FCC PART 15 CLASS B
EMI MEASUREMENT AND TEST REPORT

FOR

SILICOM VALLEY MARKETING ADVANTAGE CORP.

777 N. First Street, Suite 268
San Jose CA 95112

FCC ID: N2JSVMAT-II

February 8, 1999

This Report Concerns: ☒ Original Report	**Equipment Type:** Transmitter, ITE
Test Engineer:	John Y. Chan
Test Date:	January 26, 1999
Certified By:	John Y. Chan - Director, Compliance Engineering
Prepared By:	Bay Area Compliance Laboratory Corporation 230 Commercial Street, Suite 2 Sunnyvale, CA 94086 (408) 732-9162

TABLE OF CONTENTS

1 - GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

The *SILICOM VALLEY MARKETING ADVANTAGE CORP.*, model *SVMAT-II* or the "EUT" as referred to in this report is a Transmitter which measures 2.5" L x 1.75" W x 0.75" H.

1.2 Objective

This Class B report is prepared on behalf of *SILICOM VALLEY MARKETING ADVANTAGE CORP.* in accordance with Part 2, Subpart J, and Part 15, Subparts A and B of the Federal Communication Commissions rules and to ICES-003 of the Canadian Interference-Causing Equipment Regulations.

The objective of the manufacturer is to demonstrate compliance with FCC Class B limits for conducted and radiated margin and to ICES-003 requirements for Information Technology Equipment.

1.3 Related Submittal(s)/Grant(s)

No Related Submittals

1.4 Test Methodology

All measurements contained in this report were conducted with ANSI C63.4 –1992, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz. All radiated and conducted emissions measurement was performed at Bay Area Compliance Laboratory, Corp. The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

1.5 Test Facility

The Open Area Test site used by Bay Area Compliance Laboratory Corporation to collect radiated and conducted emission measurement data is located in the back parking lot of the building at 230 Commercial Street, Suite 2, Sunnyvale, California, USA.

Test sites at Bay Area Compliance Laboratory Corporation has been fully described in reports submitted to the Federal Communication Commission (FCC) and Voluntary Control Council for Interference (VCCI). The details of these reports has been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on February 11 and December 10, 1997 and Article 8 of the VCCI regulations on December 25, 1997. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-1992.

The Federal Communications Commission and Voluntary Control Council for Interference has the reports on file and is listed under FCC file 31040/SIT 1300F2 and VCCI Registration No.: C-674 and R-657. The test sites has been approved by the FCC and VCCI for public use and is listed in the FCC Public Access Link (PAL) database.

Additionally, Bay Area Compliance Laboratory Corporation is a National Institute of Standards and Technology (NIST) accredited laboratory, under the National Voluntary Laboratory Accredited Program (NVLAP). The scope of the accreditation covers the FCC Method - 47 CFR Part 15 - Digital Devices, IEC/CISPR 22: 1993, and AS/NZS 3548: Electromagnetic Interference - Limits and Methods of Measurement of Information Technology Equipment test methods under NVLAP Lab Code 200167.

1.6 Test Equipment List

Manufacturer	Description	Model	Serial Number	Cal. Due Data
HP	Spectrum Analyzer	8568B	2610A02165	12/6/99
HP	Spectrum Analyzer	8593B	2919A00242	12/20/99
HP	Amplifier	8349B	2644A02662	12/20/99
HP	Quasi-Peak Adapter	85650A	917059	12/6/99
HP	Amplifier	8447E	1937A01046	12/6/99
A.H. System	Horn Antenna	SAS0200/571	261	12/27/99
Com-Power	Log Periodic Antenna	AL-100	16005	11/2/99
Com-Power	Biconical Antenna	AB-100	14012	11/2/99
Solar Electronics	LISN	8012-50-R-24-BNC	968447	12/28/99
Com-Power	LISN	LI-200	12208	12/20/99
Com-Power	LISN	LI-200	12005	12/20/99
BACL	Data Entry Software	DES1	0001	12/20/99

1.7 Equipment Under Test (EUT)

Manufacturer	Description	Model	Serial Number	FCC ID
SILICOM VALLEY MARKETING ADVANTAGE CORP.	Transmitter	SVMAT-II	846725	N2JSVMAT-II

1.8 Support Equipment

NOT AVAILABLE.

1.9 EUT Configuration Details and List

NOT AVAILABLE.

1.10 External I/O Cabling

NOT AVAILABLE.

2 - SYSTEM TEST CONFIGURATION

2.1 Justification

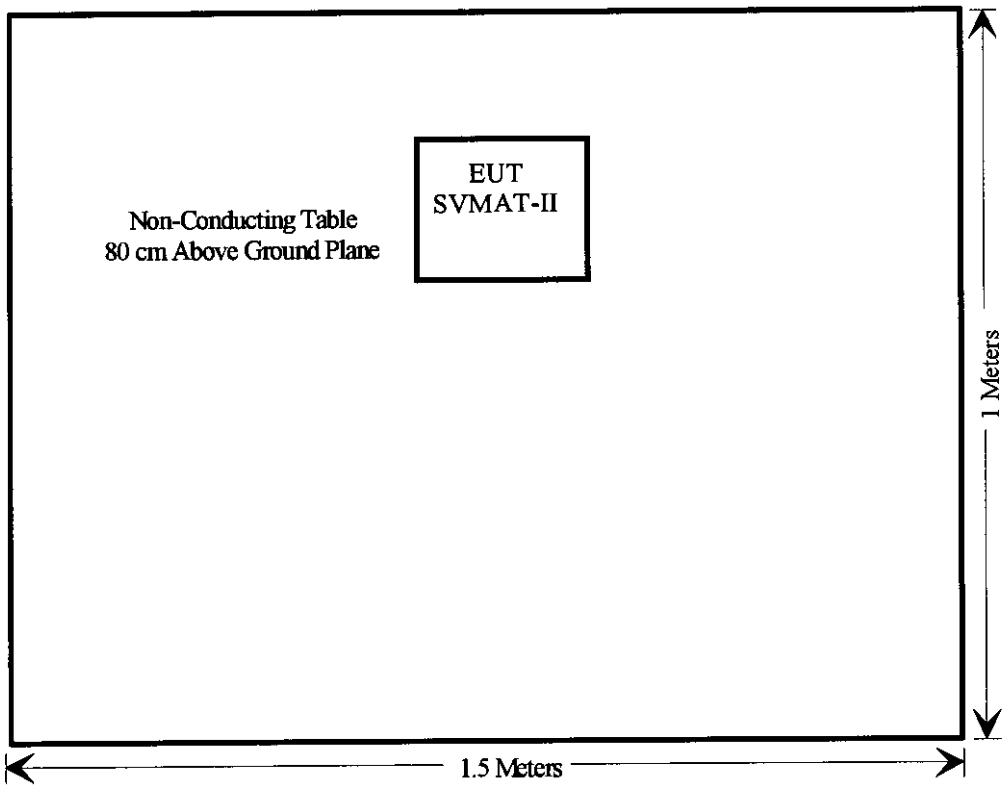
The EUT was configured for testing in a typical fashion (as normally used in a typical application).

The final qualification test was performed with the EUT operating at normal mode.

2.2 Block Diagram

Appendix A contains a copy of the EUT's block diagram as reference.

2.3 Test Setup Block Diagram



2.4 Equipment Modifications

No modifications were necessary for the EUT to comply.

3 - CONDUCTED EMISSIONS TEST DATA

Not available because of battery operation.

4 - RADIATED EMISSION DATA

4.1 EUT Setup

The radiated emission tests were performed in the open area 3-meter test site, using the setup accordance with the ANSI C63.4 - 1992. The specification used was the FCC Class B limits.

4.2 Spectrum Analyzer Setup

According to FCC Rules, the EUT was tested to 3330 MHz.

During the radiated emission test, the spectrum analyzer was set with the following configurations:

Start Frequency	30 MHz
Stop Frequency	3330 MHz
Sweep Speed	Auto
IF Bandwidth	100 KHz
Video Bandwidth	1 MHz
Quasi-Peak Adapter Bandwidth	120 kHz
Quasi-Peak Adapter Mode	Normal
Resolution Bandwidth	1MHz

4.3 Test Procedure

Maximizing procedure was performed on the six (6) highest emissions to ensure EUT is compliant with all installation combination.

All data was recorded in the peak detection mode. Quasi-peak readings performed only when an emission was found to be marginal (less than -4 dBμV), and are distinguished with a "**Qp**" in the data table.

The EUT was operating at normal to represent worst case results during final qualification test. Therefore, this configuration was used for final test data recorded in the table(s) listed under section 4.7 of this report.

4.4 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

Corr. Ampl. = Indicated Reading + Antenna Factor + Cable Factor - Amplifier Gain

The "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -7dBμV means the emission is 7dBμV below the maximum limit for Class B. The equation for margin calculation is as follows:

Margin = Corr. Ampl. – FCC Class B Limit

4.5 Summary of Test Results

According to the final data in section 4.6, the EUT complied with the FCC Class B standards and these test results are deemed satisfactory evidence of compliance with ICES-003 of the Canadian Interference-Causing Equipment Regulations, and had the worst margin of:

-2.1 dBμV at 1018.05 MHz in the **Horizontal** polarization for Normal operating mode.

4.6 Radiated Emissions Test Result Data

4.6.1 Final Test Data for Normal Operating Mode, 30 to 3400 MHz

Indicated		Table	Antenna		Correction Factor			Correcte Amplitude	FCC CLASS B	
Frequency MHz	Ampl. dBμV/m	Angle Degree	Height Meter	Polar H/V	Antenna dBμV/m	Cable dB	Amp. dB	Corr. Ampl. dBμV/m	Limit dBμV/m	Margin dB
1357.40	18.5	0	1.1	V	25.3	2.6	0.0	46.4	49.0	-2.6
1018.05	37.0	0	1.1	H	25.9	3.7	19.7	46.9	49.0	-2.1
678.70	43.2	0	1.4	V	21.7	3.4	22.0	46.3	49.0	-2.7
339.35	69.0	0	1.4	H	15.0	2.6	21.9	64.7	69.0	-4.3
1357.40	17.0	0	1.1	H	25.3	2.6	0.0	44.9	49.0	-4.1
1018.05	33.4	0	1.5	V	25.9	3.7	19.7	43.3	49.0	-5.7
339.35	62.0	270	1.3	V	15.0	2.6	21.9	57.7	69.0	-11.3
678.70	34.0	0	1.1	H	21.7	3.4	22.0	37.1	49.0	-11.9

4.6.2 Per 15.231(c), the bandwidth of the emission shall be no wider than 0.25% of the center Frequency. Please refer to the Appendix D.

Results: **Bandwidth is 300kHz which is 0.08% of the center frequency. Passed**

4.6.3 Per 15.231(e), the duration of each transmission shall not be greater than one second. Please refer to the Appendix E.

Results: **The duration is 138 msec, Passed**

4.6.4 Per 15.231(e), silent period between transmissions shall be at least 30 times the duration of the transmission but in no case less than 10 seconds. Please refer to the Appendix F.

Result: **Silent period is 13.2 seconds, passed.**

Bill Of Material, Kid Alert(Transmitter)			
No.	**Description**	**Location**	**Value**
1	Resistor	R1	270 kOhm(155)
2	Resistor	R2	47 kOhm(303)
3	Resistor	R3	300 Ohm(101)
4	Resistor	R4	180 kOhm(184)
5	Resistor	R5	47 kOhm(473)
6	Resistor	R6	100 kOhm(104)
7	Resistor	R7	300 Ohm(301)
8	Variable Cap.(semi-ceramic)	C1	27pf
9	Capacitor	C2	56pf
10	Capacitor	C3	102 pf
11	Capacitor	C4	18pf
12	Capacitor	C5	105 pf
13	Capacitor	C6	8.2pf
14	Capacitor	C7	6 pf
15	Transistor	Q1	MMBTH10(33EM)
16	Transistor	Q2	2SC1623(L6)
17	Transistor	Q3	2SC1623(L6)
18	LED, Red	D1	03xII4.5PD
19	Inductor, Mini	L2	2.2 uH
20	Slide Switch	SW1	940601
21	IC, HT-12E	U1	M1E-S
22	Batter Spring(+)	Y	940601
23	Batter Spring(-)	Y	940602
24	Plastic Encloser		
25	Printed Circuit Board		2 Layers
26	Metal Ring		
27	Label Sticker		
28	Screws		Round Top
29	Safety Pin		

Appendix B – USER MANUAL

Child Monitoring Device

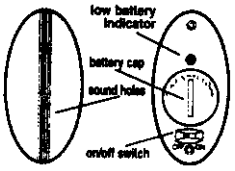
KidAlert

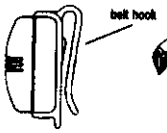
Protect your child
child wanders 20 to
a continuous alert
purses, lap-tops and

KidAlert™ Child Monitoring Device

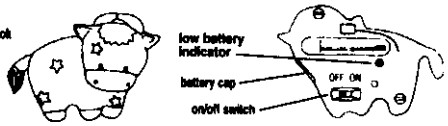
Designed to assist in keeping track of your child. KidAlert™ cannot protect your child from danger. There is no substitute for parental attentiveness and supervision.

Base Unit - Receiver





Sub-Unit - Transmitter



KidAlert™ Warranty
90 days from date of purchase on manufacturing defects and workmanship. Return unit, postage pre-paid to P.O. Box 3424, Saratoga, CA 95070
batteries not covered under warranty

OPERATION:

1) Install batteries in both Sub and Base Unit.
2) Turn the Sub-Unit switch to the "ON" position.
3) Turn Base Unit switch to the "ON" position - a functional unit will beep once.
4) Attach Sub-Unit to your child's clothing. Make sure the Base Unit is always with you!
5) When the effective distance between the Base and Sub-Unit is exceeded, the alarm will sound on the Base Unit.
6) To extend battery life, be sure to turn KidAlert off when it is not in use.

IMPORTANT INFORMATION:

1) Please handle KidAlert carefully. Avoid dropping or hitting the units.
2) Keep KidAlert out of water.
3) Change the battery as soon as possible when indicator light goes on.
4) Do not cover up sound holes. Keep the Base Unit with you at all times.

INTERFERENCE: KidAlert's operation may be affected by ambient factors including:

1) The body's magnetic field. A high magnetic field may hinder performance.
2) KidAlert's effective distance may be diminished by environmental conditions such as walls, metal objects, relative humidity and other radio signals.
3) Do not place either unit in a metal container or on any magnetic object.
4) Keep the receiver where it can be easily heard.

TROUBLESHOOTING: If the alarm fails to sound under normal operation:

1) Check for any nearby source of interference. Move away from the source by 20 to 30 feet, or keep the Sub-Unit closer to the Base Unit.
2) Check the low-battery indicator light if unit is not functioning. Change battery if necessary.
3) If none of the above works, return unit to factory as per warranty. Do not attempt to repair unit yourself.

Silicon Valley Marketing Advantage

FCC WARNING STATEMENT
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

P.O. Box 3424 • Saratoga, CA 95070 U.S.A.
For more information, visit our web site at www. kidalert.net
Manufactured in Taiwan PN:KG001

6 64173 98001 1

KidAlert Operation Manual

a) Install 3 Volts batteries in both Sub Unit and Base Unit.
b) Turn the Sub Unit to the "On" position.
c) Turn the Base Unit to the "On" position --- a functional "beep" sound will be heard once.
d) Attach the Sub Unit to your child's clothing.
e) Attach the Base Unit on your belt by a key chain ring.
f) When the effective distance between the Base Unit and Sub Unit is exceeded, the continuous warning sound of beep will be heard.
g) The beep sound will be off when you switch the Base Unit to "Off" postion.

Appendix C – AGENCY AUTHORIZATION LETTER

Silicon Valley Marketing Advantage

January 8, 1999

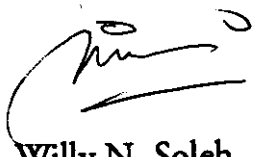
Federal Communication Commission
Authorization and Evaluation Division
7435 Oakland Mills Road
Columbia, MD 21046

Subject: **Agent Authorization**

To Whom It May Concern:

We, the undersigned, hereby authorizer Bay Area Compliance Laboratory Corporation to act on our behalf in all matters relating to application for Assignment of Applicant Code, including the signing off all documents relating to these matters. All acts carried out by Bay Area Compliance Laboratory Corporation on our behalf shall have the same as our own.

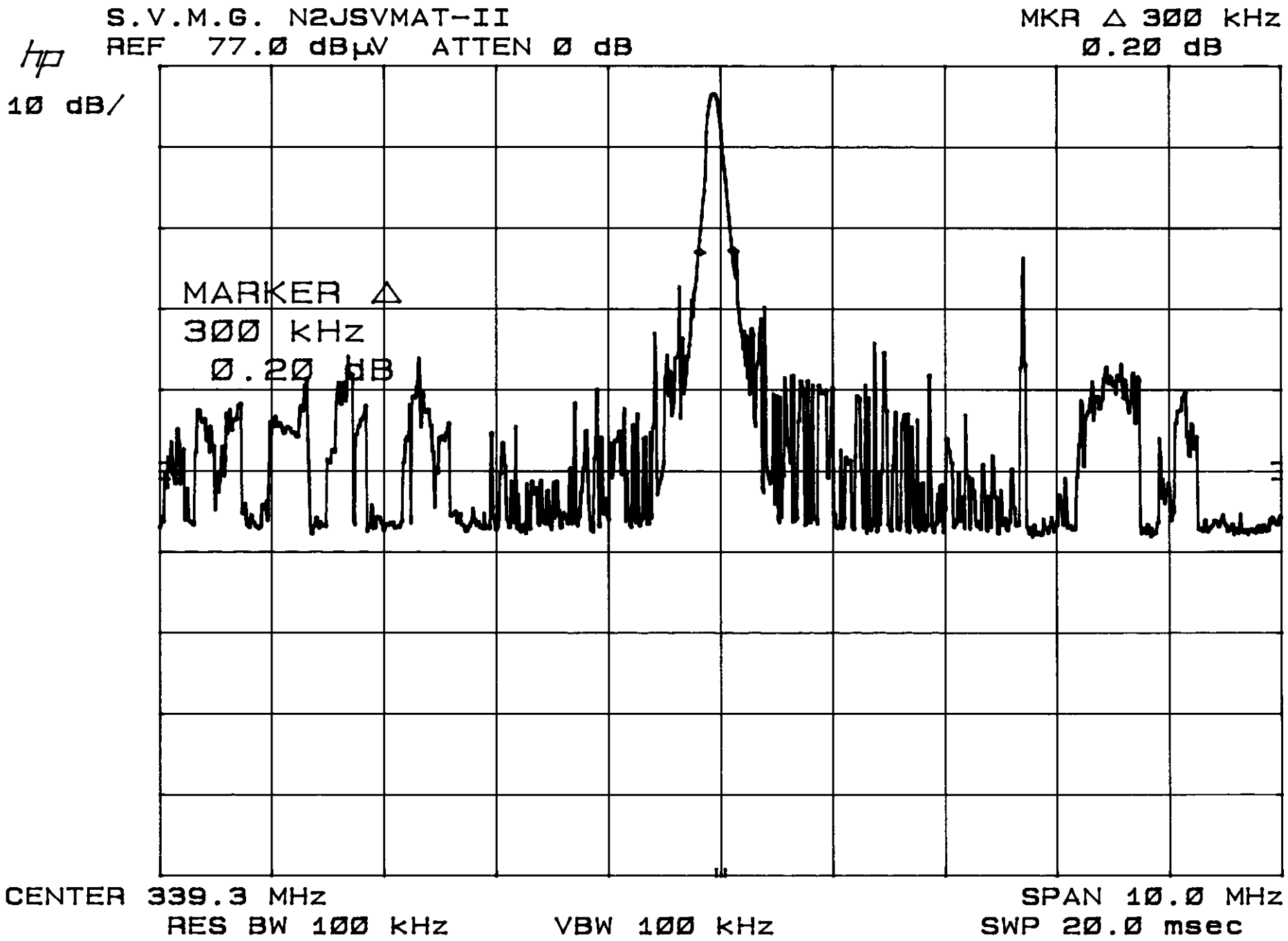
Sincerely,



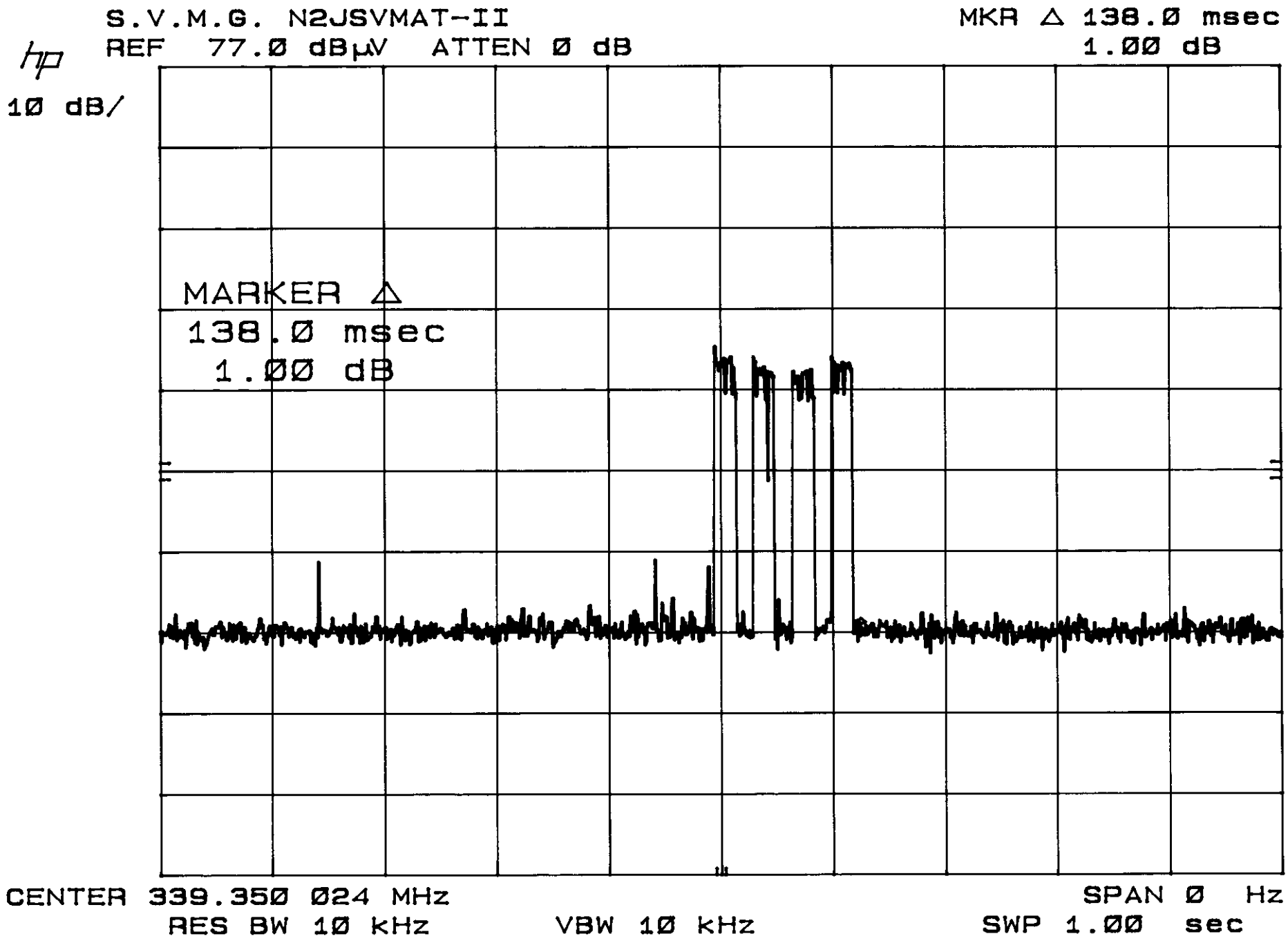
Willy N. Soleh
Vice President
Silicon Valley Marketing
Advantage Corp.

777 N. First Street, Suite 268 San Jose, CA 95112
(408) 871-9075 • fax (408) 379.2058

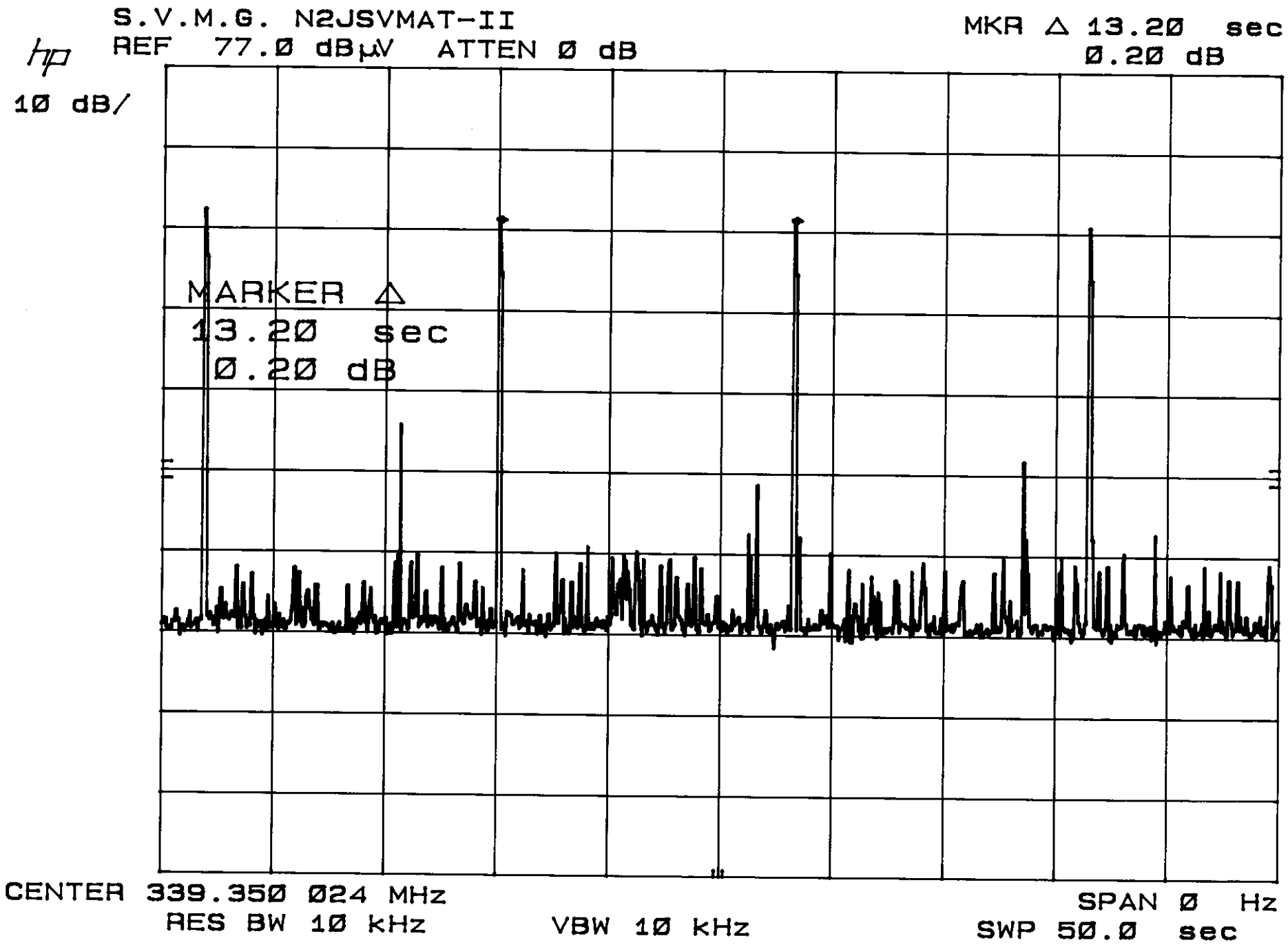
Appendix D – BANDWIDTH OF EMISSION


S.V.M.G. N2JSVMAT-II
MKR Δ 300 kHz
REF 77.0 dBμV ATTEN 0 dB
0.20 dB
10 dB/
MARKER Δ
300 kHz
0.20 dB
CENTER 339.3 MHz
SPAN 10.0 MHz
RES BW 100 kHz
VBW 100 kHz
SWP 20.0 msec

Appendix E – DURATION OF TRANSMISSION


S.V.M.G. N2JSVMAT-II
MKR Δ 138.0 msec
REF 77.0 dBμV ATTEN 0 dB
1.00 dB
10 dB/
MARKER Δ
138.0 msec
1.00 dB
CENTER 339.350 024 MHz
SPAN 0 Hz
RES BW 10 kHz
VBW 10 kHz
SWP 1.00 sec

Appendix F – SILENT PERIOD


S.V.M.G. N2JSVMAT-II
REF 77.0 dBμV ATTEN 0 dB
MKR Δ 13.20 sec
0.20 dB
10 dB/
MARKER Δ
13.20 sec
0.20 dB
CENTER 339.350 024 MHz
RES BW 10 kHz
VBW 10 kHz
SPAN 0 Hz
SWP 50.0 sec