



LCIE

WiFi 5GHz Template: Release April 22nd, 2016

# TEST REPORT

N°: 144014-691281-E

Version : 02

## Subject

**Radio spectrum matters  
tests according to standards:  
47 CFR Part 15.407 & RSS 247 Issue 1(DFS Only)**

## Issued to

Technicolor  
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## FCC/IC registered contact

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## Apparatus under test

↪ Product **OTT STB**  
↪ Trade mark **AirTV Player**  
↪ Manufacturer **Technicolor (project ECHOSTAR)**  
↪ Model under test **UIW4010ECH**  
↪ Serial number **Sn 002**  
↪ FCC ID **G95-UIW4010ECH**  
↪ IC ID **431C-UIW4010ECH**

## Test date

: September 28, 2016 to September 29, 2016

## Test location

Fontenay Aux Roses

## Composition of document

28 pages

## Document issued on

October 19, 2016

**Written by :**  
Mathieu CERISIER  
**Tests operator**



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01	October 6, 2016	Mathieu CERISIER	Creation of the document
02	October 19, 2016	Mathieu CERISIER	Correction of equipment information & channel tested information in page 26 & 30



**SUMMARY**

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3. DFS DETECTION THRESHOLDS DETERMINATION, REFERENCE NOISE LEVEL & CHANNEL LOADING ..... 15

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## 1. TEST PROGRAM

### References

- 47 CFR Part 15.407 (DFS requirements)
- RSS 247 Issue 1 (DFS requirements)
- KDB 905462 D02 UNII DFS Compliance Procedures New Rules v02
- KDB 905462 D04 Test Mode New Rules v01
- KDB 905462 D03 Client Without DFS New Rules v01r01
- KDB 905462 D06 802.11 Channel Plans New Rules v02
- KDB905462 D07 Overview UNII Rules v01

### Radio requirement:

Clause (47CFR Part 15.407 & RSS 247 Issue 1) Test Description	Test result - Comments
Channel Availability Check Time & DFS Detection Threshold <a href="#">P</a>	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL <input checked="" type="checkbox"/> NA(1)(2) <input type="checkbox"/> NP(3)
U-NII Detection Bandwidth <a href="#">P</a>	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL <input checked="" type="checkbox"/> NA(1) <input type="checkbox"/> NP(3)
Statistical Performance Check & DFS Detection Threshold <a href="#">P</a>	<input type="checkbox"/> PASS <input type="checkbox"/> FAIL <input checked="" type="checkbox"/> NA <input type="checkbox"/> NP(3)
Channel Closing Transmission Time & Channel Move Time <a href="#">P</a>	<input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL <input type="checkbox"/> NA <input type="checkbox"/> NP(3)
Non-occupancy period <a href="#">P</a>	<input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL <input type="checkbox"/> NA(1) <input type="checkbox"/> NP(3)

This table is a summary of test report, see conclusion of each clause of this test report for detail.

- (1): Client without radar detection  
 (2): Client with radar detection  
 (3): Limited program



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

### 2.1. HARDWARE IDENTIFICATION (EUT AND AUXILIARIES):

#### Equipment under test (EUT):

AirTV Player UIW4010ECH

Serial Number: Sn 002

#### Inputs/outputs - Cable:

Access	Type	Length used (m)	Declared <3m	Shielded	Under test	Comments
1	Power Supply	-	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-
2	HDMI	1,8	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-

#### Auxiliary equipment used during test:

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



L C I E

**Equipment information:**

Type:	<b>WIFI</b>			
Frequency band:	<input checked="" type="checkbox"/> 5150MHz-5250MHz	<input checked="" type="checkbox"/> 5250MHz-5350MHz	<input checked="" type="checkbox"/> 5470MHz-5725MHz	
	<input checked="" type="checkbox"/> 5725MHz-5850MHz			
Standard:	<input type="checkbox"/> 802.11a	<input checked="" type="checkbox"/> 802.11n HT20	<input checked="" type="checkbox"/> 802.11n HT40	
	<input checked="" type="checkbox"/> 802.11ac VHT20	<input checked="" type="checkbox"/> 802.11ac VHT40	<input checked="" type="checkbox"/> 802.11ac VHT80	
	<input type="checkbox"/> 802.11ac VHT160			
Spectrum Modulation:	<input checked="" type="checkbox"/> OFDM			
Channel bandwidth:	<input checked="" type="checkbox"/> 20MHz	<input checked="" type="checkbox"/> 40MHz	<input checked="" type="checkbox"/> 80MHz	<input type="checkbox"/> 160MHz
Antenna Type:	<input checked="" type="checkbox"/> Integral		<input type="checkbox"/> External	<input type="checkbox"/> Dedicated
Antenna connector:	<input checked="" type="checkbox"/> Yes		<input type="checkbox"/> No	<input type="checkbox"/> Temporary for test
Transmit chains:	<input type="checkbox"/> 1	<input checked="" type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	<input type="checkbox"/> 8
TPC:	<input checked="" type="checkbox"/> Yes		<input type="checkbox"/> No	
Receiver chains	<input type="checkbox"/> 1	<input checked="" type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	<input type="checkbox"/> 8
Type of equipment:	<input checked="" type="checkbox"/> Stand-alone	<input type="checkbox"/> Plug-in	<input type="checkbox"/> Combined	
Operating temperature range:	Tmin:	<input type="checkbox"/> -20°C	<input checked="" type="checkbox"/> 0°C	<input type="checkbox"/> X °C
	Tnom:	20°C		
	Tmax:	<input type="checkbox"/> 35°C	<input type="checkbox"/> 55°C	<input checked="" type="checkbox"/> 40 °C
Type of power source:	<input checked="" type="checkbox"/> AC power supply	<input type="checkbox"/> DC power supply	<input type="checkbox"/> Battery Battery Type	
Operating voltage range:	Vmin:	<input type="checkbox"/> X V/60Hz	<input type="checkbox"/> X Vdc	
	Vnom:	<input checked="" type="checkbox"/> 120V/60Hz	<input type="checkbox"/> X Vdc	
	Vmax	<input type="checkbox"/> X V/60Hz	<input type="checkbox"/> X Vdc	
Mode:	<input type="checkbox"/> Master	<input type="checkbox"/> Slave with radar detection	<input checked="" type="checkbox"/> Slave without radar detection	
Fixed outdoor P to P/M application:	<input type="checkbox"/> Yes		<input checked="" type="checkbox"/> No	
System architectures:	<input checked="" type="checkbox"/> IP based		<input type="checkbox"/> Frame based	
User access restriction:	<input checked="" type="checkbox"/> Yes (The manufacturer declares that information regarding the parameters of the detected Radar Waveforms is not available to the end user)		<input type="checkbox"/> No	



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Antenna Characteristic			
Antenna assembly	Gain (dBi)	Frequency Band (MHz)	Impedance( $\Omega$ )
1	5	5.15-5.85GHz	50
2	6.3	5.15-5.85GHz	50
Accumulated	4,3	-	50

CHANNEL PLAN		
802.11a / 802.11n HT20/ 802.11ac VHT20		
Channel	Frequency (MHz)	Available Channel
C1=36	5180	<input checked="" type="checkbox"/>
C2=40	5200	<input checked="" type="checkbox"/>
44	5220	<input checked="" type="checkbox"/>
C3=48	5240	<input checked="" type="checkbox"/>
C4=52	5260	<input checked="" type="checkbox"/>
56	5280	<input checked="" type="checkbox"/>
C5=60	5300	<input checked="" type="checkbox"/>
C6=64	5320	<input checked="" type="checkbox"/>
C7=100	5500	<input checked="" type="checkbox"/>
104	5520	<input checked="" type="checkbox"/>
108	5540	<input checked="" type="checkbox"/>
112	5560	<input checked="" type="checkbox"/>
C8=116	5580	<input checked="" type="checkbox"/>
120	5600	<input type="checkbox"/>
124	5620	<input type="checkbox"/>
128	5640	<input type="checkbox"/>
132	5660	<input checked="" type="checkbox"/>
136	5680	<input checked="" type="checkbox"/>
C9=140	5700	<input checked="" type="checkbox"/>
C10=144	5720	<input type="checkbox"/>
C11=149	5745	<input checked="" type="checkbox"/>
153	5765	<input checked="" type="checkbox"/>
C12=157	5785	<input checked="" type="checkbox"/>
161	5805	<input checked="" type="checkbox"/>
C13=165	5825	<input checked="" type="checkbox"/>



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CHANNEL PLAN		
802.11n HT40/ 802.11ac VHT40		
Channel	Frequency (MHz)	Available Channel
C14=36+40	5190	<input checked="" type="checkbox"/>
C15=44+48	5230	<input checked="" type="checkbox"/>
C16=52+56	5270	<input checked="" type="checkbox"/>
C17=60+64	5310	<input checked="" type="checkbox"/>
C18=100+104	5510	<input checked="" type="checkbox"/>
C19=108+112	5550	<input checked="" type="checkbox"/>
116+120	5590	<input type="checkbox"/>
124+128	5630	<input type="checkbox"/>
C20=132+136	5670	<input checked="" type="checkbox"/>
C21=140+144	5710	<input type="checkbox"/>
C22=149+153	5755	<input checked="" type="checkbox"/>
C23=157+161	5795	<input checked="" type="checkbox"/>

CHANNEL PLAN		
802.11ac VHT80		
Channel	Frequency (MHz)	Available Channel
C24=36+40+44+48	5210	<input checked="" type="checkbox"/>
C25=52+56+60+64	5290	<input checked="" type="checkbox"/>
C26=100+104+108+112	5530	<input checked="" type="checkbox"/>
C27=116+120+124+128	5610	<input type="checkbox"/>
C28=132+136+140+144	5690	<input type="checkbox"/>
C29=149+153+157+161	5775	<input checked="" type="checkbox"/>

No DFS Channel
DFS Channel
Weather DFS Channel (Not Authorised for RSS-247)





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



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DATA RATE									
802.11n HT40									
Available for EUT	MCS Index	Spatial streams	Modulation				Data Rate (Mbps)		Worst Case Modulation
							(GI = 800ns)	(GI = 400ns)	
<input checked="" type="checkbox"/>	0	1	BPSK				13	15	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	1	1	QPSK				27	30	<input type="checkbox"/>
<input checked="" type="checkbox"/>	2	1	QPSK				40.5	45	<input type="checkbox"/>
<input checked="" type="checkbox"/>	3	1	16-QAM				54	60	<input type="checkbox"/>
<input checked="" type="checkbox"/>	4	1	16-QAM				81	90	<input type="checkbox"/>
<input checked="" type="checkbox"/>	5	1	64-QAM				108	120	<input type="checkbox"/>
<input checked="" type="checkbox"/>	6	1	64-QAM				121.5	135	<input type="checkbox"/>
<input checked="" type="checkbox"/>	7	1	64-QAM				135	150	<input type="checkbox"/>
<input checked="" type="checkbox"/>	8	2	BPSK				27	30	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	9	2	QPSK				54	60	<input type="checkbox"/>
<input checked="" type="checkbox"/>	10	2	QPSK				81	90	<input type="checkbox"/>
<input checked="" type="checkbox"/>	11	2	16-QAM				108	120	<input type="checkbox"/>
<input checked="" type="checkbox"/>	12	2	16-QAM				162	180	<input type="checkbox"/>
<input checked="" type="checkbox"/>	13	2	64-QAM				216	240	<input type="checkbox"/>
<input checked="" type="checkbox"/>	14	2	64-QAM				243	270	<input type="checkbox"/>
<input checked="" type="checkbox"/>	15	2	64-QAM				270	300	<input type="checkbox"/>
<input type="checkbox"/>	16	3	BPSK				40.5	45	<input type="checkbox"/>
<input type="checkbox"/>	17	3	QPSK				81	90	<input type="checkbox"/>
<input type="checkbox"/>	18	3	QPSK				121.5	135	<input type="checkbox"/>
<input type="checkbox"/>	19	3	16-QAM				162	180	<input type="checkbox"/>
<input type="checkbox"/>	20	3	16-QAM				243	270	<input type="checkbox"/>
<input type="checkbox"/>	21	3	64-QAM				324	360	<input type="checkbox"/>
<input type="checkbox"/>	22	3	64-QAM				364.5	405	<input type="checkbox"/>
<input type="checkbox"/>	23	3	64-QAM				405	450	<input type="checkbox"/>
<input type="checkbox"/>	24	4	BPSK				54	60	<input type="checkbox"/>
<input type="checkbox"/>	25	4	QPSK				108	120	<input type="checkbox"/>
<input type="checkbox"/>	26	4	QPSK				162	180	<input type="checkbox"/>
<input type="checkbox"/>	27	4	16-QAM				216	240	<input type="checkbox"/>
<input type="checkbox"/>	28	4	16-QAM				324	360	<input type="checkbox"/>
<input type="checkbox"/>	29	4	64-QAM				432	480	<input type="checkbox"/>
<input type="checkbox"/>	30	4	64-QAM				486	540	<input type="checkbox"/>
<input type="checkbox"/>	31	4	64-QAM				540	600	<input type="checkbox"/>
<input type="checkbox"/>	32	1	BPSK	-	-	-	6.0	6.7	<input type="checkbox"/>
<input type="checkbox"/>	33	2	16-QAM	QPSK	-	-	81	90.0	<input type="checkbox"/>
<input type="checkbox"/>	34	2	64-QAM	QPSK	-	-	108	120	<input type="checkbox"/>
<input type="checkbox"/>	35	2	64-QAM	16-QAM	-	-	135	150	<input type="checkbox"/>
<input type="checkbox"/>	36	2	16-QAM	QPSK	-	-	121.5	135	<input type="checkbox"/>
<input type="checkbox"/>	37	2	64-QAM	QPSK	-	-	162	180	<input type="checkbox"/>
<input type="checkbox"/>	38	2	64-QAM	16-QAM	-	-	202.5	225	<input type="checkbox"/>
<input type="checkbox"/>	39	3	16-QAM	QPSK	QPSK	-	108	120	<input type="checkbox"/>
<input type="checkbox"/>	40	3	16-QAM	16-QAM	QPSK	-	135	150	<input type="checkbox"/>
<input type="checkbox"/>	41	3	64-QAM	QPSK	QPSK	-	135	150	<input type="checkbox"/>
<input type="checkbox"/>	42	3	64-QAM	16-QAM	QPSK	-	162	180	<input type="checkbox"/>
<input type="checkbox"/>	43	3	64-QAM	16-QAM	16-QAM	-	189	210	<input type="checkbox"/>
<input type="checkbox"/>	44	3	64-QAM	64-QAM	QPSK	-	189	210	<input type="checkbox"/>
<input type="checkbox"/>	45	3	64-QAM	64-QAM	16-QAM	-	216	240	<input type="checkbox"/>
<input type="checkbox"/>	46	3	16-QAM	QPSK	QPSK	-	162	180	<input type="checkbox"/>
<input type="checkbox"/>	47	3	16-QAM	16-QAM	QPSK	-	202.5	225	<input type="checkbox"/>
<input type="checkbox"/>	48	3	64-QAM	QPSK	QPSK	-	202.5	225	<input type="checkbox"/>
<input type="checkbox"/>	49	3	64-QAM	16-QAM	QPSK	-	243	270	<input type="checkbox"/>
<input type="checkbox"/>	50	3	64-QAM	16-QAM	16-QAM	-	283.5	315	<input type="checkbox"/>
<input type="checkbox"/>	51	3	64-QAM	64-QAM	QPSK	-	283.5	315	<input type="checkbox"/>
<input type="checkbox"/>	52	3	64-QAM	64-QAM	16-QAM	-	324	360	<input type="checkbox"/>
<input type="checkbox"/>	53	4	16-QAM	QPSK	QPSK	QPSK	135	150	<input type="checkbox"/>
<input type="checkbox"/>	54	4	16-QAM	16-QAM	QPSK	QPSK	162	180	<input type="checkbox"/>
<input type="checkbox"/>	55	4	16-QAM	16-QAM	16-QAM	QPSK	189	210	<input type="checkbox"/>
<input type="checkbox"/>	56	4	64-QAM	QPSK	QPSK	QPSK	162	180	<input type="checkbox"/>
<input type="checkbox"/>	57	4	64-QAM	16-QAM	QPSK	QPSK	189	210	<input type="checkbox"/>
<input type="checkbox"/>	58	4	64-QAM	16-QAM	16-QAM	QPSK	216	240	<input type="checkbox"/>
<input type="checkbox"/>	59	4	64-QAM	16-QAM	16-QAM	16-QAM	243	270	<input type="checkbox"/>
<input type="checkbox"/>	60	4	64-QAM	QPSK	QPSK	QPSK	216	240	<input type="checkbox"/>
<input type="checkbox"/>	61	4	64-QAM	16-QAM	16-QAM	QPSK	243	270	<input type="checkbox"/>
<input type="checkbox"/>	62	4	64-QAM	16-QAM	16-QAM	16-QAM	270	300	<input type="checkbox"/>
<input type="checkbox"/>	63	4	64-QAM	64-QAM	64-QAM	QPSK	270	300	<input type="checkbox"/>
<input type="checkbox"/>	64	4	64-QAM	64-QAM	64-QAM	16-QAM	297	330	<input type="checkbox"/>
<input type="checkbox"/>	65	4	16-QAM	QPSK	QPSK	QPSK	202.5	225	<input type="checkbox"/>
<input type="checkbox"/>	66	4	16-QAM	16-QAM	QPSK	QPSK	243	270	<input type="checkbox"/>
<input type="checkbox"/>	67	4	16-QAM	16-QAM	16-QAM	QPSK	283.5	315	<input type="checkbox"/>
<input type="checkbox"/>	68	4	64-QAM	QPSK	QPSK	QPSK	243	270	<input type="checkbox"/>
<input type="checkbox"/>	69	4	64-QAM	16-QAM	QPSK	QPSK	283.5	315	<input type="checkbox"/>
<input type="checkbox"/>	70	4	64-QAM	16-QAM	16-QAM	QPSK	324	360	<input type="checkbox"/>
<input type="checkbox"/>	71	4	64-QAM	16-QAM	16-QAM	16-QAM	364.5	405	<input type="checkbox"/>
<input type="checkbox"/>	72	4	64-QAM	64-QAM	QPSK	QPSK	324	360	<input type="checkbox"/>
<input type="checkbox"/>	73	4	64-QAM	64-QAM	16-QAM	QPSK	364.5	405	<input type="checkbox"/>
<input type="checkbox"/>	74	4	64-QAM	64-QAM	16-QAM	16-QAM	405	450	<input type="checkbox"/>
<input type="checkbox"/>	75	4	64-QAM	64-QAM	64-QAM	QPSK	405	450	<input type="checkbox"/>
<input type="checkbox"/>	76	4	64-QAM	64-QAM	64-QAM	16-QAM	445.5	495	<input type="checkbox"/>



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DATA RATE: 802.11ac VHT20							
Available for EUT	MCS Index	Nbr of spatial streams	Modulation (Stream 1/2/3/4)	Coding rate	GI = 800ns	GI = 400ns	Worst Case Modulation
<input checked="" type="checkbox"/>	0	1	BPSK	1/2	6,5	7,2	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	1	1	QPSK	1/2	13	14,4	<input type="checkbox"/>
<input checked="" type="checkbox"/>	2	1	QPSK	3/4	19,5	21,7	<input type="checkbox"/>
<input checked="" type="checkbox"/>	3	1	16-QAM	1/2	26	28,9	<input type="checkbox"/>
<input checked="" type="checkbox"/>	4	1	16-QAM	3/4	39	43,3	<input type="checkbox"/>
<input checked="" type="checkbox"/>	5	1	64-QAM	2/3	52	57,8	<input type="checkbox"/>
<input checked="" type="checkbox"/>	6	1	64-QAM	3/4	58,5	65	<input type="checkbox"/>
<input checked="" type="checkbox"/>	7	1	64-QAM	5/6	65	72,2	<input type="checkbox"/>
<input checked="" type="checkbox"/>	8	1	256-QAM	3/4	78	86,7	<input type="checkbox"/>
<input checked="" type="checkbox"/>	9	1	256-QAM	5/6	N/A	N/A	<input type="checkbox"/>
<input checked="" type="checkbox"/>	10	2	BPSK	1/2	13	14,4	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	11	2	QPSK	1/2	26	28,8	<input type="checkbox"/>
<input checked="" type="checkbox"/>	12	2	QPSK	3/4	39	43,4	<input type="checkbox"/>
<input checked="" type="checkbox"/>	13	2	16-QAM	1/2	52	57,8	<input type="checkbox"/>
<input checked="" type="checkbox"/>	14	2	16-QAM	3/4	78	86,6	<input type="checkbox"/>
<input checked="" type="checkbox"/>	15	2	64-QAM	2/3	104	115,6	<input type="checkbox"/>
<input checked="" type="checkbox"/>	16	2	64-QAM	3/4	117	130	<input type="checkbox"/>
<input checked="" type="checkbox"/>	17	2	64-QAM	5/6	130	144,4	<input type="checkbox"/>
<input checked="" type="checkbox"/>	18	2	256-QAM	3/4	156	173,4	<input type="checkbox"/>
<input checked="" type="checkbox"/>	19	2	256-QAM	5/6	N/A	N/A	<input type="checkbox"/>
<input type="checkbox"/>	20	3	BPSK	1/2	19,5	21,6	<input type="checkbox"/>
<input type="checkbox"/>	21	3	QPSK	1/2	39	43,2	<input type="checkbox"/>
<input type="checkbox"/>	22	3	QPSK	3/4	58,5	65,1	<input type="checkbox"/>
<input type="checkbox"/>	23	3	16-QAM	1/2	78	86,7	<input type="checkbox"/>
<input type="checkbox"/>	24	3	16-QAM	3/4	117	129,9	<input type="checkbox"/>
<input type="checkbox"/>	25	3	64-QAM	2/3	156	173,4	<input type="checkbox"/>
<input type="checkbox"/>	26	3	64-QAM	3/4	175,5	195	<input type="checkbox"/>
<input type="checkbox"/>	27	3	64-QAM	5/6	195	216,6	<input type="checkbox"/>
<input type="checkbox"/>	28	3	256-QAM	3/4	234	260,1	<input type="checkbox"/>
<input type="checkbox"/>	29	3	256-QAM	5/6	N/A	N/A	<input type="checkbox"/>
<input type="checkbox"/>	30	4	BPSK	1/2	26	28,8	<input type="checkbox"/>
<input type="checkbox"/>	31	4	QPSK	1/2	52	57,6	<input type="checkbox"/>
<input type="checkbox"/>	32	4	QPSK	3/4	78	86,8	<input type="checkbox"/>
<input type="checkbox"/>	33	4	16-QAM	1/2	104	115,6	<input type="checkbox"/>
<input type="checkbox"/>	34	4	16-QAM	3/4	156	173,2	<input type="checkbox"/>
<input type="checkbox"/>	35	4	64-QAM	2/3	208	231,2	<input type="checkbox"/>
<input type="checkbox"/>	36	4	64-QAM	3/4	234	260	<input type="checkbox"/>
<input type="checkbox"/>	37	4	64-QAM	5/6	260	288,8	<input type="checkbox"/>
<input type="checkbox"/>	38	4	256-QAM	3/4	312	346,8	<input type="checkbox"/>
<input type="checkbox"/>	39	4	256-QAM	5/6	N/A	N/A	<input type="checkbox"/>
<input type="checkbox"/>	40	5	BPSK	1/2	32,5	36	<input type="checkbox"/>
<input type="checkbox"/>	41	5	QPSK	1/2	65	72	<input type="checkbox"/>
<input type="checkbox"/>	42	5	QPSK	3/4	97,5	108,5	<input type="checkbox"/>
<input type="checkbox"/>	43	5	16-QAM	1/2	130	144,5	<input type="checkbox"/>
<input type="checkbox"/>	44	5	16-QAM	3/4	195	216,5	<input type="checkbox"/>
<input type="checkbox"/>	45	5	64-QAM	2/3	260	289	<input type="checkbox"/>
<input type="checkbox"/>	46	5	64-QAM	3/4	292,5	325	<input type="checkbox"/>
<input type="checkbox"/>	47	5	64-QAM	5/6	325	361	<input type="checkbox"/>
<input type="checkbox"/>	48	5	256-QAM	3/4	390	433,5	<input type="checkbox"/>
<input type="checkbox"/>	49	5	256-QAM	5/6	N/A	N/A	<input type="checkbox"/>
<input type="checkbox"/>	50	6	BPSK	1/2	39	43,2	<input type="checkbox"/>
<input type="checkbox"/>	51	6	QPSK	1/2	78	86,4	<input type="checkbox"/>
<input type="checkbox"/>	52	6	QPSK	3/4	117	130,2	<input type="checkbox"/>
<input type="checkbox"/>	53	6	16-QAM	1/2	156	173,4	<input type="checkbox"/>
<input type="checkbox"/>	54	6	16-QAM	3/4	234	259,8	<input type="checkbox"/>
<input type="checkbox"/>	55	6	64-QAM	2/3	312	346,8	<input type="checkbox"/>
<input type="checkbox"/>	56	6	64-QAM	3/4	351	390	<input type="checkbox"/>
<input type="checkbox"/>	57	6	64-QAM	5/6	390	433,2	<input type="checkbox"/>
<input type="checkbox"/>	58	6	256-QAM	3/4	468	520,2	<input type="checkbox"/>
<input type="checkbox"/>	59	6	256-QAM	5/6	N/A	N/A	<input type="checkbox"/>
<input type="checkbox"/>	60	7	BPSK	1/2	45,5	50,4	<input type="checkbox"/>
<input type="checkbox"/>	61	7	QPSK	1/2	91	100,8	<input type="checkbox"/>
<input type="checkbox"/>	62	7	QPSK	3/4	136,5	151,9	<input type="checkbox"/>
<input type="checkbox"/>	63	7	16-QAM	1/2	182	202,3	<input type="checkbox"/>
<input type="checkbox"/>	64	7	16-QAM	3/4	273	303,1	<input type="checkbox"/>
<input type="checkbox"/>	65	7	64-QAM	2/3	364	404,6	<input type="checkbox"/>
<input type="checkbox"/>	66	7	64-QAM	3/4	409,5	455	<input type="checkbox"/>
<input type="checkbox"/>	67	7	64-QAM	5/6	455	505,4	<input type="checkbox"/>
<input type="checkbox"/>	68	7	256-QAM	3/4	546	606,9	<input type="checkbox"/>
<input type="checkbox"/>	69	7	256-QAM	5/6	N/A	N/A	<input type="checkbox"/>
<input type="checkbox"/>	70	8	BPSK	1/2	52	57,6	<input type="checkbox"/>
<input type="checkbox"/>	71	8	QPSK	1/2	104	115,2	<input type="checkbox"/>
<input type="checkbox"/>	72	8	QPSK	3/4	156	173,6	<input type="checkbox"/>
<input type="checkbox"/>	73	8	16-QAM	1/2	208	231,2	<input type="checkbox"/>
<input type="checkbox"/>	74	8	16-QAM	3/4	312	346,4	<input type="checkbox"/>
<input type="checkbox"/>	75	8	64-QAM	2/3	416	462,4	<input type="checkbox"/>
<input type="checkbox"/>	76	8	64-QAM	3/4	468	520	<input type="checkbox"/>
<input type="checkbox"/>	77	8	64-QAM	5/6	520	577,6	<input type="checkbox"/>
<input type="checkbox"/>	78	8	256-QAM	3/4	624	693,6	<input type="checkbox"/>
<input type="checkbox"/>	79	8	256-QAM	5/6	N/A	N/A	<input type="checkbox"/>



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DATA RATE: 802.11ac VHT40							
Available for EUT	MCS Index	Nbr of spatial streams	Modulation (Stream 1/2/3/4)	Coding rate	GI = 800ns	GI = 400ns	Worst Case Modulation
<input checked="" type="checkbox"/>	0	1	BPSK	1/2	13,5	15	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	1	1	QPSK	1/2	27	30	<input type="checkbox"/>
<input checked="" type="checkbox"/>	2	1	QPSK	3/4	40,5	45	<input type="checkbox"/>
<input checked="" type="checkbox"/>	3	1	16-QAM	1/2	54	60	<input type="checkbox"/>
<input checked="" type="checkbox"/>	4	1	16-QAM	3/4	81	90	<input type="checkbox"/>
<input checked="" type="checkbox"/>	5	1	64-QAM	2/3	108	120	<input type="checkbox"/>
<input checked="" type="checkbox"/>	6	1	64-QAM	3/4	121,5	135	<input type="checkbox"/>
<input checked="" type="checkbox"/>	7	1	64-QAM	5/6	135	150	<input type="checkbox"/>
<input checked="" type="checkbox"/>	8	1	256-QAM	3/4	162	180	<input type="checkbox"/>
<input checked="" type="checkbox"/>	9	1	256-QAM	5/6	180	200	<input type="checkbox"/>
<input checked="" type="checkbox"/>	10	2	BPSK	1/2	27	30	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	11	2	QPSK	1/2	54	60	<input type="checkbox"/>
<input checked="" type="checkbox"/>	12	2	QPSK	3/4	81	90	<input type="checkbox"/>
<input checked="" type="checkbox"/>	13	2	16-QAM	1/2	108	120	<input type="checkbox"/>
<input checked="" type="checkbox"/>	14	2	16-QAM	3/4	162	180	<input type="checkbox"/>
<input checked="" type="checkbox"/>	15	2	64-QAM	2/3	216	240	<input type="checkbox"/>
<input checked="" type="checkbox"/>	16	2	64-QAM	3/4	243	270	<input type="checkbox"/>
<input checked="" type="checkbox"/>	17	2	64-QAM	5/6	270	300	<input type="checkbox"/>
<input checked="" type="checkbox"/>	18	2	256-QAM	3/4	324	360	<input type="checkbox"/>
<input checked="" type="checkbox"/>	19	2	256-QAM	5/6	360	400	<input type="checkbox"/>
<input type="checkbox"/>	20	3	BPSK	1/2	40,5	45	<input type="checkbox"/>
<input type="checkbox"/>	21	3	QPSK	1/2	81	90	<input type="checkbox"/>
<input type="checkbox"/>	22	3	QPSK	3/4	121,5	135	<input type="checkbox"/>
<input type="checkbox"/>	23	3	16-QAM	1/2	162	180	<input type="checkbox"/>
<input type="checkbox"/>	24	3	16-QAM	3/4	243	270	<input type="checkbox"/>
<input type="checkbox"/>	25	3	64-QAM	2/3	324	360	<input type="checkbox"/>
<input type="checkbox"/>	26	3	64-QAM	3/4	364,5	405	<input type="checkbox"/>
<input type="checkbox"/>	27	3	64-QAM	5/6	405	450	<input type="checkbox"/>
<input type="checkbox"/>	28	3	256-QAM	3/4	486	540	<input type="checkbox"/>
<input type="checkbox"/>	29	3	256-QAM	5/6	540	600	<input type="checkbox"/>
<input type="checkbox"/>	30	4	BPSK	1/2	54	60	<input type="checkbox"/>
<input type="checkbox"/>	31	4	QPSK	1/2	108	120	<input type="checkbox"/>
<input type="checkbox"/>	32	4	QPSK	3/4	162	180	<input type="checkbox"/>
<input type="checkbox"/>	33	4	16-QAM	1/2	216	240	<input type="checkbox"/>
<input type="checkbox"/>	34	4	16-QAM	3/4	324	360	<input type="checkbox"/>
<input type="checkbox"/>	35	4	64-QAM	2/3	432	480	<input type="checkbox"/>
<input type="checkbox"/>	36	4	64-QAM	3/4	486	540	<input type="checkbox"/>
<input type="checkbox"/>	37	4	64-QAM	5/6	540	600	<input type="checkbox"/>
<input type="checkbox"/>	38	4	256-QAM	3/4	648	720	<input type="checkbox"/>
<input type="checkbox"/>	39	4	256-QAM	5/6	720	800	<input type="checkbox"/>
<input type="checkbox"/>	40	5	BPSK	1/2	67,5	75	<input type="checkbox"/>
<input type="checkbox"/>	41	5	QPSK	1/2	135	150	<input type="checkbox"/>
<input type="checkbox"/>	42	5	QPSK	3/4	202,5	225	<input type="checkbox"/>
<input type="checkbox"/>	43	5	16-QAM	1/2	270	300	<input type="checkbox"/>
<input type="checkbox"/>	44	5	16-QAM	3/4	405	450	<input type="checkbox"/>
<input type="checkbox"/>	45	5	64-QAM	2/3	540	600	<input type="checkbox"/>
<input type="checkbox"/>	46	5	64-QAM	3/4	607,5	675	<input type="checkbox"/>
<input type="checkbox"/>	47	5	64-QAM	5/6	675	750	<input type="checkbox"/>
<input type="checkbox"/>	48	5	256-QAM	3/4	810	900	<input type="checkbox"/>
<input type="checkbox"/>	49	5	256-QAM	5/6	900	1000	<input type="checkbox"/>
<input type="checkbox"/>	50	6	BPSK	1/2	81	90	<input type="checkbox"/>
<input type="checkbox"/>	51	6	QPSK	1/2	162	180	<input type="checkbox"/>
<input type="checkbox"/>	52	6	QPSK	3/4	243	270	<input type="checkbox"/>
<input type="checkbox"/>	53	6	16-QAM	1/2	324	360	<input type="checkbox"/>
<input type="checkbox"/>	54	6	16-QAM	3/4	486	540	<input type="checkbox"/>
<input type="checkbox"/>	55	6	64-QAM	2/3	648	720	<input type="checkbox"/>
<input type="checkbox"/>	56	6	64-QAM	3/4	729	810	<input type="checkbox"/>
<input type="checkbox"/>	57	6	64-QAM	5/6	810	900	<input type="checkbox"/>
<input type="checkbox"/>	58	6	256-QAM	3/4	972	1080	<input type="checkbox"/>
<input type="checkbox"/>	59	6	256-QAM	5/6	1080	1200	<input type="checkbox"/>
<input type="checkbox"/>	60	7	BPSK	1/2	94,5	105	<input type="checkbox"/>
<input type="checkbox"/>	61	7	QPSK	1/2	189	210	<input type="checkbox"/>
<input type="checkbox"/>	62	7	QPSK	3/4	283,5	315	<input type="checkbox"/>
<input type="checkbox"/>	63	7	16-QAM	1/2	378	420	<input type="checkbox"/>
<input type="checkbox"/>	64	7	16-QAM	3/4	567	630	<input type="checkbox"/>
<input type="checkbox"/>	65	7	64-QAM	2/3	756	840	<input type="checkbox"/>
<input type="checkbox"/>	66	7	64-QAM	3/4	850,5	945	<input type="checkbox"/>
<input type="checkbox"/>	67	7	64-QAM	5/6	945	1050	<input type="checkbox"/>
<input type="checkbox"/>	68	7	256-QAM	3/4	1134	1260	<input type="checkbox"/>
<input type="checkbox"/>	69	7	256-QAM	5/6	1260	1400	<input type="checkbox"/>
<input type="checkbox"/>	70	8	BPSK	1/2	108	120	<input type="checkbox"/>
<input type="checkbox"/>	71	8	QPSK	1/2	216	240	<input type="checkbox"/>
<input type="checkbox"/>	72	8	QPSK	3/4	324	360	<input type="checkbox"/>
<input type="checkbox"/>	73	8	16-QAM	1/2	432	480	<input type="checkbox"/>
<input type="checkbox"/>	74	8	16-QAM	3/4	648	720	<input type="checkbox"/>
<input type="checkbox"/>	75	8	64-QAM	2/3	864	960	<input type="checkbox"/>
<input type="checkbox"/>	76	8	64-QAM	3/4	972	1080	<input type="checkbox"/>
<input type="checkbox"/>	77	8	64-QAM	5/6	1080	1200	<input type="checkbox"/>
<input type="checkbox"/>	78	8	256-QAM	3/4	1296	1440	<input type="checkbox"/>
<input type="checkbox"/>	79	8	256-QAM	5/6	1440	1600	<input type="checkbox"/>



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DATA RATE: 802.11ac VHT80							
Available for EUT	MCS Index	Nbr of spatial streams	Modulation (Stream 1/2/3/4)	Coding rate	GI = 800ns	GI = 400ns	Worst Case Modulation
<input checked="" type="checkbox"/>	0	1	BPSK	1/2	29.3	32.5	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	1	1	QPSK	1/2	58.5	65	<input type="checkbox"/>
<input checked="" type="checkbox"/>	2	1	QPSK	3/4	87.8	97.5	<input type="checkbox"/>
<input checked="" type="checkbox"/>	3	1	16-QAM	1/2	117	130	<input type="checkbox"/>
<input checked="" type="checkbox"/>	4	1	16-QAM	3/4	175.5	195	<input type="checkbox"/>
<input checked="" type="checkbox"/>	5	1	64-QAM	2/3	234	260	<input type="checkbox"/>
<input checked="" type="checkbox"/>	6	1	64-QAM	3/4	263.3	292.5	<input type="checkbox"/>
<input checked="" type="checkbox"/>	7	1	64-QAM	5/6	292.5	325	<input type="checkbox"/>
<input checked="" type="checkbox"/>	8	1	256-QAM	3/4	351	390	<input type="checkbox"/>
<input checked="" type="checkbox"/>	9	1	256-QAM	5/6	390	433.3	<input type="checkbox"/>
<input checked="" type="checkbox"/>	10	2	BPSK	1/2	58.6	65	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	11	2	QPSK	1/2	117	130	<input type="checkbox"/>
<input checked="" type="checkbox"/>	12	2	QPSK	3/4	175.6	195	<input type="checkbox"/>
<input checked="" type="checkbox"/>	13	2	16-QAM	1/2	234	260	<input type="checkbox"/>
<input checked="" type="checkbox"/>	14	2	16-QAM	3/4	351	390	<input type="checkbox"/>
<input checked="" type="checkbox"/>	15	2	64-QAM	2/3	468	520	<input type="checkbox"/>
<input checked="" type="checkbox"/>	16	2	64-QAM	3/4	526.6	585	<input type="checkbox"/>
<input checked="" type="checkbox"/>	17	2	64-QAM	5/6	585	650	<input type="checkbox"/>
<input checked="" type="checkbox"/>	18	2	256-QAM	3/4	702	780	<input type="checkbox"/>
<input checked="" type="checkbox"/>	19	2	256-QAM	5/6	780	866.6	<input type="checkbox"/>
<input type="checkbox"/>	20	3	BPSK	1/2	87.9	97.5	<input type="checkbox"/>
<input type="checkbox"/>	21	3	QPSK	1/2	175.5	195	<input type="checkbox"/>
<input type="checkbox"/>	22	3	QPSK	3/4	263.4	292.5	<input type="checkbox"/>
<input type="checkbox"/>	23	3	16-QAM	1/2	351	390	<input type="checkbox"/>
<input type="checkbox"/>	24	3	16-QAM	3/4	526.5	585	<input type="checkbox"/>
<input type="checkbox"/>	25	3	64-QAM	2/3	702	780	<input type="checkbox"/>
<input type="checkbox"/>	26	3	64-QAM	3/4	789.9	877.5	<input type="checkbox"/>
<input type="checkbox"/>	27	3	64-QAM	5/6	877.5	975	<input type="checkbox"/>
<input type="checkbox"/>	28	3	256-QAM	3/4	1053	1170	<input type="checkbox"/>
<input type="checkbox"/>	29	3	256-QAM	5/6	1170	1299.9	<input type="checkbox"/>
<input type="checkbox"/>	30	4	BPSK	1/2	117.2	130	<input type="checkbox"/>
<input type="checkbox"/>	31	4	QPSK	1/2	234	260	<input type="checkbox"/>
<input type="checkbox"/>	32	4	QPSK	3/4	351.2	390	<input type="checkbox"/>
<input type="checkbox"/>	33	4	16-QAM	1/2	468	520	<input type="checkbox"/>
<input type="checkbox"/>	34	4	16-QAM	3/4	702	780	<input type="checkbox"/>
<input type="checkbox"/>	35	4	64-QAM	2/3	936	1040	<input type="checkbox"/>
<input type="checkbox"/>	36	4	64-QAM	3/4	1053.2	1170	<input type="checkbox"/>
<input type="checkbox"/>	37	4	64-QAM	5/6	1170	1300	<input type="checkbox"/>
<input type="checkbox"/>	38	4	256-QAM	3/4	1404	1560	<input type="checkbox"/>
<input type="checkbox"/>	39	4	256-QAM	5/6	1560	1733.2	<input type="checkbox"/>
<input type="checkbox"/>	40	5	BPSK	1/2	146.5	162.5	<input type="checkbox"/>
<input type="checkbox"/>	41	5	QPSK	1/2	292.5	325	<input type="checkbox"/>
<input type="checkbox"/>	42	5	QPSK	3/4	439	487.5	<input type="checkbox"/>
<input type="checkbox"/>	43	5	16-QAM	1/2	585	650	<input type="checkbox"/>
<input type="checkbox"/>	44	5	16-QAM	3/4	877.5	975	<input type="checkbox"/>
<input type="checkbox"/>	45	5	64-QAM	2/3	1170	1300	<input type="checkbox"/>
<input type="checkbox"/>	46	5	64-QAM	3/4	1316.5	1462.5	<input type="checkbox"/>
<input type="checkbox"/>	47	5	64-QAM	5/6	1462.5	1625	<input type="checkbox"/>
<input type="checkbox"/>	48	5	256-QAM	3/4	1755	1950	<input type="checkbox"/>
<input type="checkbox"/>	49	5	256-QAM	5/6	1950	2166.5	<input type="checkbox"/>
<input type="checkbox"/>	50	6	BPSK	1/2	175.8	195	<input type="checkbox"/>
<input type="checkbox"/>	51	6	QPSK	1/2	351	390	<input type="checkbox"/>
<input type="checkbox"/>	52	6	QPSK	3/4	526.8	585	<input type="checkbox"/>
<input type="checkbox"/>	53	6	16-QAM	1/2	702	780	<input type="checkbox"/>
<input type="checkbox"/>	54	6	16-QAM	3/4	1053	1170	<input type="checkbox"/>
<input type="checkbox"/>	55	6	64-QAM	2/3	1404	1560	<input type="checkbox"/>
<input type="checkbox"/>	56	6	64-QAM	3/4	1579.8	1755	<input type="checkbox"/>
<input type="checkbox"/>	57	6	64-QAM	5/6	1755	1950	<input type="checkbox"/>
<input type="checkbox"/>	58	6	256-QAM	3/4	2106	2340	<input type="checkbox"/>
<input type="checkbox"/>	59	6	256-QAM	5/6	2340	2599.8	<input type="checkbox"/>
<input type="checkbox"/>	60	7	BPSK	1/2	205.1	227.5	<input type="checkbox"/>
<input type="checkbox"/>	61	7	QPSK	1/2	409.5	455	<input type="checkbox"/>
<input type="checkbox"/>	62	7	QPSK	3/4	614.6	682.5	<input type="checkbox"/>
<input type="checkbox"/>	63	7	16-QAM	1/2	819	910	<input type="checkbox"/>
<input type="checkbox"/>	64	7	16-QAM	3/4	1228.5	1365	<input type="checkbox"/>
<input type="checkbox"/>	65	7	64-QAM	2/3	1638	1820	<input type="checkbox"/>
<input type="checkbox"/>	66	7	64-QAM	3/4	1843.1	2047.5	<input type="checkbox"/>
<input type="checkbox"/>	67	7	64-QAM	5/6	2047.5	2275	<input type="checkbox"/>
<input type="checkbox"/>	68	7	256-QAM	3/4	2457	2730	<input type="checkbox"/>
<input type="checkbox"/>	69	7	256-QAM	5/6	2730	3033.1	<input type="checkbox"/>
<input type="checkbox"/>	70	8	BPSK	1/2	234.4	260	<input type="checkbox"/>
<input type="checkbox"/>	71	8	QPSK	1/2	468	520	<input type="checkbox"/>
<input type="checkbox"/>	72	8	QPSK	3/4	702.4	780	<input type="checkbox"/>
<input type="checkbox"/>	73	8	16-QAM	1/2	936	1040	<input type="checkbox"/>
<input type="checkbox"/>	74	8	16-QAM	3/4	1404	1560	<input type="checkbox"/>
<input type="checkbox"/>	75	8	64-QAM	2/3	1872	2080	<input type="checkbox"/>
<input type="checkbox"/>	76	8	64-QAM	3/4	2106.4	2340	<input type="checkbox"/>
<input type="checkbox"/>	77	8	64-QAM	5/6	2340	2600	<input type="checkbox"/>
<input type="checkbox"/>	78	8	256-QAM	3/4	2808	3120	<input type="checkbox"/>
<input type="checkbox"/>	79	8	256-QAM	5/6	3120	3466.4	<input type="checkbox"/>

## 2.2. RUNNING MODE

The EUT is set in the following modes during tests:

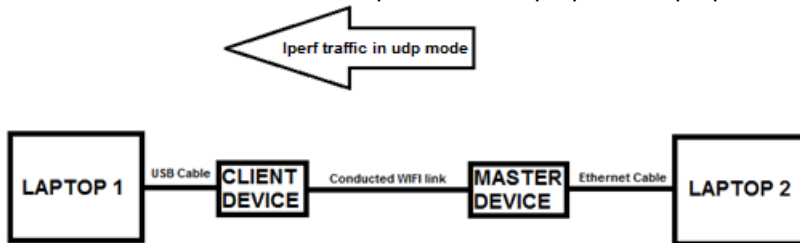
- Emission-reception with a duty cycle above 17% in the data rate that produced the highest output power

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 "Teratorm" are used to set the product:

- See document : " LCIE\_Radio tests\_UIW4010ECH\_v4.docx" for the commands used during test.

-System testings is performed with iperf test software in udp mode from the Master Device to the Client Device on the test channel. The data traffic is performed Laptop 2 to Laptop 1



## 2.3. EQUIPMENT MODIFICATION

- None       Modification:

### 3. DFS DETECTION THRESHOLDS DETERMINATION, REFERENCE NOISE LEVEL & CHANNEL LOADING

#### 3.1. TEST CONDITIONS

Test performed by : Mathieu CERISIER  
 Date of test : September 28, 2016  
 Ambient temperature : 29 °C  
 Relative humidity : 42 %

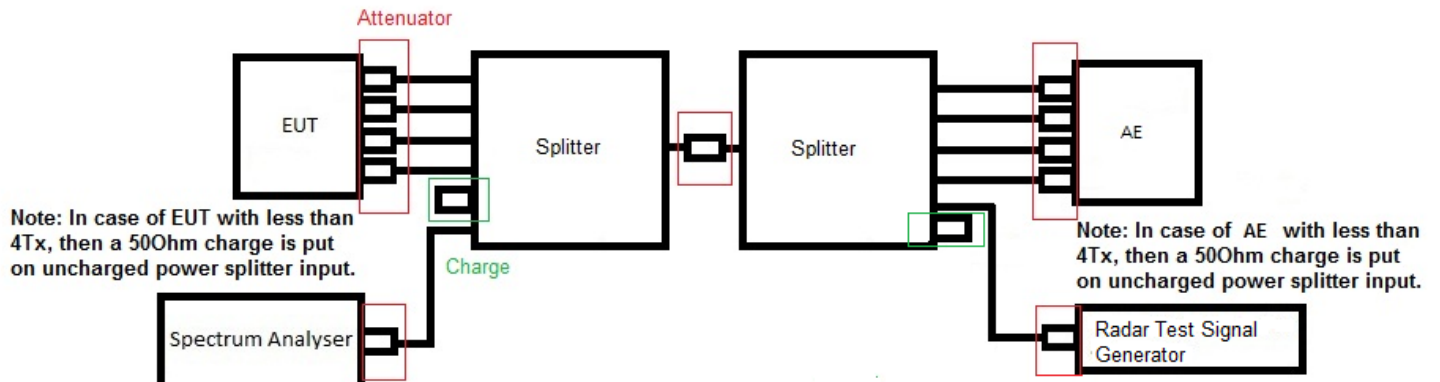
#### 3.2. TEST SETUP

- The Equipment Under Test is:

- On a table
- In an anechoic chamber

- Measurement is performed with a spectrum analyzer:

- On the EUT conducted access
- On the EUT with a test fixture





### 3.3. TEST EQUIPMENT LIST

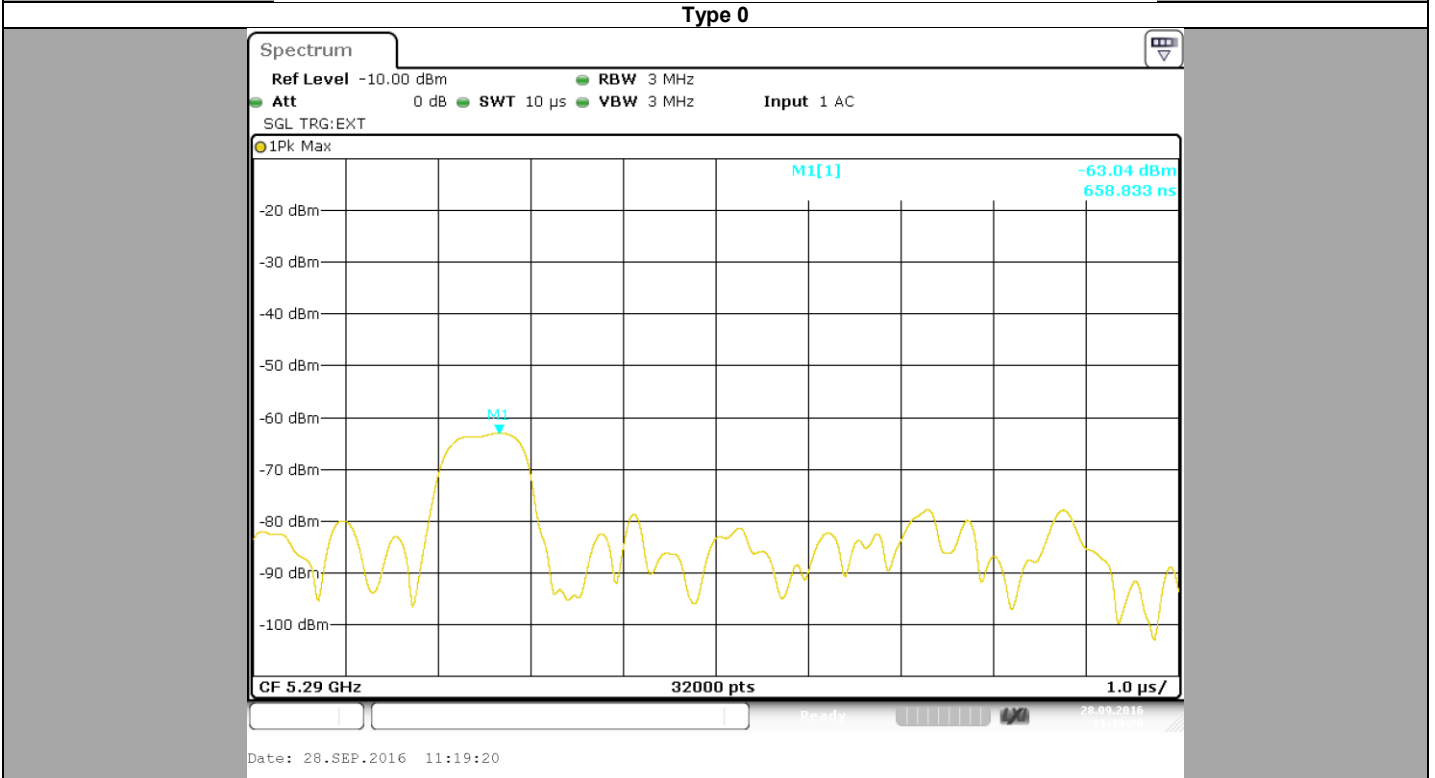
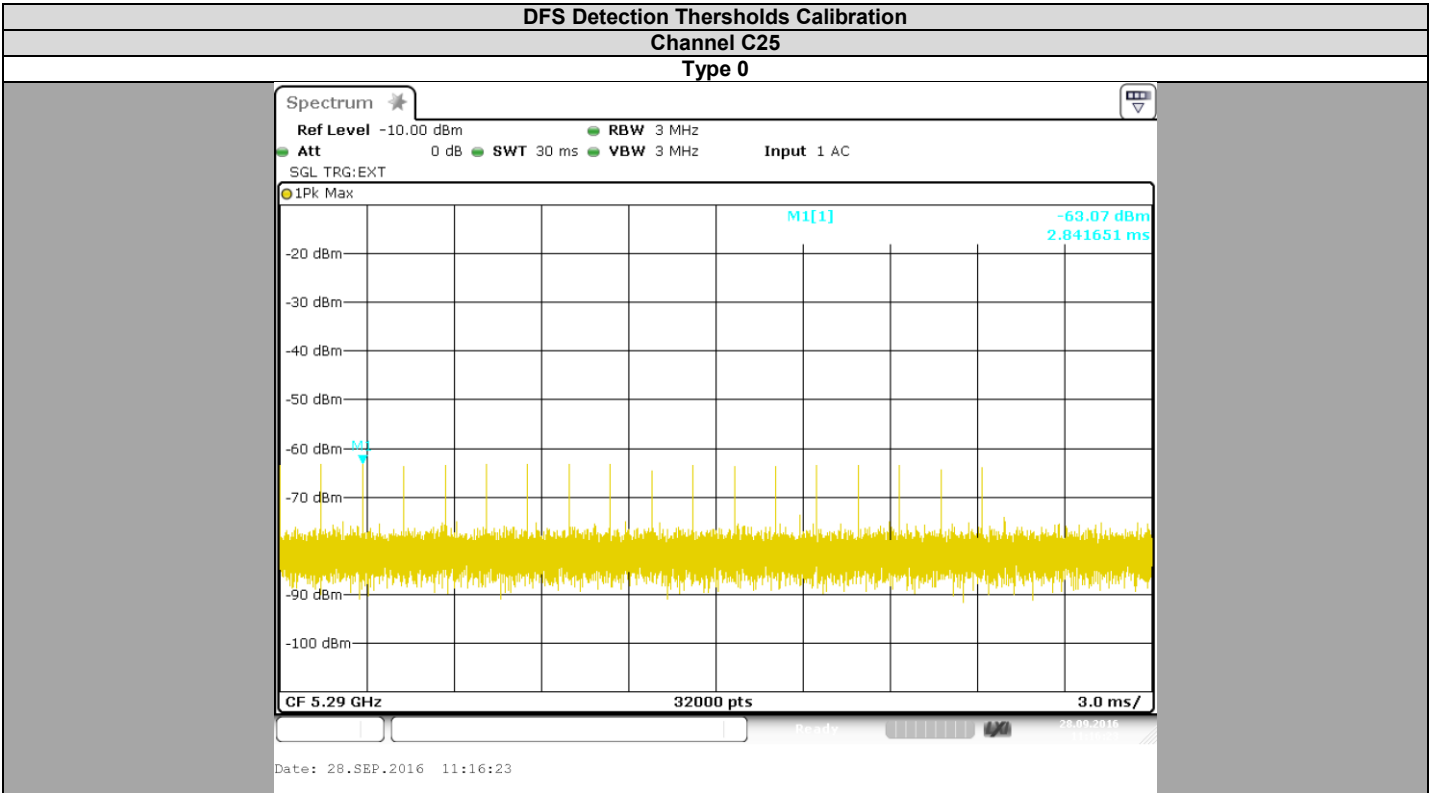
DESCRIPTION	MANUFACTURER	MODEL	N° LCIE	Cal_Date	Cal_Due
Multi-meter	KEITHLEY	2000	A1241084	2016/05	2018/05
EMI receiver/ Spectrum analyzer	ROHDE & SCHWARZ	ESR 7	A2642023	2016/05	2018/05
RF cable	Télédyne	920-0202-024	A5329663	2016/05	2018/05
RF cable	Télédyne	920-0202-024	A5329664	2016/05	2018/05
RF cable	Télédyne	920-0202-024	A5329665	2016/05	2018/05
RF cable	Télédyne	920-0202-024	A5329668	2016/05	2018/05
RF cable	Télédyne	920-0202-024	A5329669	2016/05	2018/05
RF cable	Télédyne	920-0202-024	A5329670	2016/05	2018/05
RF cable	Télédyne	920-0202-024	A5329672	2016/05	2018/05
RF cable	Télédyne	920-0202-024	A5329673	2016/05	2018/05
Vector signal generator	ROHDE & SCHWARZ	SMJ100A	A5444007	Verified with calibrated EMI receiver/ Spectrum analyzer before testing	
Programmable AC/DC power supply	KIKUSUI	PCR500M	A7040079	Verified with calibrated multimeter before testing	
Attenuator 10dB	MINI CIRCUITS	BW-S10W2+	A7122229	2016/05	2018/05
Attenuator 10dB	MINI CIRCUITS	BW-S10W2+	A7122230	2016/05	2018/05
RF cable & Attenuator 20dB	Télédyne & MINI CIRCUITS	920-0202-024 & FW-20+	A5329661	2016/05	2018/05
RF cable & Attenuator 20dB	Télédyne & MINI CIRCUITS	920-0202-024 & FW-20+	A5329676	2016/05	2018/05
RF cable & Attenuator 20dB	Télédyne & MINI CIRCUITS	920-0202-024 & FW-20+	A5329674	2016/05	2018/05
RF cable & Attenuator 20dB	Télédyne & MINI CIRCUITS	920-0202-024 & FW-20+	A5329675	2016/05	2018/05
Attenuator 3dB	MINI CIRCUITS	BW-S3W2+	A7122238	2016/05	2018/05
Attenuator 3dB	MINI CIRCUITS	BW-S3W2+	A7122239	2016/05	2018/05
Attenuator 3dB	MINI CIRCUITS	BW-S3W2+	A7122240	2016/05	2018/05
Attenuator 3dB	MINI CIRCUITS	BW-S3W2+	A7122241	2016/05	2018/05
Attenuator 3dB	MINI CIRCUITS	BW-S3W2+	A7122242	2016/05	2018/05
Attenuator 3dB	MINI CIRCUITS	BW-S3W2+	A7122243	2016/05	2018/05
Power splitter	Mini-Circuits	ZN6PD-63W-S+	A7132040	2016/05	2018/05
Power splitter	Mini-Circuits	ZN6PD-63W-S+	A7132041	2016/05	2018/05
Load 50 ohms	Fairview Microwave	ST0635F	A7152075	2016/05	2018/05
Load 50 ohms	Fairview Microwave	ST0635F	A7152076	2016/05	2018/05
Load 50 ohms	Fairview Microwave	ST0635F	A7152077	2016/05	2018/05
Load 50 ohms	Fairview Microwave	ST0635F	A7152078	2016/05	2018/05





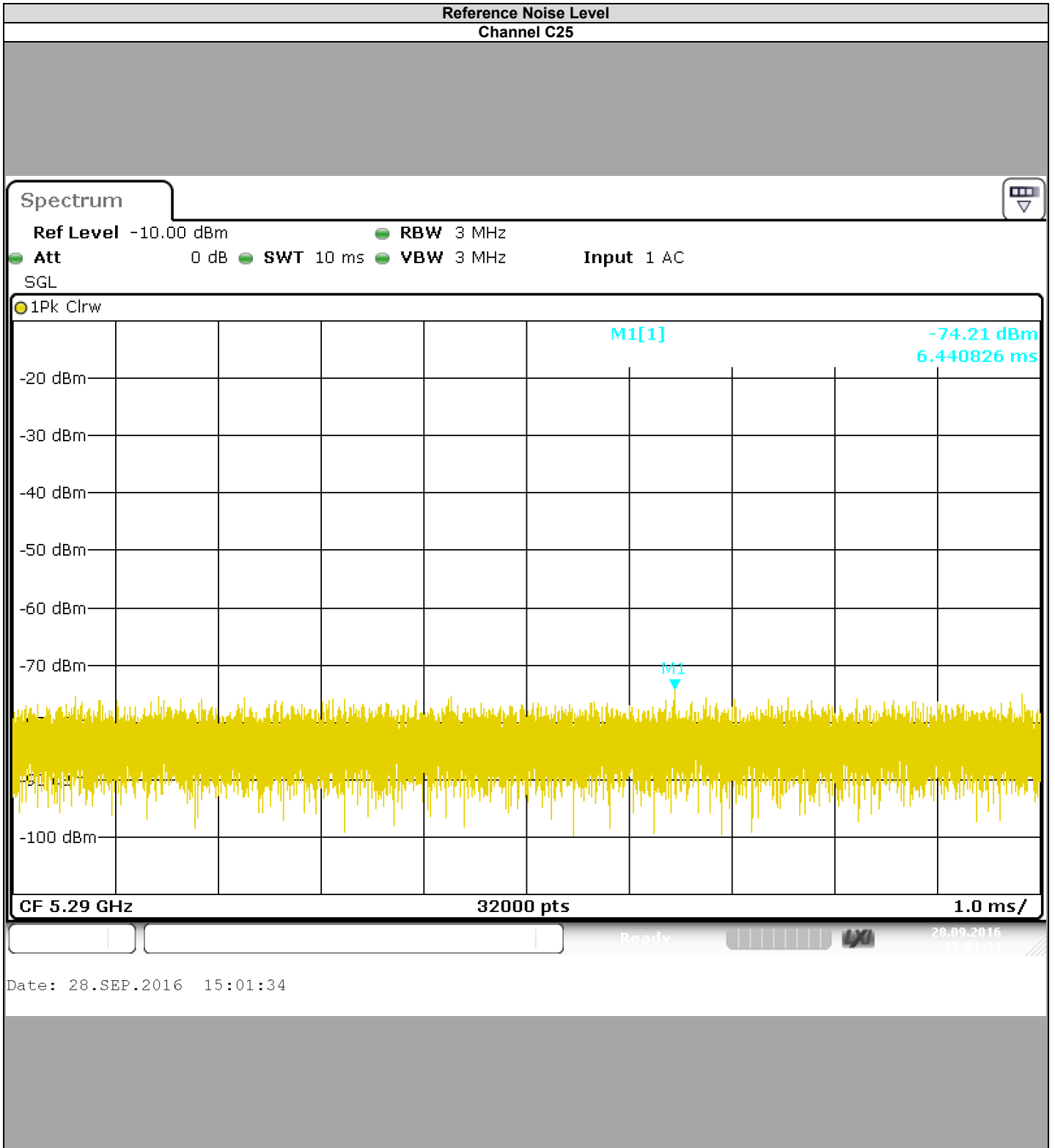
L C I E

### 3.4. RESULTS





L C I E

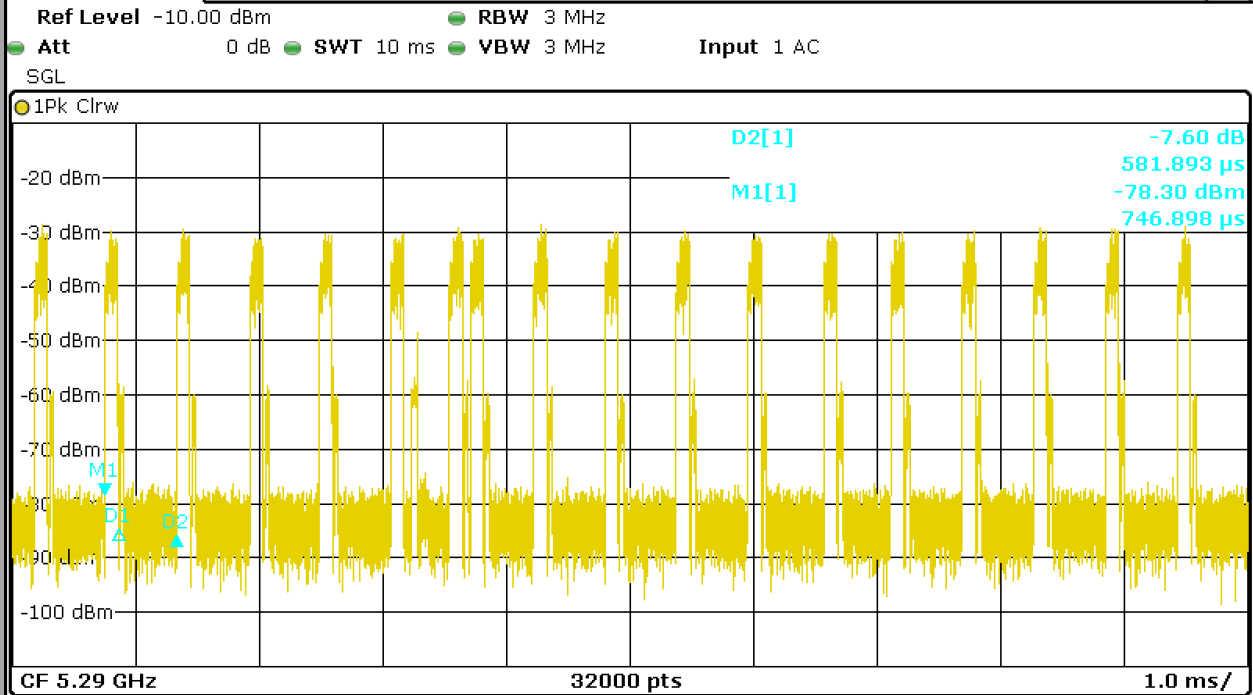




L C I E

Client Level  
Channel C25

Spectrum



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	746.898 μs	-78.30 dBm		
D1	M1	1	108.128 μs	-6.53 dB		
D2	M1	1	581.893 μs	-7.60 dB		

Date: 28.SEP.2016 14:55:34



L C I E

Temperature	Tnom
Voltage	Vnom
Channel	C25
Duty Cycle (%)	Over 17

Channel	Channel
EIRP (See test report from FCC ID: RRK2012060056-1)	338,065mW
DFS Detection thresholds applied	-64dBm
Additional Level (dB)	1
DFS Detection thresholds applied	-63dBm

## 4. DYNAMIC FREQUENCY SELECTION (DFS): CHANNEL CLOSING TRANSMISSION TIME & CHANNEL MOVE TIME

### 4.1. TEST CONDITIONS

Test performed by : Mathieu CERISIER  
 Date of test : September 29, 2016  
 Ambient temperature : 23 °C  
 Relative humidity : 44 %

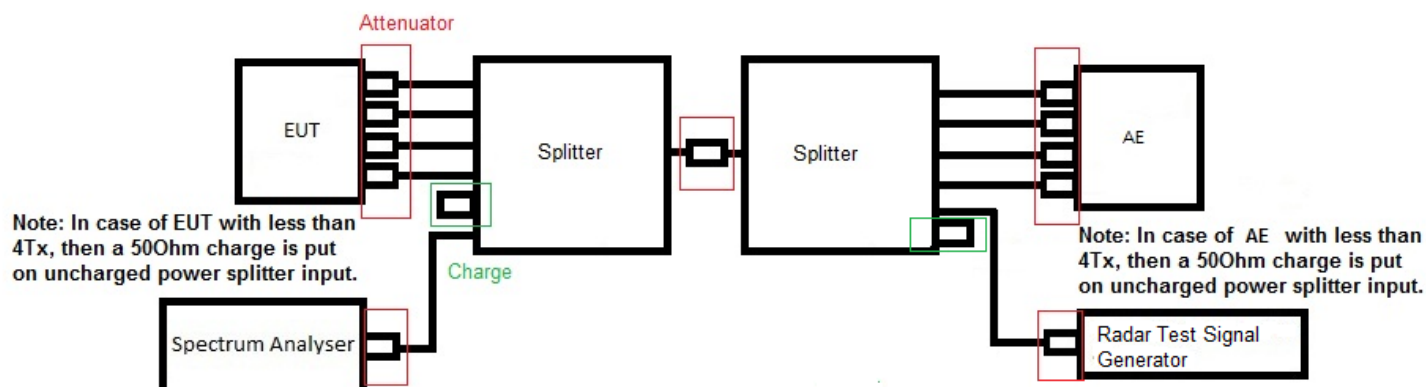
### 4.2. TEST SETUP

- The Equipment Under Test is:

- On a table
- In an anechoic chamber

- Measurement is performed with a spectrum analyzer:

- On the EUT conducted access
- On the EUT with a test fixture





#### 4.3. LIMIT

Channel Closing Transmission Time shall not exceed 0.26second  
 Channel Move Time shall not exceed 10seconds

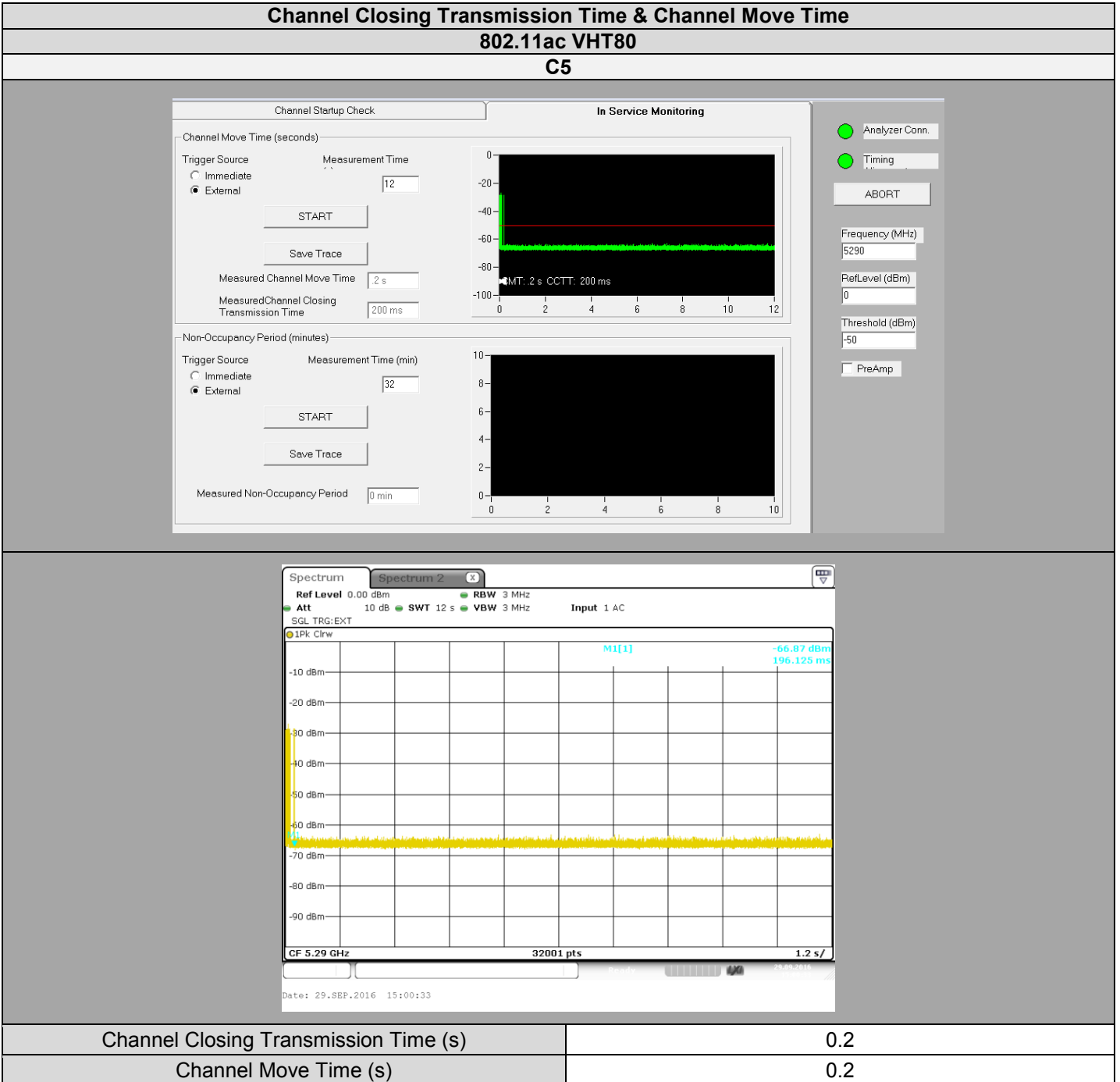
#### 4.4. TEST EQUIPMENT LIST

DESCRIPTION	MANUFACTURER	MODEL	N° LCIE	Cal_Date	Cal_Due
Multi-meter	KEITHLEY	2000	A1241084	2016/05	2018/05
EMI receiver/ Spectrum analyzer	ROHDE & SCHWARZ	ESR 7	A2642023	2016/05	2018/05
RF cable	Télédyne	920-0202-024	A5329663	2016/05	2018/05
RF cable	Télédyne	920-0202-024	A5329664	2016/05	2018/05
RF cable	Télédyne	920-0202-024	A5329665	2016/05	2018/05
RF cable	Télédyne	920-0202-024	A5329668	2016/05	2018/05
RF cable	Télédyne	920-0202-024	A5329669	2016/05	2018/05
RF cable	Télédyne	920-0202-024	A5329670	2016/05	2018/05
RF cable	Télédyne	920-0202-024	A5329672	2016/05	2018/05
RF cable	Télédyne	920-0202-024	A5329673	2016/05	2018/05
Vector signal generator	ROHDE & SCHWARZ	SMJ100A	A5444007	Verified with calibrated EMI receiver/ Spectrum analyzer before testing	
Programmable AC/DC power supply	KIKUSUI	PCR500M	A7040079	Verified with calibrated multimeter before testing	
Attenuator 10dB	MINI CIRCUITS	BW-S10W2+	A7122229	2016/05	2018/05
Attenuator 10dB	MINI CIRCUITS	BW-S10W2+	A7122230	2016/05	2018/05
RF cable & Attenuator 20dB	Télédyne & MINI CIRCUITS	920-0202-024 & FW-20+	A5329661	2016/05	2018/05
RF cable & Attenuator 20dB	Télédyne & MINI CIRCUITS	920-0202-024 & FW-20+	A5329676	2016/05	2018/05
RF cable & Attenuator 20dB	Télédyne & MINI CIRCUITS	920-0202-024 & FW-20+	A5329674	2016/05	2018/05
RF cable & Attenuator 20dB	Télédyne & MINI CIRCUITS	920-0202-024 & FW-20+	A5329675	2016/05	2018/05
Attenuator 3dB	MINI CIRCUITS	BW-S3W2+	A7122238	2016/05	2018/05
Attenuator 3dB	MINI CIRCUITS	BW-S3W2+	A7122239	2016/05	2018/05
Attenuator 3dB	MINI CIRCUITS	BW-S3W2+	A7122240	2016/05	2018/05
Attenuator 3dB	MINI CIRCUITS	BW-S3W2+	A7122241	2016/05	2018/05
Attenuator 3dB	MINI CIRCUITS	BW-S3W2+	A7122242	2016/05	2018/05
Attenuator 3dB	MINI CIRCUITS	BW-S3W2+	A7122243	2016/05	2018/05
Power splitter	Mini-Circuits	ZN6PD-63W-S+	A7132040	2016/05	2018/05
Power splitter	Mini-Circuits	ZN6PD-63W-S+	A7132041	2016/05	2018/05
Load 50 ohms	Fairview Microwave	ST0635F	A7152075	2016/05	2018/05
Load 50 ohms	Fairview Microwave	ST0635F	A7152076	2016/05	2018/05
Load 50 ohms	Fairview Microwave	ST0635F	A7152077	2016/05	2018/05
Load 50 ohms	Fairview Microwave	ST0635F	A7152078	2016/05	2018/05

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

None       Divergence:

#### 4.6. RESULTS



#### 4.7. CONCLUSION

Channel Closing Transmission Time & Channel Move Time measurement performed on the sample of the product **AirTV Player UIW4010ECH**, SN: **Sn 002**, in configuration and description presented in this test report, show levels **compliant** to the 47 CFR PART 15.407 & RSS 247 ISSUE 1 limits.

## 5. DYNAMIC FREQUENCY SELECTION (DFS): NON-OCCUPANCY PERIOD

### 5.1. TEST CONDITIONS

Test performed by : Mathieu CERISIER  
 Date of test : September 28, 2016  
 Ambient temperature : 26 °C  
 Relative humidity : 44 %

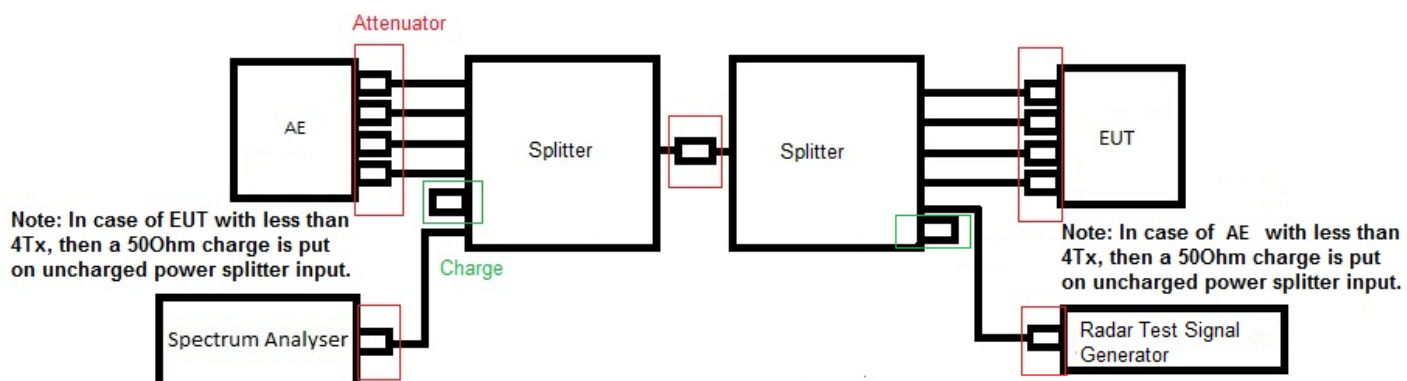
### 5.2. TEST SETUP

- The Equipment Under Test is:

- On a table
- In an anechoic chamber

- Measurement is performed with a spectrum analyzer:

- On the EUT conducted access
- On the EUT with a test fixture



### 5.3. LIMIT

Non-Occupancy Period shall exceed 1800 seconds





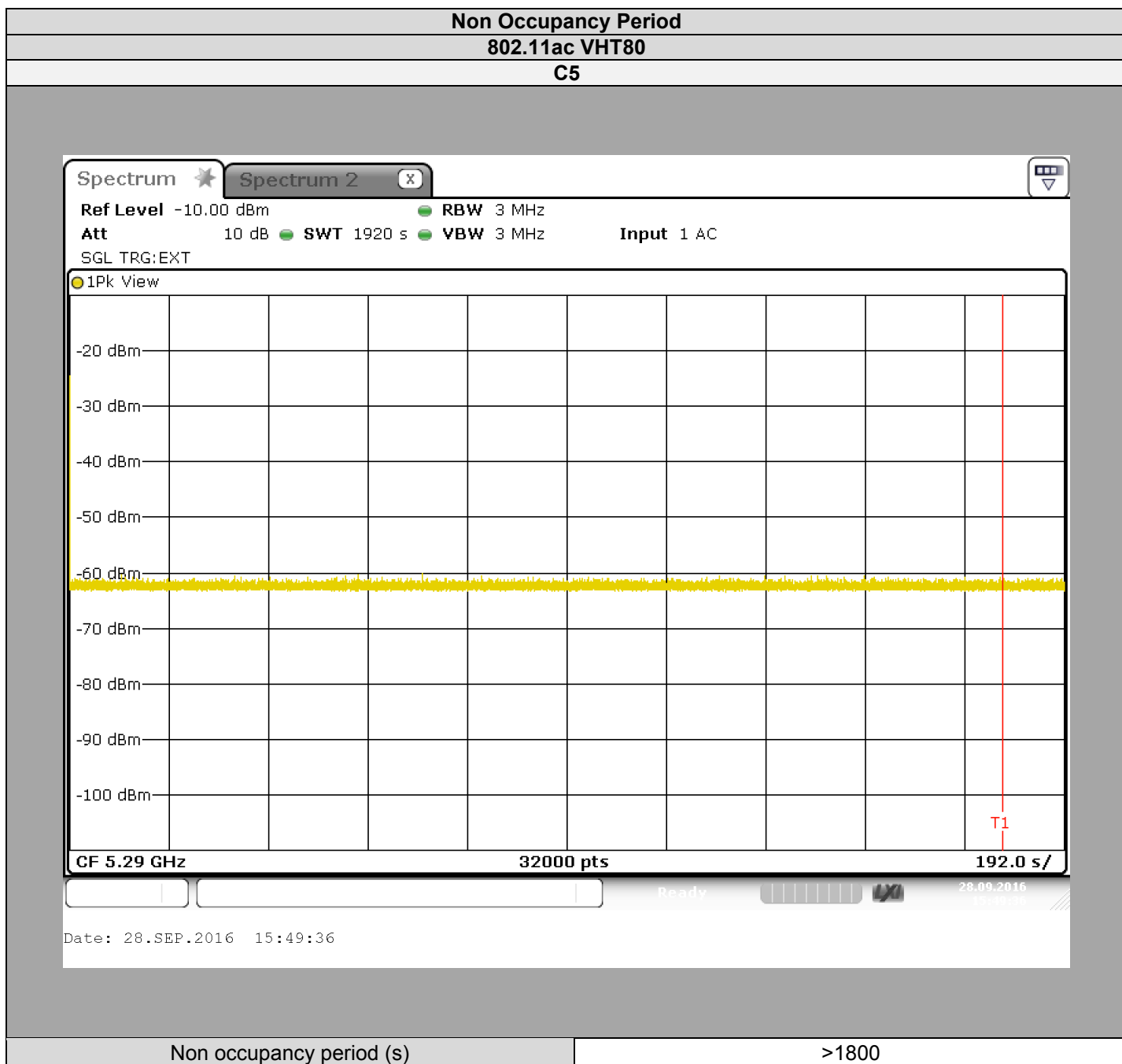
#### 5.4. TEST EQUIPMENT LIST

DESCRIPTION	MANUFACTURER	MODEL	N° LCIE	Cal_Date	Cal_Due
Multi-meter	KEITHLEY	2000	A1241084	2016/05	2018/05
EMI receiver/ Spectrum analyzer	ROHDE & SCHWARZ	ESR 7	A2642023	2016/05	2018/05
RF cable	Télédyné	920-0202-024	A5329663	2016/05	2018/05
RF cable	Télédyné	920-0202-024	A5329664	2016/05	2018/05
RF cable	Télédyné	920-0202-024	A5329665	2016/05	2018/05
RF cable	Télédyné	920-0202-024	A5329668	2016/05	2018/05
RF cable	Télédyné	920-0202-024	A5329669	2016/05	2018/05
RF cable	Télédyné	920-0202-024	A5329670	2016/05	2018/05
RF cable	Télédyné	920-0202-024	A5329672	2016/05	2018/05
RF cable	Télédyné	920-0202-024	A5329673	2016/05	2018/05
Vector signal generator	ROHDE & SCHWARZ	SMJ100A	A5444007	Verified with calibrated EMI receiver/ Spectrum analyzer before testing	
Programmable AC/DC power supply	KIKUSUI	PCR500M	A7040079	Verified with calibrated multimeter before testing	
Attenuator 10dB	MINI CIRCUITS	BW-S10W2+	A7122229	2016/05	2018/05
Attenuator 10dB	MINI CIRCUITS	BW-S10W2+	A7122230	2016/05	2018/05
RF cable & Attenuator 20dB	Télédyné & MINI CIRCUITS	920-0202-024 & FW-20+	A5329661	2016/05	2018/05
RF cable & Attenuator 20dB	Télédyné & MINI CIRCUITS	920-0202-024 & FW-20+	A5329676	2016/05	2018/05
RF cable & Attenuator 20dB	Télédyné & MINI CIRCUITS	920-0202-024 & FW-20+	A5329674	2016/05	2018/05
RF cable & Attenuator 20dB	Télédyné & MINI CIRCUITS	920-0202-024 & FW-20+	A5329675	2016/05	2018/05
Attenuator 3dB	MINI CIRCUITS	BW-S3W2+	A7122238	2016/05	2018/05
Attenuator 3dB	MINI CIRCUITS	BW-S3W2+	A7122239	2016/05	2018/05
Attenuator 3dB	MINI CIRCUITS	BW-S3W2+	A7122240	2016/05	2018/05
Attenuator 3dB	MINI CIRCUITS	BW-S3W2+	A7122241	2016/05	2018/05
Attenuator 3dB	MINI CIRCUITS	BW-S3W2+	A7122242	2016/05	2018/05
Attenuator 3dB	MINI CIRCUITS	BW-S3W2+	A7122243	2016/05	2018/05
Power splitter	Mini-Circuits	ZN6PD-63W-S+	A7132040	2016/05	2018/05
Power splitter	Mini-Circuits	ZN6PD-63W-S+	A7132041	2016/05	2018/05
Load 50 ohms	Fairview Microwave	ST0635F	A7152075	2016/05	2018/05
Load 50 ohms	Fairview Microwave	ST0635F	A7152076	2016/05	2018/05
Load 50 ohms	Fairview Microwave	ST0635F	A7152077	2016/05	2018/05
Load 50 ohms	Fairview Microwave	ST0635F	A7152078	2016/05	2018/05

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

None       Divergence:

## 5.6. RESULTS



## 5.7. CONCLUSION

Non-Occupancy period measurement performed on the sample of the product **AirTV Player UIW4010ECH**, SN: **Sn 002**, in configuration and description presented in this test report, show levels **compliant** to the 47 CFR PART 15.407 & RSS 247 ISSUE 1 limits.



L C I E

**6. ANNEX 3: RADAR TEST SIGNAL TYPE 5 & 0**

TYPE 0		
Pulses per Burst	Pulse Width ( $\mu\text{sec}$ )	PRI ( $\mu\text{s}$ )
18	1	1428

## 7. 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