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Report No.: FCC14-RTE012002

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# TEST REPORT

Applicant: Archos SA

Address of Applicant: 12 Rue Ampere 91430 Igny, France

**Equipment Under Test (EUT)** 

Product Name: ARCHOS 97 Neon

Model No.: AC97NE

Trade mark: ARCHOS

FCC ID: SOVAC97NE

**Applicable standards:** FCC CFR Title 47 Part 15 Subpart B:2012

Date of sample receipt: January 07, 2014

Date of Test: January 07-17, 2014

Date of report issued: January 20, 2014

Test Result: PASS \*

Authorized Signature:

Kevin Yu Laboratory Manager

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product and does not permit the use of the EBO product certification mark. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

This report may only be reproduced and distributed in full. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of EBO International Electrical Approvals or testing done by EBO International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by EBO International Electrical Approvals in writing.

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<sup>\*</sup> In the configuration tested, the EUT complied with the standards specified above.



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#### 2 Version

Version No.	Date	Description
00	January 20, 2014	Original

Prepared by:	hank. yan	Date:	January 20, 2014
	Project Engineer	<del></del>	
Reviewed by:	Hams. Hu	Date:	January 20, 2014
	Reviewer	<del></del>	



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# 4 Test Summary

Test Item	Section in CFR 47	Result	
Conducted Emission	Part15.107	PASS	
Radiated Emissions	Part15.109	PASS	

PASS: The EUT complies with the essential requirements in the standard.



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#### 5 General Information

#### 5.1 Client Information

Applicant:	Archos SA
Address of Applicant:	12 Rue Ampere 91430 Igny, France
Manufacturer:	Archos SA
Address of Manufacturer:	12 Rue Ampere 91430 Igny, France

### 5.2 General Description of EUT

Product Name:	ARCHOS 97 Neon
Model No.:	AC97NE
Power supply:	Model No.:HNO090200X
	Input: AC 100~240V~50/60Hz 0.6A MAX
	Output: 9.0V 2.A
	DC 3.7V Li-ion Battery

### 5.3 Test mode and voltage

Test mode:		
Playing mode	Keep the EUT in video playing mode	
Video Record mode	Keep the EUT in Video Recording mode	
PC mode	Keep the EUT in data exchanging with PC mode.	
Test voltage:	AC 120V/60Hz	



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### 5.4 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

• CNAS —Registration No.: CNAS L5775

CNAS has accredited Global United Technology Services Co., Ltd. to ISO/IEC 17025 General Requirements for the competence of testing and calibration laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testingand Calibration Laboratories) for the competence in the field of testing.

• FCC —Registration No.: 600491

Global United Technology Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance

letter from the FCC is maintained in files. Registration 600491, June 28, 2013.

• Industry Canada (IC) —Registration No.: 9079A-2

The 3m Semi-anechoic chamber of Global United Technology Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 9079A-2, June 26, 2013.

#### 5.5 Test Location

All tests were performed at:

Global United Technology Services Co., Ltd.

Address: 2nd Floor, Block No.2, Laodong Industrial Zone, Xixiang Road Baoan District, Shenzhen,

China

Tel: 0755-27798480 Fax: 0755-27798960



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### 5.6 Description of Support Units

Manufacturer	Description	Model	Serial Number	FCC Approval
HP	Printer	CB495A	05257893	DoC
Lenovo	PC Host	M6900	EA05257893	DoC
DELL	MONITOR	E178FPC	N/A	DoC
DELL	KEYBOARD	SK-8115	N/A	DoC
DELL	MOUSE	MOC5UO	N/A	DoC

#### 5.7 Deviation from Standards

Biconical, log.per. antenna and horn antenna were used instead of dipole antenna. Semi-anechoic Chamber was used as alternation of open air test sites, and all test suites were performed with radiated method in it.

#### 5.8 Abnormalities from Standard Conditions

None.

#### 5.9 Other Information Requested by the Customer

None.



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### 6 Test Instruments list

Radia	Radiated Emission:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)	
1	3m Semi- Anechoic Chamber	ZhongYu Electron	9.0(L)*6.0(W)* 6.0(H)	GTS250	Mar. 29 2013	Mar. 28 2014	
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	GTS251	N/A	N/A	
3	ESU EMI Test Receiver	R&S	ESU26	GTS203	Jun. 29 2013	Jun. 29 2014	
4	BiConiLog Antenna	SCHWARZBECK	VULB9163	GTS214	Jun. 29 2013	Jun. 29 2014	
5	Double -ridged waveguide horn	SCHWARZBECK	9120D	GTS208	Jun. 29 2013	Jun. 29 2014	
6	RF Amplifier	HP	8347A	GTS204	Jun. 29 2013	Jun. 29 2014	
7	Preamplifier	HP	8349B	GTS206	Jun. 29 2013	Jun. 29 2014	
8	EMI Test Software	AUDIX	E3	N/A	N/A	N/A	
9	Coaxial cable	GTS	N/A	GTS210	Jul. 07 2013	Jul. 06 2014	
10	Coaxial Cable	GTS	N/A	GTS211	Jul. 07 2013	Jul. 06 2014	
11	Thermo meter	N/A	N/A	GTS256	Jul. 01 2013	Jul. 01 2014	

Cond	Conducted Emission						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)	
1	Shielding Room	ZhongYu Electron	7.3(L)x3.1(W)x2.9(H)	GTS252	Sep. 07 2013	Sep. 06 2014	
2	EMI Test Receiver	R&S	ESCS30	GTS223	Jun. 29 2013	Jun. 29 2014	
3	Pulse Limiter	R&S	ESH3-Z2	GTS224	Jun. 29 2013	Jun. 29 2014	
4	Coaxial Switch	ANRITSU CORP	MP59B	GTS225	Jun. 29 2013	Jun. 29 2014	
5	Artificial Mains Network	SCHWARZBECK MESS	NSLK8127	GTS226	Jun. 29 2013	Jun. 29 2014	
6	Coaxial Cable	GTS	N/A	GTS227	Jul. 07 2013	Jul. 06 2014	
7	EMI Test Software	AUDIX	E3	N/A	N/A	N/A	
8	Thermo meter	KTJ	TA328	GTS233	Jul. 01 2013	Jul. 01 2014	

Gene	General used equipment:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (dd-mm-yy)	Cal.Due date (dd-mm-yy)	
1	Barometer	ChangChun	DYM3	GTS257	July 09 2013	July 08 2014	



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#### 7 Test Results and Measurement Data

#### 7.1 Conducted Emissions

7.1 Conducted Emissions	5				
Test Requirement:	FCC Part15 B Section 15.107	FCC Part15 B Section 15.107			
Test Method:	ANSI C63.4:2003				
Test Frequency Range:	150kHz to 30MHz	150kHz to 30MHz			
Class / Severity:	Class B				
Receiver setup:	RBW=9kHz, VBW=30kHz				
Limit:		Limit (d	IBµV)		
	Frequency range (MHz)	Quasi-peak	Average		
	0.15-0.5	66 to 56*	56 to 46*		
	0.5-5	56	46		
	0.5-30	60	50		
Test procedure	The E.U.T and simulators are connected to the main power through a line impedance stabilization network(L.I.S.N.). The provide a 50ohm/50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs). Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4: 2003 on conducted measurement.				
Test setup:	LISN 40cm		er AC power		
Test environment:	Temp.: 25 °C Humi	d.: 52% Pres	ss.: 1 012mbar		
Measurement Record:	Uncertainty: ± 3.45dB				
Test Instruments:	Refer to section 6 for details	·			
Test mode:	Refer to section 5.3 for details. All of the mode were tested and found the "PC mode" is the worst case. Only the data of worst case was reported.				
Test results:	Pass				

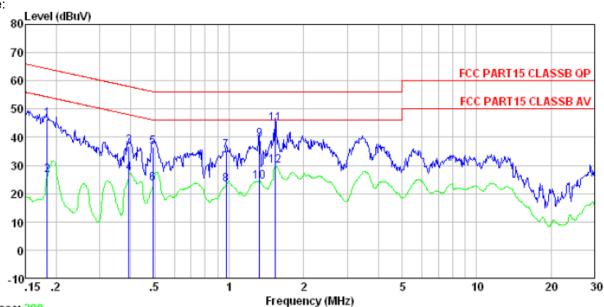


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#### **Measurement Data**

Line:



Trace: 298

Condition : FCC PART15 CLASSB QP LISN-2013 LINE

Job No. : 0002RF Test mode : PC mode Test Engineer: Liu

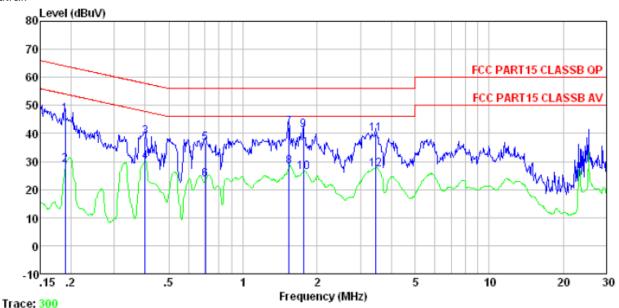
	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBu∀	dB	dB	dBuV	dBuV	dB	
1 2 3 4 5 6 7 8 9	0.183 0.183 0.393 0.393 0.491 0.491 0.974 0.974 1.324	46. 20 26. 20 36. 77 26. 99 36. 41 23. 41 34. 87 22. 87 38. 78 24. 03	0.14 0.14 0.11 0.11 0.12 0.12 0.14 0.14 0.12	0.13 0.13 0.11 0.11 0.11 0.13 0.13 0.13	46. 47 26. 47 36. 99 27. 21 36. 64 23. 64 23. 14 23. 14 39. 03 24. 28	54. 33 57. 99 47. 99 56. 14 46. 14 56. 00 46. 00 56. 00 46. 00	-21. 00 -20. 78 -19. 50 -22. 50 -20. 86 -22. 86 -16. 97 -21. 72	Average QP Average QP Average QP Average QP Average
11 12	1.535 1.535	44. 46 29. 71	0.12 0.12	0.14 0.14	44. 72 29. 97		-11.28 -16.03	QP Average



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#### Neutral:



Condition : FCC PART15 CLASSB QP LISN-2013 NEUTRAL

Job No. : 0002RF Test mode : PC mode

Test Engineer: Liu

CSC	Freq	Read	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBu₹	dBuV	dB	
1	0.189	46.52	0.07	0.13	46.72	64.06	-17.34	QP
2 3	0.189	28.71	0.07	0.13	28.91	54.06	-25.15	Average
	0.400	38.63	0.06	0.11	38.80	57.86	-19.06	QP
4 5	0.400	29.63	0.06	0.11	29.80	47.86	-18.06	Average
5	0.705	36.16	0.07	0.13	36.36	56.00	-19.64	QP
6	0.705	23.36	0.07	0.13	23.56	46.00	-22.44	Average
7	1.535	41.99	0.09	0.14	42.22	56.00	-13.78	QP
8	1.535	27.99	0.09	0.14	28.22	46.00	-17.78	Average
9	1.762	40.89	0.09	0.14	41.12	56.00	-14.88	QP
10	1.762	25.89	0.09	0.14	26.12	46.00	-19.88	Average
11	3.454	39.57	0.13	0.15	39.85	56.00	-16.15	QP
12	3.454	26.85	0.13	0.15	27.13	46.00	-18.87	Average

#### Notes:

- 1. The following Quasi-Peak and Average measurements were performed on the EUT:
- 2. Final Test Level = Receiver Reading + LISN Factor + Cable Loss.



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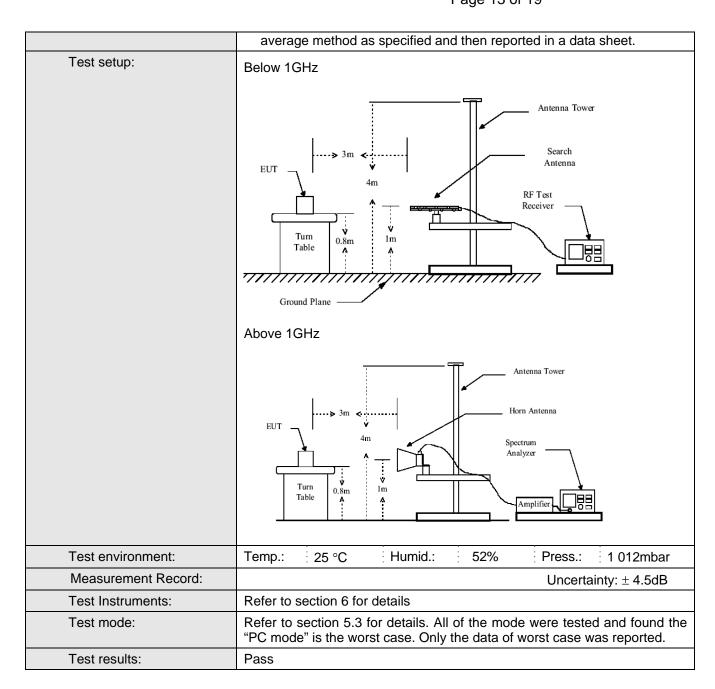
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#### 7.2 Radiated Emission

	Radiated Ellission	T							
	Test Requirement:	FCC Part15 B Section 15.109							
	Test Method:	ANSI C63.4:2003							
	Test Frequency Range:	30MHz to 6GHz							
	Test site:	Measurement Distance: 3m (Semi-Anechoic Chamber)							
	Receiver setup:								
		Frequency	Detector		RBW	VBW	Remark		
		30MHz- 1GHz	Quasi-pea	k	120KHz	300KHz	Quasi-peak Value		
		Above 1GHz	Peak		1MHz	3MHz	Peak Value		
		Above 1G112	Peak		1MHz	10Hz	Average Value		
	Limit:								
		Freque	ency	Lir	mit (dBuV/	/m @3m)	Remark		
		30MHz-8	88MHz		40.0	)	Quasi-peak Value		
		88MHz-2	16MHz		43.5	5	Quasi-peak Value		
		216MHz-9	60MHz	46.0			Quasi-peak Value		
		960MHz-1GHz			54.0	)	Quasi-peak Value		
		Abaya	54.0			Average Value			
		Above 1	74.0			Peak Value			
	Test Procedure:		3 meter camb	oer. T	he table v	was rotated	0.8 meters above the 360 degrees to		
		2. The EUT wa antenna, whi tower.					nce-receiving ble-height antenna		
		3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.							
		4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading.							
		5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.							
"This	document is issued by the Company's	Bandwidth with Maximum Hold Mode.  6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or							



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#### Note:

The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading + Antenna Factor + Cable Factor - Preamplifier Factor



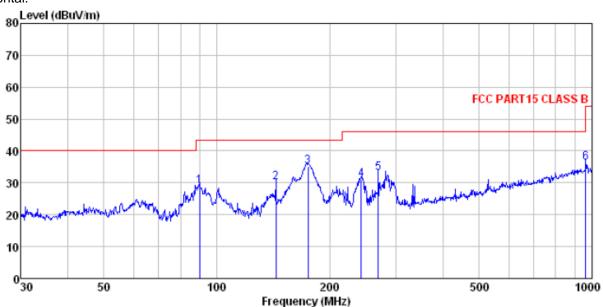
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#### **Measurement Data**

Below 1GHz

Horizontal:



Site

: 3m chamber : FCC PART15 CLASS B 3m VULB9163-2013M HORIZONTAL : 0002RF Condition

Job No. Test Mode : PC mode Test Engineer: ying

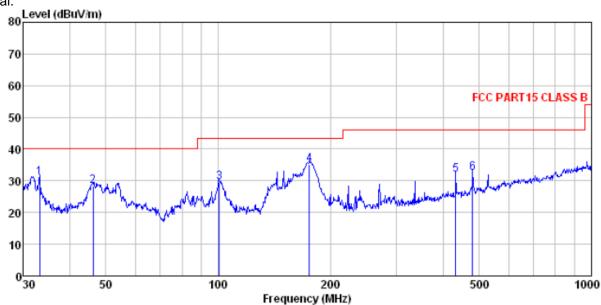
	Freq	Read	Antenna Factor					Over Limit	Remark
	MHz	dBu∜	dB/m	₫B	dB	dBuV/m	dBuV/m	₫B	
1 2 3 4 5	89.905 143.830 175.037 242.525 269.428 962.162	50.34 54.23 47.00 48.81	10.22 11.29 14.08 14.34	1.53 1.72 2.08 2.22	32.07 32.16	30.13 35.17 31.00 33.20	43.50 43.50 46.00 46.00	-13.37 -8.33 -15.00 -12.80	QP QP QP QP



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Site

: 3m chamber : FCC PART15 CLASS B 3m VULB9163-2013M VERTICAL Condition

: 0002RF Job No. Test Mode : PC mode Test Engineer: ying

	Freq		Antenna Factor						Remark
	MHz	dBu₹	dB/m	dB	dB	dBuV/m	dBuV/m	₫B	
1 2 3 4 5	33. 211 46. 178 100. 581 175. 652 432. 546 480. 528	44.98 54.20 43.12	15.11 11.36 17.53	1.19 1.72 3.01	32.00 31.76 32.07 31.78	28. 44 29. 52 35. 21 31. 88	40.00 43.50 43.50 46.00	-11.56 -13.98 -8.29 -14.12	QP QP QP QP

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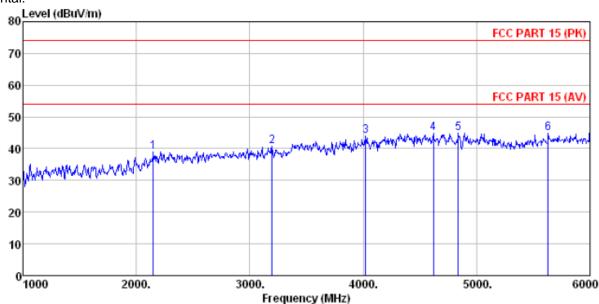


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#### Above 1GHz

#### Horizontal:



Site

: 3m chamber : FCC PART 15 (PK) 3m BBHA9120D ANT(>1GHZ) HORIZONTAL : 0002RF Condition

Job No. Test Mode : PC mode Test Engineer: ying

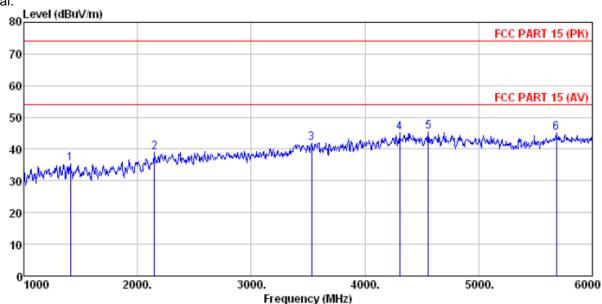
	Freq		Antenna Factor					Over Limit	Remark
	MHz	dBu₹	<u>dB</u> /m	₫B	₫B	dBuV/m	dBuV/m	<u>dB</u>	
1 2 3 4 5	2150.000 3195.000 4020.000 4620.000 4840.000 5630.000	40.61 38.88 38.41 36.86 36.49 35.18	27. 52 28. 73 29. 73 31. 55 31. 81 32. 32		32.15 32.00 32.11	43.87	74.00 74.00 74.00 74.00	-30.13 -29.15 -29.18	Peak Peak Peak Peak

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Vertical:



Site : 3m chamber

Condition : FCC PART 15 (PK) 3m BBHA9120D ANT(>1GHZ) VERTICAL

Job No. : 0002RF Test Mode : PC mode Test Engineer: ying

050	Freq	Read	Antenna Factor					Over Limit	Remark
	MHz	dBu∜	dB/m	dB	dB	dBuV/m	dBuV/m	<u>dB</u>	
1 2 3 4 5 6	1410.000 2150.000 3530.000 4305.000 4560.000 5685.000	38.69 38.13	27.52 29.04 30.71 31.44	5.13 7.01 8.16 8.39	33. 45 34. 29 32. 71 31. 84 31. 96 32. 31	38.96 42.03 45.16 45.39	74.00 74.00 74.00 74.00	-35.04 -31.97 -28.84	Peak Peak Peak Peak