TEST RESULT SUMMARY

FCC Part 15 Subpart C Section 15.239

MANUFACTURER'S NAME	SoniqCast, LLC
NAME OF EQUIPMENT	Low Power FM transmitter (FCC ID: RTC-1000FM) in wireless audio player
MODEL NUMBER	**SQ-1000-NA**
MANUFACTURER'S ADDRESS	4400 Baker Road Minnetonka MN 55343
TEST REPORT NUMBER	NC305614
TEST DATE	18 December 2003

According to testing performed at TÜV Product Service Inc, the above-mentioned unit is in compliance with the radiated emission electromagnetic compatibility requirements defined in FCC Part 15 Subpart C Section 15.239.

It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical characteristics. Any modifications necessary for compliance made during testing on the above mentioned date(s) must be implemented in all production units for compliance to be maintained.

TÜV Product Service Inc, as an independent testing laboratory, declares that the equipment tested as specified above conforms to the requirements of FCC Part 15 Subpart C Section 15.239.

Date: 02 January 2004

Location: Taylors Falls MN USA

G. S. Jakubowski
Test Technician

J. T. Schneider
Senior Engineer

Not Transferable

EMC EMISSION - T E S T R E P O R T

Test Report File No.	:	**NC305614**	Date of issue:	02 January 2004

Model No.	:	**SQ-1000-NA**
Product Name	:	Low Power FM transmitter in wireless audio player
Applicant	:	SoniqCast, LLC
Manufacturer	:	SoniqCast, LLC
Address	:	4400 Baker Road
	:	Minnetonka MN 55343
Test Result	:	■ **Positive** ☐ **Negative**
Test Project Number Reference(s)	:	**NC305614**
Total pages including Appendices		36

TÜV Product Service Inc is a subcontractor to TÜV Product Service, GmbH according to the principles outlined in ISO/IEC Guide 25 and EN 45001.

TÜV Product Service Inc reports apply only to the specific samples tested under stated test conditions. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. TÜV Product Service Inc shall have no liability for any deductions, inferences or generalizations drawn by the client or others from TÜV Product Service Inc issued reports.

This report is the confidential property of the client. As a mutual protection to our clients, the public and ourselves, extracts from the test report shall not be reproduced except in full without our written approval. This report shall not be used by the client to claim product endorsement by NVLAP or any agency of the US government.

TÜV Product Service Inc and its professional staff hold government and professional organization certifications and are members of AAMI, ACIL, AEA, ANSI, IEEE, NVLAP, and VCCI

TÜV PRODUCT SERVICE INC 19333 Wild Mountain Road Taylors Falls MN 55084-1758 Tel: 651 638 0297 Fax: 651 638 0298 Rev.No 1.0

D I R E C T O R Y - EMISSIONS

EMISSIONS TEST REGULATIONS :

The emissions tests were performed according to following regulations:

☐ - EN 50081-1 / 1991

☐ - EN 55011 / 1998 Radiated Emissions, with Amendment A1: 1999 & Amendment A2: 2002 ☐ - Group 1 ☐ - Class A ☐ - Group 2 ☐ - Class B

☐ - EN 55013 / 1990

☐ - EN 55014 / 1987 ☐ - Household appliances and similar ☐ - Portable tools ☐ - Semiconductor devices

☐ - EN 55014 / A2:1990

☐ - EN 55014 / 1993 ☐ - Household appliances and similar ☐ - Portable tools ☐ - Semiconductor devices

☐ - EN 55015 / 1987

☐ - EN 55015 / A1:1990

☐ - EN 55015 / 1993

☐ - EN 55022 / 1987 ☐ - Class A ☐ - Class B

☐ - EN 55022 / 1994 ☐ - Class A ☐ - Class B

☐ - BS

☐ - VCCI ☐ - Class A ☐ - Class B

■ - FCC Part 15 Subpart C Section 15.239

☐ - AS 3548 (1992) ☐ - Class A ☐ - Class B

☐ - CISPR 11 (1997) Radiated Emissions, w/A1: 1999 ☐ - Group 1 ☐ - Class A ☐ - Group 2 ☐ - Class B

☐ - CISPR 22 (1993) ☐ - Class A ☐ - Class B

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Environmental conditions in the lab:

	Actual
Temperature	: 21 °C
Relative Humidity	: 30 %
Atmospheric pressure	: 98.0 kPa
Power supply system	: 60 Hz – 110 VAC – 1 Phase

Sign Explanations:

☐ - not applicable
■ - applicable

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Emissions Test Conditions: CONDUCTED EMISSIONS (Interference Voltage)

The *CONDUCTED EMISSIONS (INTERFERENCE VOLTAGE)* measurements were performed at the following test location:

☐ - Test not applicable

■ - Wild River Lab Large Test Site (Open Area Test Site)
☐ - Wild River Lab Small Test Site (Open Area Test Site)
☐ - Oakwood Lab (Open Area Test Site)
☐ - Wild River Lab Screen Room
☐ - New Brighton Lab Shielded Room

Test equipment used :

	TUV ID	Model Number	Manufacturer	Description	Serial Number	Cal Due
■ -	2417	3825/2	EMCO	LISN	1439	01-15-04
■ -	2534	ESHS-20	RHODE & SCHWARZ	TEST RECEIVER	837055/003	12-03-03

All measurement instrumentation is traceable to the National Institute of Standards and Technology (NIST) and is calibrated annually.

Emissions Test Conditions: RADIATED EMISSIONS (Electric Field)

The *RADIATED EMISSIONS (ELECTRIC FIELD)* measurements, in the frequency range of 30 MHz-1000 MHz, were tested in a horizontal and vertical polarization at the following test location:

☐ - Test not applicable

■ - Wild River Lab Large Test Site (Open Area Test Site)
☐ - Wild River Lab Small Test Site (Open Area Test Site) – NSA measurements made 2-03, due 2-04.
☐ - Oakwood Lab (Open Area Test Site)

at a test distance of :

■ - 3 meters
☐ - 10 meters
☐ - 30 meters

Test equipment used :

	TUV ID	Model Number	Manufacturer	Description	Serial Number	Cal Due
■ -	2688	8447D	Hewlett-Packard	Preamplifier	1937A02209	02-28-04
■ -	3204	EM-6917B	Electro-Metrics	Biconicalog Periodic	102	10-24-04
■	2690	8566B	Hewlett-Packard	Spectrum Analyzer	2430A00930	12-02-04

All measurement instrumentation is traceable to the National Institute of Standards and Technology (NIST) and is calibrated annually.

Equipment Under Test (EUT) Test Operation Mode - Emission tests :

The device under test was operated under the following conditions during emissions testing:

☐ - Standby

☐ - Test program (H - Pattern)

☐ - Test program (color bar)

☐ - Test program (customer specific)

☐ - Practice operation

☐ - Normal Operating Mode

■ - Transmitting at 88.1, 97.9 and 107.7 MHz.

Configuration of the device under test:

■ - See Constructional Data Form in Appendix B - Page B2

☐ - See Product Information Form in Appendix B - beginning on Page B3

The following peripheral devices and interface cables were connected during the measurement:

☐ - _____ Type : _____

☐ - _____ Type : _____

☐ - _____ Type : _____

☐ - _____ Type : _____

☐ - _____ Type : _____

☐ - _____ Type : _____

☐ - _____ Type : _____

☐ - _____ Type : _____

■ - unshielded power cable

☐ - unshielded cables

■ - shielded cables MPS.No.: _____

☐ - customer specific cables

☐ - _____

☐ - _____

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Emission Test Results:

Conducted emissions 10/150 kHz - 30 MHz

The requirements are ■ - MET ☐ - NOT MET

Minimum margin of compliance 0.1 dB at 954.7 kHz

Maximum margin of non-compliance _____ dB at _____ MHz

Remarks: _____

Band Edge Compliance

The requirements are ■ - MET ☐ - NOT MET

Remarks: Plots show no signal levels above 15.209 limit at band edges of 88-108 MHz band.

Radiated emissions (electric field) 30 MHz - 1000 MHz

The requirements are ■ - MET ☐ - NOT MET

Minimum margin of compliance for fundamental 3 dB at 88.1 MHz

Minimum margin of compliance for spurious 6 dB at 149.2 MHz

Remarks: Measured maximum fundamental level of 45 dBuV/m (178 uV/m) on lowest channel – limit = 48 dBuV/m (250 uV/m).

Measured maximum spurious level of 36.6 dBuV/m (67 uV/m) on any channel – limit = 43.5 dBuV/m (150 uV/m).

Fundamental bandwidth

The requirements are ■ - MET ☐ - NOT MET

Remarks: The maximum channel bandwidth was measured to be 162 kHz – limit = 200 kHz.

DEVIATIONS FROM STANDARD:

None

GENERAL REMARKS:

SUMMARY:

The requirements according to the technical regulations are

■ - met

☐ - **not** met.

The device under test does

■ - fulfill the general approval requirements mentioned on page 3.

☐ - **not** fulfill the general approval requirements mentioned on page 3.

Testing Start Date: 18 December 2003

Testing End Date: 18 December 2003

- TÜV PRODUCT SERVICE INC -

J. T. Schneider
Senior Engineer

Tested By:
G. S. Jakubowski

TÜV PRODUCT SERVICE INC 19333 Wild Mountain Road Taylors Falls MN 55084-1758 Tel: 651 638 0297 Fax: 651 638 0298 Rev.No 1.0

Test-setup photo(s):
Conducted emission 150 kHz - 30 MHz

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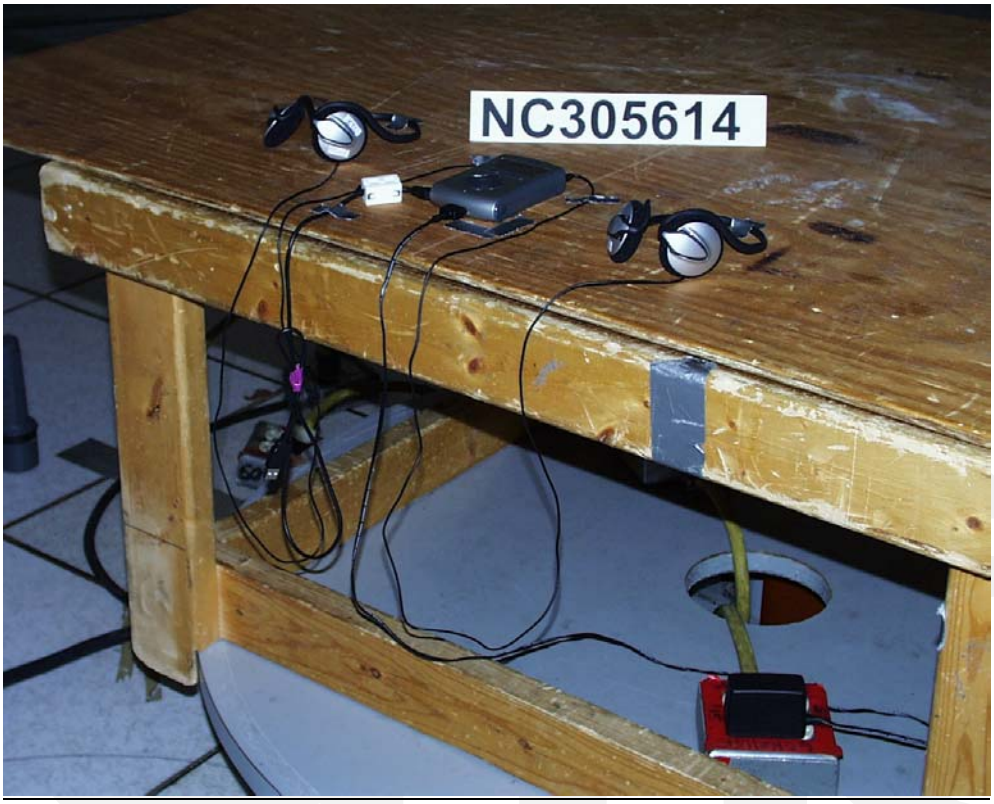
Test-setup photo(s):
Radiated emission 30 MHz - 1000 MHz



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Appendix A

Test Data Sheets

and

Test Setup Drawing(s)

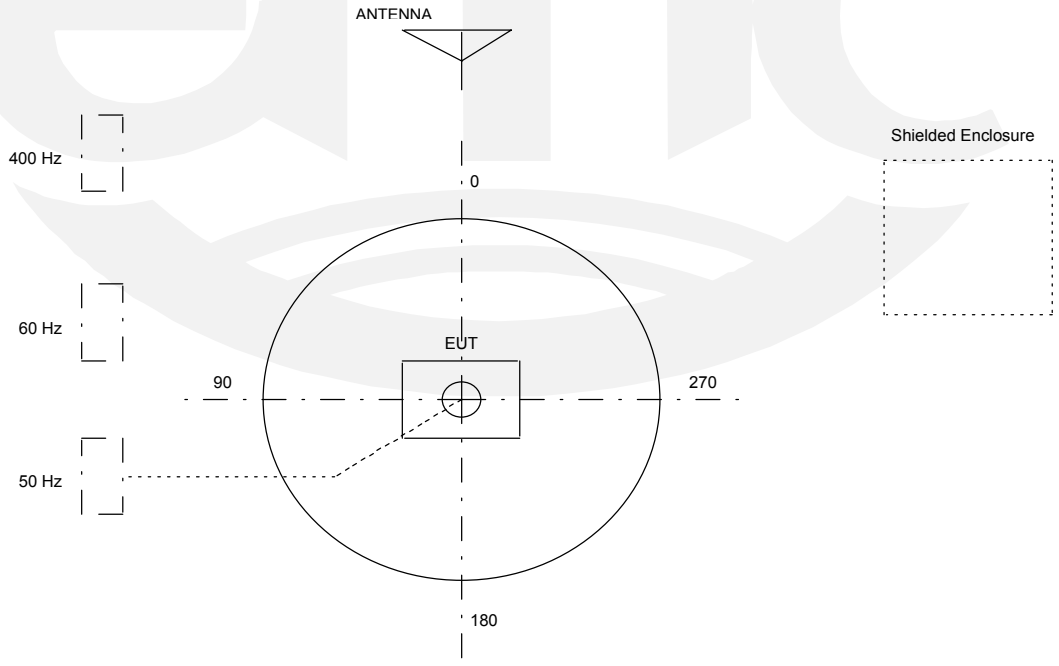
TÜV PRODUCT SERVICE INC 19333 Wild Mountain Road Taylors Falls MN 55084-1758 Tel: 651 638 0297 Fax: 651 638 0298 Rev.No 1.0

TEST SETUP FOR EMISSIONS TESTING

WILD RIVER LAB
Large Test Site

Notes:

1. Items shown in dotted lines are located on the floor below the test area. It is 5 meters vertically from the ground floor to the test area.
2. 50 Hz, 60 Hz, and 400 Hz are power panels for alternating current.
3. The antenna may be positioned horizontally 3, 10 or 30 meters from the center of the turntable.
4. The circle is a 6.7 meter diameter turntable.
5. A ground plane is in the plane of this sheet.
6. The test sample is shown in the azimuthal position representing zero degrees.



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CONDUCTED EMISSIONS

TÜV PRODUCT SERVICE

Test Report #:	NC305614 Run 2	Test Area:	LTS		
EUT Model #:	SQ1000-NA	Date:	12/16/03		
EUT Serial #:	12	EUT Power:	110VAC / 60Hz	Temperature:	23.0 °C
Test Method:	EN55022 B			Air Pressure:	98.0 kPa
Customer:	SonicCast			Rel. Humidity:	25.0 %
EUT Description:	Aireo MP3 Player				
Notes:	FM Receiver On, MP3 player On				
Data File Name:	5614.dat			Page:	1 of 4

List of measurements for run #: 2

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	EUT Lead	DELTA1 EN55022 B Qp	DELTA2 EN55022 B Avg
189.36 kHz	51.11 Qp	0.0 / 2.21 / 0.0 / 0.0	53.32	L1	-10.74	n/a
189.36 kHz	46.16 Av	0.0 / 2.21 / 0.0 / 0.0	48.37	L1	n/a	-5.69
317.16 kHz	45.37 Qp	0.0 / 1.41 / 0.0 / 0.0	46.78	L1	-13.0	n/a
317.16 kHz	43.79 Av	0.0 / 1.41 / 0.0 / 0.0	45.2	L1	n/a	-4.58
572.62 kHz	46.44 Qp	0.0 / 0.21 / 0.0 / 0.0	46.65	L1	-9.35	n/a
572.62 kHz	44.94 Av	0.0 / 0.21 / 0.0 / 0.0	45.15	L1	n/a	-0.85
954.75 kHz	47.36 Qp	0.1 / 0.05 / 0.0 / 0.0	47.51	L1	-8.49	n/a
954.75 kHz	45.73 Av	0.1 / 0.05 / 0.0 / 0.0	45.88	L1	n/a	-0.12
1.338 MHz	48.03 Qp	0.06 / 0.05 / 0.0 / 0.0	48.14	L1	-7.86	n/a
1.337 MHz	45.5 Av	0.06 / 0.05 / 0.0 / 0.0	45.61	L1	n/a	-0.39
1.721 MHz	47.65 Qp	0.1 / 0.05 / 0.0 / 0.0	47.8	L1	-8.2	n/a
1.721 MHz	45.0 Av	0.1 / 0.05 / 0.0 / 0.0	45.15	L1	n/a	-0.85
189.36 kHz	50.98 Qp	0.0 / 2.21 / 0.0 / 0.0	53.19	N	-10.87	n/a
189.36 kHz	45.87 Av	0.0 / 2.21 / 0.0 / 0.0	48.08	N	n/a	-5.98
317.16 kHz	45.74 Qp	0.0 / 1.41 / 0.0 / 0.0	47.15	N	-12.63	n/a
317.16 kHz	44.51 Av	0.0 / 1.41 / 0.0 / 0.0	45.92	N	n/a	-3.86
572.62 kHz	46.89 Qp	0.0 / 0.21 / 0.0 / 0.0	47.1	N	-8.9	n/a
572.62 kHz	45.51 Av	0.0 / 0.21 / 0.0 / 0.0	45.72	N	n/a	-0.28
954.75 kHz	46.83 Qp	0.1 / 0.05 / 0.0 / 0.0	46.98	N	-9.02	n/a
954.75 kHz	45.36 Av	0.1 / 0.05 / 0.0 / 0.0	45.51	N	n/a	-0.49
1.337 MHz	46.54 Qp	0.06 / 0.05 / 0.0 / 0.0	46.65	N	-9.35	n/a
1.337 MHz	44.94 Av	0.06 / 0.05 / 0.0 / 0.0	45.05	N	n/a	-0.95
1.721 MHz	45.2 Qp	0.1 / 0.05 / 0.0 / 0.0	45.35	N	-10.65	n/a
1.721 MHz	43.38 Av	0.1 / 0.05 / 0.0 / 0.0	43.53	N	n/a	-2.47

Tested by: G Jakubowski

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Reviewed by: TKS

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CONDUCTED EMISSIONS

Test Report #:	NC305614 Run 2	Test Area:	LTS		
EUT Model #:	SQ1000-NA	Date:	12/16/03		
EUT Serial #:	12	EUT Power:	110VAC / 60Hz	Temperature:	23.0 °C
Test Method:	EN55022 B			Air Pressure:	98.0 kPa
Customer:	SonicCast			Rel. Humidity:	25.0 %
EUT Description:	Aireo MP3 Player				
Notes:	FM Receiver On, MP3 player On				
Data File Name:	5614.dat			Page:	2 of 4

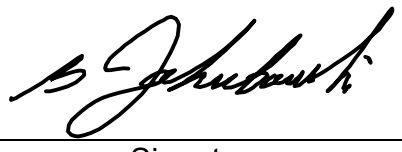
Measurement summary for limit1: EN55022 B Qp (Qp)

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	EUT Lead	DELTA1 EN55022 B Qp
1.338 MHz	48.03 Qp	0.06 / 0.05 / 0.0 / 0.0	48.14	L1	-7.86
1.721 MHz	47.65 Qp	0.1 / 0.05 / 0.0 / 0.0	47.8	L1	-8.2
954.75 kHz	47.36 Qp	0.1 / 0.05 / 0.0 / 0.0	47.51	L1	-8.49
572.62 kHz	46.89 Qp	0.0 / 0.21 / 0.0 / 0.0	47.1	N	-8.9
189.36 kHz	51.11 Qp	0.0 / 2.21 / 0.0 / 0.0	53.32	L1	-10.74
317.16 kHz	45.74 Qp	0.0 / 1.41 / 0.0 / 0.0	47.15	N	-12.63

Measurement summary for limit2: EN55022 B Avg (Av)

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	EUT Lead	DELTA2 EN55022 B Avg
954.75 kHz	45.73 Av	0.1 / 0.05 / 0.0 / 0.0	45.88	L1	-0.12
572.62 kHz	45.51 Av	0.0 / 0.21 / 0.0 / 0.0	45.72	N	-0.28
1.337 MHz	45.5 Av	0.06 / 0.05 / 0.0 / 0.0	45.61	L1	-0.39
1.721 MHz	45.0 Av	0.1 / 0.05 / 0.0 / 0.0	45.15	L1	-0.85
317.16 kHz	44.51 Av	0.0 / 1.41 / 0.0 / 0.0	45.92	N	-3.86
189.36 kHz	46.16 Av	0.0 / 2.21 / 0.0 / 0.0	48.37	L1	-5.69

Tested by: G Jakubowski



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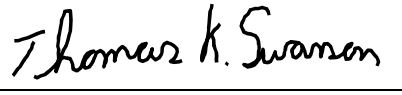
Reviewed by: TKS



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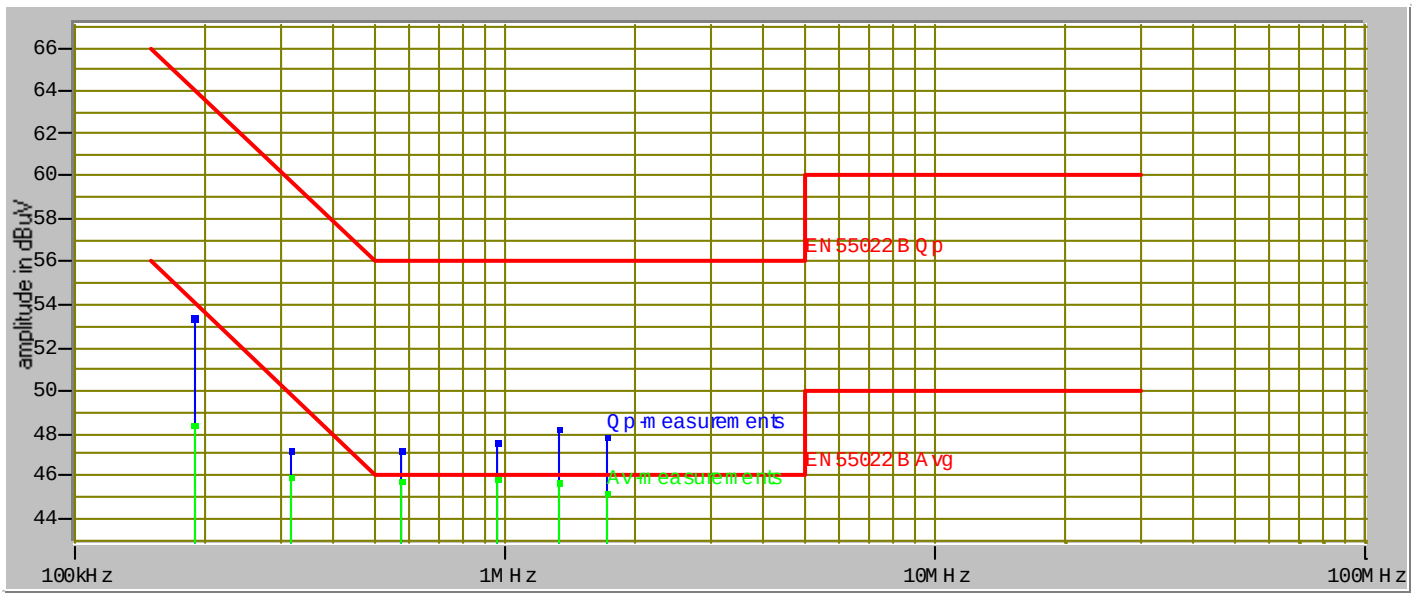
CONDUCTED EMISSIONS

Test Report #:	NC305614 Run 2	Test Area:	LTS		
EUT Model #:	SQ1000-NA	Date:	12/16/03		
EUT Serial #:	12	EUT Power:	110VAC / 60Hz	Temperature:	23.0 °C
Test Method:	EN55022 B			Air Pressure:	98.0 kPa
Customer:	SonicCast			Rel. Humidity:	25.0 %
EUT Description:	Aireo MP3 Player				
Notes:	FM Receiver On, MP3 player On				
Data File Name:	5614.dat			Page:	3 of 4

Graph:



Tested by: G Jakubowski

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Reviewed by: TKS

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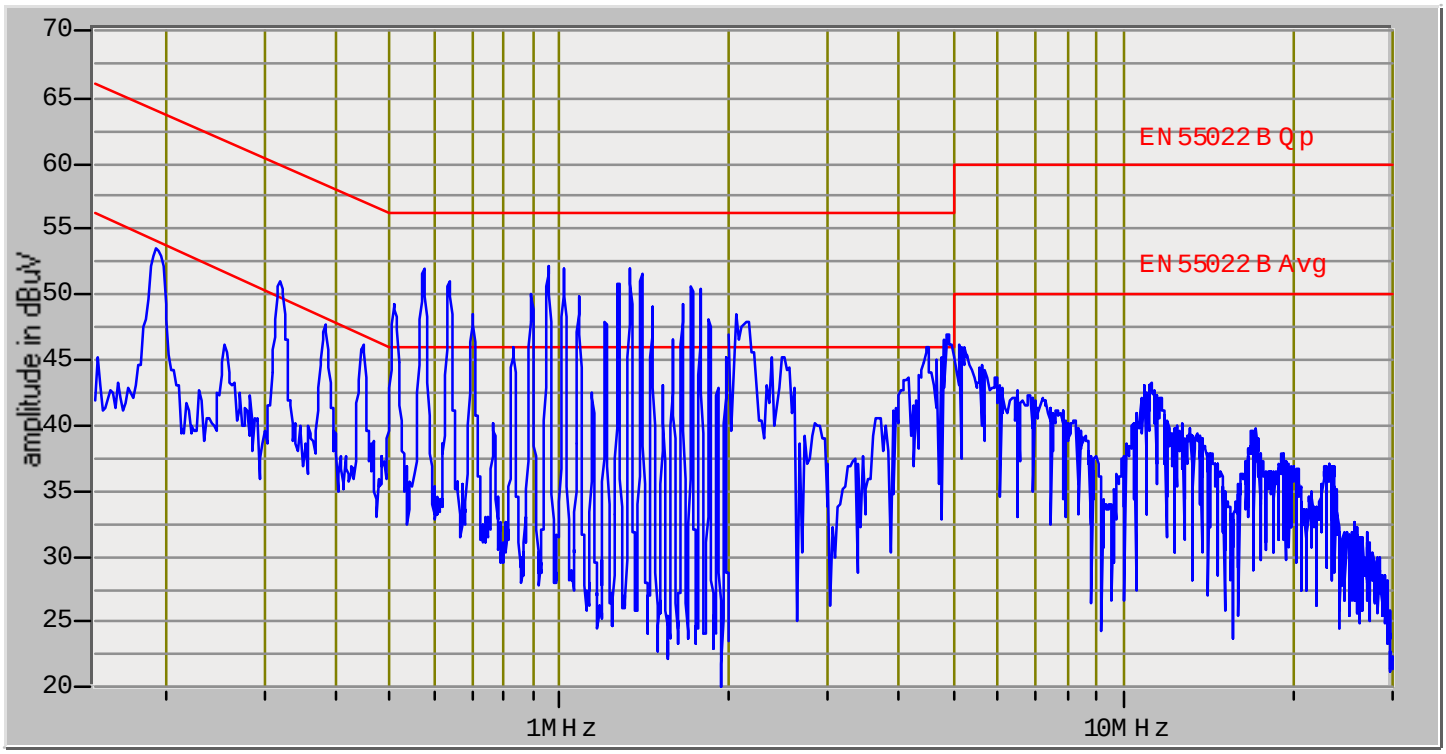
CONDUCTED EMISSIONS

Test Report #:	NC305614 Run 2	Test Area:	LTS		
EUT Model #:	SQ1000-NA	Date:	12/16/03		
EUT Serial #:	12	EUT Power:	110VAC / 60Hz	Temperature:	23.0 °C
Test Method:	EN55022 B			Air Pressure:	98.0 kPa
Customer:	SonicCast			Rel. Humidity:	25.0 %
EUT Description:	Aireo MP3 Player				
Notes:	FM Receiver On, MP3 player On				
Data File Name:	5614.dat			Page:	4 of 4

Prescan Trace:



Tested by: G Jakubowski

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Reviewed by: TKS

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RADIATED EMISSIONS

Test Report #:	NC305614 Run 8	Test Area:	LTS			
EUT Model #:	SQ1000-NA	Date:	12/18/03			
EUT Serial #:	12	EUT Power:	60HZ/110VAC /	Temperature:	21.0	°C
Test Method:	FCC 15.247			Air Pressure:	98.0	kPa
Customer:	SonicCast			Rel. Humidity:	30.0	%
EUT Description:	Aireo MP3 Player					
Notes:	88 - 108MHz TRANSMITTER ON (LOW/MED/HIGH CHANNELS CHECKED)					
Data File Name:	5614-2.dat			Page:	1 of 9	

List of measurements for run #: 8

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-B <1GHz 3m	DELTA2
88.1 MHz	61.99 Av	0.8 / 7.53 / 25.3 / 0.0	45.02	V / 1.00 / 17	n/a	n/a
107.7 MHz	52.79 Av	0.9 / 9.5 / 25.43 / 0.0	37.76	V / 1.70 / 290	n/a	n/a
97.9 MHz	57.82 Av	0.8 / 8.88 / 25.3 / 0.0	42.2	V / 1.00 / 190	n/a	n/a
THE ABOVE LEVELS VERIFIED WITH RECEIVER TO BE ACCURATE.						
XMTR AT 97.9MHZ.						
51.009 MHz	39.75 Qp	0.6 / 13.95 / 25.1 / 0.0	29.2	V / 1.00 / 0	-10.8	n/a
58.185 MHz	40.05 Qp	0.64 / 12.2 / 25.14 / 0.0	27.75	V / 1.00 / 0	-12.25	n/a
131.988 MHz	40.2 Qp	0.92 / 8.4 / 25.48 / 0.0	24.04	V / 1.00 / 0	-19.46	n/a
132.716 MHz	33.85 Qp	0.93 / 8.4 / 25.47 / 0.0	17.71	V / 1.00 / 0	-25.79	n/a
135.351 MHz	34.7 Qp	0.96 / 8.62 / 25.44 / 0.0	18.84	V / 1.00 / 0	-24.66	n/a
143.992 MHz	35.35 Qp	1.0 / 10.13 / 25.35 / 0.0	21.13	V / 1.00 / 0	-22.37	n/a
149.284 MHz	44.05 Qp	1.0 / 10.06 / 25.3 / 0.0	29.81	V / 1.00 / 0	-13.69	n/a
155.998 MHz	38.45 Qp	1.06 / 9.19 / 25.24 / 0.0	23.47	V / 1.00 / 0	-20.03	n/a
179.989 MHz	41.55 Qp	1.1 / 9.48 / 25.1 / 0.0	27.03	V / 1.00 / 0	-16.47	n/a
184.316 MHz	38.45 Qp	1.1 / 9.88 / 25.1 / 0.0	24.34	V / 1.00 / 0	-19.16	n/a
191.996 MHz	46.05 Qp	1.16 / 10.88 / 25.1 / 0.0	32.99	V / 1.00 / 0	-10.51	n/a
196.604 MHz	35.35 Qp	1.2 / 11.36 / 25.1 / 0.0	22.81	V / 1.00 / 0	-20.69	n/a
199.04 MHz	41.35 Qp	1.2 / 11.4 / 25.09 / 0.0	28.86	V / 1.00 / 0	-14.64	n/a
203.994 MHz	32.3 Qp	1.2 / 11.22 / 25.05 / 0.0	19.67	V / 1.00 / 0	-23.83	n/a
227.994 MHz	36.85 Qp	1.3 / 11.23 / 24.89 / 0.0	24.49	V / 1.00 / 0	-21.51	n/a
248.814 MHz	36.25 Qp	1.34 / 11.83 / 24.76 / 0.0	24.65	V / 1.00 / 0	-21.35	n/a

Tested by: RMJ

Printed | Signature

Reviewed by: TKS

Printed | Signature

RADIATED EMISSIONS

Test Report #:	NC305614 Run 8	Test Area:	LTS			
EUT Model #:	SQ1000-NA	Date:	12/18/03			
EUT Serial #:	12	EUT Power:	60HZ/110VAC /	Temperature:	21.0	°C
Test Method:	FCC 15.247			Air Pressure:	98.0	kPa
Customer:	SonicCast			Rel. Humidity:	30.0	%
EUT Description:	Aireo MP3 Player					
Notes:	88 - 108MHz TRANSMITTER ON (LOW/MED/HIGH CHANNELS CHECKED)					
Data File Name:	5614-2.dat			Page:	2 of 9	

List of measurements for run #: 8

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-B <1GHz 3m	DELTA2
252.0 MHz	41.4 Qp	1.35 / 12.16 / 24.75 / 0.0	30.17	V / 1.00 / 0	-15.83	n/a
275.999 MHz	30.8 Qp	1.49 / 12.49 / 24.79 / 0.0	19.99	V / 1.00 / 0	-26.01	n/a
298.583 MHz	37.05 Qp	1.5 / 13.67 / 24.7 / 0.0	27.52	V / 1.00 / 0	-18.48	n/a
348.354 MHz	37.95 Qp	1.7 / 15.12 / 24.62 / 0.0	30.15	V / 1.00 / 0	-15.85	n/a
391.613 MHz	34.5 Qp	1.7 / 16.0 / 24.61 / 0.0	27.59	V / 1.00 / 0	-18.41	n/a
398.105 MHz	36.75 Qp	1.71 / 16.24 / 24.6 / 0.0	30.11	V / 1.00 / 0	-15.89	n/a
587.469 MHz	28.5 Qp	2.25 / 19.7 / 24.6 / 0.0	25.85	V / 1.00 / 0	-20.15	n/a
685.378 MHz	34.1 Qp	2.4 / 20.7 / 24.5 / 0.0	32.7	V / 1.00 / 0	-13.3	n/a
696.688 MHz	30.45 Qp	2.4 / 20.9 / 24.5 / 0.0	29.25	V / 1.00 / 0	-16.75	n/a
135.351 MHz	35.55 Qp	0.96 / 8.62 / 25.44 / 0.0	19.69	V / 1.00 / 90	-23.81	n/a
143.992 MHz	38.15 Qp	1.0 / 10.13 / 25.35 / 0.0	23.93	V / 1.00 / 90	-19.57	n/a
149.284 MHz	46.3 Qp	1.0 / 10.06 / 25.3 / 0.0	32.06	V / 1.00 / 90	-11.44	n/a
179.989 MHz	44.3 Qp	1.1 / 9.48 / 25.1 / 0.0	29.78	V / 1.00 / 90	-13.72	n/a
184.316 MHz	39.55 Qp	1.1 / 9.88 / 25.1 / 0.0	25.44	V / 1.00 / 90	-18.06	n/a
191.996 MHz	47.2 Qp	1.16 / 10.88 / 25.1 / 0.0	34.14	V / 1.00 / 90	-9.36	n/a
199.052 MHz	42.25 Qp	1.2 / 11.4 / 25.09 / 0.0	29.76	V / 1.00 / 90	-13.74	n/a
275.999 MHz	35.65 Qp	1.49 / 12.49 / 24.79 / 0.0	24.84	V / 1.00 / 90	-21.16	n/a
51.009 MHz	41.1 Qp	0.6 / 13.95 / 25.1 / 0.0	30.55	V / 1.00 / 180	-9.45	n/a
58.185 MHz	41.95 Qp	0.64 / 12.2 / 25.14 / 0.0	29.65	V / 1.00 / 180	-10.35	n/a
131.988 MHz	41.05 Qp	0.92 / 8.4 / 25.48 / 0.0	24.89	V / 1.00 / 180	-18.61	n/a
132.716 MHz	35.5 Qp	0.93 / 8.4 / 25.47 / 0.0	19.36	V / 1.00 / 180	-24.14	n/a
149.284 MHz	49.5 Qp	1.0 / 10.06 / 25.3 / 0.0	35.26	V / 1.00 / 180	-8.24	n/a
155.998 MHz	39.7 Qp	1.06 / 9.19 / 25.24 / 0.0	24.72	V / 1.00 / 180	-18.78	n/a

Tested by: RMJ

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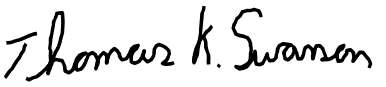

Signature

RADIATED EMISSIONS

Test Report #:	NC305614 Run 8	Test Area:	LTS			
EUT Model #:	SQ1000-NA	Date:	12/18/03			
EUT Serial #:	12	EUT Power:	60HZ/110VAC /	Temperature:	21.0	°C
Test Method:	FCC 15.247			Air Pressure:	98.0	kPa
Customer:	SonicCast			Rel. Humidity:	30.0	%
EUT Description:	Aireo MP3 Player					
Notes:	88 - 108MHz TRANSMITTER ON (LOW/MED/HIGH CHANNELS CHECKED)					
Data File Name:	5614-2.dat			Page:	3 of 9	

List of measurements for run #: 8

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-B <1GHz 3m	DELTA2
248.814 MHz	40.75 Qp	1.34 / 11.83 / 24.76 / 0.0	29.15	V / 1.00 / 180	-16.85	n/a
391.613 MHz	36.35 Qp	1.7 / 16.0 / 24.61 / 0.0	29.44	V / 1.00 / 180	-16.56	n/a
143.992 MHz	40.3 Qp	1.0 / 10.13 / 25.35 / 0.0	26.08	V / 1.00 / 270	-17.42	n/a
227.994 MHz	39.2 Qp	1.3 / 11.23 / 24.89 / 0.0	26.84	V / 1.00 / 270	-19.16	n/a
248.814 MHz	41.9 Qp	1.34 / 11.83 / 24.76 / 0.0	30.3	V / 1.00 / 270	-15.7	n/a
252.0 MHz	46.05 Qp	1.35 / 12.16 / 24.75 / 0.0	34.82	V / 1.00 / 270	-11.18	n/a
348.354 MHz	40.05 Qp	1.7 / 15.12 / 24.62 / 0.0	32.25	V / 1.00 / 270	-13.75	n/a
MAXIMIZED.						
149.284 MHz	50.87 Qp	1.0 / 10.06 / 25.3 / 0.0	36.63	V / 1.00 / 182	-6.87	n/a
191.996 MHz	47.3 Qp	1.16 / 10.88 / 25.1 / 0.0	34.24	V / 1.00 / 100	-9.26	n/a
MAXED ANTENNA AND ROTATED EUT 360 DEGREES.						
587.469 MHz	36.4 Qp	2.25 / 19.7 / 24.6 / 0.0	33.75	H / 1.00 / 0	-12.25	n/a
195.79 MHz	36.35 Qp	1.19 / 11.32 / 25.1 / 0.0	23.76	H / 1.00 / 0	-19.74	n/a
293.723 MHz	38.1 Qp	1.5 / 13.46 / 24.72 / 0.0	28.33	H / 1.00 / 0	-17.67	n/a
347.999 MHz	29.85 Qp	1.7 / 15.11 / 24.62 / 0.0	22.03	H / 1.00 / 0	-23.97	n/a
293.723 MHz	39.0 Qp	1.5 / 13.46 / 24.72 / 0.0	29.23	H / 1.00 / 90	-16.77	n/a
685.378 MHz	37.15 Qp	2.4 / 20.7 / 24.5 / 0.0	35.75	H / 1.00 / 90	-10.25	n/a
696.688 MHz	33.65 Qp	2.4 / 20.9 / 24.5 / 0.0	32.45	H / 1.00 / 90	-13.55	n/a
298.583 MHz	37.4 Qp	1.5 / 13.67 / 24.7 / 0.0	27.87	H / 1.00 / 180	-18.13	n/a

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RADIATED EMISSIONS

Test Report #:	NC305614 Run 8	Test Area:	LTS			
EUT Model #:	SQ1000-NA	Date:	12/18/03			
EUT Serial #:	12	EUT Power:	60HZ/110VAC /	Temperature:	21.0	°C
Test Method:	FCC 15.247			Air Pressure:	98.0	kPa
Customer:	SonicCast			Rel. Humidity:	30.0	%
EUT Description:	Aireo MP3 Player					
Notes:	88 - 108MHz TRANSMITTER ON (LOW/MED/HIGH CHANNELS CHECKED)					
Data File Name:	5614-2.dat			Page:	4 of 9	

List of measurements for run #: 8

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-B <1GHz 3m	DELTA2
587.469 MHz	38.95 Qp	2.25 / 19.7 / 24.6 / 0.0	36.3	H / 1.00 / 180	-9.7	n/a
685.378 MHz	40.1 Qp	2.4 / 20.7 / 24.5 / 0.0	38.7	H / 1.00 / 180	-7.3	n/a
696.688 MHz	35.1 Qp	2.4 / 20.9 / 24.5 / 0.0	33.9	H / 1.00 / 180	-12.1	n/a
MAXIMIZED.						
685.378 MHz	40.05 Qp	2.4 / 20.7 / 24.5 / 0.0	38.65	H / 1.00 / 180	-7.35	n/a
MAXED ANTENNA AND ROTATED EUT 360 DEGREES.						
XMTR TUNNED TO 88.01MHZ.						
58.185 MHz	43.2 Qp	0.64 / 12.2 / 25.14 / 0.0	30.9	V / 1.00 / 0	-9.1	n/a
127.989 MHz	36.8 Qp	0.9 / 8.62 / 25.5 / 0.0	20.82	V / 1.00 / 0	-22.68	n/a
352.387 MHz	31.4 Qp	1.7 / 15.3 / 24.64 / 0.0	23.76	V / 1.00 / 0	-22.24	n/a
440.499 MHz	33.55 Qp	1.86 / 16.51 / 24.66 / 0.0	27.26	V / 1.00 / 0	-18.74	n/a
616.7 MHz	28.1 Qp	2.3 / 20.22 / 24.55 / 0.0	26.07	V / 1.00 / 0	-19.93	n/a
704.8 MHz	27.65 Qp	2.4 / 21.23 / 24.5 / 0.0	26.78	V / 1.00 / 0	-19.22	n/a
792.9 MHz	26.6 Qp	2.79 / 21.9 / 24.5 / 0.0	26.79	V / 1.00 / 0	-19.21	n/a
881.0 MHz	27.35 Qp	2.76 / 23.05 / 24.38 / 0.0	28.78	V / 1.00 / 0	-17.22	n/a
176.2 MHz	37.6 Qp	1.1 / 9.35 / 25.1 / 0.0	22.95	V / 1.00 / 0	-20.55	n/a
127.989 MHz	37.65 Qp	0.9 / 8.62 / 25.5 / 0.0	21.67	V / 1.00 / 90	-21.83	n/a
176.2 MHz	39.1 Qp	1.1 / 9.35 / 25.1 / 0.0	24.45	V / 1.00 / 90	-19.05	n/a
440.499 MHz	35.8 Qp	1.86 / 16.51 / 24.66 / 0.0	29.51	V / 1.00 / 90	-16.49	n/a
51.009 MHz	42.4 Qp	0.6 / 13.95 / 25.1 / 0.0	31.85	V / 1.00 / 180	-8.15	n/a

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RADIATED EMISSIONS

Test Report #:	NC305614 Run 8	Test Area:	LTS			
EUT Model #:	SQ1000-NA	Date:	12/18/03			
EUT Serial #:	12	EUT Power:	60HZ/110VAC /	Temperature:	21.0	°C
Test Method:	FCC 15.247			Air Pressure:	98.0	kPa
Customer:	SonicCast			Rel. Humidity:	30.0	%
EUT Description:	Aireo MP3 Player					
Notes:	88 - 108MHz TRANSMITTER ON (LOW/MED/HIGH CHANNELS CHECKED)					
Data File Name:	5614-2.dat			Page:	5 of 9	

List of measurements for run #: 8

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-B <1GHz 3m	DELTA2
58.185 MHz	44.9 Qp	0.64 / 12.2 / 25.14 / 0.0	32.6	V / 1.00 / 180	-7.4	n/a
881.0 MHz	29.3 Qp	2.76 / 23.05 / 24.38 / 0.0	30.73	V / 1.00 / 180	-15.27	n/a
895.724 MHz	31.85 Qp	2.78 / 23.3 / 24.33 / 0.0	33.6	V / 1.00 / 180	-12.4	n/a
347.999 MHz	33.75 Qp	1.7 / 15.11 / 24.62 / 0.0	25.93	V / 1.00 / 270	-20.07	n/a
352.387 MHz	35.45 Qp	1.7 / 15.3 / 24.64 / 0.0	27.81	V / 1.00 / 270	-18.19	n/a
MAXIMIZED.						
58.185 MHz	44.05 Qp	0.64 / 12.2 / 25.14 / 0.0	31.75	V / 1.00 / 180	-8.25	n/a
MAXED ANTENNA AND ROTATED EUT 360 DEGREES.						
440.499 MHz	38.45 Qp	1.86 / 16.51 / 24.66 / 0.0	32.16	H / 1.00 / 0	-13.84	n/a
704.8 MHz	31.55 Qp	2.4 / 21.23 / 24.5 / 0.0	30.68	H / 1.00 / 90	-15.32	n/a
792.9 MHz	31.85 Qp	2.79 / 21.9 / 24.5 / 0.0	32.04	H / 1.00 / 90	-13.96	n/a
298.583 MHz	37.65 Qp	1.5 / 13.67 / 24.7 / 0.0	28.12	H / 1.00 / 180	-17.88	n/a
616.7 MHz	34.5 Qp	2.3 / 20.22 / 24.55 / 0.0	32.47	H / 1.00 / 180	-13.53	n/a
MAXIMIZED.						
616.7 MHz	37.0 Qp	2.3 / 20.22 / 24.55 / 0.0	34.97	H / 1.00 / 209	-11.03	n/a
MAXED ANTENNA AND ROTATED EUT 360 DEGREES.						
XMTR TUNED TO 107.9MHZ.						

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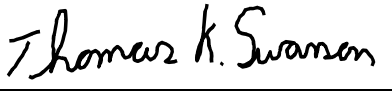
Reviewed by: TKS



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RADIATED EMISSIONS

Test Report #:	NC305614 Run 8	Test Area:	LTS			
EUT Model #:	SQ1000-NA	Date:	12/18/03			
EUT Serial #:	12	EUT Power:	60HZ/110VAC /	Temperature:	21.0	°C
Test Method:	FCC 15.247			Air Pressure:	98.0	kPa
Customer:	SonicCast			Rel. Humidity:	30.0	%
EUT Description:	Aireo MP3 Player					
Notes:	88 - 108MHz TRANSMITTER ON (LOW/MED/HIGH CHANNELS CHECKED)					
Data File Name:	5614-2.dat			Page:	6 of 9	

List of measurements for run #: 8

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-B <1GHz 3m	DELTA2
323.7 MHz	32.1 Qp	1.62 / 14.0 / 24.6 / 0.0	23.12	V / 1.00 / 0	-22.88	n/a
431.6 MHz	38.6 Qp	1.83 / 16.68 / 24.63 / 0.0	32.48	V / 1.00 / 0	-13.52	n/a
647.4 MHz	31.95 Qp	2.32 / 19.95 / 24.5 / 0.0	29.72	V / 1.00 / 0	-16.28	n/a
755.3 MHz	28.75 Qp	2.55 / 22.0 / 24.5 / 0.0	28.8	V / 1.00 / 0	-17.2	n/a
863.2 MHz	31.85 Qp	2.73 / 22.5 / 24.44 / 0.0	32.64	V / 1.00 / 0	-13.36	n/a
184.316 MHz	40.5 Qp	1.1 / 9.88 / 25.1 / 0.0	26.39	V / 1.00 / 90	-17.11	n/a
323.7 MHz	32.6 Qp	1.62 / 14.0 / 24.6 / 0.0	23.62	V / 1.00 / 90	-22.38	n/a
431.6 MHz	40.4 Qp	1.83 / 16.68 / 24.63 / 0.0	34.28	V / 1.00 / 90	-11.72	n/a
127.989 MHz	40.15 Qp	0.9 / 8.62 / 25.5 / 0.0	24.17	V / 1.00 / 180	-19.33	n/a
863.2 MHz	33.1 Qp	2.73 / 22.5 / 24.44 / 0.0	33.89	V / 1.00 / 180	-12.11	n/a
323.7 MHz	41.7 Qp	1.62 / 14.0 / 24.6 / 0.0	32.72	V / 1.00 / 270	-13.28	n/a
MAXIMIZED.						
431.6 MHz	45.25 Qp	1.83 / 16.68 / 24.63 / 0.0	39.13	V / 1.40 / 70	-6.87	n/a
863.2 MHz	35.7 Qp	2.73 / 22.5 / 24.44 / 0.0	36.49	V / 1.00 / 203	-9.51	n/a
323.7 MHz	41.9 Qp	1.62 / 14.0 / 24.6 / 0.0	32.92	V / 1.00 / 277	-13.08	n/a
MAXED ANTENNA AND ROTATED EUT 360 DEGREES.						
323.7 MHz	42.3 Qp	1.62 / 14.0 / 24.6 / 0.0	33.32	H / 1.00 / 0	-12.68	n/a
323.7 MHz	46.0 Qp	1.62 / 14.0 / 24.6 / 0.0	37.02	H / 1.00 / 90	-8.98	n/a

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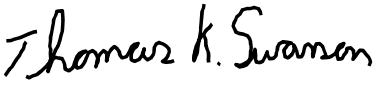

Signature

RADIATED EMISSIONS

Test Report #:	NC305614 Run 8	Test Area:	LTS			
EUT Model #:	SQ1000-NA	Date:	12/18/03			
EUT Serial #:	12	EUT Power:	60HZ/110VAC /	Temperature:	21.0	°C
Test Method:	FCC 15.247			Air Pressure:	98.0	kPa
Customer:	SonicCast			Rel. Humidity:	30.0	%
EUT Description:	Aireo MP3 Player					
Notes:	88 - 108MHz TRANSMITTER ON (LOW/MED/HIGH CHANNELS CHECKED)					
Data File Name:	5614-2.dat			Page:	7 of 9	

List of measurements for run #: 8

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-B <1GHz 3m	DELTA2
647.4 MHz	33.05 Qp	2.32 / 19.95 / 24.5 / 0.0	30.82	H / 1.00 / 90	-15.18	n/a
755.3 MHz	34.3 Qp	2.55 / 22.0 / 24.5 / 0.0	34.35	H / 1.00 / 90	-11.65	n/a
647.4 MHz	39.8 Qp	2.32 / 19.95 / 24.5 / 0.0	37.57	H / 1.00 / 180	-8.43	n/a
MAXIMIZED.						
647.4 MHz	40.05 Qp	2.32 / 19.95 / 24.5 / 0.0	37.82	H / 1.00 / 180	-8.18	n/a
MAXED ANTENNA AND ROTATED EUT 360 DEGREES.						
END OF SCAN 30 - 1000MHZ.						

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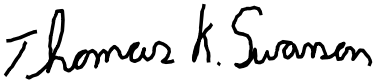

Signature

RADIATED EMISSIONS

Test Report #:	NC305614 Run 8	Test Area:	LTS			
EUT Model #:	SQ1000-NA	Date:	12/18/03			
EUT Serial #:	12	EUT Power:	60HZ/110VAC /	Temperature:	21.0	°C
Test Method:	FCC 15.247			Air Pressure:	98.0	kPa
Customer:	SonicCast			Rel. Humidity:	30.0	%
EUT Description:	Aireo MP3 Player					
Notes:	88 - 108MHz TRANSMITTER ON (LOW/MED/HIGH CHANNELS CHECKED)					
Data File Name:	5614-2.dat			Page:	8 of 9	

Measurement summary for limit1: FCC-B <1GHz 3m (Qp)

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-B <1GHz 3m
149.284 MHz	50.87 Qp	1.0 / 10.06 / 25.3 / 0.0	36.63	V / 1.00 / 182	-6.87
431.6 MHz	45.25 Qp	1.83 / 16.68 / 24.63 / 0.0	39.13	V / 1.40 / 70	-6.87
685.378 MHz	40.1 Qp	2.4 / 20.7 / 24.5 / 0.0	38.7	H / 1.00 / 180	-7.3
58.185 MHz	44.9 Qp	0.64 / 12.2 / 25.14 / 0.0	32.6	V / 1.00 / 180	-7.4
51.009 MHz	42.4 Qp	0.6 / 13.95 / 25.1 / 0.0	31.85	V / 1.00 / 180	-8.15
647.4 MHz	40.05 Qp	2.32 / 19.95 / 24.5 / 0.0	37.82	H / 1.00 / 180	-8.18
323.7 MHz	46.0 Qp	1.62 / 14.0 / 24.6 / 0.0	37.02	H / 1.00 / 90	-8.98
191.996 MHz	47.3 Qp	1.16 / 10.88 / 25.1 / 0.0	34.24	V / 1.00 / 100	-9.26
863.2 MHz	35.7 Qp	2.73 / 22.5 / 24.44 / 0.0	36.49	V / 1.00 / 203	-9.51
587.469 MHz	38.95 Qp	2.25 / 19.7 / 24.6 / 0.0	36.3	H / 1.00 / 180	-9.7
616.7 MHz	37.0 Qp	2.3 / 20.22 / 24.55 / 0.0	34.97	H / 1.00 / 209	-11.03
252.0 MHz	46.05 Qp	1.35 / 12.16 / 24.75 / 0.0	34.82	V / 1.00 / 270	-11.18
755.3 MHz	34.3 Qp	2.55 / 22.0 / 24.5 / 0.0	34.35	H / 1.00 / 90	-11.65
696.688 MHz	35.1 Qp	2.4 / 20.9 / 24.5 / 0.0	33.9	H / 1.00 / 180	-12.1
895.724 MHz	31.85 Qp	2.78 / 23.3 / 24.33 / 0.0	33.6	V / 1.00 / 180	-12.4
179.989 MHz	44.3 Qp	1.1 / 9.48 / 25.1 / 0.0	29.78	V / 1.00 / 90	-13.72
199.052 MHz	42.25 Qp	1.2 / 11.4 / 25.09 / 0.0	29.76	V / 1.00 / 90	-13.74
348.354 MHz	40.05 Qp	1.7 / 15.12 / 24.62 / 0.0	32.25	V / 1.00 / 270	-13.75
440.499 MHz	38.45 Qp	1.86 / 16.51 / 24.66 / 0.0	32.16	H / 1.00 / 0	-13.84
792.9 MHz	31.85 Qp	2.79 / 21.9 / 24.5 / 0.0	32.04	H / 1.00 / 90	-13.96

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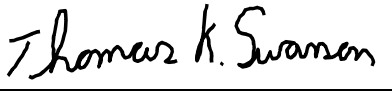
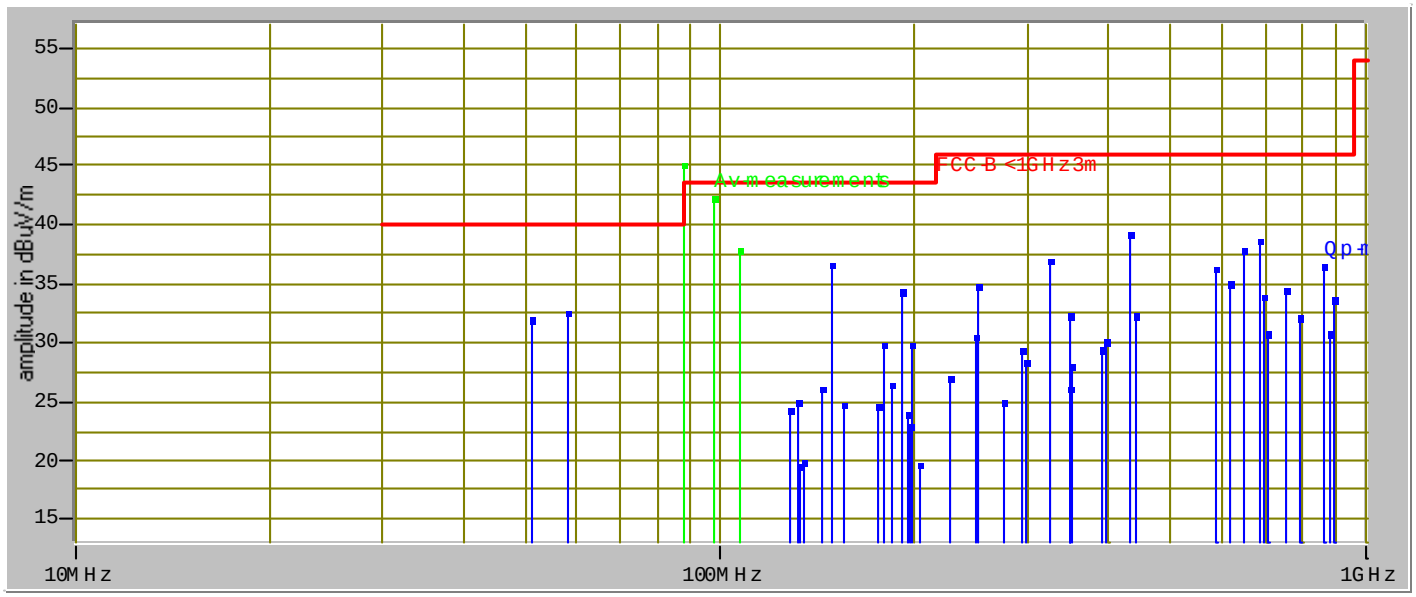


Signature

RADIATED EMISSIONS

Test Report #:	NC305614 Run 8	Test Area:	LTS		
EUT Model #:	SQ1000-NA	Date:	12/18/03		
EUT Serial #:	12	EUT Power:	60HZ/110VAC /	Temperature:	21.0 °C
Test Method:	FCC 15.247			Air Pressure:	98.0 kPa
Customer:	SonicCast			Rel. Humidity:	30.0 %
EUT Description:	Aireo MP3 Player				
Notes:	88 - 108MHz TRANSMITTER ON (LOW/MED/HIGH CHANNELS CHECKED)				
Data File Name:	5614-2.dat			Page:	9 of 9

Graph:



Tested by: RMJ

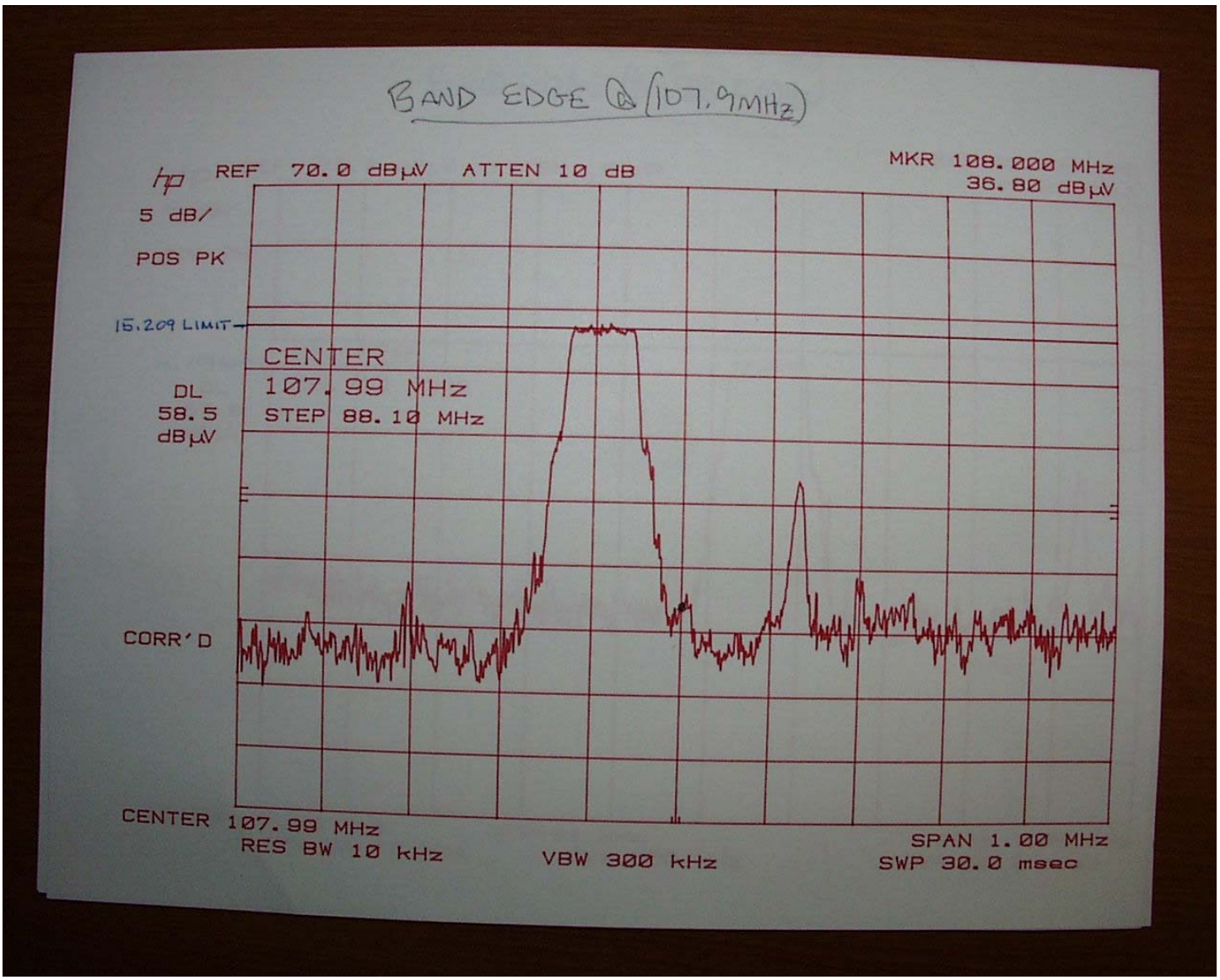
Printed — Signature

Reviewed by: TKS

Printed — Signature

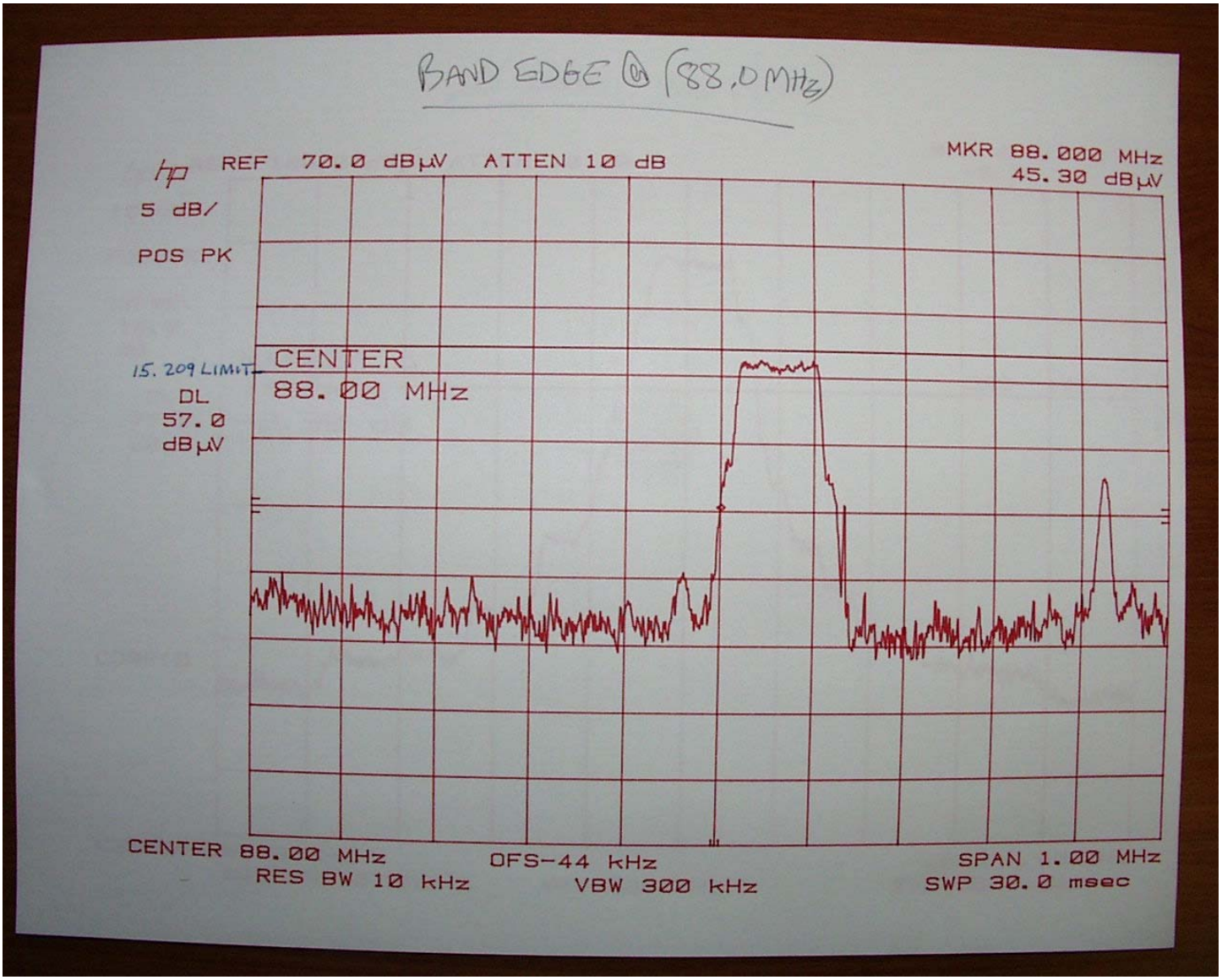
RADIATED EMISSIONS

Test Report #:	NC305614	Test Area:	LTS		
EUT Model #:	SQ1000-NA	Date:	12/18/03		
EUT Serial #:	12	EUT Power:	60HZ/110VAC /	Temperature:	21.0 °C
Test Method:	FCC 15.247			Air Pressure:	98.0 kPa
Customer:	SonicCast			Rel. Humidity:	30.0 %
EUT Description:	Aireo MP3 Player				
Notes:					
Data File Name:	5614-2.dat			Page:	1 of 5



RADIATED EMISSIONS

Test Report #:	NC305614	Test Area:	LTS		
EUT Model #:	SQ1000-NA	Date:	12/18/03		
EUT Serial #:	12	EUT Power:	60HZ/110VAC /	Temperature:	21.0 °C
Test Method:	FCC 15.247			Air Pressure:	98.0 kPa
Customer:	SonicCast			Rel. Humidity:	30.0 %
EUT Description:	Aireo MP3 Player				
Notes:					
Data File Name:	5614-2.dat			Page:	2 of 5



RADIATED EMISSIONS

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EUT Serial #:	12	EUT Power:	60HZ/110VAC /	Temperature:	21.0 °C
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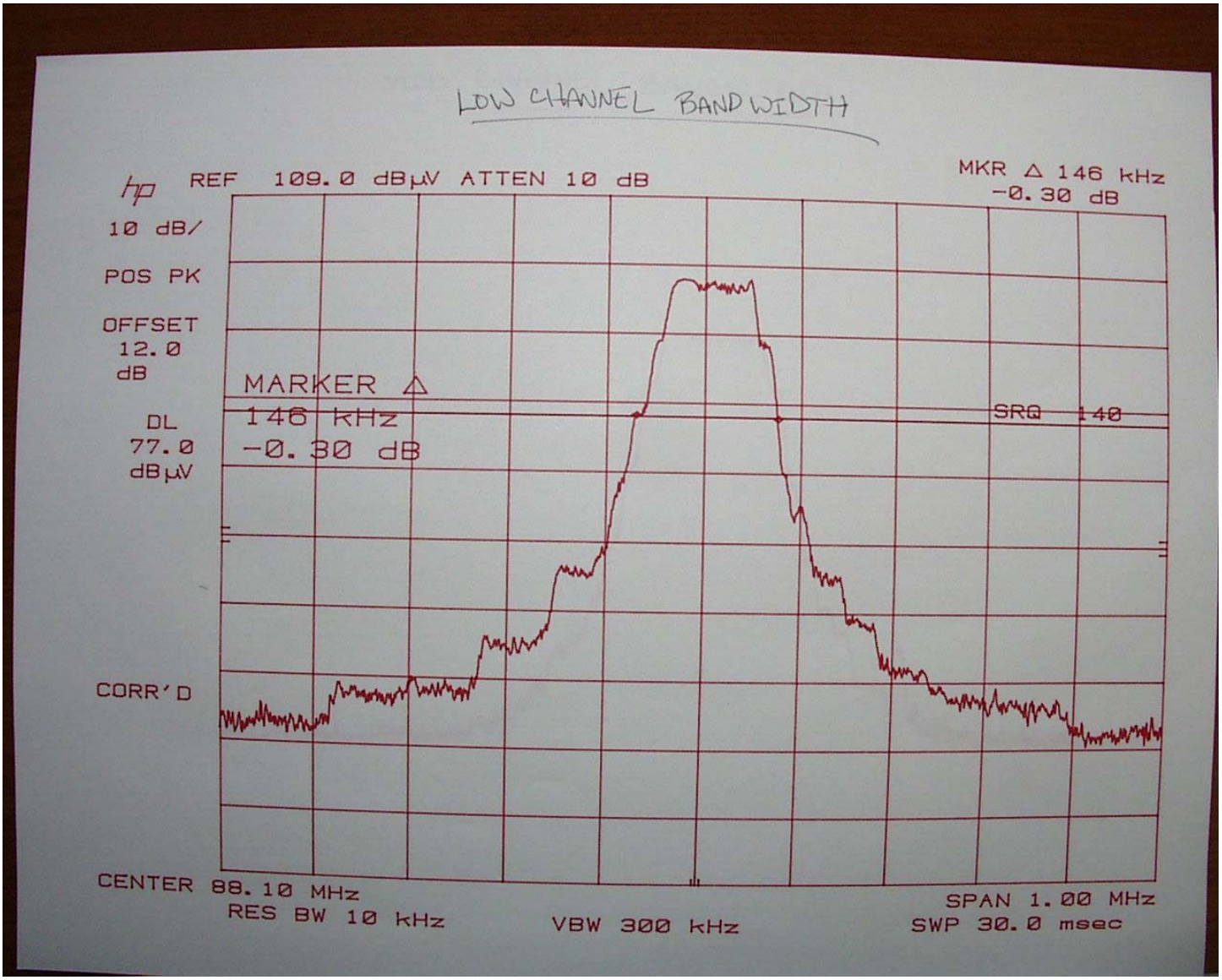
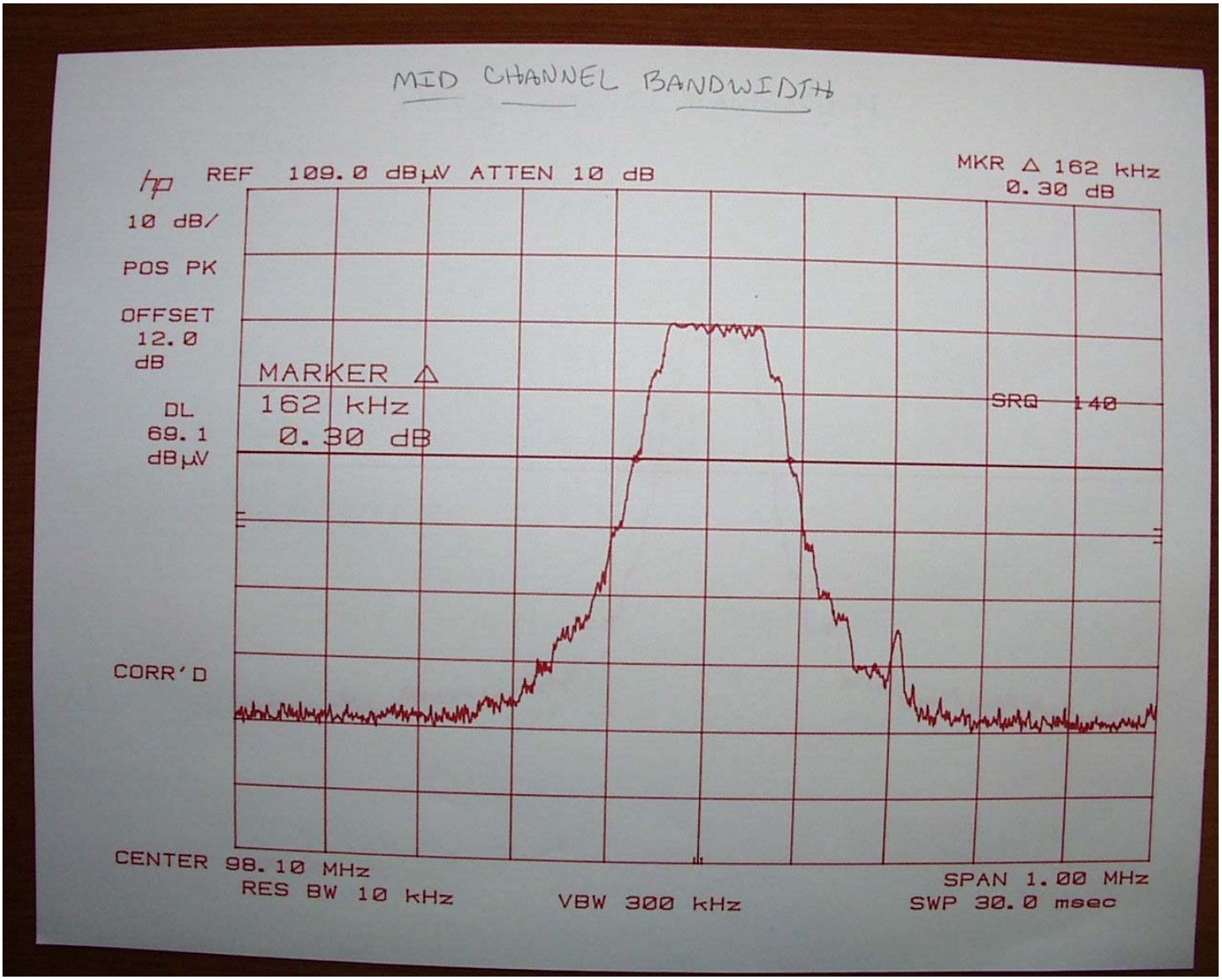
Customer:	SonicCast			Rel. Humidity:	30.0 %
EUT Description:	Aireo MP3 Player				
Notes:					
Data File Name:	5614-2.dat			Page:	3 of 5



RADIATED EMISSIONS

Test Report #:	NC305614	Test Area:	LTS		
EUT Model #:	SQ1000-NA	Date:	12/18/03		
EUT Serial #:	12	EUT Power:	60HZ/110VAC /	Temperature:	21.0 °C
Test Method:	FCC 15.247			Air Pressure:	98.0 kPa
Customer:	SonicCast			Rel. Humidity:	30.0 %
EUT Description:	Aireo MP3 Player				
Notes:					
Data File Name:	5614-2.dat			Page:	4 of 5



RADIATED EMISSIONS

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EUT Model #:	SQ1000-NA	Date:	12/18/03		
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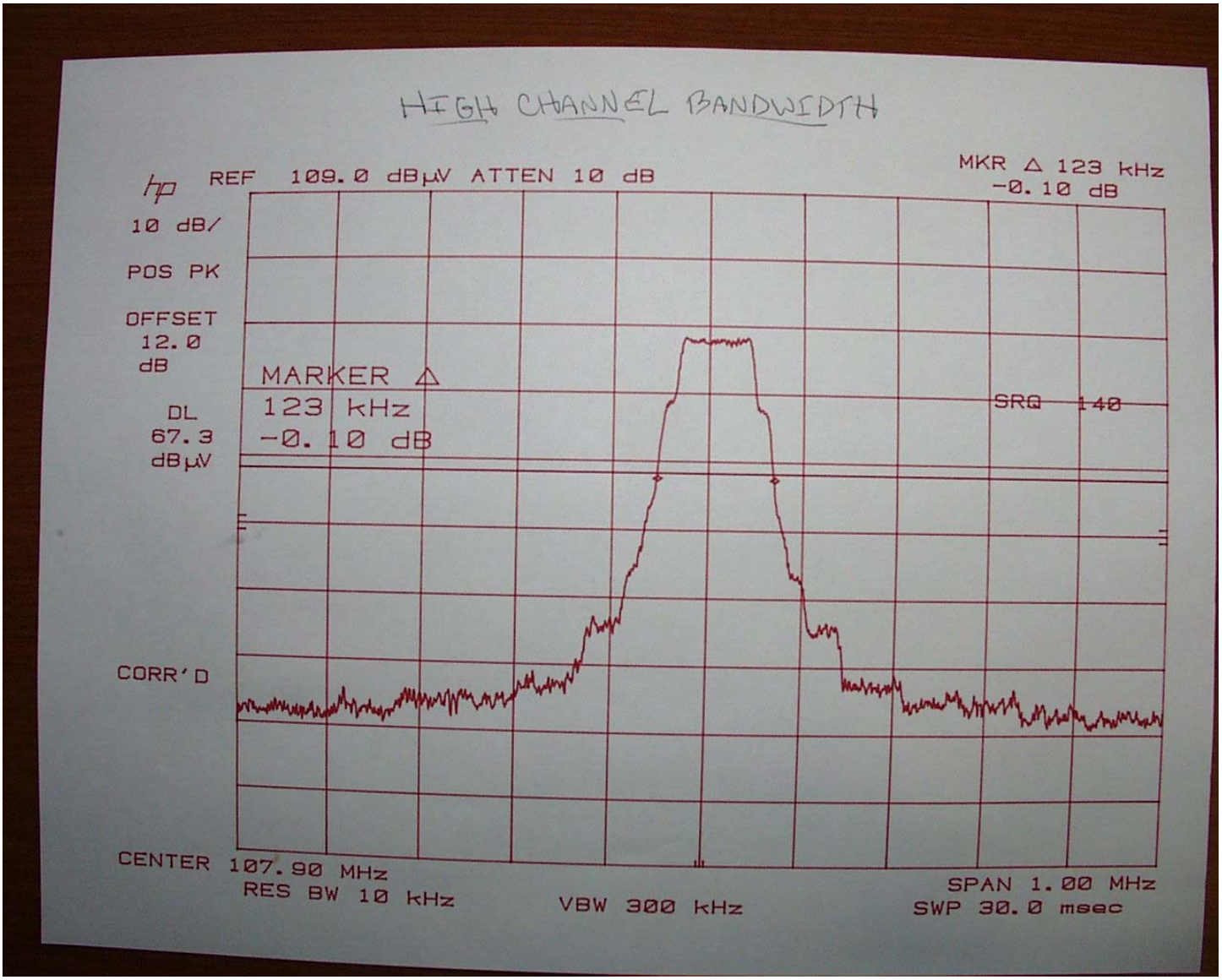
EUT Description:	Aireo MP3 Player				
Notes:					
Data File Name:	5614-2.dat			Page:	5 of 5



Appendix B

Constructional Data Form

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The SoniqCast Aireo is a portable wireless audio player for the consumer electronics market. It plays audio content, including music and voice, in MP3, WMA and .wav digital formats. Content is stored on an internal hard disk and an optional removable SD format memory card. Content is loaded via a USB interface and/or an 802.11b wireless LAN connection. Audio output is via external headphones or is modulated onto a carrier in the 88-108 MHz band for receipt on a conventional FM radio receiver.

The user interface consists of a power button, keypad and LCD screen. A single IC, the Rohm BH1415, provides a FM stereo transmit function with the audio supplied from the device. A PLL controlled VCO is implemented with a varactor controlled LC tank circuit, tuning over the 88-108 MHz band. Digital tuning of the PLL is by the unit microprocessor. 75us pre-emphasis is implemented for compatibility with the US market. The transmitter is automatically disabled when any headphone jack is populated. A pcb trace is used for the FM transmit antenna. The trace forms a simple, short monopole. The transmitter is disabled if any headphone jack is populated.

Air*eo!* Technical Specifications

Platform Specifications:

File Support

Playback Formats

- MP3 (at 8,16,22.05,24,32,44.1 and 48 kHz)
- MP3 VBA
- WMA (at 16, 22.05, 24, 32, 44.1, and 48 kHz)

Software

Operating System

- WinCe.Net 4.0

Application Software

- SoniqSync Music Manager
- SoniqSync Music Scheduler

Hardware Specification:

Hardware Specification

Size

- 2.68 in (W) x 4.58 in (H) x 0.87 in (D) or 68.1 mm x 116.3 mm x 22.1 mm

Weight

- 8,0 oz or 226 gms

Memory

- 32 MB SDRAM buffer

Capacity

- 1.5 GB hard drive

Memory Slot type

- SD/MMC Card

Flash Storage

- SD/MMC – 32 MB to 1GB Card Capacities Accepted

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WiFi Interface	• Automatic rate scaling: 1, 2, 5.5, 11 Mbps
Communication Interfaces	• USB 1.1 • 802.11B
Battery type	• Lithium-ion battery (non-removable)

Hardware Specification (continued)

Battery Life

Up to 5 hours of continuous playback from a fully charged battery. Based on continuous playback of tracks encoded at 128 kbps. Playback time may be reduced by:

- playing tracks encoded at bitrates greater than 128Kbps
- playing WMA music files
- transmitting music
- long LCD backlight timeout setting
- wireless sync or transfer process

Battery Charging

- About 4 hours

Audio Specifications:

Audio Inputs

Microphone Input

- Omni Directional
- Frequency Response: 50 – 16,000 Hz

FM Receiver

- Frequency Band: 87.9 – 107.9 MHz, digital tuned
- Modulation: FM Stereo
- Distortion: 0.5%
- Frequency Response: 50 – 15,000 Hz (+/- 3 dB)
- Stereo Separation: 30 dB
- Scan, Seek

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Audio Specifications (continued):

Audio Outputs

Speaker Output

- Power Output: 25 mW
- Frequency Response: 400 – 5,000 Hz

Headphone Output

- Rated Impedance: 32 ohms
- Power Output: 60 mW
- Frequency Response: 20 – 20,000 Hz (+/- 3 dB)
- THD: -75 dB

Analog Line Output

- Rated Impedance: 60 mW
- Frequency Response: 20 – 20,000 Hz (+/- 3 dB)
- THD: -75 dB

Digital Output

- SPDIF
- Coax interface in docking station accessory

FM Transmitter

- Frequency Band: 88.1 – 107.9 MHz, digital tuned
- Modulation: FM Stereo
- Transmit Power: FCC Part 15 limited
- Range: Up to 30 ft
- Frequency Response: 30 – 15,000 Hz (+/- 3 dB)
- Stereo Separation: > 40 dB
- Signal Distortion: 0.3 %
- Automatic Free Band Scan

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Appendix C

MEASUREMENT PROTOCOL

GENERAL INFORMATION

Test Methodology
Conducted and radiated emission testing is performed according to the procedures in ANSI C63.4.

Measurement Uncertainty
The test system for conducted emissions is defined as the LISN, tuned receiver or spectrum analyzer, and coaxial cable. The test system for radiated emissions is defined as the antenna, the pre-amplifier, the spectrum analyzer and the coaxial cable. These test systems have a measurement uncertainty of ±4.5 dB. The equipment comprising the test systems are calibrated on an annual basis.

Justification
The Equipment Under Test (EUT) is configured in a typical user arrangement in accordance with the manufacturer's instructions. A cable is connected to each available port and either terminated with a peripheral into it's characteristic impedance or left unterminated. When appropriate, the cables are manually manipulated with respect to each other to obtain maximum emissions from the unit.

CONDUCTED EMISSIONS
The final level, expressed in dBμV, is arrived at by taking the reading directly from the EMI receiver. This level is compared directly to the CISPR limit.

To convert between dBμV and μV, the following conversions apply:

dBμV = 20(log μV)
μV = Inverse log(dBμV/20)

RADIATED EMISSIONS
The final level, expressed in dBμV/m, is arrived at by taking the reading from the spectrum analyzer (Level dBμV), adding the antenna correction factor and cable loss factor (Factor dB) to it, then subtracting the preamp gain. This result then has the CISPR limit subtracted from it to provide the Delta which gives the tabular data as shown in the data sheets in Attachment A.

Example:

FREQ (MHz)	LEVEL (dBuV)		CABLE/ANT/PREAMP (dB)	(dB/m)	(dB)	FINAL (dBuV/m)		POL/HGT/AZ (m)	(deg)	DELTA1 EN 55022 B
60.80	42.5Qp	+	1.2	+ 10.9	- 25.5 =	29.1		V 1.0	0.0 -	-0.9

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DETAILS OF TEST PROCEDURES

General Standard Information

The test methods used comply with ANSI C63.4-1992 - "Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz."

Conducted Emissions

Conducted emissions on the 50 Hz and/or 60 Hz power interface of the EUT are measured in the frequency range of 150 kHz to 30 MHz. The measurements are performed using a receiver, which has CISPR characteristic bandwidth and quasi-peak detection, and a Line Impedance Stabilization Network (LISN), with 50 Ω/50 μH (CISPR 16) characteristics. Table top equipment is placed on a non-conducting table 80 centimeters above the floor and is positioned 40 centimeters from the vertical ground plane (wall) of the screen room. In some cases, a pre-scan using a spectrum analyzer is initially performed on the units comprising the system under test to locate the highest emissions. If the minimum passing margin appears to be less than 20 dB with a peak mode measurement, the emissions are re-measured using a tuned receiver or spectrum analyzer with quasi-peak and average detection and recorded on the data sheets.

Radiated Emissions

Radiated emissions from the EUT are measured in the frequency range of 30 to 1000 MHz using a spectrum analyzer and appropriate broadband linearly polarized antennas. Measurements between 30 MHz and 1000 MHz are made with 120 kHz/6 dB bandwidth and quasi-peak or average detection and measurements above 1000 MHz are made with a 1 MHz/6 dB bandwidth and peak detection. Table top equipment is placed on a 1.0 X 1.5 meter non-conducting table 80 centimeters above the ground plane. Floor standing equipment is placed directly on the turntable/ground plane. Interface cables that are closer than 40 centimeters to the ground plane are bundled in the center in a serpentine fashion so they are at least 40 centimeters from the ground plane. Cables to simulators/testers (if used in this test) are routed through the center of the table and to a screen room located outside the test area. The antenna is positioned 3, 10 or 30 meters horizontally from the EUT. To locate maximum emissions from the test sample the antenna is varied in height from 1 to 4 meters, measurement scans are made with both horizontal and vertical antenna polarizations and the EUT are rotated 360 degrees. Intentional radiators are rotated through 3 orthogonal axes in order to find position of maximum emission level.

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