FCC PART 15 SUBPART B and C
TEST REPORT

for

CAR DOCK FOR iPHONE

MODEL: IPH1CR0

Prepared for

DENSION AUDIO SYSTEMS
SZTREGOVA u. 1.
BUDAPEST, HUNGARY, H-116

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DATE: APRIL 5, 2011

	REPORT BODY	APPENDICES					TOTAL
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GENERAL REPORT SUMMARY

Compatible Electronics Inc. generates this electrom agnetic emission test report, 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 a ppearing herein relate only to the sample tested and this report m ay not be reproduced without the written permission of Compatible Electronics, unless done so in full.

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

Device Tested:	Car Dock for iPhone Model: IPH1CR0 S/N: N/A
Product Description:	See Expository Statement
Modifications:	The EUT was not modified in order to meet the specifications.
Customer:	Dension Audio Systems Sztregova u. 1. Budapest, Hungary, H-116
Test Date:	February 24, 2011
Test Specification:	EMI requirements CFR Title 47, Part 15, Subpart B
Test Procedure:	ANSI C63.4
Test Deviations:	The test procedure was not deviated from during the testing.

SUMMARY OF TEST RESULTS

TEST	DESCRIPTION	RESULTS
1	Conducted RF Emissions 150 kHz to 30 MHz	This test was not performed because the EUT operates on battery power only.
2	Radiated RF Emissions 10 kHz – 2000 MHz (Transmit, Receive, and Digital Portion)	Complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.209, and 15.239. Highest reading in relation to spec limit: 45.03 (Avg) dBuV @ 98.1 MHz (*U = 3.34 dB)

*U = Expanded Uncertainty with a coverage factor of k=2

1. PURPOSE

This document is a qualification test report based on the Electromagnetic Interference (EMI) tests performed on the Car Dock for iPhone, Model: IPH1CR0. The EMI measurements were performed according to the measurement procedure described in ANSI C63.4. 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 for the digital and receiver portion; and the limits defined in Subpart C, sections 15.205, 15.209, and 15.239 for the transmitter portion.

Note: This test report covers the FM transmitter portion of the EUT. For the Bluetooth portion, please see the Compatible Electronics test report: **B10301D1**.

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.

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

Dension Audio Systems

Tibor Fabi	Engineer
Laszlo Kovacs	Head of Automotive OEM Division

Compatible Electronics Inc.

Kyle Fujimoto	Test Engineer
James Ross	Test Engineer

2.4 Date Test Sample was Received

The test sample was received prior to the date of testing.

2.5 Disposition of the Test Sample

The test sample has not yet been returned as of the date of this report.

2.6 Abbreviations and Acronyms

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

FCC	Federal Communications Commission
RF	Radio Frequency
EMI	Electromagnetic Interference
EUT	Equipment Under Test
P/N	Part Number
S/N	Serial Number
ITE	Information Technology Equipment
LISN	Line Impedance Stabilization Network
NVLAP	National Voluntary Laboratory Accreditation Program
CFR	Code of Federal Regulations
N/A	Not Applicable
Ltd.	Limited
Inc.	Incorporated
IR	Infrared

3. APPLICABLE DOCUMENTS

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

SPEC	TITLE
CFR Title 47, Part 15	FCC Rules – Radio frequency devices (including digital devices)
ANSI C63.4: 2003	American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz

4. DESCRIPTION OF TEST CONFIGURATION

4.1 Description of Test Configuration – EMI

The Car Dock for iPhone, Model: IPH1CR0 (EUT) was connected to a speaker and a USB Cigarette Lighter Adatper via its audio out and USB ports, respectively. The USB Cigarette Lighter Adapater was also connected to a 12 volt battery. An iPhone was also directly connected to the EUT. The EUT was tested in the X-axis and Y-Axis.

The low, middle, and high channels were investigated. The iPhone had an application that allowed the low, middle, and high channels to be investigated.

The EUT was continuously receiving audio from the iPhone and transmitting the audio in the FM Band. The song being played was Elvis "Amazing Grace".

The antenna is a PCB trace.

Note: The low channel of the EUT was tested at 88.3 MHz for the fundamental and harmonics due to a presence of an amibent radio station with a very strong signal at 88.1 MHz. The band edge at 88 MHz was taken with the EUT tested at 88.1 MHz as the band edge at 88 MHz passes even with both the EUT fundamental being at 88.1 MHz and the amibent radio station at 88.1 MHz.

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

4.1.1 Cable Construction and Termination

Cable 1 This is a 2-meter unshielded cable connecting the speaker to the EUT. The cable was (2) RCA connectors at the speaker end and a 1/8 inch stereo jack at the EUT end. The cable was bundled to a length of 1 meter.

Cable 2 This is a 1-meter unshielded cable connecting the EUT to the USB Cigarette Lighter Adapter. The cable has an 18 pin connector at the EUT end and a USB type 'A' adapter at the USB Cigarette Lighter Adpater end.

Cable 3 This is a 30-centimeter unshieleded cable connecting the USB Cigarette Lighter Adapter to the battery. The cable has alligator clips at each end.

Cable 4 This is a 30-centimeter unshieleded cable connecting the USB Cigarette Lighter Adapter to the battery. The cable has alligator clips at each end.

5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT

5.1 EUT and Accessory List

EQUIPMENT	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	FCC ID
CAR DOCK FOR IPHONE (EUT)	DENSION AUDIO SYSTEMS	IPH1CR0	N/A	X6LIPH1CR0
SPEAKER	N/A	N/A	N/A	N/A
BATTERY	N/A	N/A	N/A	N/A
iPHONE	APPLE	A1241	N/A	BCGA1241
USB CIGARETTE LIGHTER ADAPTER	N/A	N/A	N/A	N/A
LAPTOP	HEWLETT PACKARD	G60-441US	2CE927RF3Q	N/A

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	November 19, 2010	November 19, 2012
Spectrum Analyzer – Main Section	Hewlett Packard	8566B	2637A03618	June 1, 2010	June 1, 2011
Spectrum Analyzer – Display Section	Hewlett Packard	85662A	2648A13404	June 1, 2010	June 1, 2011
Quasi-Peak Adapter	Hewlett Packard	85650A	2430A00424	September 16, 2010	September 16, 2011
Monitor	Hewlett Packard	D5258A	TW74500641	N/A	N/A
RF RADIATED EMISSIONS TEST EQUIPMENT					
Biconical Antenna	Com-Power	AB-900	15250	June 18, 2010	June 18, 2011
Log Antenna	Com-Power	AL-100	16252	June 9, 2010	June 9, 2011
Preamplifier	Com-Power	PA-102	1017	January 11, 2011	January 11, 2012
Horn Antenna	Com-Power	AH-118	071175	March 18, 2010	March 18, 2012
Loop Antenna	Com-Power	AL-130	17089	January 21, 2011	January 21, 2012
Microwave Preamplifier	Com-Power	PA-118	181656	December 22, 2010	December 22, 2011
Antenna Mast	Com Power	AM-100	N/A	N/A	N/A

6. TEST SITE DESCRIPTION

6.1 Test Facility Description

Please refer to section 2.1 and 7.1.2 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 not grounded.

6.3 Facility Environmental Characteristics

When applicable refer to the data sheets in Appendix E for the relative humidity, air temperature, and barometric pressure.

7. TEST PROCEDURES

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

7.1 RF Emissions

7.1.1 Conducted Emissions Test

The measurement receiver was used as a measuring meter. The data was collected with the measurement 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 measurement receiver's input stage, and the offset was adjusted accordingly to read the actual data measured. The LISN output was measured using the measurement receiver. 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. 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 spectrum analyzer at a minimum scan rate of 10 seconds per octave. The final qualification data is located in Appendix E.

Test Results:

This test was not performed because the EUT operates on battery power only.

7.1.2 Radiated Emissions (Spurious and Harmonics) Test

The spectrum analyzer and EMI Receiver were used as a measuring meter along with the quasi-peak adapter. Amplifiers were used to increase the sensitivity of the instrument. The Com-Power Preamplifier Model: PA-102 was used for frequencies from 30 MHz to 1 GHz and the Com-Power Microwave Preamplifier Model: PA-118 was used for frequencies above 1 GHz. The spectrum analyzer and EMI Receiver were used in the peak detect mode with the "Max Hold" feature activated. In this mode, the spectrum analyzer or EMI Receiver 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 fundamental and frequencies above 1 GHz were averaged manually by narrowing the video filter down to 10 Hz and putting the sweep time on AUTO on the spectrum analyzer 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 Antennas

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. 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. The loop antenna was also rotated in the horizontal and vertical axis in order to ensure accurate results.

Radiated Emissions (Spurious and Harmonics) Test (continued)

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 15.239.

7.1.3 Bandwidth of the Fundamental

The -20 dB bandwidth was checked using the EMI Receive to see that it was wholly within the 200 kHz band centered on the operating frequency. The RBW was set to 10 kHz and the VBW was set to 30 kHz. The low, middle, and high channels were investigated. Plots of the -20 dB bandwidth are located in Appendix E.

Test Results:

The EUT complies with the requirements of CFR Title 47, Part 15, Subpart C, section 15.239 (a) for the -20 dB bandwidth of the fundamental. The EUT has a -20 dB bandwidth that is wholly within the 200 kHz band centered on the operating frequency.

7.1.4 RF Emissions Test Results

Table 1.0 RADIATED EMISSION RESULTS
Car Dock for iPhone, Model: IPH1CR0

Frequency MHz	Corrected Reading* dBuV	Specification Limit dBuV	Delta (Cor. Reading – Spec. Limit) dB
98.1 **(A)**	45.03	48.00	-2.97
647.4	39.75	46.00	-6.75
882.9	38.84	46.00	-7.46
588.6	35.77	46.00	-10.23
647.4	35.05	46.00	-10.95
618.1	34.99	46.00	-11.01

Notes:
* The complete emissions data is given in Appendix E of this report.
A Average Reading

8. CONCLUSIONS

The Car Dock for iPhone, Model: IPH1CR0 (EUT), as tested, meets all of the **Class B** specification limits defined in CFR Title 47, Part 15, Subpart B for the digital and receiver portion; and the limits defined in Subpart C, sections 15.205, 15.209, and 15.239 for the transmitter portion.

APPENDIX A

LABORATORY ACCREDITATIONS AND RECOGNITIONS

LABORATORY ACCREDITATIONS AND RECOGNITIONS

NVLAP LAB CODES 200063-0, 200528-0, 200527-0

For US, Canada, Australia/New Zealand, Japan, Taiwan, Korea, and the European Union, Compatible Electronics is currently accredited by NVLAP to ISO/IEC 17025. Please follow the link to the NIST/NVLAP site for each of our facilities' NVLAP certificate and scope of accreditation

NVLAP listing links

Agoura Division / **Brea Division** / **Silverado/Lake Forest Division**

.Quote from ISO-ILAC-IAF Communiqué on 17025:

"A laboratory's fulfilment of the requirements of ISO/IEC 17025:2005 means the laboratory meets both the technical competence requirements and management system requirements that are necessary for it to consistently deliver technically valid test results and calibrations. The management system requirements in ISO/IEC 17025:2005 (Section 4) are written in language relevant to laboratory operations and meet the principles of ISO 9001:2008 Quality Management Systems — Requirements."

ANSI listing CETCB

Compatible Electronics has been nominated as a Conformity Assessment Body (CAB) for EMC under the US/EU Mutual Recognition Agreement (MRA).
US/EU MRA list NIST MRA site

Compatible Electronics has been nominated as a Conformity Assessment Body (CAB) for Taiwan/BSMI under the US/APEC (Asia-Pacific Economic Cooperation) Mutual Recognition Agreement (MRA).
APEC MRA list NIST MRA site

We are also listed for IT products by the following country/agency:

VCCI Support member: Please visit http://www.vcci.jp/vcci_e/

FCC Listing, from FCC OET site
FCC test lab search https://fjallfoss.fcc.gov/oetcf/eas/reports/TestFirmSearch.cfm

Compatible Electronics IC listing can be found at:
http://www.ic.gc.ca/eic/site/ic1.nsf/eng/home

APPENDIX B

MODIFICATIONS TO THE EUT

MODIFICATIONS TO THE EUT

The modifications listed below were made to the EUT to pass FCC 15.239 and/or FCC **Class B** 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 modification 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

Car Dock for iPhone
Model: IPH1CR0
S/N: N/A

ALSO APPROVED UNDER THIS REPORT:

There were no additional models covered under this report.

APPENDIX D

DIAGRAMS, CHARTS, AND PHOTOS

FIGURE 1: CONDUCTED EMISSIONS TEST SETUP

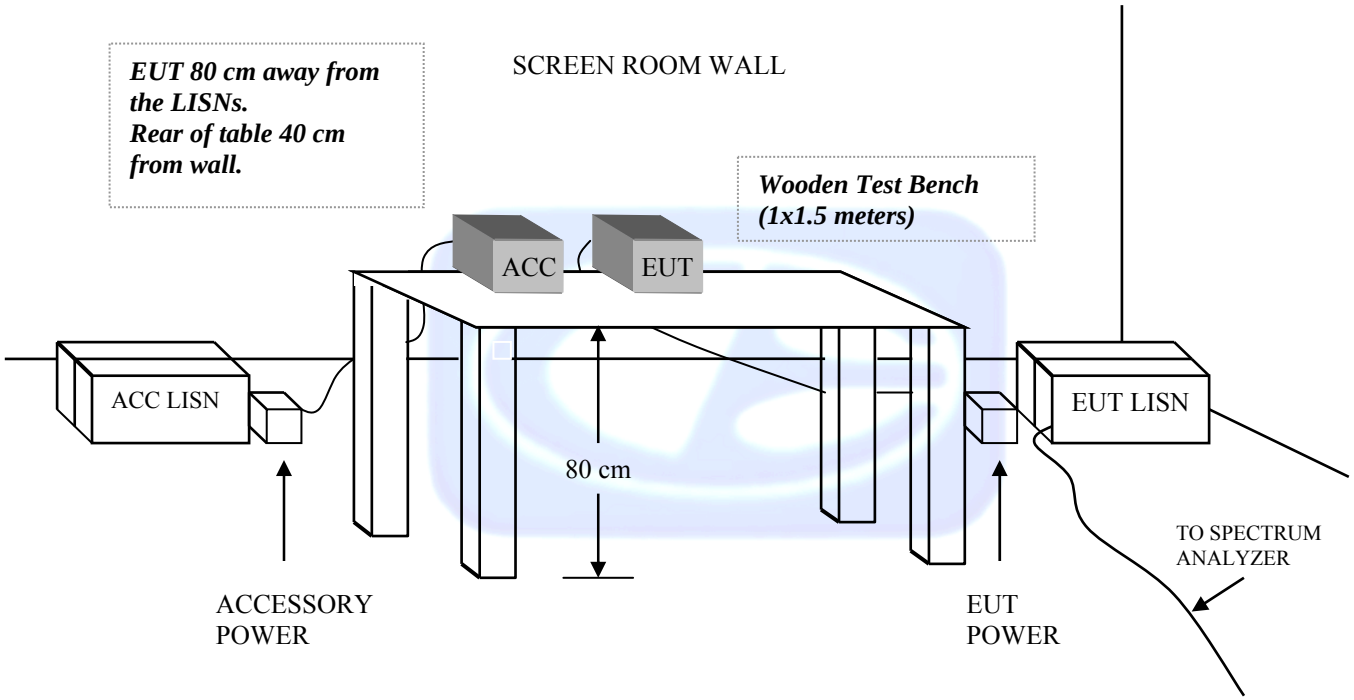
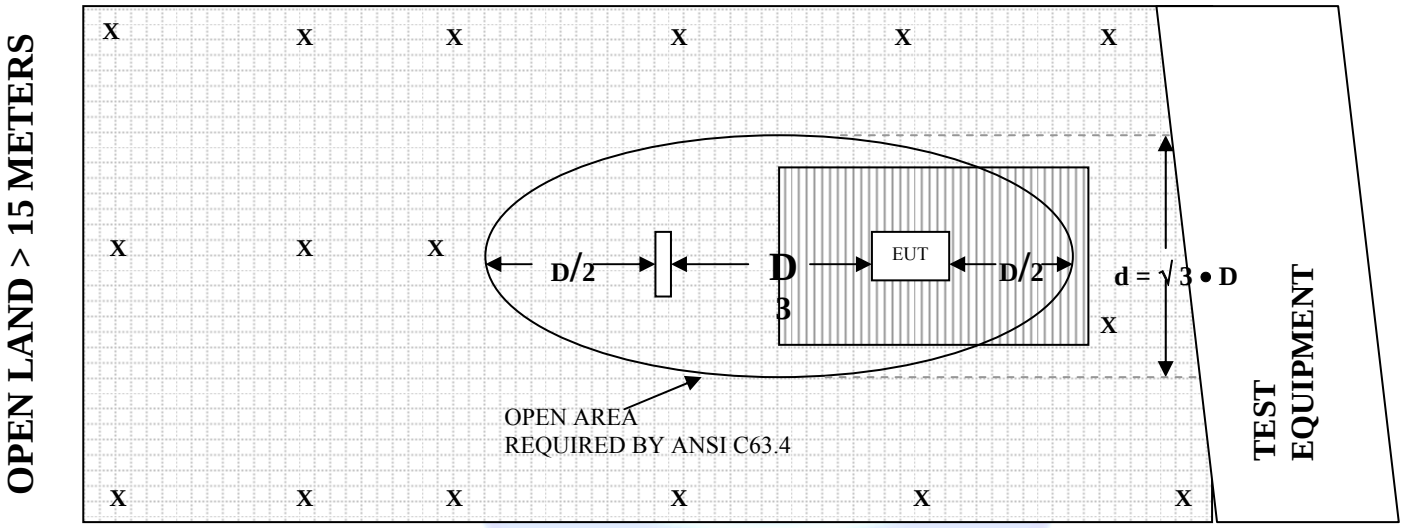


FIGURE 2: PLOT MAP AND LAYOUT OF RADIATED SITE – 3 METERS

OPEN LAND > 15 METERS



OPEN LAND > 15 METERS

X = GROUND RODS	= GROUND SCREEN
D = TEST DISTANCE (meters)	= WOOD COVER

COM-POWER AB-900

BICONICAL ANTENNA

S/N: 15250

CALIBRATION DATE: JUNE 18, 2010

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	12.8	100	11.5
35	11.3	120	13.6
40	10.8	140	12.5
45	10.1	160	13.2
50	11.0	180	15.5
60	11.1	200	16.9
70	7.3	250	16.4
80	7.5	275	18.7
90	8.3	300	19.5

COM-POWER AL-100

LOG PERIODIC ANTENNA

S/N: 16252

CALIBRATION DATE: JUNE 9, 2010

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
300	12.7	700	19.5
400	16.1	800	20.9
500	16.9	900	20.8
600	20.1	1000	21.5

COM-POWER PA-102

PREAMPLIFIER

S/N: 1017

CALIBRATION DATE: JANUARY 11, 2011

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
20	38.2	300	38.1
30	38.1	350	38.0
40	38.2	400	37.9
50	38.2	450	37.7
60	38.2	500	37.6
70	38.2	550	37.9
80	38.2	600	37.9
90	38.2	650	37.7
100	38.1	700	37.9
125	38.2	750	37.5
150	38.2	800	37.6
175	38.2	850	37.6
200	38.2	900	37.0
225	38.2	950	37.2
250	38.2	1000	36.8
275	38.2		

COM POWER AH-118

HORN ANTENNA

S/N: 071175

CALIBRATION DATE: MARCH 18, 2010

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	22.2	10.0	39.8
1.5	24.2	10.5	40.2
2.0	27.2	11.0	39.7
2.5	27.8	11.5	39.9
3.0	30.5	12.0	41.7
3.5	30.9	12.5	42.7
4.0	31.9	13.0	42.3
4.5	33.2	13.5	40.3
5.0	33.6	14.0	42.6
5.5	36.2	14.5	43.4
6.0	35.8	15.0	41.9
6.5	36.1	15.5	40.8
7.0	37.9	16.0	41.0
7.5	37.4	16.5	41.5
8.0	38.0	17.0	44.5
8.5	38.8	17.5	47.6
9.0	38.0	18.0	50.8
9.5	39.2		

COM-POWER PA-118

PREAMPLIFIER

S/N: 181656

CALIBRATION DATE: DECEMBER 22, 2010

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	24.90	10.0	26.07
1.5	26.50	10.5	24.97
2.0	26.79	11.0	24.79
2.5	26.90	11.5	24.33
3.0	27.03	12.0	24.24
3.5	26.94	12.5	24.92
4.0	27.18	13.0	24.52
4.5	26.79	13.5	24.33
5.0	26.25	14.0	24.56
5.5	26.16	14.5	24.99
6.0	25.52	15.0	26.06
6.5	25.29	15.5	26.87
7.0	24.45	16.0	25.95
7.5	24.18	16.5	24.69
8.0	24.02	17.0	24.20
8.5	24.54	17.5	25.12
9.0	24.91	18.0	26.03
9.5	25.42		

COM-POWER AL-130

LOOP ANTENNA

S/N: 17089

CALIBRATION DATE: JANUARY 21, 2011

FREQUENCY (MHz)	MAGNETIC (dB/m)	ELECTRIC (dB/m)
0.009	-41.9	9.6
0.01	-41.79	9.71
0.02	-41.43	10.07
0.05	-41.53	9.97
0.07	-41.47	10.03
0.1	-41.44	10.06
0.2	-41.61	9.89
0.3	-41.62	9.88
0.5	-41.66	9.84
0.7	-41.48	10.02
1	-41.13	10.37
2	-40.89	10.61
3	-41.00	10.50
4	-41.14	10.36
5	-41.02	10.48
10	-40.69	10.82
15	-40.41	11.09
20	-41.07	10.43
25	-42.10	9.40
30	-41.15	10.35

FRONT VIEW

DENSION AUDIO SYSTEMS
CAR DOCK FOR iPHONE
MODEL: IPH1CR0
FCC SUBPART B AND C – RADIATED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

DENSION AUDIO SYSTEMS
CAR DOCK FOR iPHONE
MODEL: IPH1CR0
FCC SUBPART B AND C – RADIATED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

APPENDIX E

DATA SHEETS

RADIATED EMISSIONS

DATA SHEETS

FCC 15.239
Dension Audio Systems
Car Dock for iPhone
Model: IPH1CR0

Date: 02/24/2011
Labs: B and D
Tested By: Kyle Fujimoto

X-Axis - Low Channel

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
88.3	34.26	V	48	-13.74	Peak	1	180	
176.6	28.03	V	43.5	-15.47	Peak	1.05	225	
264.9	14.25	V	46	-31.75	Peak	1	135	
353.2	15.47	V	46	-30.53	Peak	1.25	155	
441.5	21.35	V	46	-24.65	Peak	1.35	165	
529.8	20.37	V	46	-25.63	Peak	1.25	175	
618.1	33.61	V	46	-12.39	Peak	1.35	185	
706.4	21.11	V	46	-24.89	Peak	1.25	195	
794.7	21.71	V	46	-24.29	Peak	1.25	135	
883								No Emission Detected

FCC 15.239
Dension Audio Systems
Car Dock for iPhone
Model: IPH1CR0

Date: 02/24/2011
Labs: B and D
Tested By: Kyle Fujimoto

X-Axis - Low Channel

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
88.3	27.36	H	48	-20.64	Peak	1	180	
176.6	28.43	H	43.5	-15.07	Peak	1.05	180	
264.9	17.62	H	46	-28.38	Peak	1	225	
353.2	17.45	H	46	-28.55	Peak	1.25	135	
441.5	22.97	H	46	-23.03	Peak	1.25	125	
529.8	19.57	H	46	-26.43	Peak	1.35	155	
618.1	34.49	H	46	-11.51	Peak	1.25	155	
706.4	20.61	H	46	-25.39	Peak	1.35	165	
794.7	24.09	H	46	-21.91	Peak	1.25	155	
883								No Emission Detected

FCC 15.239
Dension Audio Systems
Car Dock for iPhone
Model: IPH1CR0

Date: 02/24/2011
Labs: B and D
Tested By: Kyle Fujimoto

Y-Axis - Low Channel

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
88.3	34.26	V	48	-13.74	Peak	1	180	
176.6	25.74	V	43.5	-17.76	Peak	1.25	155	
264.9	20.41	V	46	-25.59	Peak	1.35	165	
353.2	16.67	V	46	-29.33	Peak	1.25	175	
441.5	20.66	V	46	-25.34	Peak	1.35	185	
529.8	20.46	V	46	-25.54	Peak	1.25	195	
618.1	34.99	V	46	-11.01	Peak	1.35	205	
706.4	22.92	V	46	-23.08	Peak	1.25	135	
794.7	23.58	V	46	-22.42	Peak	1.35	155	
883								No Emission Detected

FCC 15.239
Dension Audio Systems
Car Dock for iPhone
Model: IPH1CR0

Date: 02/24/2011
Labs: B and D
Tested By: Kyle Fujimoto

Y-Axis - Low Channel

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
88.3	27.83	H	48	-20.17	Peak	1	180	
176.6	30.34	H	43.5	-13.16	Peak	1	180	
264.9	15.49	H	46	-30.51	Peak	1	180	
353.2	17.38	H	46	-28.62	Peak	1.25	135	
441.5	23.23	H	46	-22.77	Peak	1.35	145	
529.8	19.17	H	46	-26.83	Peak	1.45	155	
618.1	33.53	H	46	-12.47	Peak	1.35	165	
706.4	20.81	H	46	-25.19	Peak	1.25	175	
794.7	22.88	H	46	-23.12	Peak	1.35	185	
883								No Emission Detected

FCC 15.239
Dension Audio Systems
Car Dock For iPhone
Model: IPH1CR0

Date: 02/24/2011
Labs: B and D
Tested By: Kyle Fujimoto

X-Axis - MIddle Channel

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
98.1	47.05	V	48	-0.95	Peak	1	180	
98.1	45.03	V	48	-2.97	Avg	1	180	
196.2	11.27	V	43.5	-32.23	Peak	1.05	225	
294.3	21.22	V	46	-24.78	Peak	1	135	
392.4	19.68	V	46	-26.32	Peak	1	180	
490.5	18.73	V	46	-27.27	Peak	1	180	
588.6	35.77	V	46	-10.23	Peak	1.25	155	
686.7	21.15	V	46	-24.85	Peak	1.35	145	
784.8	23.18	V	46	-22.82	Peak	1.25	155	
882.9	18.58	V	46	-27.42	Peak	1.35	165	
981	25.61	V	46	-20.39	Peak	1.25	175	

FCC 15.239
Dension Audio Systems
Car Dock For iPhone
Model: IPH1CR0

Date: 02/24/2011
Labs: B and D
Tested By: Kyle Fujimoto

X-Axis - Middle Channel

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
98.1	34.84	H	48	-13.16	Peak	1	180	
196.2	14.22	H	43.5	-29.28	Peak	1.05	180	
294.3	19.11	H	46	-26.89	Peak	1	225	
392.4	21.71	H	46	-24.29	Peak	1.25	135	
490.5	19.08	H	46	-26.92	Peak	1.25	125	
588.6	33.03	H	46	-12.97	Peak	1.35	155	
686.7	20.72	H	46	-25.28	Peak	1.45	175	
784.8	24.81	H	46	-21.19	Peak	1.55	185	
882.9	38.21	H	46	-7.79	Peak	1	180	
981	24.61	H	46	-21.39	Peak	1.25	135	

FCC 15.239
Dension Audio Systems
Car Dock For iPhone
Model: IPH1CR0

Date: 02/24/2011
Labs: B and D
Tested By: Kyle Fujimoto

Y-Axis - MIddle Channel

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
98.1	47.05	V	48	-0.95	Peak	1	180	
98.1	45.03	V	48	-2.97	Avg	1	180	
196.2	12.43	V	43.5	-31.07	Peak	1.25	155	
294.3	18.05	V	46	-27.95	Peak	1.35	165	
392.4	20.69	V	46	-25.31	Peak	1.25	175	
490.5	20.71	V	46	-25.29	Peak	1.35	185	
588.6	35.19	V	46	-10.81	Peak	1.25	165	
686.7	22.48	V	46	-23.52	Peak	1.15	155	
784.8	23.19	V	46	-22.81	Peak	1.25	165	
882.9	38.54	V	46	-7.46	Peak	1.35	175	
981	24.13	V	46	-21.87	Peak	1.25	135	

FCC 15.239
Dension Audio Systems
Car Dock For iPhone
Model: IPH1CR0

Date: 02/24/2011
Labs: B and D
Tested By: Kyle Fujimoto

Y-Axis - MIddle Channel

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
98.1	39.53	H	48	-8.47	Peak	1	180	
196.2	12.79	H	43.5	-30.71	Peak	1	180	
294.3	20.06	H	46	-25.94	Peak	1	180	
392.4	20.18	H	46	-25.82	Peak	1	180	
490.5	18.64	H	46	-27.36	Peak	1	0	
588.6	30.67	H	46	-15.33	Peak	1	125	
686.7	22.26	H	46	-23.74	Peak	1.25	135	
784.8	23.75	H	46	-22.25	Peak	1.35	155	
882.9	25.58	H	46	-20.42	Peak	1.25	165	
981	25.06	H	46	-20.94	Peak	1.35	175	

FCC 15.239
Dension Audio Systems
Car Dock with iPhone
Model: IPH1CR0

Date: 02/24/2011
Labs: B and D
Tested By: Kyle Fujimoto

X-Axis - High Channel

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
107.9	36.24	V	48	-11.76	Peak	1	180	
215.8	25.31	V	43.5	-18.19	Peak	1	180	
323.7	21.09	V	46	-24.91	Peak	1	180	
431.6	23.26	V	46	-22.74	Peak	1	150	
539.5	20.23	V	46	-25.77	Peak	1	150	
647.4	35.05	V	46	-10.95	Peak	1	120	
755.3	23.25	V	46	-22.75	Peak	1	180	
863.2	26.29	V	46	-19.71	Peak	1	90	
971.1	24.32	V	54	-29.68	Peak	1	180	
1079	26.52	V	54	-27.48	Peak	1	180	

FCC 15.239
Dension Audio Systems
Car Dock with iPhone
Model: IPH1CR0

Date: 02/24/2011
Labs: B and D
Tested By: Kyle Fujimoto

X-Axis - High Channel

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
107.9	26.32	H	48	-21.68	Peak	1	180	
215.8	24.43	H	43.5	-19.07	Peak	1.25	155	
323.7	17.07	H	46	-28.93	Peak	1.25	135	
431.6	22.69	H	46	-23.31	Peak	1.25	145	
539.5	21.36	H	46	-24.64	Peak	1.15	155	
647.4	33.96	H	46	-12.04	Peak	1.25	165	
755.3	27.11	H	46	-18.89	Peak	1.35	175	
863.2	25.34	H	46	-20.66	Peak	1.25	185	
971.1	24.59	H	54	-29.41	Peak	1.35	195	
1079	27.58	H	54	-26.42	Peak	1.55	180	

FCC 15.239
Dension Audio Systems
Car Dock with iPhone
Model: IPH1CR0

Date: 02/24/2011
Labs: B and D
Tested By: Kyle Fujimoto

Y-Axis - High Channel

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
107.9	36.24	V	48	-11.76	Peak	1	180	
215.8	22.04	V	43.5	-21.46	Peak	1	180	
323.7	20.31	V	46	-25.69	Peak	1	225	
431.6	24.21	V	46	-21.79	Peak	1	135	
539.5	20.54	V	46	-25.46	Peak	1	180	
647.4	30.69	V	46	-15.31	Peak	1	180	
755.3	26.35	V	46	-19.65	Peak	1	150	
863.2	26.93	V	46	-19.07	Peak	1	180	
971.1	23.58	V	54	-30.42	Peak	1	135	
1079	27.65	V	54	-26.35	Peak	1	180	

FCC 15.239
Dension Audio Systems
Car Dock with iPhone
Model: IPH1CR0

Date: 02/24/2011
Labs: B and D
Tested By: Kyle Fujimoto

Y-Axis - High Channel

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
107.9	31.17	H	48	-16.83	Peak	1	180	
215.8	24.11	H	43.5	-19.39	Peak	1	180	
323.7	16.16	H	46	-29.84	Peak	1	180	
431.6	18.68	H	46	-27.32	Peak	1.25	45	
539.5	16.99	H	46	-29.01	Peak	1	180	
647.4	39.75	H	46	-6.25	Peak	1.25	135	
755.3	25.63	H	46	-20.37	Peak	1.35	145	
863.2	24.75	H	46	-21.25	Peak	1.25	135	
971.1	24.1	H	54	-29.9	Peak	1.35	155	
1079	26.7	H	54	-27.3	Peak	1.45	180	

FCC 15.239 and FCC Class B

Dension Audio Systems
Car Dock for iPhone
Model: IPH1CR0

Date: 02/24/2011
Labs: B and D
Tested By: Kyle Fujimoto

Digital Portion - 10 kHz to 2000 MHz - Vertical and Horizontal Polarizations
Non-Harmonic Emissions from the Tx - 10 kHz to 2000 MHz - Vertical and Horizonal Polar.

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
								No Other Emissions Detected
								from 10 kHz to 2000 MHz
								for the Digital Portion
								for both the Vertical and
								Horizontal Polarizations.
								No Emissions Detected
								from 10 kHz to 2000 MHz
								for the Non-Harmonic
								Emissions from the Tx for the
								EUT for both the Vertical and
								Horizontal Polarizations.

BAND EDGES

DATA SHEETS

FCC 15.239
Dension Audio Systems
Car Dock for iPhone
Model: IPH1CR0

Date: 02/24/2011
Labs: B and D
Tested By: Kyle Fujimoto

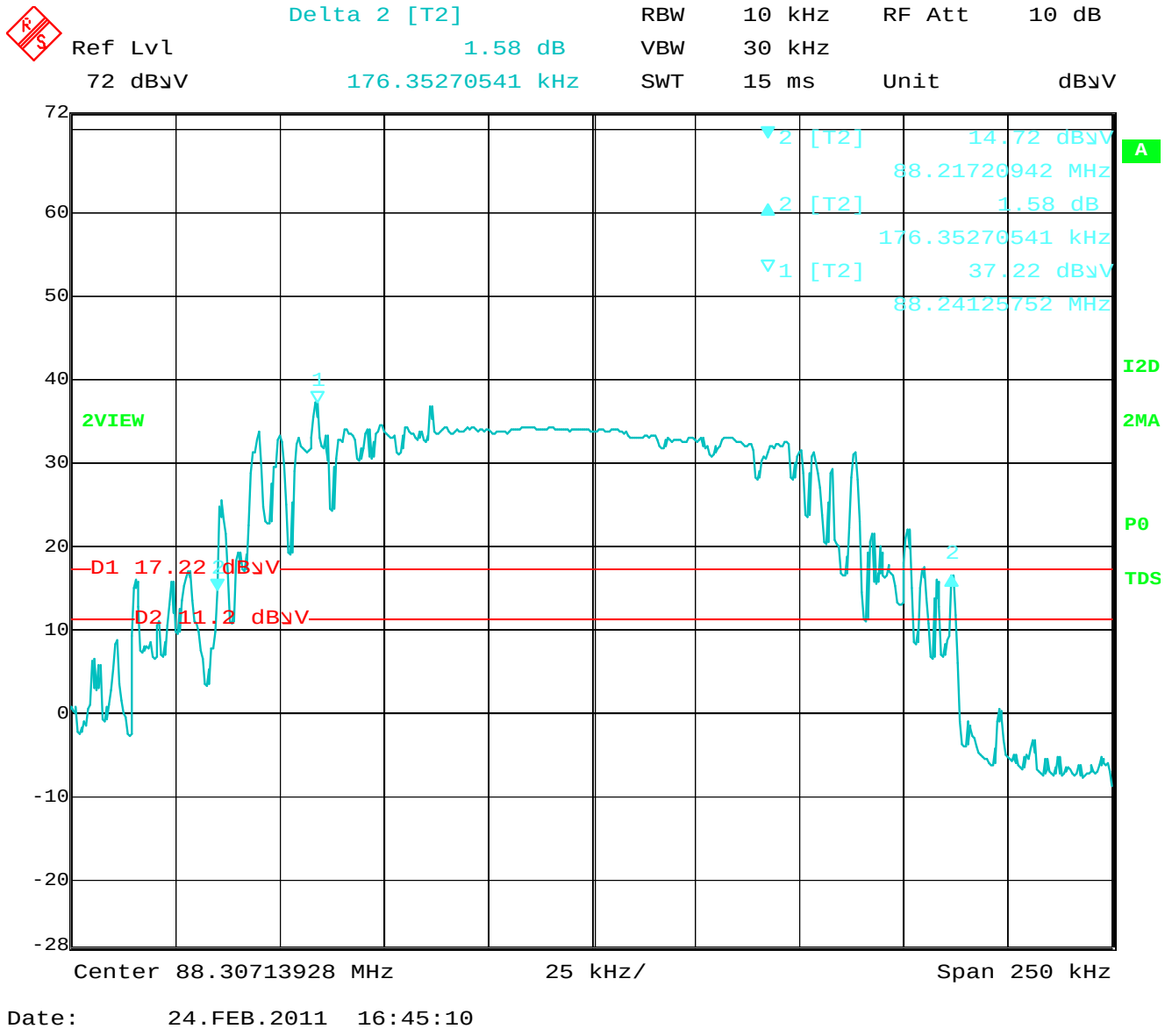
X-Axis (Worst Case)
Band Edges

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
88	29.12	V	43.5	-14.38	Peak	1	180	Band Edge Low Channel
88	32.25	H	43.5	-11.25	Peak	1	180	Band Edge Low Channel
108	24.54	H	43.5	-18.96	Peak	1	180	Band Edge High Channel
108	24.92	V	43.5	-18.58	Peak	1	180	Band Edge High Channel

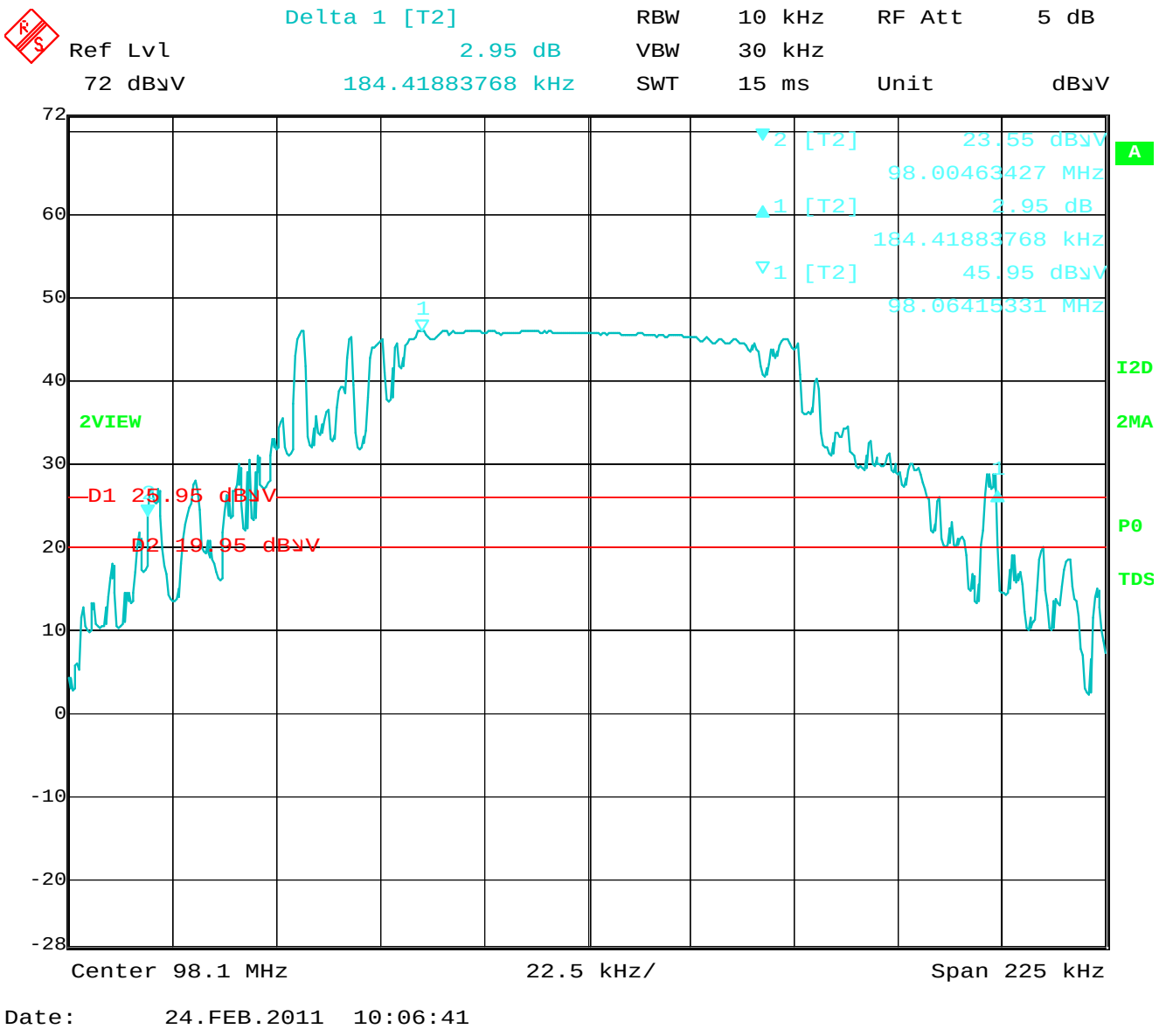
-20 BANDWIDTH

DATA SHEETS

-20 dB Bandwidth of Low Channel



-20 dB Bandwidth of Middle Channel



-20 dB Bandwidth of High Channel