#### FCC PART 15, SUBPART B and C TEST REPORT

for

**WI-DRIVE** 

**MODEL: WID11GEN** 

Prepared for

DENSION AUDIO SYSTEMS SZTREGOVA u. 1. BUDAPEST, HUNGARY, H-1116

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DATE: FEBRUARY 11, 2010

	REPORT	APPENDICES			TOTAL		
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Model: WID11GEN

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#### GENERAL REPORT SUMMARY

This electromagnetic emission test report is generated by Compatible Electronics Inc., which is an independent testing and consulting firm. The test report is based on testing performed by Compatible Electronics personnel according to the measurement procedures described in the test specifications given below and in the "Test Procedures" section of this report.

The measurement data and conclusions appearing herein relate only to the sample tested and this report may not be reproduced without the written permission of Compatible Electronics, unless done so in full.

This report must not be used to claim product endorsement by NVLAP or any other agency of the U.S. Government.

Device Tested: Wi-Drive

Model: WID11GEN

S/N: N/A

Product Description: See Expository Statement.

There were no modifications made to the EUT during the testing. Modifications:

Manufacturer: **Dension Audio Systems** 

Sztregova u. 1.

Budapest, Hungary, H-1116

Test Dates: January 25, 26, 28; and February 8 and 17, 2010

Test Specifications: EMI requirements

CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.209, and 15.247

Test Procedure: ANSI C63.4: 2003

Test Deviations: The test procedure was not deviated from during the testing.

Report Number: B00125D1

#### **SUMMARY OF TEST RESULTS**

TEST	DESCRIPTION	RESULTS
1	Conducted RF Emissions, 150 kHz – 30 MHz	The EUT does not directly or indirectly connect to the AC mains, thus this test was not performed.
2	Spurious Radiated RF Emissions, 10 kHz – 25000 MHz	Complies with the <b>Class B</b> limits of CFR Title 47, Part 15, Subpart B; and CFR Title 47, Part 15, Subpart C, section 15.247(d)  Highest reading in relation to spec limit: 42.58 dBuV @ 192.239 MHz (*U = 4.22 dB)
3	Fundamental and Emissions produced by the intentional radiator in non-restricted bands, 10 kHz – 25000 MHz	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247(d)
4	Emissions produced by the intentional radiator in restricted bands, 10 kHz – 25000 GHz	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.205, 15.209(a), and section 15.247 (d)
5	6 dB Bandwidth	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247(a)(2)
6	Peak Power Output	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247(b)(3)
7	RF Conducted Antenna Test	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247(d)
8	Peak Power Spectral Density Conducted from the Intentional Radiator to the Antenna	Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247 (e)

<sup>\*</sup>U = Expanded Uncertainty with a coverage factor of k=2

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#### 1. PURPOSE

This document is a qualification test report based on the Electromagnetic Interference (EMI) tests performed on the Wi-Drive, Model: WID11GEN. The EMI measurements were performed according to the measurement procedure described in ANSI C63.4: 2003. The tests were performed in order to determine whether the electromagnetic emissions from the equipment under test, referred to as EUT hereafter, are within the Class B specification limits defined by CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.209, and 15.247.

Note: For the unintentional radiator portion of the test, the EUT was within the **Class B** specification limits defined by CFR Title 47, Part 15, Subpart B.



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#### 2. ADMINISTRATIVE DATA

#### 2.1 Location of Testing

The EMI tests described herein were performed at the test facility of Compatible Electronics, 114 Olinda Drive, Brea, California 92823.

#### 2.2 Traceability Statement

The calibration certificates of all test equipment used during the test are on file at the location of the test. The calibration is traceable to the National Institute of Standards and Technology (NIST).

#### 2.3 Cognizant Personnel

Attila Szijj Managing Director

Compatible Electronics Inc.

Kyle Fujimoto Test Engineer James Ross Test Engineer

#### 2.4 Date Test Sample was Received

The EUT was received on January 15, 2010.

#### 2.5 Disposition of the Test Sample

The EUT has not been returned to Dension Audio Systems as of February 11, 2010.

#### 2.6 Abbreviations and Acronyms

The following abbreviations and acronyms may be used in this document.

RF Radio Frequency

EMI Electromagnetic Interference EUT Equipment Under Test

P/N Part Number S/N Serial Number HP Hewlett Packard

ITE Information Technology Equipment

CML Corrected Meter Limit

LISN Line Impedance Stabilization Network

N/A Not Applicable

Report Number: **B00125D1 FCC Part 15 Subpart B** and **FCC Section 15.247** Test Report *Wi-Drive* 

Model: WID11GEN

#### 3. APPLICABLE DOCUMENTS

The following documents are referenced or used in the preparation of this EMI Test Report.

SPEC	TITLE
FCC Title 47,	FCC Rules - Radio frequency devices (including digital devices) –
Part 15	Intentional Radiators
Subpart C	
ANSI C63.4	Methods of measurement of radio-noise emissions from low-voltage
2003	electrical and electronic equipment in the range of 9 kHz to 40 GHz
FCC Title 47,	FCC Rules - Radio frequency devices (including digital devices) –
Part 15	Unintentional Radiators
Subpart B	

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4.

#### DESCRIPTION OF TEST CONFIGURATION

#### 4.1 Description of Test Configuration - EMI

The Wi-Drive, Model: WID11GEN (EUT) was connected as follows:

Wi-Drive, Model: WID11GEN				
Port Name	Connected To			
USB Extension #1	Sandisk USB Flash Drive			
USB Extension #2	Linksys Bluetooth Dongle			
USB Storage	Hewlett Packard USB Flash Drive			
Power	DC Power Supply			
Car USB	Laptop			
Antenna #1	Dash Board Antenna			
Antenna #2	Whip Antenna (Direct Connection, no cable, Rx only)			

The laptop was also connected to a floppy drive via its USB port.

#### **Operating of the EUT:**

**Transmitter and Receiver Harmonics:** The EUT was controlled by a program on the laptop that locked one channel at a time so that the low, middle, and high channels could be tested. This program also allowed the EUT to either be in transmit or receive mode.

**All Other Tests:** The EUT was continuously communicating with the laptop via an 802.11 g link.

It was determined that the emissions were at their highest level when the EUT was operating in the above configurations. The final emissions data was taken in both mode of operations mentioned above and any cables were maximized. All initial investigations were performed with the EMI Receiver in manual mode scanning the frequency range continuously. Photographs of the test setup are in Appendix D of this report.

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#### 4.1.1 Cable Construction and Termination

- <u>Cable 1</u>

  This is a 3-meter braid shielded cable connecting the EUT to the Sandisk USB Flash Drive. The cable has a USB type 'A' connector at each end. The cable was bundled to a length of 1-meter. The shield of the cable was grounded to the chassis via the connectors.
- <u>Cable 2</u>
  This is a 3-meter braid shielded cable connecting the EUT to the Linksys Bluetooth Dongle. The cable has a USB type 'A' connector at each end. The cable was bundled to a length of 1-meter. The shield of the cable was grounded to the chassis via the connectors.
- This is a 3-meter braid shielded cable connecting the EUT to the Hewlett Packard USB Flash Drive. The cable has a USB type 'A' connector at each end. The cable was bundled to a length of 1-meter. The shield of the cable was grounded to the chassis via the connectors.
- This is a 2-meter cable connecting the EUT to the dashboard antenna. The cable has a reverse polarity SMA connector at the EUT end and is hard wired into the dashboard antenna. The cable was bundled to a length of 1-meter. The shield of the cable was grounded to the chassis via the connectors.
- <u>Cable 5</u>
  This is a 20-centimeter cable connecting the EUT to the laptop. The cable has a type 'A' connector at the laptop end and is hard wired into the EUT. The shield of the cable was grounded to the chassis via the connector.
- <u>Cable 6</u> This is a 2-meter unshielded cable connecting the EUT to the DC power supply. The cable has a 4-pin power connector at the EUT end and is hard wired into the DC power supply.
- <u>Cable 7</u>
  This is a 1-meter braid shielded cable connecting the laptop to the USB floppy drive. The cable has a USB type 'A' connector at the laptop end and is hard wired into the USB floppy drive. The shield of the cable was grounded to the chassis via the connector.

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#### 5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT

#### 5.1 EUT and Accessory List

EQUIPMENT	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	FCC ID
WI-DRIVE (EUT)	DENSION AUDIO SYSTEMS	WID11GEN	N/A	X6LWID11GEN
USB PORTABLE DISKETTE DRIVE	N/A	FD-05PUB	U356244	N/A
LAPTOP	HEWLETT PACKARD	G60-441US	2CE927RF3Q	DoC
USB FLASH DRIVE	SANDISK	SDCZ6-4096RB	N/A	N/A
USB FLASH DRIVE	HEWLETT PACKARD	N/A	NA	N/A
BLUETOOTH DONGLE	LINKSYS	USBBT100	LF2103B05178	Q87-USBBT100
DC POWER SUPPLY	FUHUA ELECTRONIC COMPANY LIMITED	UE20-120167PSA	N/A	N/A

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## 5.2 EMI Test Equipment

EQUIPMENT TYPE	MANU- FACTURER	MODEL NUMBER	SERIAL NUMBER	CALIBRATION DATE	CALIBRATION DUE DATE			
	GENERAL TEST EQUIPMENT USED FOR ALL RF EMISSIONS TESTS							
Computer	Hewlett Packard	4530	US91912319	N/A	N/A			
EMI Receiver	Rohde & Schwarz	ESIB40	100194	September 17, 2008	Sept. 17, 2010			
Spectrum Analyzer – Main Section	Hewlett Packard	8566B	3638A08784	May 29, 2009	May 29, 2010			
Spectrum Analyzer – Display Section	Hewlett Packard	85662A	2648A14530	May 29, 2009	May 29, 2010			
Quasi-Peak Adapter	Hewlett Packard	85650A	2430A00424	May 29, 2009	May 29, 2010			
Monitor	Hewlett Packard	D5258A	TW74500641	N/A	N/A			
	RF RA	DIATED EMIS	SIONS TEST EQ	QUIPMENT				
Biconical Antenna	Com Power	AB-900	15250	February 23, 2009	Feb. 23, 2010			
Log Periodic Antenna	Com Power	AL-100	16060	June 15, 2009	June 15, 2010			
Preamplifier	Com Power	PA-102	1017	January 6, 2010	Jan. 6, 2011			
Loop Antenna	Com-Power	AL-130	17089	September 29, 2008	Sept. 29, 2010			
Horn Antenna	Com-Power	AH-118	071175	June 27, 2008	June 27, 2010			
Microwave Preamplifier	Com-Power	PA-122	181921	March 12, 2009	March 12, 2010			
Microwave Preamplifier	Com-Power	PA-840	711013	March 12, 2009	March 12, 2010			
Horn Antenna	Com-Power	AH826	71957	N.C.R.	N.C.R.			
Antenna Mast	Com Power	AM-100	N/A	N/A	N/A			

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## 5.3 EMI Test Equipment (Continued)

EQUIPMENT TYPE	MANU- FACTURER RF	MODEL NUMBER POWER OUP	SERIAL NUMBER UT TEST EQUIP	CALIBRATION DATE PMENT	CALIBRATION DUE DATE
Power Measuring Analyzer	Boonton Electronics	4500A-01	1282	June 20, 2008	June 20, 2010
Peak Power Sensor	Boonton Electronics	57318	3723	June 25, 2008	June 25, 2010

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#### 6. TEST SITE DESCRIPTION

#### 6.1 Test Facility Description

Please refer to section 2.1 and 7.1 of this report for EMI test location.

#### 6.2 EUT Mounting, Bonding and Grounding

The EUT was mounted on a 1.0 by 1.5 meter non-conductive table 0.8 meters above the ground plane.

The EUT was grounded to the chassis of the laptop via the shield of the USB connector.

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#### 7. CHARACTERISTICS OF THE TRANSMITTER

#### 7.1 Channel Number and Frequencies

Channel 1 – 2412 MHz
Channel 2 – 2417 MHz
Channel 3 – 2422 MHz
Channel 4 – 2427 MHz
Channel 5 – 2432 MHz
Channel 6 – 2437 MHz
Channel 7 – 2442 MHz
Channel 8 – 2447 MHz
Channel 9 – 2452 MHz
Channel 10 – 2457 MHz
Channel 11 – 2462 MHz.

#### 7.2 Antenna Gain

The antenna gain of the WiFi antenna is 2.14 dBi.

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#### 8. TEST PROCEDURES

The following sections describe the test methods and the specifications for the tests. Test results are also included in this section.

#### 8.1 RF Emissions

#### **8.1.1** Conducted Emissions Test

The Spectrum Analyzer was used as a measuring meter. The data was collected with the EMI Receiver in the peak detect mode with the "Max Hold" feature activated. The quasi-peak was used only where indicated in the data sheets. A transient limiter was used for the protection of the Spectrum Analyzer input stage, and the offset was adjusted accordingly to read the actual data measured. The LISN output was measured using the Spectrum Analyzer. The output of the second LISN was terminated by a 50 ohm termination. The effective measurement bandwidth used for this test was 9 kHz.

Please see section 6.2 of this report for mounting, bonding and grounding of the EUT. The EUT was powered through the LISN, which was bonded to the ground plane. The LISN power was filtered and the filter was bonded to the ground plane. The EUT was set up with the minimum distances from any conductive surfaces as specified in ANSI C63.4: 2003. The excess power cord was wrapped in a figure eight pattern to form a bundle not exceeding 0.4 meters in length.

The conducted emissions from the EUT were maximized for operating mode as well as cable placement. The final data was collected under program control by the Compatible Electronics conducted emissions software in several overlapping sweeps by running the EMI Receiver at a minimum scan rate of 10 seconds per octave. The final qualification data is located in Appendix E.

#### **Test Results:**

The EUT does not directly or indirectly connect to the AC mains, thus this test was not performed

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#### 8.1.2 Radiated Emissions (Spurious and Harmonics) Test

The EMI Receiver and Spectrum Analyzer were used as a measuring meter along with the quasi-peak adapter. Amplifiers were used to increase the sensitivity of the instrument. The EMI Receiver and Spectrum Analyzer were used in the peak detect mode with the "Max Hold" feature activated. In this mode, the EMI Receiver and Spectrum Analyzer record the highest measured reading over all the sweeps.

The quasi-peak adapter was used only for those readings which are marked accordingly on the data sheets.

The frequencies above 1 GHz were averaged manually by narrowing the video filter down to 2 kHz (VBW > 1/T, with T=1.402806 mS) and putting the sweep time on AUTO on the EMI Receiver to keep the amplitude reading calibrated.

The measurement bandwidths and transducers used for the radiated emissions test were:

FREQUENCY RANGE	EFFECTIVE MEASUREMENT BANDWIDTH	TRANSDUCER
10 kHz to 150 kHz	200 Hz	Active Loop Antenna
150 kHz to 30 MHz	9 kHz	Active Loop Antenna
30 MHz to 300 MHz	120 kHz	Biconical Antenna
300 MHz to 1 GHz	120 kHz	Log Periodic Antenna
1 GHz to 25 GHz	1 MHz	Horn Antenna

The open field test site of Compatible Electronics, Inc. was used for radiated emission testing. This test site is set up according to ANSI C63.4: 2003. Please see section 6.2 of this report for mounting, bonding and grounding of the EUT. The turntable supporting the EUT is remote controlled using a motor. The turntable permits EUT rotation of 360 degrees in order to maximize emissions. Also, the antenna mast allows height variation of the antenna from 1 meter to 4 meters. Data was collected in the worst case (highest emission) configuration of the EUT by the Radiated Emission Manual Test software. At each reading, the EUT was rotated 360 degrees and the antenna height was varied from 1 to 4 meters (for E field radiated field strength). The gunsight method was used when measuring with the horn antenna in order to ensure accurate results.

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#### Radiated Emissions (Spurious and Harmonics) Test (con't)

The presence of ambient signals was verified by turning the EUT off. In case an ambient signal was detected, the measurement bandwidth was reduced temporarily and verification was made that an additional adjacent peak did not exist. This ensures that the ambient signal does not hide any emissions from the EUT. The EUT was tested at a 3 meter test distance to obtain the final test data.

#### **Test Results:**

The EUT complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B; and the limits of CFR Title 47, Part 15, Subpart C, Sections 15.209 and 15.247 (d) for radiated emissions. Please see Appendix E for the data sheets.

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#### 8.2 6 dB Bandwidth

The 6 dB bandwidth was measured using the EMI Receiver. The resolution bandwidth was 100 kHz and the video bandwidth was 300 kHz.

#### **Test Results:**

This test complies with the relevant requirements of CFR Title 47, Part 15, Subpart C section 15.247 (a)(2).

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#### 8.3 Peak Output Power

The Peak Output Power was taken using the power meter and power sensor. The EUT was directly connected to the power sensor, which was directly connected to the power meter. The Peak Output Power was then taken.

#### **Test Results:**

This test complies with the relevant requirements of CFR Title 47, Part 15, Subpart C section 15.247 (b)(3).

#### **8.4** RF Antenna Conducted Test

The RF antenna conducted test was taken using the EMI Receiver. The RF antenna conducted test was measured using a direct connection from the RF out on the EUT into the input of the EMI Receiver. The resolution bandwidth was 100 kHz, and the video bandwidth 300 kHz. The spans were wide enough to include all the harmonics and emissions that were produced by the intentional radiator.

#### **Test Results:**

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (d). The RF power that is produced by the intentional radiator is at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of desired power. Please see the radiated emission data sheets located in Appendix E.

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#### 7.5 RF Band Edges

The RF band edges were taken at the edges of the ISM spectrum (2400 MHz when the EUT was on the low channel and 2483.5 MHz when the EUT was on the high channel) using the EMI Receiver. A preamplifier was used to boost the signal level, with the plots being taken at a 3-meter test distance. The radiated emissions test procedure as describe in section 8.2 of this test report was used to maximize the emission.

#### **Test Results:**

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (d). The RF power at the band edges at 2400 MHz and 2483.5 MHz meet the requirements of FCC Title 47, Part 15, Subpart C section 15.247 (d). Please see the data sheets located in Appendix E.

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## 8.6 Spectral Density Test

The spectral density output was measured using the EMI Receiver. The spectral density output was measured using a direct connection from the RF out on the EUT into the input of the EMI Receiver. The resolution bandwidth was 3 kHz, and the video bandwidth was 10 kHz. The highest 8 MHz of the signal was used with the frequency span set at 10 MHz with the sweep rate being greater than 1 second for every 3 kHz of the frequency span.

#### **Test Results:**

This test complies with the relevant requirements of CFR Title 47, Part 15, Subpart C section 15.247 (e).

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#### 8. CONCLUSIONS

The Wi-Drive Model: WID11GEN meets all of the specification limits defined in FCC Title 47, Part 15, Subpart C, sections 15.205, 15.209, and 15.247.

Note: For the unintentional radiator portion of the test, the EUT was within the **Class B** specification limits defined by CFR Title 47, Part 15, Subpart B.



Report Number: **B00125D1 FCC Part 15 Subpart B** and **FCC Section 15.247** Test Report

Wi-Drive Model: WID11GEN

## **APPENDIX A**

## LABORATORY RECOGNITIONS



## LABORATORY RECOGNITIONS

#### Compatible Electronics has the following agency accreditations:

National Voluntary Laboratory Accreditation Program - Lab Code: 200528-0

Voluntary Control Council for Interference - Registration Numbers: R-983, C-1026, R-984 and C-1027

Bureau of Standards and Metrology Inspection - Reference Number: SL2-IN-E-1031

Conformity Assessment Body for the EMC Directive Under the US/EU MRA Appointed by NIST

Compatible Electronics is recognized or on file with the following agencies:

Federal Communications Commission

Industry Canada



## APPENDIX B

## **MODIFICATIONS TO THE EUT**

Model: WID11GEN

## MODIFICATIONS TO THE EUT

The modifications listed below were made to the EUT to pass FCC Subpart B and FCC 15.247 specifications.

All the rework described below was implemented during the test in a method that could be reproduced in all the units by the manufacturer.

No modifications were made to the EUT during the testing.



#### **APPENDIX C**

# ADDITIONAL MODELS COVERED UNDER THIS REPORT

# ADDITIONAL MODELS COVERED UNDER THIS REPORT

USED FOR THE PRIMARY TEST

Wi-Drive

Model: WID11GEN

S/N: N/A

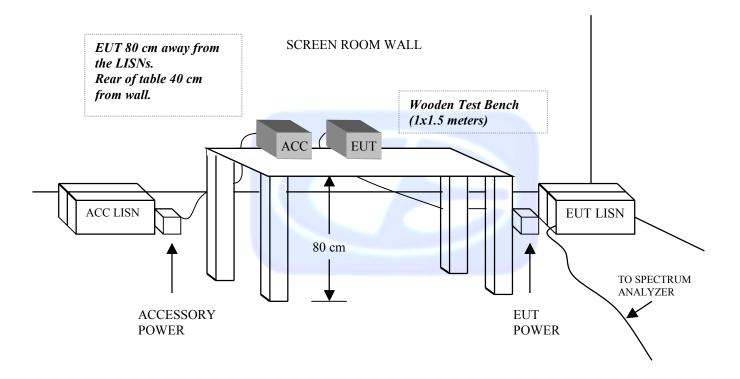
There were no additional models covered under this test report.



## APPENDIX D

DIAGRAMS, CHARTS, AND PHOTOS

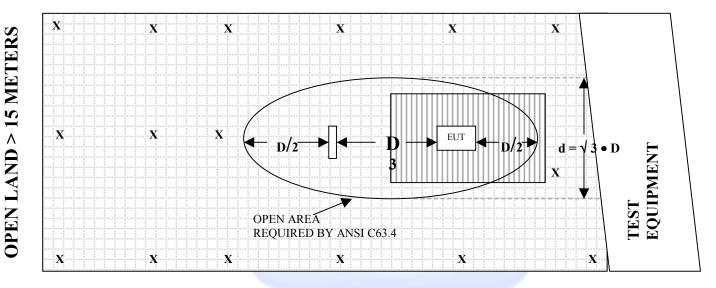
## FIGURE 1: CONDUCTED EMISSIONS TEST SETUP





## FIGURE 2: PLOT MAP AND LAYOUT OF RADIATED SITE -3 METERS

## **OPEN LAND > 15 METERS**



#### **OPEN LAND > 15 METERS**

X = GROUND RODS = GROUND SCREEN

= WOOD COVER D = TEST DISTANCE (meters)

## COM-POWER AB-900

## **BICONICAL ANTENNA**

S/N: 15250

CALIBRATION DATE: FEBRUARY 23, 2009

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	13.0	100	11.1
35	11.1	120	13.6
40	10.2	140	12.4
45	11.2	160	12.9
50	11.6	180	16.5
60	9.1	200	17.0
70	8.4	250	16.3
80	6.2	275	18.2
90	8.5	300	17.9

## COM-POWER AL-100

## LOG PERIODIC ANTENNA

S/N: 16060

CALIBRATION DATE: JUNE 15, 2009

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
300	14.2	700	20.1
400	15.9	800	21.2
500	17.1	900	21.3
600	18.8	1000	22.3

## **COM-POWER PA-102**

## **PREAMPLIFIER**

S/N: 1017

# CALIBRATION DATE: JANUARY 6, 2010

FREQUENCY	FACTOR	FREQUENCY	FACTOR
(MHz)	(dB)	(MHz)	(dB)
20	38.0	300	38.2
30	38.3	350	38.1
40	38.4	400	38.5
50	38.2	450	38.0
60	38.2	500	37.9
70	38.3	550	38.2
80	38.1	600	38.2
90	38.2	650	37.7
100	38.3	700	38.3
125	38.2	750	38.3
150	38.3	800	37.4
175	38.3	850	37.5
200	38.1	900	37.6
225	38.2	950	37.4
250	38.3	1000	37.3
275	38.2		

## **COM POWER AH-118**

## HORN ANTENNA

S/N: 071175

CALIBRATION DATE: JUNE 27, 2008

FREQUENCY	FACTOR	FREQUENCY	FACTOR
(GHz)	(dB)	(GHz)	(dB)
1.0	24.5	10.0	39.4
1.5	25.4	10.5	39.7
2.0	28.3	11.0	39.0
2.5	28.9	11.5	40.0
3.0	29.7	12.0	39.7
3.5	30.8	12.5	41.7
4.0	31.4	13.0	42.7
4.5	32.6	13.5	41.2
5.0	33.7	14.0	41.6
5.5	34.4	14.5	43.2
6.0	34.7	15.0	42.3
6.5	35.4	15.5	39.3
7.0	37.0	16.0	41.7
7.5	37.4	16.5	39.6
8.0	37.6	17.0	43.0
8.5	37.6	17.5	47.1
9.0	38.5	18.0	46.2
9.5	38.6		

### COM-POWER PA-122

### **PREAMPLIFIER**

S/N: 181921

# CALIBRATION DATE: MARCH 12, 2009

FREQUENCY	FACTOR	FREQUENCY	FACTOR
(GHz)	(dB)	(GHz)	(dB)
1.0	36.46	10.0	35.06
1.5	35.36	10.5	34.82
2.0	34.76	11.0	33.12
2.5	34.94	11.5	34.33
3.0	34.59	12.0	34.75
3.5	34.55	12.5	33.94
4.0	34.25	13.0	35.50
4.5	33.89	13.5	34.89
5.0	34.22	14.0	36.56
5.5	34.81	14.5	36.06
6.0	35.74	15.0	36.67
6.5	36.51	15.5	36.84
7.0	36.66	16.0	34.31
7.5	35.72	16.5	35.11
8.0	33.28	17.0	35.35
8.5	33.11	17.5	34.11
9.0	34.71	18.0	33.88
9.5	35.50	18.5	32.20

### COM-POWER AL-130

## LOOP ANTENNA

S/N: 17089

# CALIBRATION DATE: SEPTEMBER 29, 2008

FREQUENCY	MAGNETIC	ELECTRIC
(MHz)	(dB/m)	(dB/m)
0.009	-41.57	9.93
0.01	-42.06	9.44
0.02	-42.43	9.07
0.05	-42.50	9.00
0.07	-42.10	9.40
0.1	-42.03	9.47
0.2	-44.50	7.00
0.3	-41.93	9.57
0.5	-41.90	9.60
0.7	-41.73	9.77
1	-41.23	10.27
2	-40.90	10.60
3	-41.20	10.30
4	-41.30	10.20
5	-40.70	10.80
10	-41.10	10.40
15	-42.17	9.33
20	-42.00	9.50
25	-42.20	9.30
30	-43.10	8.40

### **COM-POWER PA-840**

## PREAMPLIFIER-MICROWAVE

S/N: 711013

CALIBRATION DATE: MARCH 12, 2009

EDEOUENCY	E A CITOD	EDECHENCY	EA CEOD
FREQUENCY	FACTOR	FREQUENCY	FACTOR
(GHz)	(dB)	(GHz)	(dB)
18.0	25.72	29.0	26.72
18.5	25.46	29.5	27.11
19.0	25.19	30.0	27.19
19.5	24.58	30.5	27.12
20.0	23.94	31.0	26.76
20.5	23.48	31.5	26.52
21.0	23.22	32.0	26.11
21.5	23.34	32.5	26.35
22.0	23.62	33.0	26.15
22.5	23.74	33.5	26.14
23.0	24.40	34.0	25.47
23.5	24.60	34.5	25.39
24.0	25.15	35.0	25.05
24.5	25.38	35.5	25.18
25.0	26.00	36.0	24.63
25.5	25.92	36.5	25.22
26.0	26.47	37.0	26.20
26.5	27.19	37.5	26.46
27.0	27.60	38.0	25.44
27.5	26.51	38.5	24.71
28.0	26.46	39.0	23.50
28.5	26.36	39.5	23.46

## **COM-POWER AH826**

## HORN ANTENNA

S/N: 71957

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
18.0	33.5	22.5	35.5
18.5	33.5	23.0	35.9
19.0	34.0	23.5	35.7
19.5	34.0	24.0	35.6
20.0	34.3	24.5	36.0
20.5	34.9	25.0	36.2
21.0	34.7	25.5	36.1
21.5	35.0	26.0	36.2
22.0	35.0	26.5	35.7

FCC Part 15 Subpart B and FCC Section 15.247 Test Report Wi-Drive



### **FRONT VIEW**

DENSION AUDIO SYSTEMS
WI-DRIVE
MODEL: WID11GEN
FCC SUBPART B AND C – RADAITED EMISSIONS

# PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

FCC Part 15 Subpart B and FCC Section 15.247 Test Report Wi-Drive

Wi-Drive Model: WID11GEN



### **REAR VIEW**

DENSION AUDIO SYSTEMS
WI-DRIVE
MODEL: WID11GEN
FCC SUBPART B AND C – RADAITED EMISSIONS

# PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



**APPENDIX E** 

**DATA SHEETS** 

## RADIATED EMISISONS

**DATA SHEETS** 



FCC 15.247

Dension Audio Systems Date: 01/20/10

Wi-Drive Lab: B

Model: WID11GEN Tested By: Kyle Fujimoto

Channel 1 - 802.11 g Mode

Transmit Mode - X-Axis - 54 Mpbs (Worst Case)

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4824	43.25	V	74	-30.75	Peak	1.25	135	
4824	29.79	V	54	-24.21	Avg	1.25	135	
7236	49.38	V	74	-24.62	Peak	1.35	155	
7236	36.26	V	54	-17.74	Avg	1.35	155	
9648	47.97	V			Peak	1.45	135	Not in Restricted Band
9648	36.59	V			Avg	1.45	135	Not in Restricted Band
12060	53.56	V	74	-20.44	Peak	1.25	95	
12060	40.91	V	54	-13.09	Avg	1.25	95	
14472								No Emissions
14472								Detected
14472								No Emissions
14472								Detected
19296								No Emissions
19296								Detected
21708								No Emissions
21708								Detected
24120								No Emissions
24120								Detected



FCC 15.247

Dension Audio Systems Date: 01/20/10

Wi-Drive Lab: B

Model: WID11GEN Tested By: Kyle Fujimoto

Channel 1 - 802.11 g Mode

Transmit Mode - X-Axis - 54 Mpbs (Worst Case)

Freq.	Level				Peak / QP /	Ant. Height	Table Angle	
(MHz)	(dBuV)	Pol (v/h)	Limit	Margin	Avg	(m)	(deg)	Comments
4824	41.94	Н	74	-32.06	Peak	1.25	135	
4824	29.58	Н	54	-24.42	Avg	1.25	135	
7236	47.73	Н	74	-26.27	Peak	1.35	155	
7236	35.89	Н	54	-18.11	Avg	1.35	155	
9648	48.63	Н			Peak	1.45	135	Not in Restricted Band
9648	36.31	Н			Avg	1.45	135	Not in Restricted Band
12060	53.96	Н	74	-20.04	Peak	1.56	145	
12060	40.59	Н	54	-13.41	Avg	1.56	145	
14472								No Emissions
14472								Detected
16884								No Emissions
16884								Detected
19296								No Emissions
19296								Detected
21708								No Emissions
21708								Detected
24120								No Emissions
24120								Detected





FCC 15.247

Dension Audio Systems Date: 01/20/10

Wi-Drive Lab: B

Model: WID11GEN Tested By: Kyle Fujimoto

Channel 6 - 802.11 g Mode Transmit Mode - X-Axis - 54 Mpbs (Worst Case)

Freq.	Level				Peak / QP /	Ant. Height	Table Angle	
(MHz)	(dBuV)	Pol (v/h)	Limit	Margin	Avg	(m)	(deg)	Comments
4874	43.24	V	74	-30.76	Peak	1.25	155	
4874	30.29	V	54	-23.71	Avg	1.25	155	
					_			
7311	50.85	V	74	-23.15	Peak	1.35	155	
7311	36.41	V	54	-17.59	Avg	1.35	155	
9748	50.79	V			Peak	1.45	155	Not in Restricted Band
9748	36.55	V			Avg	1.45	155	Not in Restricted Band
12185	53.51	V	74	-20.49	Peak	1.25	135	
12185	41.48	V	54	-12.52	Avg	1.25	135	
14622								No Emissions
14622								Detected
17059								No Emissions
17059								Detected
19496								No Emissions
19496								Detected
21933								No Emissions
21933								Detected
22001								No Emissions
22001								Detected
24370								No Emissions
24370								Detected



FCC 15.247

Dension Audio Systems Date: 01/20/10

Wi-Drive Lab: B

Model: WID11GEN Tested By: Kyle Fujimoto

Channel 6 - 802.11 g Mode Transmit Mode - X-Axis - 54 Mpbs (Worst Case)

Freq.	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
4874	42.86	H	74	-31.14	Peak	1.25	135	
4874	30.3	Н	54	-23.7	Avg	1.25	135	
					J	100		
7311	48.25	Н	74	-25.75	Peak	1.35	165	
7311	35.61	Н	54	-18.39	Avg	1.35	165	
9748	48.99	Н			Peak	1.58	175	Not in Restricted Band
9748	36.35	Н			Avg	1.58	175	Not in Restricted Band
12185	53.78	Н	74	-20.22	Peak	1.85	185	
12185	41.13	Н	54	-12.87	Avg	1.85	185	
14622								No Emissions
14622								Detected
17059								No Emissions
17059								Detected
19496								No Emissions
19496								Detected
21933								No Emissions
21933								Detected
22001								No Emissions
22001								Detected
24370								No Emissions
24370								Detected



FCC 15.247

Dension Audio Systems Date: 01/20/10

Wi-Drive Lab: B

Model: WID11GEN Tested By: Kyle Fujimoto

Channel 11 - 802.11 g Mode Transmit Mode - X-Axis - 54 Mpbs (Worst Case)

Freq.	Level				Peak / QP /	Ant. Height	Table Angle	
(MHz)	(dBuV)	Pol (v/h)	Limit	Margin	Avg	(m)	(deg)	Comments
4924	45.37	V	74	-28.63	Peak	1.25	135	
4924	30.95	V	54	-23.05	Avg	1.25	135	
7386	49.18	V	74	-24.82	Peak	1.25	175	
7386	36.02	V	54	-17.98	Avg	1.25	175	
9848	52.35	V			Peak	1.35	185	Not in Restricted Band
9848	36.51	V			Avg	1.35	185	Not in Restricted Band
12310	55.54	V	74	-18.46	Peak	1.25	135	
12310	43.38	V	54	-10.62	Avg	1.25	135	
14772								No Emissions
14772								Detected
17234								No Emissions
17234								Detected
19696								No Emissions
19696								Detected
								= 535 515 5
22158								No Emissions
22158								Detected
24620								No Emissions
24620								Detected



FCC 15.247

Dension Audio Systems Date: 01/20/10

Wi-Drive Lab: B

Model: WID11GEN Tested By: Kyle Fujimoto

Channel 11 - 802.11 g Mode Transmit Mode - X-Axis - 54 Mpbs (Worst Case)

Freq.	Level				Peak / QP /	Ant. Height	Table Angle	
(MHz)	(dBuV)	Pol (v/h)	Limit	Margin	Avg	(m)	(deg)	Comments
4924	43.87	Н	74	-30.13	Peak	1.25	135	
4924	30.91	Н	54	-23.09	Avg	1.25	135	
7386	47.38	Н	74	-26.62	Peak	1.35	155	
7386	35.47	Н	54	-18.53	Avg	1.35	155	
9848	54.09	Н			Peak	1.25	155	Not in Restricted Band
9848	37.22	Н			Avg	1.25	155	Not in Restricted Band
12310	55.75	Н	74	-18.25	Peak	1.35	155	
12310	43.24	Н	54	-10.76	Avg	1.35	155	
14772								No Emissions
14772								Detected
17234								No Emissions
17234								Detected
19696								No Emissions
19696								Detected
22158								No Emissions
22158								Detected
24620								No Emissions
24620								Detected

COMPATIBLE
ELECTRONICS

Wi-Drive Model: WID11GEN

#### FCC Class B and RSS-210

Dension Audio Systems

Wi-Drive

Model: WID11GEN

Date: 01/22/10

Lab: B

Tested By: Kyle Fujimoto

Channel 6 - 802.11 g Mode Receive Mode - X-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
								There were no emissions
								discovered for the EUT
								when the EUT was in Receive Mode
							2 2 2	from 1 GHz to 25 GHz
								Vertical and Horizontal Polarization
							100	





#### FCC 15.247 and FCC Class B

**Dension Audio Systems** Date: 01/20/10 Wi-Drive Lab: B

Model: WID11GEN Tested By: Kyle Fujimoto

### Non Harmonic Emissions from the Tx and Digital Portion 1 GHz to 25 GHz

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
								No Emissions Found for the
								Digital Portion
								from 1 GHz to 25 GHz
								for both Vertical and Horizontal
								Polarizations
								No Non Harmonic
								Emissions Found
							1100	for the Tx Mode
								from 1 GHz to 25 GHz
								for both Vertical and Horizontal
						·		Polarizations
					/			



Test Location : Compatible Electronics Page : 1/2

Customer: Dension Audio SystemsDate: 1/25/2010Manufacturer: Dension Audio SystemsTime: 8:51:39

Eut name : Wi-Drive Lab : D

Model : WID11GEN Test Distance : 3 Meters

Serial # : Unit 1
Specification : FCC Class B

Distance correction factor (20 \* log(test/spec) : 0.00

Test Type: Spurious Emissions Qualification

Test Range: 10 kHz to 1 GHz (Vertical and Horizontal)

Test Engineer: James Ross
EUT Note: Transmitter

Pol	Freq	Rdng	Cable loss	Ant factor	Amp gain	Cor'd rdg = R	Limit = L	Delta R-L
	MHz	dBuV	dB	dB	dВ	dBuV	dBuV/m	dВ
V V V V	145.419 152.408 152.409Qp 159.139 165.496	58.90 64.40 63.64 63.00 59.70	1.88 1.92 1.92 1.98 2.03	12.54 12.72 12.72 12.88 13.93	38.28 38.30 38.30 38.30 38.30	35.04 40.74 39.98 39.56 37.36	43.50 43.50 43.50 43.50 43.50	-8.46 -2.76 -3.52 -3.94 -6.14
V V V V	172.679 192.215 196.399 199.795 203.177	60.00 51.70 51.40 53.90 58.00	2.08 2.17 2.19 2.20 2.21	15.23 16.81 16.91 17.00 16.95	38.30 38.16 38.13 38.10 38.11	39.01 32.52 32.37 34.99 39.05	43.50 43.50 43.50 43.50 43.50	-4.49 -10.98 -11.13 -8.51 -4.45
V V V V	223.476 231.093 264.062 277.426 284.148	54.20 58.30 60.50 52.20 52.00	2.29 2.38 2.66 2.72 2.78	16.65 16.55 17.39 18.17 18.09	38.19 38.23 38.24 38.20 38.20	34.95 39.00 42.31 34.89 34.66	46.00 46.00 46.00 46.00 46.00	-11.05 -7.00 -3.69 -11.11 -11.34
V V H H	290.800 297.493 132.086 152.405 165.508	52.70 52.00 57.40 55.90 57.90	2.83 2.88 1.83 1.92 2.03	18.01 17.93 12.85 12.72 13.93	38.20 38.20 38.23 38.30 38.30	35.34 34.61 33.85 32.24 35.56	46.00 46.00 43.50 43.50 43.50	-10.66 -11.39 -9.65 -11.26 -7.94
Н Н Н Н	172.157 186.225 186.225Qp 192.234 192.239Qp	58.90 60.20 59.49 62.30 61.76	2.08 2.15 2.15 2.17 2.17	15.14 16.66 16.66 16.81 16.81	38.30 38.21 38.21 38.16 38.16	37.82 40.80 40.09 43.12 42.58	43.50 43.50 43.50 43.50 43.50	-5.68 -2.70 -3.41 -0.38 -0.92
Н Н Н Н	203.908 203.908Qp 223.956 230.221 291.154	61.50 60.99 56.30 60.10 49.90	2.22 2.22 2.30 2.37 2.83	16.94 16.94 16.65 16.56 18.00	38.12 38.12 38.20 38.22 38.22	42.54 42.03 37.05 40.80 32.53	43.50 43.50 46.00 46.00 46.00	-0.96 -1.47 -8.95 -5.20 -13.47
H V V V	297.504 304.681 310.849 318.218 355.967	50.70 51.50 54.00 55.10 49.90	2.88 2.92 2.95 2.98 3.13	17.93 14.29 14.41 14.55 15.21	38.20 38.19 38.18 38.16 38.15	33.31 30.52 33.18 34.46 30.09	46.00 46.00 46.00 46.00 46.00	-12.69 -15.48 -12.82 -11.54 -15.91



Test Location : Compatible Electronics Page : 2/2

Customer: Dension Audio SystemsDate: 1/25/2010Manufacturer: Dension Audio SystemsTime: 8:51:39

Eut name : Wi-Drive Lab : D

Model : WID11GEN Test Distance : 3 Meters

Serial # : Unit 1
Specification : FCC Class B

Distance correction factor (20 \* log(test/spec) : 0.00

Test Type: Spurious Emissions Qualification

Test Range: 10 kHz to 1 GHz (Vertical and Horizontal)

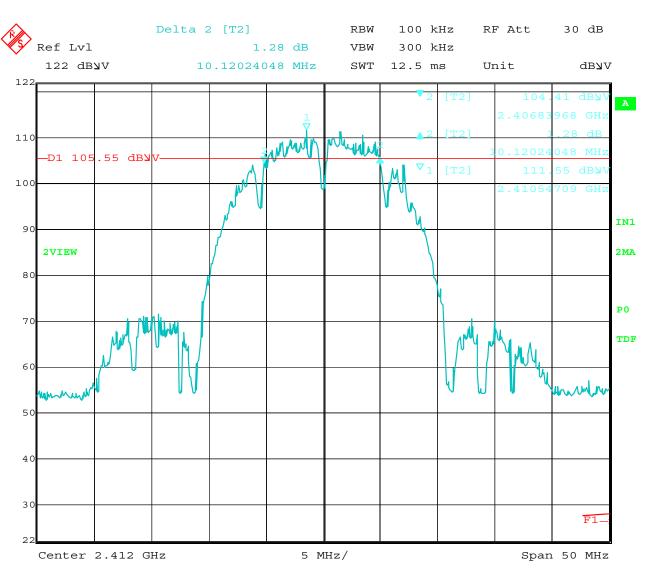
Test Engineer: James Ross
EUT Note: Transmitter

Pol	Freq MHz	Rdng dBuV	Cable loss dB	Ant factor dB	Amp gain dB	Cor'd rdg = R dBuV	Limit = L dBuV/m	Delta R-L dB
V V V V	396.099 396.098Qp 402.778 409.430 416.108	64.80 64.05 53.70 56.10 54.70	3.29 3.29 3.31 3.34 3.37	15.84 15.84 15.94 16.03 16.11	38.47 38.47 38.47 38.40 38.33	45.46 44.71 34.48 37.06 35.85	46.00 46.00 46.00 46.00 46.00	-0.54 -1.29 -11.52 -8.94 -10.15
V V V V	442.884 480.093 660.064 726.092 772.014	53.40 50.90 57.20 51.80 47.70	3.47 3.38 3.76 4.11 4.24	16.45 16.88 19.60 20.40 20.91	38.07 37.94 37.82 38.30 37.90	35.25 33.22 42.74 38.01 34.95	46.00 46.00 46.00 46.00 46.00	-10.75 -12.78 -3.26 -7.99 -11.05
V V V H	792.099 798.738 812.112 310.887 317.569	52.50 51.10 53.10 50.20 50.40	4.28 4.30 4.30 2.95 2.97	21.12 21.19 21.21 14.41 14.54	37.54 37.42 37.42 38.18 38.16	40.36 39.16 41.19 29.38 29.75	46.00 46.00 46.00 46.00 46.00	-5.64 -6.84 -4.81 -16.62 -16.25
Н Н Н Н	355.452 396.058 396.058Qp 402.795 409.431	50.80 65.00 64.72 57.20 58.30	3.12 3.29 3.29 3.31 3.34	15.20 15.84 15.84 15.94 16.03	38.15 38.47 38.47 38.47 38.40	30.98 45.66 45.38 37.98 39.26	46.00 46.00 46.00 46.00	-15.02 -0.34 -0.62 -8.02 -6.74
Н Н Н Н	416.104 436.676 449.531 480.098 512.067	57.50 57.50 56.10 58.40 52.40	3.37 3.45 3.50 3.38 3.33	16.11 16.37 16.53 16.88 17.32	38.33 38.13 38.00 37.94 37.98	38.65 39.19 38.12 40.72 35.07	46.00 46.00 46.00 46.00 46.00	-7.35 -6.81 -7.88 -5.28 -10.93
Н Н Н Н	660.096 726.073 778.520 792.063 805.427	53.70 52.90 48.90 54.30 53.90	3.76 4.11 4.26 4.28 4.30	19.61 20.40 20.98 21.12 21.21	37.82 38.30 37.78 37.54 37.41	39.24 39.11 36.35 42.16 41.99	46.00 46.00 46.00 46.00	-6.76 -6.89 -9.65 -3.84 -4.01



-6 dB BANDWIDTH

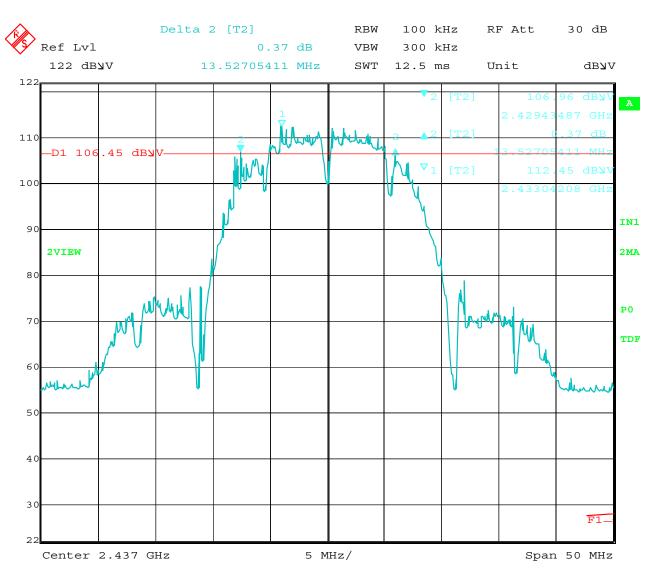
**DATA SHEETS** 



Date: 20.JAN.2010 13:28:19

Bandwidth 6 dB - Channel 1 - 802.11 g Mode

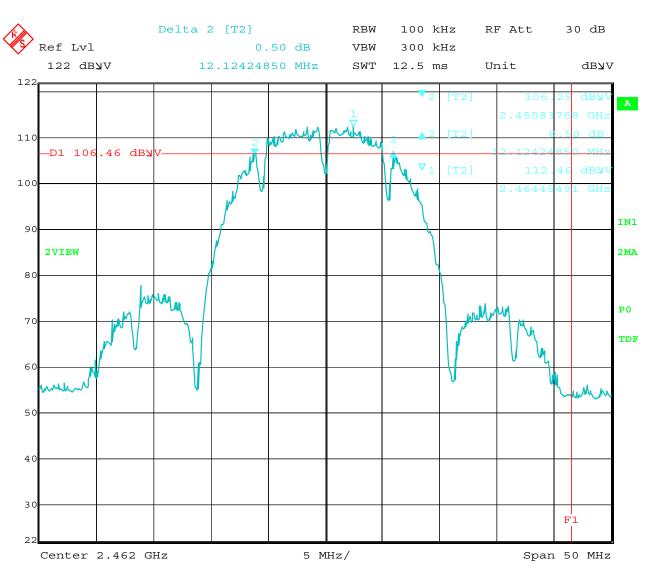




Date: 20.JAN.2010 13:25:09

Bandwidth 6 dB - Channel 6 - 802.11 g Mode





Date: 20.JAN.2010 13:33:51

Bandwidth 6 dB – Channel 11 – 802.11 g Mode



## PEAK POWER OUTPUT

**DATA SHEETS** 

## PEAK OUTPUT POWER

## **DENSION AUDIO SYSTEMS**

### **WI-DRIVE**

Model: WID11GEN

# 802.11 g Mode

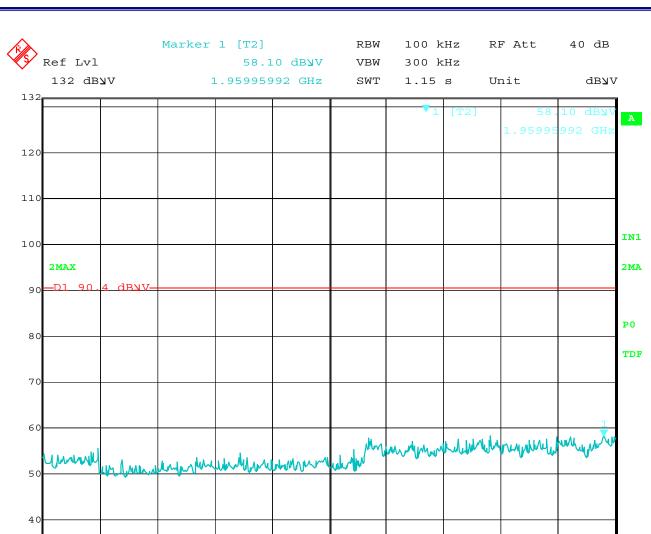
CHANNEL	PEAK POWER OUTPUT (dBm)
1 (2412 MHz)	18.18
6 (2437 MHz)	18.02
11 (2462 MHz)	18.32

## RF CONDUCTED ANTENNA TEST

**DATA SHEETS** 

Wi-Drive

Model: WID11GEN



Date: 20.JAN.2010 13:55:40

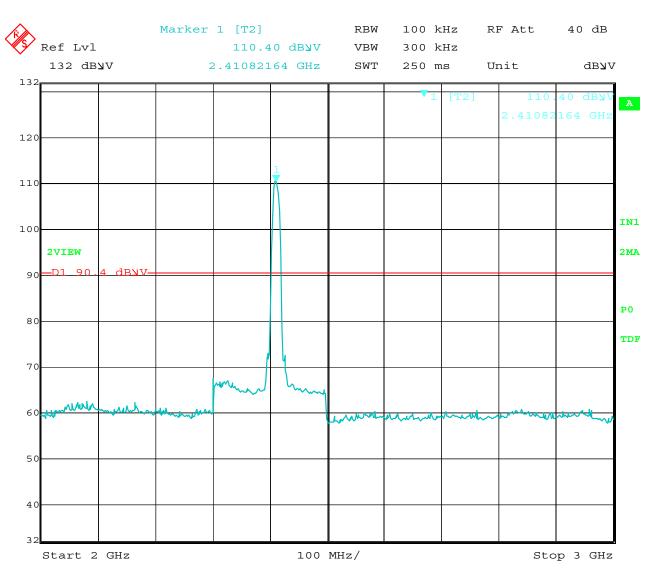
Start 2 MHz

RF Antenna Conducted Test – Channel 1 – 802.11 g Mode – 2 MHz to 2 GHz

199.8 MHz/

Stop 2 GHz

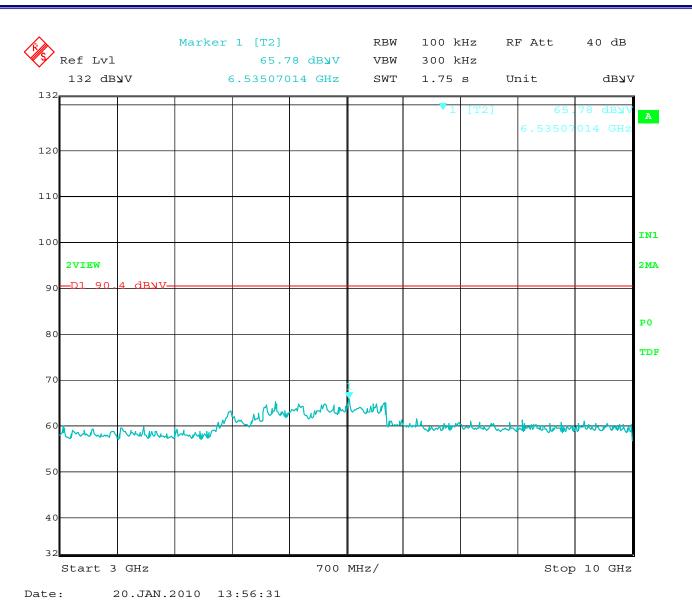




Date: 20.JAN.2010 13:54:51

RF Antenna Conducted Test – Channel 1 – 802.11 g Mode – 2 GHz to 3 GHz



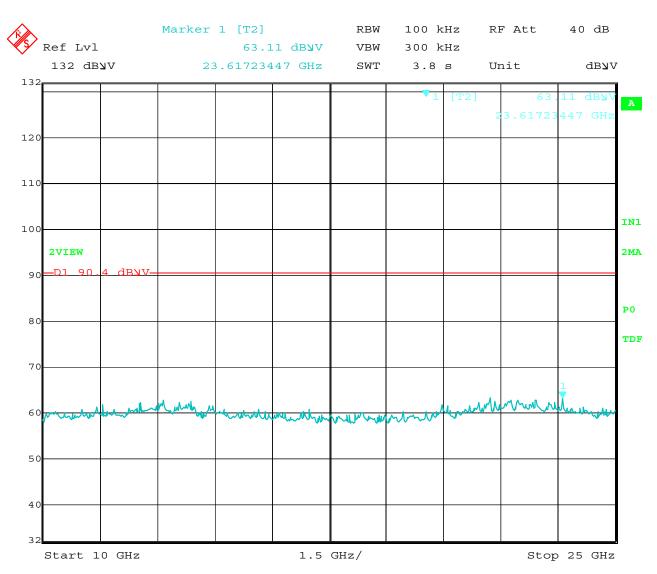


RF Antenna Conducted Test – Channel 1 – 802.11 g Mode – 3 GHz to 10 GHz



**Wi-Drive** 

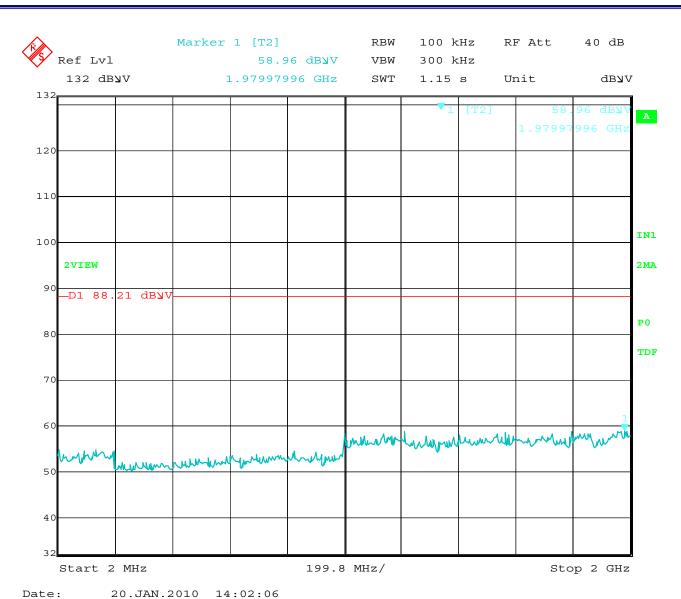
Model: WID11GEN



Date: 20.JAN.2010 13:57:35

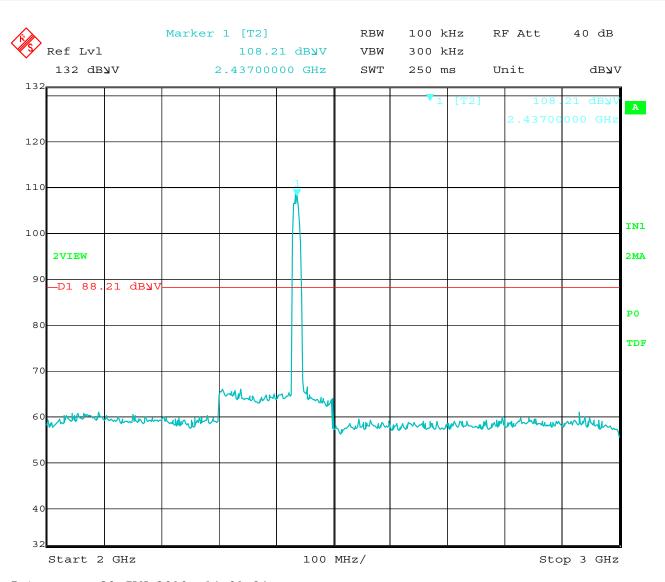
RF Antenna Conducted Test – Channel 1 –  $802.11\ g\ Mode$  –  $10\ GHz$  to  $25\ GHz$ 





RF Antenna Conducted Test – Channel 6 – 802.11 g Mode – 2 MHz to 2 GHz

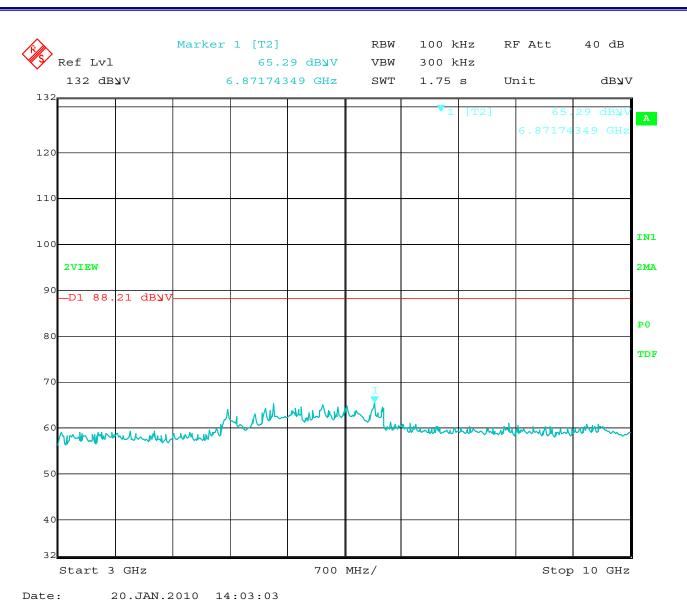




Date: 20.JAN.2010 14:01:24

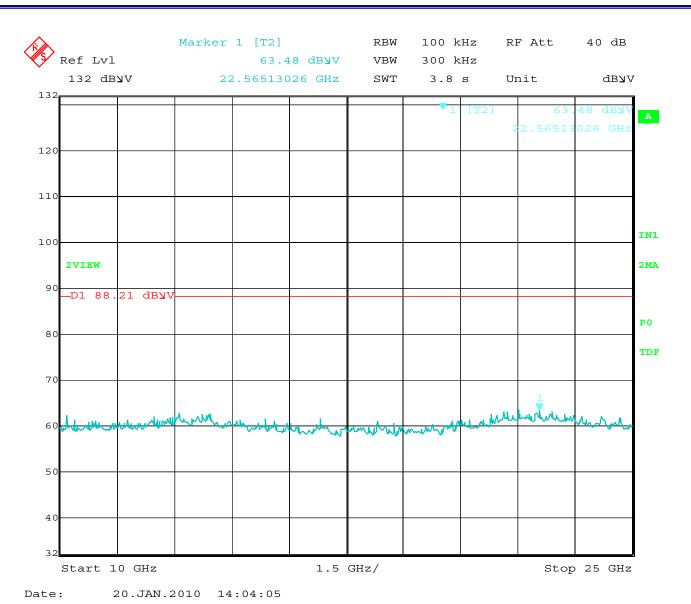
RF Antenna Conducted Test - Channel 6 - 802.11 g Mode - 2 GHz to 3 GHz





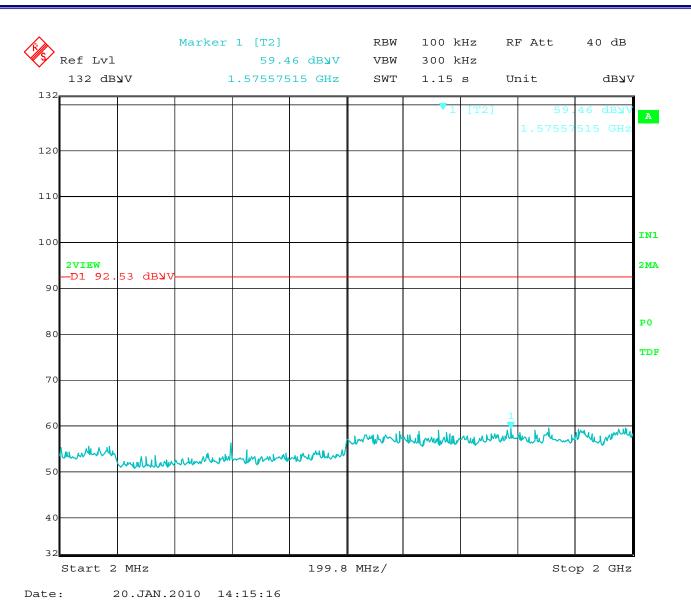
RF Antenna Conducted Test – Channel 3 – 802.11 g Mode – 3 GHz to 10 GHz





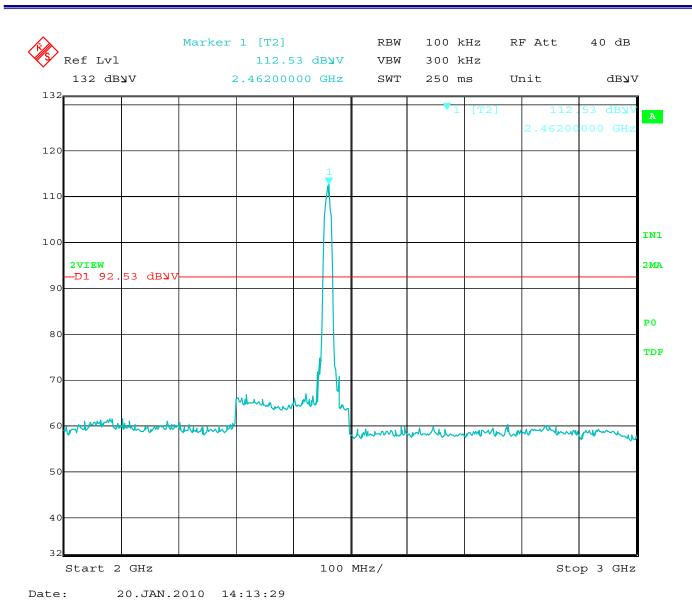
RF Antenna Conducted Test - Channel 6 - 802.11 g Mode - 10 GHz to 25 GHz





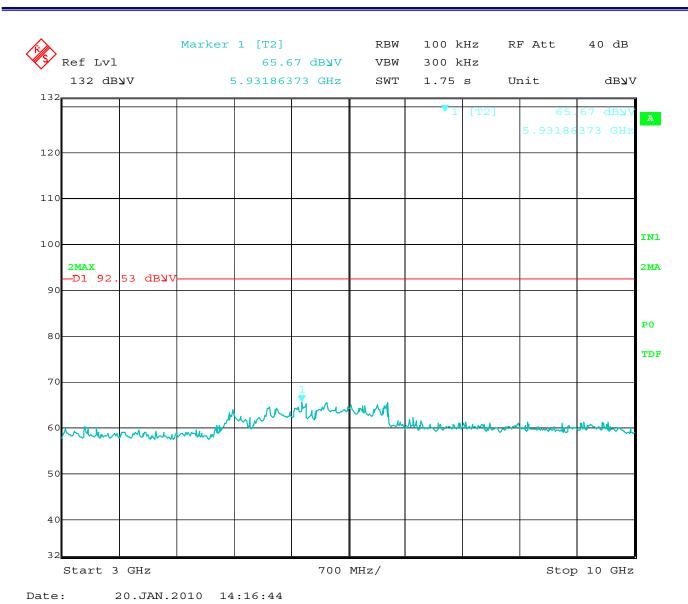
RF Antenna Conducted Test - Channel 11 - 802.11 g Mode - 2 MHz to 2 GHz





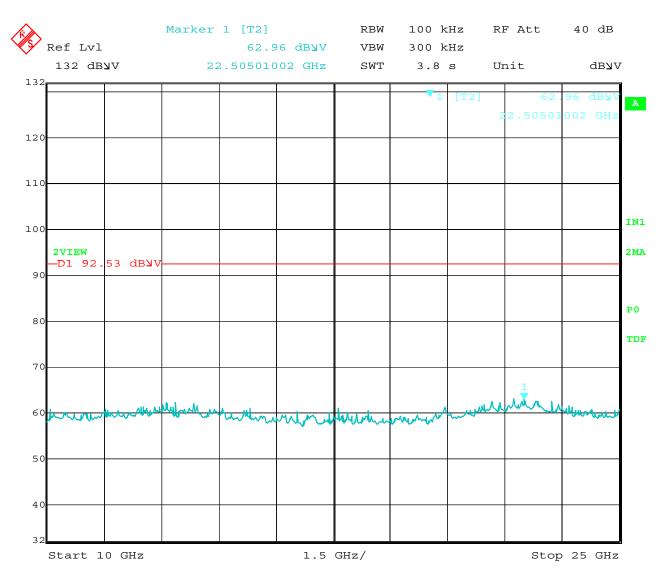
RF Antenna Conducted Test – Channel 11 – 802.11 g Mode – 2 GHz to 3 GHz





RF Antenna Conducted Test - Channel 11 - 802.11 g Mode - 3 GHz to 10 GHz





Date: 20.JAN.2010 14:17:27

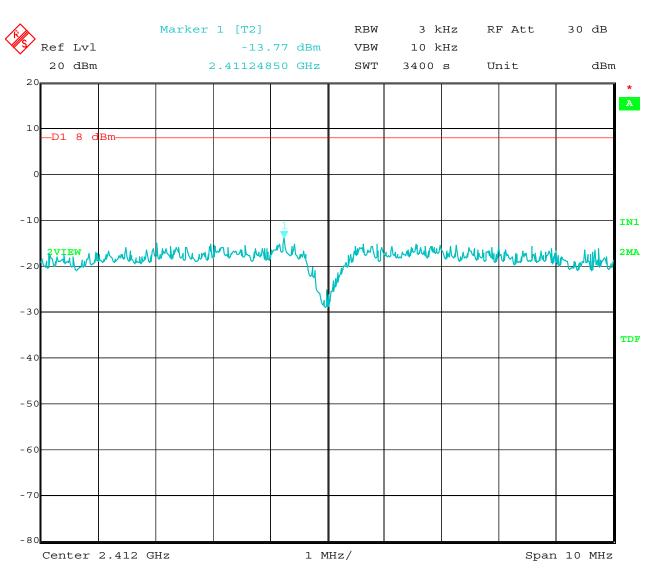
RF Antenna Conducted Test – Channel  $11-802.11\ g\ Mode-10\ GHz$  to  $25\ GHz$ 



## SPECTRAL DENSITY OUTPUT

**DATA SHEETS** 

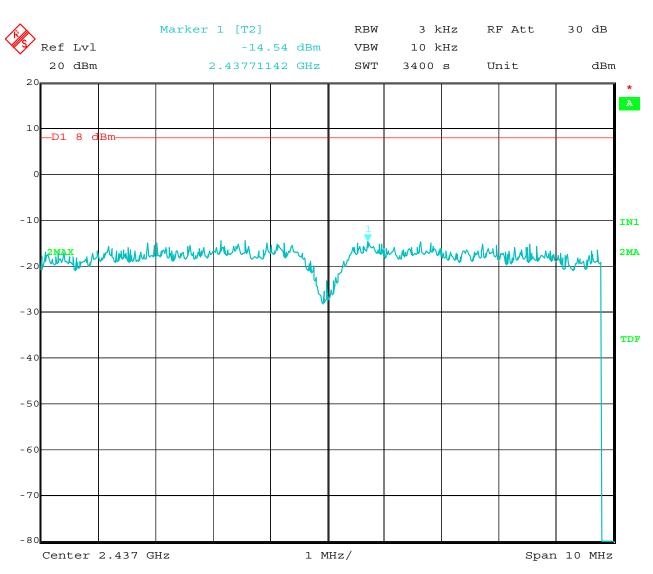




Date: 4.MAR.2010 15:10:43

Spectral Density Output – Channel 1 – 802.11 g Mode

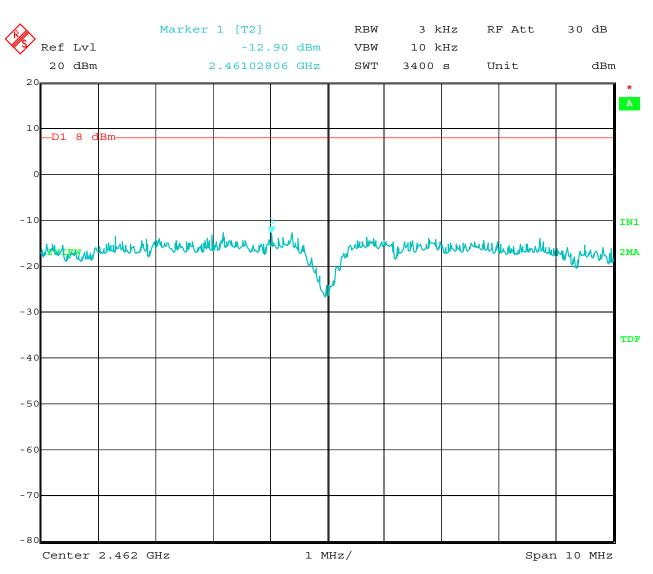




Date: 4.MAR.2010 16:15:10

Spectral Density Output – Channel 6 – 802.11 g Mode





Date: 4.MAR.2010 17:16:17

Spectral Density Output – Channel 11 – 802.11 g Mode



**BAND EDGES** 

**DATA SHEETS** 



Report Number: **B00125D1 FCC Part 15 Subpart B** and **FCC Section 15.247** Test Report

Wi-Drive Model: WID11GEN

FCC 15.247

Dension Audio Systems Date: 01/20/10

Wi-Drive Lab: B

Model: WID11GEN Tested By: Kyle Fujimoto

Channel 1 - 802.11 g Mode Channel 6 - 802.11 g Mode Channel 11 - 802.11 g Mode

**Transmit Mode - X-Axis - 54 Mpbs (Worst Case)** 

Freq.	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2412	103.2	V			Peak	2.5	180	Fundamental of Channel 1
2412	99.47	V		<i></i>	Avg	2.5	180	@ 3 Meters
	00.11	,			, 9	2.0	100	© 6 Motoro
2330.74	62.48	V	74	-11.52	Peak	2.5	180	No Marker Delta Method
2331.2	52.7	V	54	-1.3	Avg	2.5	180	Method Used
2437	103.62	V			Peak	2.5	180	Fundamental of Channel 6
2437	99.83	V			Avg	2.5	180	@ 3 meters
2462	105.02	V			Peak	2.5	180	Fundamental of Channel 11
2462	102.3	V			Avg	2.5	180	@ 3 Meters
2483.5	47.1	V	74	-26.9	Peak	2.5	180	No Marker Delta Method
2484.37	39.98	V	54	-14.02	Avg	2.5	180	Method Used



Report Number: **B00125D1** FCC Part 15 Subpart B and FCC Section 15.247 Test Report

Wi-Drive Model: WID11GEN

FCC 15.247

Dension Audio Systems Date: 01/20/10

Wi-Drive Lab: B

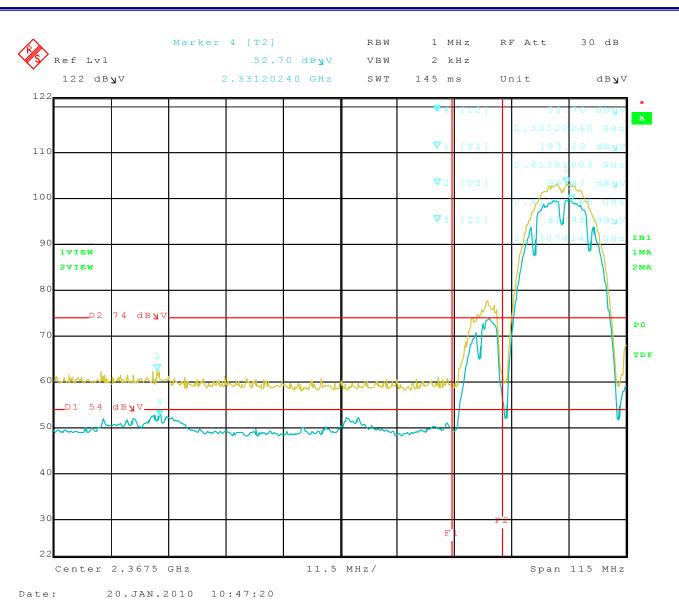
Model: WID11GEN Tested By: Kyle Fujimoto

Channel 1 - 802.11 g Mode Channel 6 - 802.11 g Mode Channel 11 - 802.11 g Mode

**Transmit Mode - X-Axis - 54 Mpbs (Worst Case)** 

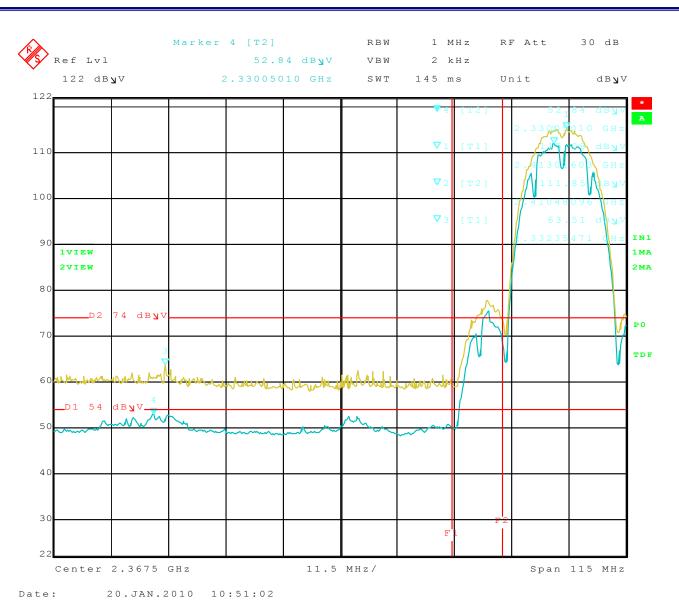
Freq.	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
2412	115.08	H			Peak	2.5	180	Fundamental of Channel 1
2412	111.85	Н	-	<b>/</b>	Avg	2.5	180	@ 3 Meters
2332.35	63.51	Н	74	-10.49	Peak	2.5	180	No Marker Delta Method
2330.05	52.84	Н	54	-1.16	Avg	2.5	180	Method Used
2437	115.59	Н			Peak	2.5	180	Fundamental of Channel 6
2437	111.93	Н			Avg	2.5	180	@ 3 meters
2462	117	Н	-		Peak	2.25	180	Fundamental of Channel 11
2462	114.4	Н			Avg	2.25	180	@ 3 Meters
2483.5	59.72	Н	74	-14.28	Peak	2.25	180	No Marker Delta Method
2484.6	52.03	Н	54	-1.97	Peak	2.25	180	Method Used





Band Edge - Channel 1 - Vertical Polarization - X-Axis - 54 Mpbs - Worst Case

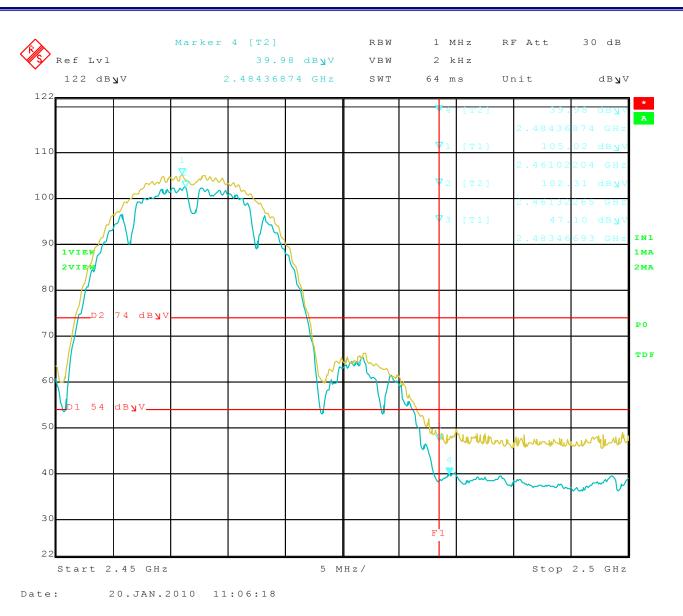




Band Edge - Channel 1 - Horizontal Polarization - X-Axis - 54 Mpbs - Worst Case

Wi-Drive

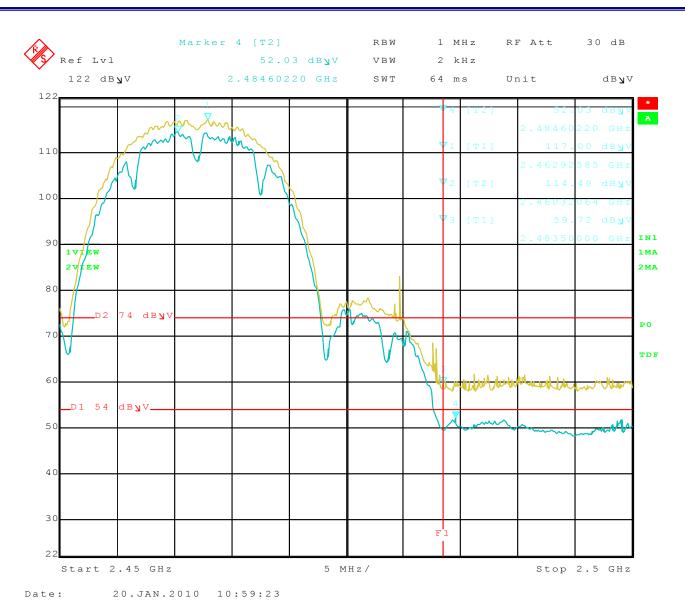
Model: WID11GEN



Band Edge – Channel 11 – Vertical Polarization – X-Axis – 54 Mpbs – Worst Case

Wi-Drive

Model: WID11GEN



Band Edge - Channel 11 - Horizontal Polarization - X-Axis - 54 Mpbs - Worst Case

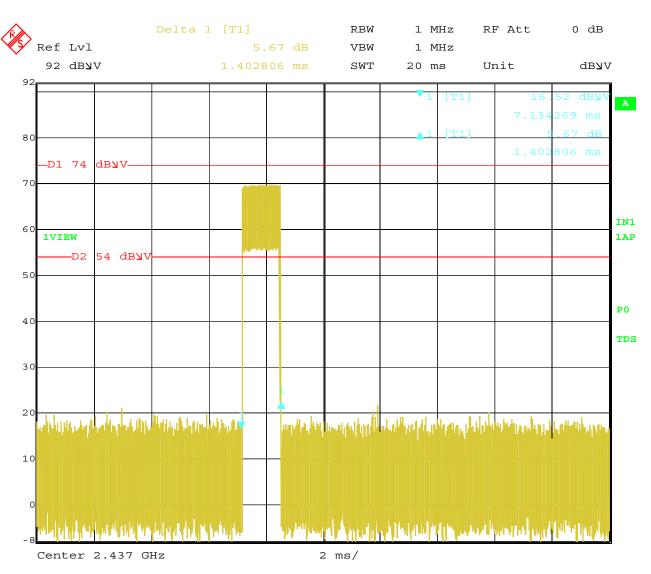


## **DUTY CYCLE INFORMATION**

**DATA SHEETS** 

FCC Part 15 Subpart B and FCC Section 15.247 Test Report

Wi-Drive Model: WID11GEN



Date: 17.FEB.2010 16:49:46

Time of One Pulse = 1.402806 mS