

FCC PART 15, SUBPART C
TEST REPORT

for
TRANSMITTER

Model: 6000-4

Prepared for

HEALTH SENSE INTERNATIONAL, INC.
 30211 AVENIDA DE LAS BANDERAS, SUITE 120
 RANCHO SANTA MARGARITA, CA 92688

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

DATE: NOVEMBER 20, 2000

	REPORT BODY	APPENDICES				TOTAL
		<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>	
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1	Conducted Emissions Test Setup
2	Plot Map And Layout of Test Site



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 in any form unless done so in full with the written permission of Compatible Electronics.

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

Device Tested: Transmitter
 Model: 6000-4
 P/N: 30700

Product Description: See Expository Statement.

Modifications: The EUT was not modified during the testing.

Manufacturer: Health Sense International, Inc.
 30211 Avenida de las Banderas, Suite 120
 Rancho Santa Margarita, CA 92688

Test Date: November 9, 2000

File # For Canada: IC2154-D

Test Specifications: EMI requirements
 CFR Title 47, Part 15 Subpart C, Sections 15.205, 15.209, and 15.249

Test Procedure: ANSI C63.4: 1992

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

SUMMARY OF TEST RESULTS

TEST	DESCRIPTION	RESULTS
1	Conducted RF Emissions, 450 kHz - 30 MHz	This test was not performed because the EUT is powered by a three 3 volt lithium batteries.
2	Radiated RF Emissions, 10 kHz - 9300 MHz	Complies with the limits of CFR Title 47, Part 15, Subpart C, sections 15.205, 15.209, and 15.249



1. PURPOSE

This document is a qualification test report based on the Electromagnetic Interference (EMI) tests performed on the Transmitter Model: 6000-4. The EMI measurements were performed according to the measurement procedure described in ANSI C63.4: 1992. 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 specification limits defined by CFR Title 47, Part 15, Subpart C, sections 15.205, 15.209, and 15.249.



2. ADMINISTRATIVE DATA

2.1 Location of Testing

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

2.2 Traceability Statement

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

2.3 Cognizant Personnel

Health Sense International, Inc.

John Jenson Vice President of Operations

Compatible Electronics Inc.

Kyle Fujimoto Test Engineer
Scott McCutchan Lab Manager

2.4 Date Test Sample was Received

The test sample was received on November 8, 2000.

2.5 Disposition of the Test Sample

The test sample was returned to Health Sense International, Inc. on November 20, 2000.

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



3. APPLICABLE DOCUMENTS

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

SPEC	TITLE
CFR Title 47, Subpart C.	FCC Rules – Radio frequency devices (including digital devices) – Intentional Radiators
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.



4. DESCRIPTION OF TEST CONFIGURATION

4.1 Description of Test Configuration - EMI

Specifics of the EUT and Peripherals Tested

The Transmitter Model: 6000-4 (EUT) was connected to two 1 meter unterminated cables to simulate the Sense 'R Strip that recognizes a wet condition when attached to the EUT. The EUT was powered by three 3 volt lithium batteries. The EUT was tested in three orthogonal axis. The EUT was continuously transmitting. The antenna is soldered (hard wired) onto the PCB, which is inside the case. Also, the user's manual shows that this EUT must be professionally installed.

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



4.1.1 Cable Construction and Termination

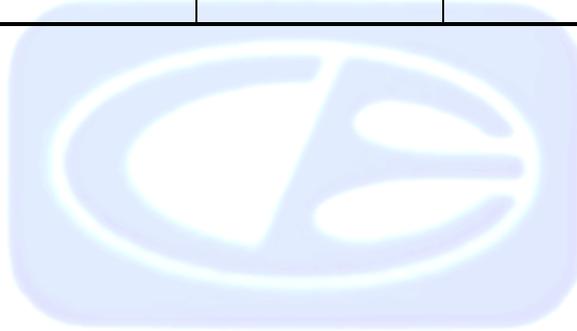
Cables 1-2 These are 1 meter unterminated, unshielded cables connected to the EUT.



5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT

5.1 EUT and Accessory List

EQUIPMENT	MANUFACTURER	MODEL NUMBER	PART NUMBER	FCC ID
TRANSMITTER (EUT)	HEALTH SENSE INTERNATIONAL, INC.	6000-4	30700	OJC6000-W916RT02



5.2 EMI Test Equipment

EQUIPMENT TYPE	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	CAL. DATE	CAL. DUE DATE
Spectrum Analyzer	Hewlett Packard	8566B	3701A22262	June 24, 2000	June 24, 2001
Preamplifier	Com Power	PA-102	1017	Jan. 11, 2000	Jan. 11, 2001
Quasi-Peak Adapter	Hewlett Packard	85650A	2811A01363	June 24, 2000	June 24, 2001
Biconical Antenna	Com Power	AB-100	1548	Oct. 16, 2000	Oct. 16, 2001
Log Periodic Antenna	Com Power	AL-100	16101	Oct. 16, 2000	Oct. 16, 2001
Turntable	Com Power	TT-100	N/A	N/A	N/A
Computer	Hewlett Packard	HP98561A	2522A05178	N/A	N/A
Printer	Hewlett Packard	2225A	2925S33268	N/A	N/A
Plotter	Hewlett Packard	7440A	8726K38417	N/A	N/A
Microwave Preamplifier	Com-Power	PA-122	25195	Jan. 13, 2000	Jan. 13, 2001
Horn Antenna	Antenna Research	DRG-118/A	1053	Dec. 8, 1995	N/A
Loop Antenna	Com-Power	AL-130	25309	May 25, 2000	May 25, 2001



6. TEST SITE DESCRIPTION

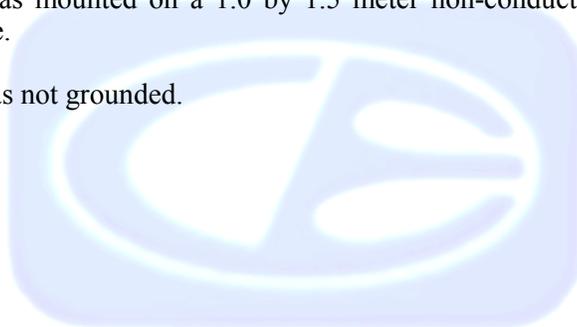
6.1 Test Facility Description

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 was 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 records the highest measured reading over all the sweeps.

For the peak readings below 1000 MHz that were within 3 dB of the spec limit or higher, the quasi-peak adapter was used.

For the peak readings above 1000 MHz that were within 3dB of the spec limit or higher, the readings were averaged manually by narrowing the video filter down to 10 Hz and slowing the sweep time to keep the amplitude reading calibrated.

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 9.3 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: 1992. 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.



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

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



7.2 Band Edge Plots of the Low and High Channels

Spectral plots of both the low and high channels were taken of the EUT to show that the emissions at the band edges (902 and 928 MHz) were attenuated by at least 50 dB below the level of the fundamental or to the general radiated emissions limits in FCC Title 47, Subpart C, section 15.209, whichever is the lesser attenuation. A preamplifier was used to boost the signal level at the band edges for easier comparison to the spec limit. The spectral plots and data sheets are located in Appendix D.



8. CONCLUSIONS

The Transmitter Model: 6000-4 meets all of the specification limits defined in CFR Title 47, Part 15, Subpart C, sections 15.205, 15.209, and 15.249.



APPENDIX A

MODIFICATIONS TO THE EUT



MODIFICATIONS TO THE EUT

The modifications listed below were made to the EUT to pass FCC 15.249 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 B

***ADDITIONAL MODELS COVERED
UNDER THIS REPORT***



ADDITIONAL MODELS COVERED UNDER THIS REPORT

USED FOR THE PRIMARY TEST

Transmitter
Model: 6000-4
S/N: N/A

There were no additional models covered under this report.



APPENDIX C

DIAGRAMS, CHARTS AND PHOTOS



FIGURE 1: CONDUCTED EMISSIONS TEST SETUP

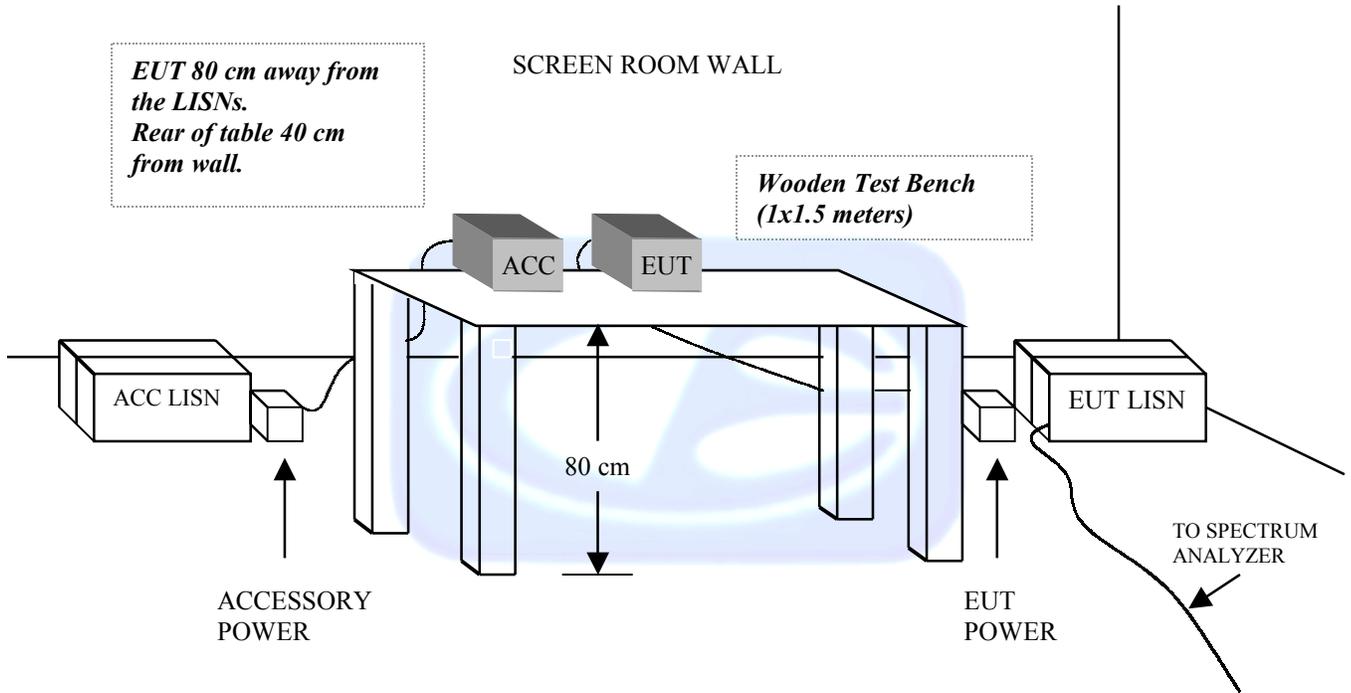
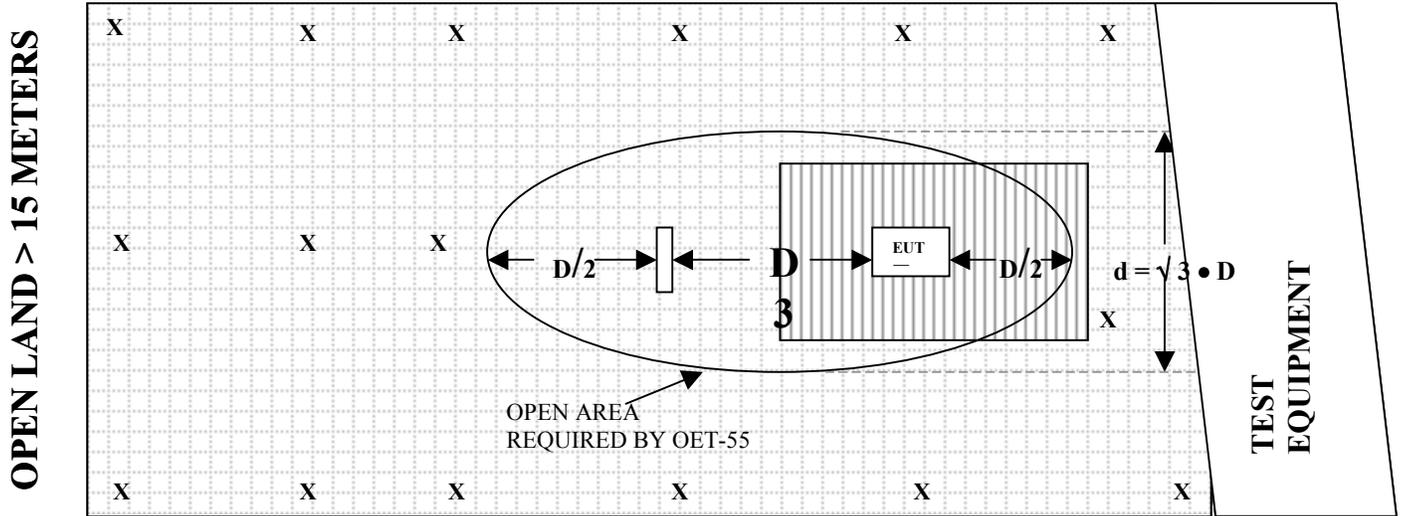


FIGURE 2: PLOT MAP AND LAYOUT OF RADIATED SITE

OPEN LAND > 15 METERS



OPEN LAND > 15 METERS

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





FRONT VIEW

HEALTH SENSE INTERNATIONAL, INC.
TRANSMITTER
MODEL: 6000-4
FCC SUBPART C - RADIATED EMISSIONS – 11-09-00

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION
FOR MAXIMUM EMISSIONS**





REAR VIEW

HEALTH SENSE INTERNATIONAL, INC.
TRANSMITTER
MODEL: 6000-4
FCC SUBPART C - RADIATED EMISSIONS – 11-09-00

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION
FOR MAXIMUM EMISSIONS**



COM-POWER AB-100
BICONICAL ANTENNA
S/N: 01548

CALIBRATION DATE: OCTOBER 16, 2000

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	14.01	120	10.33
35	13.63	125	11.61
40	13.26	140	12.70
45	11.62	150	12.95
50	11.03	160	13.58
60	8.52	175	14.82
70	8.94	180	14.84
80	8.17	200	14.80
90	8.08	250	16.42
100	8.64	300	20.26



COM-POWER AL-100
LOG PERIODIC ANTENNA

S/N: 16101

CALIBRATION DATE: OCTOBER 16, 2000

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
300	12.96	700	19.24
400	16.92	800	21.37
500	16.73	900	22.13
600	16.32	1000	22.19



COM-POWER PA-102

PREAMPLIFIER

S/N: 1017

CALIBRATION DATE: JANUARY 11, 2000

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	38.3	300	38.6
40	38.6	350	38.6
50	38.7	400	38.6
60	38.8	450	38.1
70	38.9	500	37.9
80	38.8	550	39.2
90	38.6	600	38.3
100	38.6	650	38.4
125	38.8	700	38.3
150	38.8	750	38.2
175	38.7	800	37.7
200	38.8	850	37.5
225	38.6	900	37.5
250	38.6	950	37.7
275	38.5	1000	37.3



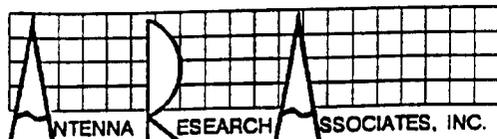
COM-POWER PA-122

MICROWAVE PREAMPLIFIER

S/N: 25195

CALIBRATION DATE: JANUARY 13, 2000

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	34.4	9.0	30.7
1.1	34.1	9.5	31.5
1.2	34.2	10.0	31.0
1.3	34.1	10.5	31.4
1.4	33.9	11.0	30.7
1.5	33.8	11.5	29.5
1.6	33.0	12.0	27.8
1.7	33.3	12.5	31.4
1.8	33.3	13.0	31.0
1.9	31.9	13.5	31.0
2.0	32.7	14.0	31.5
2.5	31.8	14.5	30.2
3.0	31.7	15.0	29.2
3.5	31.9	15.5	30.1
4.0	31.0	16.0	29.0
4.5	31.4	16.5	27.8
5.0	31.1	17.0	30.8
5.5	31.0	17.5	31.5
6.0	32.0	18.0	30.8
6.5	31.6		
7.0	32.3		
7.5	32.9		
8.0	32.1		
8.5	31.6		



11317 Frederick Avenue, Beltsville, MD 20705

E-FIELD ANTENNA FACTOR CALIBRATION

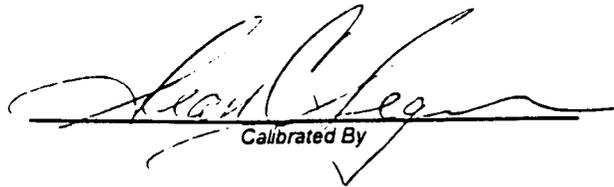
$$E(\text{dB V/m}) = V_o(\text{dB V}) + AFE(\text{dB/m})$$

Model number : DRG-118/A

Frequency GHz	AFE dB/m	Gain dBi
1	22.3	8.0
2	26.7	9.5
3	29.7	10.1
4	29.5	12.8
5	32.3	12.0
6	32.4	13.4
7	36.1	11.0
8	37.4	10.9
9	36.8	12.5
10	39.5	10.7
11	39.6	11.5
12	39.8	12.0
13	39.7	12.8
14	41.8	11.3
15	41.9	11.9
16	38.1	16.3
17	41.0	13.9
18	46.5	8.9

Serial number : 1053
Job number : 96-092
Remarks : 3 meter calibration
Standards : LPD-118/A, TE-1000

Temperature : 72° F
Humidity : 56 %
Traceability : A01887
Date : December 08, 1995



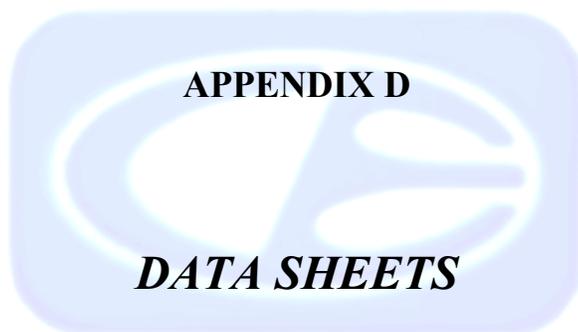
Calibrated By

Com-Power Corporation

(949) 587-9800

Antenna Calibration

Antenna Type:	Loop Antenna	
Model:	AL-130	
Serial Number:	25309	
Calibration Date:	05/25/00	
Frequency MHz	Magnetic (dB/m)	Electric dB/m
0.009	-41.0	10.5
0.01	-41.0	10.5
0.02	-41.9	9.6
0.05	-41.9	9.6
0.075	-41.8	9.7
0.1	-42.2	9.3
0.15	-42.2	9.3
0.25	-40.7	10.8
0.5	-42.1	9.4
0.75	-40.9	10.6
1	-41.3	10.2
2	-40.8	10.7
3	-41.1	10.4
4	-41.2	10.3
5	-40.7	10.8
10	-40.6	10.9
15	-42.0	9.5
20	-42.0	9.5
25	-42.9	8.6
30	-42.3	9.2
Trans. Antenna Height	2 meter	
Receiving Antenna Height	2 meter	



RADIATED EMISSIONS
DATA SHEETS



RADIATED EMISSIONS (FCC SECTION 15.205 AND 15.249)

COMPANY	HEALTH SENSE INTERNATIONAL, INC.	DATE	11/8/00
EUT	TRANSMITTER	DUTY CYCLE	N/A
MODEL	6000-4	PEAK TO AVG	N/A
P/N	30700	TEST DIST.	3 METERS
TEST ENGINEER	KYLE FUJIMOTO	LAB	D

Frequency MHz	Peak Reading (dBuV)	Average (A) or Quasi- Peak (QP)	Antenna Polar. (V or H)	Antenna Height (meters)	EUT Azimuth (degrees)	EUT Axis (X,Y,Z)	EUT Tx Channel	Antenna Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	*Corrected Reading (dBuV/m)	Delta ** (dB)	Spec Limit (dBuV/m)	Comments	
903.3000	65.1	65.0	QP	H	1.0	90	X	LOW	22.1	4.6	0.0	91.7	-2.4	94.0	
903.3000	65.9	65.8	QP	H	1.0	90	Y	LOW	22.1	4.6	0.0	92.5	-1.6	94.0	
903.3000	63.6	63.5	QP	H	1.0	90	Z	LOW	22.1	4.6	0.0	90.2	-3.9	94.0	
903.3000	52.8		QP	V	1.0	90	X	LOW	22.1	4.6	0.0	79.5	-14.6	94.0	
903.3000	64.1		QP	V	1.0	90	Y	LOW	22.1	4.6	0.0	90.8	-3.3	94.0	
903.3000	60.1		QP	V	1.0	90	Z	LOW	22.1	4.6	0.0	86.8	-7.3	94.0	
912.3000	63.0	62.9	QP	H	1.0	90	X	MED.	22.1	4.6	0.0	89.6	-4.5	94.0	
912.3000	55.3	55.2	QP	H	1.5	90	Y	MED.	22.1	4.6	0.0	81.9	-12.2	94.0	
912.3000	60.2		QP	H	1.0	90	Z	MED.	22.1	4.6	0.0	86.9	-7.1	94.0	
912.3000	53.5	53.4	QP	V	1.5	90	X	MED.	22.1	4.6	0.0	80.1	-14.0	94.0	
912.3000	60.5	60.4	QP	V	1.0	90	Y	MED.	22.1	4.6	0.0	87.1	-7.0	94.0	
912.3000	61.1	61.0	QP	V	1.5	90	Z	MED.	22.1	4.6	0.0	87.7	-6.4	94.0	
921.3000	65.0	64.9	QP	H	1.0	90	X	HIGH	22.1	4.6	0.0	91.6	-2.4	94.0	
921.3000	60.1		QP	H	1.0	180	Y	HIGH	22.1	4.6	0.0	86.8	-7.2	94.0	
921.3000	64.3	64.2	QP	H	1.0	90	Z	HIGH	22.1	4.6	0.0	90.9	-3.1	94.0	
921.3000	53.3		QP	V	1.0	90	X	HIGH	22.1	4.6	0.0	80.0	-14.0	94.0	
921.3000	61.1		QP	V	1.0	90	Y	HIGH	22.1	4.6	0.0	87.8	-6.2	94.0	
921.3000	62.2		QP	V	1.0	90	Z	HIGH	22.1	4.6	0.0	88.9	-5.1	94.0	

* CORRECTED READING = METER READING + ANTENNA FACTOR + CABLE LOSS - AMPLIFIER GAIN

** DELTA = SPEC LIMIT - CORRECTED READING

RADIATED EMISSIONS (FCC SECTION 15.205 AND 15.249)

COMPANY	HEALTH SENSE INTERNATIONAL, INC.	DATE	11/8/00
EUT	TRANSMITTER	DUTY CYCLE	N/A
MODEL	6000-4	PEAK TO AVG	N/A
P/N	30700	TEST DIST.	3 METERS
TEST ENGINEER	KYLE FUJIMOTO	LAB	D

Frequency MHz	Peak Reading (dBuV)	Average (A) or Quasi- Peak (QP)	Antenna Polar. (V or H)	Antenna Height (meters)	EUT Azimuth (degrees)	EUT Axis (X,Y,Z)	EUT Tx Channel	Antenna Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	*Corrected Reading (dBuV/m)	Delta ** (dB)	Spec Limit (dBuV/m)	Comments	
1806.6000	51.2	A	H	1.0	90	X	LOW	24.5	3.5	33.3	45.9	-8.1	54.0		
1806.6000	49.8	A	H	1.5	90	Y	LOW	24.5	3.5	33.3	44.5	-9.5	54.0		
1806.6000	48.5	A	H	1.5	90	Z	LOW	24.5	3.5	33.3	43.2	-10.8	54.0		
1806.6000	55.7	A	V	1.5	90	X	LOW	24.5	3.5	33.3	50.4	-3.6	54.0		
1806.6000	54.2	A	V	1.0	90	Y	LOW	24.5	3.5	33.3	48.9	-5.1	54.0		
1806.6000	50.0	A	V	1.0	90	Z	LOW	24.5	3.5	33.3	44.7	-9.3	54.0		
1824.6000	51.9	A	H	1.5	0	X	MED.	24.5	3.5	33.3	46.6	-7.4	54.0		
1824.6000	52.9	A	H	3.0	270	Y	MED.	24.5	3.5	33.3	47.6	-6.4	54.0		
1824.6000	50.5	A	H	1.0	90	Z	MED.	24.5	3.5	33.3	45.2	-8.8	54.0		
1824.6000	57.4	57.3	A	V	1.0	90	X	MED.	24.5	3.5	33.3	52.0	-2.0	54.0	
1824.6000	49.8	A	V	1.0	90	Y	MED.	24.5	3.5	33.3	44.5	-9.5	54.0		
1824.6000	52.4	A	V	1.0	180	Z	MED.	24.5	3.5	33.3	47.1	-6.9	54.0		
1842.6000	50.3	A	H	1.0	270	X	HIGH	24.5	3.5	33.3	45.0	-9.0	54.0		
1842.6000	51.5	A	H	1.0	90	Y	HIGH	24.5	3.5	33.3	46.2	-7.8	54.0		
1842.6000	52.8	A	H	1.0	90	Z	HIGH	24.5	3.5	33.3	47.5	-6.5	54.0		
1842.6000	52.7	A	V	1.0	90	X	HIGH	24.5	3.5	33.3	47.4	-6.6	54.0		
1842.6000	49.9	A	V	1.0	90	Y	HIGH	24.5	3.5	33.3	44.6	-9.4	54.0		
1842.6000	49.4	A	V	1.0	90	Z	HIGH	24.5	3.5	33.3	44.1	-9.9	54.0		

* CORRECTED READING = METER READING + ANTENNA FACTOR + CABLE LOSS - AMPLIFIER GAIN
 ** DELTA = SPEC LIMIT - CORRECTED READING

RADIATED EMISSIONS (FCC SECTION 15.205 AND 15.249)

COMPANY	HEALTH SENSE INTERNATIONAL, INC.	DATE	11/8/00
EUT	TRANSMITTER	DUTY CYCLE	N/A
MODEL	6000-4	PEAK TO AVG	N/A
P/N	30700	TEST DIST.	3 METERS
TEST ENGINEER	KYLE FUJIMOTO	LAB	D

Frequency MHz	Peak Reading (dBuV)	Average (A) or Quasi- Peak (QP)	Antenna Polar. (V or H)	Antenna Height (meters)	EUT Azimuth (degrees)	EUT Axis (X,Y,Z)	EUT Tx Channel	Antenna Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	*Corrected Reading (dBuV/m)	Delta ** (dB)	Spec Limit (dBuV/m)	Comments
2709.9000	49.6	A	H	1.0	90	X	LOW	28.2	4.5	31.8	50.5	-3.5	54.0	
2709.9000	47.5	A	H	1.0	90	Y	LOW	28.2	4.5	31.8	48.4	-5.6	54.0	
2709.9000	46.5	A	H	1.0	90	Z	LOW	28.2	4.5	31.8	47.4	-6.6	54.0	
2709.9000	48.6	A	V	1.0	90	X	LOW	28.2	4.5	31.8	49.5	-4.5	54.0	
2709.9000	50.8	49.5	A	V	1.0	90	Y	LOW	28.2	4.5	50.4	-3.6	54.0	
2709.9000	46.9	A	V	1.5	270	Z	LOW	28.2	4.5	31.8	47.8	-6.2	54.0	
2736.9000	49.2	A	H	3.0	90	X	MED.	28.2	4.5	31.8	50.1	-3.9	54.0	
2736.9000	50.7	49.0	A	H	3.0	90	Y	MED.	28.2	4.5	49.9	-4.1	54.0	
2736.9000	46.5	A	H	3.0	90	Z	MED.	28.2	4.5	31.8	47.4	-6.6	54.0	
2736.9000	49.0	A	V	1.5	90	X	MED.	28.2	4.5	31.8	49.9	-4.1	54.0	
2736.9000	45.7	A	V	1.0	90	Y	MED.	28.2	4.5	31.8	46.6	-7.4	54.0	
2736.9000	51.4	50.4	A	V	1.0	270	Z	MED.	28.2	4.5	51.3	-2.7	54.0	
2763.9000	48.5	46.9	A	H	1.0	90	X	HIGH	29.7	4.6	49.5	-4.5	54.0	
2763.9000	47.2	A	H	1.0	270	Y	HIGH	29.7	4.6	31.7	49.8	-4.2	54.0	
2763.9000	46.4	A	H	1.0	90	Z	HIGH	29.7	4.6	31.7	49.0	-5.0	54.0	
2763.9000	49.3	47.8	A	V	1.0	90	X	HIGH	29.7	4.6	50.4	-3.6	54.0	
2763.9000	45.9	A	V	1.0	90	Y	HIGH	29.7	4.6	31.7	48.5	-5.5	54.0	
2763.9000	48.5	42.3	A	V	1.0	90	Z	HIGH	29.7	4.6	44.9	-9.1	54.0	

* CORRECTED READING = METER READING + ANTENNA FACTOR + CABLE LOSS - AMPLIFIER GAIN
 ** DELTA = SPEC LIMIT - CORRECTED READING

RADIATED EMISSIONS (FCC SECTION 15.205 AND 15.249)

COMPANY	HEALTH SENSE INTERNATIONAL, INC.	DATE	11/8/00
EUT	TRANSMITTER	DUTY CYCLE	N/A
MODEL	6000-4	PEAK TO AVG	N/A
P/N	30700	TEST DIST.	3 METERS
TEST ENGINEER	KYLE FUJIMOTO	LAB	D

Frequency MHz	Peak Reading (dBuV)	Average (A) or Quasi- Peak (QP)	Antenna Polar. (V or H)	Antenna Height (meters)	EUT Azimuth (degrees)	EUT Axis (X,Y,Z)	EUT Tx Channel	Antenna Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	*Corrected Reading (dBuV/m)	Delta ** (dB)	Spec Limit (dBuV/m)	Comments	
3613.2000	44.0	A	H	1.0	90	X	LOW	29.6	5.0	31.9	46.7	-7.3	54.0		
3613.2000	47.8	A	H	2.0	90	Y	LOW	29.6	5.0	31.9	50.5	-3.5	54.0		
3613.2000	46.1	A	H	2.0	90	Z	LOW	29.6	5.0	31.9	48.8	-5.2	54.0		
3613.2000	45.3	A	V	1.0	90	X	LOW	29.6	5.0	31.9	48.0	-6.0	54.0		
3613.2000	46.0	A	V	2.5	90	Y	LOW	29.6	5.0	31.9	48.7	-5.3	54.0		
3613.2000	45.7	A	V	1.5	0	Z	LOW	29.6	5.0	31.9	48.4	-5.6	54.0		
3649.2000	44.5	A	H	1.0	90	X	MED.	29.6	5.0	31.9	47.2	-6.8	54.0		
3649.2000	46.3	A	H	3.0	90	Y	MED.	29.6	5.0	31.9	49.0	-5.0	54.0		
3649.2000	44.9	A	H	3.0	90	Z	MED.	29.6	5.0	31.9	47.6	-6.4	54.0		
3649.2000	43.8	A	V	1.0	90	X	MED.	29.6	5.0	31.9	46.5	-7.5	54.0		
3649.2000	47.2	A	V	1.0	90	Y	MED.	29.6	5.0	31.9	49.9	-4.1	54.0		
3649.2000	47.6	A	V	1.0	0	Z	MED.	29.6	5.0	31.9	50.3	-3.7	54.0		
3685.2000	46.3	A	H	1.0	90	X	HIGH	29.6	5.0	31.9	49.0	-5.0	54.0		
3685.2000	43.0	A	H	1.0	90	Y	HIGH	29.6	5.0	31.9	45.7	-8.3	54.0		
3685.2000	43.5	A	H	1.0	90	Z	HIGH	29.6	5.0	31.9	46.2	-7.8	54.0		
3685.2000	46.0	A	V	1.0	90	X	HIGH	29.6	5.0	31.9	48.7	-5.3	54.0		
3685.2000	48.6	46.4	A	V	1.5	90	Y	HIGH	29.6	5.0	31.9	49.1	-4.9	54.0	
3685.2000	46.8	A	V	1.0	90	Z	HIGH	29.6	5.0	31.9	49.5	-4.5	54.0		

* CORRECTED READING = METER READING + ANTENNA FACTOR + CABLE LOSS - AMPLIFIER GAIN
 ** DELTA = SPEC LIMIT - CORRECTED READING

RADIATED EMISSIONS (FCC SECTION 15.205 AND 15.249)

COMPANY	HEALTH SENSE INTERNATIONAL, INC.	DATE	11/8/00
EUT	TRANSMITTER	DUTY CYCLE	N/A
MODEL	6000-4	PEAK TO AVG	N/A
P/N	30700	TEST DIST.	3 METERS
TEST ENGINEER	KYLE FUJIMOTO	LAB	D

Frequency MHz	Peak Reading (dBuV)	Average (A) or Quasi- Peak (QP)	Antenna Polar. (V or H)	Antenna Height (meters)	EUT Azimuth (degrees)	EUT Axis (X,Y,Z)	EUT Tx Channel	Antenna Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	*Corrected Reading (dBuV/m)	Delta ** (dB)	Spec Limit (dBuV/m)	Comments	
4516.5000	43.3	A	H	1.0	90	X	LOW	30.9	5.6	31.4	48.4	-5.6	54.0		
4516.5000	47.6	46.7	A	H	2.0	90	Y	LOW	30.9	5.6	31.4	51.8	-2.2	54.0	
4516.5000	43.9	A	H	1.0	90	Z	LOW	30.9	5.6	31.4	49.0	-5.0	54.0		
4516.5000	46.4	43.7	A	V	1.0	90	X	LOW	30.9	5.6	31.4	48.8	-5.2	54.0	
4516.5000	42.5	A	V	1.0	90	Y	LOW	30.9	5.6	31.4	47.6	-6.4	54.0		
4516.5000	44.8	A	V	1.5	90	Z	LOW	30.9	5.6	31.4	49.9	-4.1	54.0		
4561.5000	39.8	A	H	3.0	90	X	MED.	30.9	5.6	31.4	44.9	-9.1	54.0		
4561.5000	42.4	A	H	3.0	90	Y	MED.	30.9	5.6	31.4	47.5	-6.5	54.0		
4561.5000	43.5	A	H	3.0	90	Z	MED.	30.9	5.6	31.4	48.6	-5.4	54.0		
4561.5000	47.7	45.5	A	V	1.5	0	X	MED.	30.9	5.6	31.4	50.6	-3.4	54.0	
4561.5000	42.4	A	V	3.0	90	Y	MED.	30.9	5.6	31.4	47.5	-6.5	54.0		
4561.5000	42.0	A	V	1.0	90	Z	MED.	30.9	5.6	31.4	47.1	-6.9	54.0		
4606.5000	39.1	A	H	1.0	90	X	HIGH	30.9	5.6	31.4	44.2	-9.8	54.0		
4606.5000	43.1	A	H	1.0	90	Y	HIGH	30.9	5.6	31.4	48.2	-5.8	54.0		
4606.5000	42.6	A	H	1.0	90	Z	HIGH	30.9	5.6	31.4	47.7	-6.3	54.0		
4606.5000	42.3	A	V	1.0	90	X	HIGH	30.9	5.6	31.4	47.4	-6.6	54.0		
4606.5000	41.9	A	V	1.0	90	Y	HIGH	30.9	5.6	31.4	47.0	-7.0	54.0		
4606.5000	40.3	A	V	1.0	90	Z	HIGH	30.9	5.6	31.4	45.4	-8.6	54.0		

* CORRECTED READING = METER READING + ANTENNA FACTOR + CABLE LOSS - AMPLIFIER GAIN
 ** DELTA = SPEC LIMIT - CORRECTED READING

RADIATED EMISSIONS (FCC SECTION 15.205 AND 15.249)

COMPANY	HEALTH SENSE INTERNATIONAL, INC.	DATE	11/8/00
EUT	TRANSMITTER	DUTY CYCLE	N/A
MODEL	6000-4	PEAK TO AVG	N/A
P/N	30700	TEST DIST.	3 METERS
TEST ENGINEER	KYLE FUJIMOTO	LAB	D

Frequency MHz	Peak Reading (dBuV)	Average (A) or Quasi- Peak (QP)	Antenna Polar. (V or H)	Antenna Height (meters)	EUT Azimuth (degrees)	EUT Axis (X,Y,Z)	EUT Tx Channel	Antenna Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	*Corrected Reading (dBuV/m)	Delta ** (dB)	Spec Limit (dBuV/m)	Comments
5419.8000	38.7	A	H	1.0	90	X	LOW	32.4	6.0	31.0	46.1	-7.9	54.0	
5419.8000	40.5	A	H	1.0	90	Y	LOW	32.4	6.0	31.0	47.9	-6.1	54.0	
5419.8000	41.9	A	H	1.0	90	Z	LOW	32.4	6.0	31.0	49.3	-4.7	54.0	
5419.8000	38.6	A	V	1.0	90	X	LOW	32.4	6.0	31.0	46.0	-8.0	54.0	
5419.8000	42.1	A	V	1.0	90	Y	LOW	32.4	6.0	31.0	49.5	-4.5	54.0	
5419.8000	40.2	A	V	1.0	90	Z	LOW	32.4	6.0	31.0	47.6	-6.4	54.0	
5473.8000	40.0	A	H	1.0	90	X	MED.	32.4	6.0	31.0	47.4	-6.6	54.0	
5473.8000	42.1	A	H	3.0	90	Y	MED.	32.4	6.0	31.0	49.5	-4.5	54.0	
5473.8000	40.0	A	H	3.0	90	Z	MED.	32.4	6.0	31.0	47.4	-6.6	54.0	
5473.8000	40.2	A	V	1.0	90	X	MED.	32.4	6.0	31.0	47.6	-6.4	54.0	
5473.8000	40.3	A	V	1.0	90	Y	MED.	32.4	6.0	31.0	47.7	-6.3	54.0	
5473.8000	39.4	A	V	1.0	90	Z	MED.	32.4	6.0	31.0	46.8	-7.2	54.0	
5527.8000	38.6	A	H	1.0	0	X	HIGH	32.4	6.0	31.0	46.0	-8.0	54.0	
5527.8000	40.2	A	H	1.0	270	Y	HIGH	32.4	6.0	31.0	47.6	-6.4	54.0	
5527.8000	38.2	A	H	1.0	180	Z	HIGH	32.4	6.0	31.0	45.6	-8.4	54.0	
5527.8000	37.0	A	V	1.0	90	X	HIGH	32.4	6.0	31.0	44.4	-9.6	54.0	
5527.8000	39.3	A	V	3.0	90	Y	HIGH	32.4	6.0	31.0	46.7	-7.3	54.0	
5527.8000	37.8	A	V	1.0	90	Z	HIGH	32.4	6.0	31.0	45.2	-8.8	54.0	

* CORRECTED READING = METER READING + ANTENNA FACTOR + CABLE LOSS - AMPLIFIER GAIN
 ** DELTA = SPEC LIMIT - CORRECTED READING

No Harmoincs nor Emissions found beyond
 the 6th harmonic for the EUT

Test location: Compatible Electronics
Customer : Health Sense International, Inc. Date : 11/ 8/2000
Manufacturer : Health Sense International, Inc. Time : 19.13
EUT name : Transmitter Model: 6000-4
Specification: Fcc_B Test distance: 3.0 mtrs Lab: D
Distance correction factor($20 \cdot \log(\text{test}/\text{spec})$) : 0.00
Test Mode : Spurious Emissions of the Transmitter
10 kHz to 9300 MHz Vertical and Horizontal Polar.
Temperature 60 Degrees F.
Relative Humidity 65%
Tested By: Kyle Fujimoto

No Emissions Found in Either Polarization from 10 kHz to 9300 MHz
For the EUT

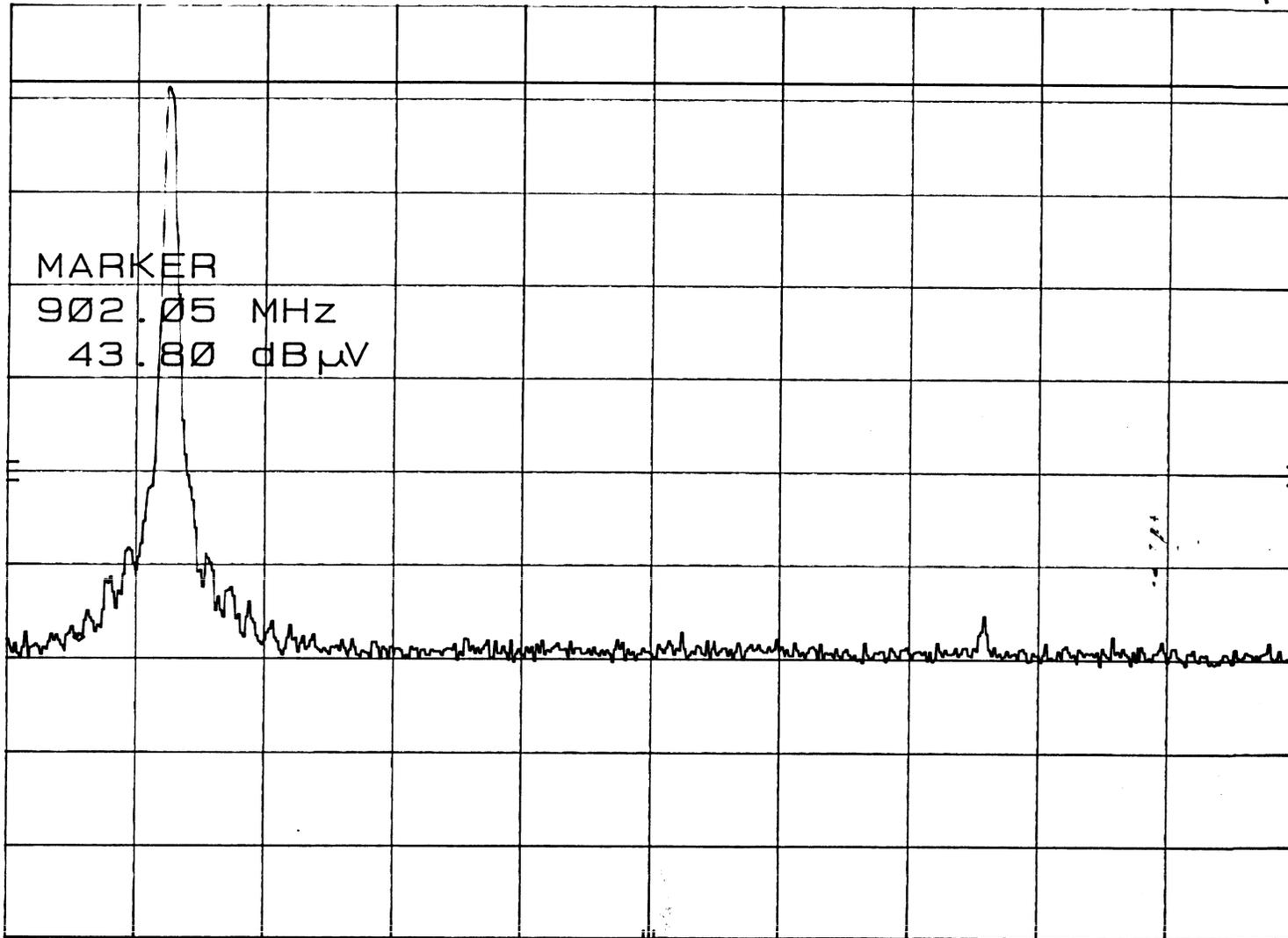


BAND EDGE OF LOW CHANNEL
REF 111.6 dB μ V ATTEN 20 dB

MKR 902.05 MHz
43.80 dB μ V

hp
10 dB/

DL
103.4
dB μ V



START 901.0 MHz
RES BW 1 MHz

VBW 1 MHz

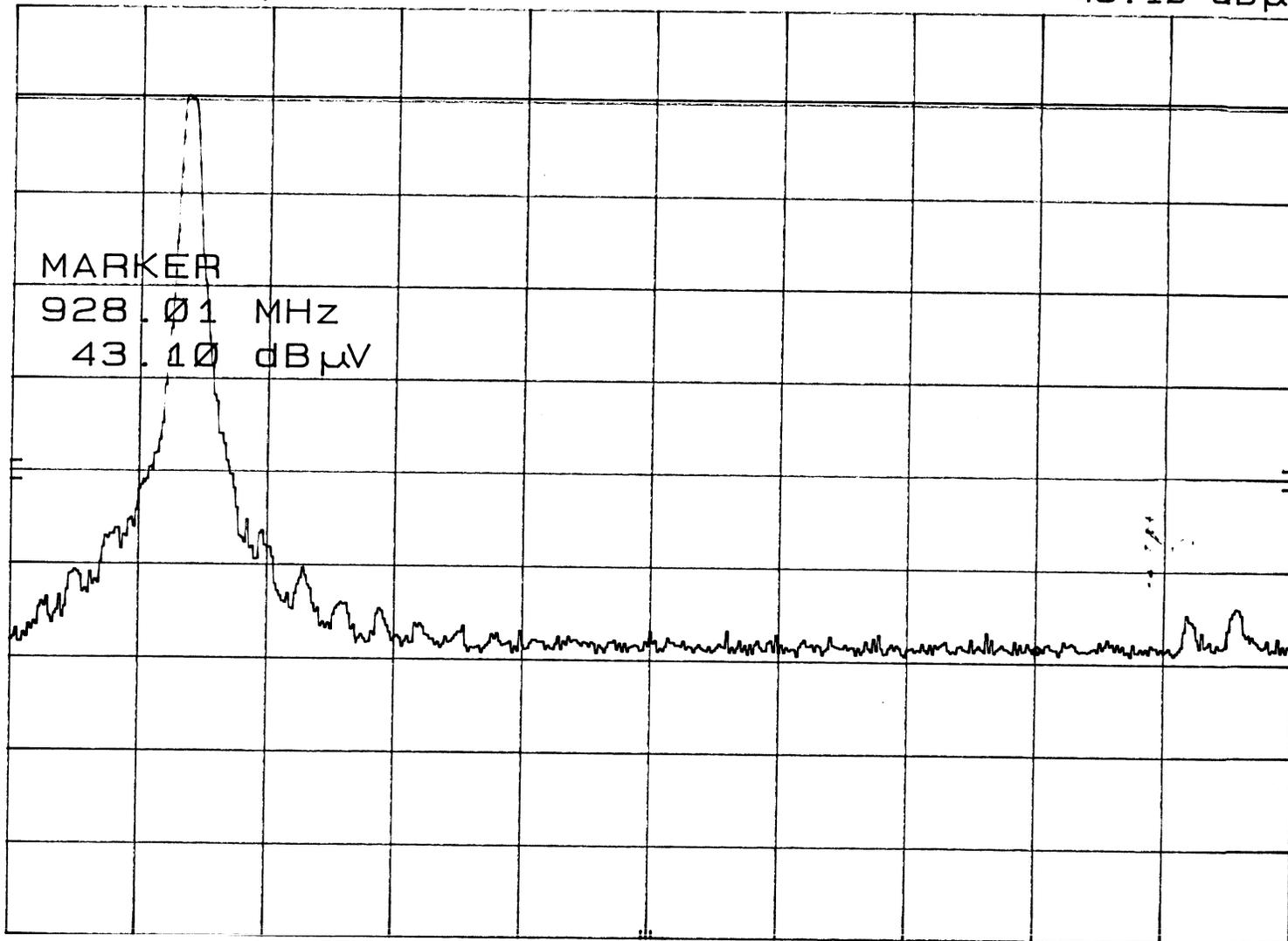
STOP 920.0 MHz
SWP 20.0 msec

BAND EDGE OF HIGH CHANNEL
REF 111.6 dB μ V ATTEN 20 dB

MKR 928.01 MHz
43.10 dB μ V

hp
10 dB/

DL
102.0
dB μ V



START 920.0 MHz
RES BW 1 MHz

VBW 1 MHz

STOP 930.0 MHz
SWP 20.0 msec