TEST REPORT

N°: 148983-704527-C **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 France
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	: September 1, 2016 to October 4, 2016
Test location	Fontenay Aux Roses & Ecuelles
Composition of document	78 pages
Document issued on	June 19, 2017

Written by :
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Tests operator

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PUBLICATION HISTORY

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

SUMMARY

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1. TEST PROGRAM

References

- **47 CFR Part 15.247**
- **RSS 247 Issue 1**
- **RSS Gen Issue 4**
- **KDB 558074 D01 DTS Meas Guidance v03r05**
- **KDB 662911 D01 Multiple Transmitter Output v02r01**
- **ANSI C63.10-2013**

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)
6dB Bandwidth	☑ PASS	☐ FAIL	☐ NA()	☐ NP(1)
Duty Cycle	☑ PASS	☐ FAIL	☐ NA	☐ NP(1)
Maximum Conducted Output Power	☑ PASS	☐ FAIL	☐ NA	☐ NP(1)
Power Spectral Density	☑ 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:

Type:	WIFI			
Frequency band:	2400MHz-2483.5MHz			
Standard:	☑ 802.11b	☑ 802.11g	☑ 802.11n HT20	☐ 802.11n HT40
Spectrum Modulation:	☑ DSSS		☑ OFDM	
Number of Channel:	11			
Spacing channel:	5MHz			
Channel bandwidth:	☑ 20MHz		☐ 40MHz	
Antenna Type:	☑ Integral	☐ External	☐ Dedicated	
Antenna connector:	☑ Yes	☐ No	☐ Temporary for test	
Transmit chains:	☐ 1	☑ 2	☐ 3	☐ 4
Beam forming gain:	☐ Yes: XdB		☑ No	
Receiver chains	☐ 1	☑ 2	☐ 3	☐ 4
Type of equipment:	☑ Stand-alone	☐ Plug-in	☐ Combined	
Ad-Hoc mode:	☐ Yes		☑ No	
Duty cycle:	☑ Continuous duty	☐ Intermittent duty	☐ 100% duty	
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	3.3	2400MHz-2472MHz	50
2	4.5	2400MHz-2472MHz	50
Accumulated (Note)	3.9	2400MHz-2472MHz	50

Note: Calculated according to KDB 662911 D01 Multiple Transmitter Output v02r01 F) 2) d) (ii). All antennas can transmit simultaneously.

CHANNEL PLAN	
802.11b / 802.11g / 802.11n HT20	
Channel	Frequency (MHz)
Cmin: 1	**2412**
2	2417
3	2422
4	2427
5	2432
Cmid: 6	**2437**
7	2442
8	2447
9	2452
10	2457
Cmax: 11	**2462**

CHANNEL PLAN	
802.11n HT40	
Channel	Frequency (MHz)
Cmin: 3	**2422**
4	2427
5	2432
Cmid: 6	**2437**
7	2442
8	2447
Cmax: 9	**2452**

DATA RATE		
802.11b		
Data Rate (Mbps)	**Modulation Type**	**Modulation Worst Case**
1	DBPSK	☐
2	DQPSK	☐
5.5	DQPSK	☐
11	CCK	☑

DATA RATE		
802.11g		
Data Rate (Mbps)	**Modulation Type**	**Modulation Worst Case**
6	BPSK	☑
9	BPSK	☐
12	QPSK	☐
18	QPSK	☐
24	16-QAM	☐
36	16-QAM	☐
48	64-QAM	☐
54	64-QAM	☐

DATA RATE									
802.11n HT20									
Available for EUT	MCS Index	Spatial streams	Modulation				Data Rate (Mbps)		Worst Case Modulation
							(GI = 800ns)	(GI = 400ns)	
☑	0	1	BPSK				6.5	7.2	☐
	1	1	QPSK				13	14.4	☐
	2	1	QPSK				19.5	21.7	☐
	3	1	16-QAM				26	28.9	☐
	4	1	16-QAM				39	43.3	☐
	5	1	64-QAM				52	57.8	☐
	6	1	64-QAM				58.5	65	☐
	7	1	64-QAM				65	72.2	☐
	32	1	BPSK	-	-	-	-	-	☐
☑	8	2	BPSK				13	14.4	☑
	9	2	QPSK				26	28.9	☐
	10	2	QPSK				39	43.3	☐
	11	2	16-QAM				52	57.8	☐
	12	2	16-QAM				78	86.7	☐
	13	2	64-QAM				104	115.6	☐
	14	2	64-QAM				117	130.3	☐
	15	2	64-QAM				130	144.4	☐
	33	2	16-QAM	QPSK	-	-	39	43.3	☐
	34	2	64-QAM	QPSK	-	-	52	57.8	☐
	35	2	64-QAM	16-QAM	-	-	65	72.2	☐
	36	2	16-QAM	QPSK	-	-	58.5	65	☐
	37	2	64-QAM	QPSK	-	-	78	86.7	☐
	38	2	64-QAM	16-QAM	-	-	97.5	108.3	☐
☐	16	3	BPSK				19.5	21.7	☐
	17	3	QPSK				39	43.3	☐
	18	3	QPSK				58.5	65	☐
	19	3	16-QAM				78	86.7	☐
	20	3	16-QAM				117	130	☐
	21	3	64-QAM				156	173.3	☐
	22	3	64-QAM				175.5	195	☐
	23	3	64-QAM				195	216.7	☐
	39	3	16-QAM	QPSK	QPSK	-	52	57.8	☐
	40	3	16-QAM	16-QAM	QPSK	-	65	72.2	☐
	41	3	64-QAM	QPSK	QPSK	-	65	72.2	☐
	42	3	64-QAM	16-QAM	QPSK	-	78	86.7	☐
	43	3	64-QAM	16-QAM	16-QAM	-	91	101.1	☐
	44	3	64-QAM	64-QAM	QPSK	-	91	101.1	☐
	45	3	64-QAM	64-QAM	16-QAM	-	104	115.6	☐
	46	3	16-QAM	QPSK	QPSK	-	78	86.7	☐
	47	3	16-QAM	16-QAM	QPSK	-	97.5	108.3	☐
	48	3	64-QAM	QPSK	QPSK	-	97.5	108.3	☐
	49	3	64-QAM	16-QAM	QPSK	-	117	130	☐
	50	3	64-QAM	16-QAM	16-QAM	-	136.5	151.7	☐
	51	3	64-QAM	64-QAM	QPSK	-	136.5	151.7	☐
	52	3	64-QAM	64-QAM	16-QAM	-	156	173.3	☐
☐	24	4	BPSK				26	28.9	☐
	25	4	QPSK				52	57.8	☐
	26	4	QPSK				78	86.7	☐
	27	4	16-QAM				104	115.6	☐
	28	4	16-QAM				156	173.3	☐
	29	4	64-QAM				208	231.1	☐
	30	4	64-QAM				234	260	☐
	31	4	64-QAM				260	288.9	☐
	53	4	16-QAM	QPSK	QPSK	QPSK	65	72.2	☐
	54	4	16-QAM	16-QAM	QPSK	QPSK	78	86.7	☐
	55	4	16-QAM	16-QAM	16-QAM	QPSK	91	101.1	☐
	56	4	64-QAM	QPSK	QPSK	QPSK	78	86.7	☐
	57	4	64-QAM	16-QAM	QPSK	QPSK	91	101.1	☐
	58	4	64-QAM	16-QAM	16-QAM	QPSK	104	115.6	☐
	59	4	64-QAM	16-QAM	16-QAM	16-QAM	117	130	☐
	60	4	64-QAM	QPSK	QPSK	QPSK	104	115.6	☐
	61	4	64-QAM	16-QAM	16-QAM	QPSK	117	130	☐
	62	4	64-QAM	16-QAM	16-QAM	16-QAM	130	144.4	☐
	63	4	64-QAM	64-QAM	64-QAM	QPSK	130	144.4	☐
	64	4	64-QAM	64-QAM	64-QAM	16-QAM	143	158.9	☐
	65	4	16-QAM	QPSK	QPSK	QPSK	97.5	108.3	☐
	66	4	16-QAM	16-QAM	QPSK	QPSK	117	130	☐
	67	4	16-QAM	16-QAM	16-QAM	QPSK	136.5	151.7	☐
	68	4	64-QAM	QPSK	QPSK	QPSK	117	130	☐
	69	4	64-QAM	16-QAM	QPSK	QPSK	136.5	151.7	☐
	70	4	64-QAM	16-QAM	16-QAM	QPSK	156	173.3	☐
	71	4	64-QAM	16-QAM	16-QAM	16-QAM	175.5	195	☐
	72	4	64-QAM	64-QAM	QPSK	QPSK	156	173.3	☐
	73	4	64-QAM	64-QAM	16-QAM	QPSK	175.5	195	☐
	74	4	64-QAM	64-QAM	16-QAM	16-QAM	195	216.7	☐
	75	4	64-QAM	64-QAM	64-QAM	QPSK	195	216.7	☐
	76	4	64-QAM	64-QAM	64-QAM	16-QAM	214.5	238.3	☐

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 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 “DutApiMimoBtFmBridgeEth” are used to set the product:
- See document “LCIE_Radio tests_UIW4010ECH_v4.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 7, 2016
Ambient temperature	: 22 °C
Relative humidity	: 41 %

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 § 6.9.2

3.1. LIMIT

None

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
RF cable & 20 dB attenuator	Télédyne	920-0202-048	A5329676	2015/10	2016/10

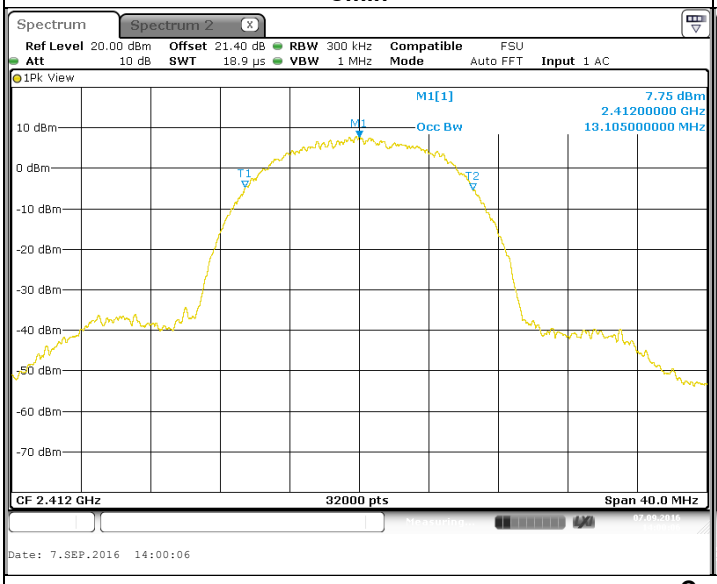
Note: In our quality system, the test equipment calibration due is more & less 2 months

3.3. RESULTS

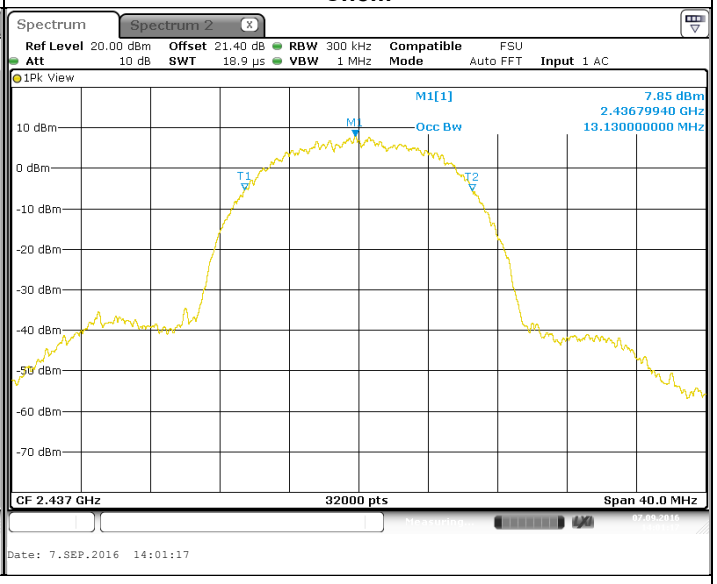
802.11b

Occupied Bandwidth

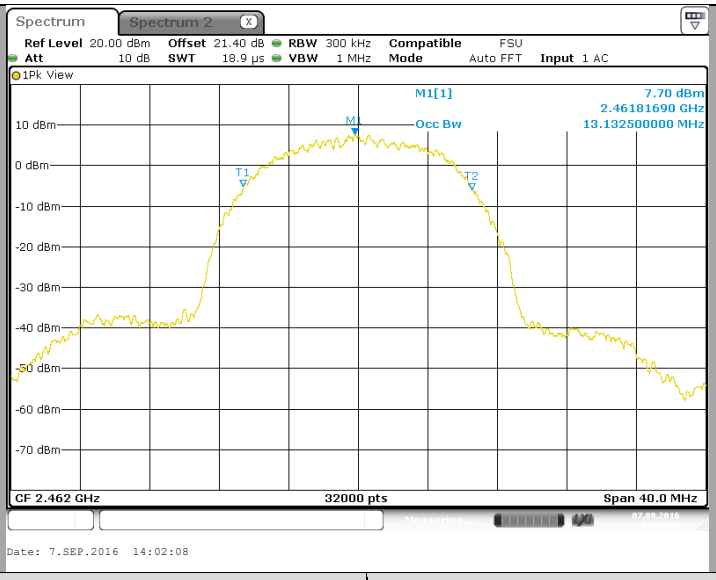
Cmin



Cnom



Cmax

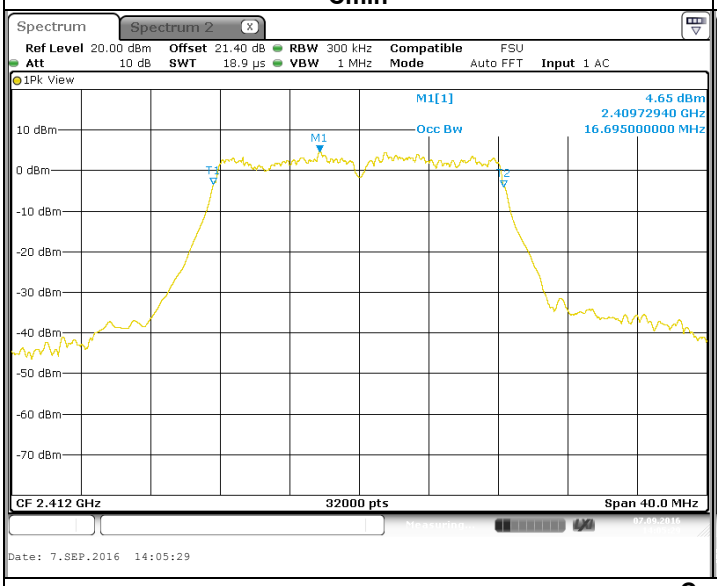


Channel	Occupied Bandwidth (MHz)
Cmin	13,105
Cnom	13,13
Cmax	13,1325

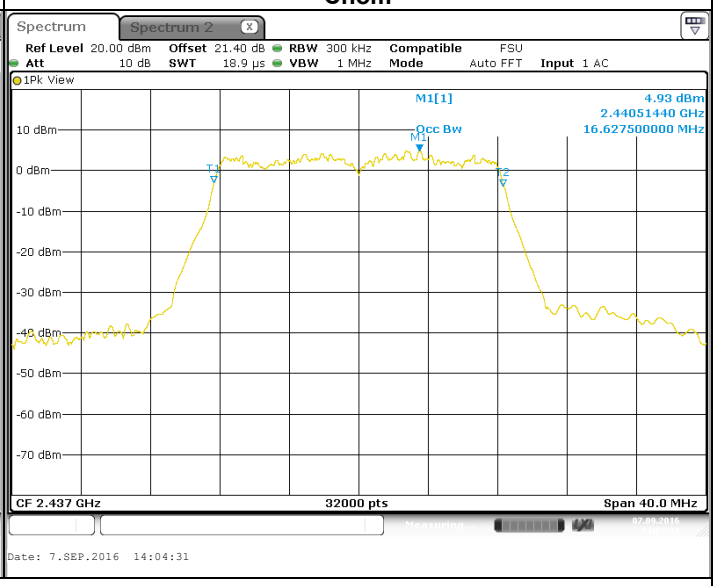
802.11g

Occupied Bandwidth

Cmin



Cnom



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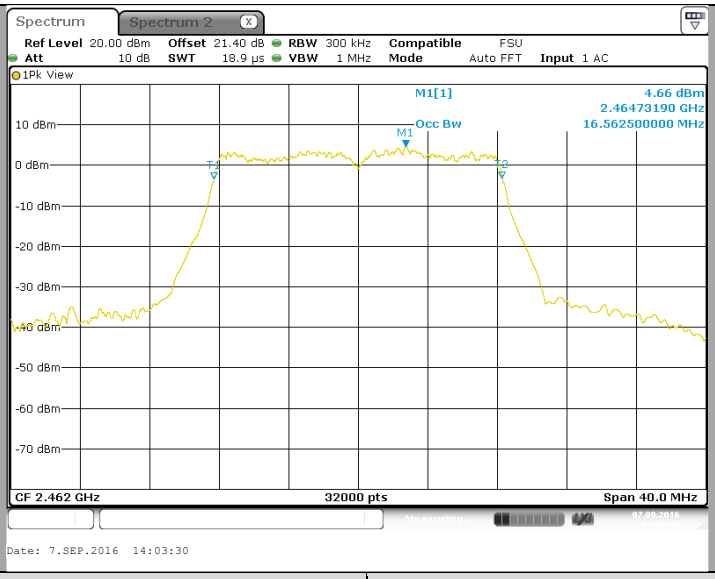
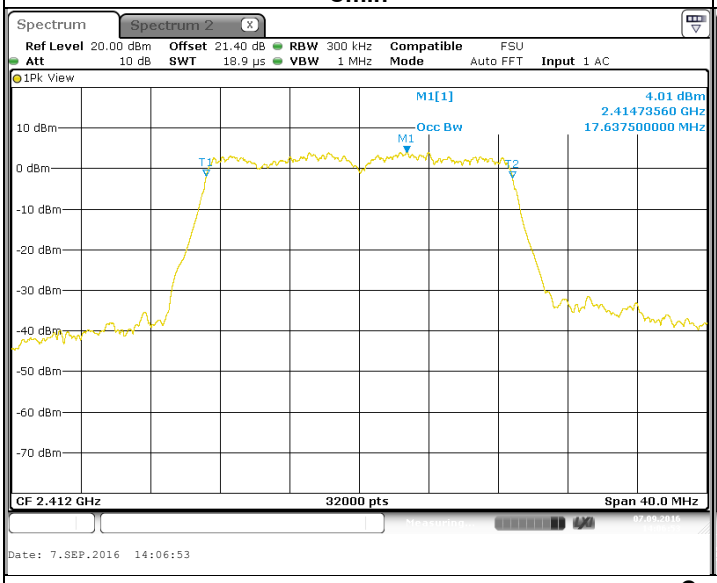


Channel	Occupied Bandwidth (MHz)
Cmin	16,695
Cnom	16,6275
Cmax	16,5625

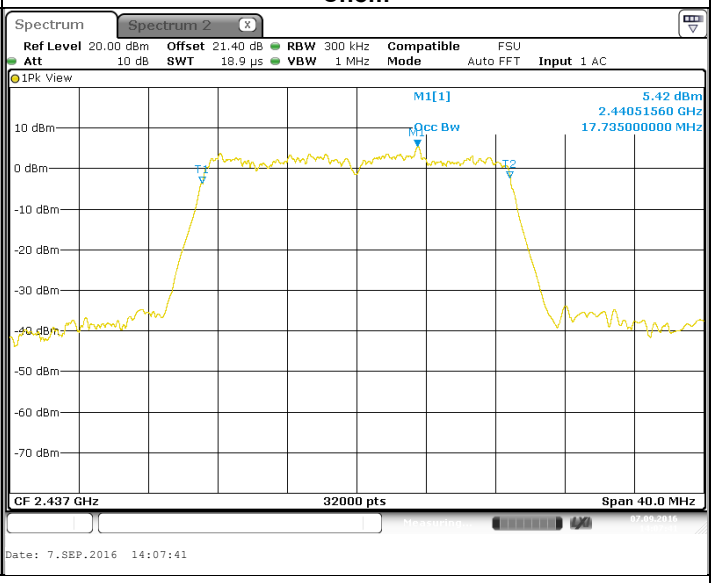
802.11n HT20

Occupied Bandwidth

Cmin



Cnom



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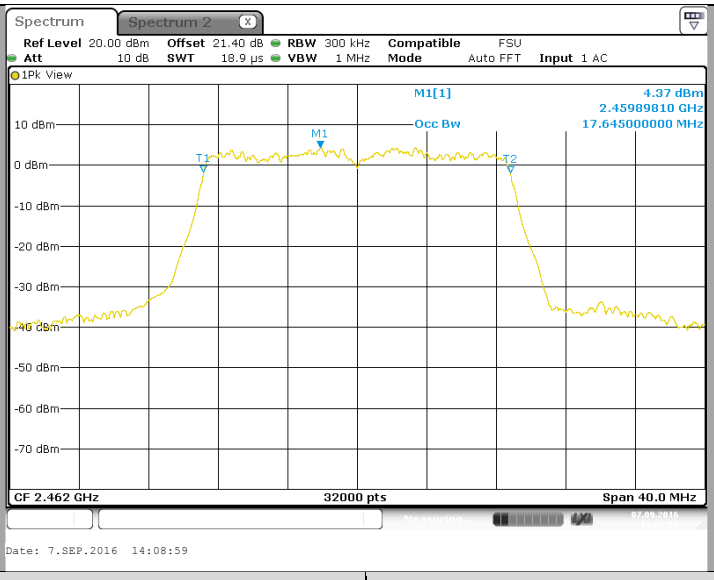


Channel	Occupied Bandwidth (MHz)
Cmin	17,6375
Cnom	17,735
Cmax	17,645

3.1. CONCLUSION

Occupied Channel 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-GEN ISSUE 4** limits.

4. 6DB EMISSION BANDWIDTH

4.1. TEST CONDITIONS

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

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:
☑ KDB 558074 D01 DTS Meas Guidance v03r05 § 8.1
☐ KDB 558074 D01 DTS Meas Guidance v03r05 § 8.2

4.3. LIMIT

The 6dB bandwidth shall be at least 500kHz

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
RF cable & 20 dB attenuator	Télédyne	920-0202-048	A5329676	2015/10	2016/10

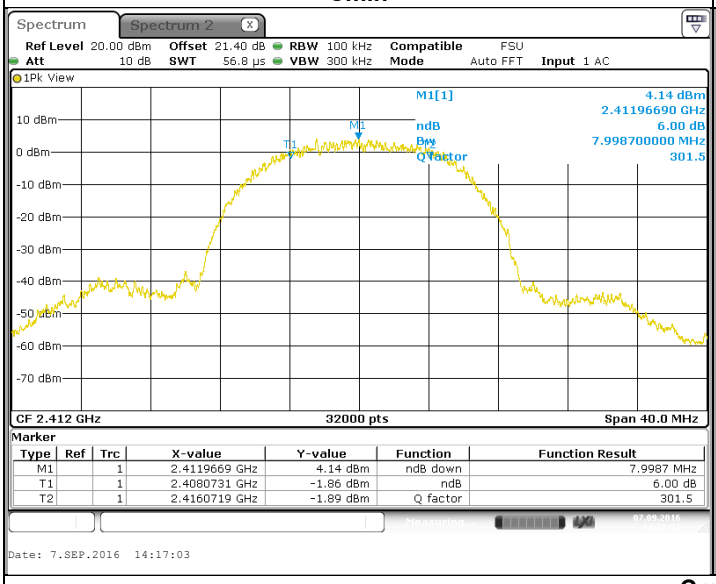
Note: In our quality system, the test equipment calibration due is more & less 2 months

4.5. RESULTS

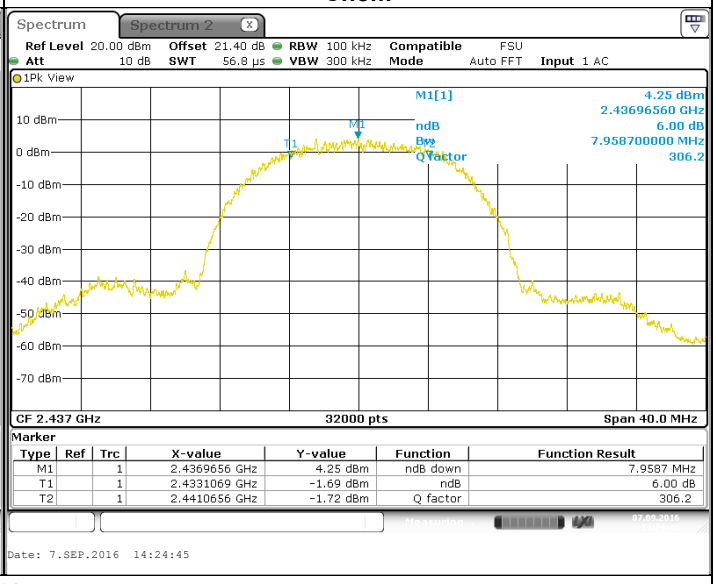
802.11b

6dB Emission Bandwidth

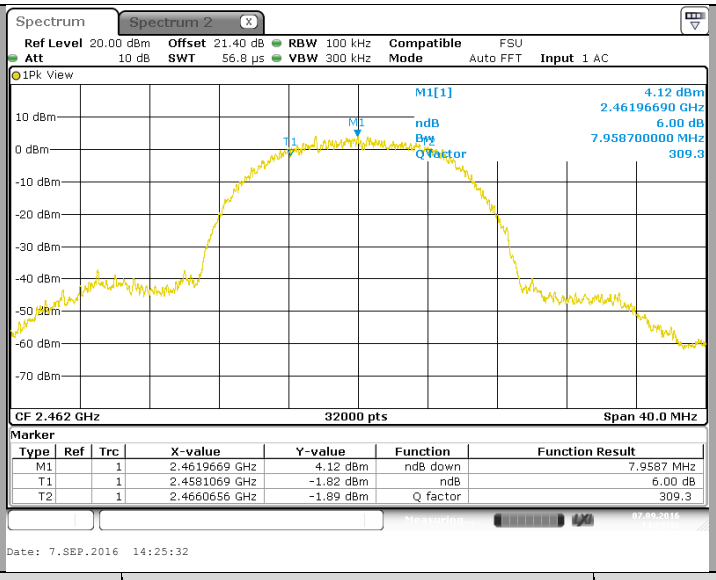
Cmin



Cnom



Cmax

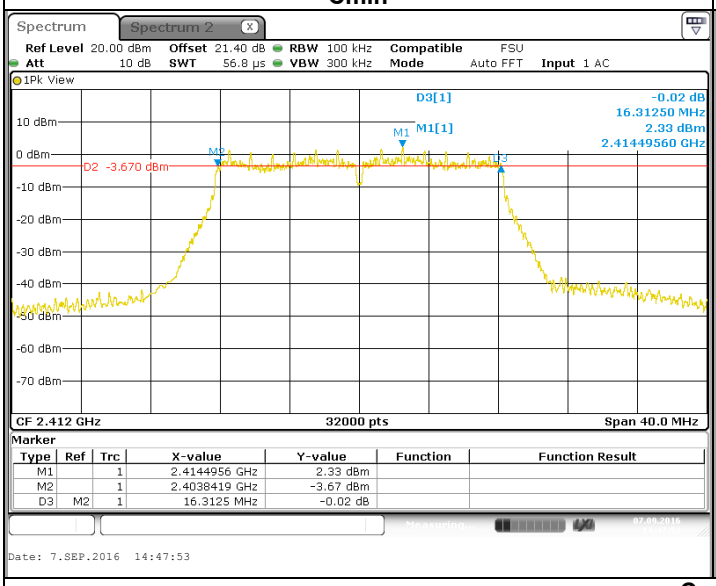


Channel	6dB Emission Bandwidth (MHz)	Limit (MHz)
Cmin	7,9987	Minimum 0.5
Cnom	7,9587	Minimum 0.5
Cmax	7,9587	Minimum 0.5

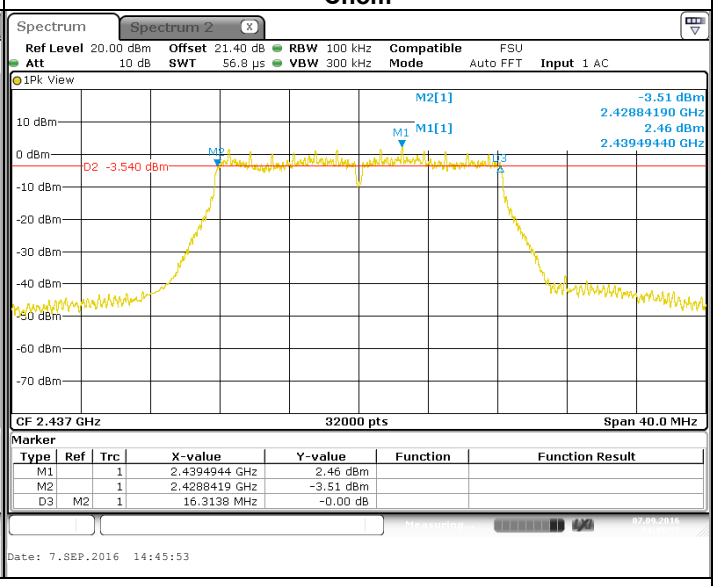
802.11g

6dB Emission Bandwidth

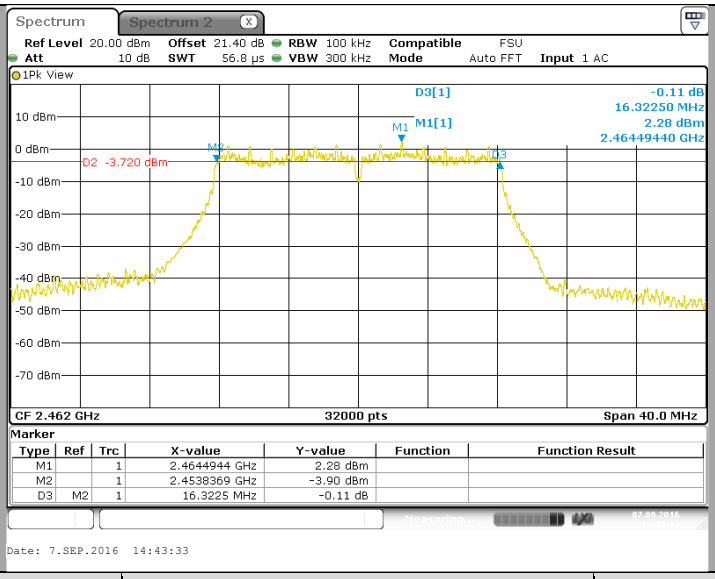
Cmin



Cnom



Cmax

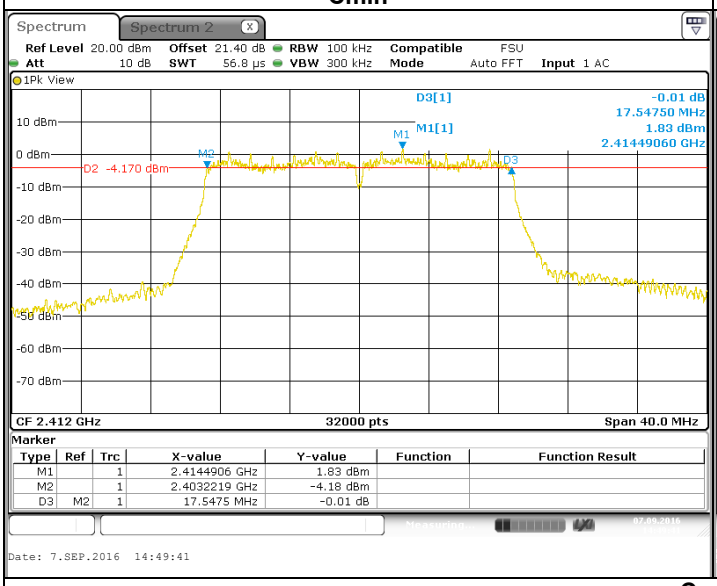


Channel	6dB Emission Bandwidth (MHz)	Limit (MHz)
Cmin	16,3125	Minimum 0.5
Cnom	16,3138	Minimum 0.5
Cmax	16,3225	Minimum 0.5

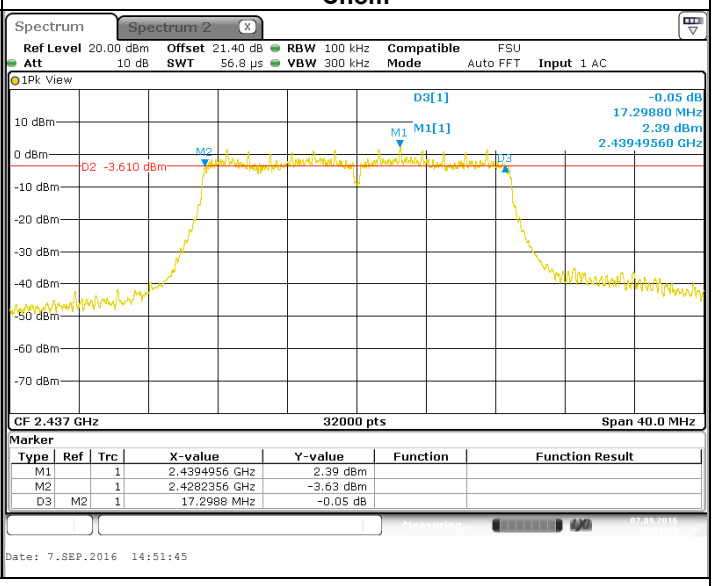
802.11n HT20

6dB Emission Bandwidth

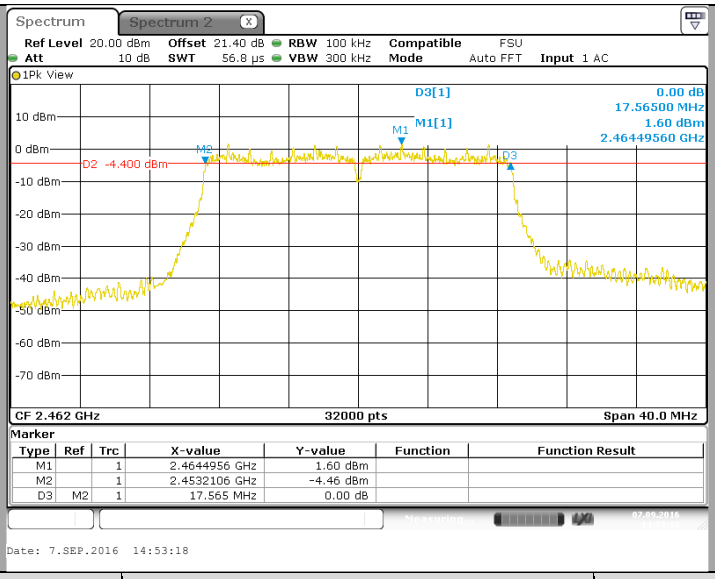
Cmin



Cnom



Cmax



Channel	6dB Emission Bandwidth (MHz)	Limit (MHz)
Cmin	17,5475	Minimum 0.5
Cnom	17,2988	Minimum 0.5
Cmax	17,565	Minimum 0.5

4.6. CONCLUSION

6dB 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. DUTY CYCLE

5.1. TEST CONDITIONS

Test performed by	: Mathieu CERISIER
Date of test	: September 8, 2016
Ambient temperature	: 24 °C
Relative humidity	: 47 %

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:
☑ KDB 558074 D01 DTS Meas Guidance v03r05 § 6.0 b)

5.3. LIMIT

None

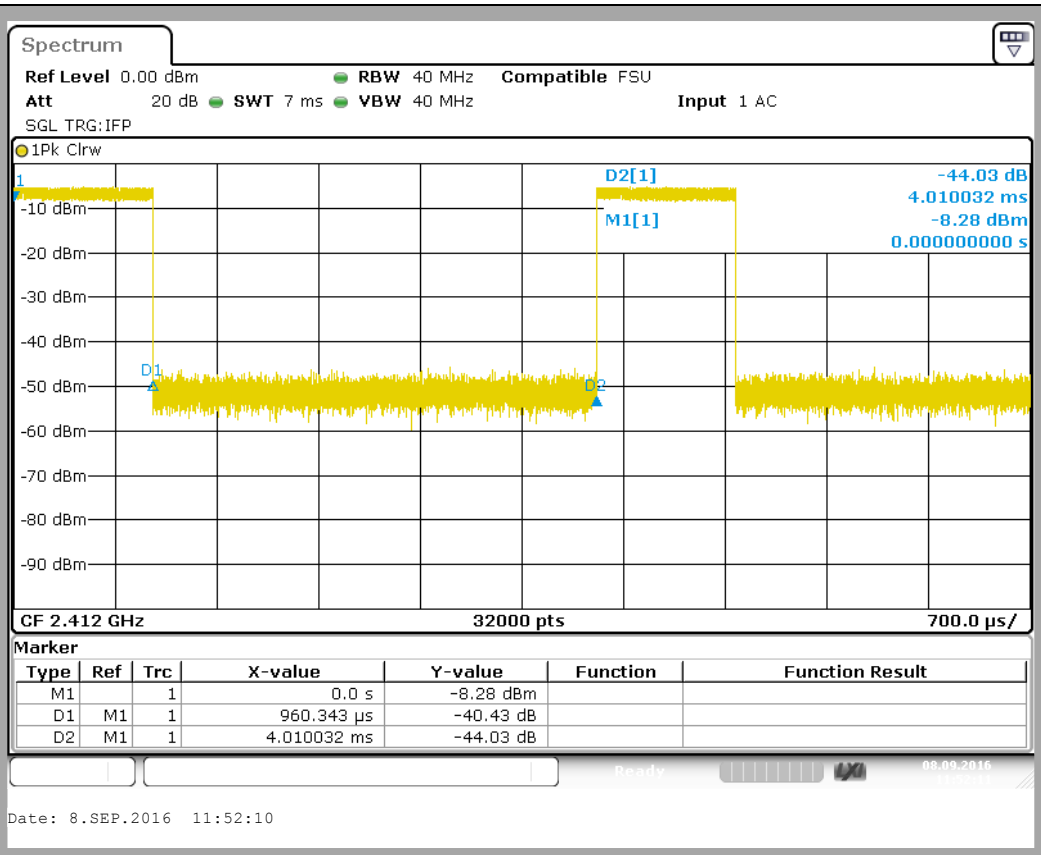
5.4. TEST EQUIPMENT LIST

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
RF cable & 20 dB attenuator	Télédyne	920-0202-048	A5329676	2015/10	2016/10

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

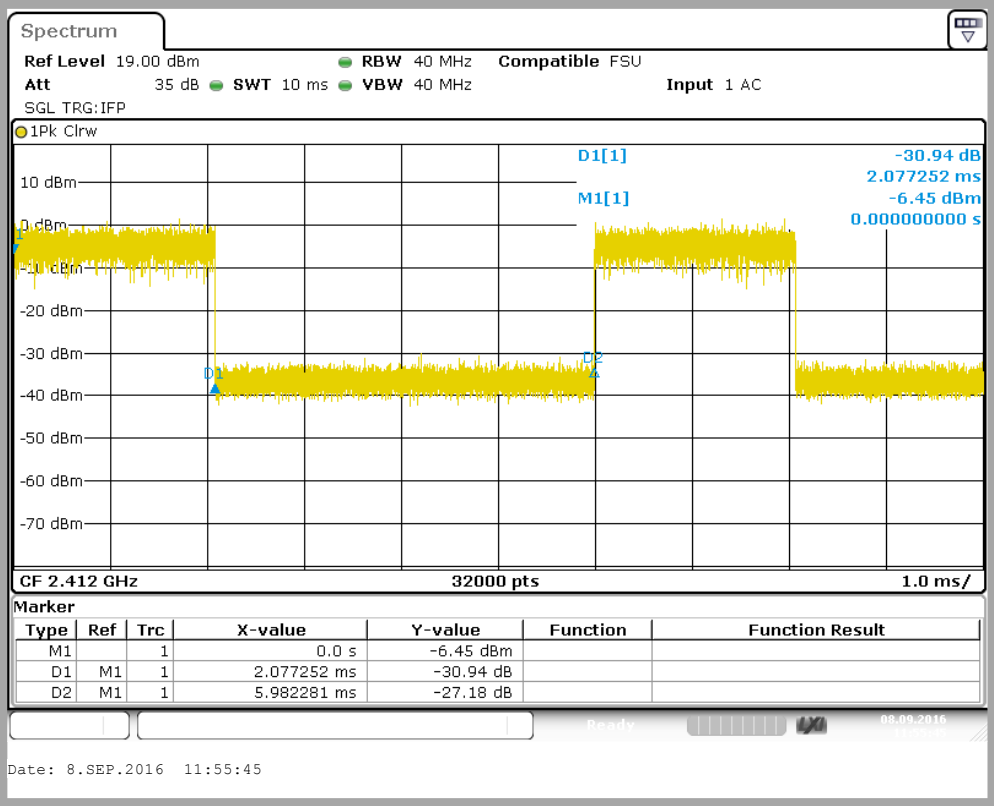
5.5. RESULTS

802.11b
Duty Cycle
Channel



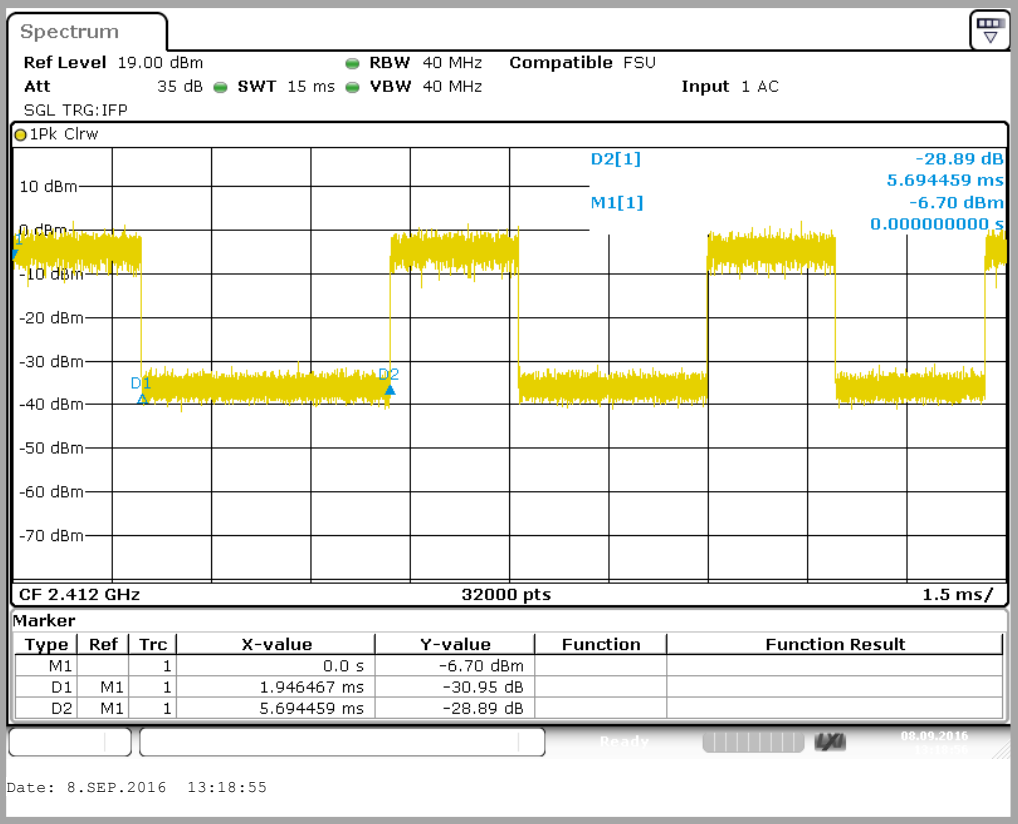
Channel	Duty Cycle (%)	Duty Cycle Correction (dB)
Channel	23,95	6,21

802.11g
Duty Cycle
Channel



Channel	Duty Cycle (%)	Duty Cycle Correction (dB)
Channel	34,72	4,59

802.11n HT20
Duty Cycle
Channel



Channel	Duty Cycle (%)	Duty Cycle Correction (dB)
Channel	34,18	4,66

5.6. 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.

6. MAXIMUM CONDUCTED OUTPUT POWER

6.1. TEST CONDITIONS

Test performed by	: Mathieu CERISIER
Date of test	: September 8, 2016 to October 4, 2016
Ambient temperature	: 24 °C
Relative humidity	: 47 %

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:
☑ KDB 558074 D01 DTS Meas Guidance v03r05 § 9.2.2.2 (Method AVGSA-1)
☐ KDB 558074 D01 DTS Meas Guidance v03r05 § 9.2.2.4 (Method AVGSA-2)
☑ KDB 662911 D01 Multiple Transmitter Output v02r01

6.3. LIMIT

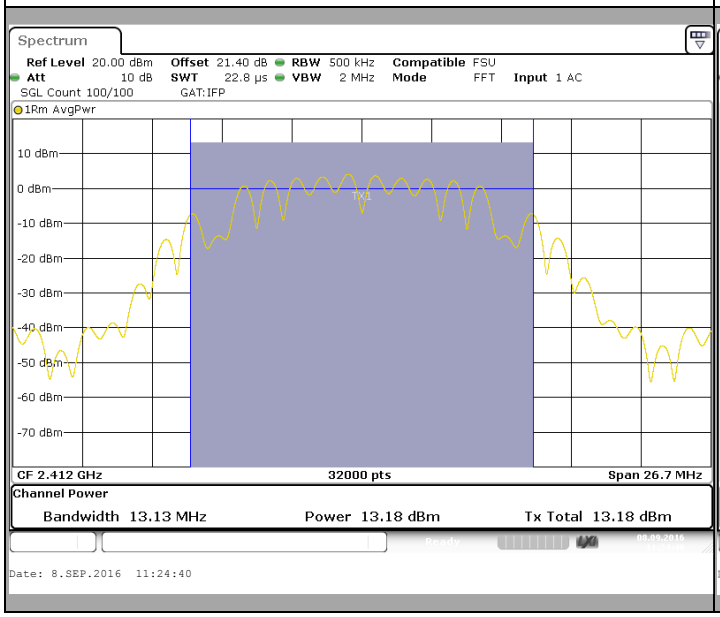
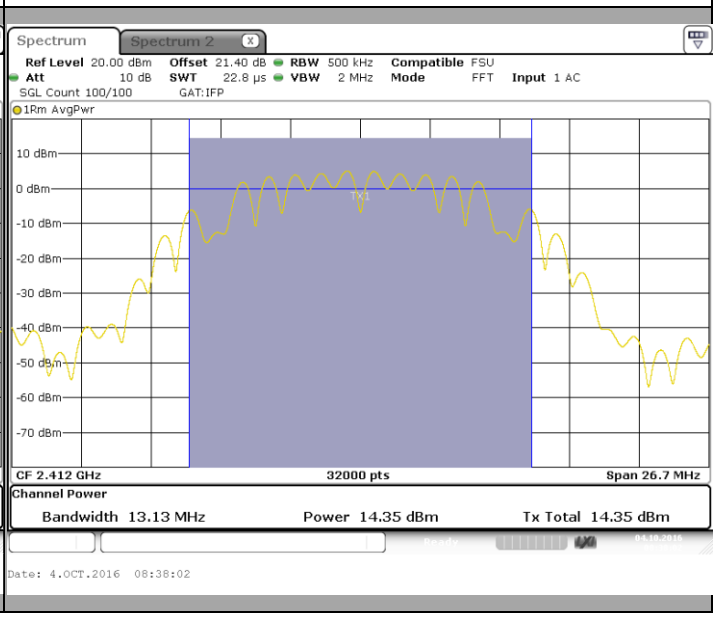
Maximum Conducted Output power:
2400MHz-2483.5MHz: Shall not exceed 30dBm
Limits are reduced by G-6dBi if Overall Antenna Gain above 6dBi

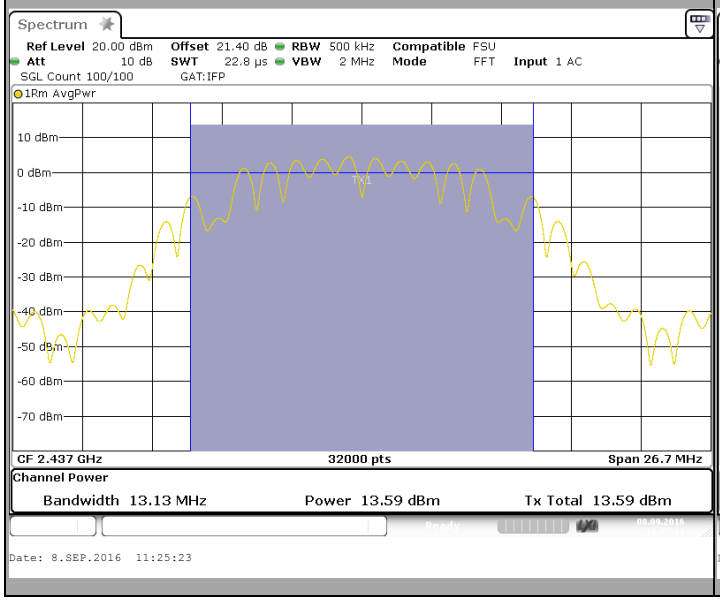
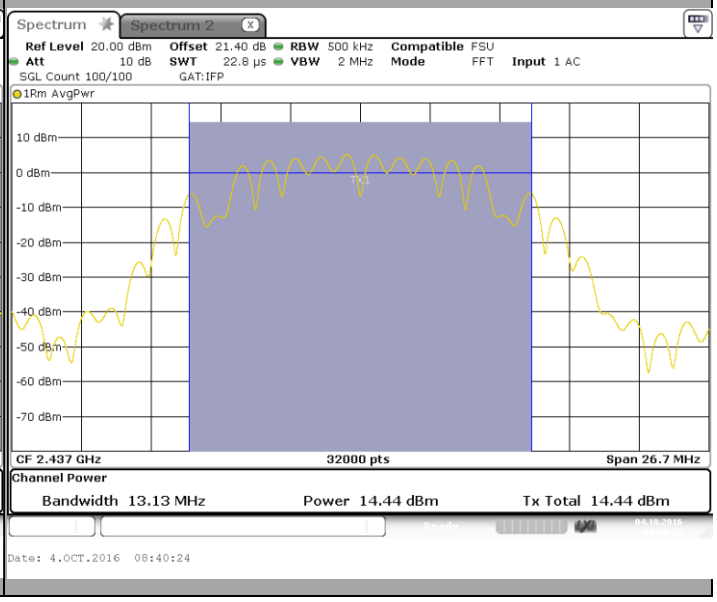
6.4. TEST EQUIPMENT LIST

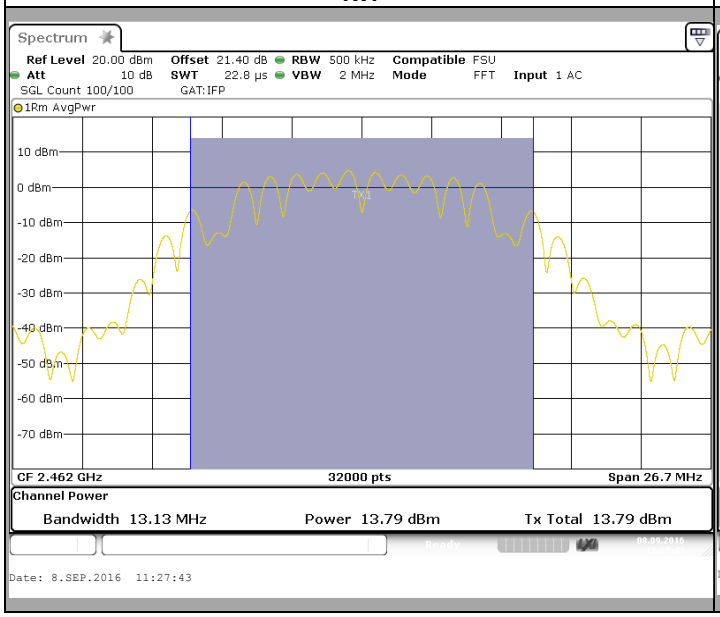
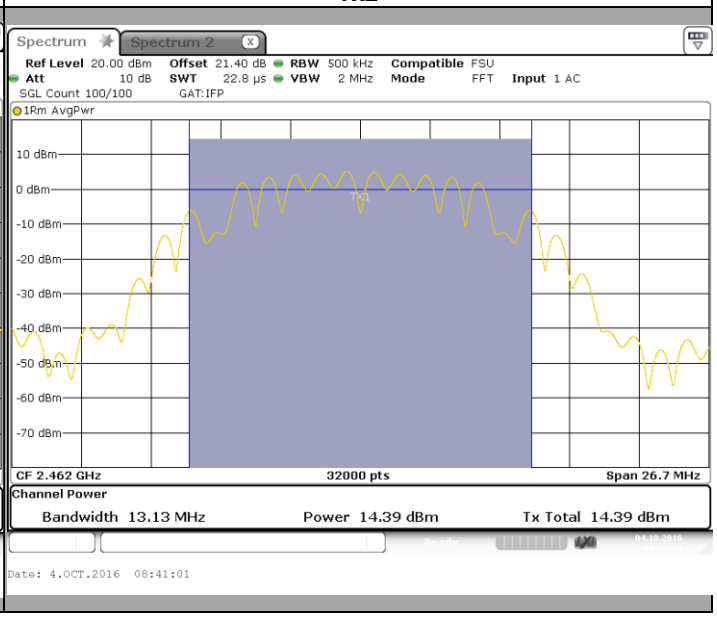
DESCRIPTION	MANUFACTURER	MODEL	N° LCIE	Calibration date	Calibration due
Multi-meter	KEITHLEY	2000	A1242090	2016/05	2018/05
Programmable AC/DC power supply	-; KIKUSUI	PCR500M	A7049006	Verified with calibrated multimeter	Verified with calibrated multimeter
EMI receiver	ROHDE & SCHWARZ	ESR 7	A2642023	2015/03	2016/10
RF cable & 20 dB attenuator	Télédyne	920-0202-048	A5329661	2015/10	2016/10
RF cable & 20 dB attenuator	Télédyne	920-0202-048	A5329676	2015/10	2016/10

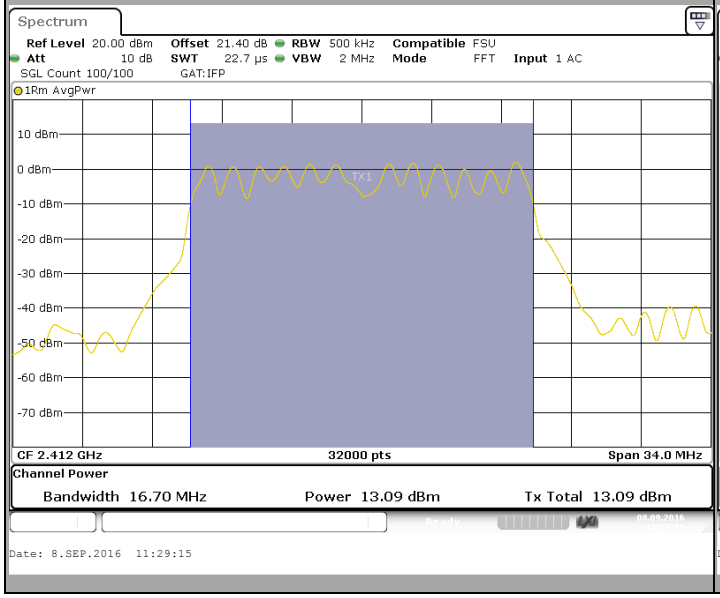
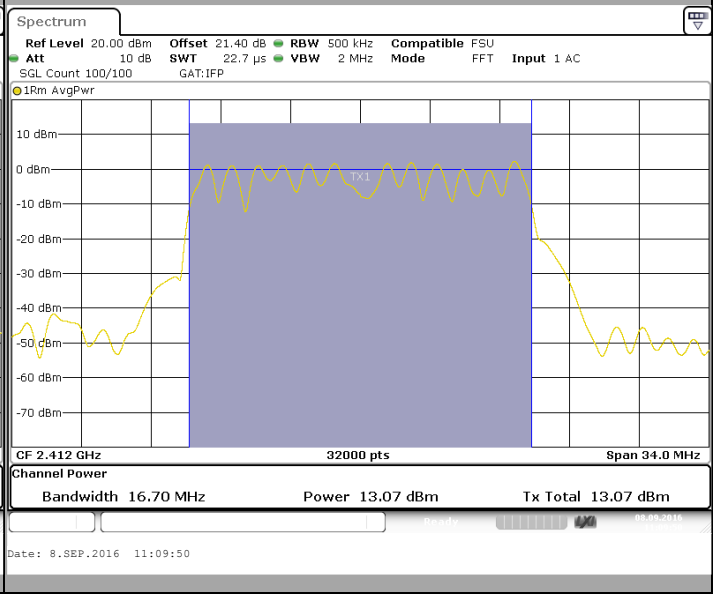
Note: In our quality system, the test equipment calibration due is more & less 2 months

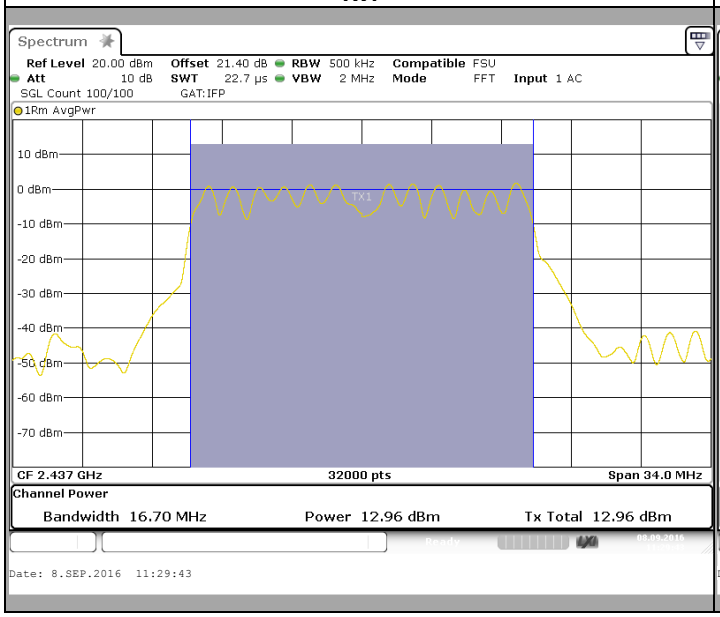
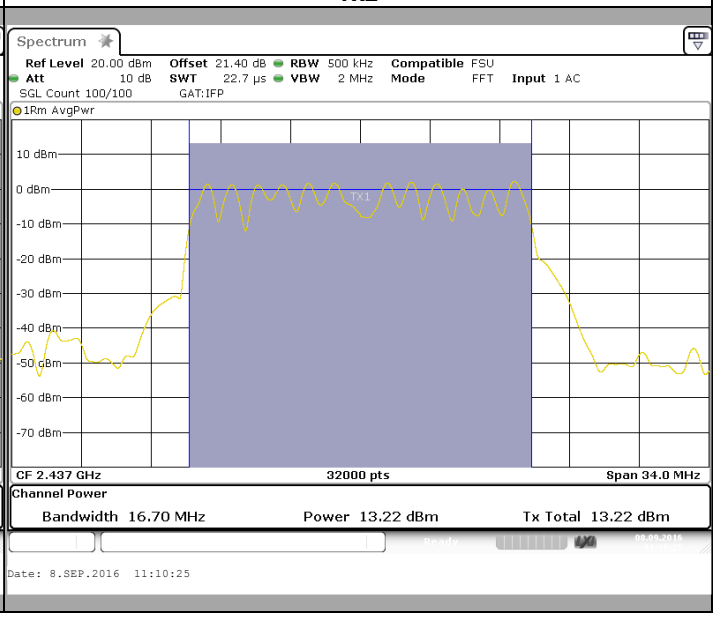
6.5. RESULTS

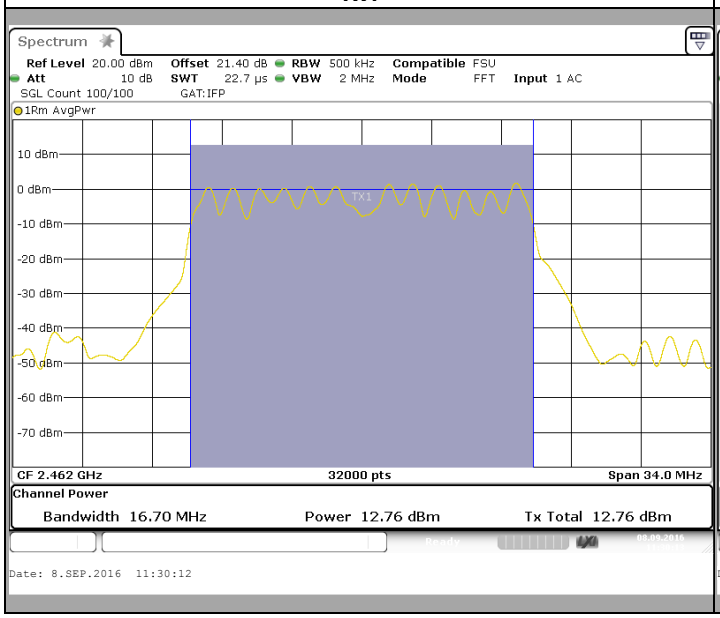
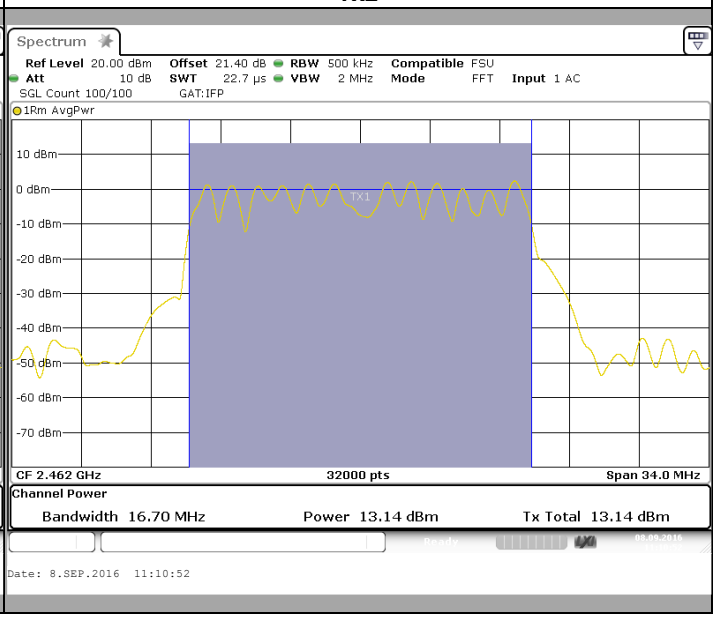
802.11b	
Cmin	
Tx1	Tx2
	

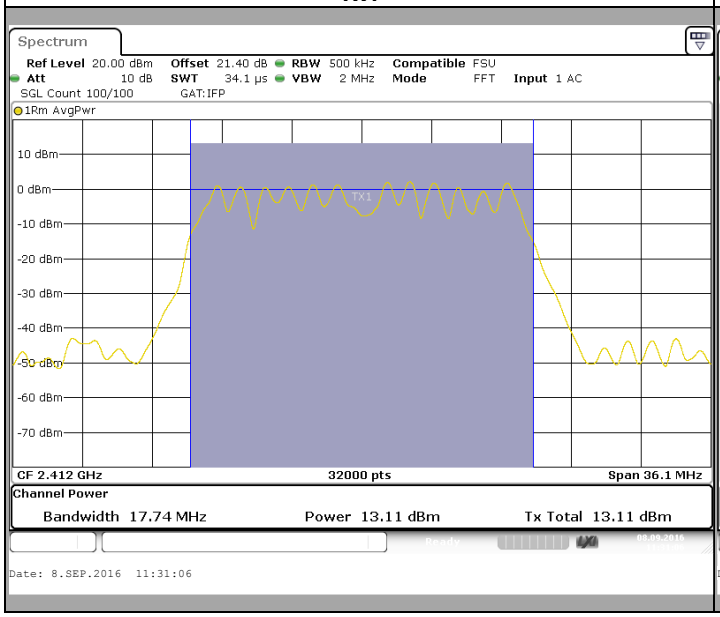
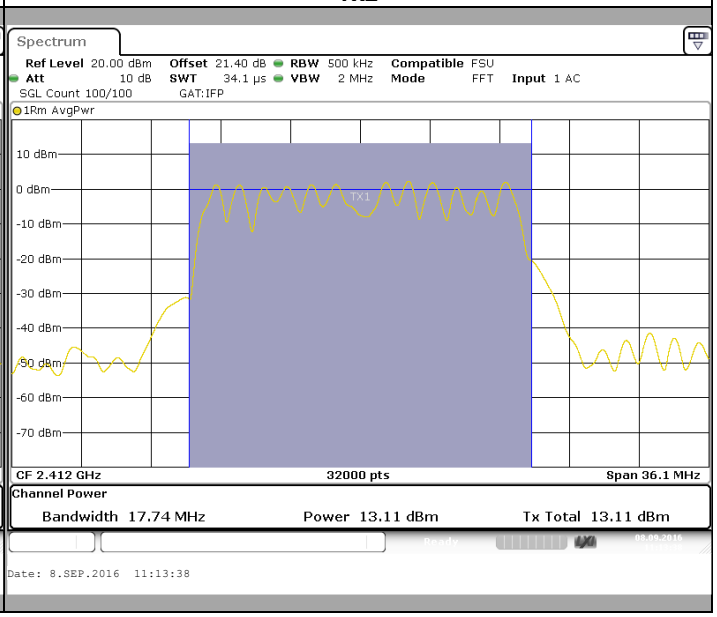
802.11b	
Cnom	
Tx1	Tx2
	

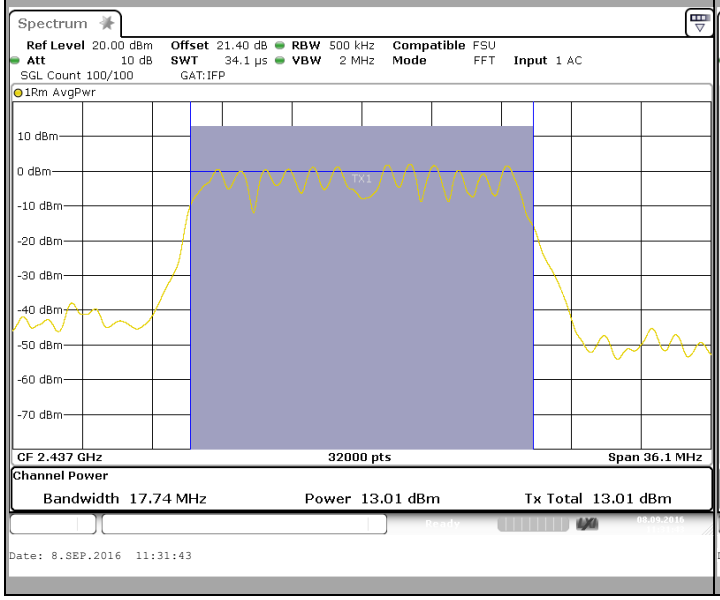
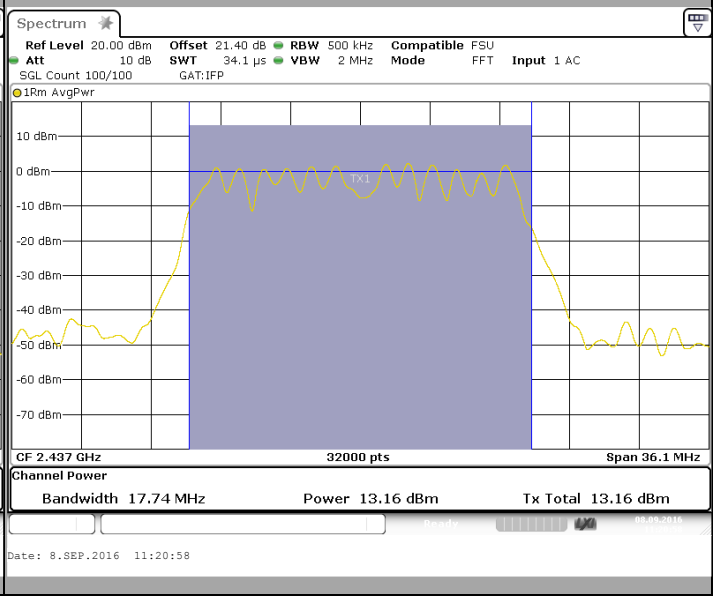
802.11b	
Cmax	
Tx1	Tx2
	

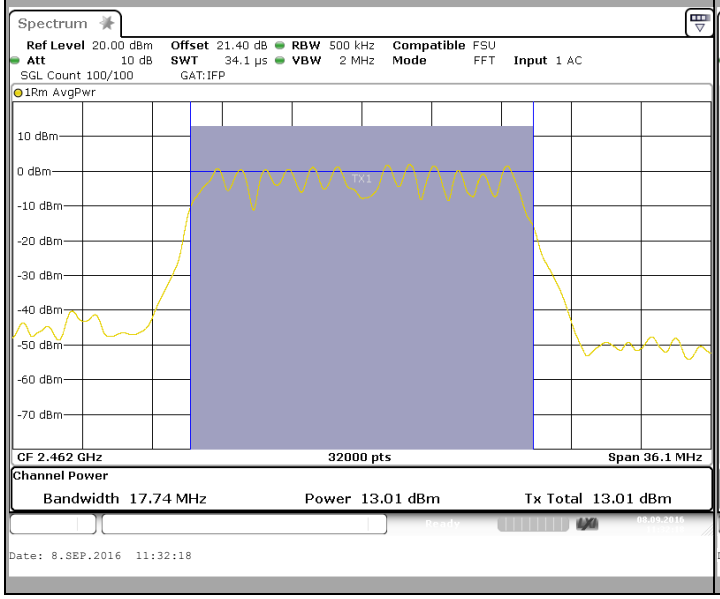
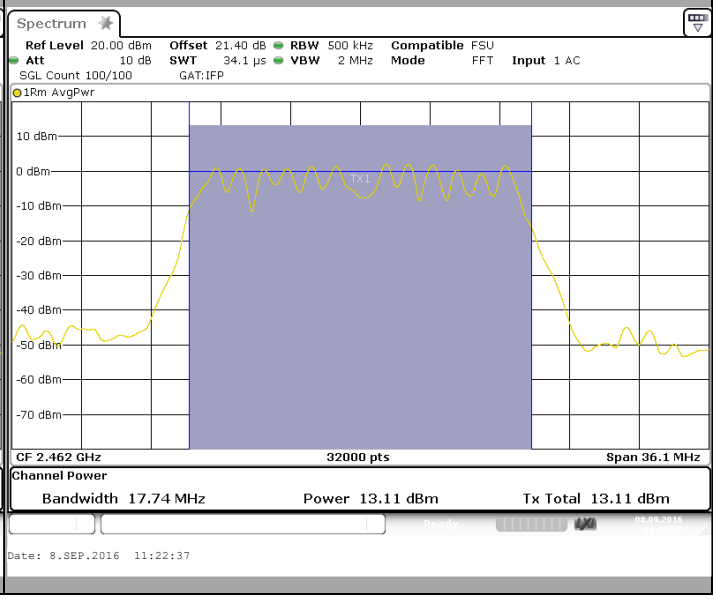
802.11g	
Cmin	
Tx1	Tx2
	

802.11g	
Cnom	
Tx1	Tx2
	

802.11g	
Cmax	
Tx1	Tx2
	

802.11n HT20	
Cmin	
Tx1	Tx2
	

802.11n HT20	
Cnom	
Tx1	Tx2
	

802.11n HT20	
Cmax	
Tx1	Tx2
	

Spectrum Analyzer Offset:
Cable Loss + Attenuator = 21,4dB

802.11b							
Channel	**Tx1 (dBm)**	**Tx2 (dBm)**	**Tx3 (dBm)**	**Tx4 (dBm)**	**Overall Antenna Gain (dBi)**	**Maximum Conducted Power (dBm)**	**Limit (dBm)**
Cmin	13,18	14,35			3.9	16,81	30
Cnom	13,59	14,44			3.9	17,05	30
Cmax	13,79	14,39			3.9	17,11	30

802.11g							
Channel	**Tx1 (dBm)**	**Tx2 (dBm)**	**Tx3 (dBm)**	**Tx4 (dBm)**	**Overall Antenna Gain (dBi)**	**Maximum Conducted Power (dBm)**	**Limit (dBm)**
Cmin	13,09	13,07			3.9	16,09	30
Cnom	12,96	13,22			3.9	16,10	30
Cmax	12,76	13,14			3.9	15,96	30

802.11n HT20							
Channel	**Tx1 (dBm)**	**Tx2 (dBm)**	**Tx3 (dBm)**	**Tx4 (dBm)**	**Overall Antenna Gain (dBi)**	**Maximum Conducted Power (dBm)**	**Limit (dBm)**
Cmin	13,11	13,11			3.9	16,12	30
Cnom	13,01	13,16			3.9	16,09	30
Cmax	13,01	13,11			3.9	16,07	30

6.6. 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.

7. POWER SPECTRAL DENSITY

7.1. TEST CONDITIONS

Test performed by : Mathieu CERISIER
Date of test : September 8, 2016
Ambient temperature : 24 °C
Relative humidity : 47 %

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:
☐ KDB 558074 D01 DTS Meas Guidance v03r05 § 10.2 (Method PKPSD)
☑ KDB 558074 D01 DTS Meas Guidance v03r05 § 10.3 (Method AVGPSD-1)
☑ KDB 662911 D01 Multiple Transmitter Output v02r01 E 2) b)

7.3. LIMIT

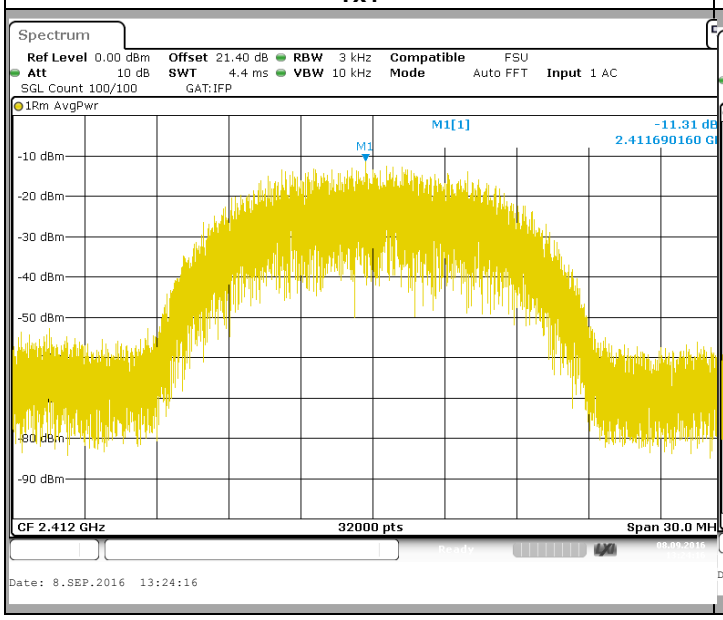
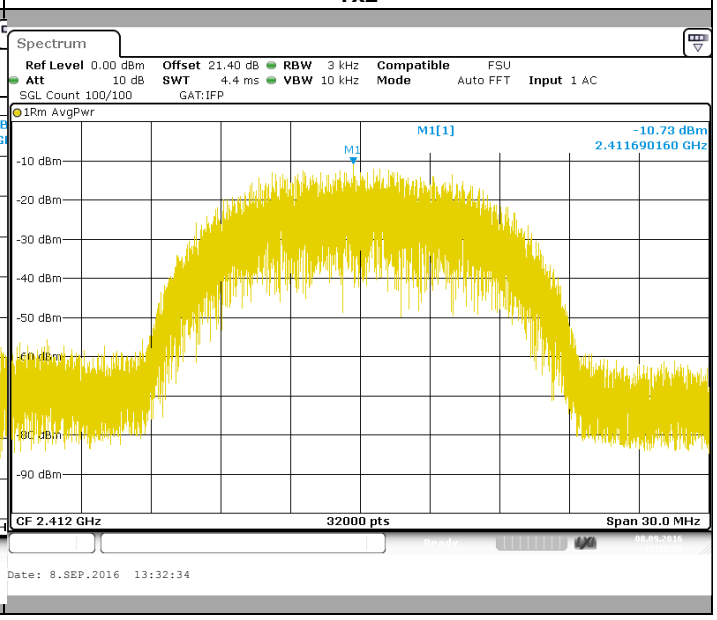
Power Spectral Density:
2400MHz-2483.5MHz: Shall not exceed 8dBm/3kHz
Limits are reduced by G-6dBi if Overall Antenna Gain above 6dBi

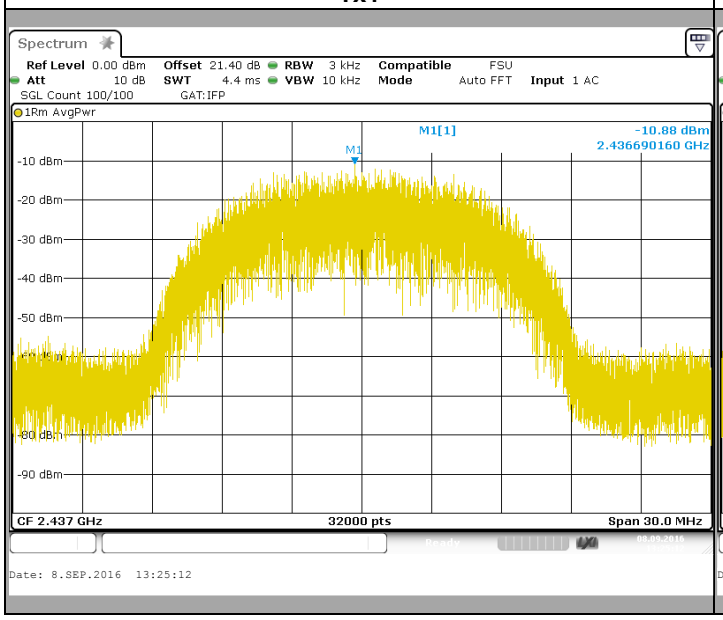
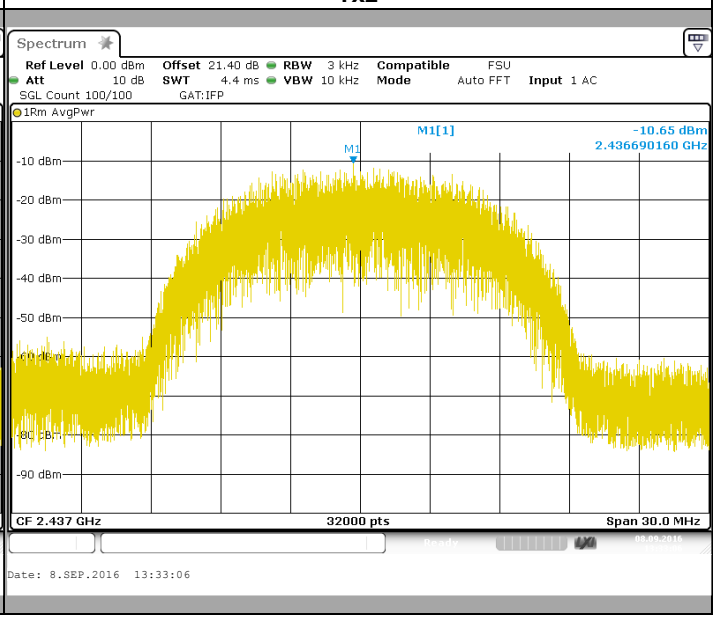
7.4. TEST EQUIPMENT LIST

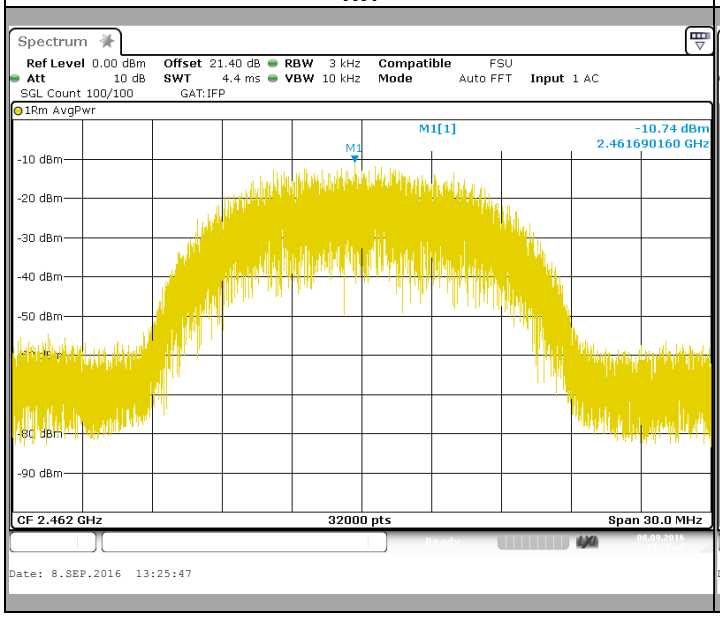
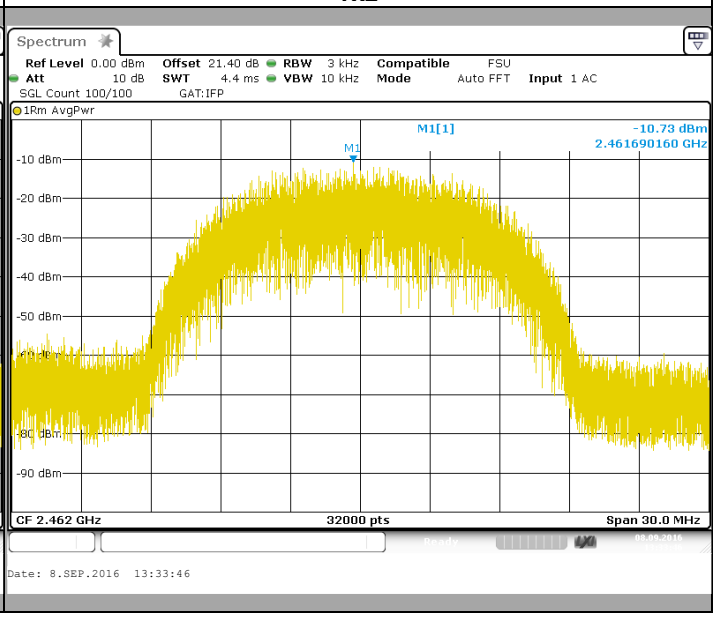
DESCRIPTION	MANUFACTURER	MODEL	N° LCIE	Calibration date	Calibration due
Multi-meter	KEITHLEY	2000	A1242090	2016/05	2018/05
Programmable AC/DC power supply	-; KIKUSUI	PCR500M	A7049006	Verified with calibrated multimeter	Verified with calibrated multimeter
EMI receiver	ROHDE & SCHWARZ	ESR 7	A2642023	2015/03	2016/10
RF cable & 20 dB attenuator	Télédyne	920-0202-048	A5329661	2015/10	2016/10
RF cable & 20 dB attenuator	Télédyne	920-0202-048	A5329676	2015/10	2016/10

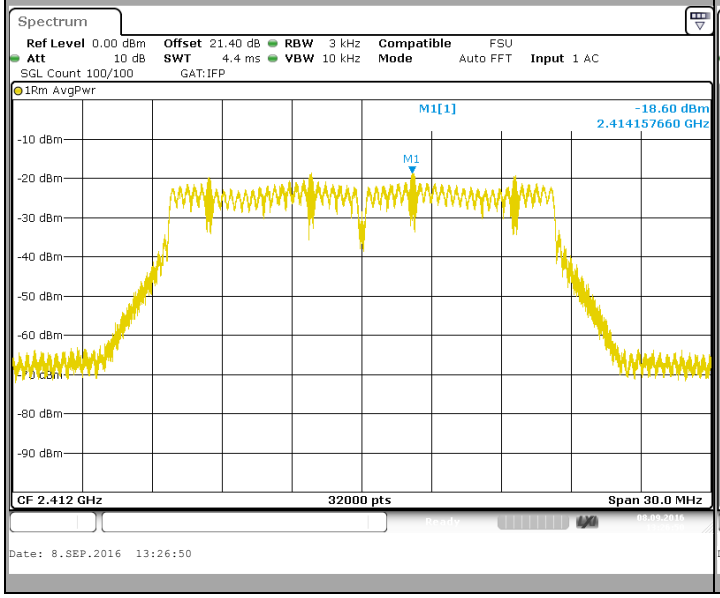
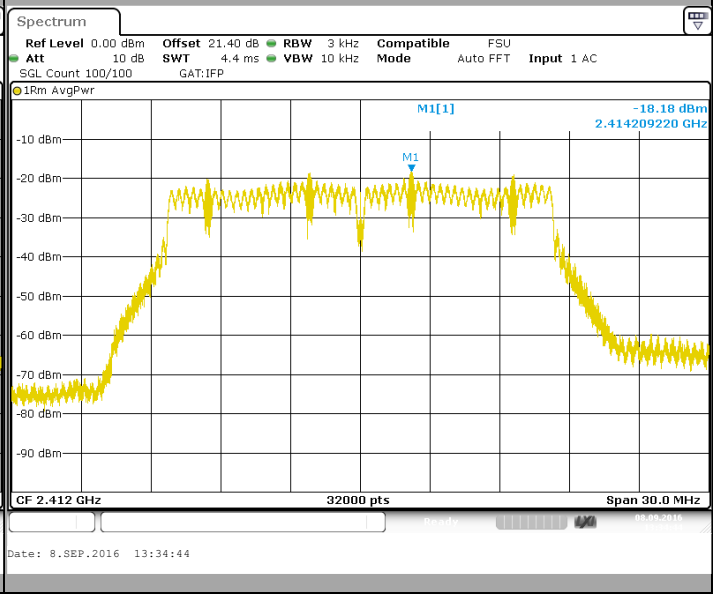
Note: In our quality system, the test equipment calibration due is more & less 2 months

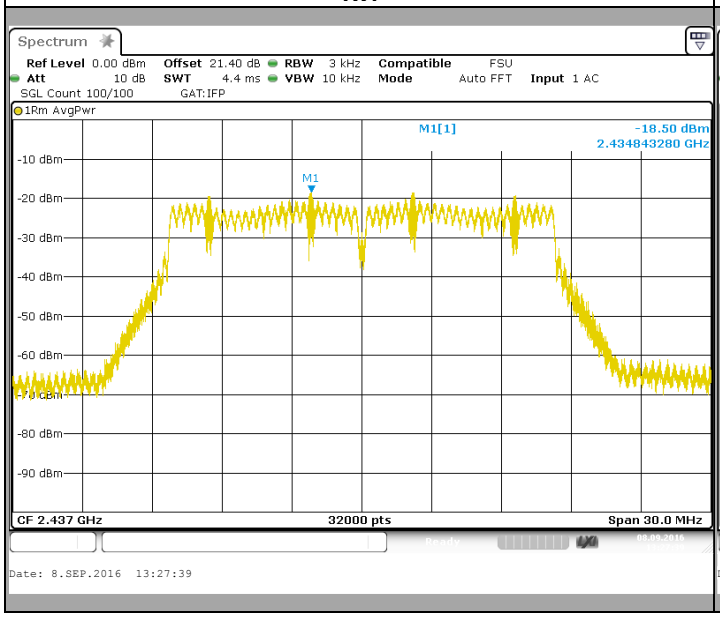
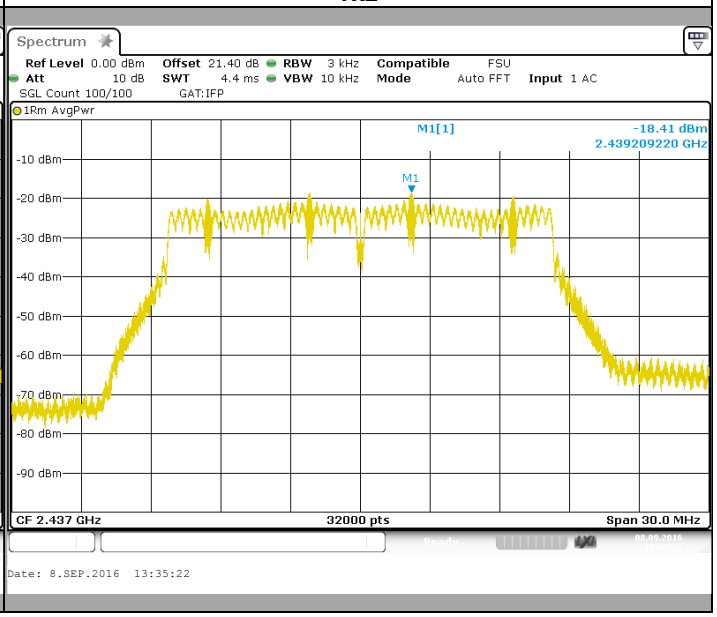
7.5. RESULTS

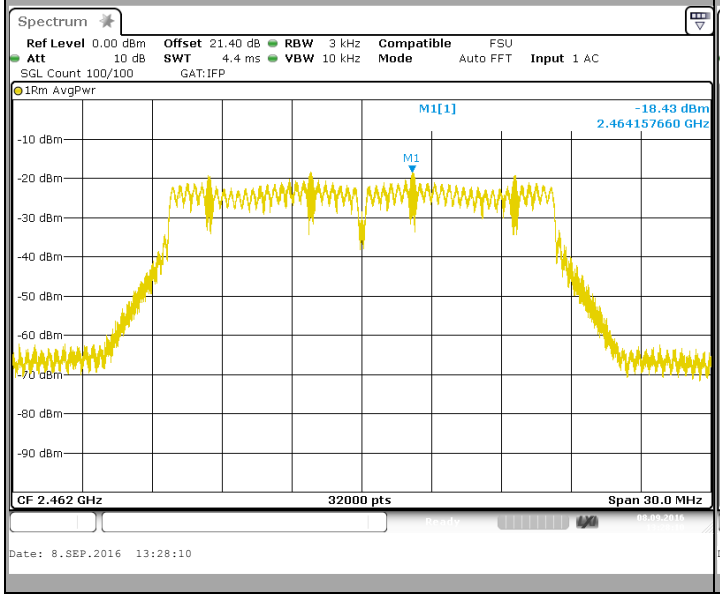
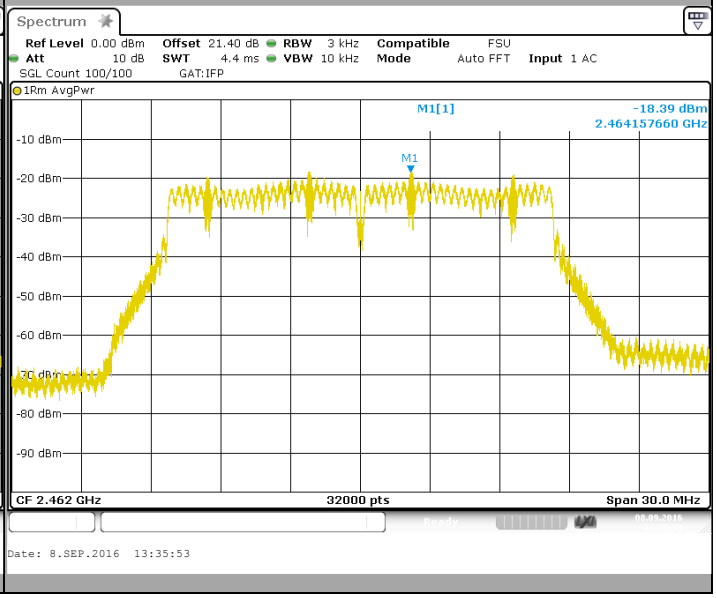
802.11b	
Cmin	
Tx1	Tx2
	

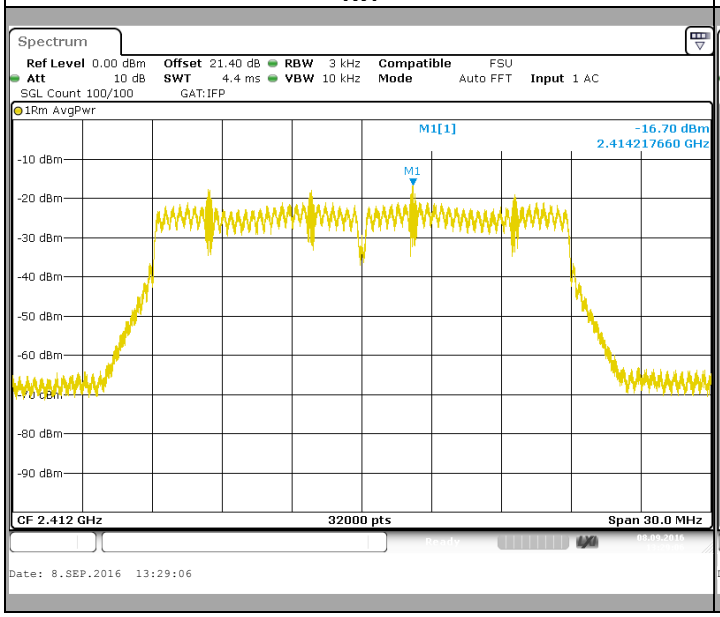
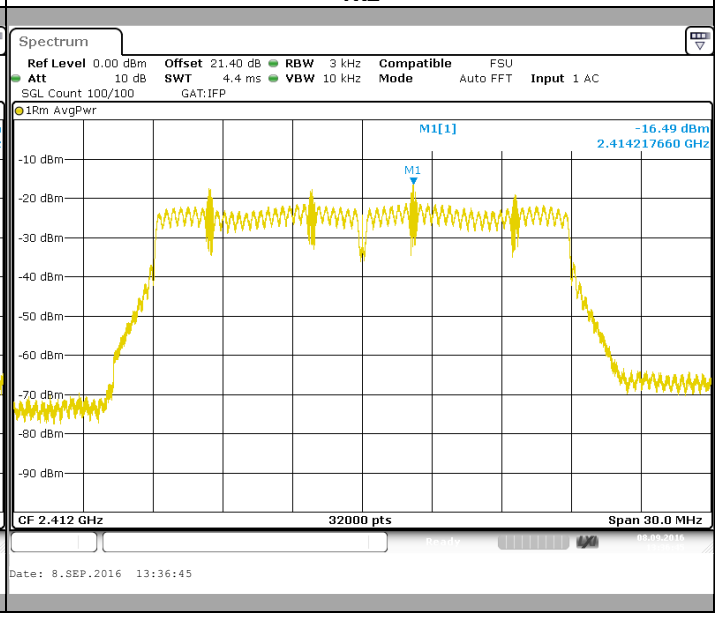
802.11b	
Cnom	
Tx1	Tx2
	

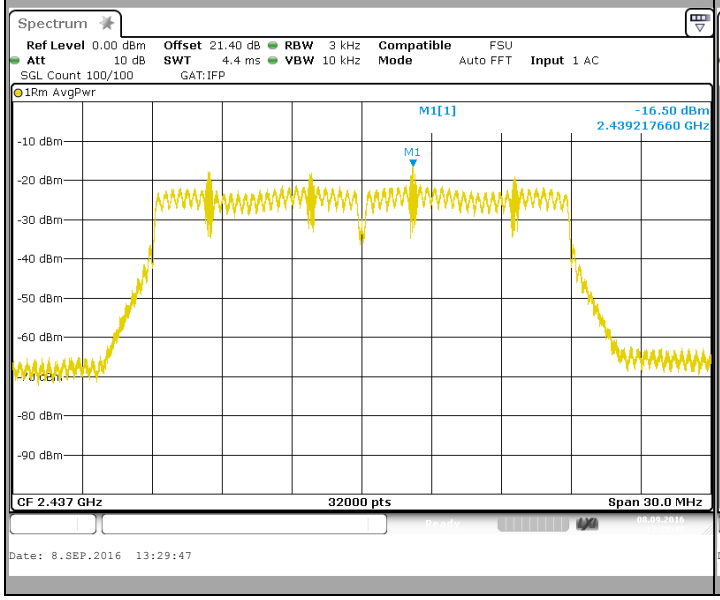
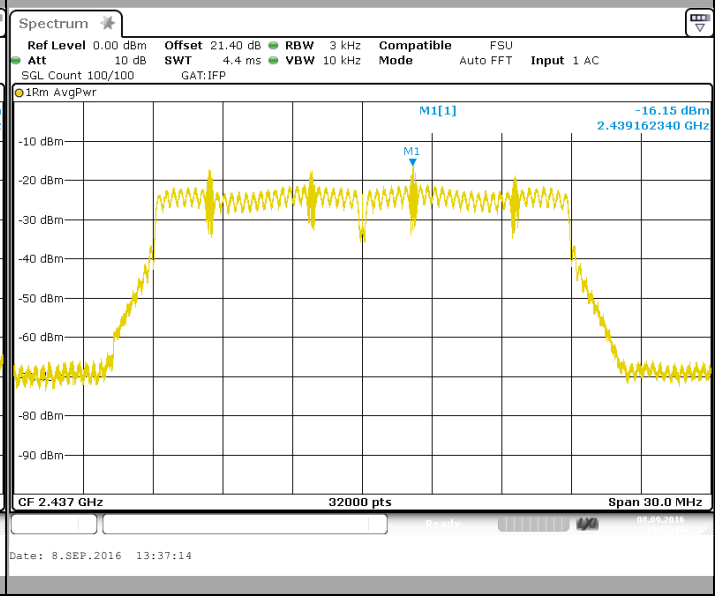
802.11b	
Cmax	
Tx1	Tx2
	

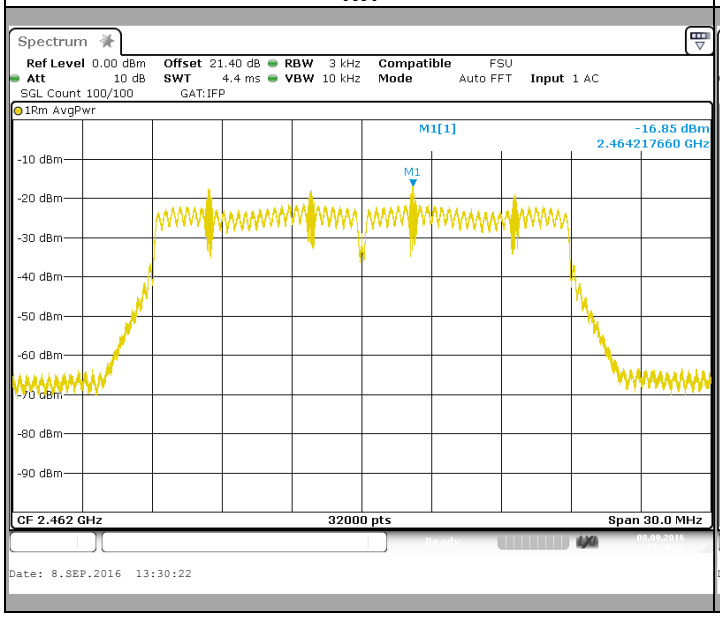
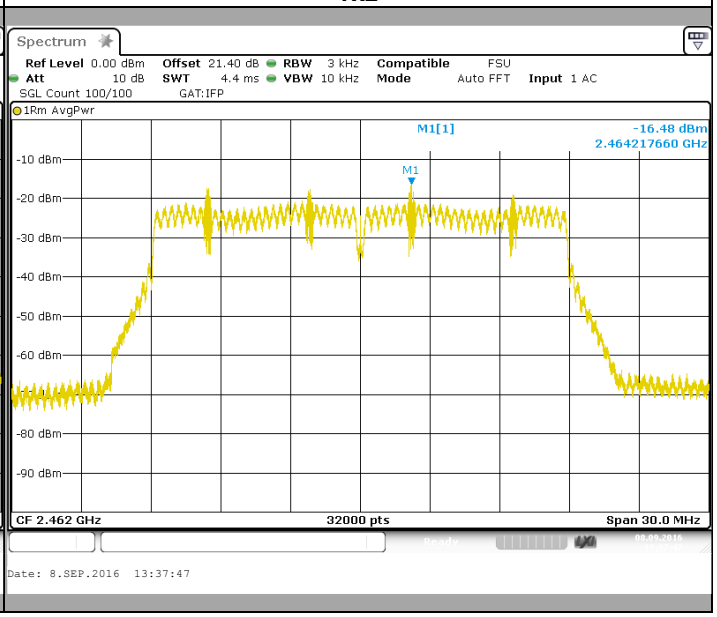
802.11g	
Cmin	
Tx1	Tx2
	

802.11g	
Cnom	
Tx1	Tx2
	

802.11g	
Cmax	
Tx1	Tx2
	

802.11n HT20	
Cmin	
Tx1	Tx2
	

802.11n HT20	
Cnom	
Tx1	Tx2
	

802.11n HT20	
Cmax	
Tx1	Tx2
	

Spectrum Analyzer Offset:
Cable Loss + Attenuator= 21,4dB

802.11b							
Channel	**Tx1 (dBm/3kHz)**	**Tx2 (dBm/3kHz)**	**Tx3 (dBm/3kHz)**	**Tx4 (dBm/3kHz)**	**Overall Antenna Gain (dBi)**	**Power Spectral Density (dBm)**	**Limit (dBm/3kHz)**
Cmin	-11,31	-10,73			3.9	-8,00	8
Cnom	-10,88	-10,65			3.9	-7,75	8
Cmax	-10,74	-10,73			3.9	-7,72	8

802.11g							
Channel	**Tx1 (dBm/3kHz)**	**Tx2 (dBm/3kHz)**	**Tx3 (dBm/3kHz)**	**Tx4 (dBm/3kHz)**	**Overall Antenna Gain (dBi)**	**Power Spectral Density (dBm)**	**Limit (dBm/3kHz)**
Cmin	-18,6	-18,18			3.9	-15,37	8
Cnom	-18,5	-18,41			3.9	-15,44	8
Cmax	-18,43	-18,39			3.9	-15,40	8

802.11n HT20							
Channel	**Tx1 (dBm/3kHz)**	**Tx2 (dBm/3kHz)**	**Tx3 (dBm/3kHz)**	**Tx4 (dBm/3kHz)**	**Overall Antenna Gain (dBi)**	**Power Spectral Density (dBm)**	**Limit (dBm/3kHz)**
Cmin	-16,7	-16,49			3.9	-13,58	8
Cnom	-16,5	-16,15			3.9	-13,31	8
Cmax	-16,85	-16,48			3.9	-13,65	8

7.6. CONCLUSION

Power Spectral Density 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.

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

8.1. TEST CONDITIONS

Test performed by : Mathieu CERISIER
Date of test : September 8, 2016
Ambient temperature : 24 °C
Relative humidity : 47 %

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:
☑ KDB 558074 D01 DTS Meas Guidance v03r05 § 11
☑ KDB 662911 D01 Multiple Transmitter Output v02r01

8.3. LIMIT

All Spurious Emissions must be at least Choose limit below the Fundamental Radiator Level at the Band Edge Edge "2400MHz & 2483,5MHz"

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
RF cable & 20 dB attenuator	Télédyne	920-0202-048	A5329676	2015/10	2016/10

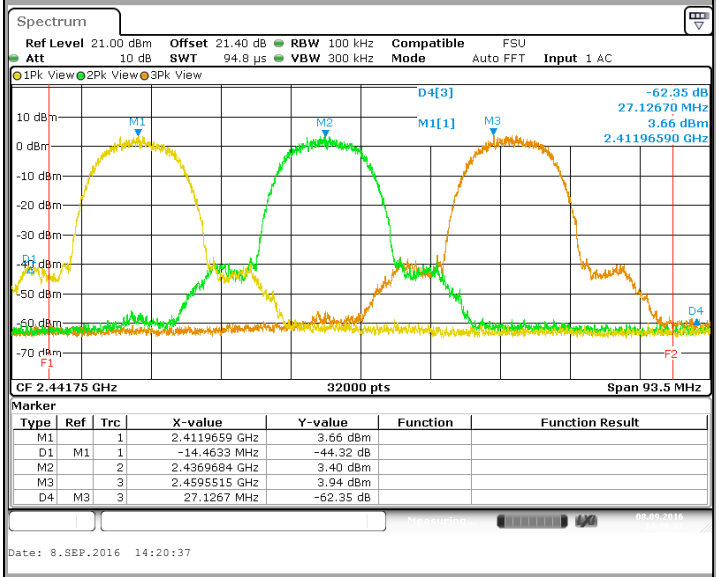
Note: In our quality system, the test equipment calibration due is more & less 2 months

8.5. RESULTS

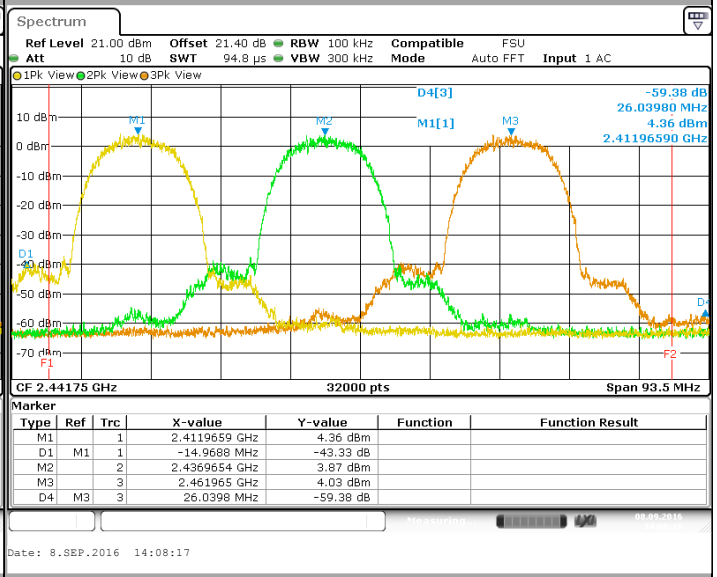
802.11b

Cmin/Cnom/Cmax

Tx1

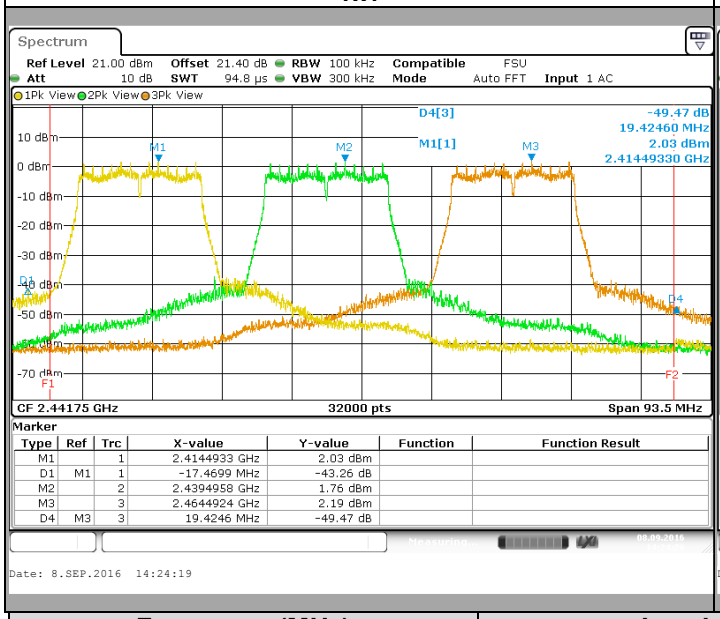


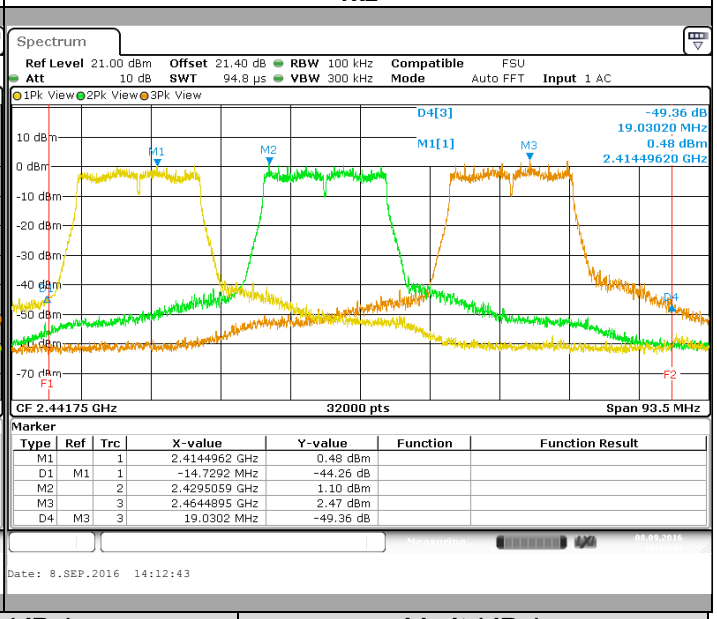
Tx2



Frequency (MHz)	Level (dBc)	Limit (dBc)
Below 2400	43,33	30
Above 2483.5	59,38	30

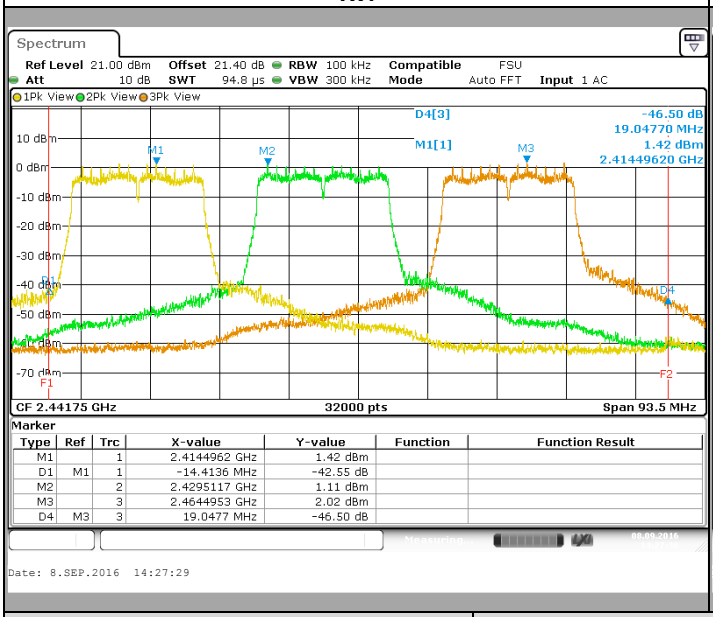
802.11g	
Cmin/Cnom/Cmax	
Tx1	Tx2

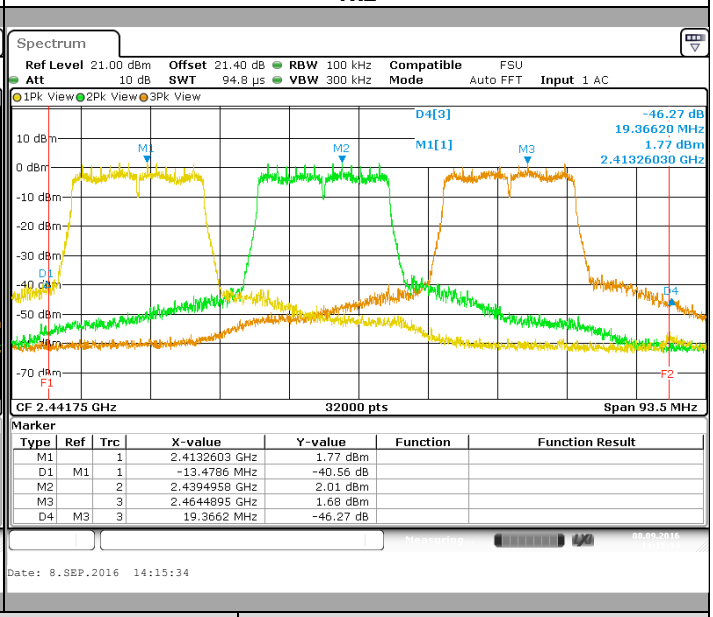




Frequency (MHz)	Level (dBc)	Limit (dBc)
Below 2400	43,26	30
Above 2483.5	49,36	30

802.11n HT20	
Cmin/Cnom/Cmax	
Tx1	Tx2





Frequency (MHz)	Level (dBc)	Limit (dBc)
Below 2400	40,56	30
Above 2483.5	46,27	30

8.6. 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.

9. UNWANTED EMISSIONS INTO NON-RESTRICTED FREQUENCY BANDS

9.1. TEST CONDITIONS

Test performed by : Arnaud FAYETTE
Date of test : September 1, 2016
Ambient temperature : 24 °C
Relative humidity : 44 %

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:
☑ KDB 558074 D01 DTS Meas Guidance v03r05 § 11
☑ KDB 662911 D01 Multiple Transmitter Output v02r01

9.3. LIMIT

All Spurious Emissions must be at least 30dB (Average Conducted Power) below the Fundamental Radiator Level

9.4. 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

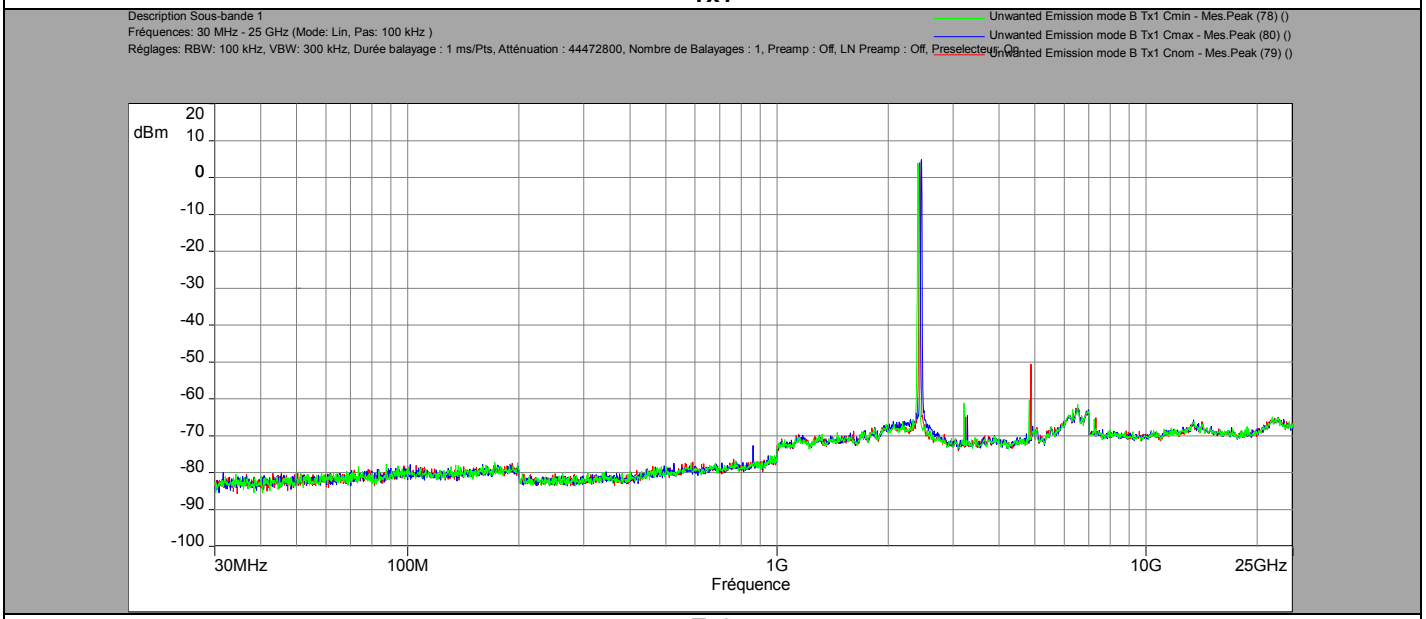
Note: In our quality system, the test equipment calibration due is more & less 2 months

9.5. RESULTS

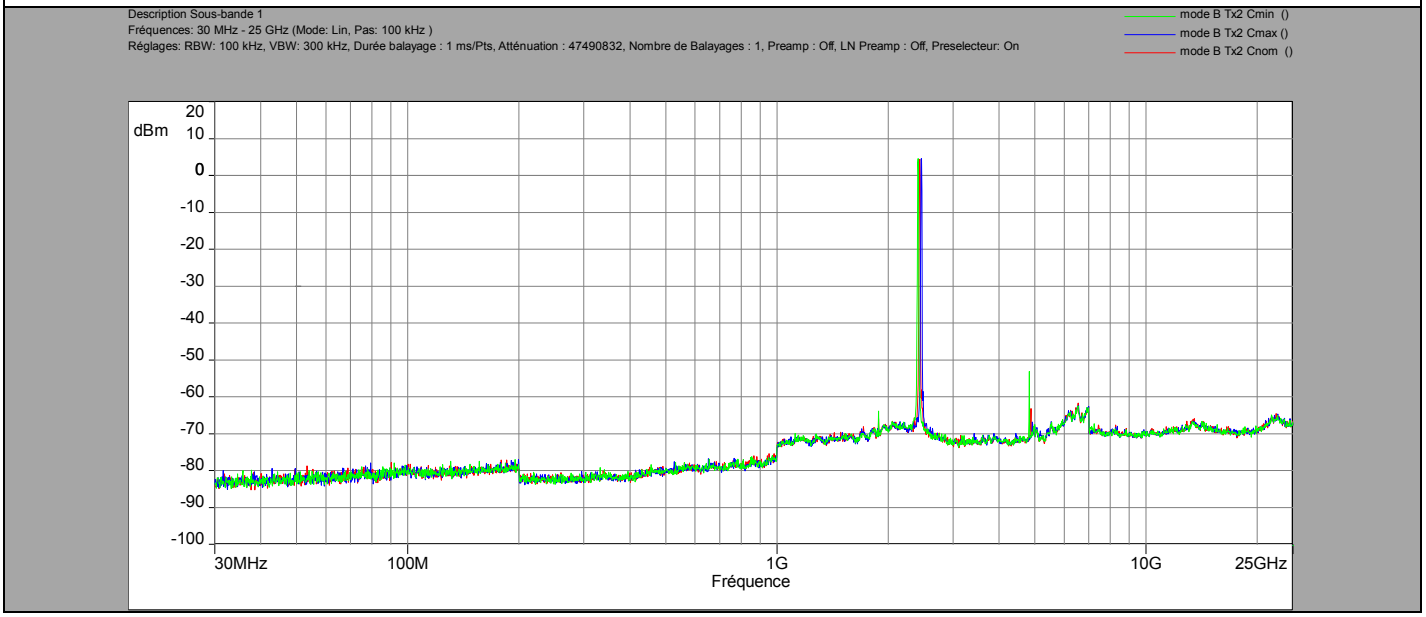
802.11b

Cmin/Cnom/Cmax

Tx1



Tx2



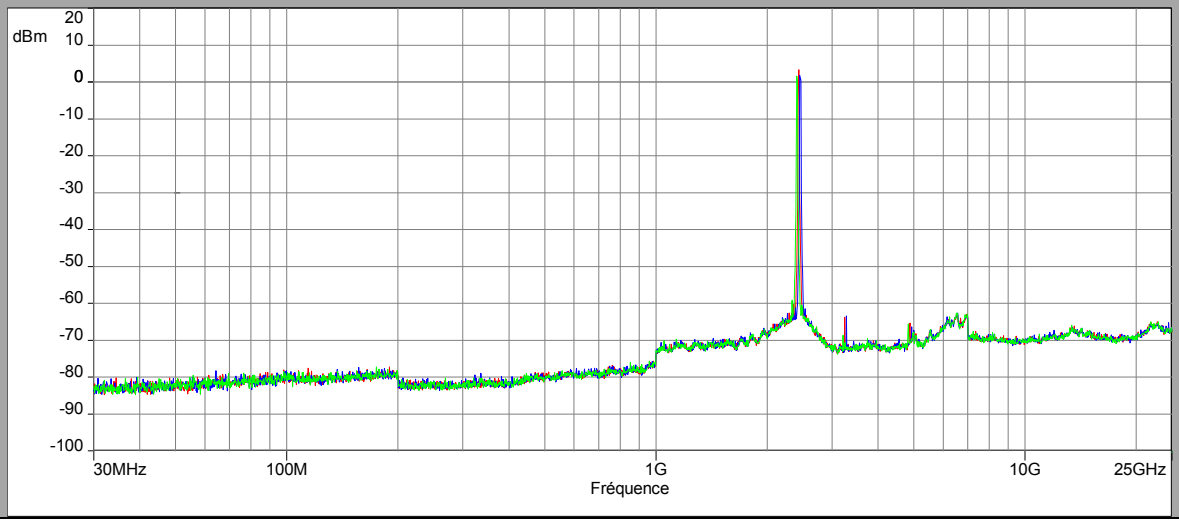
802.11g

Cmin/Cnom/Cmax

Tx1

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 : 46115144, Nombre de Balayages : 1, Preamp : Off, LN Preamp : Off, Preselecteur: On

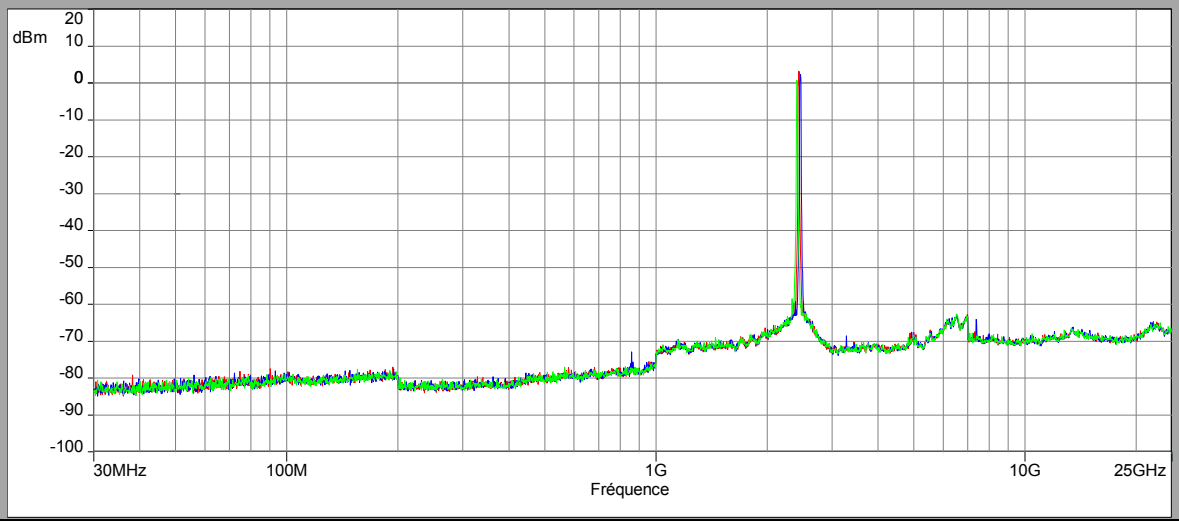
Unwanted Emission mode G Tx1 Cmin - Mes.Peak (81) ()
Unwanted Emission mode G Tx1 Cmax - Mes.Peak (83) ()
Unwanted Emission mode G Tx1 Cnom - Mes.Peak (82) ()



Tx2

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 : 43960112, Nombre de Balayages : 1, Preamp : Off, LN Preamp : Off, Preselecteur: On

mode G Tx2 Cmin ()
mode G Tx2 Cmax ()
mode G Tx2 Cnom ()



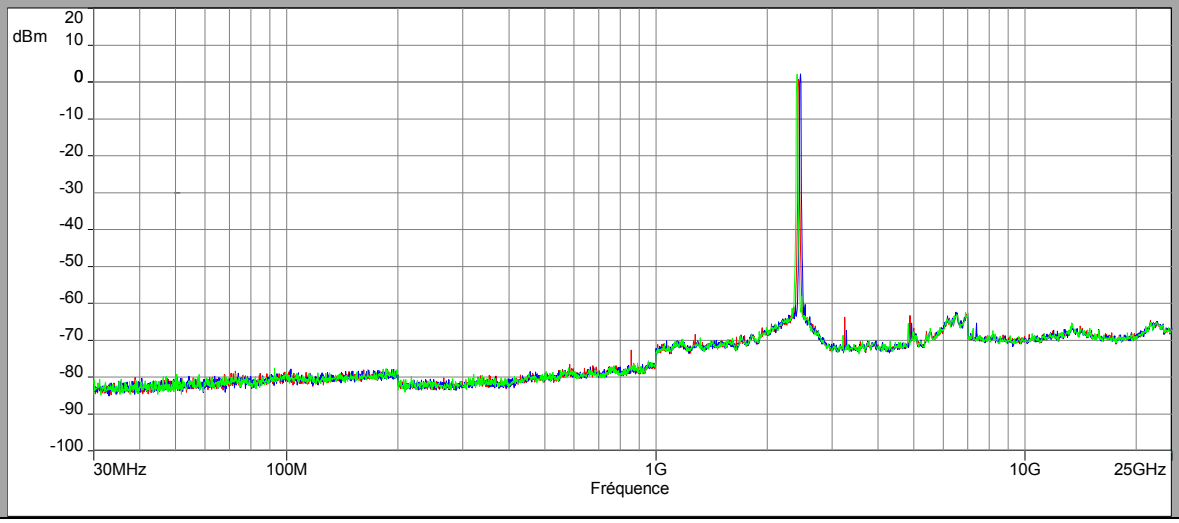
802.11n HT20

Cmin/Cnom/Cmax

Tx1

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 : 197621584, Nombre de Balayages : 1, Preamp : Off, LN Preamp : Off, Preselecteur: On

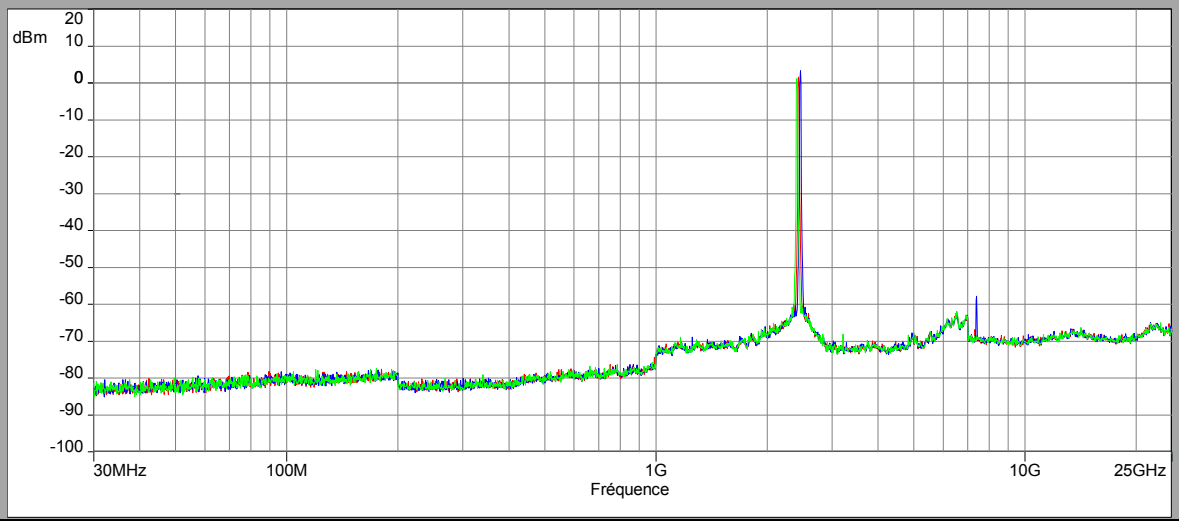
Unwanted Emission mode nHT20 Tx1 Cmin - Mes.Peak (84) ()
Unwanted Emission mode nHT20 Tx1 Cmax - Mes.Peak (86) ()
Unwanted Emission mode nHT20 Tx1 Cnom - Mes.Peak (85) ()



Tx2

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 : 44363120, Nombre de Balayages : 1, Preamp : Off, LN Preamp : Off, Preselecteur: On

mode nHT20 Tx2 Cmin ()
mode nHT20 Tx2 Cmax ()
mode nHT20 Tx2 Cnom ()



802.11b			
Frequency (MHz)	Level (dBm)	Level (dBc)	Limit (dBc)
2412	3,91		
3216	-61,08	64,99	30
4824	-60,37	64,27	30
7235	-65,47	69,38	30
2437	4,05		
3249	-64,96	69,01	30
4874	-50,65	54,70	30
7309	-65,09	69,14	30
2462	4,573		
3422	-69,92	74,49	30
4923	-66,87	71,44	30
8367	-68,02	72,60	30

802.11g			
Frequency (MHz)	Level (dBm)	Level (dBc)	Limit (dBc)
2412	1,61		
3216	-68,62	70,24	30
4824	-65,61	67,22	30
6888	-63,06	64,67	30
2437	3,32		
3249	-63,73	67,05	30
4873	-65,36	68,68	30
6693	-63,96	67,28	30
2462	1,83		
3283	-63,47	65,30	30
4924	-66,36	68,20	30
6156	-63,67	65,51	30

802.11n HT20			
Frequency (MHz)	Level (dBm)	Level (dBc)	Limit (dBc)
2412	2,09		
3216	-68,62	70,71	30
4825	-65,49	67,57	30
6900	-62,55	64,64	30
2437	0,75		
3249	-63,73	64,48	30
4874	-63,26	-64,01	30
6950	-62,92	63,67	30
2462	2,18		
3283	-67,34	69,52	30
4921	-65,35	67,53	30
7389	-65,33	67,51	30

9.6. 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.

10. AC POWER LINE CONDUCTED EMISSIONS

10.1. TEST CONDITIONS

Test performed by	: Laurent DENEUX
Date of test	: September 19, 2016
Ambient temperature	: 20°C
Relative humidity	: 47%

10.2. 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.

10.3. 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

10.4. 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
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	-	-	-	

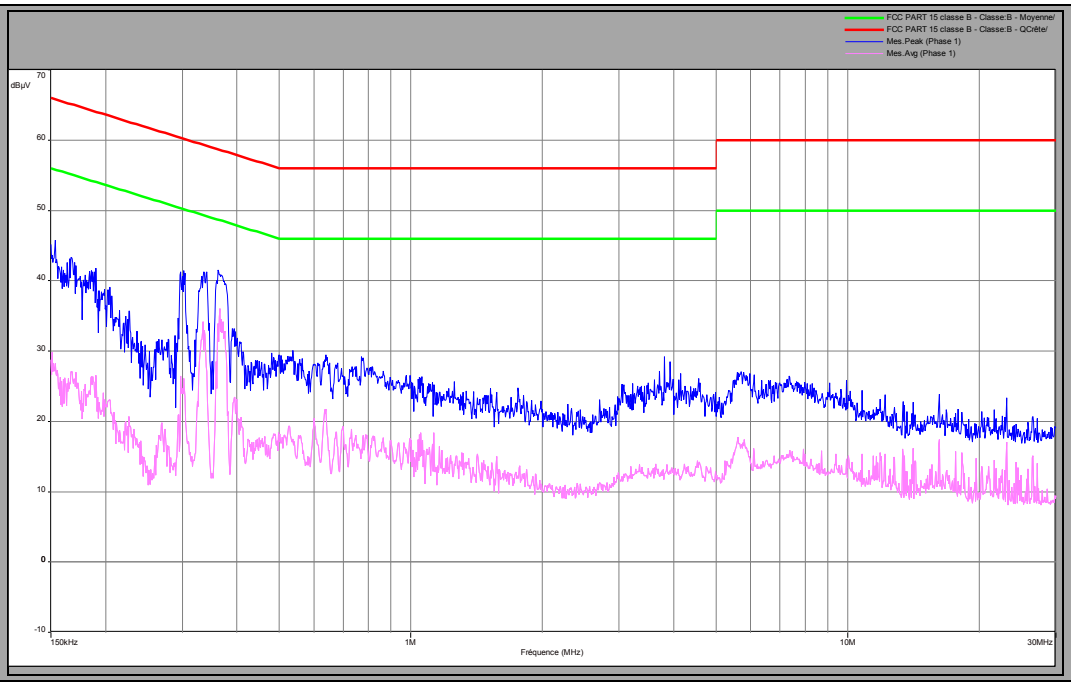
Note: In our quality system, the test equipment calibration due is more & less 2 months

10.5. DIVERGENCE, ADDITION OR SUPPRESSION ON THE TEST SPECIFICATION

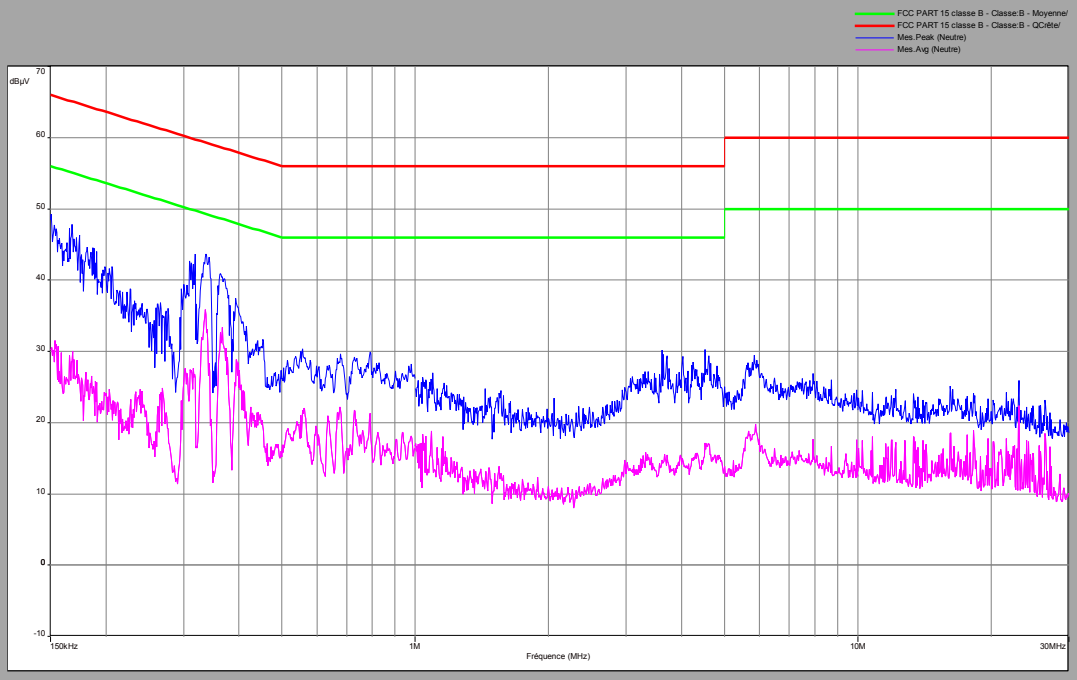
☑ None ☐ Divergence:

10.6. RESULTS

Mode
Channel
Phase



Line



Phase Line					
Frequency (MHz)	Peak Level (dBµV)	Quasi-Peak Level (dBµV)	Quasi-Peak Limit (dBµV)	Average Level (dBµV)	Average Limit (dBµV)
0.153	45.7	-	65.8	28.	55.8
0.361	41.5	-	58.7	36	48.7
0.638	29.4	-	56	21.8	46
6.11	26.5	-	60	16.2	50
23.13	23.3	-	60	17	50

Neutral Line					
Frequency (MHz)	Peak Level (dBµV)	Quasi-Peak Level (dBµV)	Quasi-Peak Limit (dBµV)	Average Level (dBµV)	Average Limit (dBµV)
0.167	47.8	-	65	31.5	55
0.337	43.6	-	59.3	35.8	49.3
0.678	29.6	-	56	22.2	46
5.842	29.4	-	60	20	50
23.128	26	-	60	22.4	50

10.7. 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.

11. UNWANTED EMISSIONS

11.1. TEST CONDITIONS

Test performed by	: Laurent DENEUX
Date of test	: September 21, 2016 to September 23, 2016
Ambient temperature	: 22°C
Relative humidity	: 51%

11.2. 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.

11.3. LIMIT

Limit at 3m:

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

11.4. 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

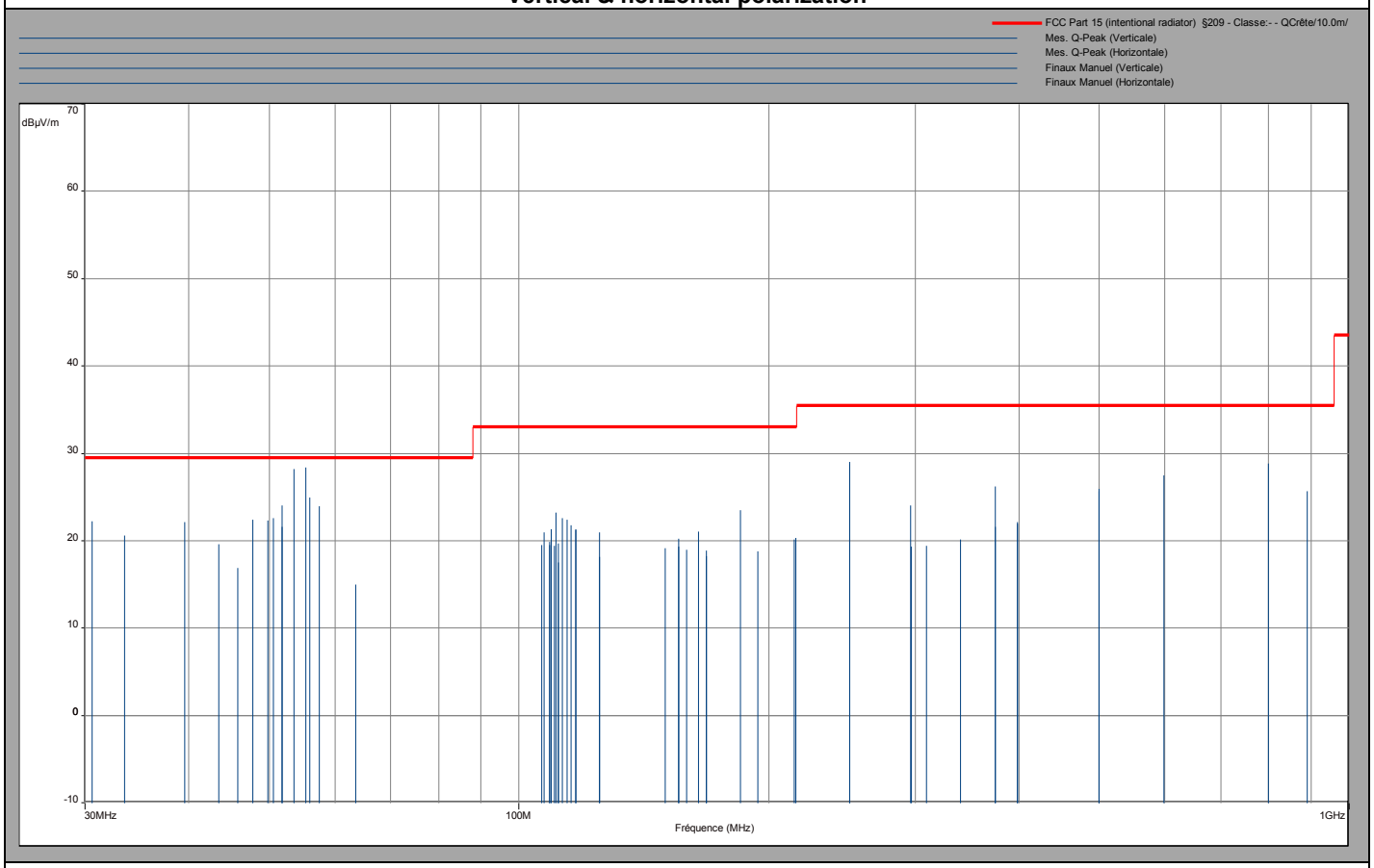
Note: In our quality system, the test equipment calibration due is more & less 2 months

11.5. DIVERGENCE, ADDITION OR SUPPRESSION ON THE TEST SPECIFICATION

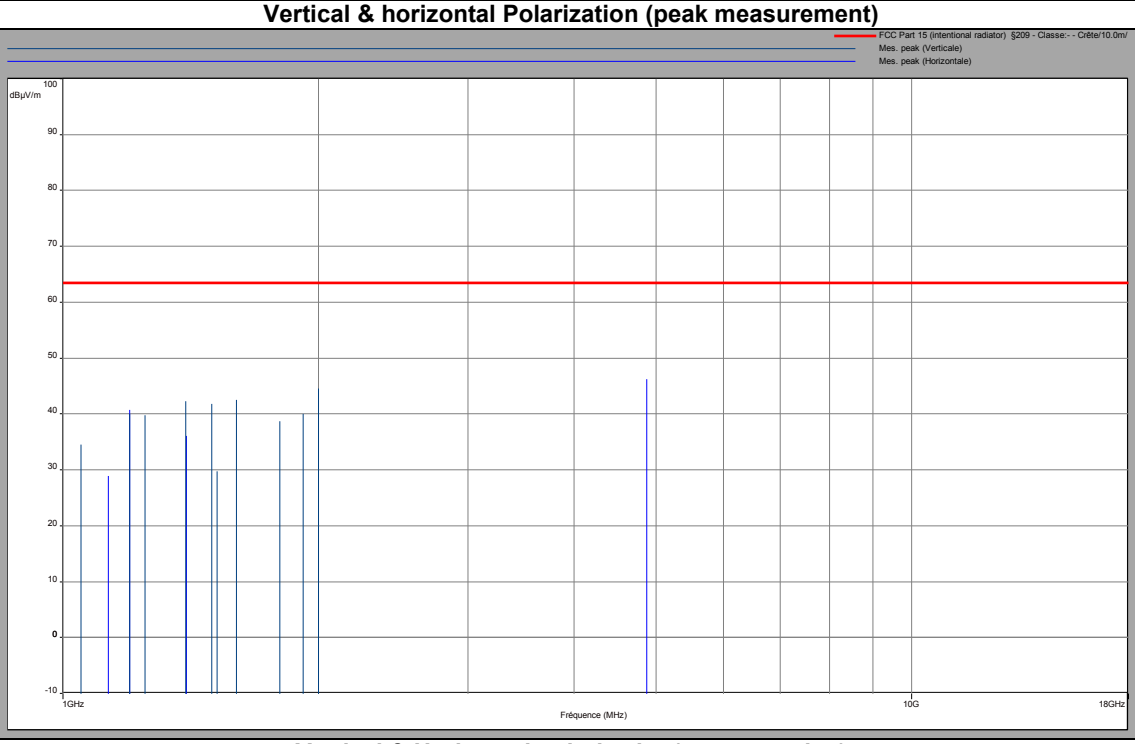
☑ None ☐ Divergence:

11.6. RESULTS

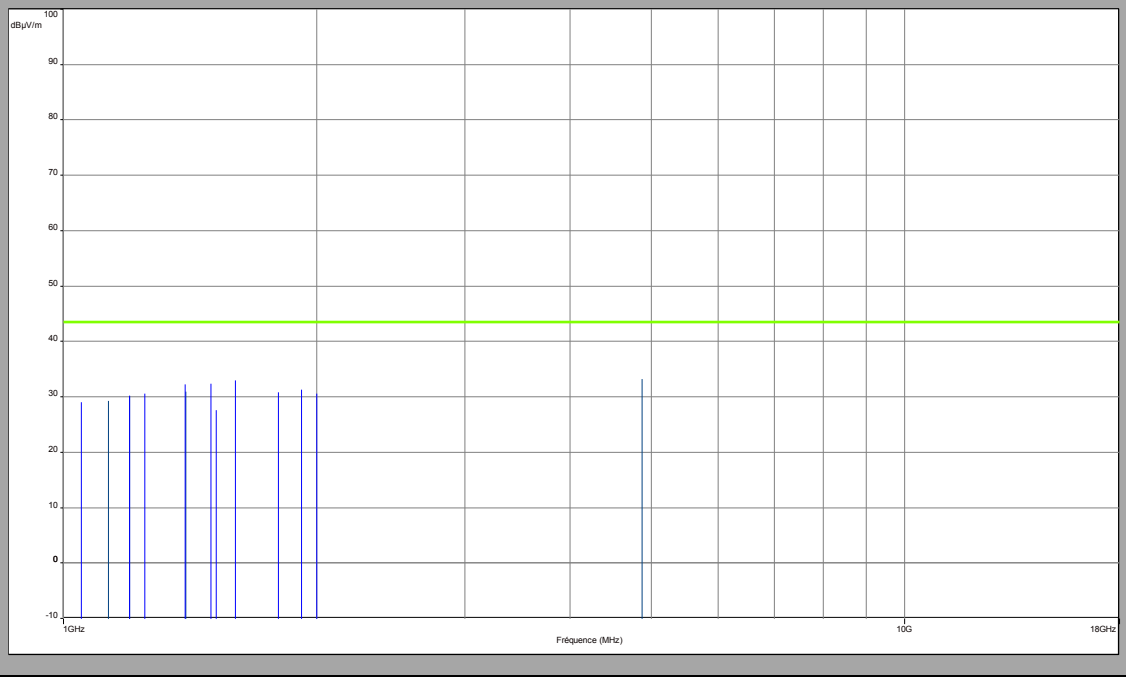
802.11b / 802.11G / 802.11n HT20
Cnom
Below 1GHz
Vertical & horizontal polarization



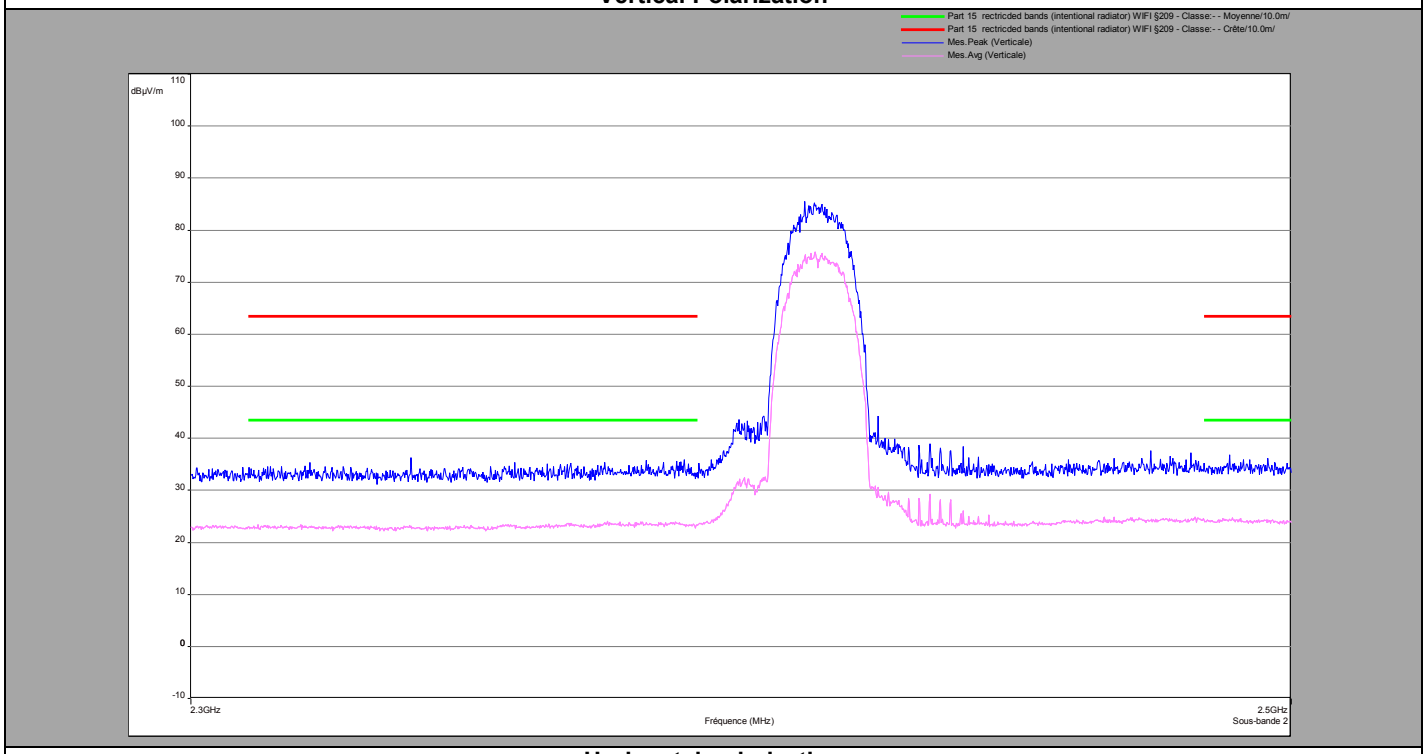
802.11b / 802.11G / 802.11n HT20
Cnom
Above 1GHz
Vertical & horizontal Polarization (peak measurement)



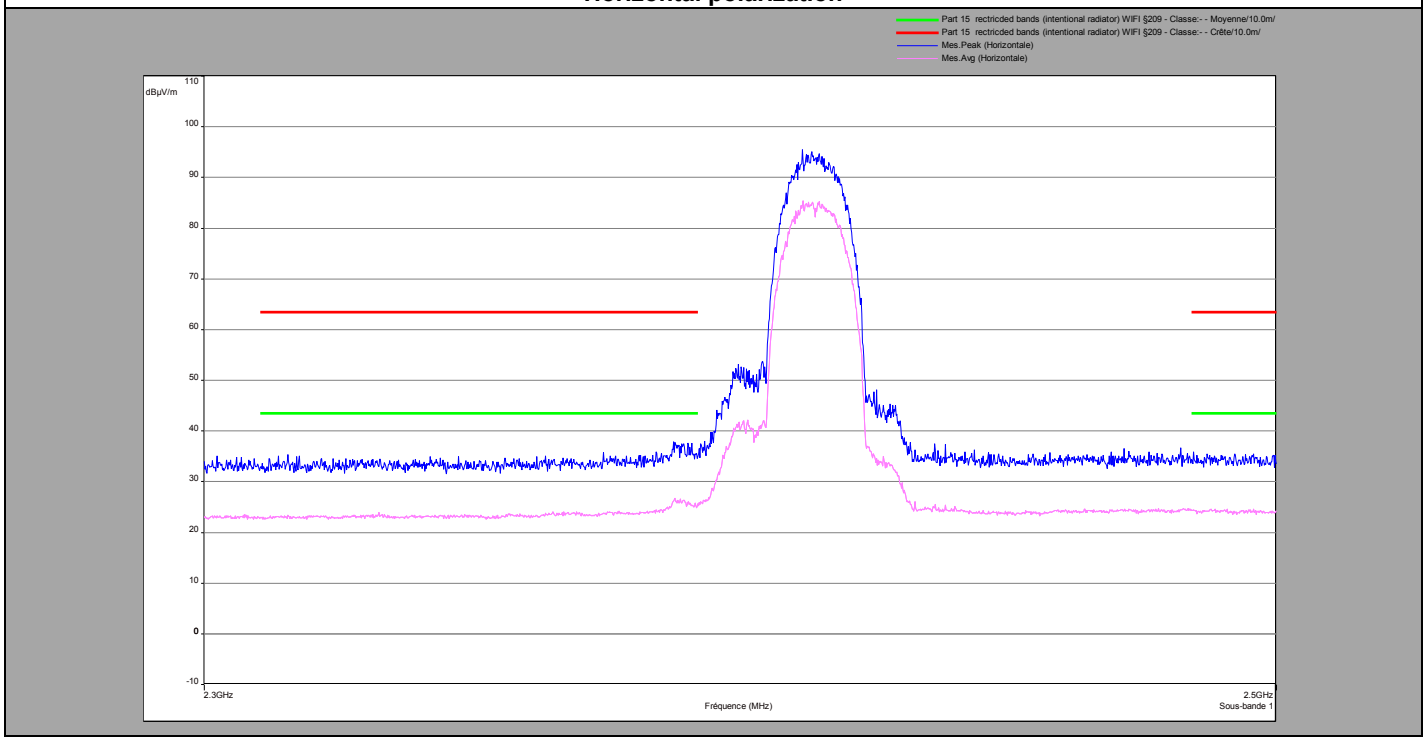
Vertical & Horizontal polarization(average value)



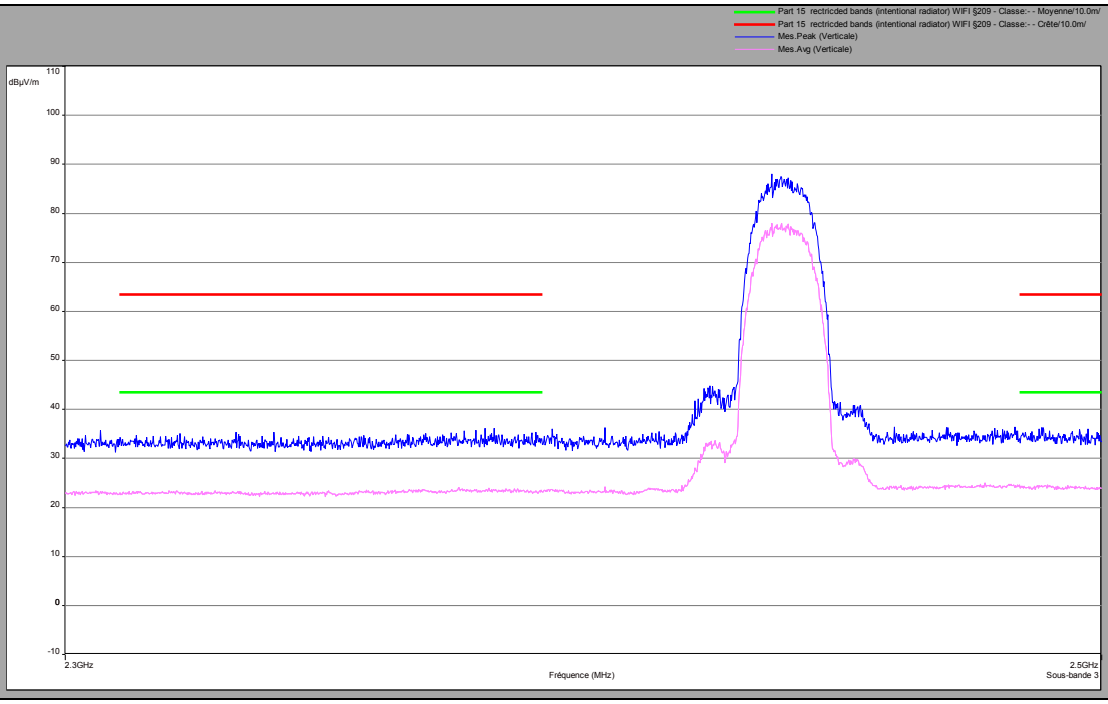
802.11b
Cmin
Zoom 2310MHz-2500MHz
Vertical Polarization



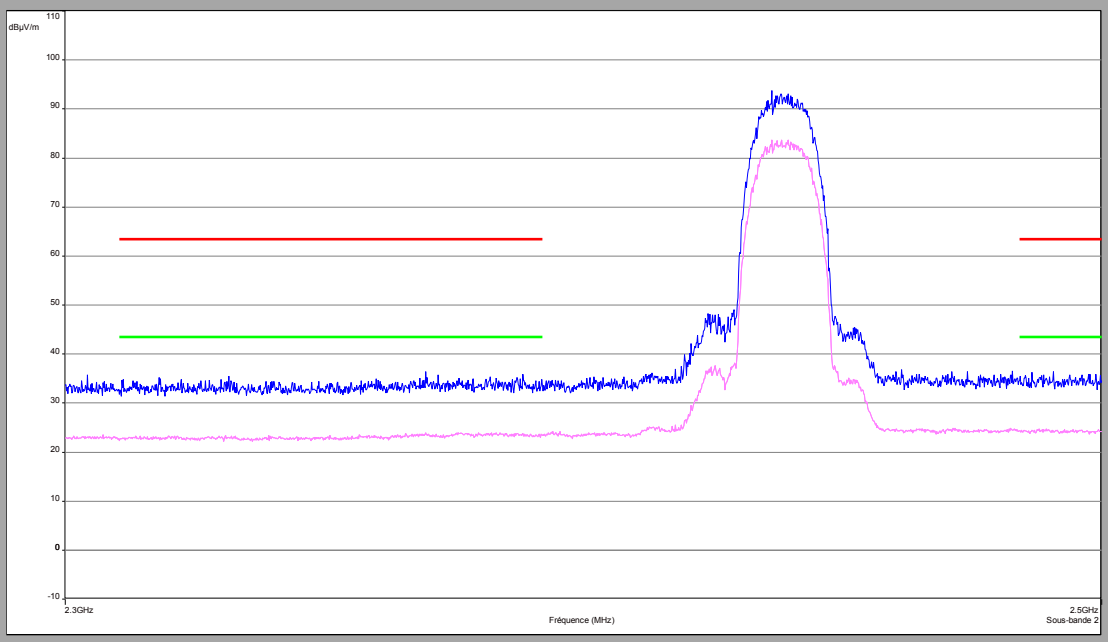
Horizontal polarization



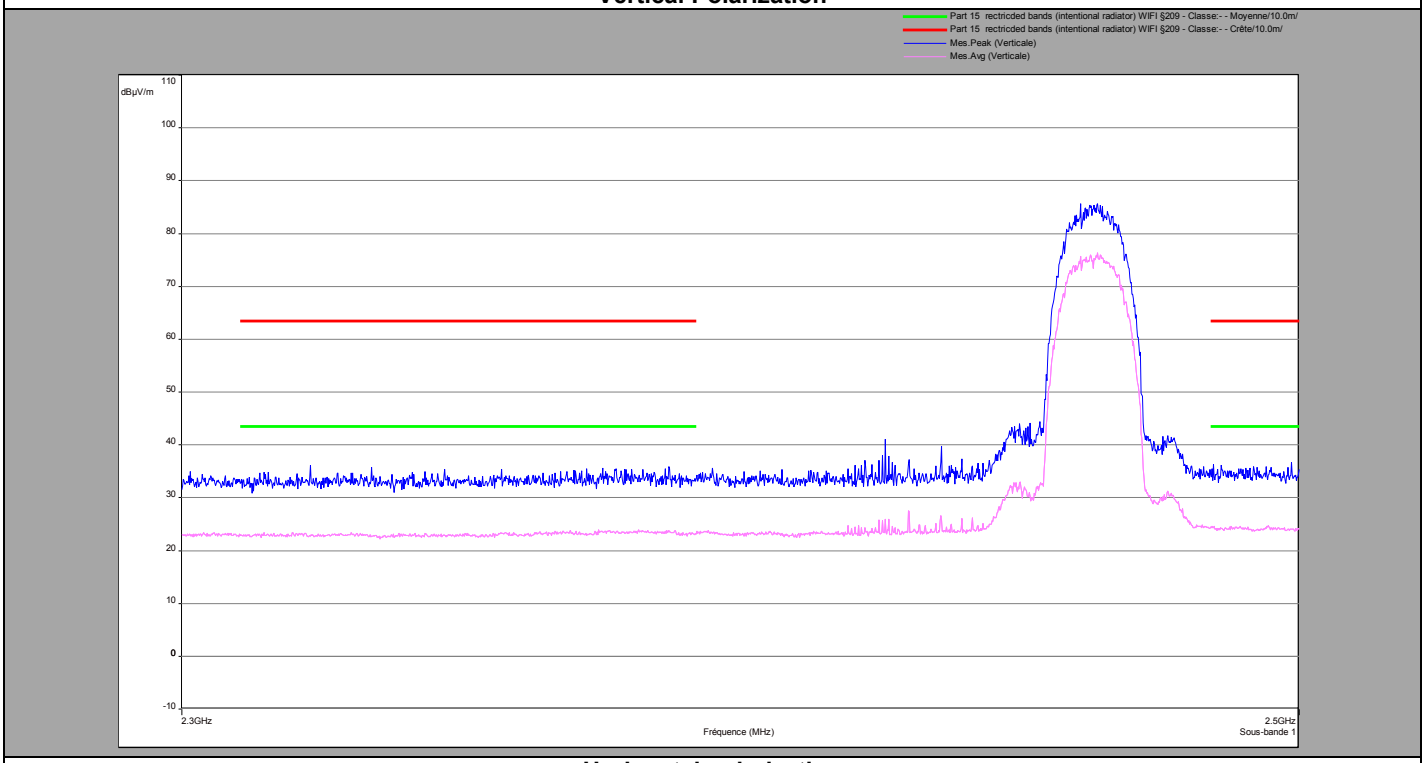
802.11b
Cnom
Zoom 2310MHz-2500MHz
Vertical Polarization



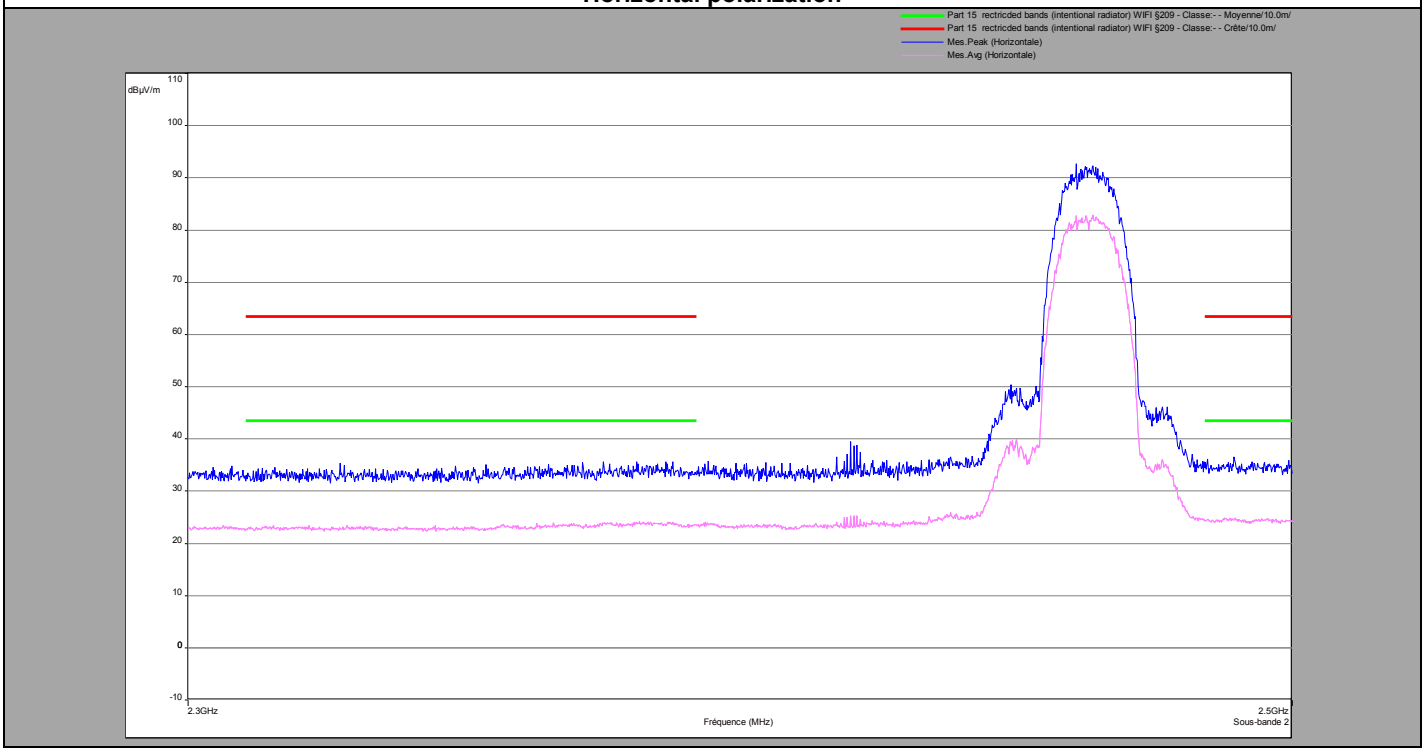
Horizontal polarization



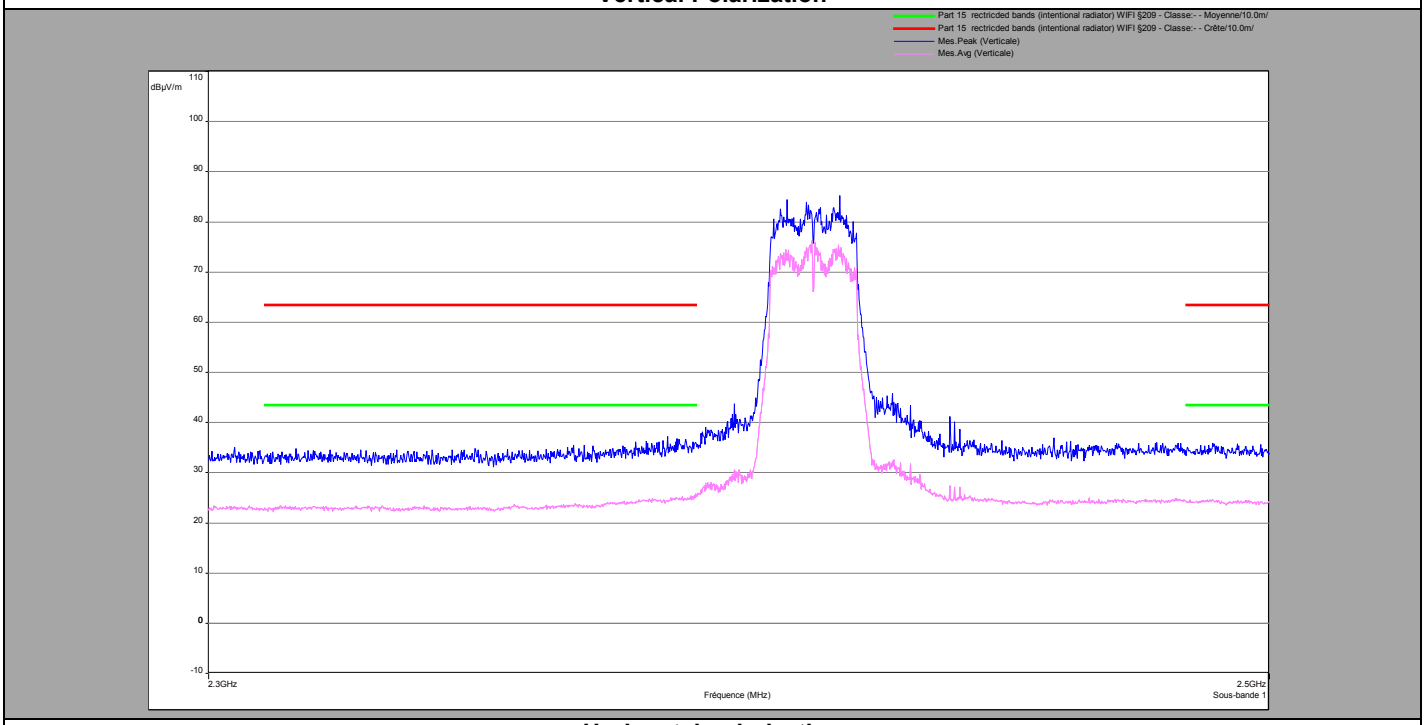
802.11b
Cmax
Zoom 2310MHz-2500MHz
Vertical Polarization



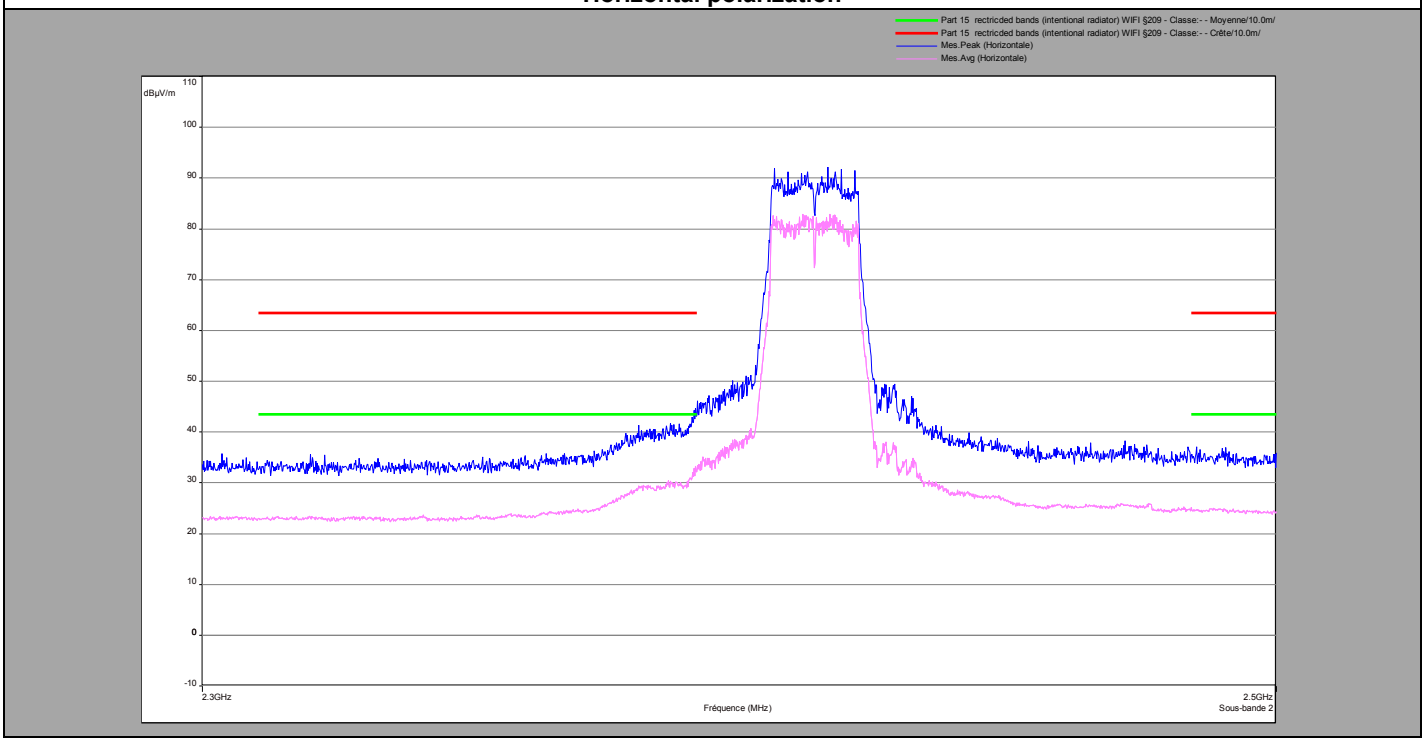
Horizontal polarization



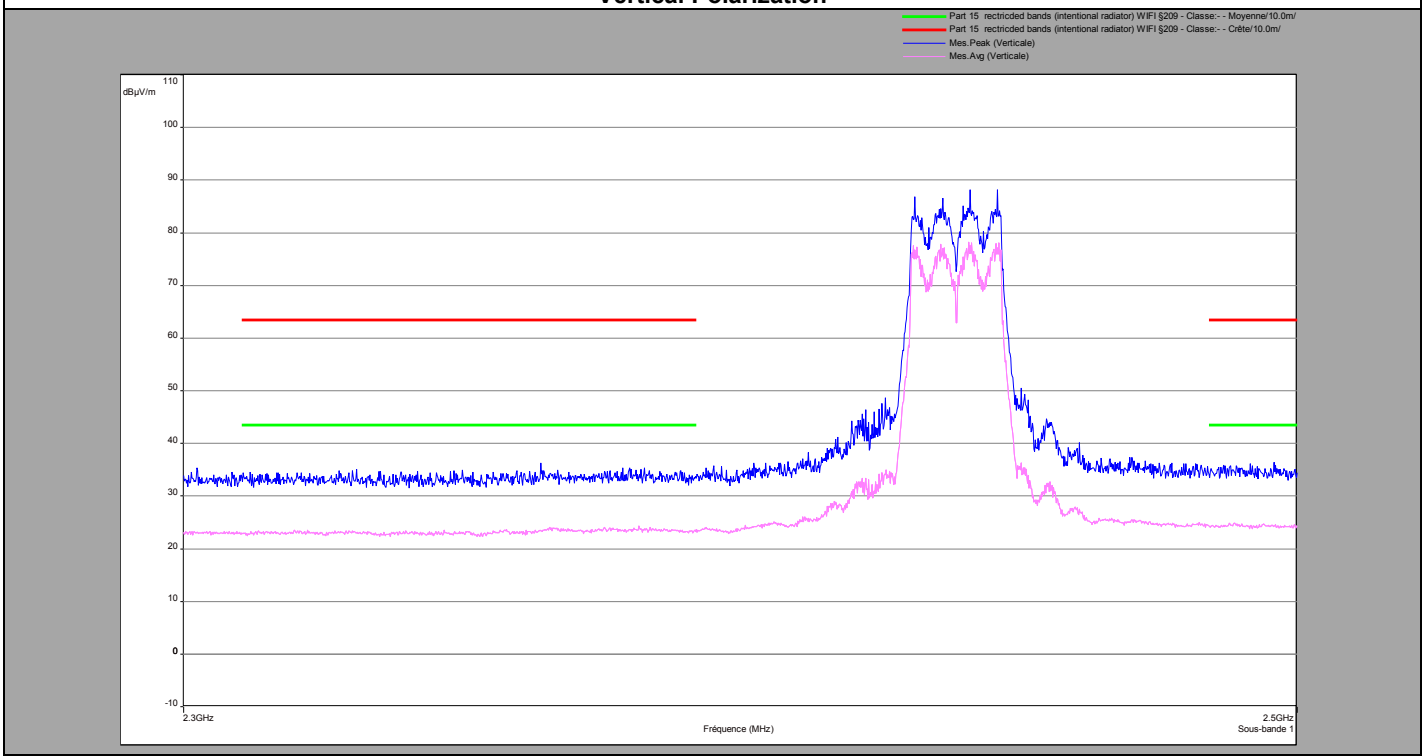
802.11g
Cmin
Zoom 2310MHz-2500MHz
Vertical Polarization



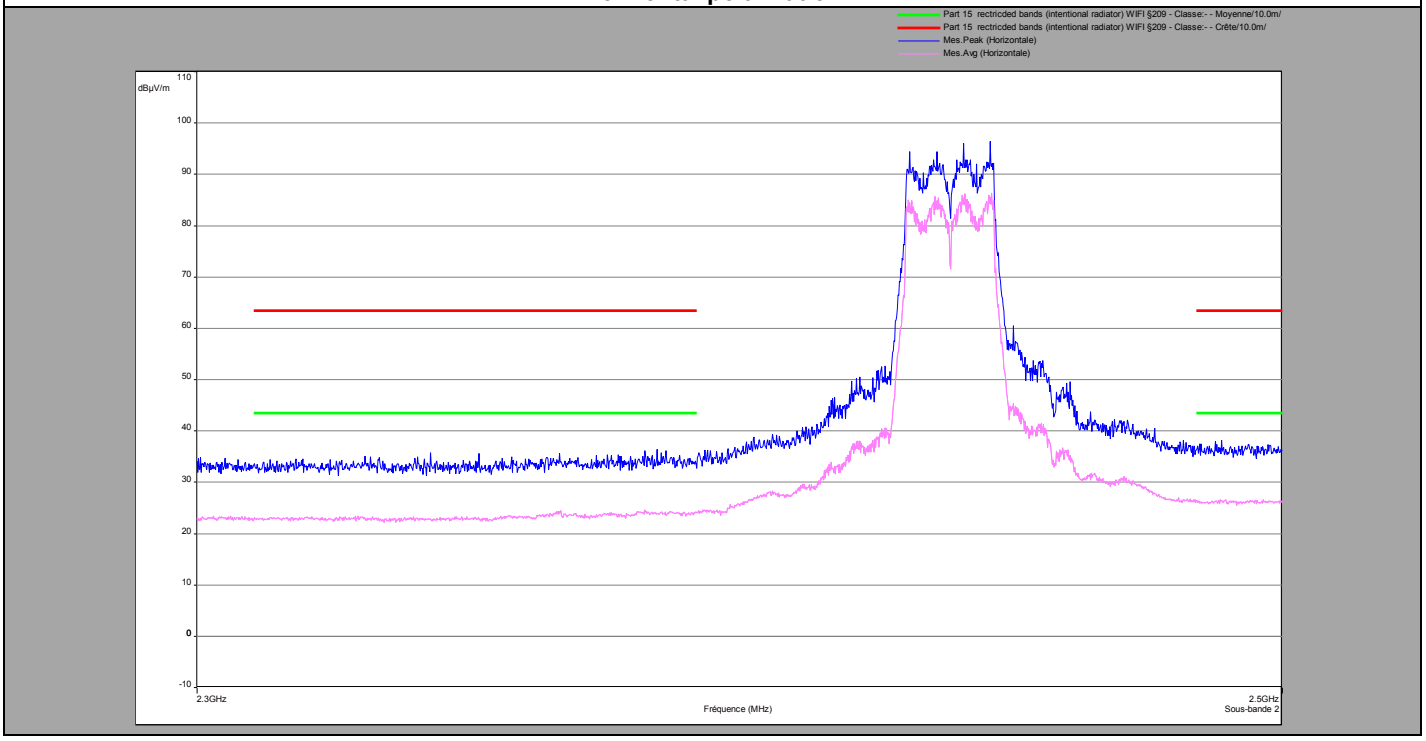
Horizontal polarization



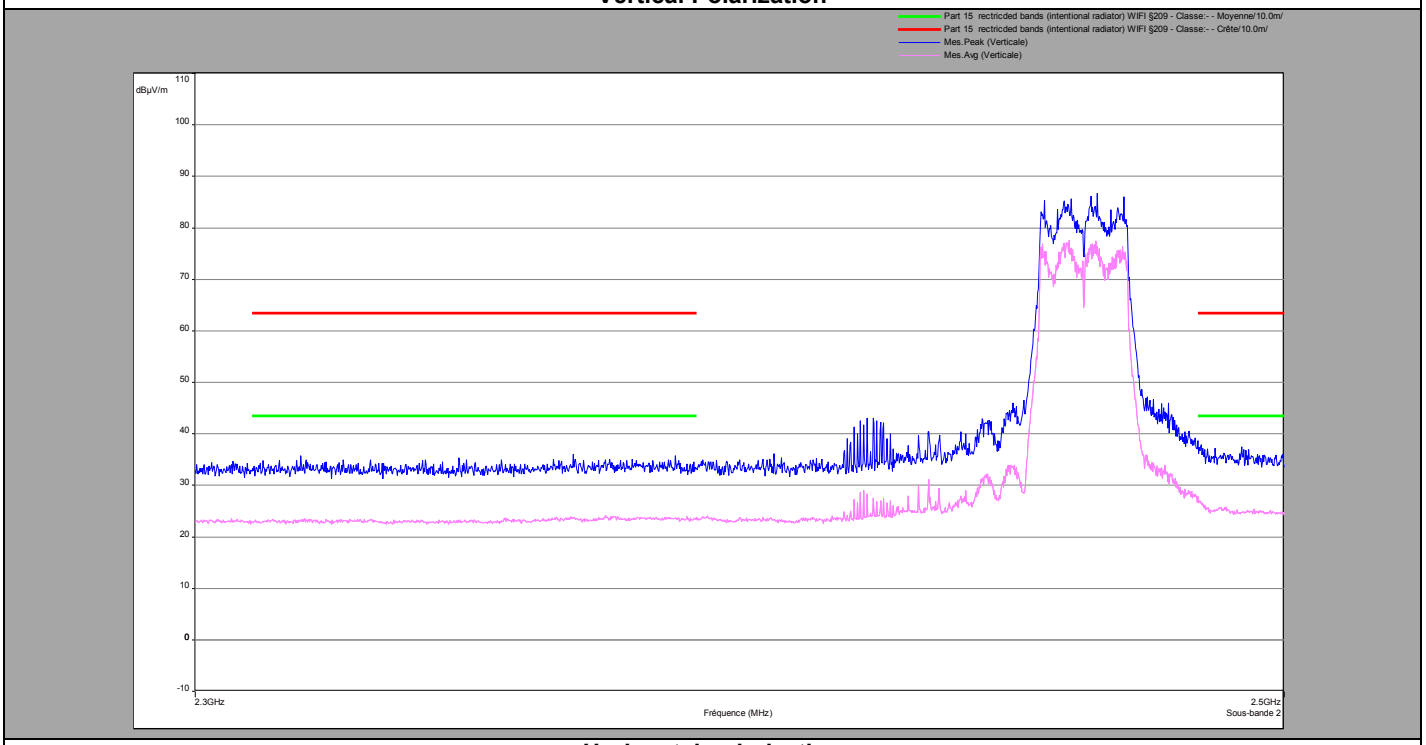
802.11g
Cnom
Zoom 2310MHz-2500MHz
Vertical Polarization



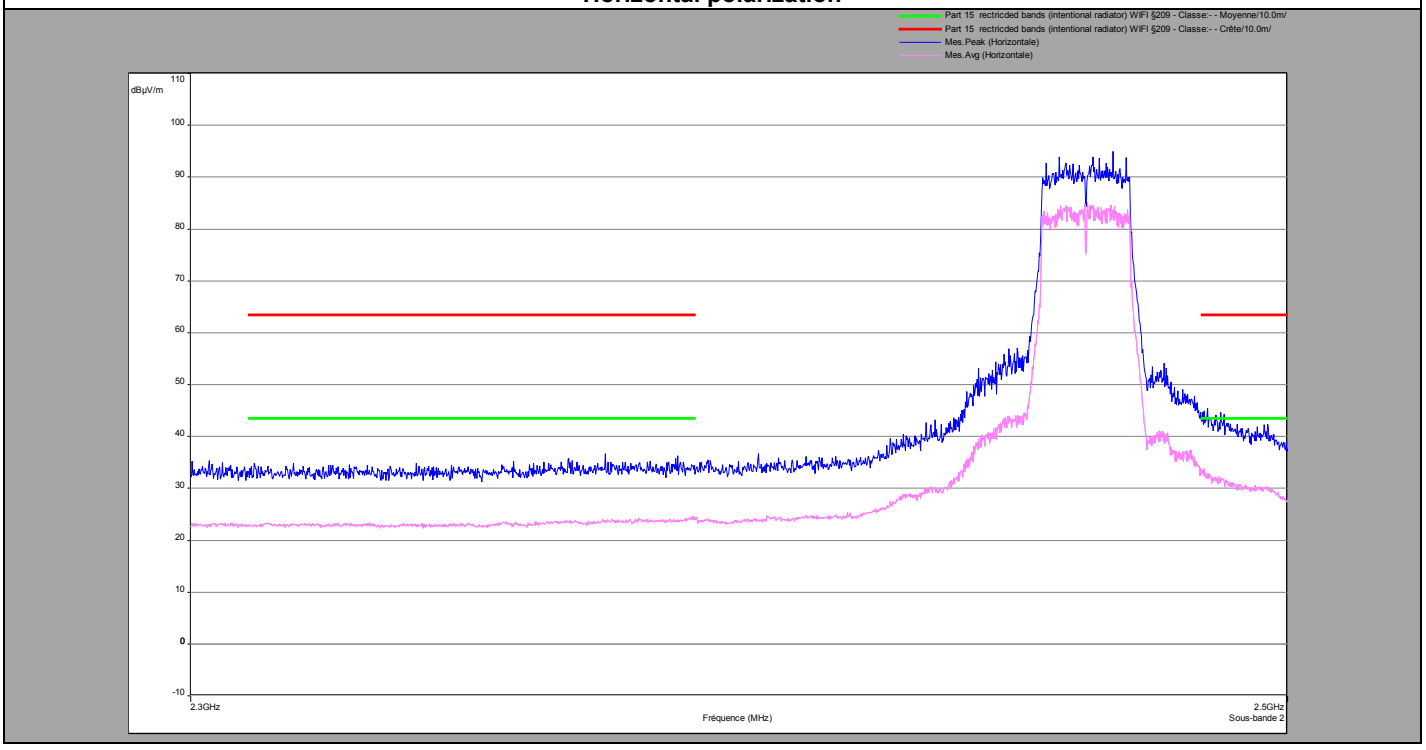
Horizontal polarization



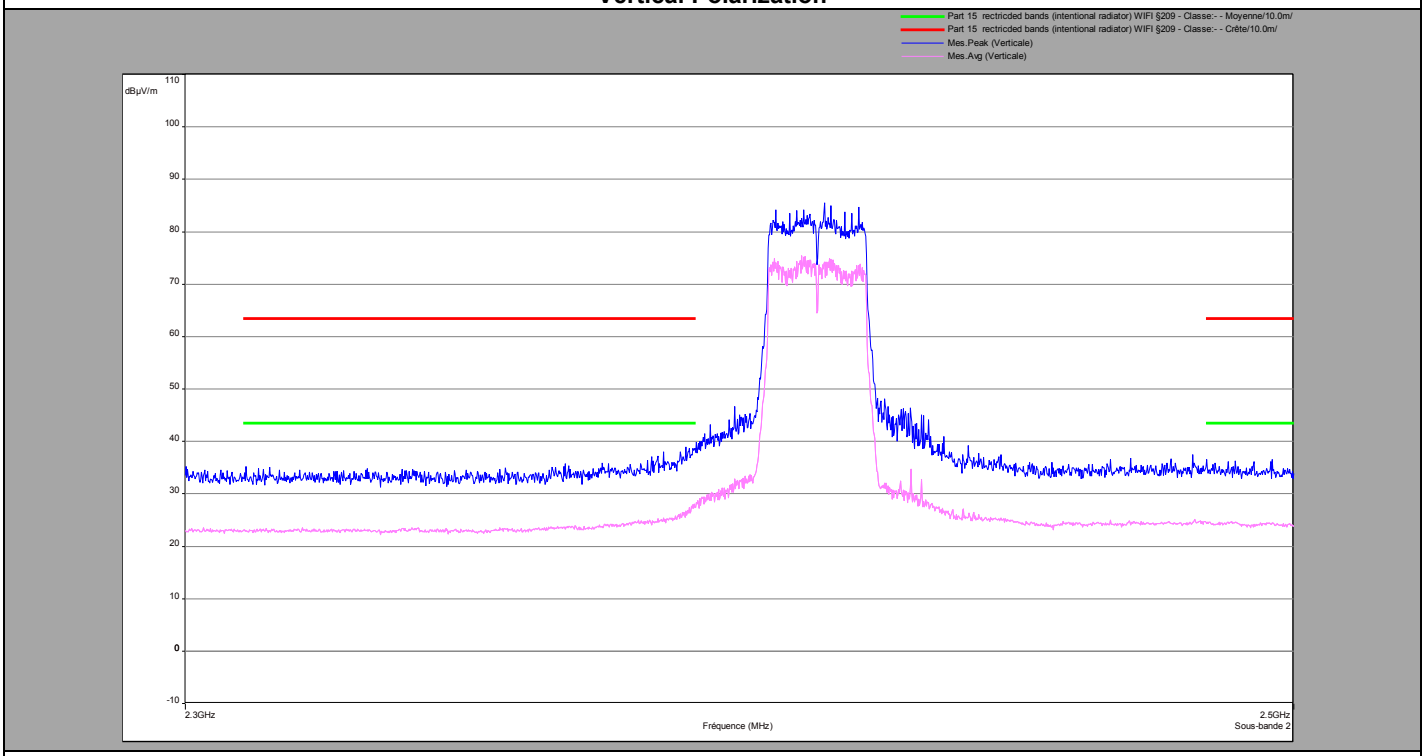
802.11g
Cmax
Zoom 2310MHz-2500MHz
Vertical Polarization



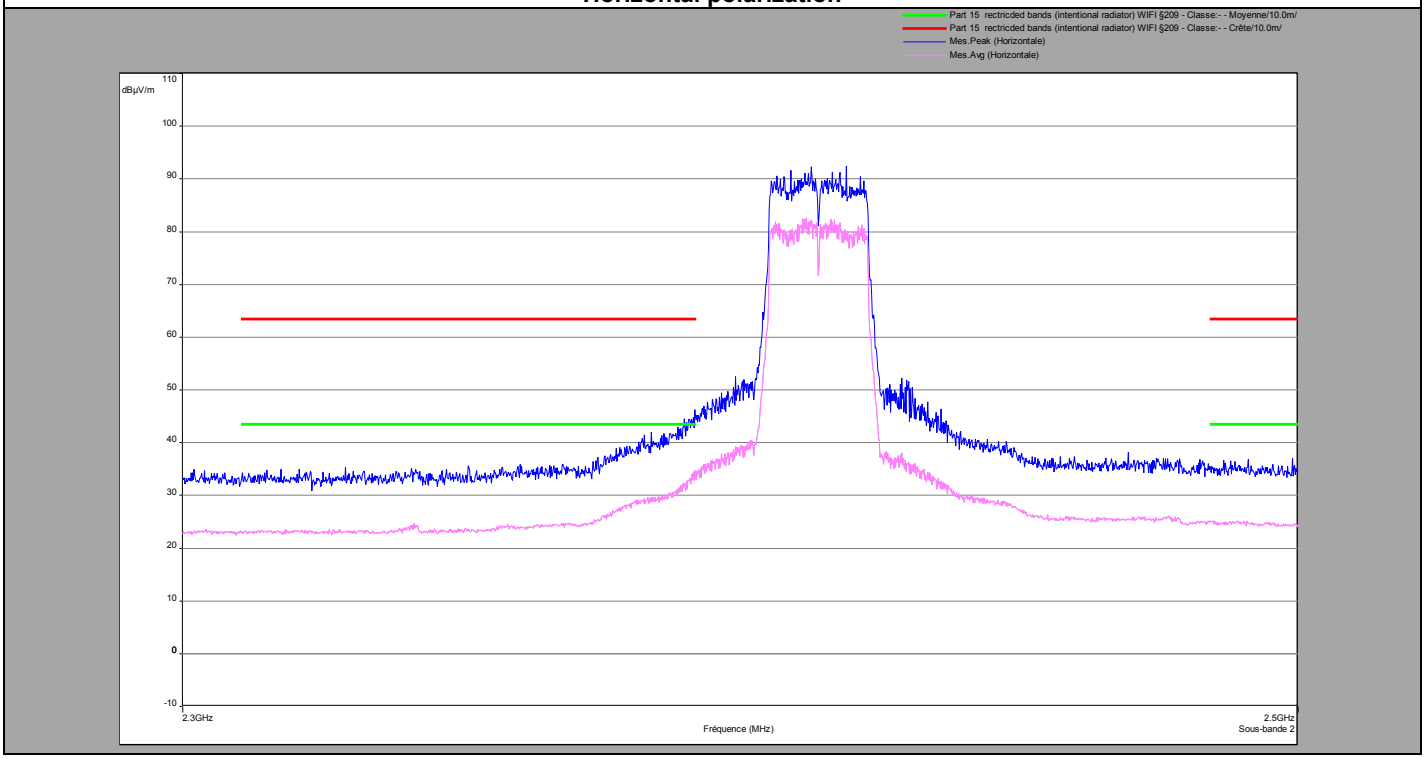
Horizontal polarization



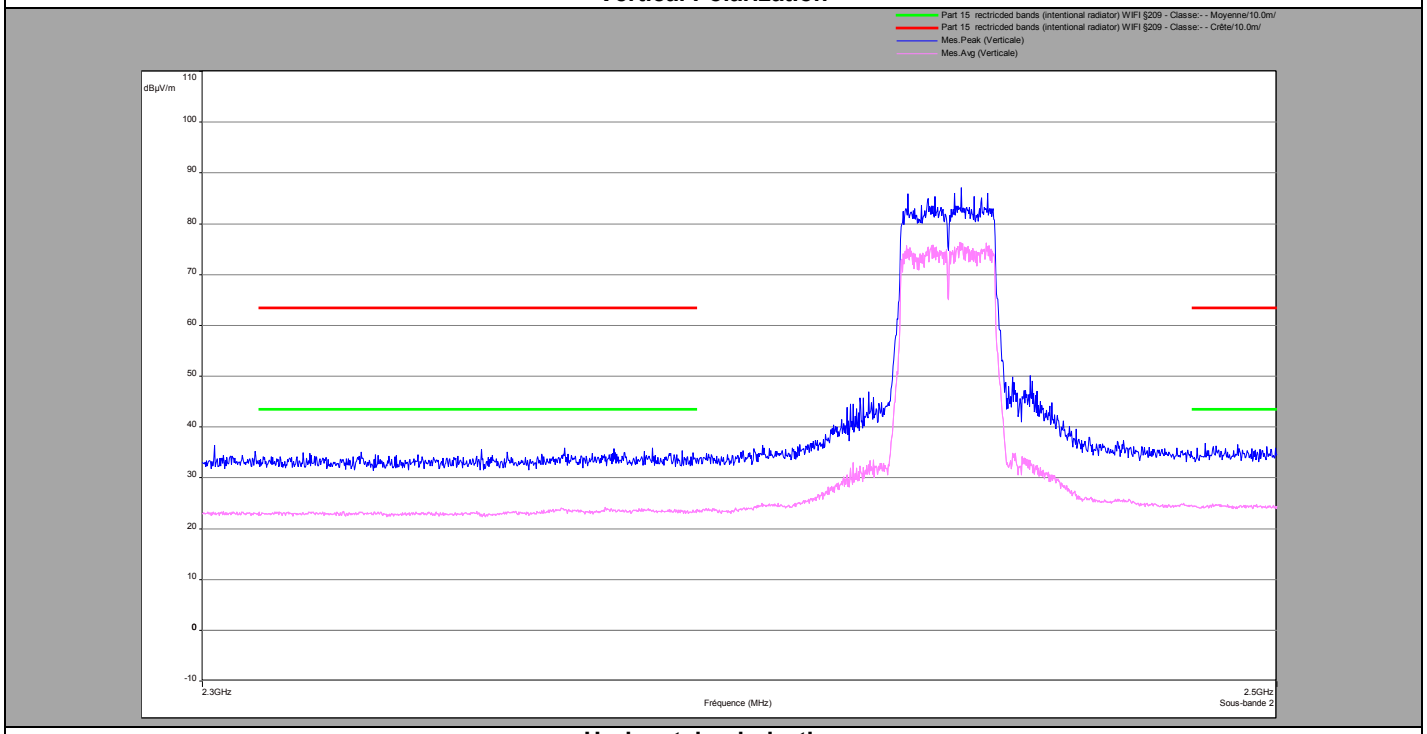
802.11n HT20
Cmin
Zoom 2310MHz-2500MHz
Vertical Polarization



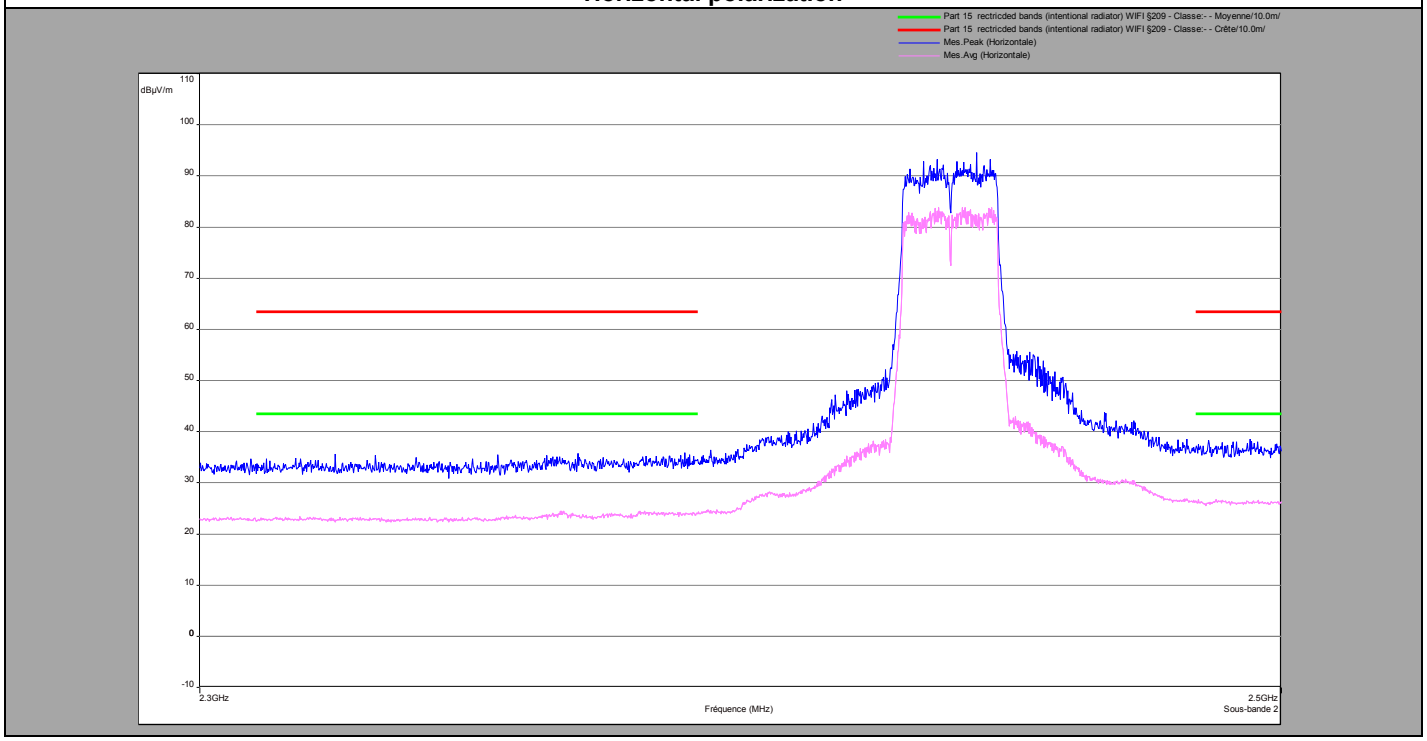
Horizontal polarization



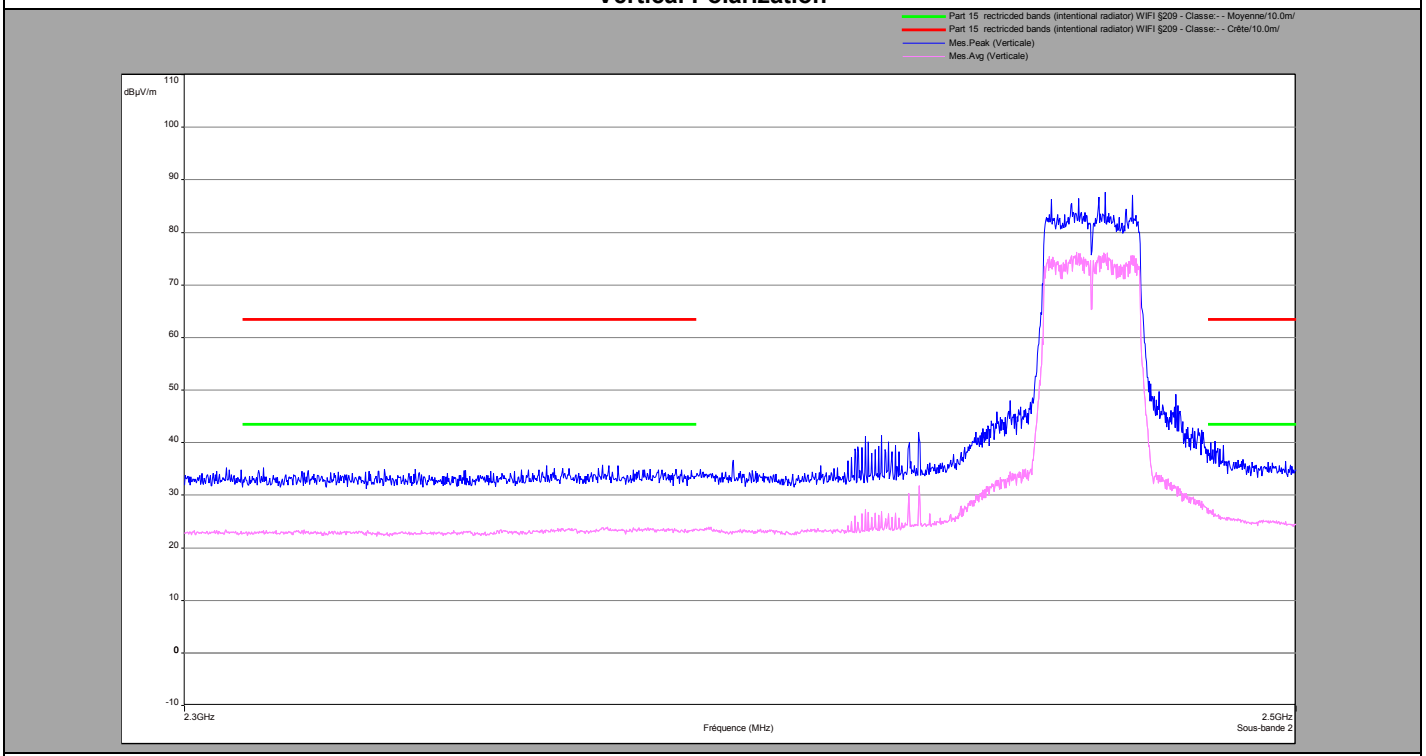
802.11n HT20
Cnom
Above 1GHz
Vertical Polarization



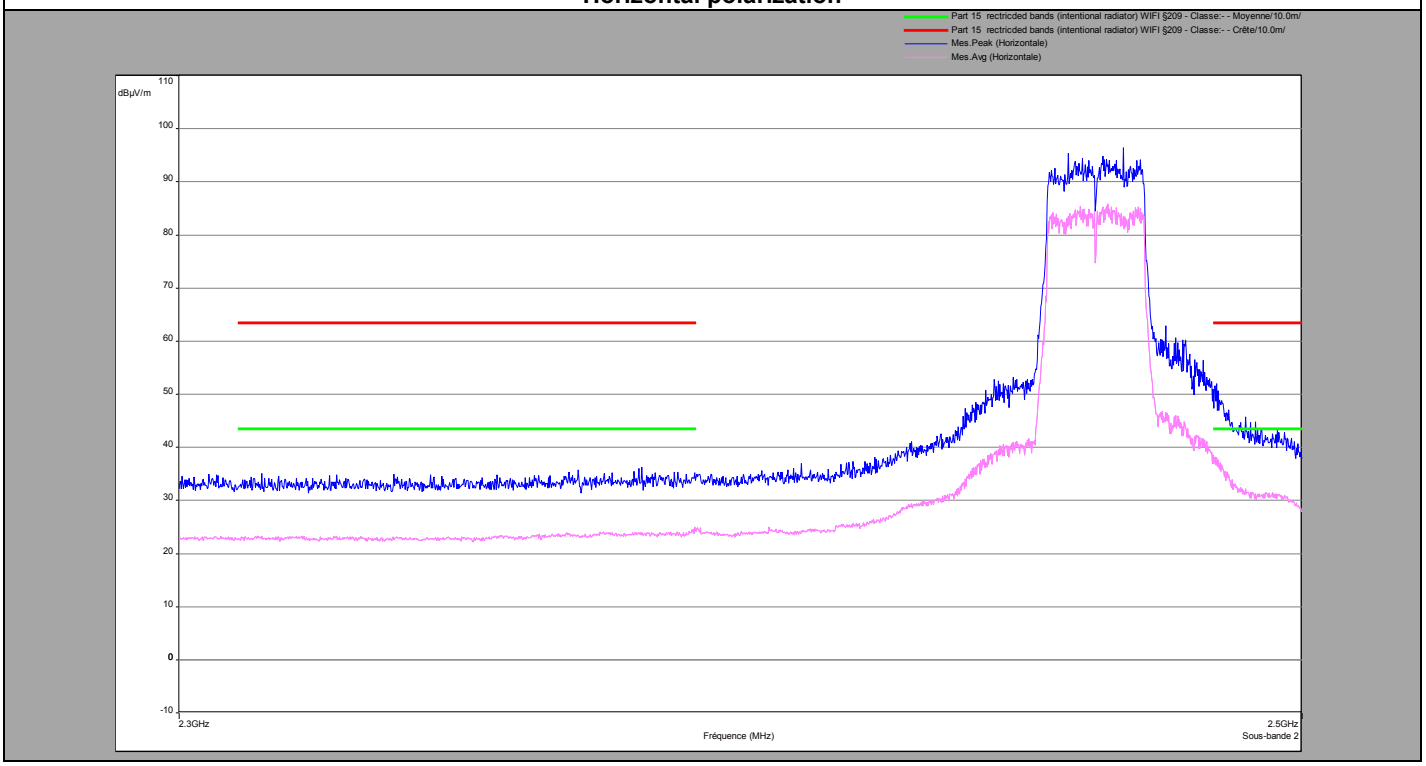
Horizontal polarization



802.11n HT20
Cmax
Zoom 2310MHz-2500MHz
Vertical Polarization



Horizontal polarization



Below 1GHz			
Polarization	**Frequency (MHz)**	**QPeak Level (dBµV/m)**	**Limit (dBµV/m)**
Vertical	30.6	22.27	29.5
Vertical	33.5	20.67	29.5
Vertical	39.6	22.14	29.5
Vertical	43.5	19.67	29.5
Vertical	45.8	16.89	29.5
Vertical	47.8	22.45	29.5
Vertical	49.8	22.31	29.5
Vertical	50.6	22.64	29.5
Vertical	51.8	21.61	29.5
Vertical	51.8	24.1	29.5
Vertical	53.6	28.23	29.5
Vertical	55.3	28.41	29.5
Vertical	56	25	29.5
Vertical	57.5	23.93	29.5
Vertical	63.6	14.97	29.5
Vertical	106.6	19.52	33
Vertical	107.3	20.96	33
Vertical	108.8	19.88	33
Vertical	109.4	21.38	33
Vertical	110.3	19.41	33
Vertical	110.9	23.21	33
Vertical	111.6	19.71	33
Vertical	112.8	22.62	33
Vertical	114.2	22.45	33
Vertical	115.6	21.84	33
Vertical	117.1	21.35	33
Vertical	117.1	21.28	33
Vertical	125	20.96	33
Vertical	150	19.13	33
Vertical	155.6	19.32	33
Vertical	159.1	18.99	33
Vertical	164.5	21.04	33
Vertical	168	18.91	33
Vertical	185	23.56	33
Vertical	194	18.81	33
Vertical	215.4	20.33	33
Vertical	250	29.02	35.5
Vertical	297	19.36	35.5
Vertical	309.5	19.43	35.5
Vertical	340	20.15	35.5
Vertical	375	21.62	35.5
Vertical	398.3	22.18	35.5
Vertical	500	25.94	35.5
Vertical	598	27.53	35.5
Vertical	800	28.84	35.5
Vertical	891.1	25.66	35.5

Below 1GHz			
Polarization	**Frequency (MHz)**	**QPeak Level (dBµV/m)**	**Limit (dBµV/m)**
Horizontal	108.8	19.57	33
Horizontal	111.6	17.53	33
Horizontal	125	18.15	33
Horizontal	155.6	20.28	33
Horizontal	168	18.29	33
Horizontal	214.7	20.13	33
Horizontal	250	28.82	35.5
Horizontal	296.3	24.05	35.5
Horizontal	375	26.21	35.5
Horizontal	398.4	21.98	35.5
Horizontal	500	25.74	35.5

802.11b						
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	1049,9	29,02	35,23	43.5	34.49	63.5
Vertical	1197,7	30,29	36,5	43.5	40.09	63.5
Vertical	1250	30,64	36,85	43.5	39.77	63.5
Vertical	1395,3	32,26	38,47	43.5	42.36	63.5
Vertical	1497	32,46	38,67	43.5	41.89	63.5
Vertical	1520,3	27,65	33,86	43.5	29.81	63.5
Vertical	1600	32,94	39,15	43.5	42.58	63.5
Vertical	1800	30,8	37,01	43.5	38.77	63.5
Vertical	1920	31,36	37,57	43.5	40.03	63.5
Vertical	2000	30,57	36,78	43.5	44.63	63.5
Vertical	2390	24,4	30,61	43.5	35.2	63.5
Vertical	2483,5	24,2	30,41	43.5	36.7	63.5
Horizontal	1130,3	29,29	35,5	43.5	29.91	63.5
Horizontal	1198,1	30,12	36,33	43.5	40.76	63.5
Horizontal	1397,4	30,95	37,16	43.5	36.13	63.5
Horizontal	2390	24,3	30,51	43.5	37.6	63.5
Horizontal	2483,5	24,4	30,61	43.5	36	63.5
Horizontal	4824	33,28	39,49	43.5	46.29	63.5

802.11b						
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	1049,9	29,02	35,23	43.5	34.49	63.5
Vertical	1197,7	30,29	36,5	43.5	40.09	63.5
Vertical	1250	30,64	36,85	43.5	39.77	63.5
Vertical	1395,3	32,26	38,47	43.5	42.36	63.5
Vertical	1497	32,46	38,67	43.5	41.89	63.5
Vertical	1520,3	27,65	33,86	43.5	29.81	63.5
Vertical	1600	32,94	39,15	43.5	42.58	63.5
Vertical	1800	30,8	37,01	43.5	38.77	63.5
Vertical	1920	31,36	37,57	43.5	40.03	63.5
Vertical	2000	30,57	36,78	43.5	44.63	63.5
Vertical	2390	23,5	29,71	43.5	35.4	63.5
Vertical	2483,5	24	30,21	43.5	36.3	63.5
Horizontal	1130,3	29,29	35,5	43.5	29.91	63.5
Horizontal	1198,1	30,12	36,33	43.5	40.76	63.5
Horizontal	1397,4	30,95	37,16	43.5	36.13	63.5
Horizontal	2390	24	30,21	43.5	35.8	63.5
Horizontal	2483,5	24,4	30,61	43.5	36.3	63.5
Horizontal	4874	32,65	38,86	43.5	47.31	63.5

802.11b						
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	1049,9	29,02	35,23	43.5	34.49	63.5
Vertical	1197,7	30,29	36,5	43.5	40.09	63.5
Vertical	1250	30,64	36,85	43.5	39.77	63.5
Vertical	1395,3	32,26	38,47	43.5	42.36	63.5
Vertical	1497	32,46	38,67	43.5	41.89	63.5
Vertical	1520,3	27,65	33,86	43.5	29.81	63.5
Vertical	1600	32,94	39,15	43.5	42.58	63.5
Vertical	1800	30,8	37,01	43.5	38.77	63.5
Vertical	1920	31,36	37,57	43.5	40.03	63.5
Vertical	2000	30,57	36,78	43.5	44.63	63.5
Vertical	2390	24,5	30,71	43.5	35.5	63.5
Vertical	2483,5	24,6	30,81	43.5	36.3	63.5
Horizontal	1130,3	29,29	35,5	43.5	29.91	63.5
Horizontal	1198,1	30,12	36,33	43.5	40.76	63.5
Horizontal	1397,4	30,95	37,16	43.5	36.13	63.5
Horizontal	2390	24	30,21	43.5	35.6	63.5
Horizontal	2483,5	24,4	30,61	43.5	36.5	63.5
Horizontal	4924	34,12	40,33	43.5	46.84	63.5

802.11g						
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	1049,9	29,02	33,61	43.5	34.49	63.5
Vertical	1197,7	30,29	34,88	43.5	40.09	63.5
Vertical	1250	30,64	35,23	43.5	39.77	63.5
Vertical	1395,3	32,26	36,85	43.5	42.36	63.5
Vertical	1497	32,46	37,05	43.5	41.89	63.5
Vertical	1520,3	27,65	32,24	43.5	29.81	63.5
Vertical	1600	32,94	37,53	43.5	42.58	63.5
Vertical	1800	30,8	35,39	43.5	38.77	63.5
Vertical	1920	31,36	35,95	43.5	40.03	63.5
Vertical	2000	30,57	35,16	43.5	44.63	63.5
Vertical	2390	25	29,59	43.5	36.7	63.5
Vertical	2483,5	24,5	29,09	43.5	35.8	63.5
Horizontal	1130,3	29,29	33,88	43.5	29.91	63.5
Horizontal	1198,1	30,12	34,71	43.5	40.76	63.5
Horizontal	1397,4	30,95	35,54	43.5	36.13	63.5
Horizontal	2390	31	35,59	43.5	43	63.5
Horizontal	2483,5	24,7	29,29	43.5	37.1	63.5
Horizontal	4824	33,28	37,87	43.5	46.29	63.5

802.11g						
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	1049,9	29,02	33,61	43.5	34.49	63.5
Vertical	1197,7	30,29	34,88	43.5	40.09	63.5
Vertical	1250	30,64	35,23	43.5	39.77	63.5
Vertical	1395,3	32,26	36,85	43.5	42.36	63.5
Vertical	1497	32,46	37,05	43.5	41.89	63.5
Vertical	1520,3	27,65	32,24	43.5	29.81	63.5
Vertical	1600	32,94	37,53	43.5	42.58	63.5
Vertical	1800	30,8	35,39	43.5	38.77	63.5
Vertical	1920	31,36	35,95	43.5	40.03	63.5
Vertical	2000	30,57	35,16	43.5	44.63	63.5
Vertical	2390	24,2	28,79	43.5	34.8	63.5
Vertical	2483,5	24,4	28,99	43.5	35.6	63.5
Horizontal	1130,3	29,29	33,88	43.5	29.91	63.5
Horizontal	1198,1	30,12	34,71	43.5	40.76	63.5
Horizontal	1397,4	30,95	35,54	43.5	36.13	63.5
Horizontal	2390	24,4	28,99	43.5	35.7	63.5
Horizontal	2483,5	26,3	30,89	43.5	38	63.5
Horizontal	4874	32,65	37,24	43.5	47.31	63.5

802.11g						
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	1049,9	29,02	33,61	43.5	34.49	63.5
Vertical	1197,7	30,29	34,88	43.5	40.09	63.5
Vertical	1250	30,64	35,23	43.5	39.77	63.5
Vertical	1395,3	32,26	36,85	43.5	42.36	63.5
Vertical	1497	32,46	37,05	43.5	41.89	63.5
Vertical	1520,3	27,65	32,24	43.5	29.81	63.5
Vertical	1600	32,94	37,53	43.5	42.58	63.5
Vertical	1800	30,8	35,39	43.5	38.77	63.5
Vertical	1920	31,36	35,95	43.5	40.03	63.5
Vertical	2000	30,57	35,16	43.5	44.63	63.5
Vertical	2390	24,7	29,29	43.5	35.7	63.5
Vertical	2483,5	27,7	32,29	43.5	38.6	63.5
Horizontal	1130,3	29,29	33,88	43.5	29.91	63.5
Horizontal	1198,1	30,12	34,71	43.5	40.76	63.5
Horizontal	1397,4	30,95	35,54	43.5	36.13	63.5
Horizontal	2390	24	28,59	43.5	36.3	63.5
Horizontal	2483,5	32,2	36,79	43.5	45.4	63.5
Horizontal	4924	34,12	38,71	43.5	46.84	63.5

802.11n HT20						
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	1049,9	29,02	33,68	43.5	34.49	63.5
Vertical	1197,7	30,29	34,95	43.5	40.09	63.5
Vertical	1250	30,64	35,3	43.5	39.77	63.5
Vertical	1395,3	32,26	36,92	43.5	42.36	63.5
Vertical	1497	32,46	37,12	43.5	41.89	63.5
Vertical	1520,3	27,65	32,31	43.5	29.81	63.5
Vertical	1600	32,94	37,6	43.5	42.58	63.5
Vertical	1800	30,8	35,46	43.5	38.77	63.5
Vertical	1920	31,36	36,02	43.5	40.03	63.5
Vertical	2000	30,57	35,23	43.5	44.63	63.5
Vertical	2390	26,5	31,16	43.5	39	63.5
Vertical	2483,5	24,3	28,96	43.5	36.6	63.5
Horizontal	1130,3	29,29	33,95	43.5	29.91	63.5
Horizontal	1198,1	30,12	34,78	43.5	40.76	63.5
Horizontal	1397,4	30,95	35,61	43.5	36.13	63.5
Horizontal	2390	32,1	36,76	43.5	44.6	63.5
Horizontal	2483,5	25	29,66	43.5	36.7	63.5
Horizontal	4824	33,28	37,94	43.5	46.29	63.5

802.11n HT20						
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	1049,9	29,02	33,68	43.5	34.49	63.5
Vertical	1197,7	30,29	34,95	43.5	40.09	63.5
Vertical	1250	30,64	35,3	43.5	39.77	63.5
Vertical	1395,3	32,26	36,92	43.5	42.36	63.5
Vertical	1497	32,46	37,12	43.5	41.89	63.5
Vertical	1520,3	27,65	32,31	43.5	29.81	63.5
Vertical	1600	32,94	37,6	43.5	42.58	63.5
Vertical	1800	30,8	35,46	43.5	38.77	63.5
Vertical	1920	31,36	36,02	43.5	40.03	63.5
Vertical	2000	30,57	35,23	43.5	44.63	63.5
Vertical	2390	24,6	29,26	43.5	35	63.5
Vertical	2483,5	24,3	28,96	43.5	36	63.5
Horizontal	1130,3	29,29	33,95	43.5	29.91	63.5
Horizontal	1198,1	30,12	34,78	43.5	40.76	63.5
Horizontal	1397,4	30,95	35,61	43.5	36.13	63.5
Horizontal	2390	24	28,66	43.5	36	63.5
Horizontal	2483,5	26	30,66	43.5	37.4	63.5
Horizontal	4874	32,65	37,31	43.5	47.31	63.5

802.11n HT20					
Above 1GHz					
Cmax					
Polarization	**Frequency (MHz)**	**Average Level (dBµV/m)**	**Average Limit (dBµV/m)**	**Peak Level (dBµV/m)**	**Peak Limit (dBµV/m)**
Vertical	1049.9	29.02	43.5	34.49	63.5
Vertical	1197.7	30.29	43.5	40.09	63.5
Vertical	1250	30.64	43.5	39.77	63.5
Vertical	1395.3	32.26	43.5	42.36	63.5
Vertical	1497	32.46	43.5	41.89	63.5
Vertical	1520.3	27.65	43.5	29.81	63.5
Vertical	1600	32.94	43.5	42.58	63.5
Vertical	1800	30.8	43.5	38.77	63.5
Vertical	1920	31.36	43.5	40.03	63.5
Vertical	2000	30.57	43.5	44.63	63.5
Vertical	2390	23.4	43.5	35	63.5
Vertical	2483.5	26.5	43.5	40	63.5
Horizontal	1130.3	29.29	43.5	29.91	63.5
Horizontal	1198.1	30.12	43.5	40.76	63.5
Horizontal	1397.4	30.95	43.5	36.13	63.5
Horizontal	2390	25	43.5	35.5	63.5
Horizontal	2483.5	38	43.5	52	63.5
Horizontal	4924	34.12	43.5	46.84	63.5

802.11n HT20						
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	1049,9	29,02	33,68	43.5	34.49	63.5
Vertical	1197,7	30,29	34,95	43.5	40.09	63.5
Vertical	1250	30,64	35,3	43.5	39.77	63.5
Vertical	1395,3	32,26	36,92	43.5	42.36	63.5
Vertical	1497	32,46	37,12	43.5	41.89	63.5
Vertical	1520,3	27,65	32,31	43.5	29.81	63.5
Vertical	1600	32,94	37,6	43.5	42.58	63.5
Vertical	1800	30,8	35,46	43.5	38.77	63.5
Vertical	1920	31,36	36,02	43.5	40.03	63.5
Vertical	2000	30,57	35,23	43.5	44.63	63.5
Vertical	2390	23,4	28,06	43.5	35	63.5
Vertical	2483,5	26,5	31,16	43.5	40	63.5
Horizontal	1130,3	29,29	33,95	43.5	29.91	63.5
Horizontal	1198,1	30,12	34,78	43.5	40.76	63.5
Horizontal	1397,4	30,95	35,61	43.5	36.13	63.5
Horizontal	2390	25	29,66	43.5	35.5	63.5
Horizontal	2483,5	38	42,66	43.5	52	63.5
Horizontal	4924	34,12	38,78	43.5	46.84	63.5

11.7. *CONCLUSION*

Unwanted emissions 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. 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