# CE EMC REPORT

REPORT NO.: HUT11150415001RF

Prepared For		Cloudstore Limited
		Level 3, 32 Market Place, Viaduct, Auckland, New Zealand 1010
Trade Mark		Airconsole
Product Name		USB/WIFI Router
Model		Airconsole Airconsole Mini , Airconsole XL
Prepared By	-	Shenzhen HUT Testing Technology Co.,Ltd  11F Baohe Building At The Intersection Of BaoAn Road And XiXiang Road BaoAn District ShenZhen City
Test Date	-	Apr. 15 – Apr. 22, 2015
Date of Report		Apr. 22, 2015
Report No.	-	HUT11150415001RF

**Note:** The results detailed in this test report relate only to the specific sample(s) tested. This report is not to be reproduced except in full, without written approval from HUT Testing Technology

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# 1. Summary Of Test Results

Test procedures according to the technical standards:

Test procedures according to the technical standards:						
	ETSI	EN 300 328 V1.8.1				
Clause	Test Item	Limit	Frequency Range (MHz)	Applicable (Yes/No)		
		ITTER PARAMETERS				
	Number of hopping channel	>=15				
4.2.1 4.3.4	Hopping channel carrier frequency separated	the 20dB bandwidth of the hopping channel	2400-2483.5	N		
	Average time of occupancy	< = 0.4 sec				
4.3.1	Effective radiated power	AV: -10 dBW(20 dBm)	2400-2483.5	Y		
		FHSS N/A	2400-2483.5	N		
4.3.2	Peak power density	DSSS/OFDM, Other modulation 10 mW/MHz	2400-2483.5	Y		
4.3.3	Frequency range	FHSS / e.i.r.p. -80dBm/Hz	2400-2483.5	N		
4.3.3	r requericy range	Other modulation / e.i.r.p80dBm/Hz	2400-2483.5	Y		
		Operating: -36dBm Standby: -57dBm	30-1000			
4.3.6	Spurious emissions (conducted)	Operating: -30dBm Standby: -47dBm	1000-12750	N		
		Operating: -47dBm Standby: -47dBm	1800-1900 5150-5300			
		Operating: -36dBm Standby: -57dBm	30-1000			
4.3.6	Spurious emissions	Operating: -30dBm Standby: -47dBm	1000-12750	Y		
	(radiated)	Operating: -47dBm Standby: -47dBm	1800-1900 5150-5300			
		-47dBm	1000-12750			
	RECEIV	VER PARAMETERS				
	Spurious emissions	-57dBm	30-1000	N		
4.3.7	(conducted)	-47dBm	1000-12750			
	Spurious emissions (radiated)	-57dBm	30-1000	Y		

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# 1.1 Test Facility

Shenzhen HUT Testing Technology Co.,Ltd

Add.: 11F Baohe Building At The Intersection Of BaoAn Road And XiXiang Road BaoAn District ShenZhen City

Dick Zhang

Irence Tested By:\_

Date: Apr. 15, 2015

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Check By:

Date: Apr. 22, 2015

Date:

## 1.2 Measurement Uncertainty

Measurement Uncertainty for a Level of Confidence of 95 %, U=2xUc(y)

RF frequency	1 x 10 <sup>-7</sup>
RF power, conducted	± 1.0 dB
Conducted emission of receivers	± 1 dB
Radiated emission of transmitter	± 6 dB
Radiated emission of receiver	± 6 dB
Temperature	±1 degree
Humidity	± 5 %

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# 2. General Information

# 2.1 General Description Of EUT

Equipment	USB/WIFI Router			
Model Name	Airconsole			
OEM Brand/Model Name	Airconsole			
Model Difference	N/A			
	The EUT is a WiFi devi	ce		
	Operation Frequency:	802.11b/g: 2412~2472 MHz		
	Modulation Type:	CCK/OFDM/DBPSK/DQPSK/QPSK /BPSK		
	Bit Rate of Transmitter	802.11b:11/5.5/2/1 Mbps 802.11g:54/48/36/24/18/12/9/6 Mbps		
Product Description	Number Of Channel	13 CH, Please see Note 2.		
1 Toddet Besonption	Antenna Designation: Internal Antenna			
	Antenna Gain(Peak)	2dBi		
	Output Power(EIRP):	802.11b: 10.84 dBm (Max.) 802.11g: 10.48 dBm (Max.)		
	Based on the application, features, or specification exhibited in User's Manual, the EUT is considered as an ITE/Computing Device. More details of EUT technical specification, please refer to the User's Manual.			
Channel List	Please refer to the Note 2.			
Power Source	DC 5V			
Connecting I/O Port(s)	Please refer to the User's Manual			
Products Covered	N/A			

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# Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

2.

	Channel List for 802.11b/g						
					Frequency (MHz)		
01	2412	04	2427	07	2442	10	2457
02	2417	05	2432	80	2447	11	2462
03	2422	06	2437	09	2452	13	2472

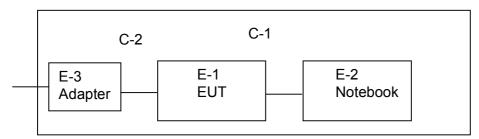
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#### 2.2 Description Of Test Conditions

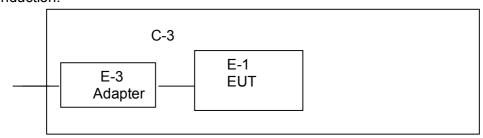
(1) EUT was tested in normal configuration (Please See following Block diagram)

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#### Radiated:



#### Conduction:



#### 2.2.1 Test Conditions and Channel

	Normal Test Conditions	Extreme Test Conditions
Temperature	15°C - 35°C	0°C ~ 55°C Note: (1)
Relative Humidity	20% - 75%	N/A
Supply Voltage	DC 5V	DC 4.5V, DC 5.5V

Pretest Mode	Description
Mode 1	802.11b CH1/ CH7/ CH13
Mode 2	802.11g CH1/ CH7/ CH13

#### Note:

(1) For tests at extreme temperatures, measurements shall be made in accordance with the procedures specified in clause 5.3.4.3, at the upper and lower temperatures of the range as follow: temperature: -20°C to +55°C;

Where the manufacture's stated operating range does not include the range of -20°C to +55°C, the equipment shall be tested over the following temperature ranges:

- a) 0°C to +35°C for equipment intended for indoor use only, or intended for use in areas where the temperature is controlled within this range;
- b) over the extremes of the operating temperature range(s) of the stated combination(s) or host equipment(s) in case of plug-in radio devices.
- (2) For the Leclanché or lithium type battery: 0.85 times the nominal voltage of the battery; for the mercury or nickel-cadmium type of battery: 0.9 times the nominal voltage of the battery. In both cases, the upper extreme test voltage shall be 1.15 times the nominal voltage of the battery.
- (3) The measurements are performed at the highest, middle, lowest available channels.

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# 2.3 Description Of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

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Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Note
E-1	USB/WIFI Router	N/A	Airconsole	N/A	EUT

Item	Shielded Type	Ferrite Core	Length	Note

#### Note:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in m in <code>[Length]</code> column.

# 2.4 Equipments List For All Test Items

# 2.4.1Effective radiated power

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP_40	100129	Nov. 20, 2014
2	Microwave Pre_amplifier	Agilent	8449B	3008A01714	Nov. 20, 2014
3	Microflex Cable	United Microwave	57793	1m	Nov. 20, 2014
4	Microflex Cable	United Microwave	A30A30-500 6	10M	Nov. 20, 2014
5	Horn Antenna	EMCO	3115	9605-4803	Nov. 20, 2014
6	Horn Ant	Schwarzbeck	BBHA 9170	9170-181	Nov. 20, 2014
7	Log-Bicon Antenna	MESS-ELEKTRONIK	VULB 9160	3058	Nov. 20, 2014
8	Test Cable	N/A	10M_OS02	N/A	Nov. 20, 2014
9	Test Cable	N/A	OS02-1/-2/-3	N/A	Nov. 20, 2014
10	Pre-Amplifier	Anritsu	MH648A	M09961	Nov. 20, 2014
11	Temperature & Humitidy Chamber	GIANT FORCE	GTH-056P	GF-94454-1	Nov. 20, 2014
12	Signal Generator	R&S	SMT 06	832080/007	Nov. 20, 2014
13	Power Metter	ANRITSU	ML2487A	6K00001568	Nov. 20, 2014
14	Power Sensor (AV)	ANRITSU	ML2491A	030989	Nov. 20, 2014

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2.4.2Peak power density

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP_40	100129	Nov. 20, 2014
2	Signal Generator	R&S	SMT 06	832080/007	Nov. 20, 2014
3	Power Metter	ANRITSU	ML2487A	6K00001568	Nov. 20, 2014
4	Power Sensor (AV)	ANRITSU	ML2491A	030989	Nov. 20, 2014

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2.4.3 Spurious emissions

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP_40	100129	Nov. 20, 2014
2	Microwave Pre_amplifier	Agilent	8449B	3008A01714	Nov. 20, 2014
3	Microflex Cable	United Microwave	57793	1m	Nov. 20, 2014
4	Microflex Cable	United Microwave	A30A30-500 6	10M	Nov. 20, 2014
5	Horn Antenna	EMCO	3115	9605-4803	Nov. 20, 2014
6	Horn Ant	Schwarzbeck	BBHA 9170	9170-181	Nov. 20, 2014
7	Log-Bicon Antenna	MESS-ELEKTRONIK	VULB 9160	3058	Nov. 20, 2014
8	Test Cable	N/A	10M_OS02	N/A	Nov. 20, 2014
9	Test Cable	N/A	OS02-1/-2/-3	N/A	Nov. 20, 2014
10	Pre-Amplifier	Anritsu	MH648A	M09961	Nov. 20, 2014

2.4.4Frequency range

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP_40	100129	Nov. 20, 2014
2	Temperature & Humitidy Chamber	GIANT FORCE	GTH-056P	GF-94454-1	Nov. 20, 2014

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# 3. Effective radiated power

# 3.1 Applied procedures / limit

Clause Test Item		Limit	
4.3.1	Effective radiated power	AV: -10 dBW (20 dBm)	

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#### 3.1.1 Measuring Instruments and Setting

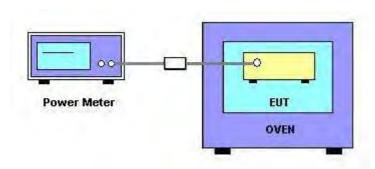
Please refer to section 4.1.1 in this report. The following table is the setting of the power meter.

Power Meter Parameter	Setting
Filter No.	Auto
Measurement time	0.135 s ~ 26 s
Used Average Sensor	ML2491A

#### 3.1.2 Test Procedures

- a. Since a temporary antenna connector can be attached on the RF output port, so conducted measurement method was used in this case.
- b. A wide band power meter with a matched thermocouple detector was used to directly measure the output power from the RF output port of the EUT in continuously transmitting mode.
- c. The EIRP = A+G+10\*log(1/x), where A is the power measured in (1), G is the gain of the antenna of the EUT in dBi and x is the duty cycle of the EUT in continuously transmitting mode.
- d. The measurement shall be repeated at the lowest, the middle, and the highest channel of the stated frequency range. These measurements shall also be performed at normal and extreme test conditions.

#### 3.1.3 Test Setup Layout



#### 3.1.4 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

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# 3.1.5 TEST RESULTS

EUT:	USB/WIFI Router	Model Name :	Airconsole	
Temperature:	26°C	Relative Humidity:	60 %	
Pressure:	1012 hPa	Test Voltage :	DC 5V	
Test Mode :	TX 11B Mode CH1 / CH7 / CH13			

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TEST CONDITIONS				Average EIRP Power ( dBm )		
. 23. 33.181116116			CH1	CH7	CH13	
T nom (°C)	20.00	V nom (V)	DC 5V	10.37	10.32	10.17
T min (°C)	0.00	V max (V)	AC 253V	10.36	10.26	10.15
1 111111 ( C)	0.00	V min (V)	AC 207V	10.25	10.28	10.11
T may (°C)	55	V max (V)	AC 253V	10.14	10.27	10.21
T max (°C) 55	55	V min (V)	AC 207V	10.17	10.20	10.17
Max Peak Power				10.37		
Limits			20dBm (-10dBW)			
Result				Complies	;	

EUT:	USB/WIFI Router	Model Name :	Airconsole
Temperature:	26°C	Relative Humidity:	60 %
Pressure:	1012 hPa	Test Voltage :	DC 5V
Test Mode :	TX 11G Mode CH1 / CH7 / CH13		

TEST CONDITIONS			Average EIRP Power ( dBm )			
				CH1	CH7	CH13
T nom (°C)	20.00	V nom (V)	DC 5V	10.54	10.36	10.37
T min (°C)	0.00	V max (V)	AC 253V	10.38	10.38	10.35
1 111111 ( C)	0.00	V min (V)	AC 207V	10.47	10.34	10.47
T may (°C)	55	V max (V)	AC 253V	10.52	10.45	10.34
T max (°C)	55	V min (V)	AC 207V	10.37	10.48	10.38
Max Peak Power				10.54		
Limits			20dBm (-10dBW)			
Result				Complies		

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# 4. Peak power density

# 4.1 Applied procedures / limit

Clause	Test Item	Limit
		FHSS N/A
4.3.2	Peak power density	DSSS/OFDM, Other modulation 10 mW/MHz

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#### 4.1.1 Measuring Instruments and Setting

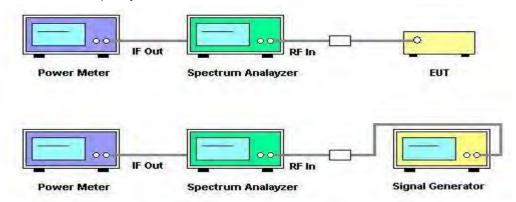
Please refer to section 5.1.1 in this report. The following table is the setting of the power meter.

Power Meter Parameter	Setting
Filter No.	Auto
Measurement time	0.135 s ~ 26 s
Used Average Sensor	ML2491A

#### 4.1.2 Test Procedures

- a. Pre-calibration for the spectrum analyzer has to be done first through a CW signal of the measured carrier frequency with 10dBm power strength.
- b. A power meter is connected on the IF output port of the spectrum analyzer.
- c. Adjust the spectrum analyzer to have the center frequency the same with the measured carrier. RBW=VBW=1MHz, detector mode is positive peak. Turn off the averaging function and use zero span.
- d. The calibrating signal power shall be reduced to 0 dBm and it shall be verified that the power meter reading also reduces by 10 dB.
- e. Connect the equipment to be measured. Using the following settings of the spectrum analyzer in combination with "max hold" function, find the frequency of highest power output in the power envelope: center frequency equal to operating frequency; RBW & VBW: 1 MHz; detector mode: positive peak; averaging: off; span: 3 times the spectrum width; amplitude: adjust for middle of the instrument's range. The frequency found shall be recorded.
- f. Set the center frequency of the spectrum analyzer to the found frequency and switch to zero span. The power meter indicates the measured power density (D). The maximum spectral power density e.i.r.p. is calculated from the above measured power density (D), the observed duty cycle factor(x), and the applicable antenna assembly gain "G" in dBi, according to the formula:  $PD = D + G + 10 \log (1/x)$ .
- g. The measurement shall be repeated at the lowest, the middle, and the highest channel of the stated frequency range.

#### 4.1.3 Test Setup Layout



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# 4.1.4 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

# 4.1.5 TEST RESULTS

EUT:	USB/WIFI Router	Model Name :	Airconsole
Temperature:	26°C	Relative Humidity:	60 %
Pressure:	1012 hPa	Test Voltage :	DC 5V
Test Mode :	TX 11B Mode CH1 /CH7/ CH13		

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WLAN						
TEST CONDITIONS				EIRP Sp	ectral Powe (mW/MHz	
				CH 1	CH 7	CH 13
T nom (°C)	T nom (°C) 20.00 V nom (V) DC 5V			2.68	2.46	2.52
Limits				10 mW/MH	z	
Result				Complies	;	

EUT:	USB/WIFI Router	Model Name :	Airconsole
Temperature:	26°C	Relative Humidity:	60 %
Pressure:	1012 hPa	Test Voltage :	DC 5V
Test Mode :	TX 11G Mode CH1 /CH7/ CH13		

	WLAN					
TEST CONDITIONS					ectral Powe (mW/MHz	
				CH 1	CH 7	CH 13
T nom (°C)	T nom (°C) 20.00 V nom(V) DC 5V			1.28	1.14	1.31
Limits			1	0 mW/MH	Z	
Result				Complies		

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# 5. Frequency range

#### 5.1 Applied procedures / limit

Clause	Test Item	Limit
4.3.3	Frequency range	-80dBm/Hz

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The frequency range of the equipment is determined by the lowest and highest frequencies occupied by the power envelope. fH is the highest frequency of the power envelope: it is the frequency furthest above the frequency of maximum power where the output power drops below the level of -80 dBm/Hz e.i.r.p. spectral power density (-30 dBm if measured in a 100 kHz bandwidth). fL is the lowest frequency of the power envelope; it is the frequency furthest below the frequency of maximum power where the output power drops below the level equivalent to -80 dBm/Hz e.i.r.p. spectral power density (or -30 dBm if measured in a 100 kHz bandwidth). The frequency range is determined by the lowest value of fL and the highest value of fH resulting from the adjustment of the equipment to the lowest and highest operating frequencies. For all equipment, the frequency range shall lie within the band 2.4 GHz to 2,4835 GHz ( $f_L > 2.4$  GHz and  $f_H < 2.4835$  GHz).

#### 5.1.1 Measuring Instruments and Setting

Please refer to section 6.1.1 in this report. The following table is the setting of Spectrum Analyzer.

Spectrum Analyzer	Setting
Attenuation	20~30dB
Span Frequency	40MHz
RB	100 kHz
VB	100 kHz
Detector	Average
Trace	Average 50 sweeps

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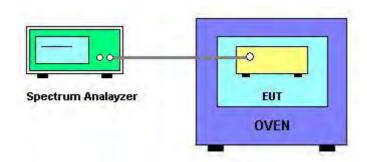
#### 5.1.2 Test Procedures

- a. The transmitter output (antenna port) was connected to the spectrum analyzer.
- b. Added [x] dBi of antenna gain was on the spectrum analyzer.
- c. Place the spectrum analyzer in detector averaging mode with a minimum of 50 sweeps selected and activate transmitter with modulation applied.

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- d. Select lowest operating frequency of the equipment under test.
- e. Find lowest frequency below the operating frequency at which spectral power density drops below -80 dBm/Hz e.i.r.p. (-30 dBm if measured in a 100 kHz bandwidth). This frequency shall be recorded (fL).
- f. Select the highest operating frequency of the equipment under test.
- g. Find the highest frequency at which the spectral power density drops below-80 dBm/Hz e.i.r.p. (-30 dBm if measured in a 100 kHz bandwidth). This frequency shall be recorded (fH).
- h. These measurements shall also be performed at normal and extreme test conditions.

# 5.1.3 Test Setup Layout



#### 5.1.4 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

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# 5.1.5 TEST RESULTS

EUT:	USB/WIFI Router	Model Name :	Airconsole
Temperature:	26 °C	Relative Humidity:	60 %
Pressure:	1012 hPa	Test Voltage :	DC 5V
Test Mode :	TX 11B Mode CH1 / CH13		

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TEST CONDITIONS				Frequency range ( MHz )	
	TEST CONDITIONS			f <sub>∟</sub> CH1	f <sub>H</sub> CH13
T nom (°C)	20.00	V nom (V)	DC 5V	2402.2348	2481.9572
T min (°C)	-20.00	V max (V)	AC 253V	2402.3592	2481.6518
T min (°C)	-20.00	V min (V)	AC 207V	2402.3592	2481.3867
T may (°C)	55.00	V max (V)	AC 253V	2402.4862	2481.9572
T max (°C)	35.00	V min (V)	AC 207V	2402.2348	2481.6518
Min. f <sub>L</sub> / Max. f <sub>H</sub> Band Edges			2402.2348	2481.9572	
EU / Australia / NZ Limits			$f_L > 2400.0 \text{ MHz}$	$f_{\rm H} < 2483.5  \mathrm{MHz}$	
Result			Com	plies	

EUT:	USB/WIFI Router	Model Name :	7C+
Temperature:	26 °C	Relative Humidity:	60 %
Pressure:	1012 hPa	Test Voltage :	DC 5V
Test Mode :	TX 11G Mode CH1 / CH13		

TEST CONDITIONS			Frequency ra	ange ( MHz )	
	TEST CONDITIONS			f∟ CH1	f <sub>H</sub> CH13
T nom (°C)	20.00	V nom (V)	DC 5V	2401.6815	2482.3482
T min (°C)	-20.00	V max (V)	DC 4.5V	2401.3462	2482.3695
1 111111 ( C)	-20.00	V min (V)	DC 5.5V	2401.2285	2482.4476
T may (°C)	55.00	V max (V)	DC 4.5V	2401.2285	2482.3695
T max (°C)	55.00	V min (V)	DC 5.5V	2401.6815	2482.3695
Min. f <sub>L</sub> / Max. f <sub>H</sub> Band Edges			2401.2285	2482.4476	
Other EU / Australia / NZ Limits			$f_L > 2400.0 \; MHz$	$f_{\rm H} < 2483.5  \mathrm{MHz}$	
Result			Com	plies	

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# 6. Spurious emissions – Transmitter (30- 1000MHz)

#### 6.1 Applied procedures / limit

Clause	Test Item	Frequency(MHz)	Limit	
		30-1000	Operating	-36dBm
	4.3.4 (radiated)	30-1000	Standby	-57dBm
121		4000 40=0	Operating	-30dBm
4.3.4		1000-12750	Standby	-47dBm
		1800-1900	Operating	-47dBm
	,	5150-5300		-47dBm

REPORT NO.: HUT11150415001RF

# 6.1.1 Measuring Instruments and Setting

Please refer to section 7.1.1 in this report. The following table is the setting of the Spectrum Analyzer.

<i>i</i>	
Spectrum Analyzer	Setting
Attenuation	Auto
Start Frequency	30 MHz
Stop Frequency	1000 MHz
Detector	Positive Peak
Span	100 MHz
Sweep Time	1s
RB / VB	100 kHz / 30 kHz

#### 6.1.2 Test Procedures

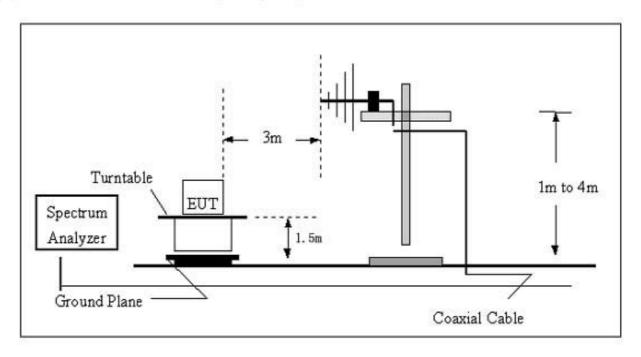
- a. The EUT was placed on the top of the turntable in open test site area.
- b. The test shall be made in the transmitting mode. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
- c. This measurement shall be repeated with the transmitter in standby mode where applicable.
- d. For 30~1000MHz spurious emissions measurement, the broad band bi-log receiving antenna was placed 3 meters far away from the turntable.
- e. The broadband receiving antenna was fixed on the same height with the EUT to find each suspected emissions of both horizontal and vertical polarization. Each recorded suspected value is indicated as Read Level (Raw).
- f. Replace the EUT by standard antenna and feed the RF port by signal generator.
- g. Adjust the frequency of the signal generator to the suspected emission and slightly rotate the turntable to locate the position with maximum reading.
- h. Adjust the power level of the signal generator to reach the same reading with Read Level (Raw).
- i. The level of the spurious emission is the power level of (8) plus the gain of the standard antenna in dBi and minus the loss of the cable used between the signal generator and the standard antenna.
- j. If the level calculated in (9) is higher than limit by more than 6dB, then lower the RBW of the spectrum analyzer to 30KHz. If the level of this emission does not change by more than 2dB, then it is taken as narrowband emission, otherwise, wideband emission.
- k. The measurement shall be repeated at the lowest and the highest channel of the stated frequency range.

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# 6.1.3 Test Setup Layout

(A) Radiated Emission Test Set-Up, Frequency Below 1000MHz



REPORT NO.: HUT11150415001RF

#### 6.1.4 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

# 6.1.5 Results of Standby Mode Spurious Emissions

For the initial investigation on standby mode and receiving mode, no significant differences in spurious emissions were observed between these 2 modes. So test data for standby mode was omitted in this section.

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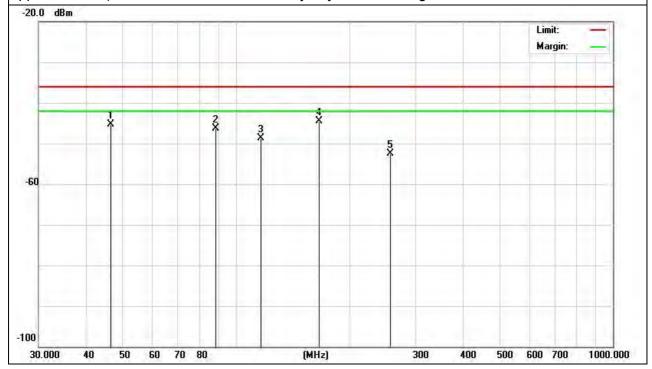
# 6.1.6 TEST RESULTS (30MHz ~ 1000MHz)

EUT:	USB/WIFI Router	Model Name :	Airconsole
Temperature:	<b>24</b> ℃	Relative Humidity:	54%
Pressure:	1010 hPa	Test Date :	2015-4-16
Test Mode :	TX 11b	Polarization :	Horizontal
Test Power :	DC 5V		

No.	Mk.	Freq.	Level	Factor	ment	Limit	Over		Height	Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1		46.5879	-45.64	0.39	-45.25	-36.00	-9.25	peak			
2		88.5400	-46.92	0.67	-46.25	-36.00	-10.25	peak			
3		116.4876	-49.34	0.58	-48.76	-36.00	-12.76	peak			
4	*	165.5764	-45.17	0.72	-44.45	-36.00	-8.45	peak			
5	:	256.4578	-53.43	0.97	-52.46	-36.00	-16.46	peak			

#### Remark:

- 1. The emission behaviour belongs to narrowband spurious emission.
- 2. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with
- " N/A "remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.



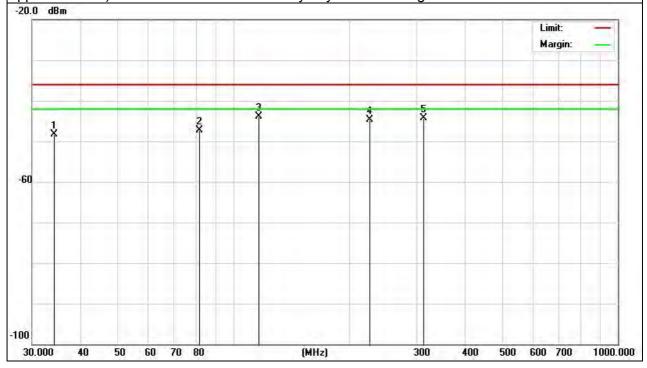
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EUT:	USB/WIFI Router	Model Name :	Airconsole
Temperature:	<b>24</b> °C	Relative Humidity:	54%
Pressure:	1010 hPa	Test Date :	2015-4-16
Test Mode :	TX 11b	Polarization:	Vertical
Test Power:	DC 5V		

No.	Mk.	Freq.	Level	Factor	ment	Limit	Over		Height	Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1		34.2700	-48.53	0.28	-48.25	-36.00	-12.25	peak			
2		81.5500	-47.94	0.68	-47.26	-36.00	-11.26	peak			
3	*	116.2573	-44.53	0.58	-43.95	-36.00	-7.95	peak			
4		225.4831	-45.57	0.94	-44.63	-36.00	-8.63	peak			
5		312.5648	-45.54	1.29	-44.25	-36.00	-8.25	peak			

- 1. The emission behaviour belongs to narrowband spurious emission.
- 2. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with "N/A "remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.



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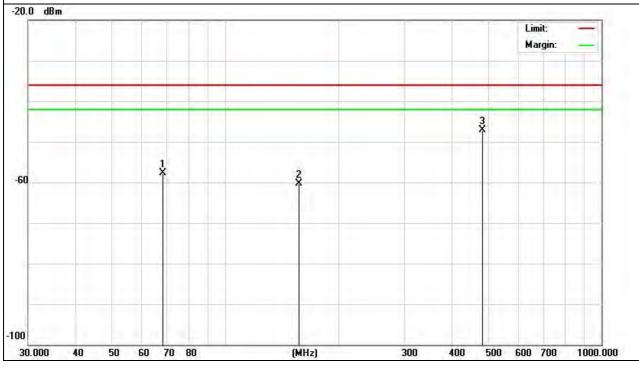
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EUT:	USB/WIFI Router	Model Name :	Airconsole
Temperature:	<b>24</b> ℃	Relative Humidity:	54%
Pressure:	1010 hPa	Test Date :	2015-4-16
Test Mode :	TX 11g	Polarization :	Horizontal
Test Power:	DC 5V		

	No.	Mł	k. Freq.	_	Correct Factor	Measure- ment	Limit	Over		Antenna Height	
			MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree
_	1		68.2300	-70.89	13.23	-57.66	-36.00	-21.66	peak		
	2		156.8700	-76.80	16.57	-60.23	-36.00	-24.23	peak		
_	3	*	480.8800	-69.07	21.95	-47.12	-36.00	-11.12	peak		

1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.



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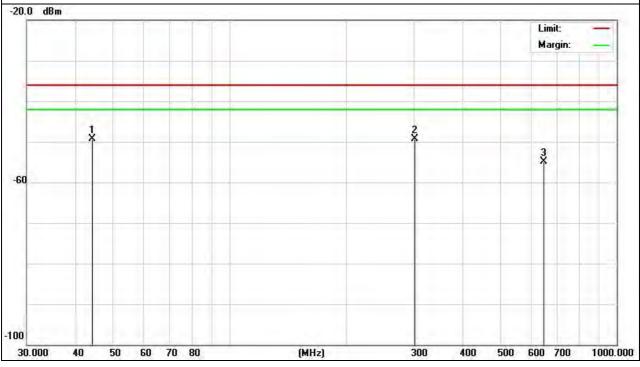
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EUT:	USB/WIFI Router	Model Name :	Airconsole
Temperature:	<b>24</b> ℃	Relative Humidity:	54%
Pressure:	1010 hPa	Test Date :	2015-4-16
Test Mode :	TX 11g	Polarization :	Vertical
Test Power:	DC 5V		

No.	Mk	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		Antenna Height	Table Degree
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree
1		44.2300	-63.42	14.09	-49.33	-36.00	-13.33	peak		
2	*	300.7400	-66.37	17.14	-49.23	-36.00	-13.23	peak		
3		648.2600	-80.14	25.27	-54.87	-36.00	-18.87	peak		

1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.

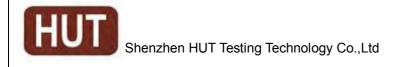


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# 7. Spurious emissions – TRANSMITTER (ABOVE 1000MHz)

# 7.1 Applied procedures / limit

Clause	Test Item	Frequency(MHz)	Limit		
		30-1000	Operating	-36dBm	
	Spurious emissions	30-1000	Standby	-57dBm	
4.3.4		4000 40==0	Operating	-30dBm	
4.3.4		1000-12750	Standby	-47dBm	
	(narrowband)	1800-1900	Operating	-47dBm	
		5150-5300	Standby	-47dBm	

REPORT NO.: HUT11150415001RF

# 7.1.1 Measuring Instruments and Setting

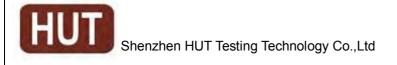
Please refer to section 7.1.1 in this report. The following table is the setting of the Spectrum Analyzer.

Spectrum Analyzer	Setting				
Attenuation	Auto				
Start Frequency	1000 MHz				
Stop Frequency	12750 MHz				
Detector	Positive Peak				
Span	100 MHz				
Sweep Time	1s				
RB / VB	100 kHz / 30 kHz				

#### 7.1.2 Test Procedures

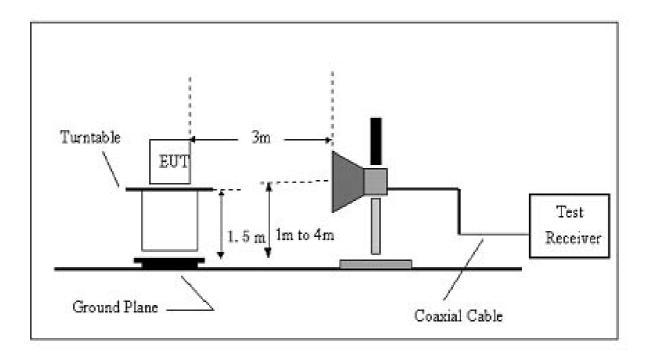
- a. The EUT was placed on the top of the turntable in open test site area.
- b. The test shall be made in the transmitting mode. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
- c. This measurement shall be repeated with the transmitter in standby mode where applicable.
- d. For 30~1000MHz spurious emissions measurement, the broad band bi-log receiving antenna was placed 3 meters far away from the turntable.
- e. The broadband receiving antenna was fixed on the same height with the EUT to find each suspected emissions of both horizontal and vertical polarization. Each recorded suspected value is indicated as Read Level (Raw).
- f. Replace the EUT by standard antenna and feed the RF port by signal generator.
- g. Adjust the frequency of the signal generator to the suspected emission and slightly rotate the turntable to locate the position with maximum reading.
- h. Adjust the power level of the signal generator to reach the same reading with Read Level (Raw).
- i. The level of the spurious emission is the power level of (8) plus the gain of the standard antenna in dBi and minus the loss of the cable used between the signal generator and the standard antenna.
- j. If the level calculated in (9) is higher than limit by more than 6dB, then lower the RBW of the spectrum analyzer to 30KHz. If the level of this emission does not change by more than 2dB, then it is taken as narrowband emission, otherwise, wideband emission.
- k. The measurement shall be repeated at the lowest and the highest channel of the stated frequency range.

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# 7.1.3 Test Setup Layout

(B) Radiated Emission Test Set-Up Frequency Above 1 GHz



REPORT NO.: HUT11150415001RF

# 7.1.4 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

# 7.1.5 Results of Standby Mode Spurious Emissions

For the initial investigation on standby mode and receiving mode, no significant differences in spurious emissions were observed between these 2 modes. So test data for standby mode was omitted in this section.

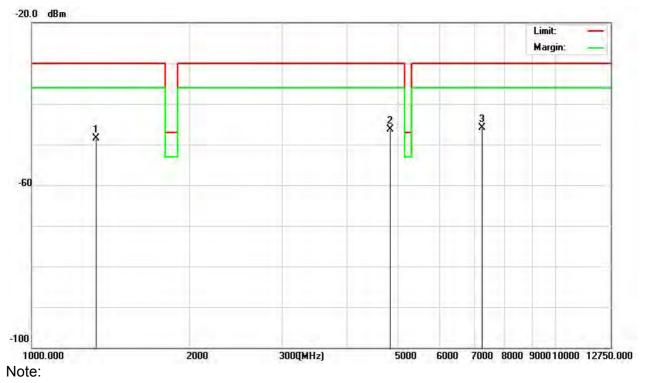
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#### 7.1.6 TEST RESULTS

EUT:	USB/WIFI Router	Model Name :	Airconsole
Temperature:	24 ℃	Relative Humidity:	54%
Pressure:	1010 hPa	Test Date :	2015-4-16
Test Mode :	TX Mode 2412 MHz	Polarization:	Vertical
Test Power :	DC 5V(11b)		

No. M	k. Freq.	Level	Factor	ment	Limit	Over		Height	Degree	
	MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	1325.847	-75.52	26.96	-48.56	-30.00	-18.56	peak			
2	4822.467	-90.29	44.04	-46.25	-30.00	-16.25	peak			
3 *	7236.488	-93.48	47.63	-45.85	-30.00	-15.85	peak			



- (1) EUT Orthogonal Axis:
- "X" denotes Laid on Table; "Y" denotes Vertical Stand; "Z" denotes Side Stand.

  (2) Data of measurement within this frequency range shown "\* " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) The EUT can't be operated in the standby mode and it's always keep continuously transmitting.

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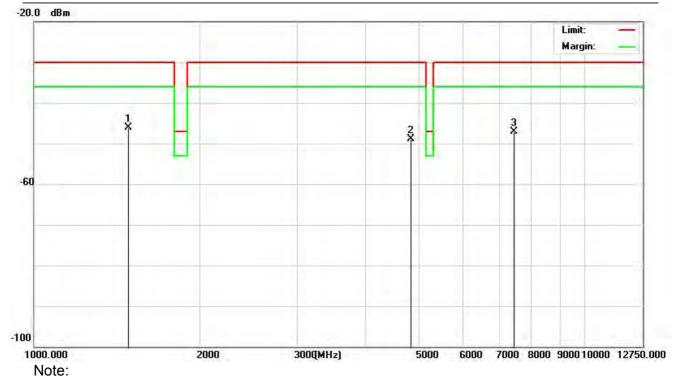
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EUT:	USB/WIFI Router	Model Name :	Airconsole	
Temperature:	174 ( '	Relative Humidity:	54%	
Pressure:	1010 hPa	Test Date :	2015-4-16	
Test Mode :	TX Mode 2412 MHz	Polarization :	Horizontal	
Test Power :	DC 5V(11b)			

No. M	lk. Freq.	Level	Factor	ment	Limit	Over		Height	Degree	
	MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1 *	1482.458	-73.63	27.45	-46.18	-30.00	-16.18	peak			
2	4824.155	-92.89	44.04	-48.85	-30.00	-18.85	peak			
3	7433.255	-95.67	48.52	-47.15	-30.00	-17.15	peak			



- (1) EUT Orthogonal Axis:
- "X" denotes Laid on Table; "Y" denotes Vertical Stand; "Z" denotes Side Stand.

  (2) Data of measurement within this frequency range shown "\* " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) The EUT can't be operated in the standby mode and it's always keep continuously transmitting.

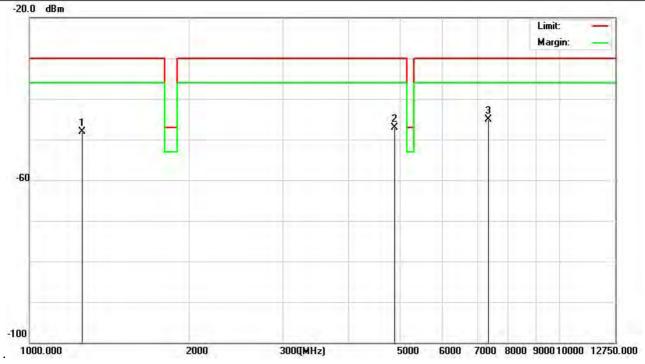
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EUT:	USB/WIFI Router	Model Name :	Airconsole
Temperature:	<b>24</b> ℃	Relative Humidity:	54%
Pressure:	1010 hPa	Test Date :	2015-4-16
Test Mode :	TX Mode 2442 MHz	Polarization :	Vertical
Test Power:	DC 5V(11b)		

No. N	1k. Freq.	Level	Factor	ment	Limit	Over		Height	Degree	
	MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	1257.461	-74.90	26.74	-48.16	-30.00	-18.16	peak			
2	4882.154	-91.22	44.07	-47.15	-30.00	-17.15	peak			
3 *	7323.157	-93.16	48.01	-45.15	-30.00	-15.15	peak			



#### Note:

- (1) EUT Orthogonal Axis:
- "X" denotes Laid on Table; "Y" denotes Vertical Stand; "Z" denotes Side Stand.

  (2) Data of measurement within this frequency range shown "\* " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) The EUT can't be operated in the standby mode and it's always keep continuously transmitting.

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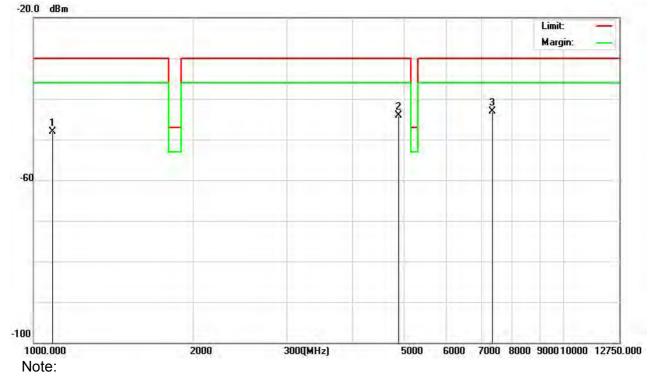
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EUT:	USB/WIFI Router	Model Name :	Airconsole
Temperature:	<b>24</b> ℃	Relative Humidity:	54%
Pressure:	1010 hPa	Test Date :	2015-4-16
Test Mode :	TX Mode 2442 MHz	Polarization :	Horizontal
Test Power:	DC 5V(11b)		

No. N	Лk.	Freq.	Level	Factor	ment	Limit	Over		Height	Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	108	5.451	-74.42	26.27	-48.15	-30.00	-18.15	peak			
2	488	2.223	-88.22	44.07	-44.15	-30.00	-14.15	peak			
3 *	732	3.112	-91.16	48.01	-43.15	-30.00	-13.15	peak			



- (1) EUT Orthogonal Axis:
- "X" denotes Laid on Table; "Y" denotes Vertical Stand; "Z" denotes Side Stand.

  (2) Data of measurement within this frequency range shown "\* " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) The EUT can't be operated in the standby mode and it's always keep continuously transmitting.

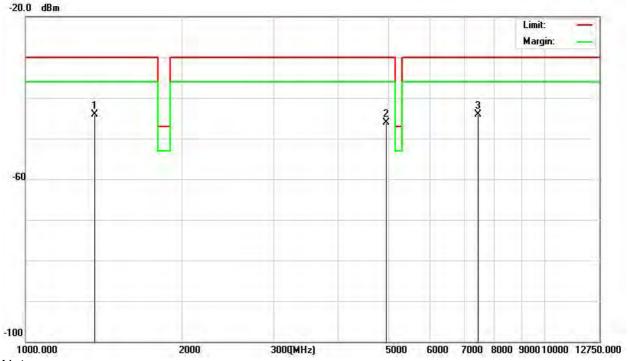
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EUT:	USB/WIFI Router	Model Name :	Airconsole
Temperature:	<b>24</b> ℃	Relative Humidity:	54%
Pressure:	1010 hPa	Test Date :	2015-4-16
Test Mode :	TX Mode 2472 MHz	Polarization :	Vertical
Test Power:	DC 5V(11b)		

No. Mk.	Freq.	Level	Factor	ment	Limit	Over		Height	Degree	
	MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1 * 13	358.125	-71.22	27.06	-44.16	-30.00	-14.16	peak			
2 49	944.854	-90.26	44.11	-46.15	-30.00	-16.15	peak			
3 74	116.458	-92.60	48.44	-44.16	-30.00	-14.16	peak			



## Note:

- (1) EUT Orthogonal Axis:
- "X" denotes Laid on Table; "Y" denotes Vertical Stand; "Z" denotes Side Stand.

  (2) Data of measurement within this frequency range shown "\* " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) The EUT can't be operated in the standby mode and it's always keep continuously transmitting.

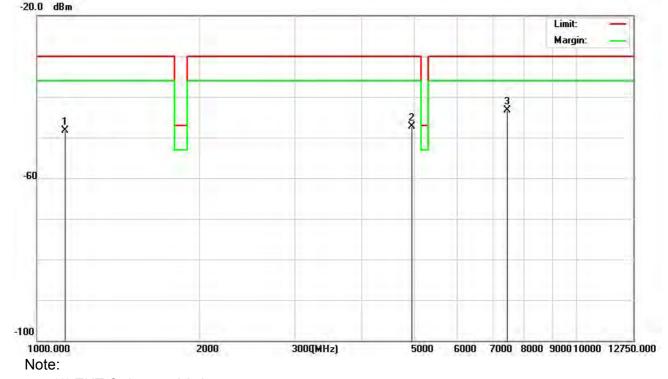
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EUT:	USB/WIFI Router	Model Name :	Airconsole
Temperature:	<b>24</b> ℃	Relative Humidity:	54%
Pressure:	1010 hPa	Test Date :	2015-4-16
Test Mode :	TX Mode 2472 MHz	Polarization :	Horizontal
Test Power:	DC 5V(11b)		

No.	Mk.	Freq.	Level	Factor	ment	Limit	Over		Height	Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	,	1126.547	-74.64	26.38	-48.26	-30.00	-18.26	peak			
2	4	1943.913	-91.37	44.11	-47.26	-30.00	-17.26	peak			
3	*	7416.954	-91.71	48.44	-43.27	-30.00	-13.27	peak			



- (1) EUT Orthogonal Axis:
- "X" denotes Laid on Table; "Y" denotes Vertical Stand; "Z" denotes Side Stand.

  (2) Data of measurement within this frequency range shown "\* " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) The EUT can't be operated in the standby mode and it's always keep continuously transmitting.

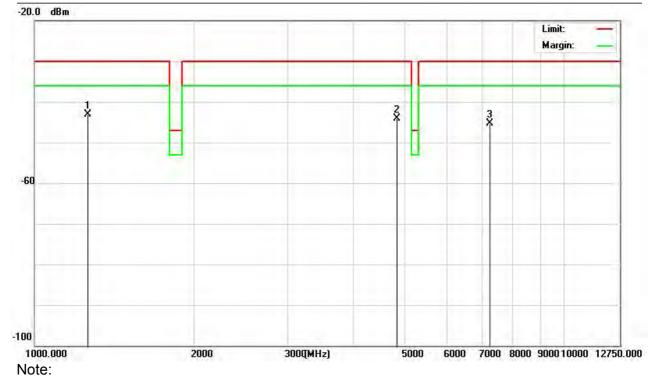
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EUT:	USB/WIFI Router	Model Name :	Airconsole
Temperature:	<b>24</b> ℃	Relative Humidity:	54%
Pressure:	1010 hPa	Test Date :	2015-4-16
Test Mode :	TX Mode 2412 MHz	Polarization :	Vertical
Test Power:	DC 5V (11g)		

No.	Mk	c. Freq.	Level	Factor	ment	Limit	Over		Height	Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	1258.165	-69.90	26.74	-43.16	-30.00	-13.16	peak			
2		4824.158	-88.20	44.04	-44.16	-30.00	-14.16	peak			
3		7236.458	-92.99	47.63	-45.36	-30.00	-15.36	peak			



- (1) EUT Orthogonal Axis:
- "X" denotes Laid on Table; "Y" denotes Vertical Stand; "Z" denotes Side Stand.

  (2) Data of measurement within this frequency range shown "\* " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) The EUT can't be operated in the standby mode and it's always keep continuously transmitting.

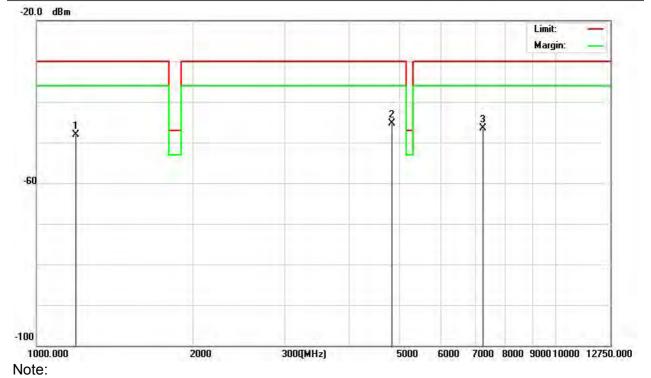
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EUT:	USB/WIFI Router	Model Name :	Airconsole
Temperature:	<b>24</b> ℃	Relative Humidity	54%
Pressure:	1010 hPa	Test Date :	2015-4-16
Test Mode :	TX Mode 2412 MHz	Polarization :	Horizontal
Test Power:	DC 5V (11g)		

No.	MŁ	c. Freq.	Level	Factor	ment	Limit	Over		Height	Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1		1186.155	-74.68	26.52	-48.16	-30.00	-18.16	peak			
2	*	4824.546	-89.37	44.04	-45.33	-30.00	-15.33	peak			
3		7236.458	-94.21	47.63	-46.58	-30.00	-16.58	peak			



- (1) EUT Orthogonal Axis:

  - "X" denotes Laid on Table; "Y" denotes Vertical Stand; "Z" denotes Side Stand.

    (2) Data of measurement within this frequency range shown "\* " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
  - (3) The EUT can't be operated in the standby mode and it's always keep continuously transmitting.

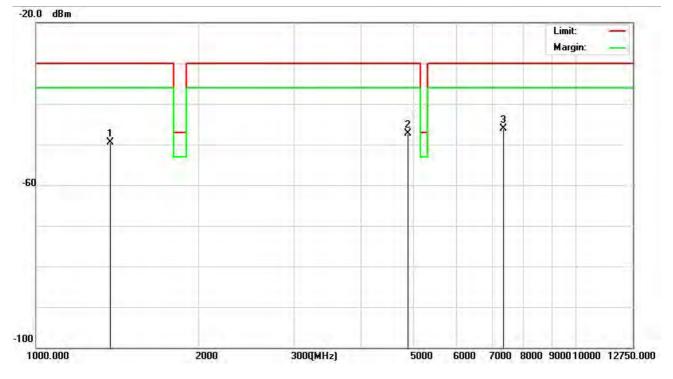
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EUT:	USB/WIFI Router	Model Name :	Airconsole
Temperature:	<b>24</b> ℃	Relative Humidity	54%
Pressure:	1010 hPa	Test Date :	2015-4-16
Test Mode :	TX Mode 2442 MHz	Polarization :	Vertical
Test Power:	DC 5V (11g)		

No. M	k. Freq.	Level	Factor	ment	Limit	Over		Height	Degree	
	MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	1368.155	-76.55	27.10	-49.45	-30.00	-19.45	peak			
2	4882.512	-91.33	44.07	-47.26	-30.00	-17.26	peak			
3 *	7323.578	-94.14	48.02	-46.12	-30.00	-16.12	peak			



#### Note:

- (1) EUT Orthogonal Axis:
- "X" denotes Laid on Table; "Y" denotes Vertical Stand; "Z" denotes Side Stand.

  (2) Data of measurement within this frequency range shown "\* " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) The EUT can't be operated in the standby mode and it's always keep continuously transmitting.

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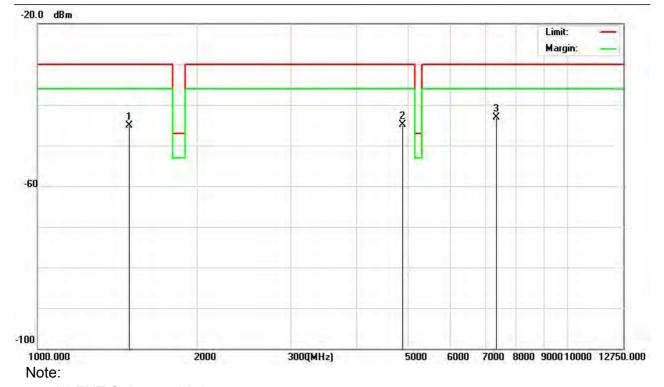
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EUT:	USB/WIFI Router	Model Name :	Airconsole
Temperature:	<b>24</b> ℃	Relative Humidity	54%
Pressure:	1010 hPa	Test Date :	2015-4-16
Test Mode :	TX Mode 2442 MHz	Polarization :	Horizontal
Test Power:	DC 5V (11g)		

No. M	1k. Freq.	Level	Factor	ment	Limit	Over		Height	Degree	
	MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	1486.134	-72.62	27.46	-45.16	-30.00	-15.16	peak			
2	4882.169	-88.93	44.07	-44.86	-30.00	-14.86	peak			
3 *	7323.515	-91.17	48.02	-43.15	-30.00	-13.15	peak			



- (1) EUT Orthogonal Axis:
- "X" denotes Laid on Table; "Y" denotes Vertical Stand; "Z" denotes Side Stand.

  (2) Data of measurement within this frequency range shown "\* " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) The EUT can't be operated in the standby mode and it's always keep continuously transmitting.

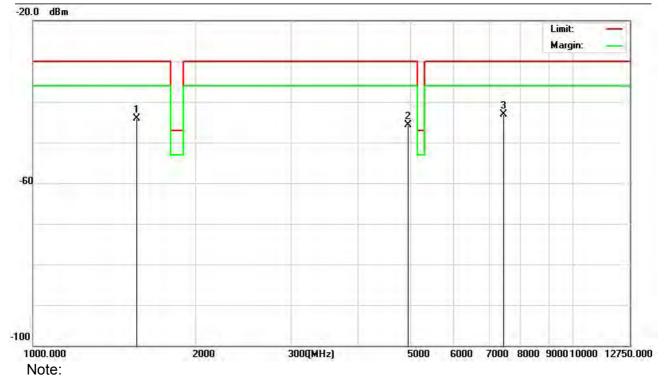
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EUT:	USB/WIFI Router	Model Name :	Airconsole
Temperature:	<b>24</b> ℃	Relative Humidity	54%
Pressure:	1010 hPa	Test Date :	2015-4-16
Test Mode :	TX Mode 2472 MHz	Polarization :	Vertical
Test Power:	DC 5V (11g)		

No. N	/lk. Freq.	Level	Factor	ment	Limit	Over		Height	Degree	
	MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	1556.158	-71.84	27.66	-44.18	-30.00	-14.18	peak			
2	4944.458	-89.76	44.11	-45.65	-30.00	-15.65	peak			
3 *	7416.498	-91.60	48.44	-43.16	-30.00	-13.16	peak			



- (1) EUT Orthogonal Axis:
- "X" denotes Laid on Table; "Y" denotes Vertical Stand; "Z" denotes Side Stand.

  (2) Data of measurement within this frequency range shown "\* " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) The EUT can't be operated in the standby mode and it's always keep continuously transmitting.

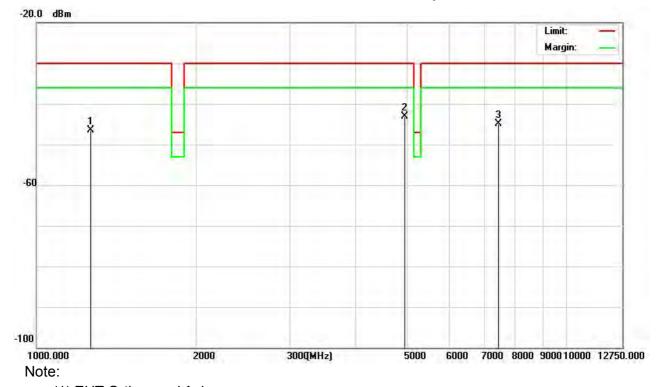
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EUT:	USB/WIFI Router	Model Name :	Airconsole
Temperature:	<b>24</b> ℃	Relative Humidity	54%
Pressure:	1010 hPa	Test Date :	2015-4-16
Test Mode :	TX Mode 2472 MHz	Polarization :	Horizontal
Test Power :	DC 5V (11g)		

No.	Mk	. Freq.	Level	Factor	ment	Limit	Over		Height	Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1		1265.158	-73.31	26.77	-46.54	-30.00	-16.54	peak			
2	*	4944.876	-87.30	44.11	-43.19	-30.00	-13.19	peak			
3		7416.035	-93.28	48.43	-44.85	-30.00	-14.85	peak			



- (1) EUT Orthogonal Axis:
- "X" denotes Laid on Table; "Y" denotes Vertical Stand; "Z" denotes Side Stand.

  (2) Data of measurement within this frequency range shown "\* " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (3) The EUT can't be operated in the standby mode and it's always keep continuously transmitting.

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# 8. Spurious emissions – RECEIVER (30-1000MHz)

# 8.1 Applied procedures / limit

Clause	Test Item	Frequency(MHz)	Limit		
125	Spurious emissions	30-1000	-57dBm		
4.3.5	(radiated)	1000-12750	-47dBm		

REPORT NO.: HUT11150415001RF

## 8.1.1 Measuring Instruments and Setting

Please refer to section 8.1.1 in this report. The following table is the setting of the Spectrum Analyzer.

7 11 di y 20 ii				
Spectrum Analyzer	Setting			
Attenuation	Auto			
Start Frequency	30 MHz			
Stop Frequency	1000 MHz			
Detector	Positive Peak			
Span	100 MHz			
Sweep Time	1s			
RB / VB	100 kHz / 30 kHz			

#### 8.1.2 Test Procedures

- a. The EUT was placed on the top of the turntable in open test site area.
- b. The test shall be made in the receiving mode. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
- c. For 30~1000MHz spurious emissions measurement, the broad band bi-log receiving antenna was placed 3 meters far away from the turntable.
- d. The broadband receiving antenna was fixed on the same height with the EUT to find each suspected emissions of both horizontal and vertical polarization. Each recorded suspected value is indicated as Read Level (Raw).
- e. Replace the EUT by standard antenna and feed the RF port by signal generator.
- f. Adjust the frequency of the signal generator to the suspected emission and slightly rotate the turntable to locate the position with maximum reading.
- g. Adjust the power level of the signal generator to reach the same reading with Read Level (Raw).
- h. The level of the spurious emission is the power level of (7) plus the gain of the standard antenna in dBi and minus the loss of the cable used between the signal generator and the standard antenna.
- i. The measurement shall be repeated at the lowest and the highest channel of the stated frequency range.

# 8.1.3 Test Setup Layout

This test setup layout is the same as that shown in section 6.1.4

#### 8.1.4 EUT Operation during Test

The EUT was programmed to be in continuously receiving mode.

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## 8.1.5 TEST RESULTS (30MHz-1000MHz)

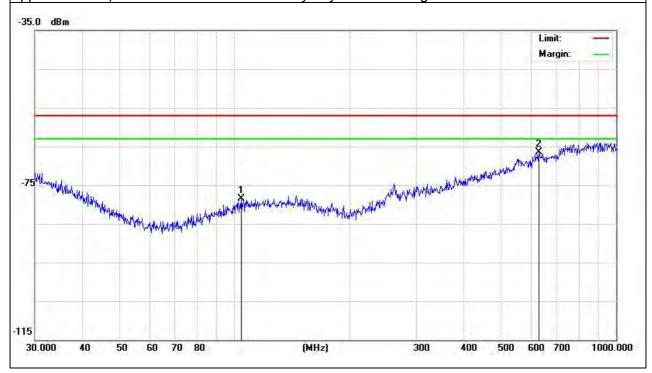
EUT:	USB/WIFI Router	Model Name :	Airconsole
Temperature:	<b>24</b> ℃	Relative Humidity:	54%
Pressure:	1010 hPa	Test Date :	2015-4-16
Test Mode :	RX	Polarization :	Vertical
Test Power:	DC 5V		

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Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBm)	(dB)	(dBm)	(dBm)	(dB)	Detector Type
104.1701	-101.49	23	-78.49	-57	-21.49	peak
627.2738	-100.65	34.1	-66.55	-57	-9.55	peak

#### Remark:

- 1. The emission behaviour belongs to narrowband spurious emission.
- 2. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with "N/A "remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.

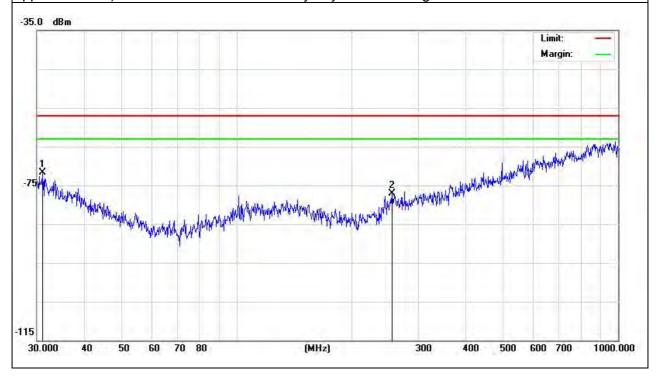


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EUT:	USB/WIFI Router	Model Name :	Airconsole
Temperature:	<b>24</b> ℃	Relative Humidity:	54%
Pressure:	1010 hPa	Test Date :	2015-4-16
Test Mode :	RX	Polarization :	Horizontal
Test Power:	DC 5V		

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBm)	(dB)	(dBm)	(dBm)	(dB)	Detector Type
31.0705	-101.69	29.93	-71.76	-57	-14.76	peak
255.623	-103.11	25.93	-77.18	-57	-20.18	peak

- 1. The emission behaviour belongs to narrowband spurious emission.
- 2. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with "N/A "remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.

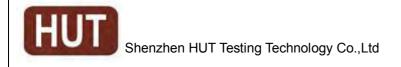


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# 9. Spurious emissions – RECEIVER (above 1000MHz)

#### 9.1 Applied procedures / limit

Clause	Test Item	Frequency(MHz)	Limit
4.3.5	Spurious emissions	30-1000	-57dBm
4.3.3	(narrowband)	1000-12750	-47dBm

REPORT NO.: HUT11150415001RF

#### 9.1.1 Measuring Instruments and Setting

Please refer to section 9.1.1 in this report. The following table is the setting of the Spectrum Analyzer.

7 111011 1 2011	
Spectrum Analyzer	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	12750 MHz
Detector	Positive Peak
Span	100 MHz
Sweep Time	1s
RB / VB	100 kHz / 30 kHz

#### 9.1.2 Test Procedures

- a. The EUT was placed on the top of the turntable in open test site area.
- b. The test shall be made in the receiving mode. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
- c. For 30~1000MHz spurious emissions measurement, the broad band bi-log receiving antenna was placed 3 meters far away from the turntable.
- d. The broadband receiving antenna was fixed on the same height with the EUT to find each suspected emissions of both horizontal and vertical polarization. Each recorded suspected value is indicated as Read Level (Raw).
- e. Replace the EUT by standard antenna and feed the RF port by signal generator.
- f. Adjust the frequency of the signal generator to the suspected emission and slightly rotate the turntable to locate the position with maximum reading.
- g. Adjust the power level of the signal generator to reach the same reading with Read Level (Raw).
- h. The level of the spurious emission is the power level of (7) plus the gain of the standard antenna in dBi and minus the loss of the cable used between the signal generator and the standard antenna.
- i. The measurement shall be repeated at the lowest and the highest channel of the stated frequency range.

# 9.1.3 Test Setup Layout

This test setup layout is the same as that shown in section 7.1.3

#### 9.1.4 EUT Operation during Test

The EUT was programmed to be in continuously receiving mode.

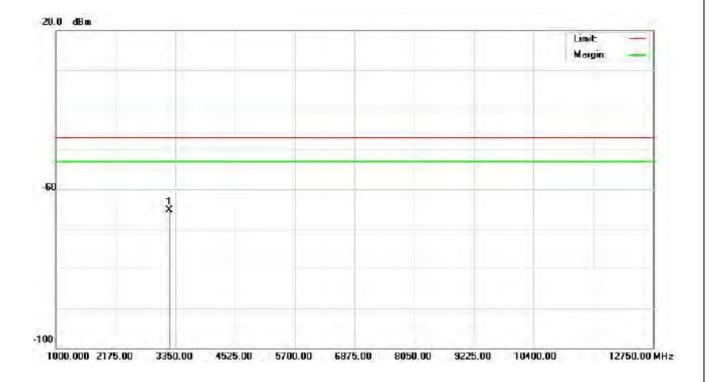
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# 9.1.5 TEST RESULTS (Above 1000MHz)

EUT:	USB/WIFI Router	Model Name :	Airconsole
Temperature:	<b>24</b> ℃	Relative Humidity:	54%
Pressure:	1010 hPa	Test Date :	2015-4-16
Test Mode :	RX	Polarization :	Vertical
Test Power:	DC 5V		

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Frequency	Ant	EUT Axis	TX/RX	Measure d(FS)	Limits	Margins	Note
(MHz)	H/V	(X/Y/Z)		(dBm)	(dBm)		
3216.600	V	Х	RX	-65.24	-47.00	-18.24	



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EUT:	USB/WIFI Router	Model Name :	7C+
Temperature:	<b>24</b> ℃	Relative Humidity:	54%
Pressure:	1010 hPa	Test Date :	2015-4-16
Test Mode :	RX	Polarization :	Horizontal
Test Power:	DC 5V		

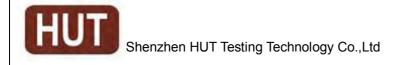
Frequency	Ant	EUT Axis	TX/RX	Measure d(FS)	Limits	Margins	Note
(MHz)	H/V	(X/Y/Z)		(dBm)	(dBm)	J	
3216.600	V	Х	RX	-65.82	-47.00	-18.82	



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# 10.Medium access protocol

# 10.1 Applied procedures / limit

A medium access protocol is a mechanism designed to facilitate spectrum sharing with other devices in a wireless network.

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A medium access protocol shall be implemented by the equipment.

# 10.1.1 TEST RESULTS

The EUT is accord with medium access protocol.

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# APPENDIX-PHOTOGRAPHS OF EUT CONSTRUCTIONAL DETAILS



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Photo 1



Photo 2

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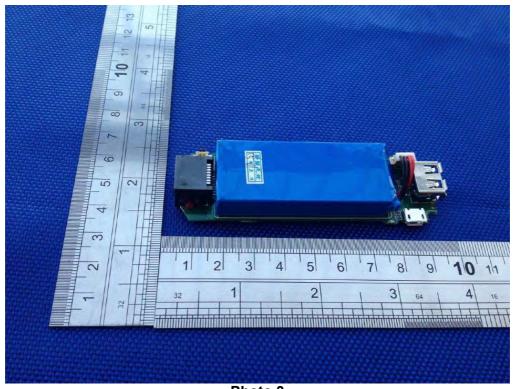


Photo 3

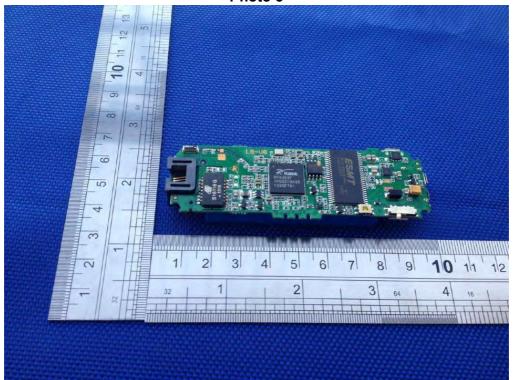


Photo 4

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Photo 5



Photo 6

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Photo 7

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