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Report No.: FCC12-RTE091102
Page 1 of 19

TEST REPORT

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

Equipment Under Test (EUT)

Product Name: W10
Model No.: AN10DG3
Trade mark: ARNOVA
FCC ID: SOVAN10DG3
Applicable standards: FCC CFR Title 47 Part 15 Subpart B:2010
Date of sample receipt: September 04, 2012
Date of Test: September 04-10, 2012
Date of report issued: September 11, 2012
Test Result : PASS *

* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:

Kavin 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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2 Version

Version No.	Date	Description
00	September 11, 2012	Original

Prepared by:

Sam. Gao
Project Engineer

Date:

September 11, 2012

Reviewed by:

Hans. Hu
Reviewer

Date:

September 11, 2012



3 Contents

	Page
1 COVER PAGE	1
2 VERSION	2
3 CONTENTS	3
4 TEST SUMMARY	4
5 GENERAL INFORMATION	5
5.1 CLIENT INFORMATION	5
5.2 GENERAL DESCRIPTION OF E.U.T.	5
5.3 TEST MODE AND VOLTAGE	5
5.4 TEST FACILITY	6
5.5 TEST LOCATION	6
5.6 DESCRIPTION OF SUPPORT UNITS	7
5.7 DEVIATION FROM STANDARDS	7
5.8 ABNORMALITIES FROM STANDARD CONDITIONS	7
5.9 OTHER INFORMATION REQUESTED BY THE CUSTOMER	7
6 TEST INSTRUMENTS LIST	8
7 TEST RESULTS AND MEASUREMENT DATA	9
7.1 CONDUCTED EMISSIONS	9
7.2 RADIATED EMISSION	12
8 TEST SETUP PHOTO	18
9 EUT CONSTRUCTIONAL DETAILS	19



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.



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 E.U.T.

Product Name:	W10
Model No.:	AN10DG3
Operation Frequency:	2412MHz~2462MHz (802.11b/802.11g/802.11n(H20)) 2422MHz~2452MHz (802.11n(H40))
Power supply:	Trade mark: ARCHOS Model No.:HNC050200E Input: AC 100~240V~50/60Hz 0.35A MAX Output: 5.0V 2.0A DC 3.7V Li-ion Battery

5.3 Test mode and voltage

Test mode:	
PC mode	Keep the EUT in Data Transfer with PC mode.
Test voltage:	AC 120V/60Hz



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 Testing and 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 our files. Registration 600491, July 20, 2010.

- **Industry Canada (IC)**

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-1.

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



5.6 Description of Support Units

Manufacturer	Description	Model	Serial Number	FCC ID/DoC
HP	Printer	CB495A	05257893	DoC
DELL	PC	OPTIPLEX745	GTS312	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.



6 Test Instruments list

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	9.2(L)*6.2(W)* 6.4(H)	GTS250	Mar. 30 2011	Mar. 29 2013
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	GTS251	N/A	N/A
3	EMI Test Receiver	Rohde & Schwarz	ESU26	GTS203	Jul. 03 2012	Jul. 02 2013
4	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	GTS214	Feb. 26 2012	Feb. 25 2013
5	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	9120D-829	GTS208	Mar. 10 2012	Mar. 09 2013
6	Amplifier(100kHz-3GHz)	HP	8347A	GTS204	Jul. 03 2012	Jul. 02 2013
7	Amplifier(2GHz-20GHz)	HP	8349B	GTS206	Jul. 03 2012	Jul. 02 2013
8	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
9	Coaxial cable	GTS	N/A	GTS210	Jul. 03 2012	Jul. 02 2013
10	Coaxial Cable	GTS	N/A	GTS211	Jul. 03 2012	Jul. 02 2013
11	Thermo meter	KTJ	TA328	GTS256	Jul. 06 2012	Jul. 05 2013

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	7.0(L)x3.0(W)x3.0(H)	GTS252	Sep. 08 2011	Sep. 07 2013
2	EMI Test Receiver	Rohde & Schwarz	ESCS30	GTS223	Jul. 03 2012	Jul. 02 2013
3	10dB Pulse Limita	Rohde & Schwarz	N/A	GTS224	Jul. 03 2012	Jul. 02 2013
4	Coaxial Switch	ANRITSU CORP	MP59B	GTS225	Jul. 03 2012	Jul. 02 2013
5	LISN	SCHWARZBECK MESS-ELEKTRONIK	NSLK 8127	GTS226	Jul. 03 2012	Jul. 02 2013
6	Coaxial Cable	GTS	N/A	GTS227	Jul. 03 2012	Jul. 02 2013
7	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
8	Thermo meter	KTJ	TA328	GTS233	Jul. 03 2012	Jul. 02 2013

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 10 2012	July 09 2013

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7 Test Results and Measurement Data

7.1 Conducted Emissions

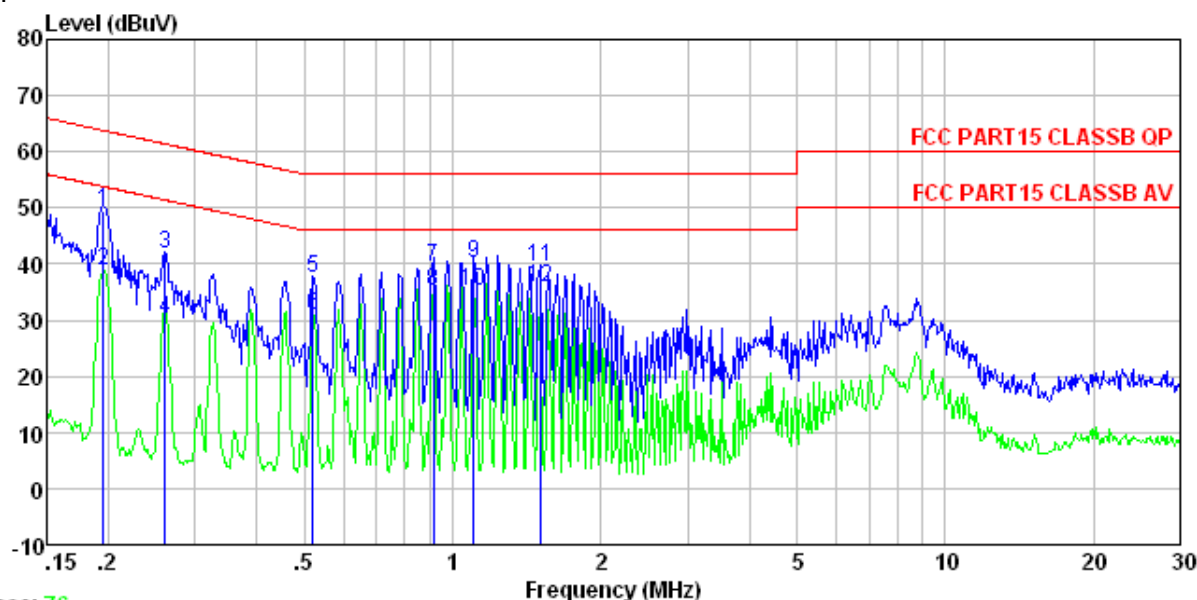
Test Requirement:	FCC Part15 B Section 15.107																		
Test Method:	ANSI C63.4:2003																		
Test Frequency Range:	150kHz to 30MHz																		
Class / Severity:	Class B																		
Receiver setup:	RBW=9kHz, VBW=30kHz																		
Limit:	<table><tr><th rowspan="2">Frequency range (MHz)</th><th colspan="2">Limit (dBμV)</th></tr><tr><th>Quasi-peak</th><th>Average</th></tr><tr><td>0.15-0.5</td><td>66 to 56*</td><td>56 to 46*</td></tr><tr><td>0.5-5</td><td>56</td><td>46</td></tr><tr><td>0.5-30</td><td>60</td><td>50</td></tr></table>					Frequency range (MHz)	Limit (dBμV)		Quasi-peak	Average	0.15-0.5	66 to 56*	56 to 46*	0.5-5	56	46	0.5-30	60	50
Frequency range (MHz)	Limit (dBμV)																		
	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:	Reference Plane LISN AUX Equipment E.U.T Test table/Insulation plane LISN Filter EMI Receiver 40cm 80cm AC power Remark: E.U.T: Equipment Under Test LISN: Line Impedance Stabilization Network Test table height=0.8m																		
Test environment:	Temp.:	25 °C	Humid.:	52%	Press.: 1 012mbar														
Measurement Record:	Uncertainty: ± 3.45dB																		
Test Instruments:	Refer to section 6 for details																		
Test mode:	Refer to section 5.3 for details																		
Test results:	Pass																		

Measurement Data

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Line:



Trace: 76

Condition : FCC PART15 CLASSB QP LISN-2012 LINE

Job No. : 983RF

Test Mode : PC mode

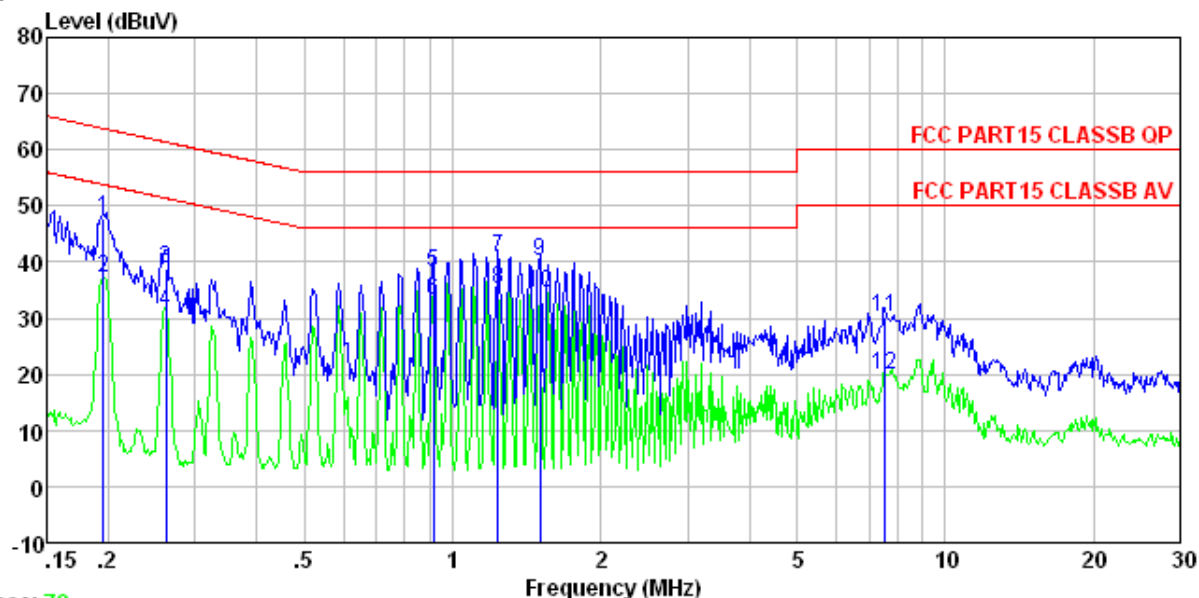
Test Engineer: Sam

	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.195	49.66	-0.23	0.10	49.53	63.80	-14.27	QP
2	0.195	38.86	-0.23	0.10	38.73	53.80	-15.07	Average
3	0.260	42.02	-0.23	0.10	41.89	61.42	-19.53	QP
4	0.260	30.38	-0.23	0.10	30.25	51.42	-21.17	Average
5	0.521	37.55	-0.21	0.10	37.44	56.00	-18.56	QP
6	0.521	31.01	-0.21	0.10	30.90	46.00	-15.10	Average
7	0.914	39.45	-0.21	0.10	39.34	56.00	-16.66	QP
8	0.914	35.16	-0.21	0.10	35.05	46.00	-10.95	Average
9	1.106	40.12	-0.21	0.10	40.01	56.00	-15.99	QP
10	1.106	35.31	-0.21	0.10	35.20	46.00	-10.80	Average
11	1.503	39.63	-0.22	0.10	39.51	56.00	-16.49	QP
12	1.503	35.97	-0.22	0.10	35.85	46.00	-10.15	Average

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Neutral:



Trace: 78

Condition : FCC PART15 CLASSB QP LISN-2012 NEUTRAL

Job No. : 983RF

Test Mode : PC mode

Test Engineer: Sam

	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.195	47.64	-0.09	0.10	47.65	63.80	-16.15	QP
2	0.195	37.16	-0.09	0.10	37.17	53.80	-16.63	Average
3	0.262	38.95	-0.09	0.10	38.96	61.38	-22.42	QP
4	0.262	31.13	-0.09	0.10	31.14	51.38	-20.24	Average
5	0.914	38.14	-0.09	0.10	38.15	56.00	-17.85	QP
6	0.914	33.16	-0.09	0.10	33.17	46.00	-12.83	Average
7	1.236	40.87	-0.09	0.10	40.88	56.00	-15.12	QP
8	1.236	35.05	-0.09	0.10	35.06	46.00	-10.94	Average
9	1.503	40.12	-0.10	0.10	40.12	56.00	-15.88	QP
10	1.503	34.39	-0.10	0.10	34.39	46.00	-11.61	Average
11	7.566	30.14	-0.21	0.17	30.10	60.00	-29.90	QP
12	7.566	19.89	-0.21	0.17	19.85	50.00	-30.15	Average

Notes:

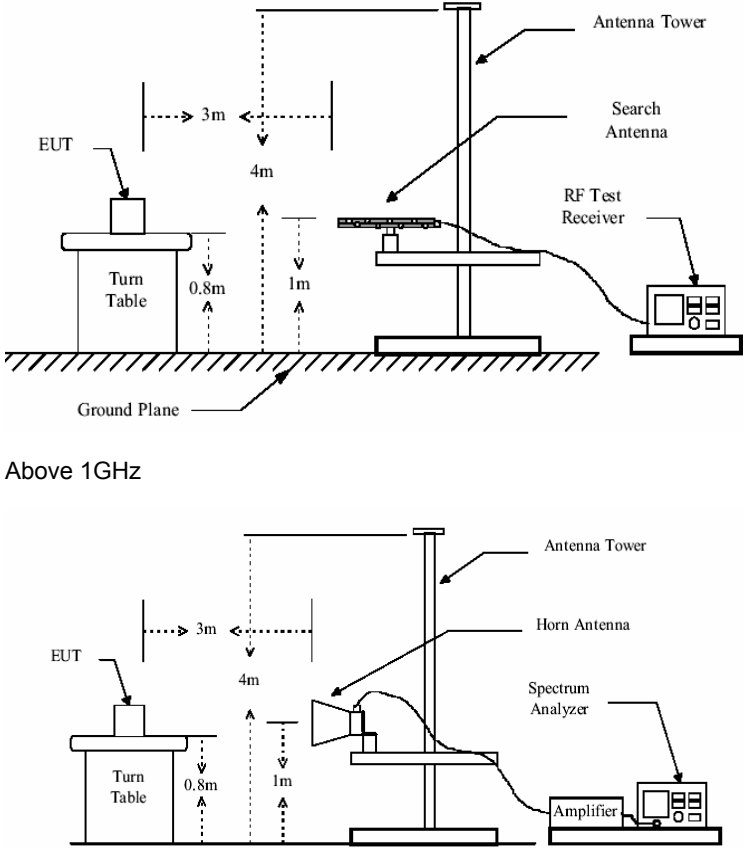
1. The following Quasi-Peak and Average measurements were performed on the EUT:
2. Final Test Level = Receiver Reading + LISN Factor + Cable Loss.



7.2 Radiated Emission

Test Requirement:	FCC Part15 B Section 15.109																											
Test Method:	ANSI C63.4:2003																											
Test Frequency Range:	30MHz to 5GHz																											
Test site:	Measurement Distance: 3m (Semi-Anechoic Chamber)																											
Receiver setup:	<table><tr><td>Frequency</td><td>Detector</td><td>RBW</td><td>VBW</td><td>Remark</td></tr><tr><td>30MHz-1GHz</td><td>Quasi-peak</td><td>100KHz</td><td>300KHz</td><td>Quasi-peak Value</td></tr><tr><td rowspan="3">Above 1GHz</td><td>Peak</td><td>1MHz</td><td>3MHz</td><td>Peak Value</td></tr><tr><td>AV</td><td>1MHz</td><td>10Hz</td><td>Average Value</td></tr><tr><td>Peak</td><td>1MHz</td><td>10Hz</td><td>Average Value</td></tr></table>					Frequency	Detector	RBW	VBW	Remark	30MHz-1GHz	Quasi-peak	100KHz	300KHz	Quasi-peak Value	Above 1GHz	Peak	1MHz	3MHz	Peak Value	AV	1MHz	10Hz	Average Value	Peak	1MHz	10Hz	Average Value
Frequency	Detector	RBW	VBW	Remark																								
30MHz-1GHz	Quasi-peak	100KHz	300KHz	Quasi-peak Value																								
Above 1GHz	Peak	1MHz	3MHz	Peak Value																								
	AV	1MHz	10Hz	Average Value																								
	Peak	1MHz	10Hz	Average Value																								
Limit:	<table><tr><td>Frequency</td><td>Limit (dBuV/m @3m)</td><td>Remark</td></tr><tr><td>30MHz-88MHz</td><td>40.0</td><td>Quasi-peak Value</td></tr><tr><td>88MHz-216MHz</td><td>43.5</td><td>Quasi-peak Value</td></tr><tr><td>216MHz-960MHz</td><td>46.0</td><td>Quasi-peak Value</td></tr><tr><td>960MHz-1GHz</td><td>54.0</td><td>Quasi-peak Value</td></tr><tr><td rowspan="2">Above 1GHz</td><td>54.0</td><td>Average Value</td></tr><tr><td>74.0</td><td>Peak Value</td></tr></table>					Frequency	Limit (dBuV/m @3m)	Remark	30MHz-88MHz	40.0	Quasi-peak Value	88MHz-216MHz	43.5	Quasi-peak Value	216MHz-960MHz	46.0	Quasi-peak Value	960MHz-1GHz	54.0	Quasi-peak Value	Above 1GHz	54.0	Average Value	74.0	Peak Value			
Frequency	Limit (dBuV/m @3m)	Remark																										
30MHz-88MHz	40.0	Quasi-peak Value																										
88MHz-216MHz	43.5	Quasi-peak Value																										
216MHz-960MHz	46.0	Quasi-peak Value																										
960MHz-1GHz	54.0	Quasi-peak Value																										
Above 1GHz	54.0	Average Value																										
	74.0	Peak Value																										
Test Procedure:	1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation. 2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. 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. 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 average method as specified and then reported in a data sheet.																											
Test setup:	Below 1GHz																											

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	 Above 1GHz
Test environment:	Temp.: 25 °C Humid.: 52% Press.: 1 012mbar
Measurement Record:	Uncertainty: ± 4.5dB
Test Instruments:	Refer to section 6 for details
Test mode:	Refer to section 5.3 for details
Test results:	Pass

Note:

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

$$\text{Final Test Level} = \text{Receiver Reading} + \text{Antenna Factor} + \text{Cable Factor} - \text{Preamplifier Factor}$$

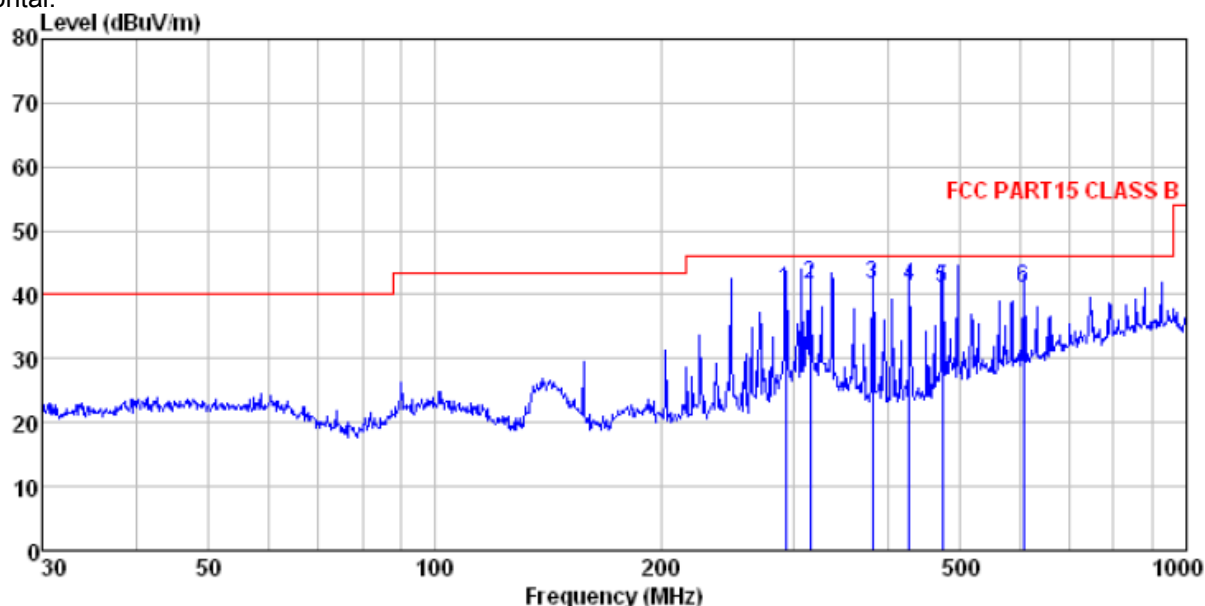
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Measurement Data

Below 1GHz

Horizontal:



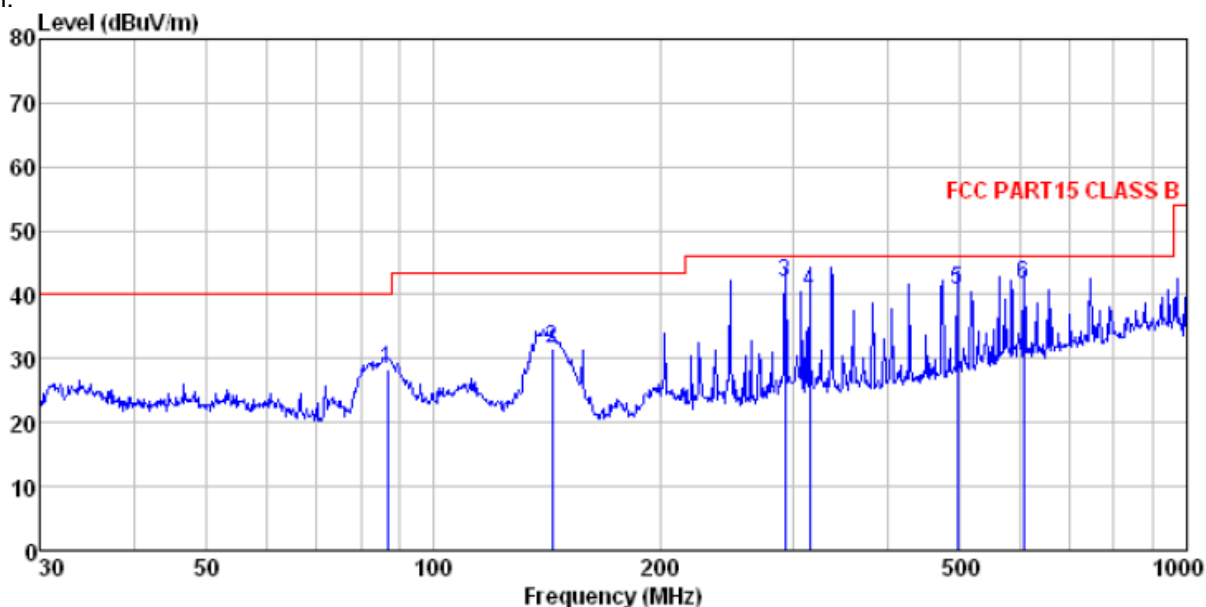
Site : 3m chamber
Condition : FCC PART15 CLASS B 3m VULB9163 -2012-05 HORIZONTAL
Job No. : 983RF
Test Mode : PC mode
Test Engineer: Sam

	Freq	ReadAntenna	Cable Preamp		Limit	Over	
		Level Factor	Loss Factor	Level	Line	Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m
1	293.084	54.63	15.95	2.32	32.18	40.72	46.00
2	315.481	54.91	16.30	2.44	32.13	41.52	46.00
3	382.588	54.16	16.73	2.77	31.94	41.72	46.00
4	428.019	52.59	17.52	2.99	31.79	41.31	46.00
5	473.835	51.61	17.98	3.20	31.64	41.15	46.00
6	607.787	47.70	20.58	3.75	31.05	40.98	46.00

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Vertical:



Site : 3m chamber
Condition : FCC PART15 CLASS B 3m VULB9163 -2012-05 VERTICAL
Job No. : 983RF
Test Mode : PC mode
Test Engineer: Sam

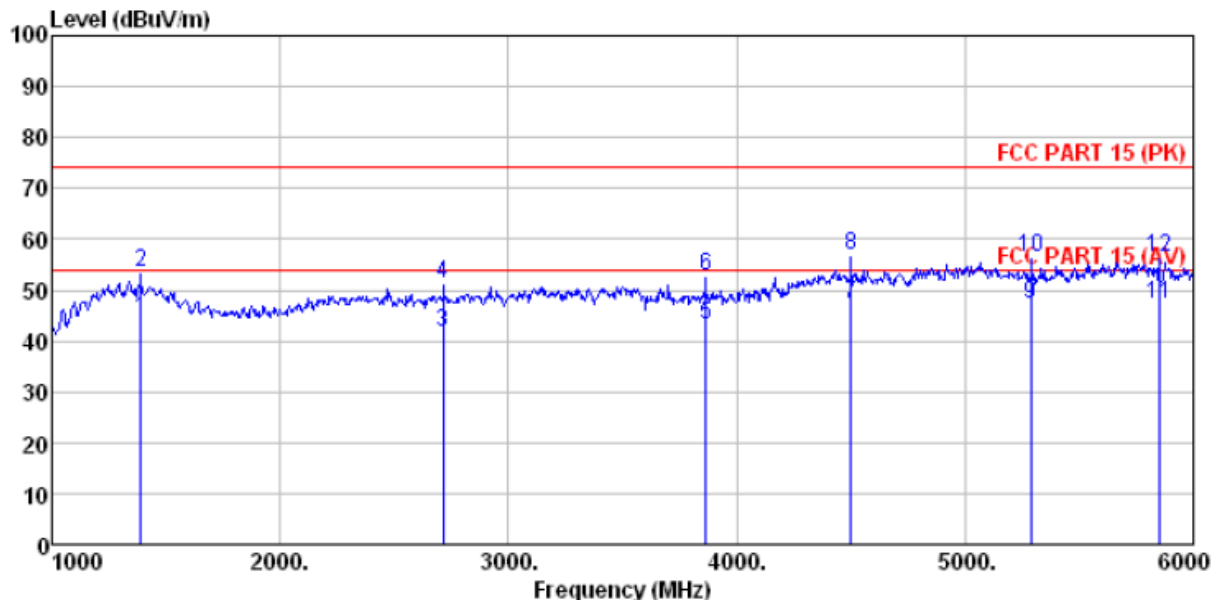
	Freq	ReadAntenna	Cable	Preamp	Limit	Over	
	MHz	Level	Factor	Loss	Factor	Level	Line
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m
1	86.807	44.72	14.19	1.08	31.73	28.26	40.00
2	143.830	50.80	11.23	1.53	31.96	31.60	43.50
3	293.084	55.88	15.95	2.32	32.18	41.97	46.00
4	315.481	53.77	16.30	2.44	32.13	40.38	46.00
5	495.934	50.60	18.52	3.29	31.58	40.83	46.00
6	607.787	48.46	20.58	3.75	31.05	41.74	46.00

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Above 1GHz

Horizontal:



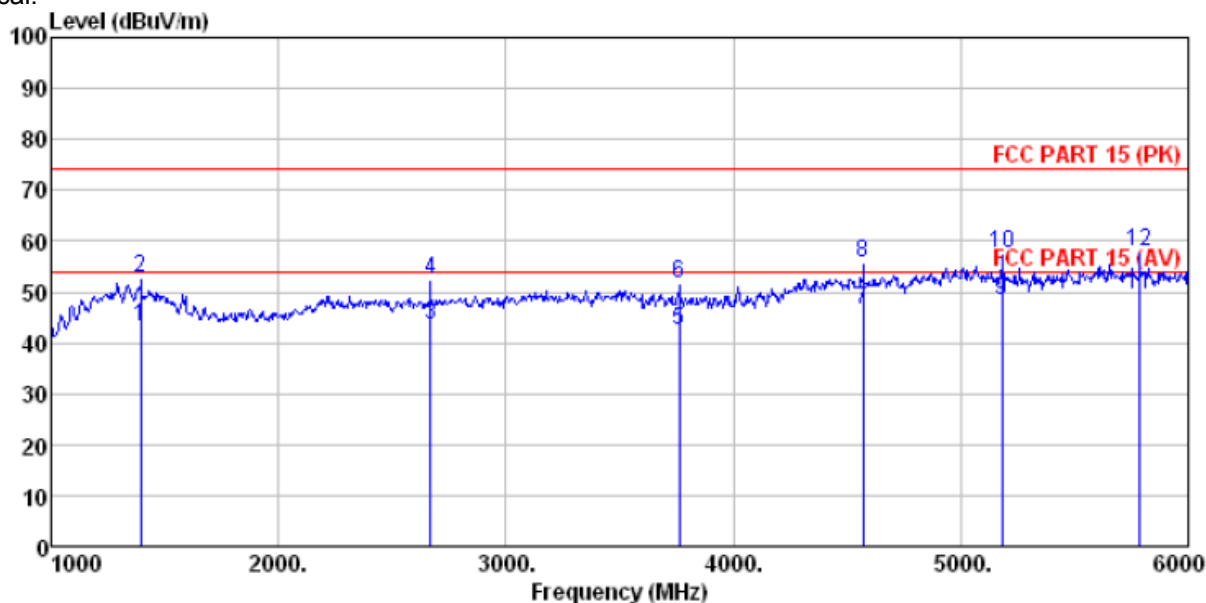
Site : 3m chamber
Condition : FCC PART 15 (PK) 3m BBHA9120D ANT(>1GHZ) HORIZONTAL
Job No. : 983RF
Test Mode : PC mode
Test Engineer: Sam

	Freq	Read	Antenna	Cable	Preamp	Level	Limit	Over	
	MHz	Level	Factor	Loss	Factor	dBuV/m	Line	Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	1390.000	35.29	25.60	4.61	21.35	44.15	54.00	-9.85	Average
2	1390.000	44.76	25.60	4.61	21.35	53.62	74.00	-20.38	Peak
3	2715.000	38.17	28.18	5.69	30.38	41.66	54.00	-12.34	Average
4	2715.000	47.98	28.18	5.69	30.38	51.47	74.00	-22.53	Peak
5	3865.000	33.17	29.45	7.64	27.07	43.19	54.00	-10.81	Average
6	3865.000	42.84	29.45	7.64	27.07	52.86	74.00	-21.14	Peak
7	4500.000	32.26	31.32	8.33	24.60	47.31	54.00	-6.69	Average
8	4500.000	41.64	31.32	8.33	24.60	56.69	74.00	-17.31	Peak
9	5290.000	30.26	31.72	9.19	23.85	47.32	54.00	-6.68	Average
10	5290.000	39.52	31.72	9.19	23.85	56.58	74.00	-17.42	Peak
11	5850.000	28.44	32.70	9.99	23.87	47.26	54.00	-6.74	Average
12	5850.000	37.68	32.70	9.99	23.87	56.50	74.00	-17.50	Peak

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Vertical:



Site : 3m chamber
Condition : FCC PART 15 (PK) 3m BBHA9120D ANT(>1GHZ) VERTICAL
Job No. : 983RF
Test Mode : PC mode
Test Engineer: Sam

	Freq	ReadAntenna		Cable Preamp		Limit	Over	Remark
	MHz	Level	Factor	Loss	Factor	Line	Limit	
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	1395.000	34.18	25.59	4.61	21.35	43.03	54.00	-10.97 Average
2	1395.000	43.75	25.59	4.61	21.35	52.60	74.00	-21.40 Peak
3	2670.000	40.17	28.04	5.65	30.42	43.44	54.00	-10.56 Average
4	2670.000	49.23	28.04	5.65	30.42	52.50	74.00	-21.50 Peak
5	3760.000	33.10	29.32	7.44	27.34	42.52	54.00	-11.48 Average
6	3760.000	42.37	29.32	7.44	27.34	51.79	74.00	-22.21 Peak
7	4570.000	31.09	31.47	8.40	24.48	46.48	54.00	-7.52 Average
8	4570.000	40.37	31.47	8.40	24.48	55.76	74.00	-18.24 Peak
9	5180.000	31.27	32.00	9.03	23.87	48.43	54.00	-5.57 Average
10	5180.000	40.33	32.00	9.03	23.87	57.49	74.00	-16.51 Peak
11	5785.000	30.88	32.63	9.90	23.85	49.56	54.00	-4.44 Average
12	5785.000	39.37	32.63	9.90	23.85	58.05	74.00	-15.95 Peak

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