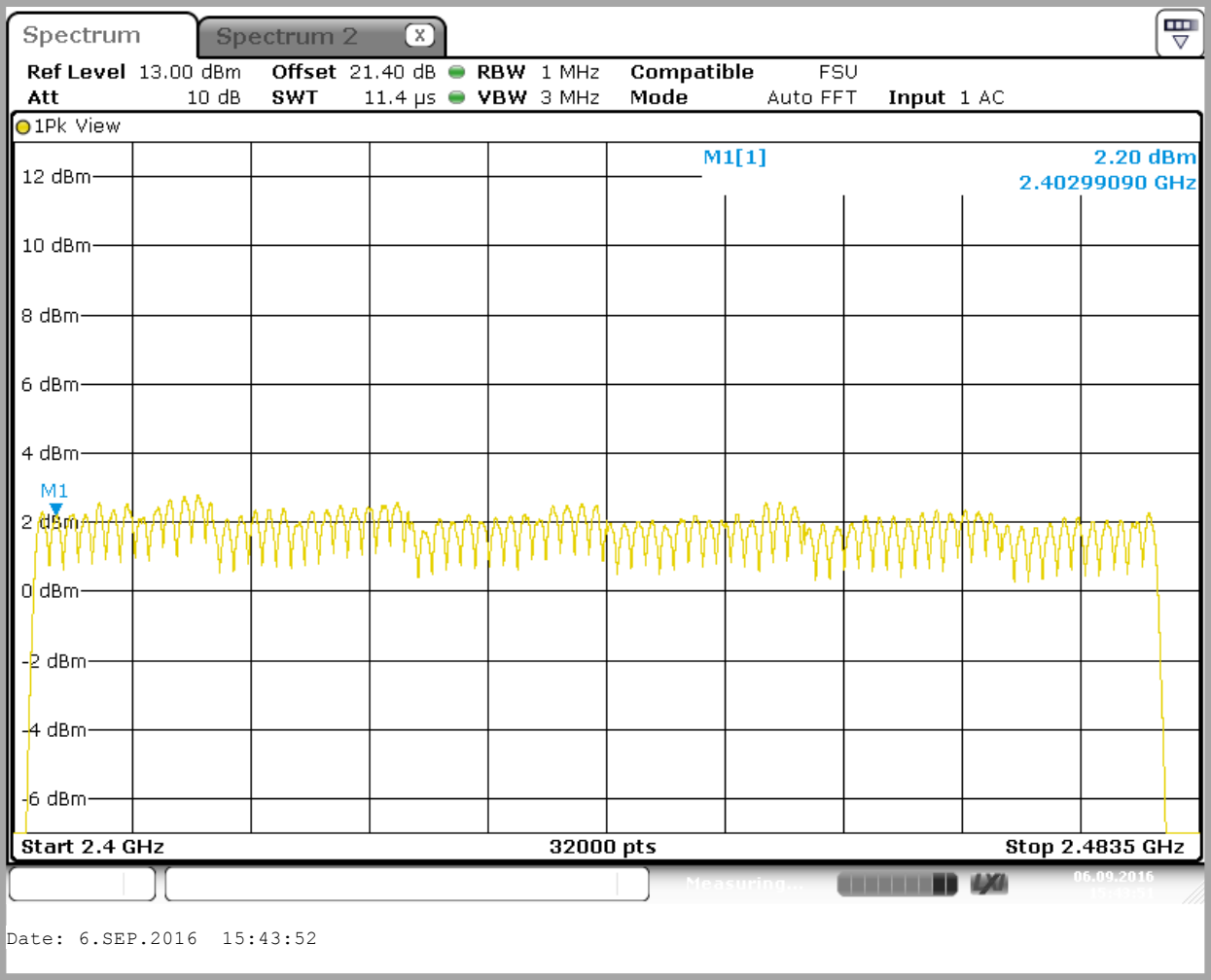
5.5. RESULTS

GFSK		
Call		



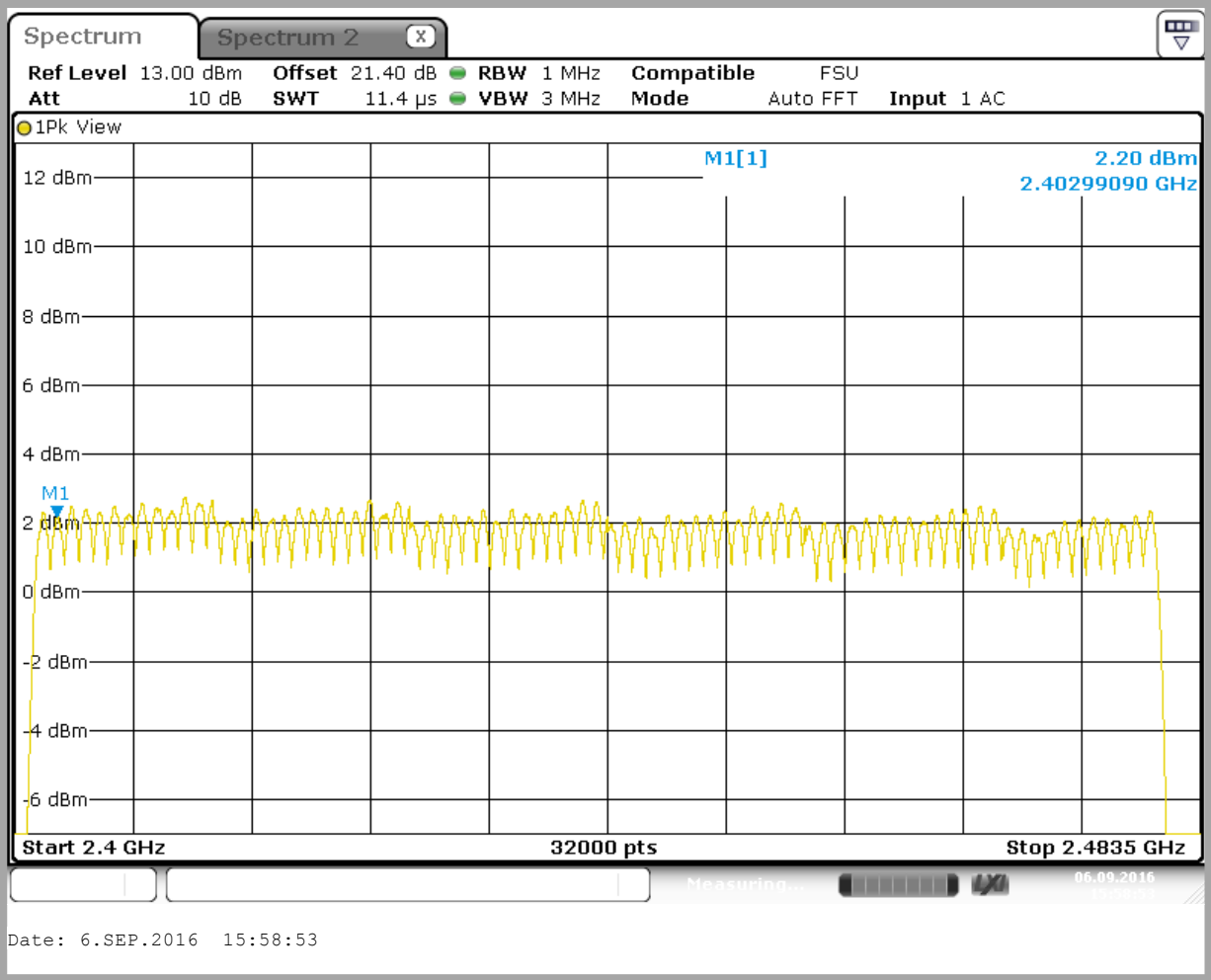
Channel	Number of Hopping Frequencies	Limit
Call	79	Minimum 15

π/4 DQPSK
Call



Channel	Number of Hopping Frequencies	Limit
Call	79	Minimum 15

8DPSK
Call



Channel	Number of Hopping Frequencies	Limit
Call	79	Minimum 15

5.6. CONCLUSION

Number of Frequency Hopping measurement performed on the sample of the product **Technicolor Player UIW4010TCH**, in configuration and description presented in this test report, show levels **compliant** to the **47 CFR PART 15.247 & RSS-GEN ISSUE 4** limits.

6. CARRIER FREQUENCY SEPARATION

6.1. TEST CONDITIONS

Test performed by : Mathieu CERISIER
Date of test : September 6, 2016
Ambient temperature : 26 °C
Relative humidity : 44 %

6.2. 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 (Carrier Frequency Separation)
☐ ANSI C63.10 § 7.8.2

6.3. LIMIT

Carrier Frequency Separation shall be at least two-thirds of the 20dB Bandwidth

6.4. TEST EQUIPMENT LIST

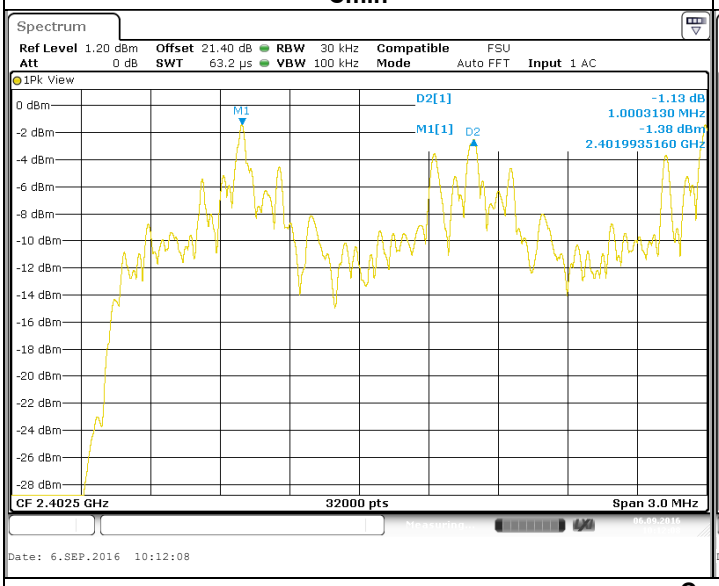
DESCRIPTION	MANUFACTURER	MODEL	N° LCIE	Calibration date	Calibration due
Multi-meter	KEITHLEY	2000	A1242090	2016/05	2018/05
Programmable AC/DC power supply	-; KIKUSUI	PCR500M	A7049006	Verified with calibrated multimeter	Verified with calibrated multimeter
EMI receiver	ROHDE & SCHWARZ	ESR 7	A2642023	2015/03	2016/10
RF cable & 20 dB attenuator	Télédyne	920-0202-048	A5329661	2015/10	2016/10

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

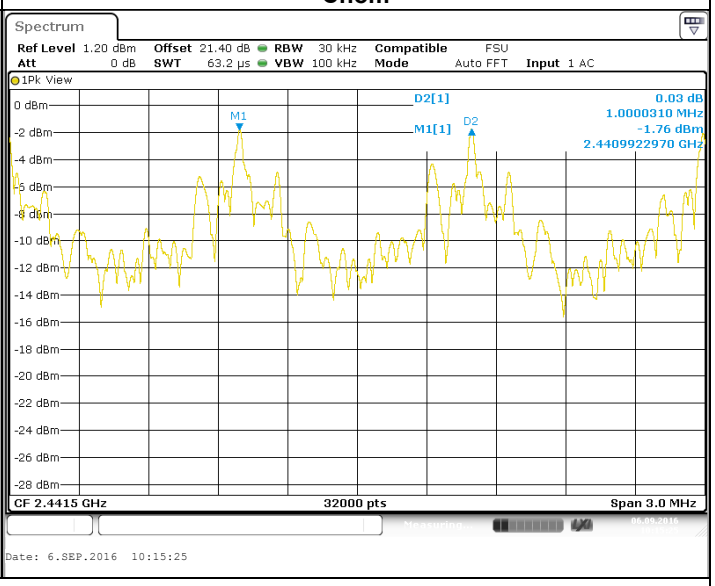
6.5. RESULTS

GFSK

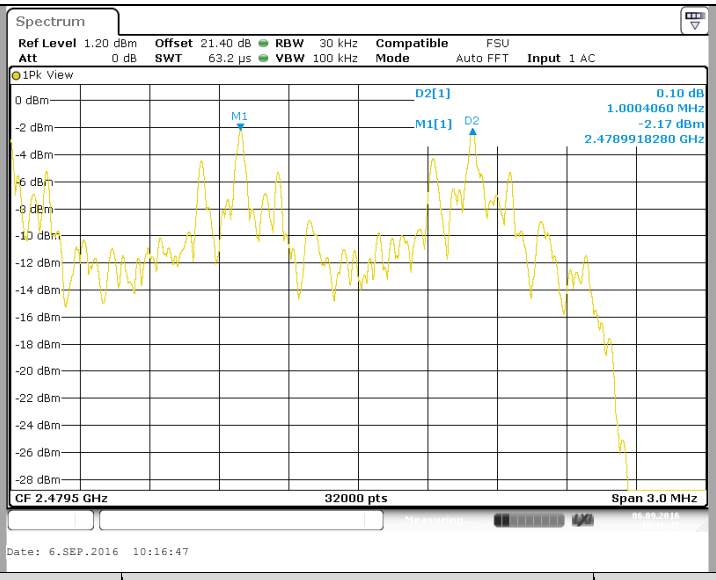
Cmin



Cnom



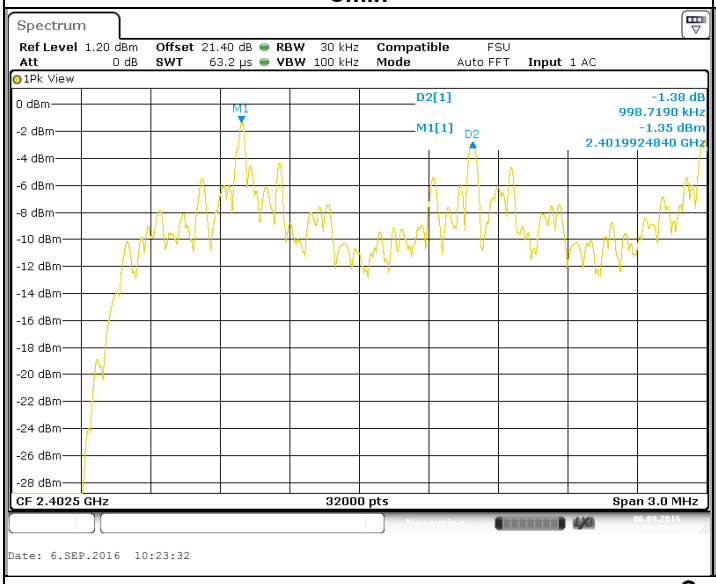
Cmax



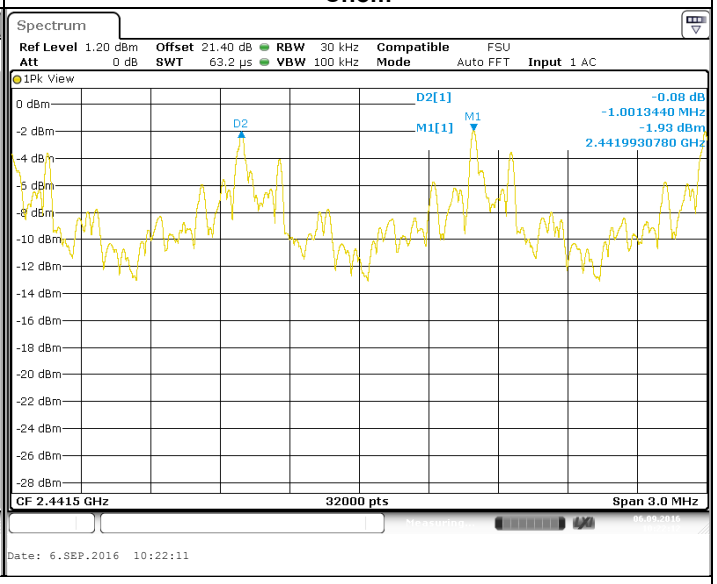
Channel	Carrier Frequency Separation (MHz)	Limit (MHz)
Cmin	1,000	Minimum 2/3 of 20dB Emission Bandwidth
Cnom	1,000	Minimum 2/3 of 20dB Emission Bandwidth
Cmax	1,000	Minimum 2/3 of 20dB Emission Bandwidth

π/4 DQPSK

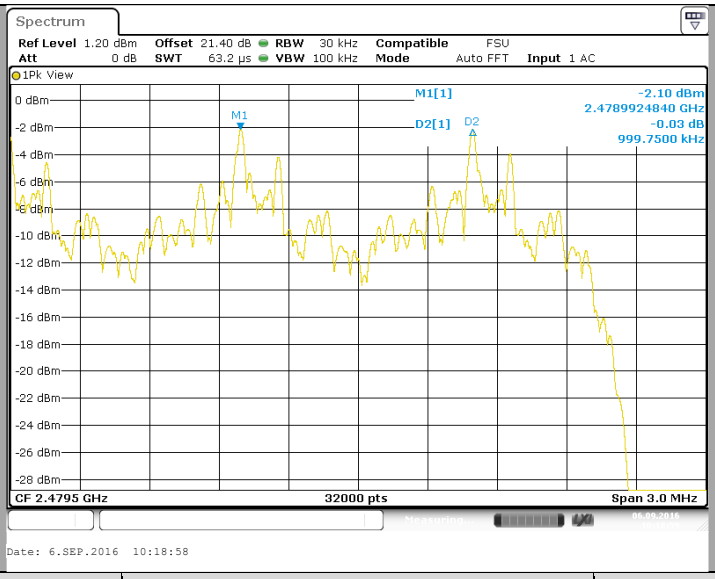
Cmin



Cnom



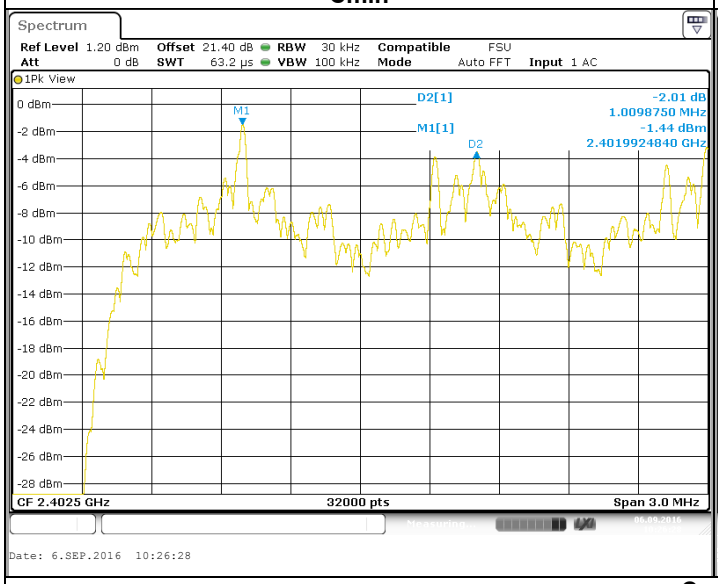
Cmax



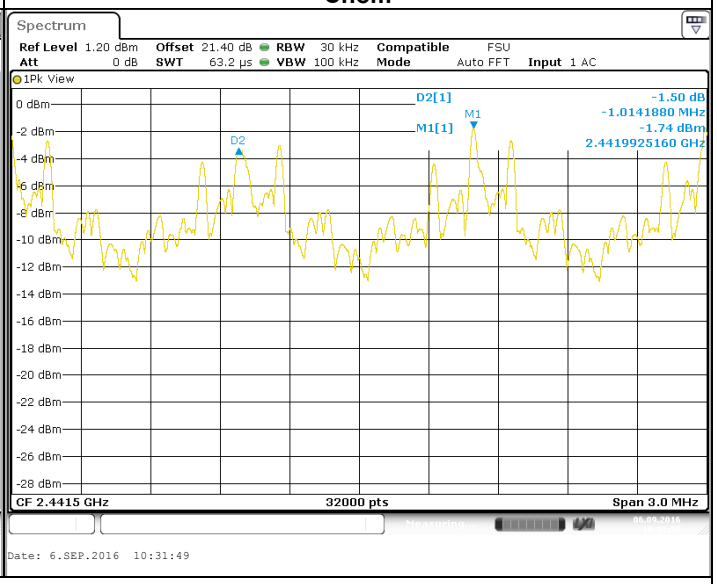
Channel	Carrier Frequency Separation (MHz)	Limit (MHz)
Cmin	0,999	Minimum 2/3 of 20dB Emission Bandwidth
Cnom	1,001	Minimum 2/3 of 20dB Emission Bandwidth
Cmax	1,000	Minimum 2/3 of 20dB Emission Bandwidth

8DPSK

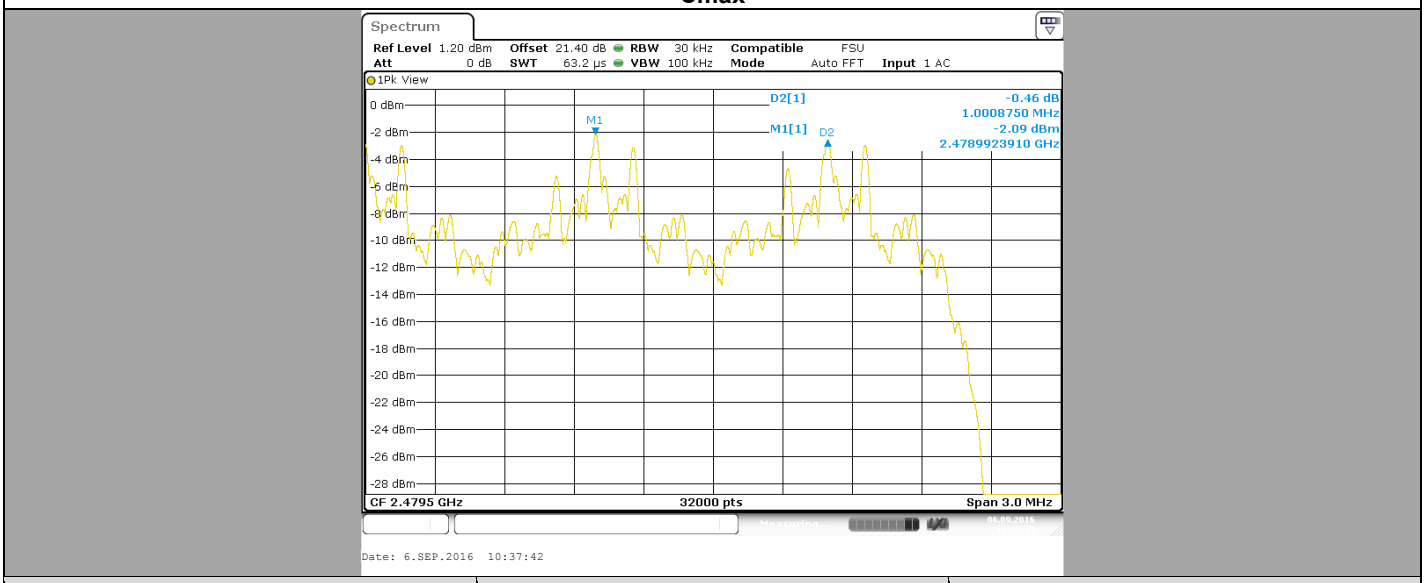
Cmin



Cnom



Cmax



Channel	Carrier Frequency Separation (MHz)	Limit (MHz)
Cmin	1,010	Minimum 2/3 of 20dB Emission Bandwidth
Cnom	1,014	Minimum 2/3 of 20dB Emission Bandwidth
Cmax	1,001	Minimum 2/3 of 20dB Emission Bandwidth

6.6. CONCLUSION

Carrier Frequency Separation measurement performed on the sample of the product **Technicolor Player UIW4010TCH**, , in configuration and description presented in this test report, show levels **compliant** to the **47 CFR PART 15.247 & RSS-GEN ISSUE 4** limits.

7. TIME OF OCCUPANCY

7.1. TEST CONDITIONS

Test performed by	: Mathieu CERISIER
Date of test	: September 6, 2016
Ambient temperature	: 26 °C
Relative humidity	: 44 %

7.2. 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 (Time of Occupancy)
☐ ANSI C63.10 § 7.8.4

7.3. LIMIT

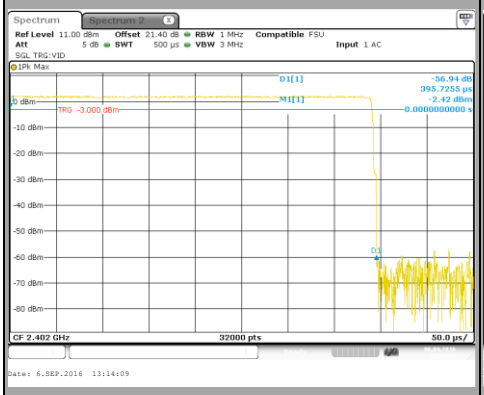
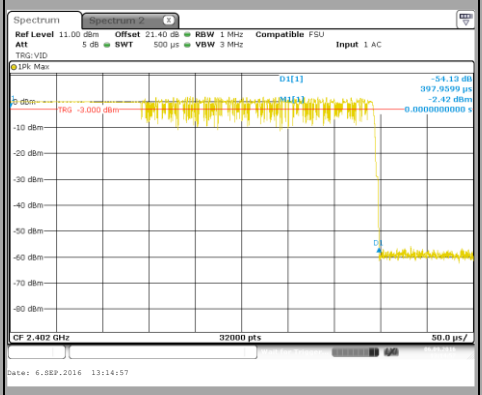
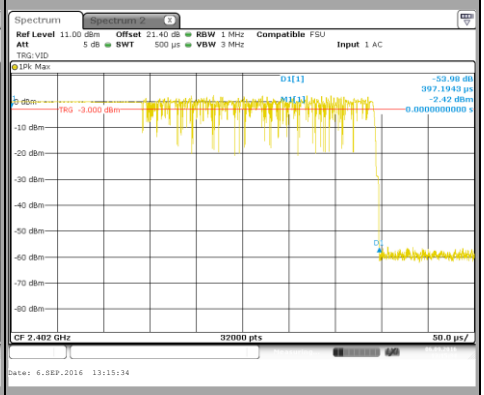
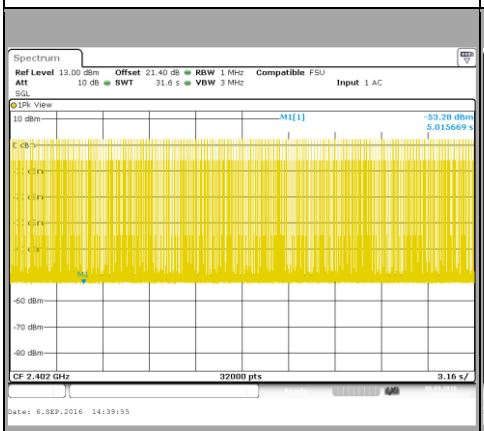
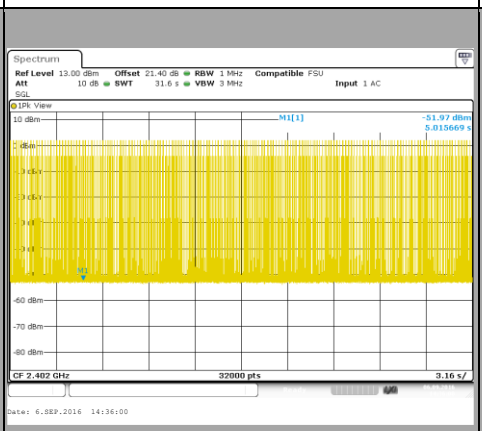
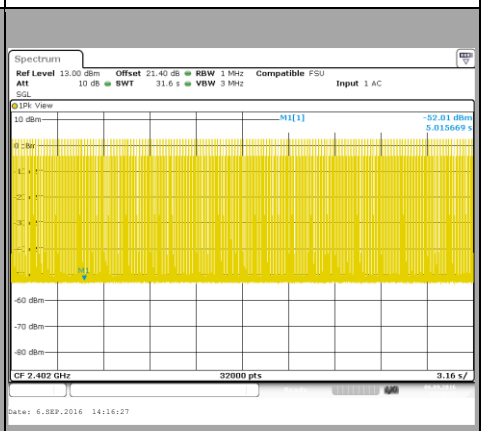
The Time of Occupancy shall not exceed 0.4s within any period of 0.4s multiplied by the number of hopping channels employed

7.4. TEST EQUIPMENT LIST

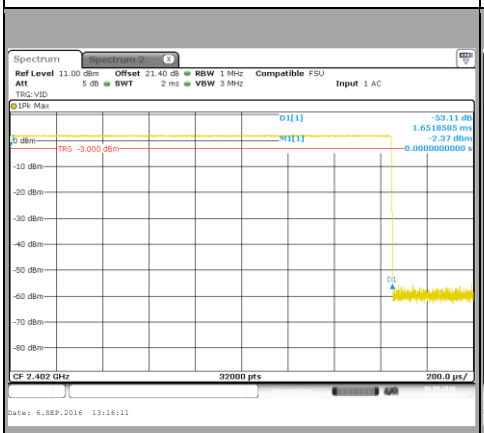
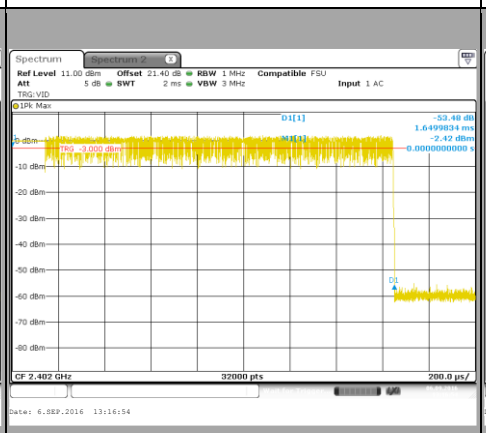
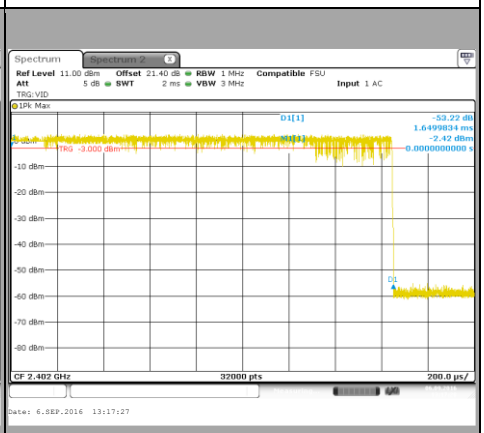
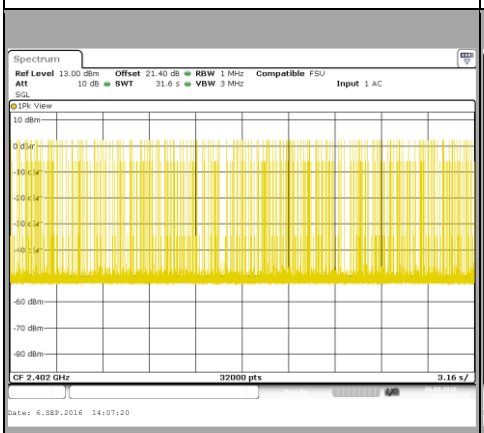
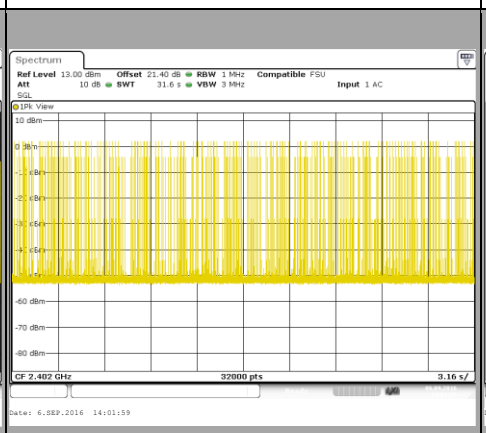
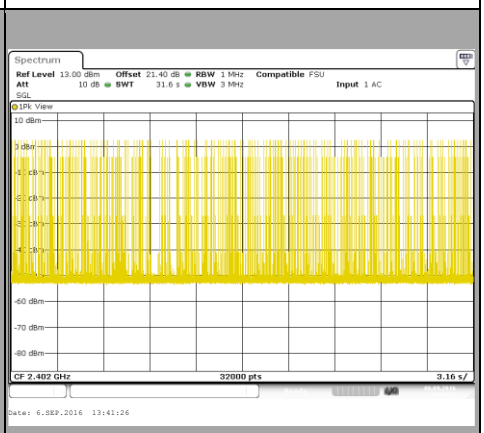
DESCRIPTION	MANUFACTURER	MODEL	N° LCIE	Calibration date	Calibration due
Multi-meter	KEITHLEY	2000	A1242090	2016/05	2018/05
Programmable AC/DC power supply	-; KIKUSUI	PCR500M	A7049006	Verified with calibrated multimeter	Verified with calibrated multimeter
EMI receiver	ROHDE & SCHWARZ	ESR 7	A2642023	2015/03	2016/10
RF cable & 20 dB attenuator	Télédyne	920-0202-048	A5329661	2015/10	2016/10

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

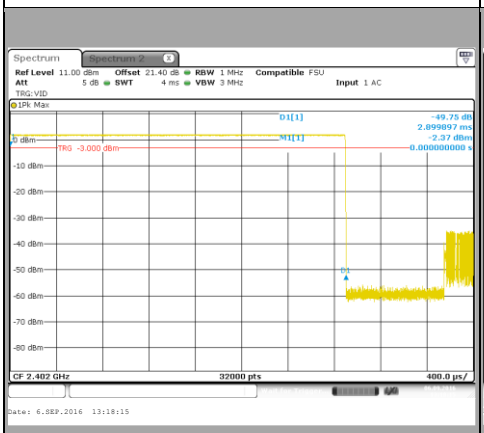
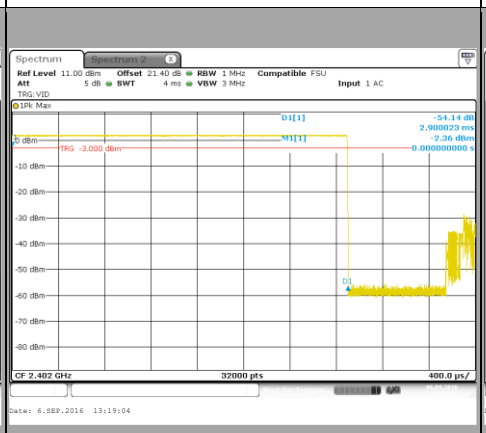
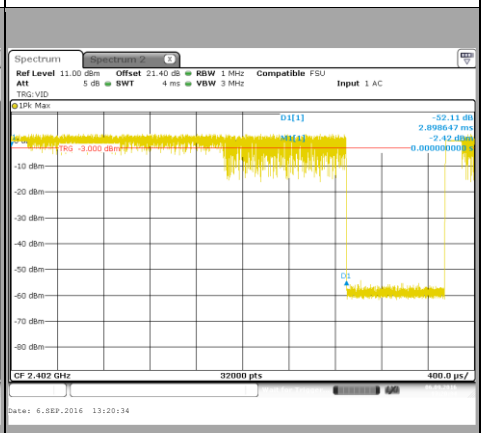
7.5. RESULTS

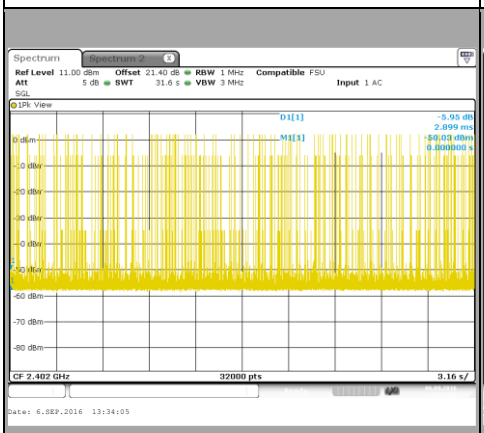
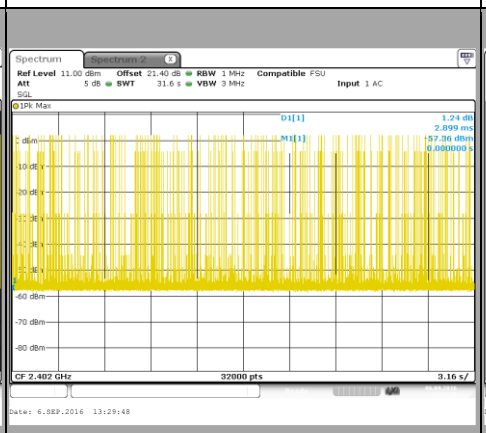
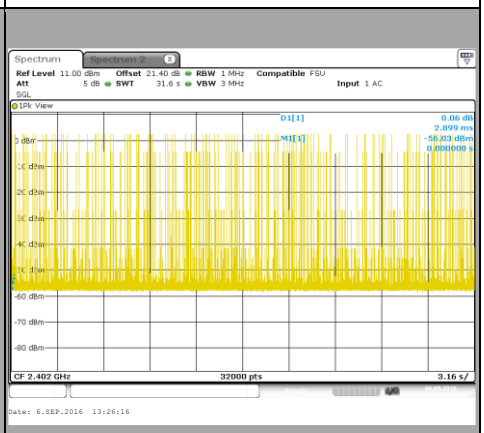
Burst Length		
GFSK		
DH1	2DH1	3DH1
		
Time of Occupancy		
DH1	2DH1	3DH1
		

Packet Type	Burst Length (ms)	Number of Hopping during Time of Occupancy	Time of Occupancy (ms)	Limit of Time of Occupancy (ms)
DH1	0,396	261	103,36	400
2DH1	0,398	280	111,44	400
3DH1	0,397	300	119,1	400

Burst Length		
π/4 DQPSK		
DH3	2DH3	3DH3
		
Time of Occupancy		
DH3	2DH3	3DH3
		

Packet Type	Burst Length (ms)	Number of Hopping during Time of Occupancy	Time of Occupancy (ms)	Limit of Time of Occupancy (ms)
DH3	1,652	173	285,8	400
2DH3	1,65	164	270,6	400
3DH3	1,65	165	272,25	400

Burst Length		
8DPSK		
DH5	2DH5	3DH5
		

Time of Occupancy		
DH5	2DH5	3DH5
		

Packet Type	Burst Length (ms)	Number of Hopping during Time of Occupancy	Time of Occupancy (ms)	Limit of Time of Occupancy (ms)
DH5	2,9	110	319	400
2DH5	2,9	124	359,6	400
3DH5	2,898	118	342	400

7.6. CONCLUSION

Time of Occupancy measurement performed on the sample of the product **Technicolor Player UIW4010TCH**, in configuration and description presented in this test report, show levels **compliant** to the **47 CFR PART 15.247 & RSS-GEN ISSUE 4** limits.

8. DUTY CYCLE

8.1. TEST CONDITIONS

Test performed by	: Mathieu CERISIER
Date of test	: September 7, 2016
Ambient temperature	: 26 °C
Relative humidity	: 44 %

8.2. 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 § 11.6

8.3. LIMIT

None

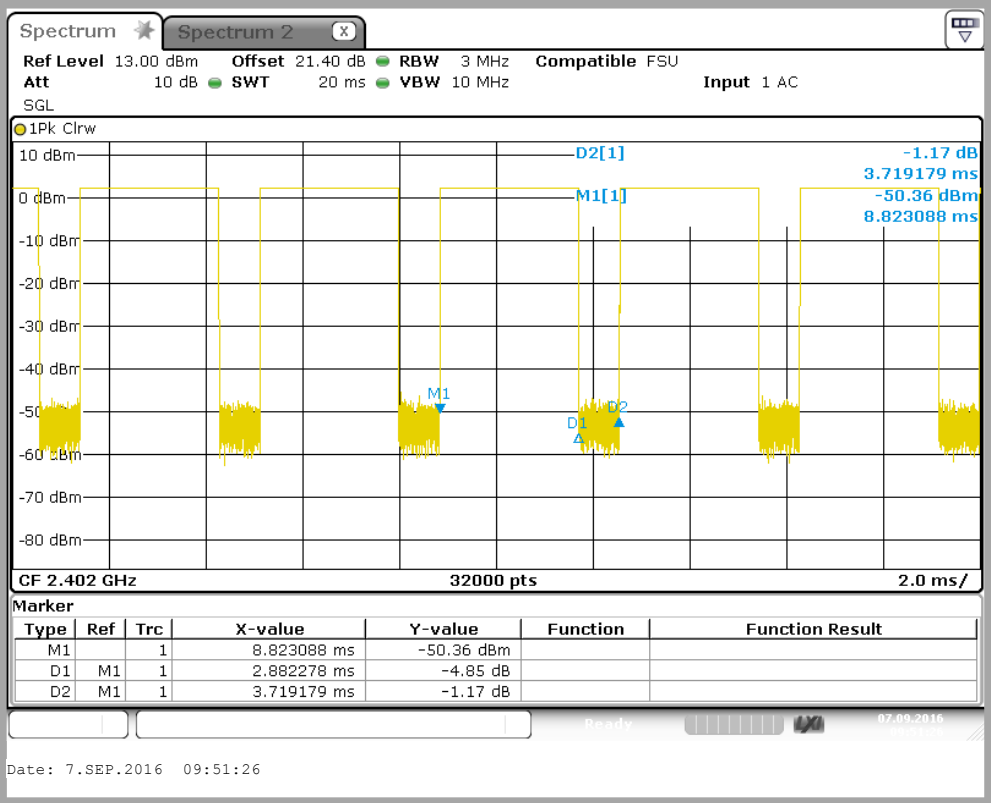
8.4. TEST EQUIPMENT LIST

DESCRIPTION	MANUFACTURER	MODEL	N° LCIE	Calibration date	Calibration due
Multi-meter	KEITHLEY	2000	A1242090	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	2015/03	2016/10
RF cable & 20 dB attenuator	Télédyne	920-0202-048	A5329661	2015/10	2016/10

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

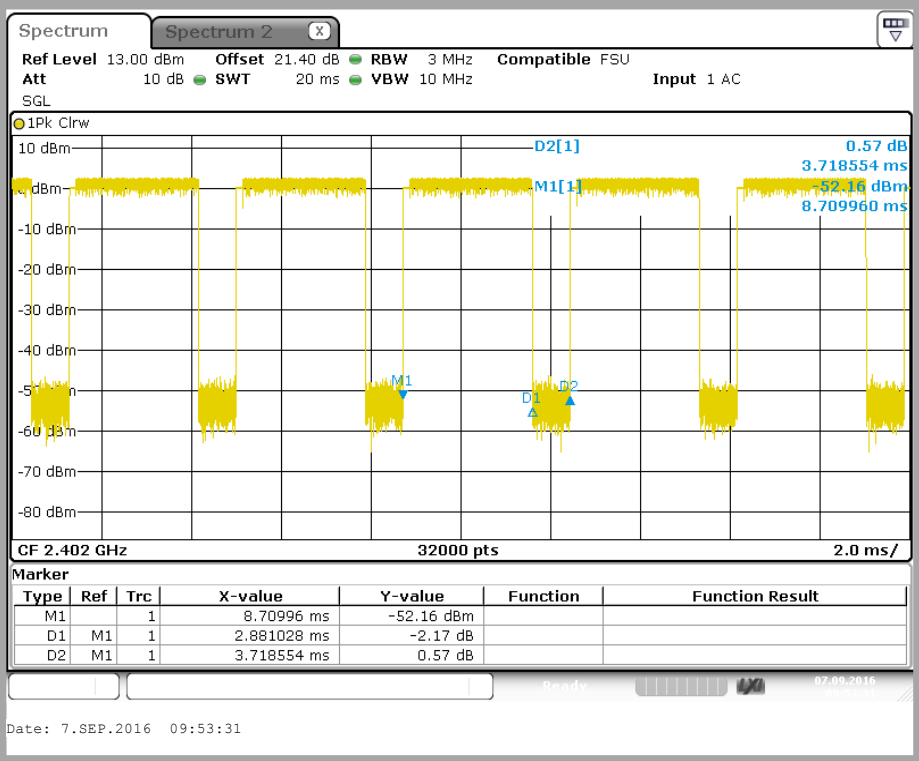
8.5. RESULTS

GFSK		
Cmin		



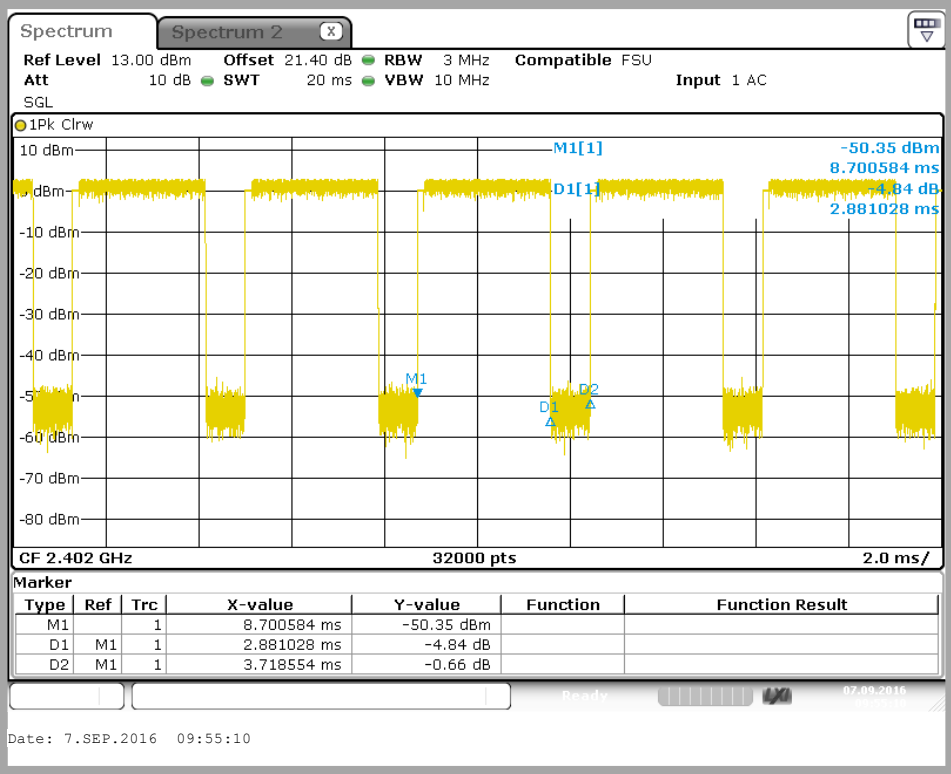
Channel	Duty Cycle (%)	Duty Cycle Correction (dB)
Cmin	77,49	1.10

π/4 DQPSK
Cmin



Channel	Duty Cycle (%)	Duty Cycle Correction (dB)
Cmin	77,47	1.11

8DPSK
Cmin



Channel	Duty Cycle (%)	Duty Cycle Correction (dB)
Cmin	77,47	1.11

8.6. CONCLUSION

Duty Cycle measurement performed on the sample of the product **Technicolor Player UIW4010TCH**, in configuration and description presented in this test report, show levels **compliant** to the **47 CFR PART 15.247 & RSS 247 ISSUE 1** limits.

9. MAXIMUM CONDUCTED OUTPUT POWER

9.1. TEST CONDITIONS

Test performed by : Mathieu CERISIER
Date of test : September 7, 2016
Ambient temperature : 22 °C
Relative humidity : 41 %

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

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

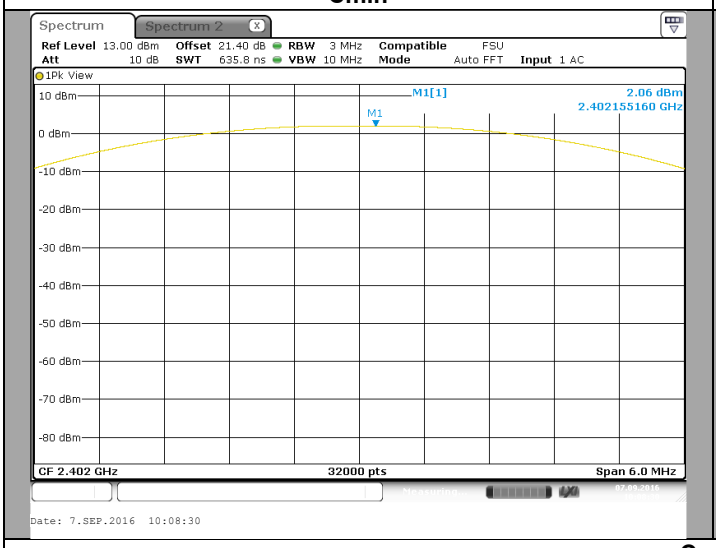
DESCRIPTION	MANUFACTURER	MODEL	N° LCIE	Calibration date	Calibration due
Multi-meter	KEITHLEY	2000	A1242090	2016/05	2018/05
Programmable AC/DC power supply	-; KIKUSUI	PCR500M	A7049006	Verified with calibrated multimeter	Verified with calibrated multimeter
EMI receiver	ROHDE & SCHWARZ	ESR 7	A2642023	2015/03	2016/10
RF cable & 20 dB attenuator	Télédyne	920-0202-048	A5329661	2015/10	2016/10

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

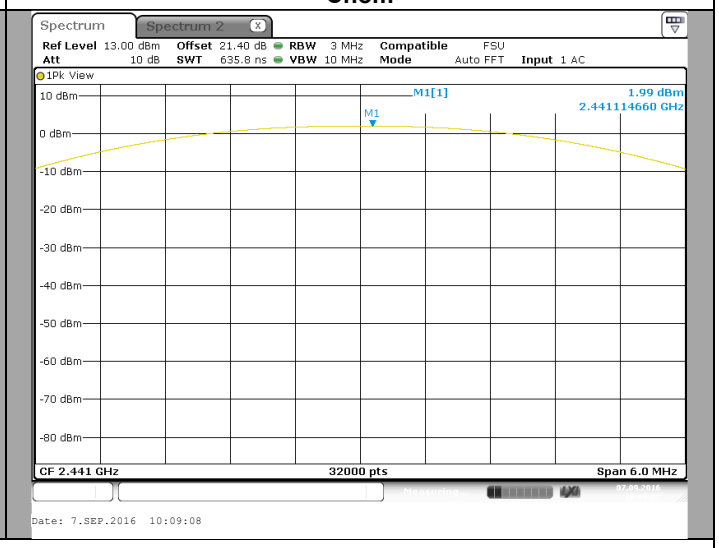
9.5. RESULTS

GFSK

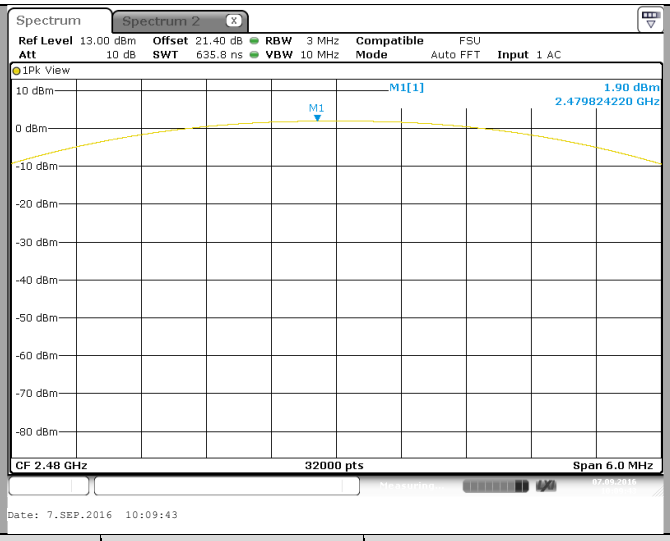
Cmin



Cnom



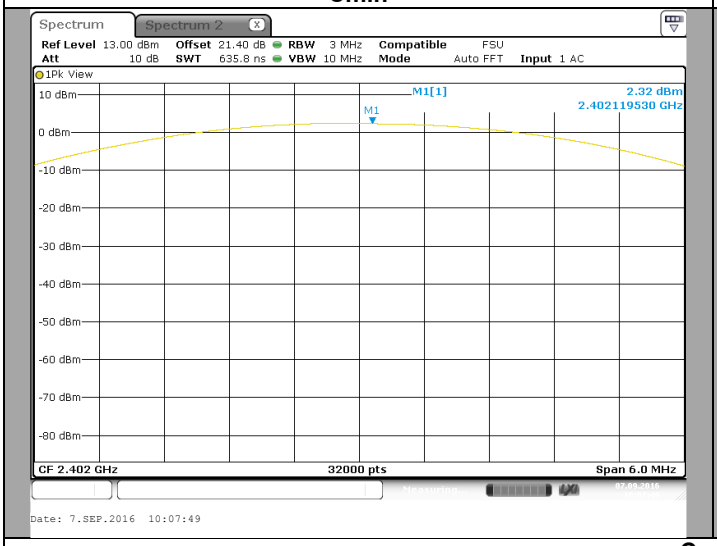
Cmax



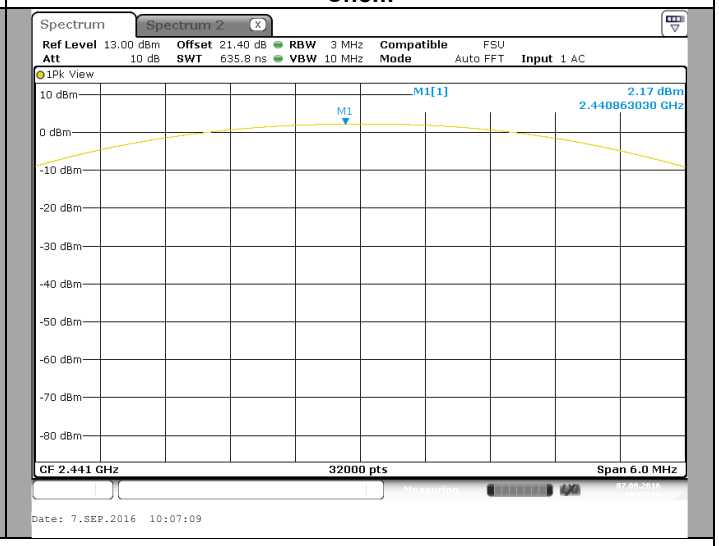
Channel	Offset Cable + Att (dB)	Antenna Gain (dBi)	Maximum Conducted Power (dBm)	Limit (dBm)
Cmin	**21,4**	5,4	2.06	21dBm. Reduced by G-6dBi if Antenna Gain above 6dBi
Cnom	**21,4**	5,4	1.99	21dBm. Reduced by G-6dBi if Antenna Gain above 6dBi
Cmax	**21,4**	5,4	1.90	21dBm. Reduced by G-6dBi if Antenna Gain above 6dBi

π/4 DQPSK

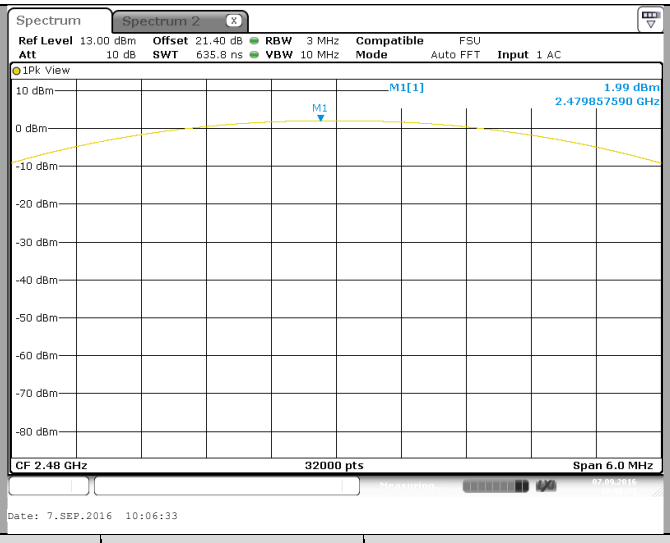
Cmin



Cnom



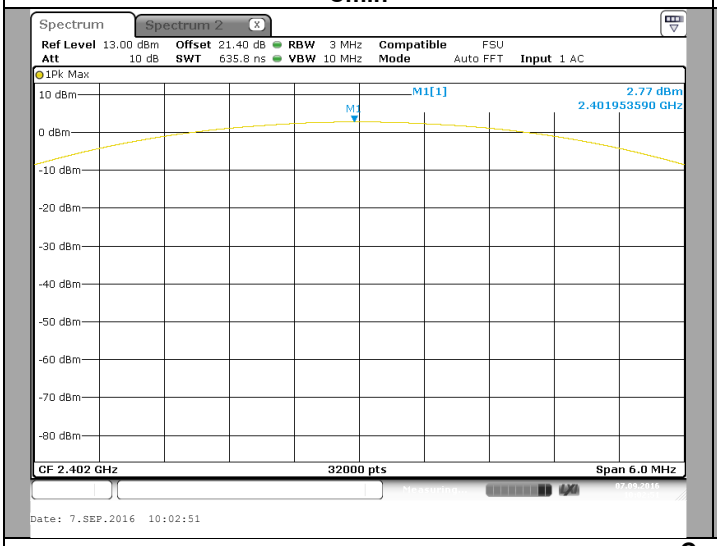
Cmax



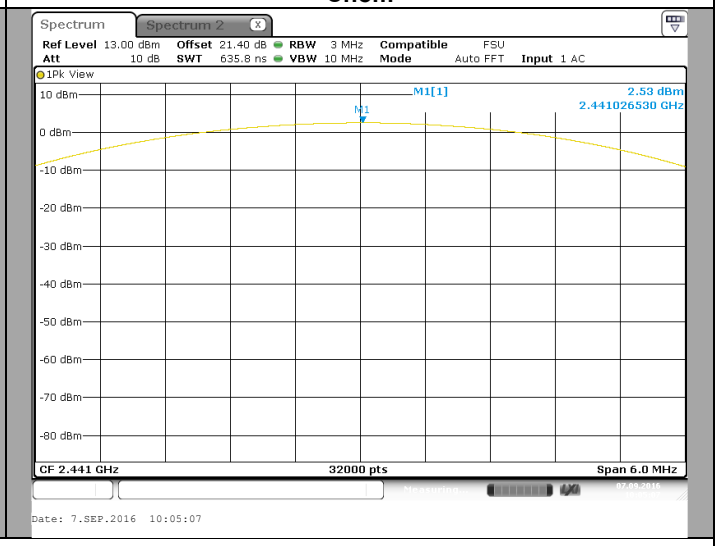
Channel	Offset Cable + Att (dB)	Antenna Gain (dBi)	Maximum Conducted Power (dBm)	Limit (dBm)
Cmin	**21,4**	5,4	2.32	21dBm. Reduced by G-6dBi if Antenna Gain above 6dBi
Cnom	**21,4**	5,4	2.17	21dBm. Reduced by G-6dBi if Antenna Gain above 6dBi
Cmax	**21,4**	5,4	1.99	21dBm. Reduced by G-6dBi if Antenna Gain above 6dBi

π/4 DQPSK

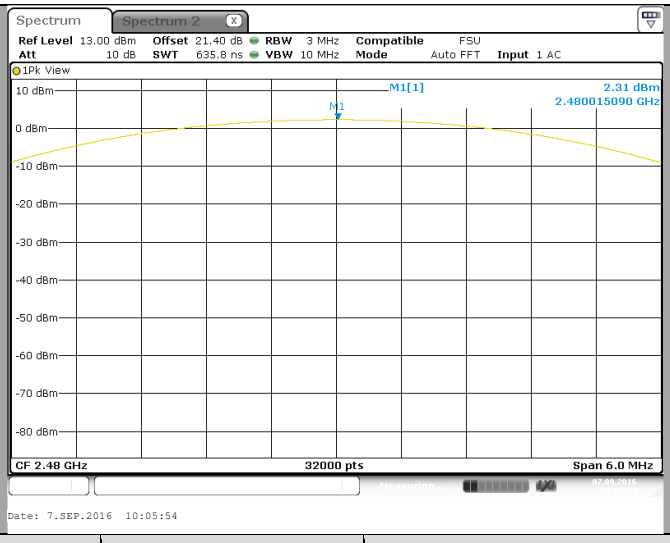
Cmin



Cnom



Cmax



Channel	Offset Cable + Att (dB)	Antenna Gain (dBi)	Maximum Conducted Power (dBm)	Limit (dBm)
Cmin	**21,4**	5,4	2.77	21dBm. Reduced by G-6dBi if Antenna Gain above 6dBi
Cnom	**21,4**	5,4	2.53	21dBm. Reduced by G-6dBi if Antenna Gain above 6dBi
Cmax	**21,4**	5,4	2.31	21dBm. Reduced by G-6dBi if Antenna Gain above 6dBi

9.6. CONCLUSION

Maximum Conducted Output Power measurement performed on the sample of the product **Technicolor Player UIW4010TCH**, in configuration and description presented in this test report, show levels **compliant** to the **47 CFR PART 15.247 & RSS 247 ISSUE 1** 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 : October 3, 2016
Ambient temperature : 22 °C
Relative humidity : 41 %

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

10.3. LIMIT

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

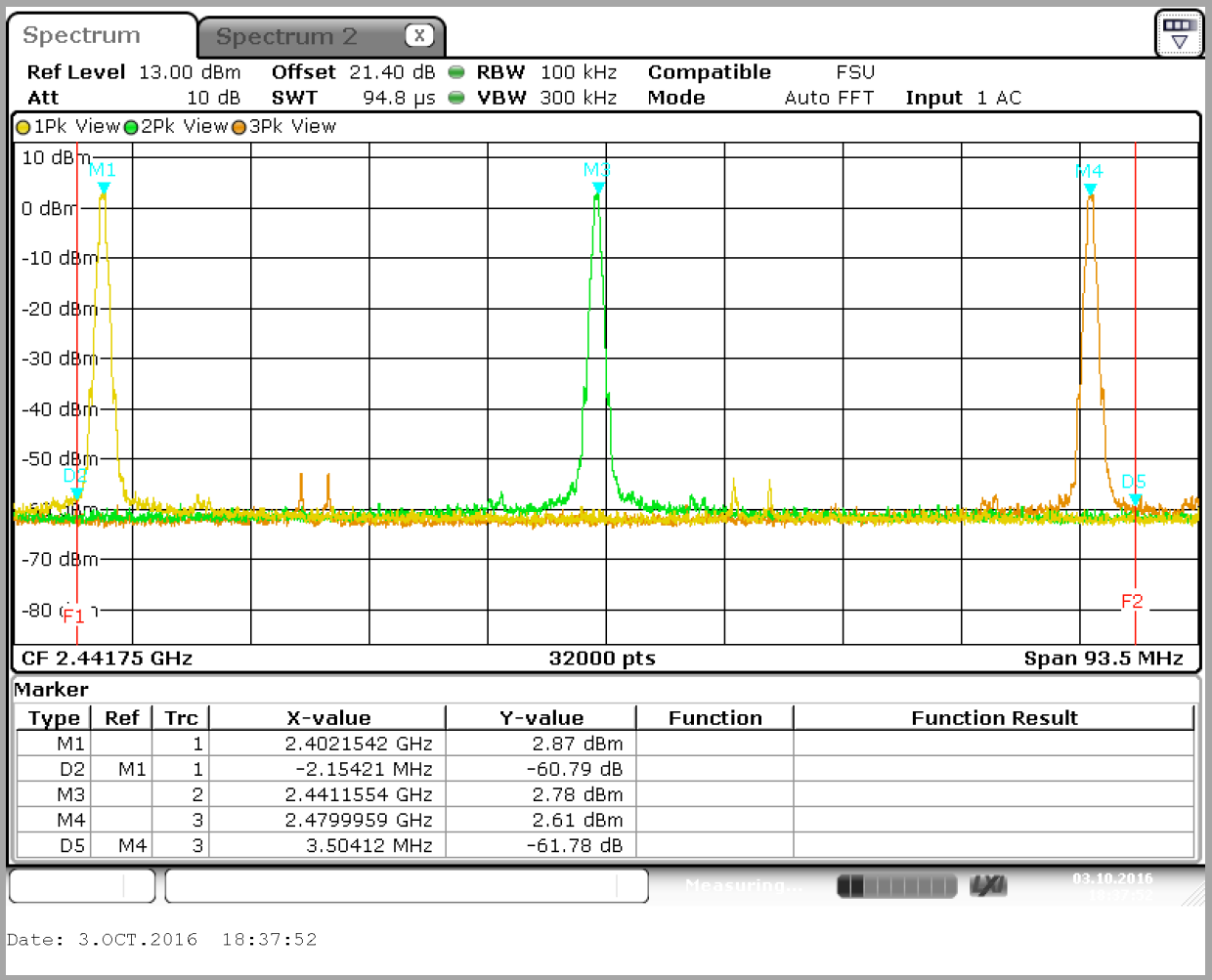
10.4. TEST EQUIPMENT LIST

DESCRIPTION	MANUFACTURER	MODEL	N° LCIE	Calibration date	Calibration due
Multi-meter	KEITHLEY	2000	A1242090	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	2015/03	2016/10
RF cable & 20 dB attenuator	Télédyne	920-0202-048	A5329661	2015/10	2016/10

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

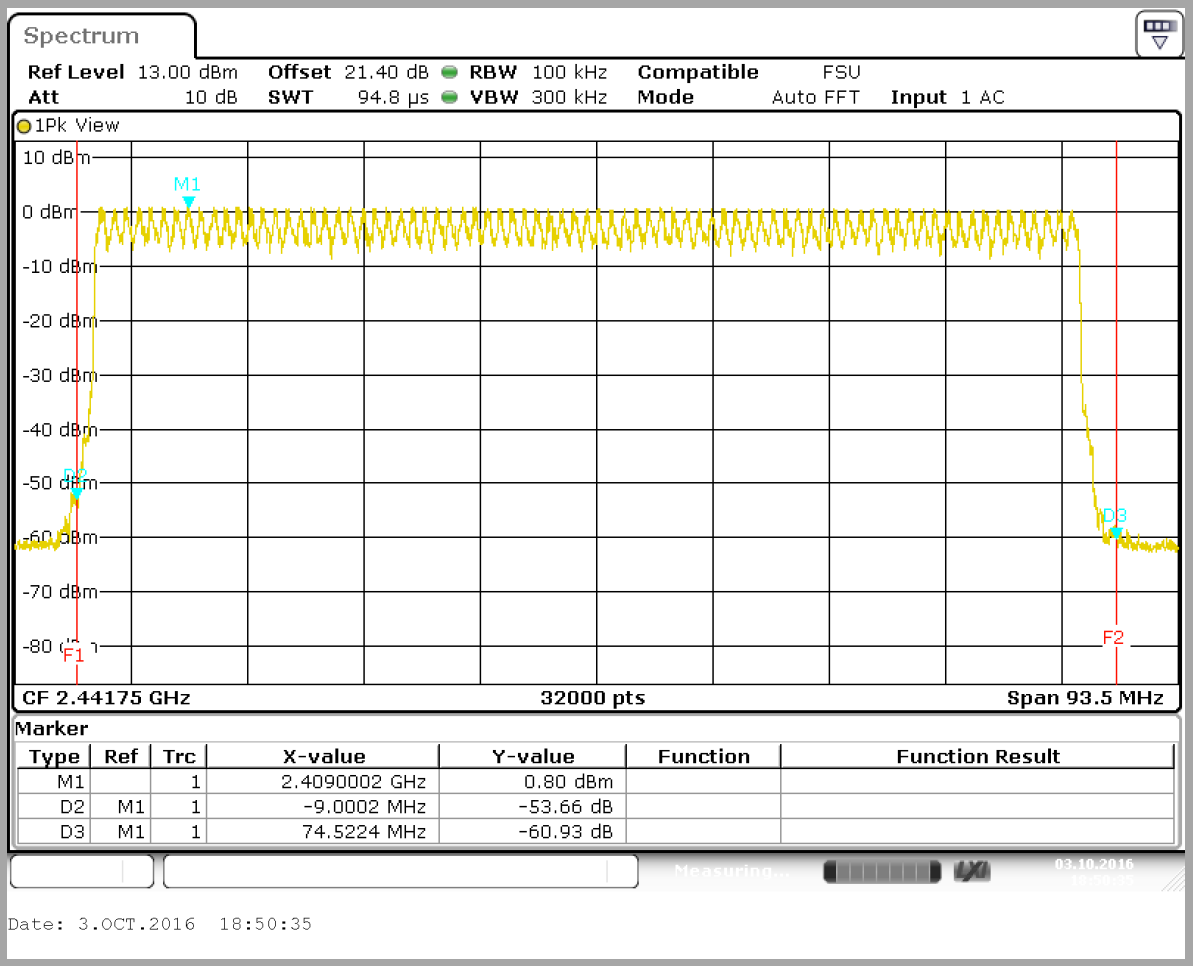
10.5. RESULTS

GFSK
Cmin/Cnom/Cmax



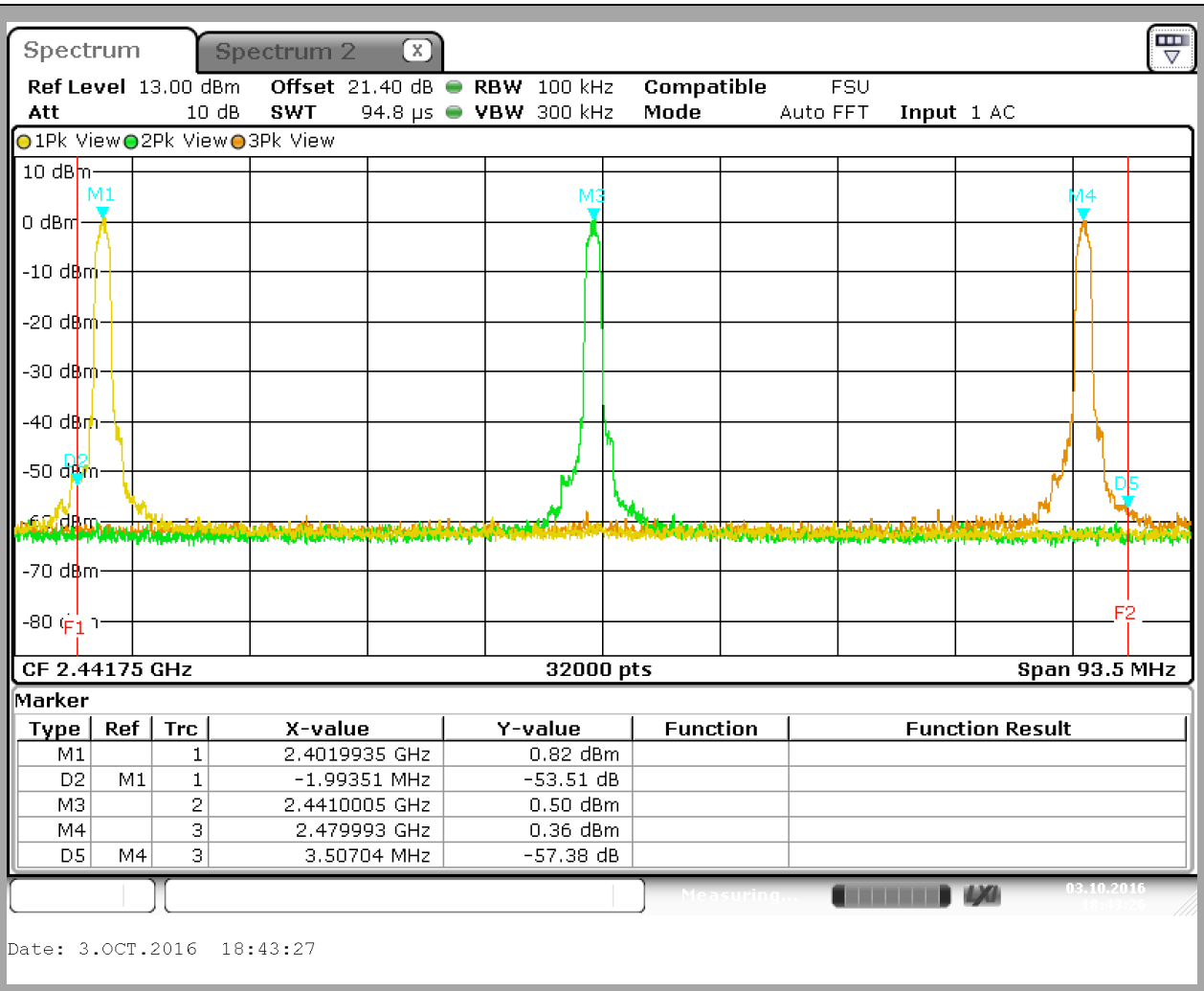
Frequency (MHz)	Level (dBc)	Limit (dBc)
2400	60,79	20
2483.5	61,78	20

GFSK
Call



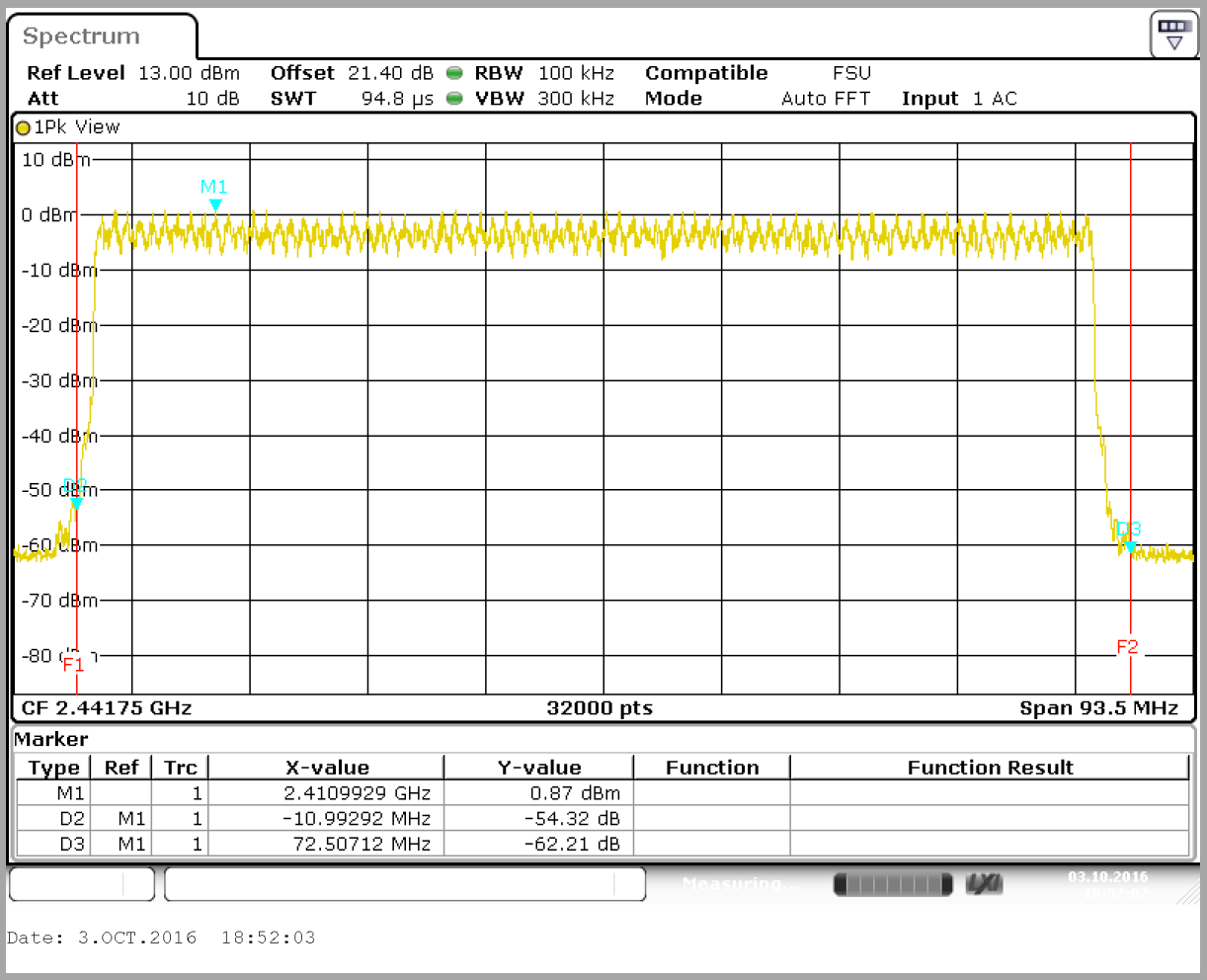
Frequency (MHz)	Level (dBc)	Limit (dBc)
2400	53,66	20
2483.5	60,93	20

π/4 DQPSK
Cmin/Cnom/Cmax



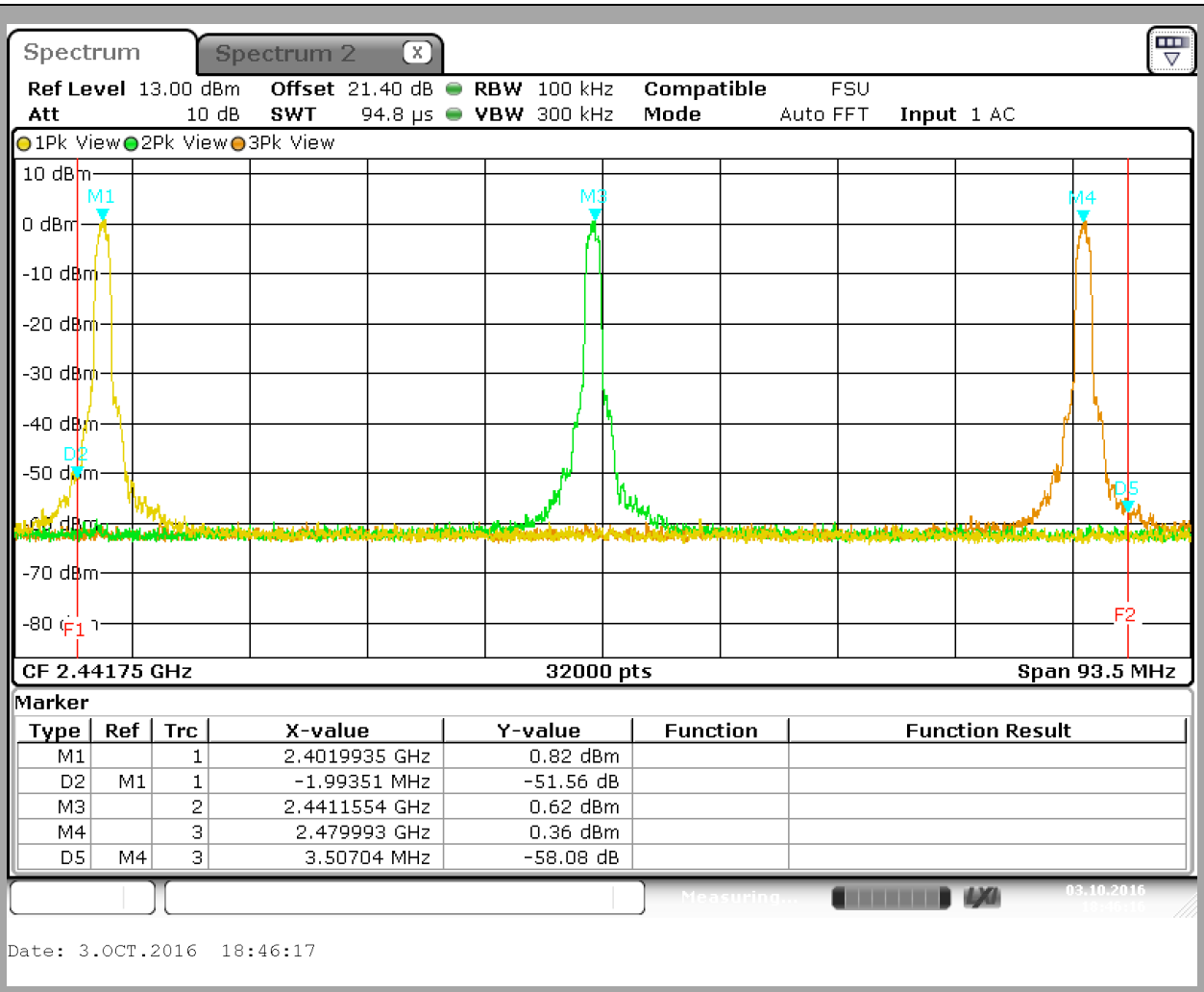
Frequency (MHz)	Level (dBc)	Limit (dBc)
2400	53,51	20
2483.5	57,38	20

π/4 DQPSK
Call



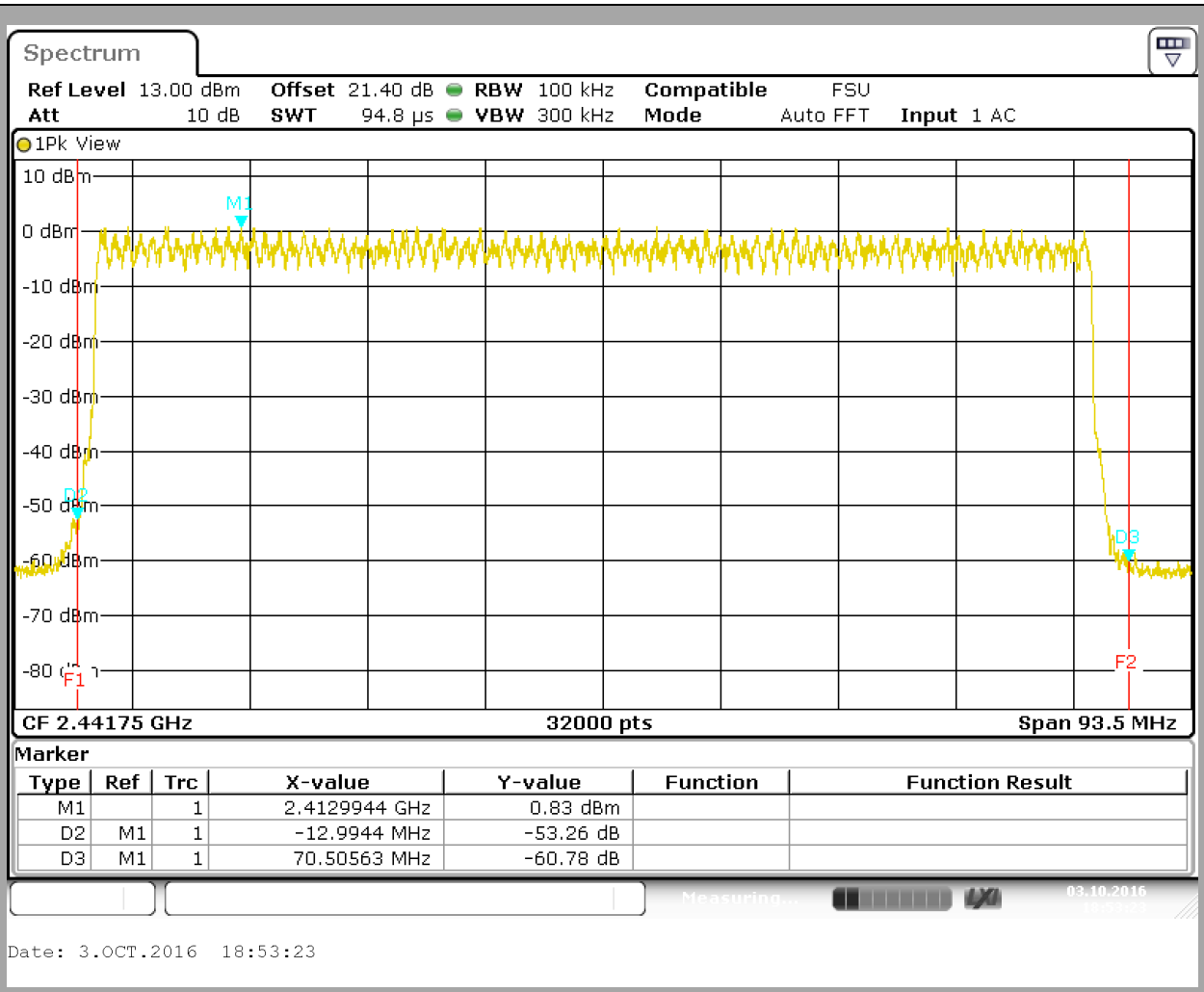
Frequency (MHz)	Level (dBc)	Limit (dBc)
2400	54,32	20
2483.5	62,21	20

8DPSK
Cmin/Cnom/Cmax



Frequency (MHz)	Level (dBc)	Limit (dBc)
2400	51,56	20
2483.5	58,08	20

8DPSK
Call



Frequency (MHz)	Level (dBc)	Limit (dBc)
2400	53,26	20
2483.5	60,78	20

10.6. CONCLUSION

Unwanted Emission into non-restricted frequency bands at the band edge measurement performed on the sample of the product **Technicolor Player UIW4010TCH**, in configuration and description presented in this test report, show levels **compliant** to the **47 CFR PART 15.247 & RSS 247 ISSUE 1** limits.

11. UNWANTED EMISSIONS INTO NON-RESTRICTED FREQUENCY BANDS

11.1. TEST CONDITIONS

Test performed by	: Arnaud FAYETTE
Date of test	: August 31, 2016
Ambient temperature	: 24 °C
Relative humidity	: 44 %

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

11.3. LIMIT

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

11.4. TEST EQUIPMENT LIST

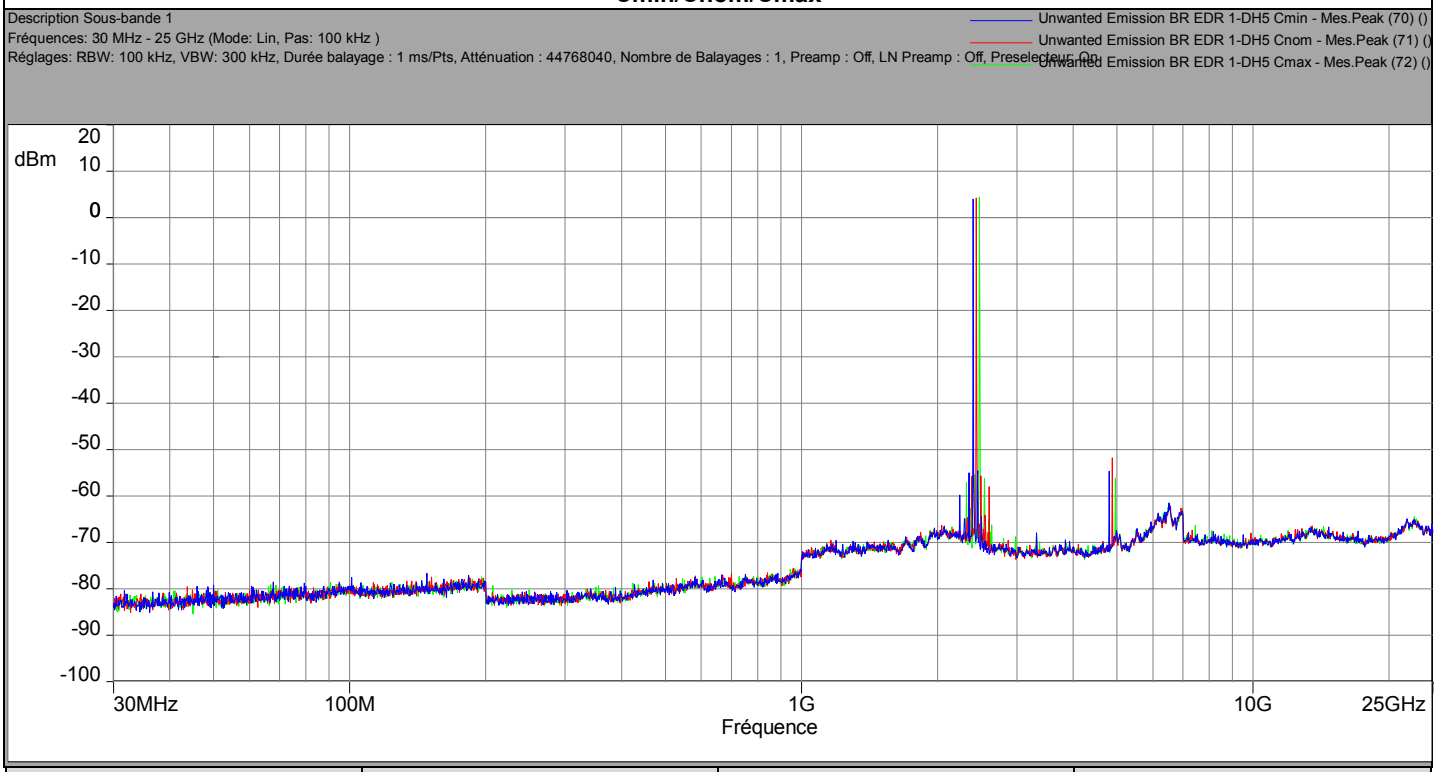
DESCRIPTION	MANUFACTURER	MODEL	N° LCIE	Calibration date	Calibration due
Multi-meter	KEITHLEY	2000	A1242090	2017/06	2017/06
Programmable AC/DC power supply	-; KIKUSUI	PCR500M	A7040079	2016/06	2017/06
EMI receiver	ROHDE & SCHWARZ	ESI40 1088 740K40	A2642010	2016/07	2017/07
Cable	sans; ATEM	SMA 0.5m	A5329645	2015/08	2016/08
Rejector filter 2,4GHz	-	2.45GHz	A7484048	2015/12	2016/12

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

11.5. RESULTS

GFSK

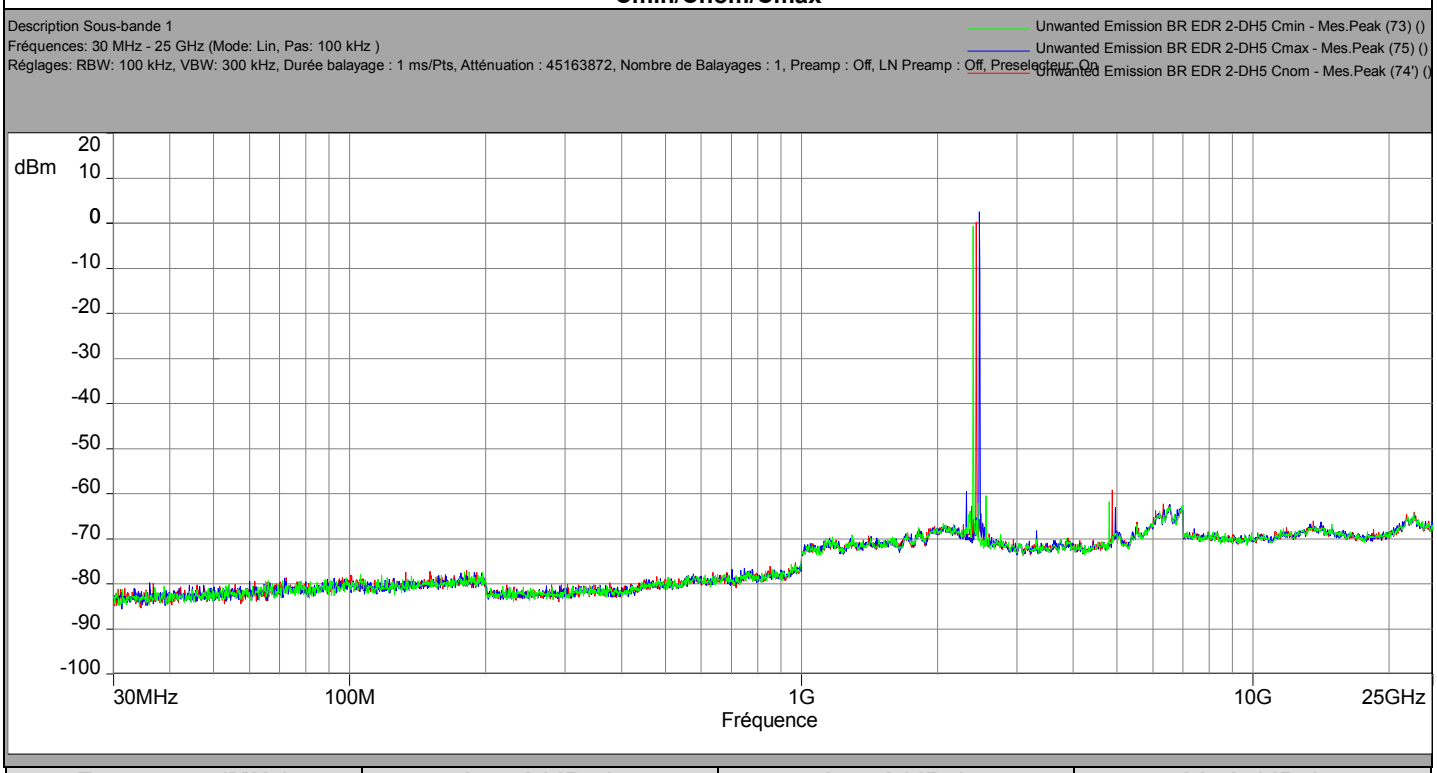
Cmin/Cnom/Cmax



Frequency (MHz)	Level (dBm)	Level (dBc)	Limit (dBc)
2402	4,04		
2242	-59,80	63,83	20
2348	-54,97	59,01	20
4804	-54,61	58,64	20
2441	4,18		
2386	-55,62	59,80	20
2496	-55,71	59,89	20
4882	-51,80	55,98	20
2480	4,46		
2320	-56,94	61,40	20
2540	-56,23	60,69	20
4960	-56,15	60,62	20

π/4 DQPSK

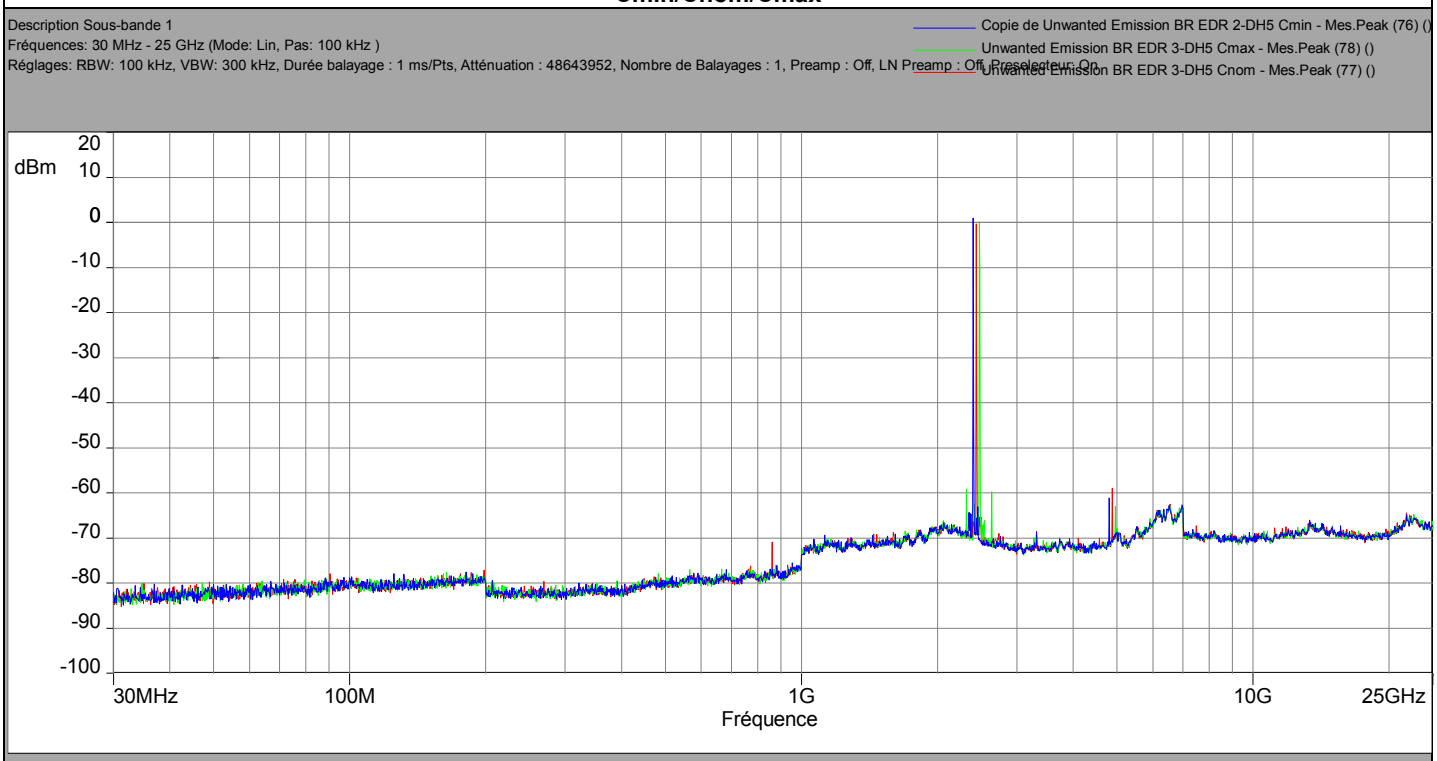
Cmin/Cnom/Cmax



Frequency (MHz)	Level (dBm)	Level (dBc)	Limit (dBc)
2402	-0,64		
2562	-60,42	59,78	20
4804	-61,86	61,22	20
6987	-62,66	62,02	
2441	0,26		
2383	-62,87	63,13	20
2499	-64,47	64,74	20
4882	-59,24	59,51	20
2480	2,48		
2320	-59,53	62,01	20
2519	-66,56	69,04	20
4960	-63,12	65,60	20

8DPSK

Cmin/Cnom/Cmax



Frequency (MHz)	Level (dBm)	Level (dBc)	Limit (dBc)
2402	0,96		
2349	-64,28	65,24	20
3312	-68,73	69,69	20
4804	-61,12	62,08	20
2441	-0,36		
860,9	-70,91	70,54	20
2499	-65,33	64,97	20
4882	-59,00	58,63	20
2480	0,16		
2320	-59,16	59,32	20
2640	-59,78	59,94	20
4960	-62,99	63,16	20

11.6. CONCLUSION

Unwanted Emission into non-restricted frequency bands measurement performed on the sample of the product **Technicolor Player UIW4010TCH**, in configuration and description presented in this test report, show levels **compliant** to the **47 CFR PART 15.247 & RSS 247 ISSUE 1** limits.

12. AC POWER LINE CONDUCTED EMISSIONS

12.1. TEST CONDITIONS

Test performed by	: Laurent DENEUX
Date of test	: September 19, 2016
Ambient temperature	: 22 °C
Relative humidity	: 47%

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 50Ω / 50µH. Interconnecting cables and equipment's were moved to position that maximized emission.

12.3. LIMIT

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

Average
0,15kHz to 0,5MHz: 56dBµV to 46dBµV*
0,5MHz to 5MHz: 46dBµV
5MHz to 30MHz: 50dBµV
*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	ESCI	A2642017	2016-08	2017-08
V ISLN	ROHDE & SCHWARZ	ESH2-Z5	C2322001	2016-05	2017-05
Pulse limiter	ROHDE & SCHWARZ	ESH3-Z2	A2649008	2016-03	2017-03
Cable	-	-	A5329417	2015-10	2016-10
Ground plane	LCIE	-	-	-	

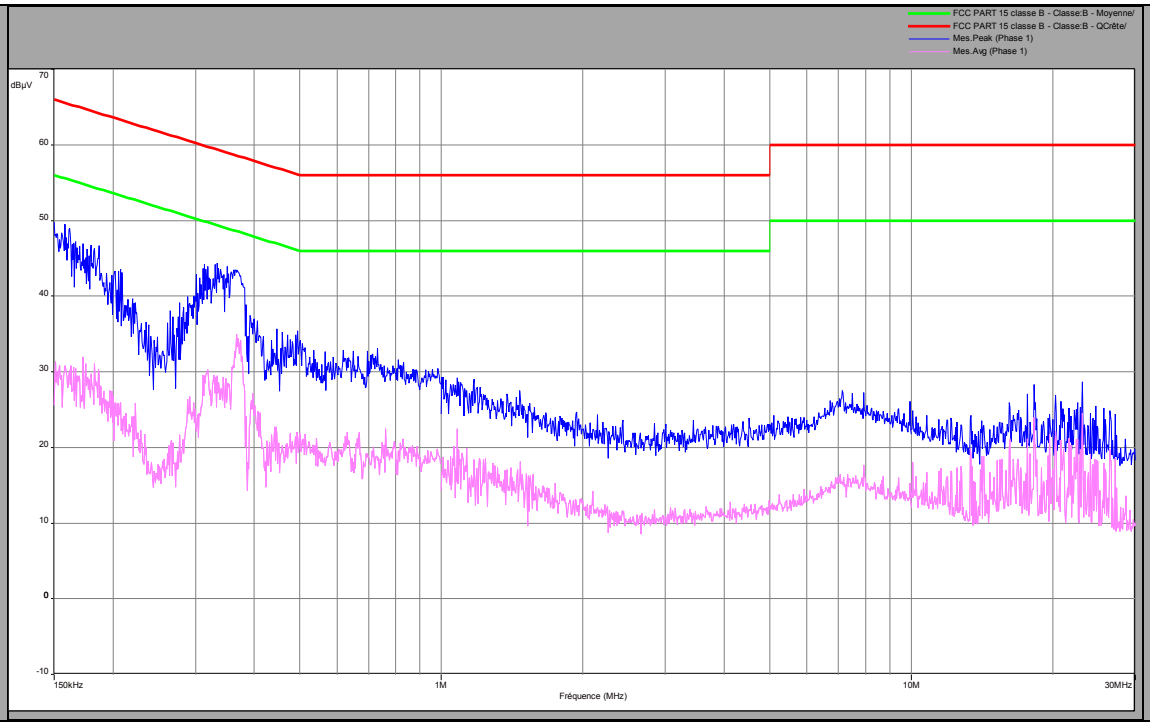
Note: In our quality system, the test equipment calibration due is more & less 2 months

12.5. DIVERGENCE, ADDITION OR SUPPRESSION ON THE TEST SPECIFICATION

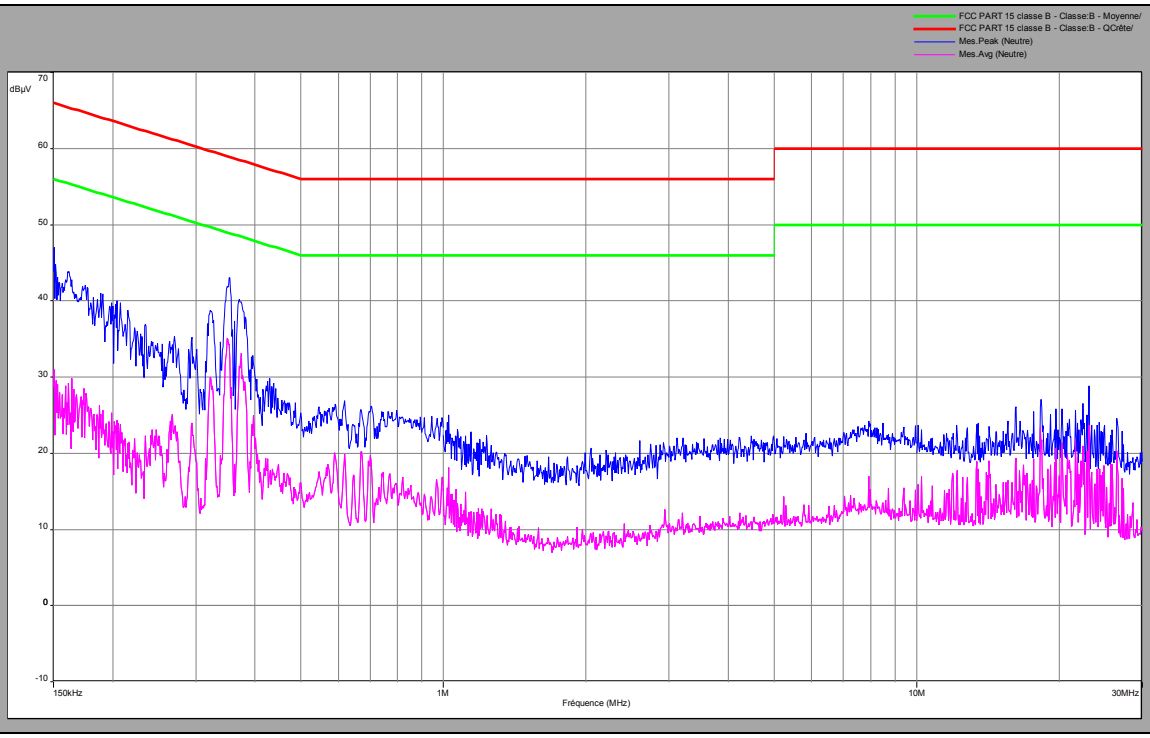
☑ None ☐ Divergence:

12.6. RESULTS

Channel
Phase



Neutral



Phase Line					
Frequency (MHz)	Peak Level (dBµV)	Quasi-Peak Level (dBµV)	Quasi-Peak Limit (dBµV)	Average Level (dBµV)	Average Limit (dBµV)
0.161	48.8	-	65.4	32	55.4
0.365	43.4	-	58.6	35	48.6
1.08	29.2	-	56	22.4	46
7.922	27	-	60	18	50
23.13	28.7	-	60	24.5	50

Neutral Line					
Frequency (MHz)	Peak Level (dBµV)	Quasi-Peak Level (dBµV)	Quasi-Peak Limit (dBµV)	Average Level (dBµV)	Average Limit (dBµV)
0.160	43.8	-	65.4	29.7	55.4
0.354	43	-	58.8	35	48.8
0.617	27	-	56	20	46
7.924	24	-	60	17	50
23.128	28.8	-	60	23.7	50

12.7. CONCLUSION

Ac Power Line Conducted Emission measurement performed on the sample of the product **Technicolor Player UIW4010TCH**, in configuration and description presented in this test report, show levels **compliant** to the 47 CFR PART 15.407 & RSS 247 ISSUE 1 limits.

13. UNWANTED EMISSIONS IN RESTRICTED FREQUENCY BANDS

13.1. TEST CONDITIONS

Test performed by : Laurent DENEUX
Date of test : September 19, 2016 to September 21, 2016
Ambient temperature : 22°C
Relative humidity : 51%

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.

13.3. LIMIT

Limit at 10m:

30MHz to 88MHz:	29.5dBµV/m QPeak
88MHz to 216MHz:	33dBµV/m QPeak
216MHz to 960MHz:	35.5dBµV/m QPeak
960MHz to 1000MHz:	43.5dBµV/m QPeak
Above 1000MHz:	63.5BµV/m Peak
	43.5BµV/m Average

13.4. TEST EQUIPMENT LIST

Test Equipment Used					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
EMI Test Receiver	ROHDE & SCHWARZ	ESR	101403	2016-06	2017-06
Open test site	LCIE	-	F2000400	2016-05	2017-05
Preamplifier	HEWLETT PACKARD	8449B	A4069002	2016-01	2017-01
Bilog antenna	CHASE	CBL 6112A	C2040040	2016-01	2017-01
Horn antenna	AH SYSTEMS	SAS-572	C2042026	2016-04	2018-04
Horn antenna	EMCO	.3115	C2042016	2016-02	2017-02
Cable	-	-	A5329542	2016-02	2017-02
Cable	-	-	A5329449	2015-11	2016-11
Cable	-	-	A5329368	2015-11	2016-11
cable	-	-	A5329444	2015-11	2016-11

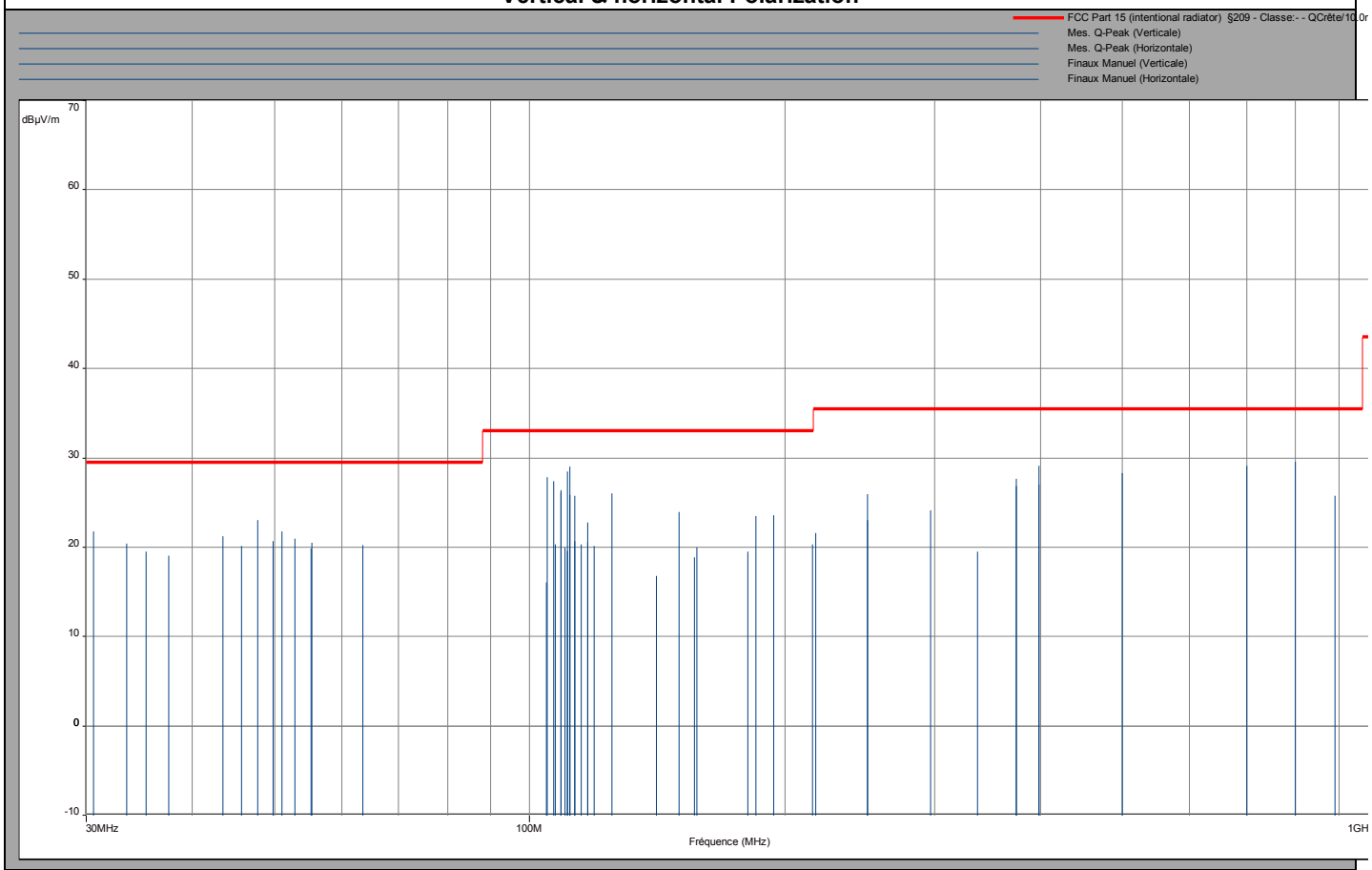
Note: In our quality system, the test equipment calibration due is more & less 2 months

13.5. DIVERGENCE, ADDITION OR SUPPRESSION ON THE TEST SPECIFICATION

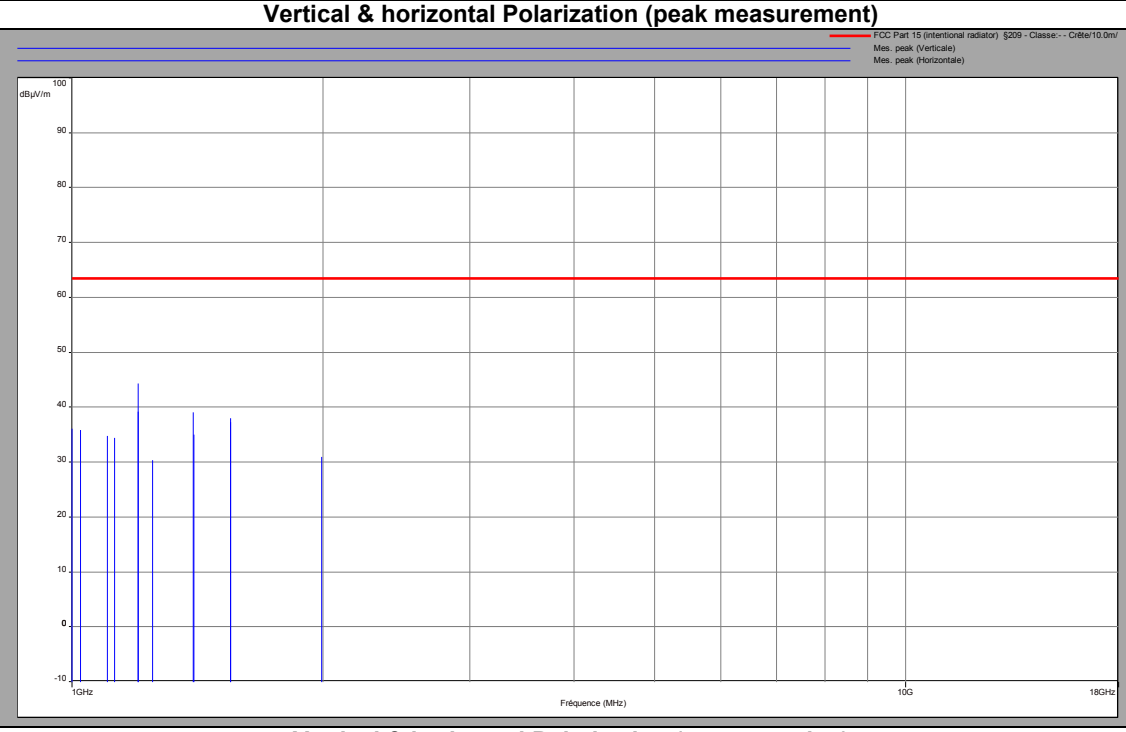
☑ None ☐ Divergence:

13.6. RESULTS

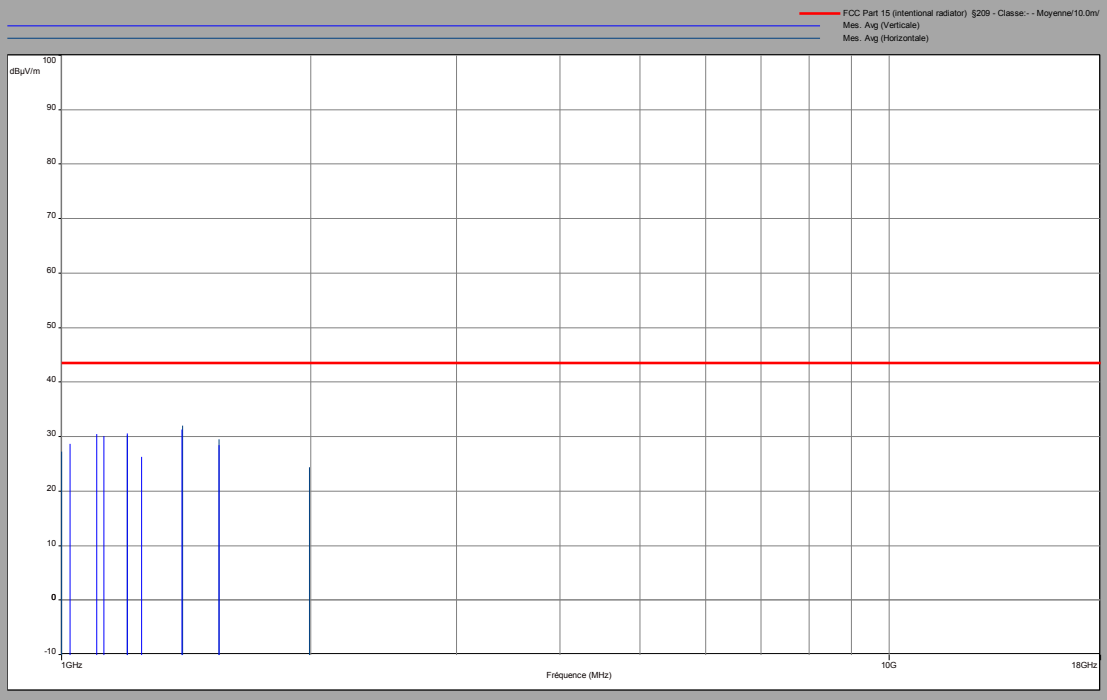
GFSK 1-DH5
Below 1GHz
Cnom
Vertical & horizontal Polarization



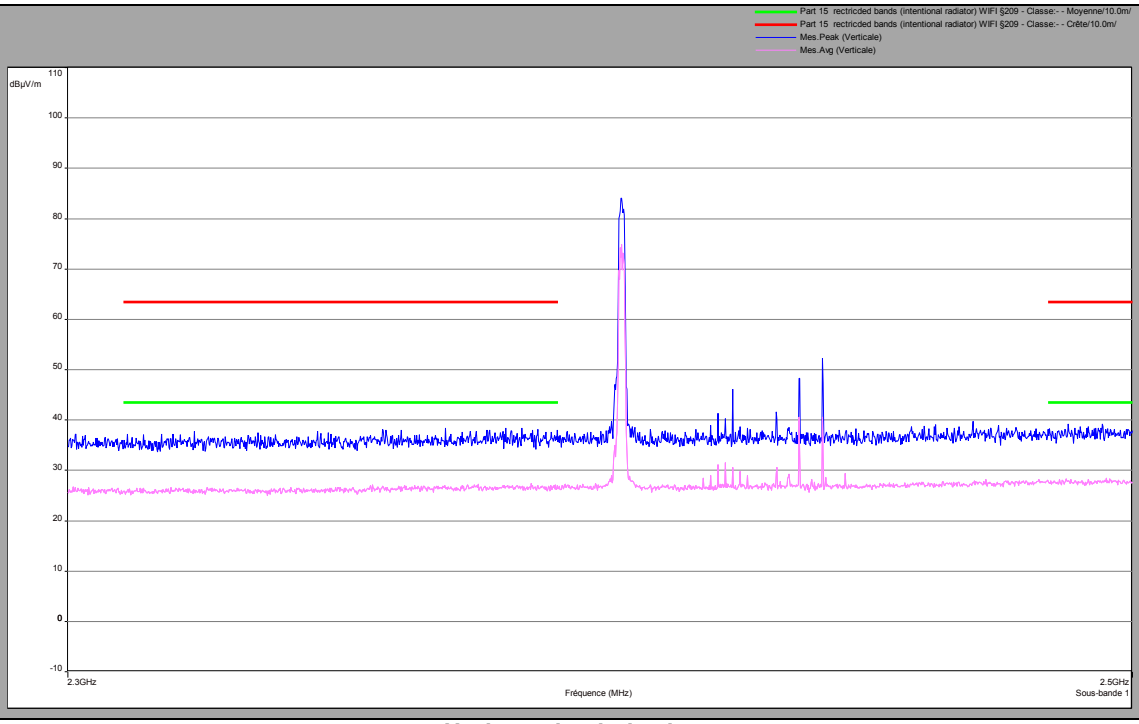
GFSK
Above 1GHz
Cnom
Vertical & horizontal Polarization (peak measurement)



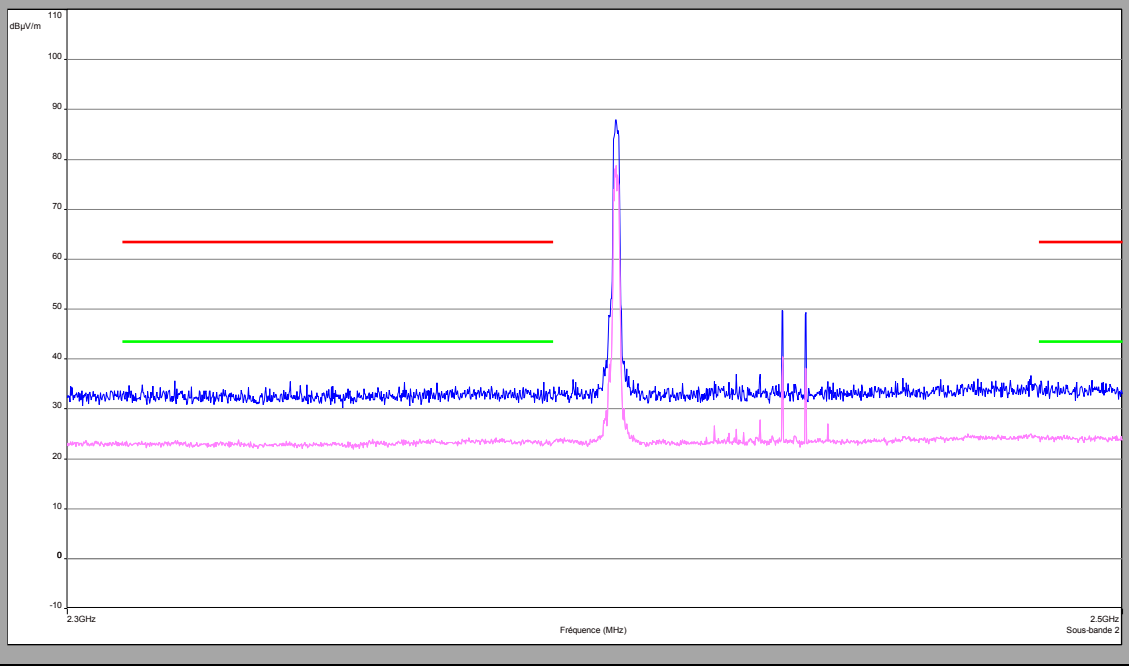
Vertical & horizontal Polarization (average value)



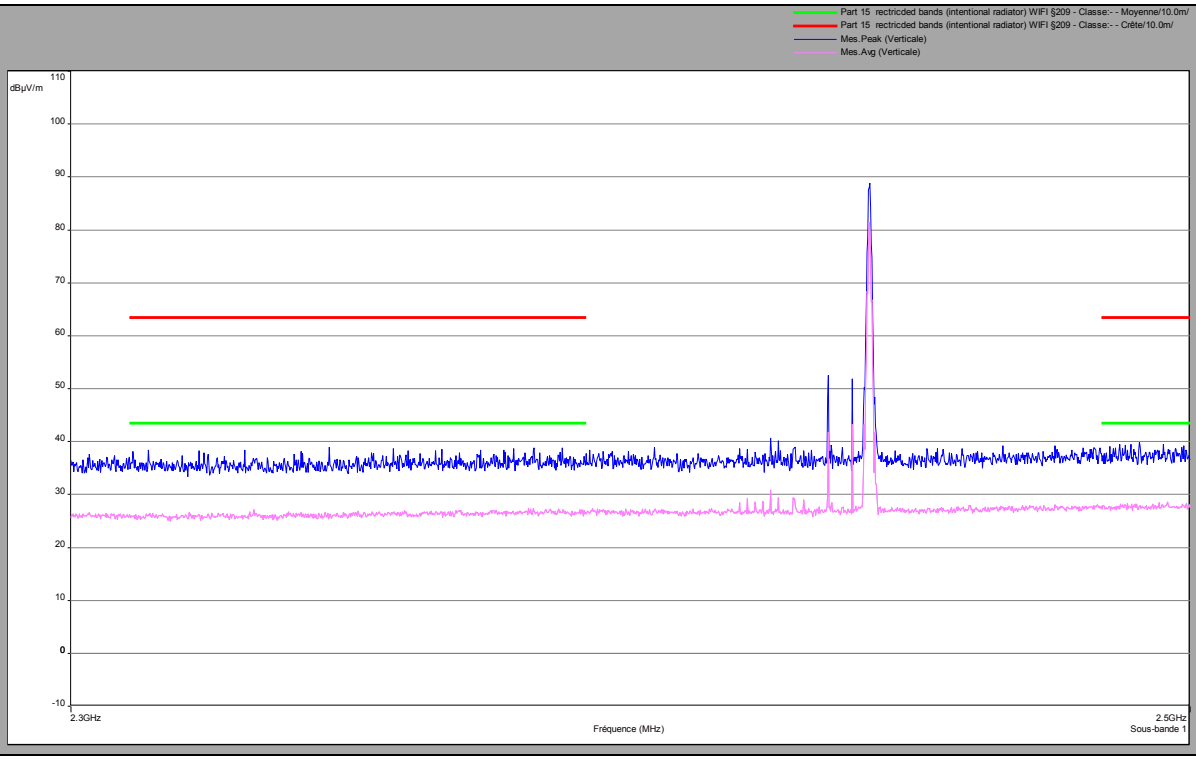
GFSK
Above 1GHz Zoom 2310MHz-2500MHz
Cmin
Vertical Polarization



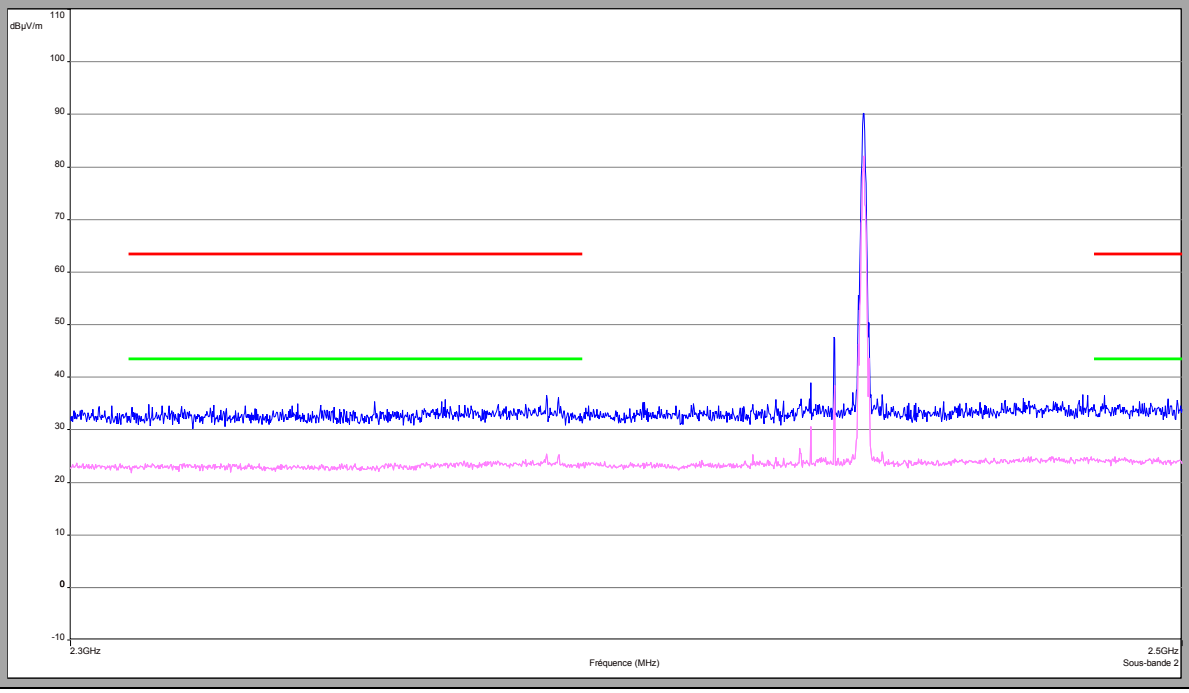
Horizontal polarization



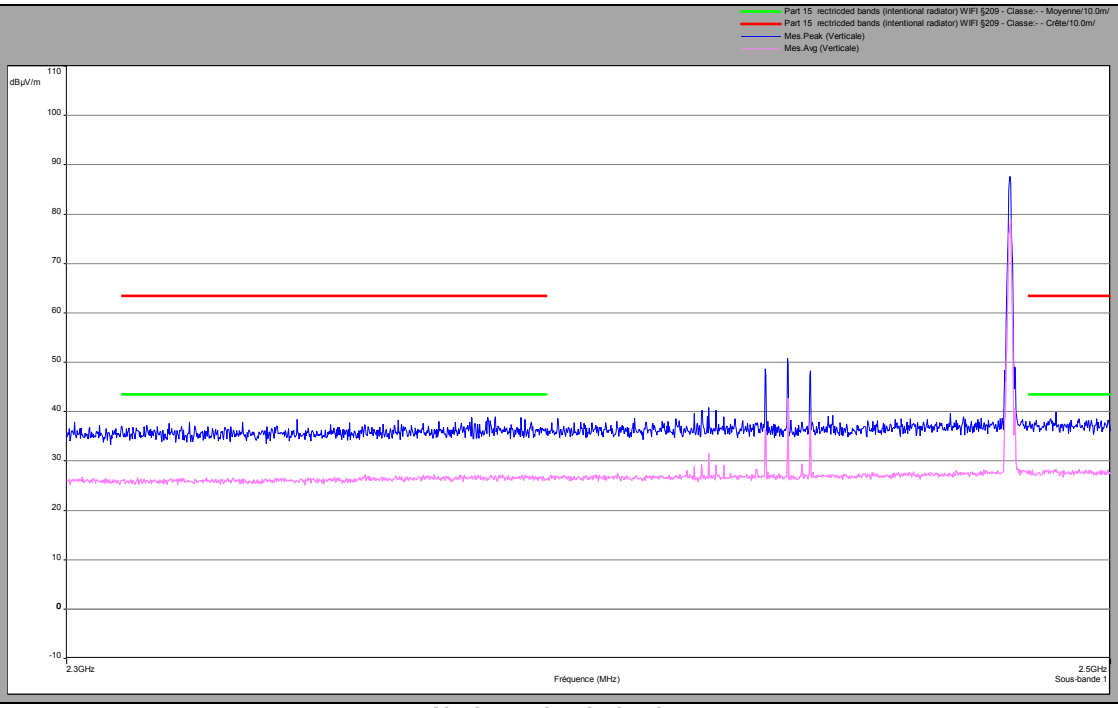
GFSK
Above 1GHz Zoom 2310MHz-2500MHz
Cnom
Vertical Polarization



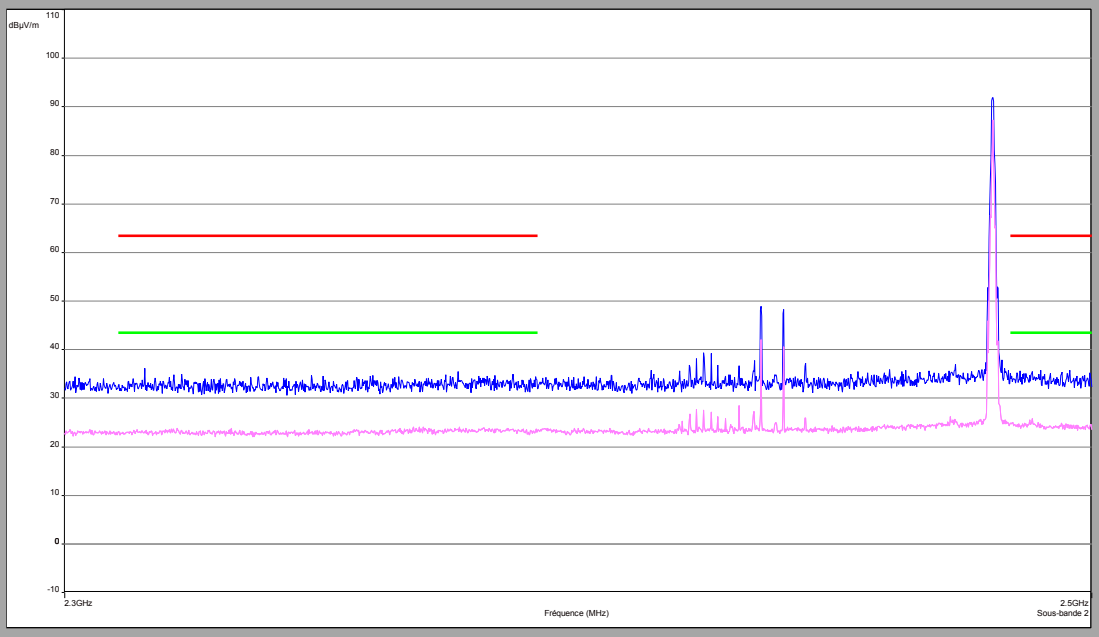
Horizontal polarization



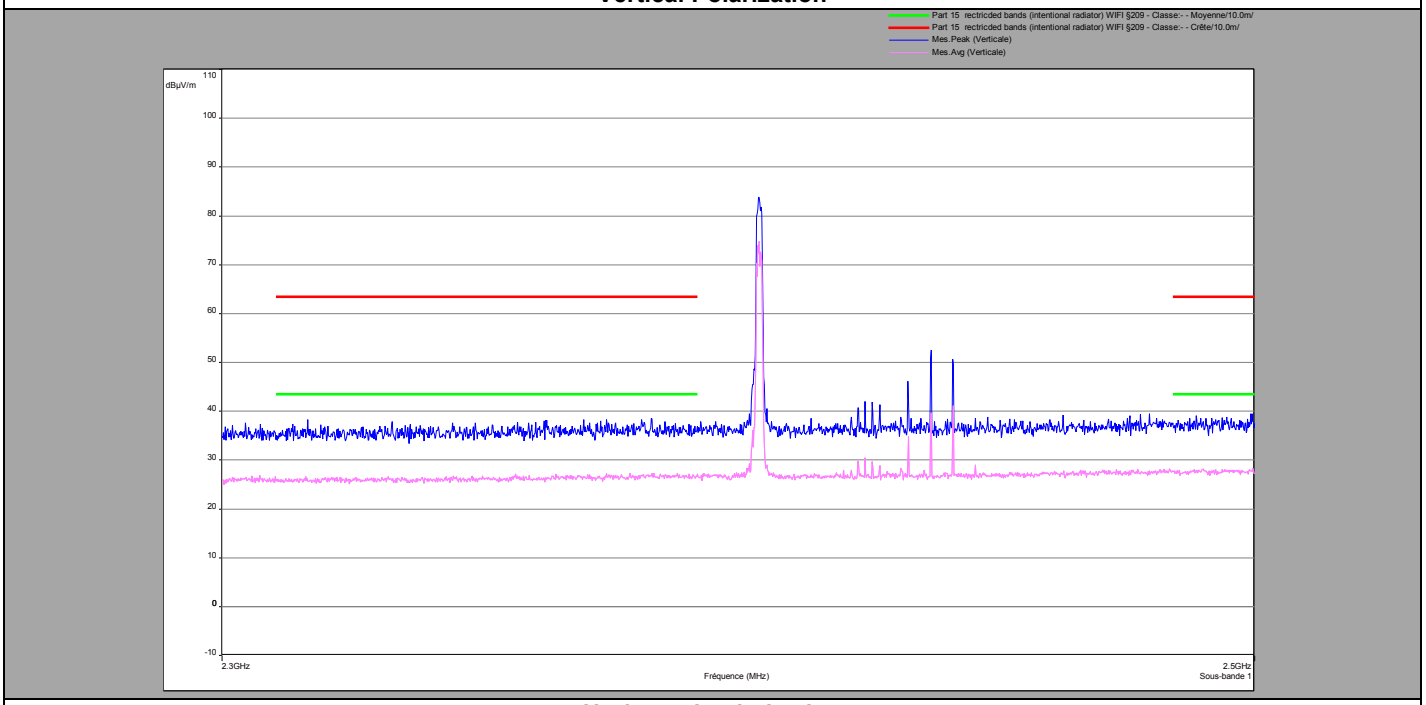
GFSK
Above 1GHz Zoom 2310MHz-2500MHz
Cmax
Vertical Polarization



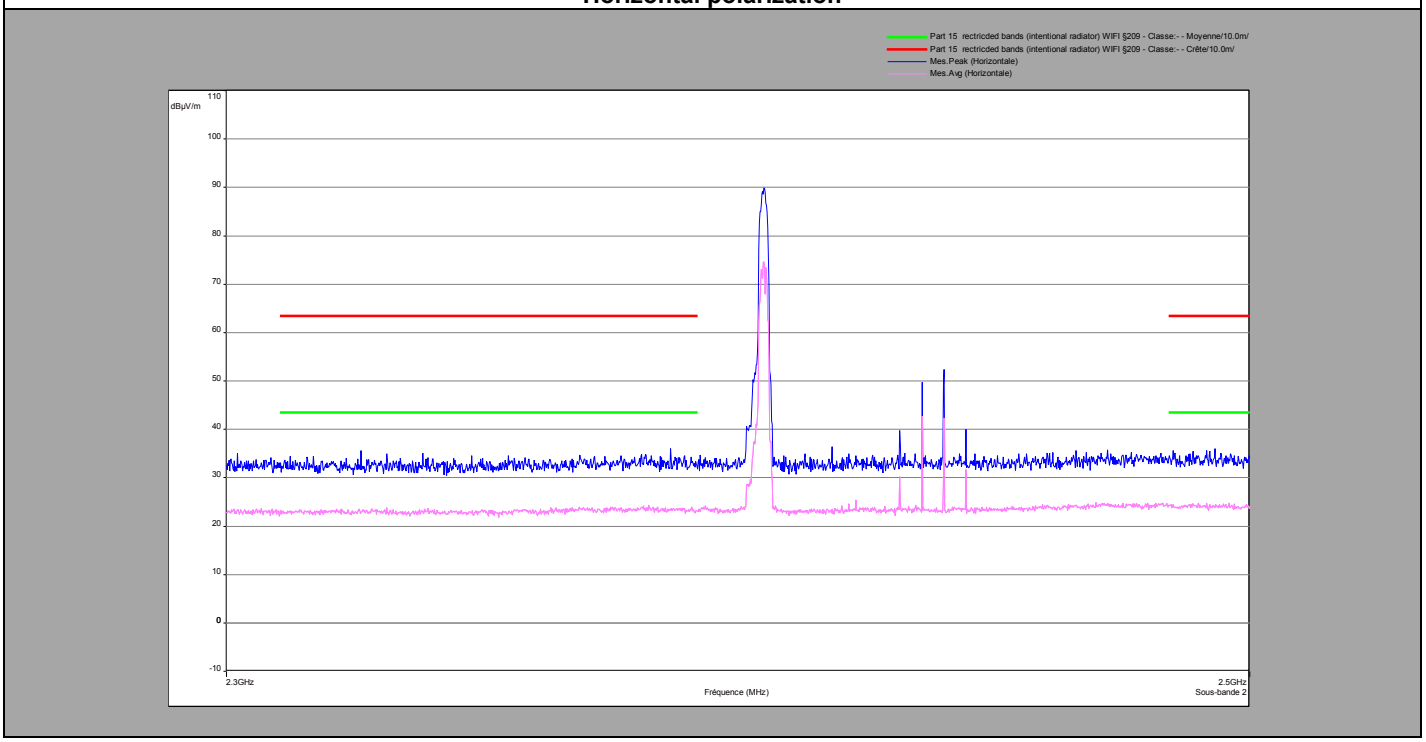
Horizontal polarization



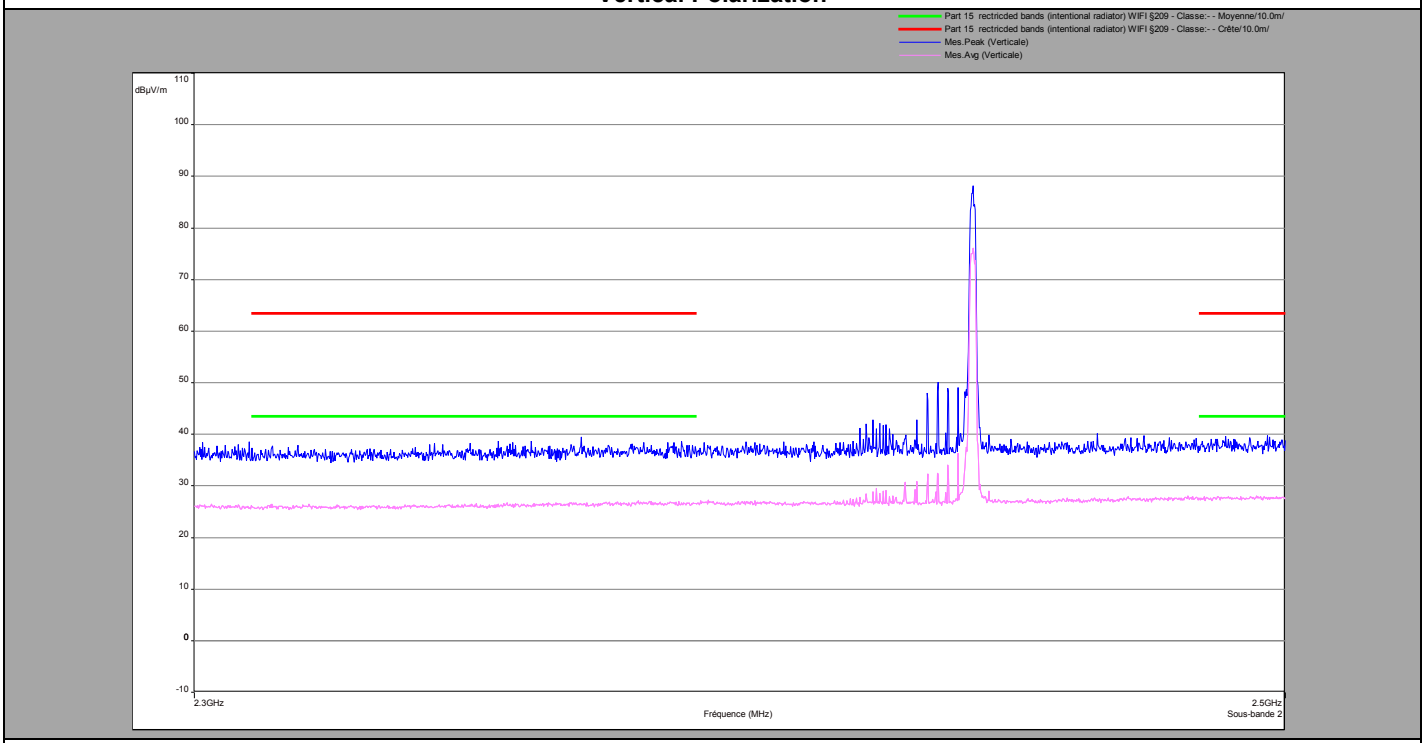
π/4 DQPSK
Above 1GHz Zoom 2310MHz-2500MHz
Cmin
Vertical Polarization



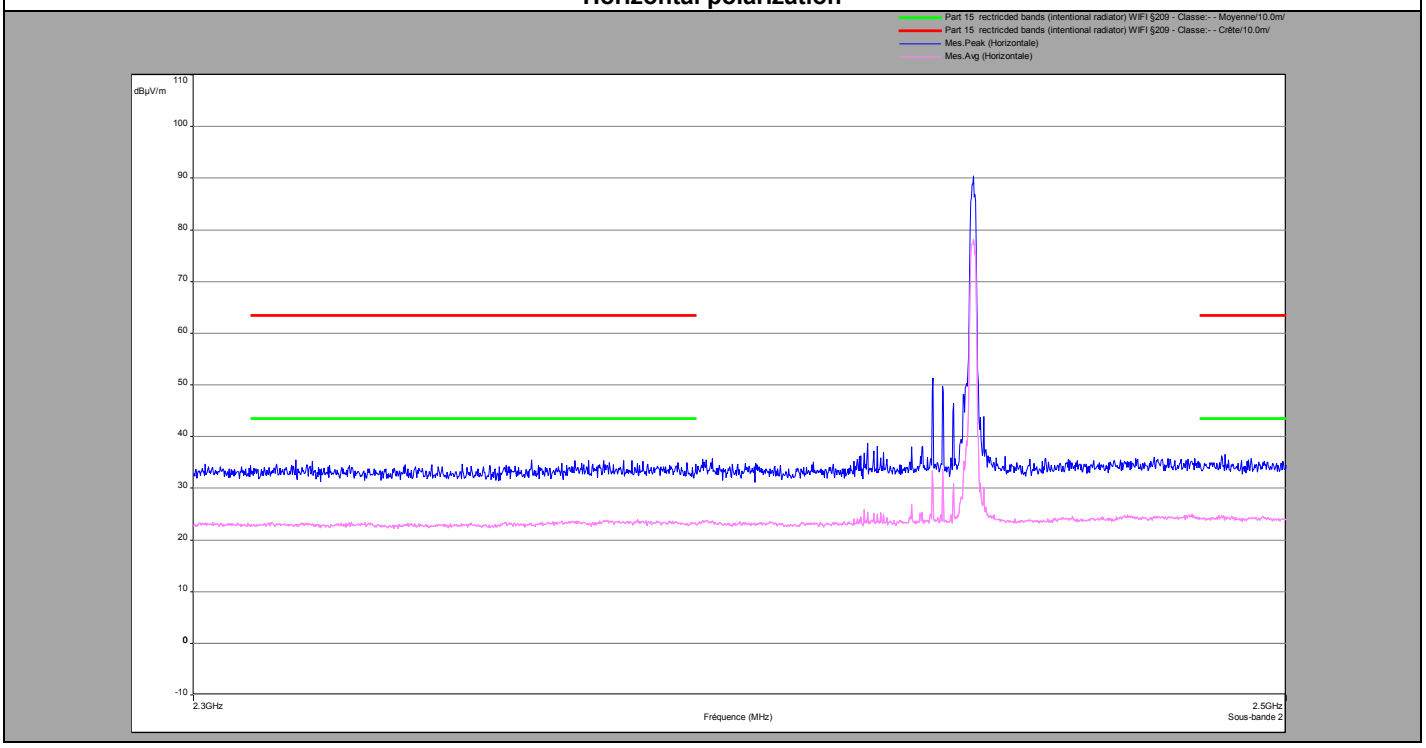
Horizontal polarization



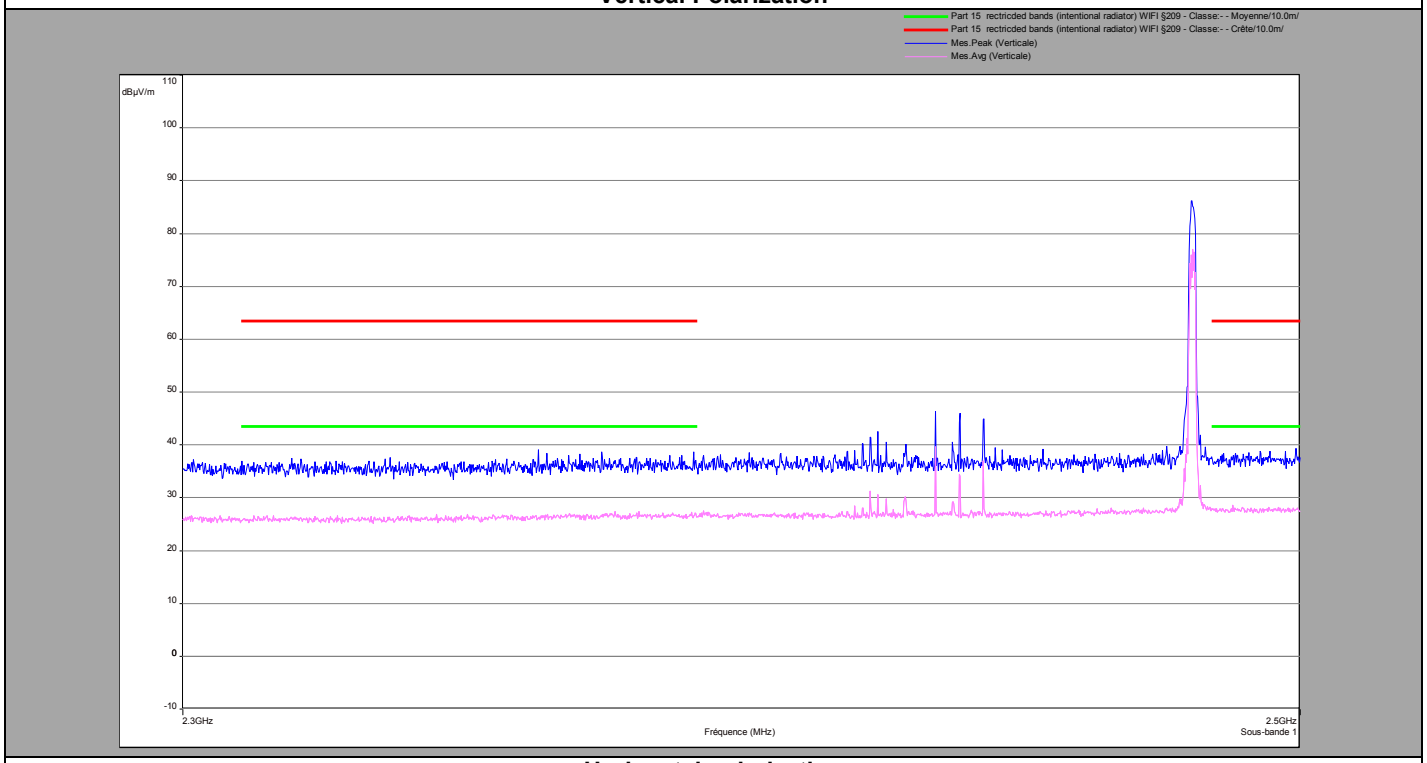
π/4 DQPSK
Above 1GHz Zoom 2310MHz-2500MHz
Cnom
Vertical Polarization



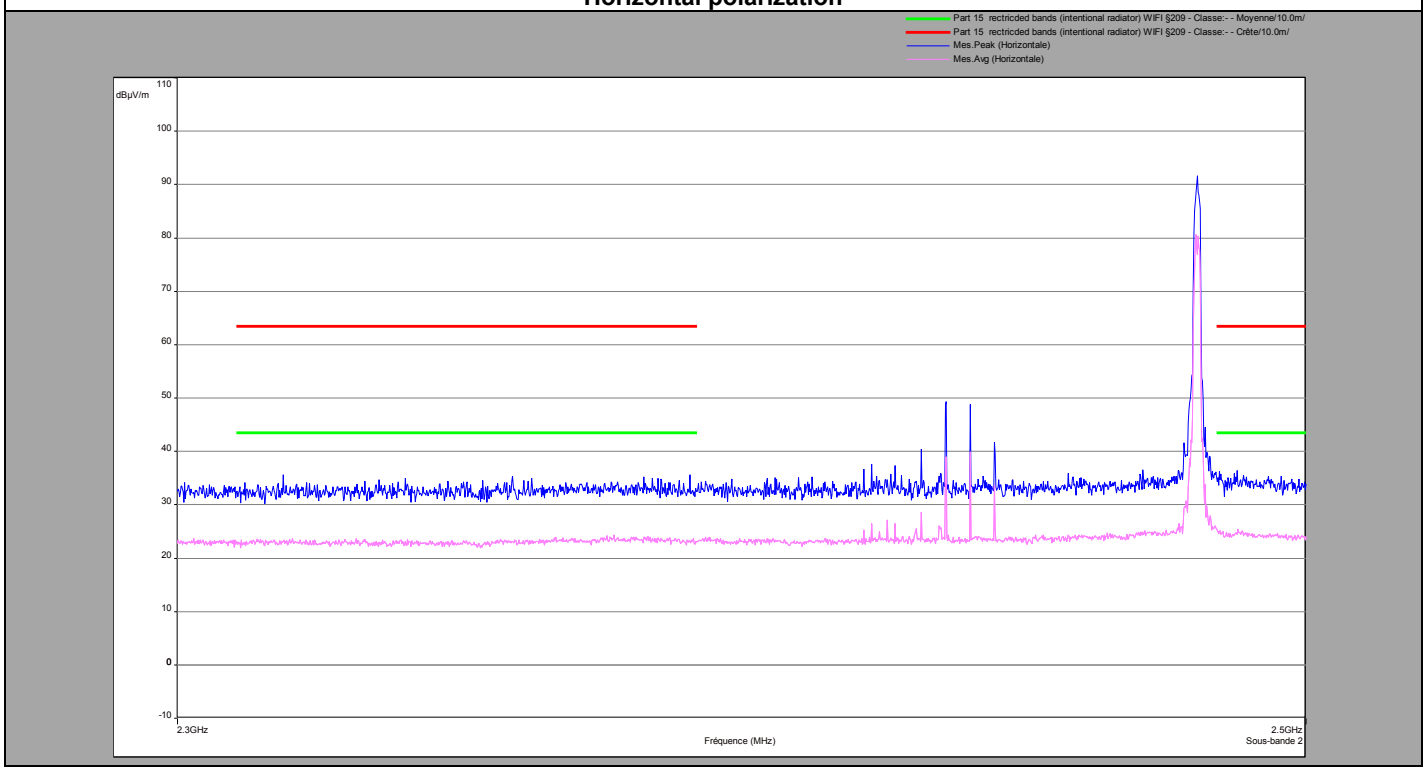
Horizontal polarization



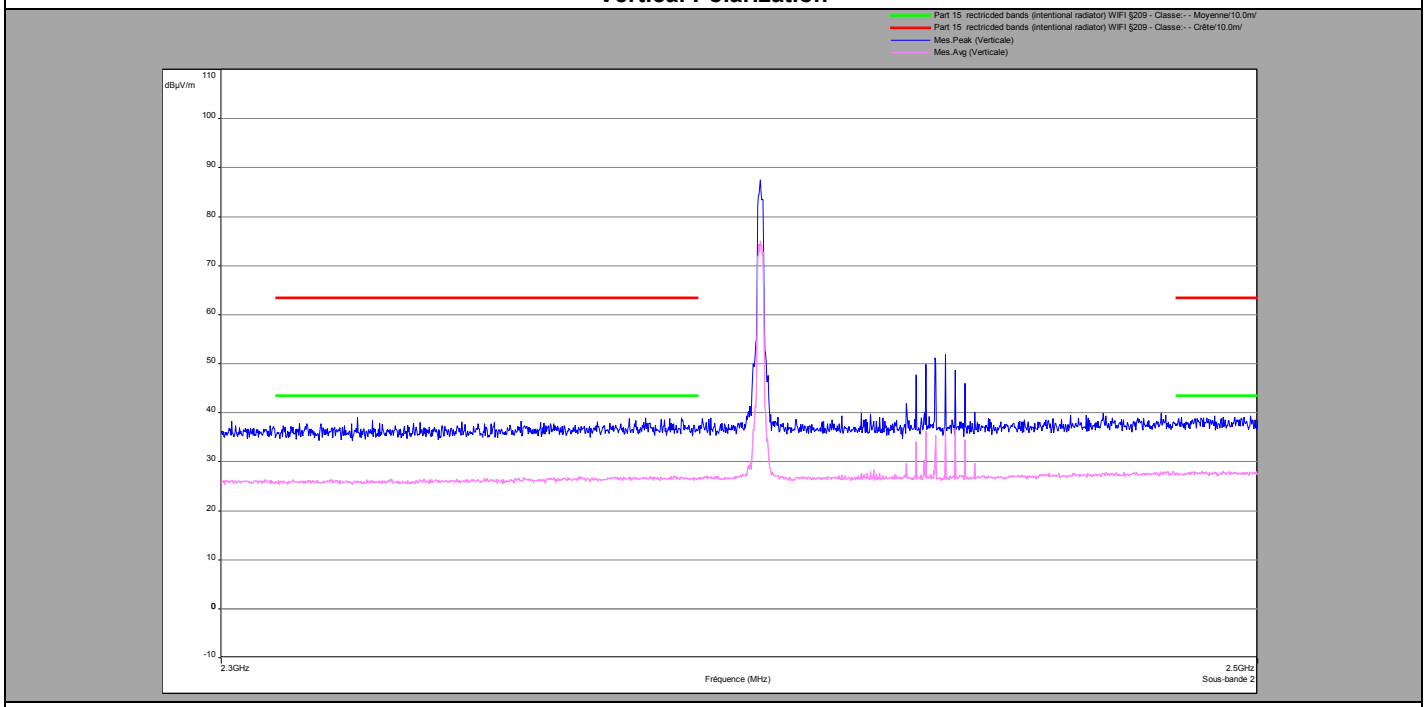
π/4 DQPSK
Above 1GHz Zoom 2310MHz-2500MHz
Cmax
Vertical Polarization



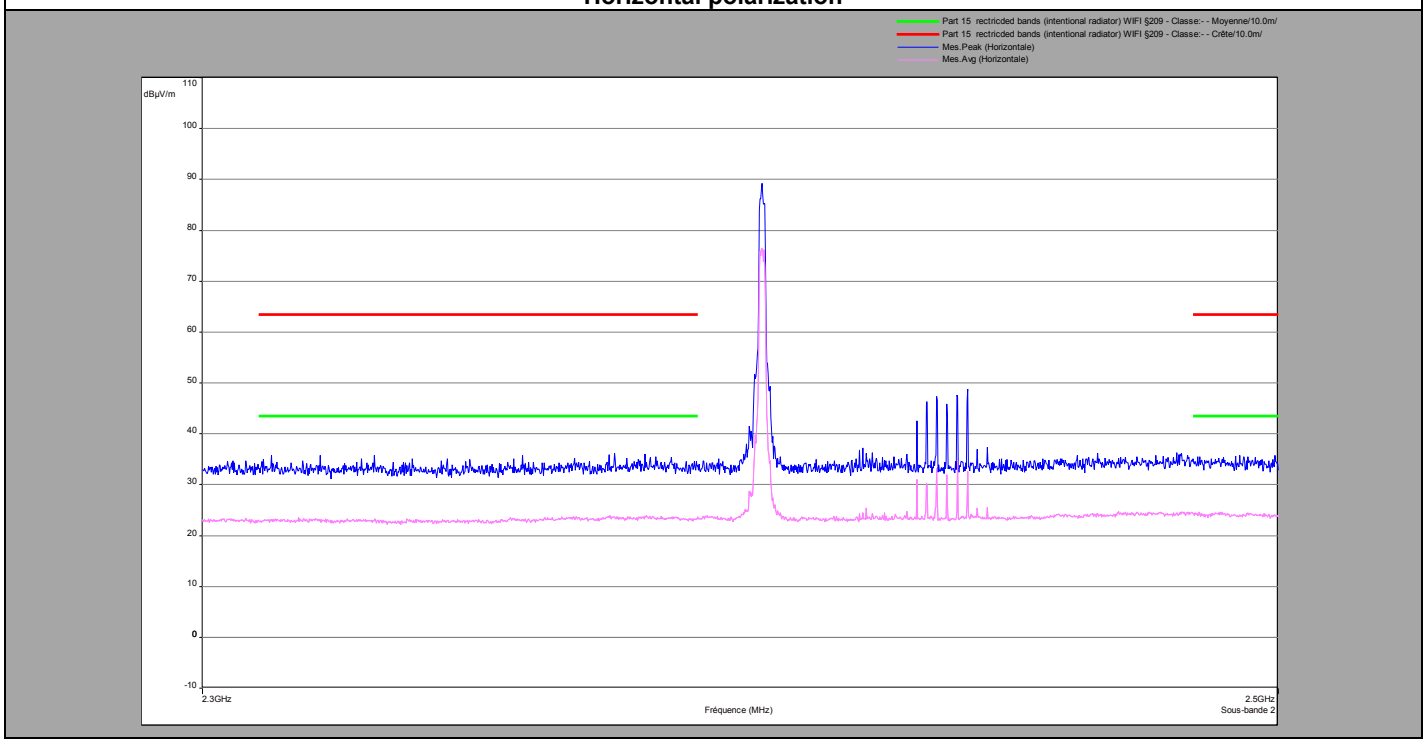
Horizontal polarization



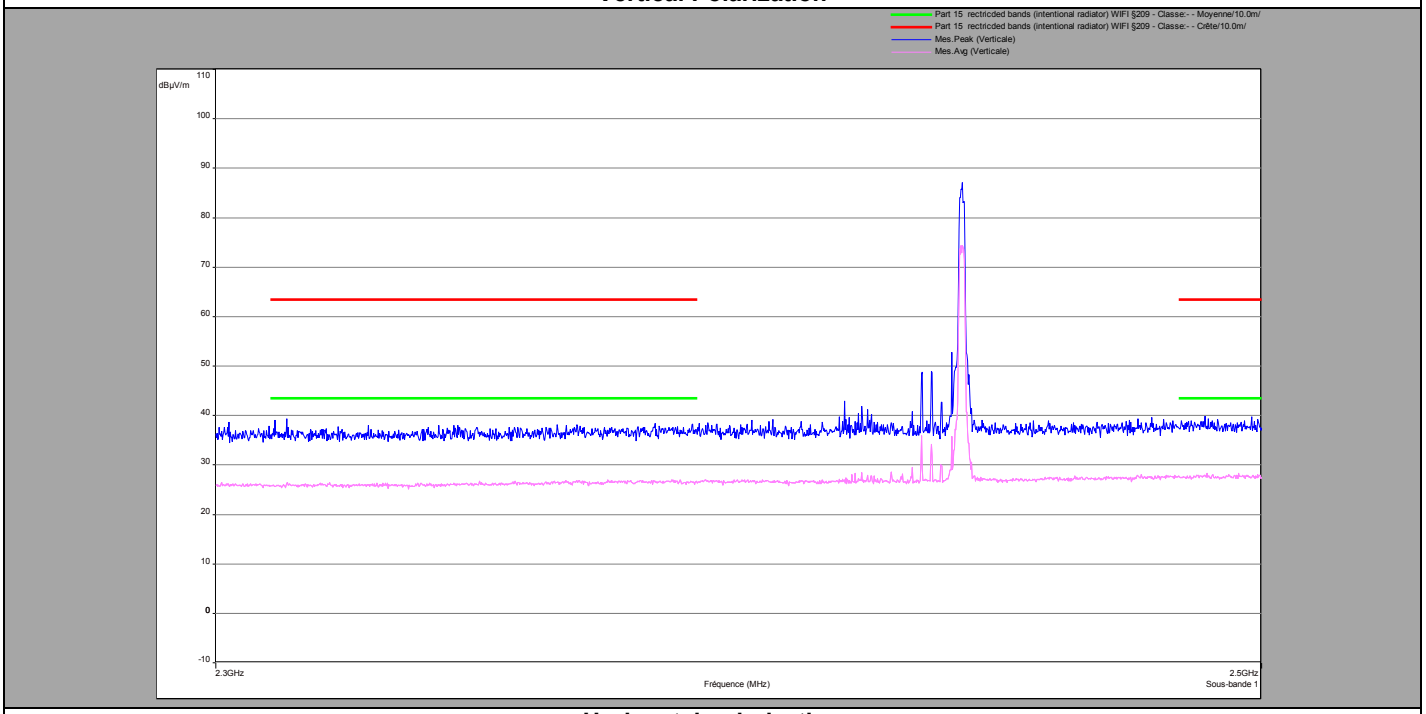
8DPSK
Above 1GHz
Cmin
Vertical Polarization



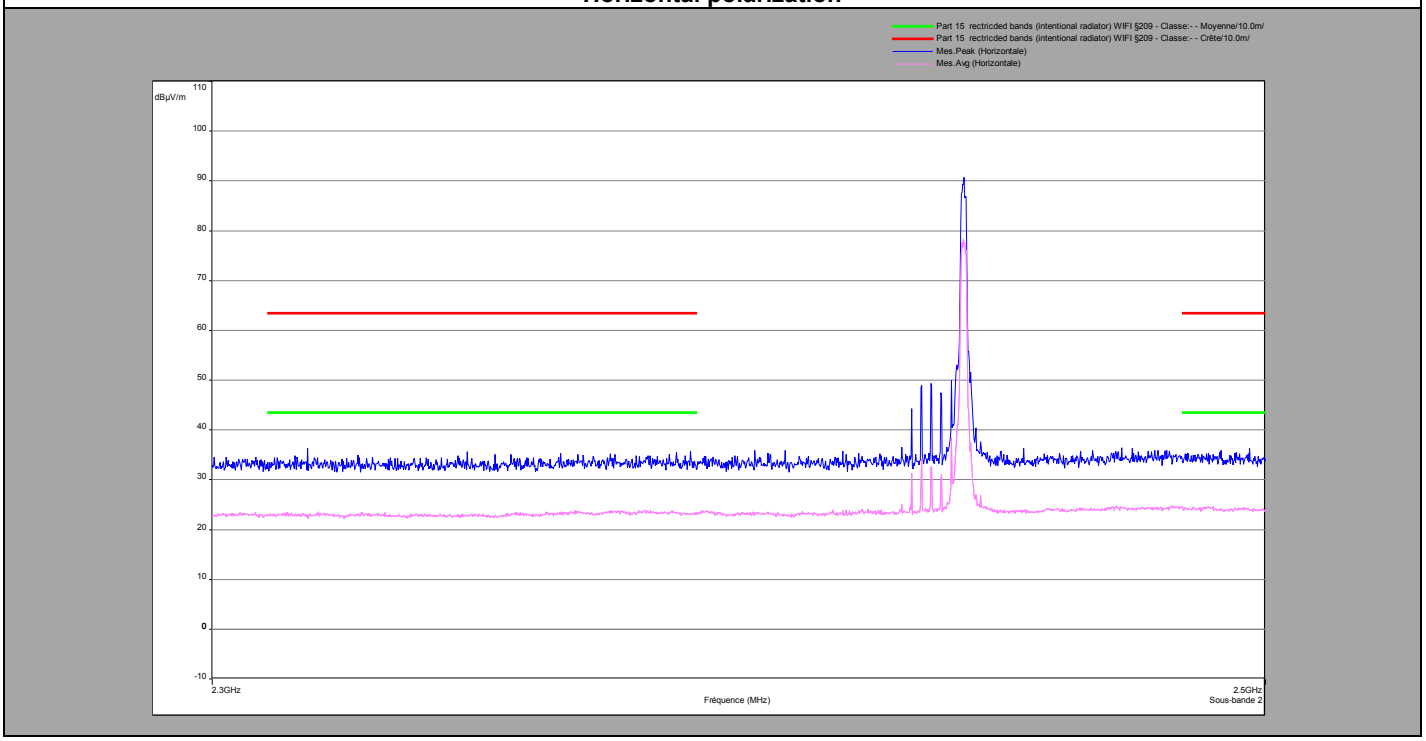
Horizontal polarization



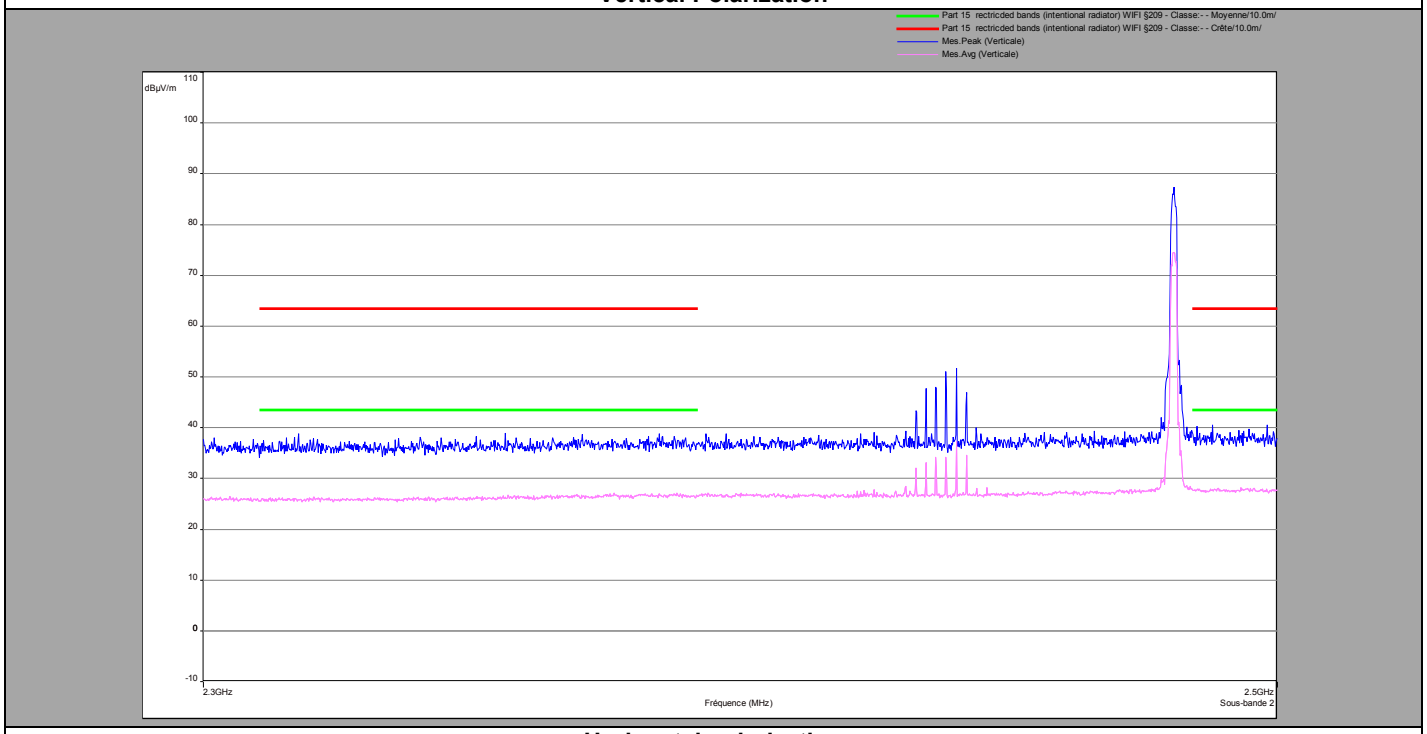
8DPSK
Above 1GHz
Cnom
Vertical Polarization



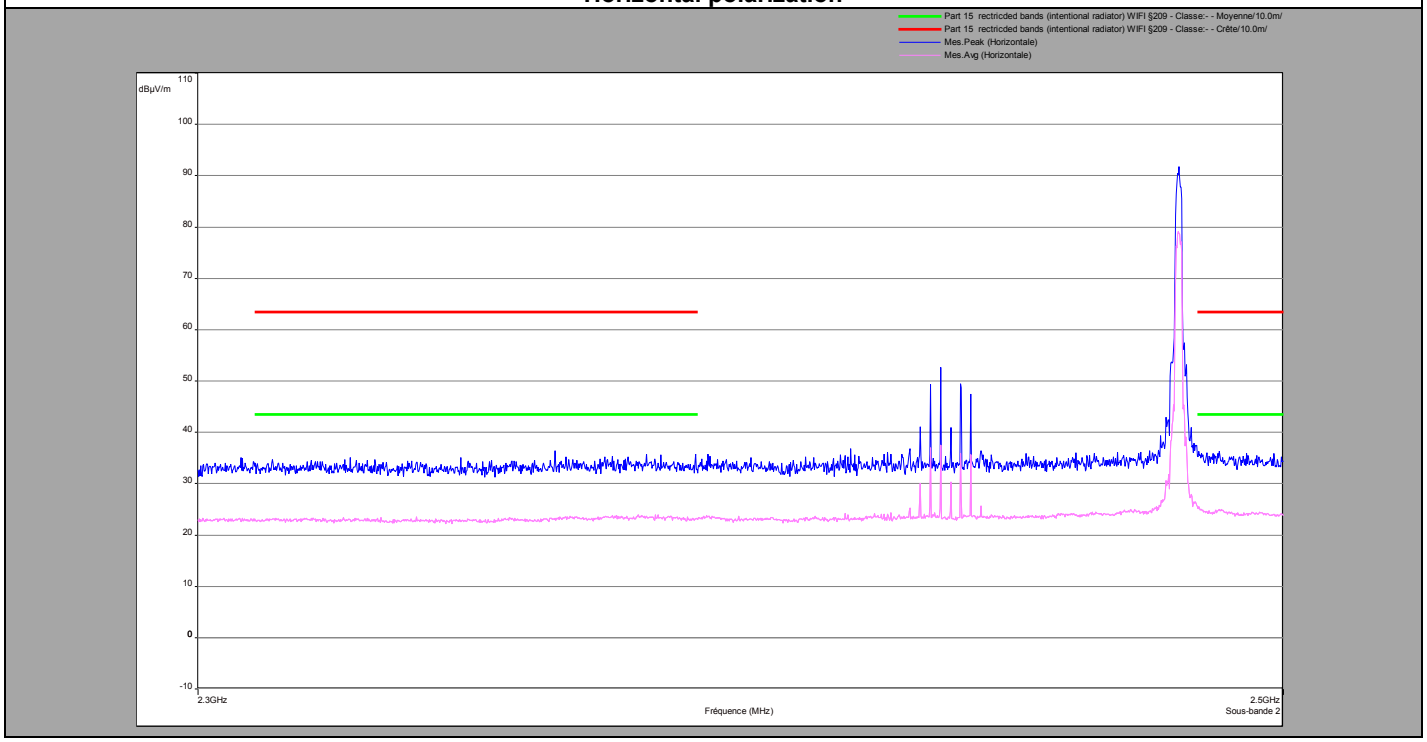
Horizontal polarization



8DPSK
Above 1GHz Zoom 2310MHz-2500MHz
Cmax
Vertical Polarization



Horizontal polarization



Below 1GHz			
Polarization	**Frequency (MHz)**	**QPeak Level (dBµV/m)**	**Limit (dBµV/m)**
Vertical	30.6	21.8	29.5
Vertical	33.5	20.49	29.5
Vertical	35.3	19.51	29.5
Vertical	37.5	19.13	29.5
Vertical	43.5	21.24	29.5
Vertical	45.7	20.18	29.5
Vertical	47.8	23.09	29.5
Vertical	49.8	20.73	29.5
Vertical	51	21.84	29.5
Vertical	52.9	20.96	29.5
Vertical	55.3	20.52	29.5
Vertical	63.6	20.23	29.5
Vertical	104.6	16.12	33
Vertical	107.3	20.39	33
Vertical	108.8	26.38	33
Vertical	111.6	25.89	33
Vertical	113.1	20.76	33
Vertical	114.9	20.38	33
Vertical	117.1	20.65	33
Vertical	119.1	20.15	33
Vertical	125	26.06	33
Vertical	141.2	16.83	33
Vertical	150	24.01	33
Vertical	156.4	18.9	33
Vertical	180.9	19.54	33
Vertical	185	23.53	33
Vertical	194	23.65	33
Vertical	215.4	20.33	33
Vertical	250	23.04	35.5
Vertical	297.1	24.19	35.5
Vertical	337.4	19.53	35.5
Vertical	375	26.92	35.5
Vertical	398.3	29.18	35.5
Vertical	500	28.33	35.5
Vertical	700	29.14	35.5
Vertical	800	29.64	35.5
Vertical	891	25.75	35.5

Below 1GHz			
Polarization	**Frequency (MHz)**	**QPeak Level (dBµV/m)**	**Limit (dBµV/m)**
Horizontal	55.2	19.9	29.5
Horizontal	108.8	26.18	33
Horizontal	110.1	19.98	33
Horizontal	110.8	19.66	33
Horizontal	113.1	25.75	33
Horizontal	117.1	22.84	33
Horizontal	157.6	20.02	33
Horizontal	217.4	21.6	35.5
Horizontal	250	25.94	35.5
Horizontal	375	27.66	35.5
Horizontal	398.3	27.08	35.5

GFSK						
Above 1GHz						
Cmin						
Polarization	**Frequency (MHz)**	**Average Level (dBµV/m)**	**Average Level + Duty Cycle (dBµV/m)**	**Average Limit (dBµV/m)**	**Peak Level (dBµV/m)**	**Peak Limit (dBµV/m)**
Vertical	1000,4	27,31	28,42	43.5	36.14	63.5
Vertical	1023,7	28,74	29,85	43.5	35.92	63.5
Vertical	1103,5	30,51	31,62	43.5	34.78	63.5
Vertical	1125	30,08	31,19	43.5	34.46	63.5
Vertical	1199,8	30,31	31,42	43.5	39.24	63.5
Vertical	1200	30,64	31,75	43.5	44.39	63.5
Vertical	1250	26,37	27,48	43.5	30.41	63.5
Vertical	1397	31,28	32,39	43.5	39.13	63.5
Vertical	1400,1	32	33,11	43.5	35.06	63.5
Vertical	1548,7	28,51	29,62	43.5	37.98	63.5
Vertical	1549,2	29,52	30,63	43.5	37.29	63.5
Vertical	1992,2	24,4	25,51	43.5	30.96	63.5
Vertical	2390	27	28,11	43.5	38	63.5
Vertical	2483,5	28	29,11	43.5	39.3	63.5
Horizontal	1000,4	27,24	28,35	43.5	36.4	63.5
Horizontal	1199,8	30,53	31,64	43.5	39.41	63.5
Horizontal	1400,1	32	33,11	43.5	35.24	63.5
Horizontal	1549,2	29,45	30,56	43.5	37.11	63.5
Horizontal	1992,2	24,2	25,31	43.5	31.02	63.5
Horizontal	2390	23	24,11	43.5	35.3	63.5
Horizontal	2483,5	24,3	25,41	43.5	35.6	63.5

GFSK						
Above 1GHz						
Cnom						
Polarization	**Frequency (MHz)**	**Average Level (dBµV/m)**	**Average Level + Duty Cycle (dBµV/m)**	**Average Limit (dBµV/m)**	**Peak Level (dBµV/m)**	**Peak Limit (dBµV/m)**
Vertical	1000,4	27,31	28,42	43.5	36.14	63.5
Vertical	1023,7	28,74	29,85	43.5	35.92	63.5
Vertical	1103,5	30,51	31,62	43.5	34.78	63.5
Vertical	1125	30,08	31,19	43.5	34.46	63.5
Vertical	1199,8	30,31	31,42	43.5	39.24	63.5
Vertical	1200	30,64	31,75	43.5	44.39	63.5
Vertical	1250	26,37	27,48	43.5	30.41	63.5
Vertical	1397	31,28	32,39	43.5	39.13	63.5
Vertical	1400,1	32	33,11	43.5	35.06	63.5
Vertical	1548,7	28,51	29,62	43.5	37.98	63.5
Vertical	1549,2	29,52	30,63	43.5	37.29	63.5
Vertical	1992,2	24,4	25,51	43.5	30.96	63.5
Vertical	2390	27,4	28,51	43.5	38.3	63.5
Vertical	2483,5	27,7	28,81	43.5	39	63.5
Horizontal	1000,4	27,24	28,35	43.5	36.4	63.5
Horizontal	1199,8	30,53	31,64	43.5	39.41	63.5
Horizontal	1400,1	32	33,11	43.5	35.24	63.5
Horizontal	1549,2	29,45	30,56	43.5	37.11	63.5
Horizontal	1992,2	24,2	25,31	43.5	31.02	63.5
Horizontal	2390	24,7	25,81	43.5	36	63.5
Horizontal	2483,5	24,8	25,91	43.5	36.5	63.5

GFSK						
Above 1GHz						
Cmax						
Polarization	**Frequency (MHz)**	**Average Level (dBµV/m)**	**Average Level + Duty Cycle (dBµV/m)**	**Average Limit (dBµV/m)**	**Peak Level (dBµV/m)**	**Peak Limit (dBµV/m)**
Vertical	1000,4	27,31	28,42	43.5	36.14	63.5
Vertical	1023,7	28,74	29,85	43.5	35.92	63.5
Vertical	1103,5	30,51	31,62	43.5	34.78	63.5
Vertical	1125	30,08	31,19	43.5	34.46	63.5
Vertical	1199,8	30,31	31,42	43.5	39.24	63.5
Vertical	1200	30,64	31,75	43.5	44.39	63.5
Vertical	1250	26,37	27,48	43.5	30.41	63.5
Vertical	1397	31,28	32,39	43.5	39.13	63.5
Vertical	1400,1	32	33,11	43.5	35.06	63.5
Vertical	1548,7	28,51	29,62	43.5	37.98	63.5
Vertical	1549,2	29,52	30,63	43.5	37.29	63.5
Vertical	1992,2	24,4	25,51	43.5	30.96	63.5
Vertical	2390	27	28,11	43.5	38.4	63.5
Vertical	2483,5	28,4	29,51	43.5	40	63.5
Horizontal	1000,4	27,24	28,35	43.5	36.4	63.5
Horizontal	1199,8	30,53	31,64	43.5	39.41	63.5
Horizontal	1400,1	32	33,11	43.5	35.24	63.5
Horizontal	1549,2	29,45	30,56	43.5	37.11	63.5
Horizontal	1992,2	24,2	25,31	43.5	31.02	63.5
Horizontal	2390	23,4	24,51	43.5	34.5	63.5
Horizontal	2483,5	25	26,11	43.5	35.5	63.5

π/4 DQPSK						
Above 1GHz						
Cmin						
Polarization	**Frequency (MHz)**	**Average Level (dBµV/m)**	**Average Level + Duty Cycle (dBµV/m)**	**Average Limit (dBµV/m)**	**Peak Level (dBµV/m)**	**Peak Limit (dBµV/m)**
Vertical	1000,4	27,31	28,42	43.5	36.14	63.5
Vertical	1023,7	28,74	29,85	43.5	35.92	63.5
Vertical	1103,5	30,51	31,62	43.5	34.78	63.5
Vertical	1125	30,08	31,19	43.5	34.46	63.5
Vertical	1199,8	30,31	31,42	43.5	39.24	63.5
Vertical	1200	30,64	31,75	43.5	44.39	63.5
Vertical	1250	26,37	27,48	43.5	30.41	63.5
Vertical	1397	31,28	32,39	43.5	39.13	63.5
Vertical	1400,1	32	33,11	43.5	35.06	63.5
Vertical	1548,7	28,51	29,62	43.5	37.98	63.5
Vertical	1549,2	29,52	30,63	43.5	37.29	63.5
Vertical	1992,2	24,4	25,51	43.5	30.96	63.5
Vertical	2390	26,5	27,61	43.5	38	63.5
Vertical	2483,5	27,3	28,41	43.5	38.2	63.5
Horizontal	1000,4	27,24	28,35	43.5	36.4	63.5
Horizontal	1199,8	30,53	31,64	43.5	39.41	63.5
Horizontal	1400,1	32	33,11	43.5	35.24	63.5
Horizontal	1549,2	29,45	30,56	43.5	37.11	63.5
Horizontal	1992,2	24,2	25,31	43.5	31.02	63.5
Horizontal	2390	23	24,11	43.5	35	63.5
Horizontal	2483,5	24	25,11	43.5	35.6	63.5

π/4 DQPSK						
Above 1GHz						
Cnom						
Polarization	**Frequency (MHz)**	**Average Level (dBµV/m)**	**Average Level + Duty Cycle (dBµV/m)**	**Average Limit (dBµV/m)**	**Peak Level (dBµV/m)**	**Peak Limit (dBµV/m)**
Vertical	1000,4	27,31	28,42	43.5	36.14	63.5
Vertical	1023,7	28,74	29,85	43.5	35.92	63.5
Vertical	1103,5	30,51	31,62	43.5	34.78	63.5
Vertical	1125	30,08	31,19	43.5	34.46	63.5
Vertical	1199,8	30,31	31,42	43.5	39.24	63.5
Vertical	1200	30,64	31,75	43.5	44.39	63.5
Vertical	1250	26,37	27,48	43.5	30.41	63.5
Vertical	1397	31,28	32,39	43.5	39.13	63.5
Vertical	1400,1	32	33,11	43.5	35.06	63.5
Vertical	1548,7	28,51	29,62	43.5	37.98	63.5
Vertical	1549,2	29,52	30,63	43.5	37.29	63.5
Vertical	1992,2	24,4	25,51	43.5	30.96	63.5
Vertical	2390	26,4	27,51	43.5	37.6	63.5
Vertical	2483,5	27,4	28,51	43.5	38.7	63.5
Horizontal	1000,4	27,24	28,35	43.5	36.4	63.5
Horizontal	1199,8	30,53	31,64	43.5	39.41	63.5
Horizontal	1400,1	32	33,11	43.5	35.24	63.5
Horizontal	1549,2	29,45	30,56	43.5	37.11	63.5
Horizontal	1992,2	24,2	25,31	43.5	31.02	63.5
Horizontal	2390	23	24,11	43.5	35	63.5
Horizontal	2483,5	24,7	25,81	43.5	34.8	63.5

π/4 DQPSK						
Above 1GHz						
Cmax						
Polarization	**Frequency (MHz)**	**Average Level (dBµV/m)**	**Average Level + Duty Cycle (dBµV/m)**	**Average Limit (dBµV/m)**	**Peak Level (dBµV/m)**	**Peak Limit (dBµV/m)**
Vertical	1000,4	27,31	28,42	43.5	36.14	63.5
Vertical	1023,7	28,74	29,85	43.5	35.92	63.5
Vertical	1103,5	30,51	31,62	43.5	34.78	63.5
Vertical	1125	30,08	31,19	43.5	34.46	63.5
Vertical	1199,8	30,31	31,42	43.5	39.24	63.5
Vertical	1200	30,64	31,75	43.5	44.39	63.5
Vertical	1250	26,37	27,48	43.5	30.41	63.5
Vertical	1397	31,28	32,39	43.5	39.13	63.5
Vertical	1400,1	32	33,11	43.5	35.06	63.5
Vertical	1548,7	28,51	29,62	43.5	37.98	63.5
Vertical	1549,2	29,52	30,63	43.5	37.29	63.5
Vertical	1992,2	24,4	25,51	43.5	30.96	63.5
Vertical	2390	27,5	28,61	27.2	43.5	38.7
Vertical	2483,5	28,9	30,01	27.8	43.5	38.3
Horizontal	1000,4	27,24	28,35	43.5	36.4	63.5
Horizontal	1199,8	30,53	31,64	43.5	39.41	63.5
Horizontal	1400,1	32	33,11	43.5	35.24	63.5
Horizontal	1549,2	29,45	30,56	43.5	37.11	63.5
Horizontal	1992,2	24,2	25,31	43.5	31.02	63.5
Horizontal	2390	24,6	25,71	23	35	63.5
Horizontal	2483,5	25,3	26,41	24.7	34.8	63.5

8DPSK						
Above 1GHz						
Cmin						
Polarization	**Frequency (MHz)**	**Average Level (dBµV/m)**	**Average Level + Duty Cycle (dBµV/m)**	**Average Limit (dBµV/m)**	**Peak Level (dBµV/m)**	**Peak Limit (dBµV/m)**
Vertical	1000,4	27,31	28,42	43.5	36.14	63.5
Vertical	1023,7	28,74	29,85	43.5	35.92	63.5
Vertical	1103,5	30,51	31,62	43.5	34.78	63.5
Vertical	1125	30,08	31,19	43.5	34.46	63.5
Vertical	1199,8	30,31	31,42	43.5	39.24	63.5
Vertical	1200	30,64	31,75	43.5	44.39	63.5
Vertical	1250	26,37	27,48	43.5	30.41	63.5
Vertical	1397	31,28	32,39	43.5	39.13	63.5
Vertical	1400,1	32	33,11	43.5	35.06	63.5
Vertical	1548,7	28,51	29,62	43.5	37.98	63.5
Vertical	1549,2	29,52	30,63	43.5	37.29	63.5
Vertical	1992,2	24,4	25,51	43.5	30.96	63.5
Vertical	2390	26,5	27,61	43.5	38.8	63.5
Vertical	2483,5	27,4	28,51	43.5	39.2	63.5
Horizontal	1000,4	27,24	28,35	43.5	36.4	63.5
Horizontal	1199,8	30,53	31,64	43.5	39.41	63.5
Horizontal	1400,1	32	33,11	43.5	35.24	63.5
Horizontal	1549,2	29,45	30,56	43.5	37.11	63.5
Horizontal	1992,2	24,2	25,31	43.5	31.02	63.5
Horizontal	2390	23,5	24,61	43.5	34.6	63.5
Horizontal	2483,5	24,5	25,61	43.5	35.5	63.5

8DPSK						
Above 1GHz						
Cnom						
Polarization	**Frequency (MHz)**	**Average Level (dBµV/m)**	**Average Level + Duty Cycle (dBµV/m)**	**Average Limit (dBµV/m)**	**Peak Level (dBµV/m)**	**Peak Limit (dBµV/m)**
Vertical	1000,4	27,31	28,42	43.5	36.14	63.5
Vertical	1023,7	28,74	29,85	43.5	35.92	63.5
Vertical	1103,5	30,51	31,62	43.5	34.78	63.5
Vertical	1125	30,08	31,19	43.5	34.46	63.5
Vertical	1199,8	30,31	31,42	43.5	39.24	63.5
Vertical	1200	30,64	31,75	43.5	44.39	63.5
Vertical	1250	26,37	27,48	43.5	30.41	63.5
Vertical	1397	31,28	32,39	43.5	39.13	63.5
Vertical	1400,1	32	33,11	43.5	35.06	63.5
Vertical	1548,7	28,51	29,62	43.5	37.98	63.5
Vertical	1549,2	29,52	30,63	43.5	37.29	63.5
Vertical	1992,2	24,4	25,51	43.5	30.96	63.5
Vertical	2390	26,5	27,61	43.5	38.2	63.5
Vertical	2483,5	28	29,11	43.5	38.9	63.5
Horizontal	1000,4	27,24	28,35	43.5	36.4	63.5
Horizontal	1199,8	30,53	31,64	43.5	39.41	63.5
Horizontal	1400,1	32	33,11	43.5	35.24	63.5
Horizontal	1549,2	29,45	30,56	43.5	37.11	63.5
Horizontal	1992,2	24,2	25,31	43.5	31.02	63.5
Horizontal	2390	23,4	24,51	43.5	35.7	63.5
Horizontal	2483,5	24,2	25,31	43.5	35.5	63.5

8DPSK						
Above 1GHz						
Cmax						
Polarization	**Frequency (MHz)**	**Average Level (dBµV/m)**	**Average Level + Duty Cycle (dBµV/m)**	**Average Limit (dBµV/m)**	**Peak Level (dBµV/m)**	**Peak Limit (dBµV/m)**
Vertical	1000,4	27,31	28,42	43.5	36.14	63.5
Vertical	1023,7	28,74	29,85	43.5	35.92	63.5
Vertical	1103,5	30,51	31,62	43.5	34.78	63.5
Vertical	1125	30,08	31,19	43.5	34.46	63.5
Vertical	1199,8	30,31	31,42	43.5	39.24	63.5
Vertical	1200	30,64	31,75	43.5	44.39	63.5
Vertical	1250	26,37	27,48	43.5	30.41	63.5
Vertical	1397	31,28	32,39	43.5	39.13	63.5
Vertical	1400,1	32	33,11	43.5	35.06	63.5
Vertical	1548,7	28,51	29,62	43.5	37.98	63.5
Vertical	1549,2	29,52	30,63	43.5	37.29	63.5
Vertical	1992,2	24,4	25,51	43.5	30.96	63.5
Vertical	2390	27	28,11	43.5	38.8	63.5
Vertical	2483,5	27,7	28,81	43.5	40.3	63.5
Horizontal	1000,4	27,24	28,35	43.5	36.4	63.5
Horizontal	1199,8	30,53	31,64	43.5	39.41	63.5
Horizontal	1400,1	32	33,11	43.5	35.24	63.5
Horizontal	1549,2	29,45	30,56	43.5	37.11	63.5
Horizontal	1992,2	24,2	25,31	43.5	31.02	63.5
Horizontal	2390	23,2	24,31	43.5	35.7	63.5
Horizontal	2483,5	24,4	25,51	43.5	36	63.5

13.7. CONCLUSION

Unwanted Emission in restricted frequency bands measurement performed on the sample of the product **Technicolor Player UIW4010TCH**, in configuration and description presented in this test report, show levels **compliant** to the 47 CFR PART 15.247 & RSS 247 ISSUE 1 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