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FCC PART 15, SUBPART B and C TEST REPORT

for

TA ABW TRANSMITTER UNIT

MODEL: TA ABW

Prepared for

SJE RHOMBUS 22650 COUNTY HIGHWAY 6 DETROIT LAKES, MINNESOTA 56501

Prepared by:

**KYLE FUJIMOTO** 

Approved by:

MICHAEL CHRISTENSEN

COMPATIBLE ELECTRONICS INC. 114 OLINDA DRIVE BREA, CALIFORNIA 92823 (714) 579-0500

DATE: DECEMBER 7, 2004

	REPORT		APPENDICES			TOTAL	
	BODY	A	В	С	D	Ε	
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1	Plot Map And Layout of Radiated Test Site





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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, NIST or any other agency of the U.S. Government.

Device Tested:	TA ABW Transmitter Unit Model: TA ABW S/N: N/A
Product Description:	The EUT is the transmitter for an alarm system that remotely monitors the level of a septic or holding tank and alerts the home owner if the level gets too high.
Modifications:	The EUT was not modified during the testing in order to meet the specifications.
Manufacturer:	SJE Rhombus 22650 County Highway 6 Detroit Lakes, Minnesota 56501
Test Dates:	December 3, 4, and 6, 2004
Test Specifications:	EMI requirements CFR Title 47, Part 15 Subpart B; and Subpart C, Sections 15.205, 15.209, and 15.231
Test Procedure:	ANSI C63.4: 2003
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 - 30 MHz	This test was not performed because the EUT operates on batteries only and cannot be plugged into the AC public mains.
2	Radiated RF Emissions, 10 kHz - 4300 MHz	Complies with the <b>Class B</b> limits of CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.209, and 15.231.
3	-20 dB Bandwidth of the Fundamental	Complies with the limits of Subpart C, sections 15.231 [e].



#### 1. PURPOSE

This document is a qualification test report based on the Electromagnetic Interference (EMI) tests performed on the TA ABW Transmitter Unit Model: TA ABW. 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 15.231.







#### 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

SJE Rhombus

Dan Muzzey

Design Engineer

Compatible Electronics, Inc.

Kyle FujimotoTest EngineerMichael ChristensenLab Manager

2.4 Date Test Sample was Received

The test sample was received on December 1, 2004.

2.5 Disposition of the Test Sample

The test sample has not been returned to SJE Rhombus as of the date of this report.

#### 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
PCB	Printed Circuit Board
TX	Transmit
RX	Receive





#### **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	Methods of measurement of radio-noise emissions from low-voltage electrical and electronic equipment in the range of 9 kHz to 40 GHz





#### 4.1 Description of Test Configuration - EMI

Setup and operation of the equipment under test.

Specifics of the EUT and Peripherals Tested

The TA ABW Transmitter Unit Model: TA ABW (EUT) was connected to a float switch. The EUT was continuously transmitting.

Note: The float switch is also part of the EUT.

The antenna is hardwired to the PCB of the EUT.

The final radiated data was taken in the mode described above. Please see Appendix E for the data sheets.





#### 4.1.1 Cable Construction and Termination

<u>Cable 1</u> This is a 10 foot unshielded cable connecting the EUT (Transmitter) to the EUT (Float Switch). It is hard wired at each end. The cable was bundled to a length of 3 feet.







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

#### 5.1 EUT and Accessory List

EQUIPMENT	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	FCC ID
TA ABW TRANSMITTER UNIT (EUT)	SJE RHOMBUS	TA ABW	N/A	SCP-TAABW01
FLOAT SWITCH (PART OF THE EUT)	SJE RHOMBUS	TA ABW	N/A	SCP-TTABW01





#### 5.2 EMI Test Equipment

EQUIPMENT TYPE	MANU- FACTURER	MODEL NUMBER	SERIAL NUMBER	CAL. DATE	CAL. CYCLE
Radiated Emissions Data Capture Program	Compatible Electronics	2.0	N/A	N/A	N/A
Spectrum Analyzer – Main Section	Hewlett Packard	8566B	3638A08768	June 24, 2004	1 Year
Spectrum Analyzer – Display Section	Hewlett Packard	85662A	3701A22262	June 24, 2004	1 Year
Quasi-Peak Adapter	Hewlett Packard	85650A	2811A01363	June 24, 2004	1 Year
EMI Receiver	Rohde & Schwarz	ESIB40	100172	October 28, 2004	1 Year
Preamplifier	Com-Power	PA-102	1017	January 6, 2004	1 Year
Biconical Antenna	Com Power	AB-900	15227	April 21, 2004	1 Year
Log Periodic Antenna	Com Power	AL-100	16203	February 18, 2004	1 Year
Antenna Mast	Com-Power	AM-100	N/A	N/A	N/A
Turntable	Com-Power	TT-100	N/A	N/A	N/A
Computer	Hewlett Packard	4530	US91912319	N/A	N/A
Monitor	Hewlett Packard	D5258A	TW74500641	N/A	N/A
Horn Antenna	Antenna Research	DRG-118/A	1053	January 16, 2004	1 Year
Microwave Preamplifier	Com-Power	PA-122	25195	August 19, 2004	1 Year
Loop Antenna	Com-Power	AL-130	17089	September 3, 2004	1 Year



114 OLINDA DRIVE, BREA, CALIFORNIA 92823 PHONE: (714) 579-0500 FAX: (714) 579-1850



#### 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 not grounded.





#### 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 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-122 was used for frequencies above 1 GHz. The spectrum analyzer was used in the peak detect mode with the "Max Hold" feature activated. In this mode, the spectrum analyzer and EMI Receiver record the highest measured reading over all the sweeps.

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

FREQUENCY RANGE	EFFECTIVE MEASUREMENT BANDWIDTH	TRANSDUCER	
9 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 4.3 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. 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.





#### 7.2 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 final test data. The final qualification data sheets are located in Appendix E.

#### **Test Results:**

The EUT complies with the limits of CFR Title 47, Part 15, Subpart B; and Subpart C, section 15.205, 15.209 and 15.231 for radiated emissions.







#### 7.3 Bandwidth of the Fundamental

The -20 dB bandwidth was checked to see that it was within 0.25% of the fundamental frequency for the EUT. Data sheets of the -20 dB bandwidth are located in Appendix E.

#### **Test Results:**

The EUT complies with the limits of CFR Title 47, Part 15, Subpart C, section 15.231 [c].







#### 8. CONCLUSIONS

The TA ABW Transmitter Unit Model: TA ABW meets all of the Class B specification limits defined in CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.209, and 15.231.







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### **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 Radio-Frequency Technologies (Competent Body)



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**APPENDIX B** 

# **MODIFICATIONS TO THE EUT**





## **MODIFICATIONS TO THE EUT**

The modifications listed below were made to the EUT to pass FCC 15.231 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 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

TA ABW Transmitter Unit Model: TA ABW S/N: N/A

There were no additional models covered under this report.







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### **APPENDIX D**

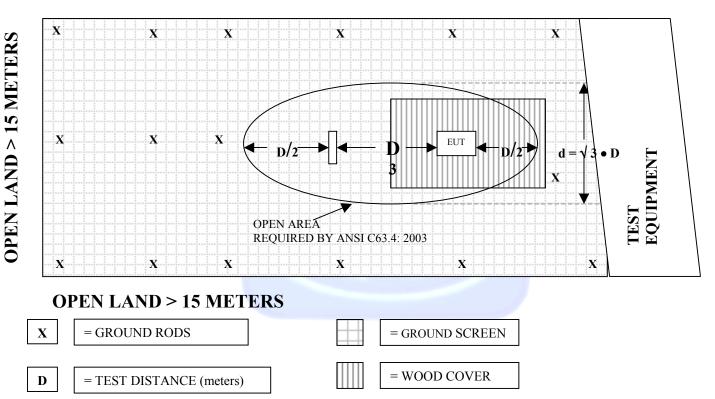
# DIAGRAMS, CHARTS, AND PHOTOS





# FIGURE 1: PLOT MAP AND LAYOUT OF RADIATED TEST SITE

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







### COM-POWER AB-900

### **BICONICAL ANTENNA**

### S/N: 15227

### CALIBRATION DATE: APRIL 21, 2004

FREQUENCY	FACTOR	FREQUENCY	FACTOR
(MHz)	(dB)	(MHz)	(dB)
30	11.20	120	12.50
35	10.90	125	12.90
40	11.40	140	12.40
45	8.90	150	12.10
50	11.40	160	12.40
60	10.30	175	15.80
70	8.20	180	15.70
80	6.00	200	17.40
90	7.60	250	14.60
100	10.50	300	19.50





### COM-POWER AL-100

### LOG PERIODIC ANTENNA

### S/N: 16203

## CALIBRATION DATE: FEBRUARY 18, 2004

FREQUENCY	FACTOR	FREQUENCY	FACTOR
(MHz)	(dB)	(MHz)	(dB)
300	13.00	700	19.40
400	15.10	800	21.30
500	16.70	900	20.70
600	18.70	1000	22.60





### COM-POWER PA-102

### PREAMPLIFIER

### S/N: 1017

### CALIBRATION DATE: JANUARY 6, 2004

FREQUENCY	FACTOR	FREQUENCY	FACTOR
(MHz)	(dB)	(MHz)	(dB)
30	37.8	300	37.6
40	37.5	350	37.5
50	37.7	400	37.5
60	37.5	450	37.0
70	37.5	500	37.1
80	37.5	550	37.3
90	37.5	600	37.1
100	37.5	650	37.4
125	37.8	700	37.1
150	37.5	750	37.1
175	37.5	800	36.8
200	37.6	850	36.2
225	37.6	900	36.7
250	37.5	950	36.2
275	37.6	1000	35.3





### COM-POWER PA-122

### MICROWAVE PREAMPLIFIER

### S/N: 25195

## CALIBRATION DATE: AUGUST 19, 2004

FREQUENCY	FACTOR	FREQUENCY	FACTOR
(GHz)	(dB)	(GHz)	(dB)
1.0	30.50	6.0	30.57
1.1	30.24	6.5	30.39
1.2	30.44	7.0	30.08
1.3	30.38	7.5	29.92
1.4	30.11	8.0	28.88
1.5	29.91	8.5	28.08
1.6	29.74	9.0	28.08
1.7	30.26	9.5	29.11
1.8	30.41	10.0	30.21
1.9	30.19	11.0	29.00
2.0	30.37	12.0	29.10
2.5	30.69	13.0	29.77
3.0	31.63	14.0	28.67
3.5	31.61	15.0	29.72
4.0	31.46	16.0	30.54
4.5	31.45	17.0	30.05
5.0	31.33	18.0	28.47
5.5	31.15		





### ANTENNA RESEARCH DRG-118/A

### HORN ANTENNA

### S/N: 1053

## CALIBRATION DATE: JANUARY 16, 2004

FREQUENCY	FACTOR	FREQUENCY	FACTOR
(GHz)	(dB)	(GHz)	(dB)
1.0	24.4	10.0	38.7
1.5	25.2	10.5	39.0
2.0	28.2	11.0	38.9
2.5	28.5	11.5	41.3
3.0	30.1	12.0	40.5
3.5	31.0	12.5	40.0
4.0	31.2	13.0	40.2
4.5	31.9	13.5	40.5
5.0	33.2	14.0	41.6
5.5	33.7	14.5	44.8
6.0	34.3	15.0	41.4
6.5	35.0	15.5	39.2
7.0	36.7	16.0	39.4
7.5	37.3	16.5	40.9
8.0	37.1	17.0	42.6
8.5	37.3	17.5	45.1
9.0	37.7	18.0	41.7
9.5	38.6		





### COM-POWER AL-130

### LOOP ANTENNA

### S/N: 17089

# CALIBRATION DATE: SEPTEMBER 3, 2004

FREQUENCY	MAGNETIC	ELECTRIC
(MHz)	(dB/m)	(dB/m)
0.009	-40.8	10.7
0.01	-40.9	10.6
0.02	-41.8	9.7
0.05	-42.0	9.5
0.07	-41.5	10.0
0.1	-41.7	9.8
0.2	-44.1	7.4
0.3	-41.6	9.9
0.5	-41.5	10.0
0.7	-41.4	10.1
1	-41.0	10.5
2	-40.6	10.9
3	-40.8	10.7
4	-41.0	10.5
5	-40.4	11.1
10	-40.7	10.8
15	-41.6	9.9
20	-41.3	10.2
25	-43.0	8.5
30	-42.6	8.9







#### FRONT VIEW

SJE RHOMBUS TA ABW TRANSMITTER UNIT MODEL: TA ABW FCC SUBPART B AND C – LAB B – RADIATED EMISSIONS – 12-03-04

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS







#### **REAR VIEW**

SJE RHOMBUS TA ABW TRANSMITTER UNIT MODEL: TA ABW FCC SUBPART B AND C – LAB B – RADIATED EMISSIONS – 12-03-04

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS







#### FRONT VIEW

SJE RHOMBUS TA ABW TRANSMITTER UNIT MODEL: TA ABW FCC SUBPART B AND C – LAB D – RADIATED EMISSIONS – 12-06-04

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS







#### **REAR VIEW**

SJE RHOMBUS TA ABW TRANSMITTER UNIT MODEL: TA ABW FCC SUBPART B AND C – LAB D – RADIATED EMISSIONS – 12-06-04

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS





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**APPENDIX E** 

# DATA SHEETS





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# **RADIATED EMISSIONS**

## DATA SHEETS





FCC 15.231 SJE RHOMBUS TA ABW Transmitter Unit Model: TA ABW Configuration: Transmit Mode

Date: 12/03/04 Lab: B Tested By: Kyle Fujimoto

Duty Cycle: 10.140280594%

					Peak /	Ant.	Table	
Freq.	Level				QP /	Height	Angle	
(MHz)	(dBuV)	Pol (v/h)	Limit	Margin	Avg	(m)	(deg)	Comments
418	89.72	V	100.2	-10.48	Peak	1	90	
418	69.92	V	80.2	-10.28	Avg	1	90	
836	50.63	V	80.2	-29.57	Peak	2	225	
836	30.83	V	60.2	-29.37	Avg	2	225	
1254	40.52	V	80.2	-39.68	Peak	2.76	45	
1254	20.72	V	60.2	-39.48	Avg	2.76	45	
1672	45.34	V	74	-28.66	Peak	3.15	135	
1672	25.54	V	54	-28.46	Avg	3.15	135	
2090	59.33	V	80.8	-21.47	Peak	1.69	180	
2090	39.53	V	60.8	-21.27	Avg	1.69	180	
0.500				07.04			100	
2508	45.19	V	80.8	-35.61	Peak	3.06	180	
2508	25.39	V	60.8	-35.41	Avg	3.06	180	
0000	40.50		00.0	07.00	<b>D</b> 1	4 57	405	
2926	43.52	V	80.8	-37.28	Peak	1.57	135	
2926	23.72	V	60.8	-37.08	Avg	1.57	135	
3344	45.67	V	74	-28.33	Deak	1.89	225	
3344	45.67 25.87	V V	74 54	-28.33	Peak	1.89	225	
3344	20.07	v	04	-20.13	Avg	1.09	220	
3762	47.17	V	74	-26.83	Peak	2.29	225	
3762	27.37	V	54	-20.63	Avg	2.29	225	
5102	21.31	v	J <del>4</del>	-20.03	۸vy	2.23	225	
4180	50.07	V	74	-23.93	Peak	1.44	0	
4180	30.27	V	54	-23.73	Avg	1.44	0	
1100	00.21	v	<b>V</b> T	20.70	, wg	1.77		





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#### FCC 15.231

SJE RHOMBUS TA ABW Transmitter Unit Model: TA ABW Configuration: Transmit Mode Date: 12/03/04 Lab: B Tested By: Kyle Fujimoto

Duty Cycle: 10.140280594%

					Peak /	Ant.	Table	
Freq.	Level				QP /	Height	Angle	
(MHz)	(dBuV)	Pol (v/h)	Limit	Margin	Avg	(m)	(deg)	Comments
418	93.82	Н	100.2	-6.38	Peak	1	90	
418	74.02	Н	80.2	-6.18	Avg	1	90	
836	54.82	Н	80.2	-25.38	Peak	1.25	180	
836	35.02	Н	60.2	-25.18	Avg	1.25	180	
1254	41.75	Н	74	-32.25	Peak	2.19	225	
1254	21.95	Н	54	-32.05	Avg	2.19	225	
1672	47.08	Н	74	-26.92	Peak	3.41	0	
1672	27.28	Н	54	-26.72	Avg	3.41	0	
2090	59.06	Н	80.8	-21.74	Peak	2.51	180	
2090	39.26	Н	60.8	-21.54	Avg	2.51	180	
2508	45.65	Н	80.8	-35.15	Peak	1.7	315	
2508	25.85	Н	60.8	-34.95	Avg	1.7	315	
2926	43.4	Н	80.8	-37.4	Peak	2.22	0	
2926	23.6	Н	60.8	-37.2	Avg	2.22	0	
3344	45.49	Н	80.8	-35.31	Peak	2.16	225	
3344	25.69	Н	60.8	-35.11	Avg	2.16	225	
3762	50.01	Н	74	-23.99	Peak	2.51	135	
3762	30.21	Н	54	-23.79	Avg	2.51	135	
4180	44.48	Н	74	-29.52	Peak	2.51	180	
4180	24.68	Н	54	-29.32	Avg	2.51	180	



Report Number: B40805D1 Page E5   FCC Part 15 Subpart B and FCC Section 15.231 Test Report TA ABW Transmitter Unit   Model: TA ABW Model: TA ABW										
Test Custo Manuf Eut n Model Seria Speci Dista Test	1/1 12/06/2004 13:53:15 D 3.0 Meters 0.00									
			BY: Kyle	IZONTAL P Fujimoto						
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		
1V	42.000	46.90	0.58	10.36	37.54	20.30	40.00	-19.70		
2V	48.400	49.10	0.51	10.63	37.67	22.57	40.00	-17.43		
3V	52.771	50.50	0.56	11.07	37.64	24.49	40.00	-15.51		
4V	60.246	50.60	0.70	10.24	37.50	24.05	40.00	-15.95		
5H	74.898	50.30	0.85	7.09	37.50	20.74	40.00	-19.26		
6V	83.890	50.90	0.86	6.64	37.50	20.90	40.00	-19.10		
7H	85.422	45.30	0.84	6.89	37.50	15.54	40.00	-24.46		
8H	86.608	41.90	0.83	7.08	37.50	12.31	40.00	-27.69		
9H	110.793	44.40	0.99	11.62	37.64	19.38	43.50	-24.12		
10V	117.334	51.60	1.04	12.25	37.71	27.18	43.50	-16.32		
11H	117.405	43.30	1.04	12.26	37.72	18.89	43.50	-24.61		
12V	122.020	41.50	1.08	12.66	37.77	17.47	43.50	-26.03		
13V	130.164	44.20	1.12	12.72	37.73	20.31	43.50	-23.19		
14V	139.773	51.00	1.16	12.41	37.62	26.95	43.50	-16.55		
15V	143.413	43.10	1.18	12.30	37.57	19.00	43.50	-24.50		
16V	146.027	47.60	1.19	12.22	37.54	23.46	43.50	-20.04		
17V	154.755	39.50	1.20	12.25	37.50	15.45	43.50	-28.05		
18V	171.454	38.00	1.20	15.02	37.50	16.72	43.50	-26.78		
19H	260.649	43.90	1.60	16.18	37.54	24.13	46.00	-21.87		
20V	295.311	36.20	1.68	19.27	37.60	19.55	46.00	-26.45		
21V	305.128	42.60	1.70	13.12	37.59	19.83	46.00	-26.17		
22V	311.016	44.70	1.70	13.26	37.58	22.09	46.00	-23.91		
23V	391.061	38.70	2.03	14.94	37.50	18.17	46.00	-27.83		
24V	429.219	41.10	2.10	15.61	37.20	21.60	46.00	-24.40		
25V	507.641	39.30	2.30	16.87	37.13	21.33	46.00	-24.67		
26H	534.337	36.20	2.30	17.43	37.24	18.69	46.00	-27.31		



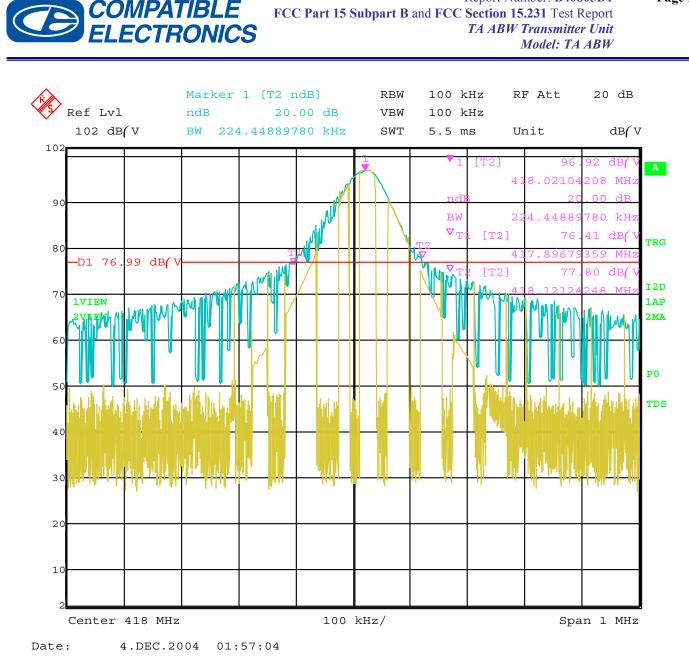


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# -20 dB BANDWIDTH

# DATA SHEET





-20 dB Bandwidth of the Fundamental



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