TIMCO ENGINEERING INC.
849 NW State Road 45
Newberry, Florida 32669
http://www.timcoengr.com
888.472.2424 F 352.472.2030 email: sid@timcoengr.com

Test Report

Product Name: WIRELESS MICROPHONE

FCC ID: QYXSW70-T

Applicant:

SABINE, INC.
13301 HIGHWAY 441
ALACHUA, FL 32615-8544

Date Receipt: NOVEMBER 5, 2003

Date Tested: NOVEMBER 11, 2003

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TEST REPORT CONTAINING:

EXHIBIT ATTACHMENTS:

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EMC Equipment List

Device	Manufacturer	Model	Serial Number	Cal/Char Date	Due Date
3/10-Meter OATS	TEI	N/A	N/A	Listed 3/26/01	3/26/04
3-Meter OATS	TEI	N/A	N/A	Listed 1/13/03	1/13/06
Biconnical Antenna	Eaton	94455-1	1057	CAL 3/18/03	3/18/05
Biconnical Antenna	Eaton	94455-1	1096	CAL 10/1/01	10/1/03
Biconnical Antenna	Electro-Metrics	BIA-25	1171	CAL 4/26/01	4/26/03
Blue Tower Quasi-Peak Adapter	HP	85650A	2811A01279	CAL 4/15/03	4/15/05
Blue Tower RF Preselector	HP	85685A	2926A00983	CAL 4/15/03	4/15/05
Blue Tower Spectrum Analyzer	HP	8568B	2928A04729 2848A18049	CAL 4/15/03	4/15/05
LISN	Electro-Metrics	ANS-25/2	2604	CAL 10/9/01	10/9/03
LISN	Electro-Metrics	EM-7820	2682	CAL 3/12/03	3/12/05
Log-Periodic Antenna	Eaton	96005	1243	CAL 5/8/03	5/8/05

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TEST PROCEDURE

GENERAL: This report shall NOT be reproduced except in full without the written approval of TIMCO ENGINEERING, INC. The UUT was transmitting a test signal during the testing.

RADIATION INTERFERENCE: The test procedure used was ANSI STANDARD C63.4-1992 using a HEWLETT PACKARD spectrum analyzer with a pre-selector. The analyzer was calibrated in dB above a microvolt at the output of the antenna. The resolution bandwidth was 100KHz and the video bandwidth was 300KHz up to 1.0GHz and 1.0MHz with a video BW of 3.0MHz above 1.0GHz. The ambient temperature of the UUT was 74.3oF with a humidity of 69%.

FORMULA OF CONVERSION FACTORS: The Field Strength at 3m was established by adding the meter reading of the spectrum analyzer (which is set to read in units of dBuV) to the antenna correction factor supplied by the antenna manufacturer. The antenna correction factors are stated in terms of dB. The gain of the Pre-selector was accounted for in the Spectrum Analyzer Meter Reading.

Example:
Freq (MHz) METER READING + ACF = FS
33 20 dBuV + 10.36 dB = 30.36 dBuV/m @ 3m

ANSI STANDARD C63.4-1992 10.1.7 MEASUREMENT PROCEDURES: The UUT was placed on a table 80 cm high and with dimensions of 1m by 1.5m. The UUT was placed in the center of the table (1.5m side). The table used for radiated measurements is capable of continuous rotation.

When an emission was found, the table was rotated to produce the maximum signal strength. At this point, the antenna was raised and lowered from 1m to 4m. The antenna was placed in both the horizontal and vertical planes.

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APPLICANT: SABINE, INC.

FCC ID: QYXSW70-T

NAME OF TEST: RADIATION INTERFERENCE

RULES PART NUMBER: 15.249, 15.209

REQUIREMENTS:

FIELD STRENGTH of Fundamental: 902-928 MHZ 2.4-2.4835 GHz 94 dBuV/m @3m	FIELD STRENGTH of Harmonics 54 dBuV/m @3m	S15.209 30 - 88 MHz 40 dBuV/m @3M 88 -216 MHz 43.5 216 -960 MHz 46 ABOVE 960 MHz 54dBuV/m

EMISSIONS RADIATED OUTSIDE OF THE SPECIFIED FREQUENCY BANDS, EXCEPT FOR HARMONICS, SHALL BE ATTENUATED BY AT LEAST 50 dB BELOW THE LEVEL OF THE FUNDAMENTAL OR TO THE GENERAL RADIATED EMISSION LIMITS IN 15.209, WHICHEVER IS THE LESSER ATTENUATION.

TEST RESULTS: This unit DOES meet the FCC requirements.

TEST DATA:

Emission Frequency MHz	Meter Reading dBuV	Ant. Polarity	Coax Loss dB	Correction Factor dB	Field Strength dBuV/m	Margin dB
2,400.90	60.4	V	1.86	29.26	91.52	2.48
2,400.90	61.1	H	1.86	29.24	92.20	1.80
4,801.80	8.7	H	2.64	34.07	45.41	8.59
4,801.80	11.7	V	2.64	33.97	48.31	5.69
7,202.70	12.1	H	3.36	36.86	52.32	1.68
7,202.70	12.8	V	3.36	36.68	52.84	1.16
2,441.20	58.5	V	1.88	29.32	89.70	4.30
2,441.20	60.6	H	1.88	29.31	91.79	2.21
4,882.50	11.3	H	2.66	34.32	48.28	5.72
4,882.50	14.1	V	2.66	34.22	50.98	3.02
7,323.80	12.0	H	3.40	36.84	52.24	1.76
7,323.80	13.0	V	3.40	36.61	53.01	0.99
2,482.60	57.1	V	1.89	29.38	88.37	5.63
2,482.60	58.9	H	1.89	29.37	90.16	3.84
4,965.00	13.7	H	2.69	34.59	50.98	3.02
4,965.00	16.3	V	2.69	34.49	53.48	0.52
7,447.80	13.3	H	3.43	36.81	53.54	0.46
7,447.80	13.7	V	3.43	36.53	53.66	0.34

TEST PROCEDURE: ANSI STANDARD C63.4-1992 using a Hewlett Packard Model 8566B spectrum analyzer, a Hewlett Packard Model 85685A Pre-selector, a Hewlett Packard Model 85650A Quasi-Peak adapter, and an appropriate antenna. The bandwidth of spectrum analyzer was 1 MHz with an appropriate sweep speed. When an emission was found, the table was rotated to produce the maximum signal strength. The antenna was placed in both the horizontal and vertical planes and the worse case emissions were reported. The spectrum was searched to at least the tenth (10) harmonic of the fundamental.

PERFORMED BY: JOSEPH SCOGLIO DATE: NOVEMBER 11, 2003

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APPLICANT: SABINE, INC.

FCC ID: QYXSW70-T

NAME OF TEST: Occupied Bandwidth

RULES PART NO.: 15.249

REQUIREMENTS: The field strength of any emissions appearing outside the band edges and up to 10 kHz above and below the band edges shall be attenuated at least 50 dB below the level of the carrier or to the general limits of 15.249.

TEST DATA:

THE FOLLOWING GRAPH REPRESENTS THE EMISSIONS TAKEN FOR THIS DEVICE.

METHOD OF MEASUREMENT: A small sample of the transmitter output was fed into the spectrum analyzer and the attached plot was printed. The vertical scale is set to -10 dBm per division. The horizontal scale is set to 50 kHz per division.

TEST RESULTS: The unit DOES meet the FCC requirements.

PERFORMED BY: JOSEPH SCOGLIO DATE: NOVEMBER 11, 2003

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OCCUPIED BANDWIDTH

NOTES:
occupied bandwidth