ADASA, Inc.

M8S radio in PAD 3500

July 05, 2006

Report No. ADAS0002

Report Prepared By



www.nwemc.com 1-888-EMI-CERT

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22975 NW Evergreen Parkway Suite 400 Hillsboro, Oregon 97124

Certificate of Test

Issue Date: July 05, 2006 ADASA, Inc.

Model: M8S radio in PAD 3500

Emissions					
Test Description	Specification	Test Method	Pass	Fail	
Radiated Emissions	FCC 15.109(g) (CISPR 22:1997) Class A:2005-10	ANSI C63.4:2003	\boxtimes		
Conducted Emissions	FCC 15.107 Class B:2005-10	ANSI C63.4:2003			
AC Powerline Conducted Emissions	FCC 15.207 Class B:2005-9	ANSI C63.4:2003	\boxtimes		
Occupied Bandwidth	FCC 15.247:2005-9	ANSI C63.4:2003			
Channel Spacing	FCC 15.247:2006-2	ANSI C63.4:2003			
Dwell Time	FCC 15.247:2006-2	ANSI C63.4:2003	\boxtimes		
Number of Hopping Frequencies	FCC 15.247:2006-2	ANSI C63.4:2003	\boxtimes		
Output Power	FCC 15.247:2006-2	ANSI C63.4:2003	\boxtimes		
Band Edge Compliance	FCC 15.247:2006-2	ANSI C63.4:2003	\boxtimes		
Spurious Conducted Emissions	FCC 15.247:2006-2	ANSI C63.4:2003	\boxtimes		
Spurious Radiated Emissions	FCC 15.247(d):2005-9	ANSI C63.4:2003			

Modifications made to the product

See the Modifications section of this report

Test Facility

The measurement facility used to collect the data is located at:

Northwest EMC, Inc.

22975 NW Evergreen Parkway, Suite 400; Hillsboro, OR 97124

Phone: (503) 844-4066

Fax: 844-3826

This site has been fully described in a report filed with and accepted by the FCC (Federal Communications Commission) and Industry Canada.

Approved By:

Greg Kiemel, Director of Engineering

This report must not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government of the United States of America.

Product compliance is the responsibility of the client, therefore the tests and equipment modes of operation represented in this report were agreed upon by the client, prior to testing. This Report may only be duplicated in its entirety. The results of this test pertain only to the sample(s) tested, the specific description is noted in each of the individual sections of the test report supporting this certificate of test.

Revision History

Revision 05/05/03

Revision Number	Description	Date	Page Number
00	None		

Accreditations and Authorizations

FCC: Accredited by NVLAP for performance of FCC radio, digital, and ISM device testing. Our Open Area Test Sites, certification chambers, and conducted measurement facilities have been fully described in reports filed with the FCC and accepted by the FCC in letters maintained in our files. Northwest EMC has been accredited by ANSI to ISO / IEC Guide 65 as a product certifier. We have been designated by the FCC as a Telecommunications Certification Body (TCB). This allows Northwest EMC to certify transmitters to FCC specifications in accordance with 47 CFR 2.960 and 2.962.





NVLAP: Northwest EMC, Inc. is accredited under the United States Department of Commerce, National Institute of Standards and Technology, and National Voluntary Laboratory Accreditation Program for satisfactory compliance with the requirements of ISO/IEC 17025 for Testing Laboratories. The NVLAP accreditation encompasses Electromagnetic Compatibility Testing in accordance with the European Union EMC Directive 89/336/EEC, ANSI C63.4, MIL-STD 461E, DO-160D and SAE J1113. Additionally, Northwest EMC is accredited by NVLAP to perform radio testing in accordance with the European Union R&TTE Directive 1999/5/EEC, the requirements of FCC, and the RSS radio standards for Industry Canada.



NVLAP LAB CODE 200630-0 NVLAP LAB CODE 200676-0

Industry Canada: Accredited by NVLAP for performance of Industry Canada RSS and ICES testing. Our Open Area Test Sites and certification chambers comply with RSS 212, Issue 1 (Provisional) and have been filed with Industry Canada and accepted. Northwest EMC has been accredited by ANSI to ISO / IEC Guide 65 as a product certifier. We have been designated by NIST and recognized by Industry Canada as a Certification Body (CB) per the APEC Mutual Recognition Arrangement (MRA). This allows Northwest EMC to certify transmitters to Industry Canada technical requirements.



CAB: Designated by NIST and validated by the European Commission as a Conformity Assessment Body (CAB) to conduct tests and approve products to the EMC directive and transmitters to the R&TTE directive, as described in the U.S. - EU Mutual Recognition Agreement.



TÜV Product Service: Included in TUV Product Service Group's Listing of Recognized Laboratories. It qualifies in connection with the TUV Certification after Recognition of Agent's Testing Program for the product categories and/or standards shown in TUV's current Listing of CARAT Laboratories, available from TUV. A certificate was issued to represent that this laboratory continues to meet TUV's CARAT Program requirements. Certificate No. USA0401C.



TUV Rheinland: Authorized to carryout EMC tests by order and under supervision of TÜV Rheinland. This authorization is based on "Conditions for EMC-Subcontractors" of November 1992.



NEMKO: Assessed and accredited by NEMKO (Norwegian testing and certification body) for European emissions and immunity testing. As a result of NEMKO's laboratory assessment, they will accept test results from Northwest EMC, Inc. for product certification (Authorization No. ELA 119).



Australia/New Zealand: The National Association of Testing Authorities (NATA), Australia has been appointed by the ACA as an accreditation body to accredit test laboratories and competent bodies for EMC standards. Accredited test reports or assessments by competent bodies must carry the NATA logo. Test reports made by an overseas laboratory that has been accredited for the relevant standards by an overseas accreditation body that has a Mutual Recognition Agreement (MRA) with NATA are also accepted as technical grounds for product conformity. The report should be endorsed with the respective logo of the accreditation body (NVLAP).



VCCI: Accepted as an Associate Member to the VCCI, Acceptance No. 564. Conducted and radiated measurement facilities have been registered in accordance with Regulations for Voluntary Control Measures, Article 8. (*Registration Numbers. - Hillsboro: C-1071, R-1025, and R-2318, Irvine: C-2094 and R-1943, Sultan: R-871, C-1784 and R-1761).*



BSMI: Northwest EMC has been designated by NIST and validated by C-Taipei (BSMI) as a CAB to conduct tests as described in the APEC Mutual Recognition Agreement. License No.SL2-IN-E-1017.



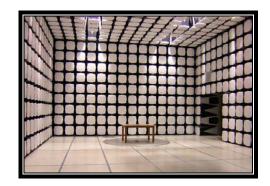
GOST: Northwest EMC, Inc. has been assessed and accredited by the Russian Certification bodies Certinform VNIINMASH, CERTINFO, SAMTES, and Federal CHEC, to perform EMC and Hygienic testing for Information Technology Products. As a result of their laboratory assessment, they will accept test results from Northwest EMC, Inc. for product certification



SCOPE

For details on the Scopes of our Accreditations, please visit: http://www.nwemc.com/scope.asp





California – Orange County Facility Labs OC01 – OC13

41 Tesla Ave. Irvine, CA 92618 (888) 364-2378 Fax: (503) 844-3826





Oregon – Evergreen Facility Labs EV01 – EV11

22975 NW Evergreen Pkwy. Suite 400 Hillsboro, OR 97124 (503) 844-4066 Fax: (503) 844-3826





Washington – Sultan Facility Labs SU01 – SU07

14128 339th Ave. SE Sultan, WA 98294 (888) 364-2378

Product Description

Revision 10/3/03

Party Requesting the Test	
Company Name:	ADASA, Inc.
Address:	2674 Garfield Street
City, State, Zip:	Eugene, OR 97405
Test Requested By:	Clarke McAllister
Model:	M8S radio in PAD 3500
First Date of Test:	May 22, 2006
Last Date of Test:	June 28, 2006
Receipt Date of Samples:	May 22, 2006
Equipment Design Stage:	Prototype
Equipment Condition:	No Damage

Information Provided by the Party Requesting the Test

Functional Desc	cription of the EUT (Equipment Under Test):
Model M8S radio	o in 902-928 MHz RFID Tag Reader / Programmer

Testing Objective:
These tests are to satisfy the requirements for FCC Certification.

EUT Photo



Revision 9/21/05



Software/Firmware Running during test	
Description	Version
Hyperterminal	5.1

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
EUT	Adasa	M8S radio in PAD 3500	Beta 8 (Host)

Peripherals in test setup boundary				
Description	Manufacturer	Model/Part Number	Serial Number	
AC Adapter	CUI, Inc	KSAFD1500100W1US	None	

Remote Equipment Outside of Test Setup Boundary				
Description Manufacturer Model/Part Number Serial Number				
Notebook PC	Dell	5150	9LNK741	

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
DC Leads	No	1.88m	PA	AC Adapter	EUT
PA = Cable	is permanently	attached to the device	e. Shielding ar	nd/or presence of ferrite ma	ay be unknown.

CONFIGURATION 2 ELET0003

Software/Firmware Running during test	
Description	Version
Hyperterminal	5.1

EUT				
Description	Manufacturer	Model/Part Number	Serial Number	
AC Adapter	CUI, Inc	KSAFD1500100W1US	None	
Notebook PC	Dell	5150	9LNK741	
EUT	Adasa	M8S radio in PAD 3500	Beta 6 (Host)	

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
DC Leads	No	1.88m	PA	AC Adapter	EUT
PA = Cable	is permanently	attached to the device	e. Shielding ar	nd/or presence of ferrite m	ay be unknown.

CONFIGURATION 3 ELET0003

Software/Firmware Running during test				
Description Version				
Hyperterminal	5.1			

EUT					
Description	Manufacturer	Model/Part Number	Serial Number		
EUT	Adasa	M8S radio in PAD 3500	Beta 8 (Host)		



Configurations

Revision 9/21/05

Peripherals in test setup boundary					
Description Manufacturer Model/Part Number Serial Number					
AC Adapter	CUI, Inc	KSAFD1500100W1US	None		

Remote Equipment Outside of Test Setup Boundary					
Description Manufacturer Model/Part Number Serial Number					
Notebook PC Dell 5150 9LNK741					

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
DC Leads No 1.88m PA AC Adapter EUT					
PA = Cable	PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown.				

CONFIGURATION 4 ELET0003

Software/Firmware Running during test				
Description Version				
Hyperterminal	5.1			

EUT					
Description	Manufacturer	Model/Part Number	Serial Number		
EUT	Adasa	M8S radio in PAD 3500	Beta 6 (Host)		

Peripherals in test setup boundary					
Description Manufacturer Model/Part Number Serial Number					
AC Adapter	CUI, Inc	KSAFD1500100W1US	None		

Remote Equipment Outside of Test Setup Boundary					
Description Manufacturer Model/Part Number Serial Number					
Notebook PC Dell 5150 9LNK741					

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
DC Leads	No	1.88m	PA	AC Adapter	EUT
PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown.					

Revision 4/28/03

			Equipment m	nodifications	
Item	Date	Test	Modification	Note	Disposition of EUT
1	5/22/2006	Occupied Bandwidth	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
2	5/22/2006	Dwell Time	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
3	5/31/2006	Channel Spacing	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
4	5/31/2006	Number of Hopping Frequencies	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
5	5/31/2006	AC Power Line Conducted Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
6	5/31/2006	Conducted Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
7	5/31/2006	Radiated Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
8	6/4/2006	Spurious Radiated Emissions	Modified from delivered configuration. Initial or No Modification	Completely encased circuit board with copper tape. Output power set to P15. Modification done by Clarke McAllister.	EUT remained at Northwest EMC following the test.
9	6/28/2006	Output Power	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
10	6/28/2006	Band Edge Compliance	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
11	6/28/2006	Spurious Conducted Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

PSA 2006.05.30

RADIATED EMISSIONS

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

MODES OF OPERATION

RFID standby; 802.11(b) turned on normal mode

MODE USED FOR FINAL DATA

RFID standby; 802.11(b) turned on normal mode

POWER SETTINGS INVESTIGATED

120VAC/60Hz

POWER SETTINGS USED FOR FINAL DATA

120VAC/60Hz

FREQUENCY RANGE INVESTIGATED						
Start Frequency	Start Frequency 30MHz Stop Frequency 1000MHz					

SAMPLE CALCULATIONS

Radiated Emissions: Field Strength = Measured Level + Antenna Factor + Cable Factor - Amplifier Gain + Distance Adjustment Factor + External Attenuation

TEST EQUIPMENT										
Description	Manufacturer	Model	ID	Last Cal.	Interval					
Antenna, Biconilog	EMCO	3142	AXB	1/6/2005	24					
Pre-Amplifier	Miteq	AM-1551	AOY	4/5/2006	13					
Spectrum Analyzer	Agilent	E4443A	AAS	12/8/2005	12					

MEASUREMENT BANDWIDTHS								
	Frequency Range Peak Data Quasi-Peak Data Average Data							
	(MHz)	(kHz)	(kHz)	(kHz)				
	0.01 - 0.15	1.0	0.2	0.2				
	0.15 - 30.0	10.0	9.0	9.0				
	30.0 - 1000	100.0	120.0	120.0				
	Above 1000	1000.0	N/A	1000.0				
Measurements were made using the bandwidths and detectors specified. No video filter was used.								

MEASUREMENT UNCERTAINTY

Measurement uncertainty is used to reflect the accuracy of the measured result as compared with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. In the case of transient tests our test equipment has been demonstrated by calibration to provide at least a 95% confidence that it complies with the test specification requirements. The measurement uncertainty for any test is available upon request.

TEST DESCRIPTION

Using the mode of operation and configuration noted within this report, a final radiated emissions test was performed. The frequency range investigated (scanned), is also noted in this report. Radiated emissions measurements were made at the EUT azimuth and antenna height such that the maximum radiated emissions level will be detected. This requires the use of a turntable and an antenna positioner. The preferred method of a continuous azimuth search is utilized for frequency scans of the EUT field strength with both polarities of the measuring antenna. A calibrated, linearly polarized antenna was positioned at the specified distance from the periphery of the EUT.

Tests were made with the antenna positioned in both the horizontal and vertical planes of polarization. The antenna was varied in height above the conducting ground plane to obtain the maximum signal strength. Though specified in the report, the measurement distance shall be 3 meters or 10 meters. At any measurement distance, the antenna height was varied from 1 meter to 4 meters. These height scans apply for both horizontal and vertical polarization, except that for vertical polarization the minimum height of the center of the antenna shall be increased so that the lowest point of the bottom of the antenna clears the ground surface by at least 25 cm.

NORTHWEST **RADIATED EMISSIONS DATA SHEET** EMI 2006.4.26 **EMC** Work Order: ELET0003 EUT: M8S radio in PAD 3500 Serial Number: Beta 6 Date: 05/31/06 Customer: ADASA Inc Temperature: 23°C Attendees: Clarke McAllister Humidity: 42% Project: None Barometric Pres.: 29.61 Tested by: David Divergigelis Power: 120VAC/60Hz Job Site: EV11 **TEST SPECIFICATIONS** FCC 15.109(g) (CISPR 22:1997) Class A:2005-10 ANSI C63.4:2003 TEST PARAMETERS Antenna Height(s) (m) 1 - 4 Test Distance (m) 0 COMMENTS EUT OPERATING MODES RFID standby; 802.11(b) turned on normal mode **DEVIATIONS FROM TEST STANDARD** No deviations. Run# Signature David Di Vergegelis Configuration # 2 Results Pass NVLAP Lab Code 200630-0 80.0 70.0 60.0 50.0 dBuV/m 40.0 • 30.0 \$ • ٠ 20.0 • 10.0 0.0 10.000 100.000 1000.000 MHz External Distance Compared to Amplitude Factor Azimuth Heiaht Distance Polarity Adjusted Spec. Limit Frea Detector Attenuation Adjustmen Spec. (dBuV) (dB) (meters) (dB) (dB) dBuV/m dBuV/m (dB) (degrees) (meters) (MHz) V-Bilog -20.9 ΩP 40.2 47.0 264.018 61.1 109.0 1.0 0.0 0.0 0.0 -6.8 QΡ 264.019 56.1 -20.9 360.0 2.9 0.0 0.0 H-Bilog 0.0 35.2 47.0 -11.8 42.438 45.7 -21.2 360.0 2.3 0.0 0.0 V-Bilog QP 0.0 24.5 40.0 -15.5 440.015 47.2 -16.1 301.0 3.6 0.0 0.0 V-Bilog QP 0.0 31.1 47.0 -15.9 792.014 41.7 V-Bilog QΡ 47.0 -10.7 65.0 1.9 0.0 0.0 0.0 31.0 -16.0 QΡ 792.013 40.2 -10.7 333.0 1.0 0.0 0.0 H-Bilog 0.0 29.5 47.0 -17.5 V-Bilog QP 106.0 0.0 572 014 41 7 -13 4 3.3 0.0 0.0 28.3 47 0 -187 H-Bilog 572.015 QP 41.7 -13.4 15.0 1.3 0.0 0.0 0.0 28.3 47.0 -18.7 660.013 40.3 -12.0 108.0 1.0 0.0 0.0 V-Bilog QP 0.0 28.3 47.0 -18.7 968.012 36.0 -8.3 51.0 1.0 0.0 0.0 H-Bilog QP 0.0 27.7 47.0 -19.3 660.015 38.8 -12.0 0.0 1.2 0.0 0.0 H-Bilog QΡ 0.0 26.8 47.0 -20.2 V-Bilog PK 230.944 48.4 -21.8 213.0 1.0 0.0 0.0 0.0 26.6 47.0 -20.4 41.940 H-Bilog 38.5 -21.0 0.0 2.1 0.0 0.0 QΡ 0.0 17.5 40.0 -22.5 439.966 H-Bilog 40.1 -16.1 361.0 0.0 PΚ 47.0 -23.0 1.9 0.0 0.0 24.0 V-Bilog

1.0

3.3

0.0

0.0

ΩP

PΚ

H-Bilog

23.1

16.3

0.0

0.0

47.0

47.0

-23 9

-30.7

0.0

0.0

968 011

231.032

31 4

38.1

-8.3

-21.8

161.0

Radiated Emissions





CONDUCTED EMISSIONS

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

MODES OF OPERATION

RFID high channel

RFID mid channel

RFID low channel

POWER SETTINGS INVESTIGATED

120VAC/60Hz

SAMPLE CALCULATIONS

 $Conducted \ Emissions: \ Adjusted \ \underline{Level} = \underline{Measured} \ \underline{Level} + \underline{Transducer} \ Factor + \underline{Cable} \ \underline{Attenuation} \ Factor + \underline{External} \ \underline{Attenuation} \ Factor + \underline{External} \ \underline{Attenuation} \ Factor + \underline{External} \ \underline{Attenuation} \ \underline{Factor} + \underline{Factor} +$

TEST EQUIPMENT					
Description	Manufacturer	Model	ID	Last Cal.	Interval
LISN	Solar	9252-50-R-24-BNC	LIQ	12/13/2005	13
High Pass Filter	T.T.E.	7766	HFG	12/19/2005	13
Attenuator	Coaxicom	66702 2910-20	RBS	12/19/2005	13
Quasi-Peak Adapter	Hewlett-Packard	85650A	AQD	12/21/2005	13
Spectrum Analyzer Display	Hewlett Packard	85662A	AAID	12/21/2005	13
Spectrum Analyzer	Hewlett-Packard	8568B	AAI	12/21/2005	13

MEASUREMENT BANDWIDTHS								
	Frequency Range Peak Data Quasi-Peak Data Average Data							
	(MHz)	(kHz)	(kHz)	(kHz)				
	0.01 - 0.15	1.0	0.2	0.2				
	0.15 - 30.0	10.0	9.0	9.0				
	30.0 - 1000	100.0	120.0	120.0				
	Above 1000	1000.0	N/A	1000.0				
Measurements were made using the bandwidths and detectors, specified. No video filter was used								

MEASUREMENT UNCERTAINTY

Measurement uncertainty is used to reflect the accuracy of the measured result as compared with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. In the case of transient tests our test equipment has been demonstrated by calibration to provide at least a 95% confidence that it complies with the test specification requirements. The measurement uncertainty for any test is available upon request.

TEST DESCRIPTION

Using the mode of operation and configuration noted within this report, conducted emissions tests were performed. The frequency range investigated (scanned), is also noted in this report. Conducted power line measurements are made, unless otherwise specified, over the frequency range from 150 kHz to 30 MHz to determine the line-to-ground radio-noise voltage that is conducted from the EUT power-input terminals that are directly (or indirectly via separate transformer or power supplies) connected to a public power network. Equipment is tested with power cords that are normally used or that have electrical or shielding characteristics that are the same as those cords normally used. Typically those measurements are made using a LISN (Line Impedance Stabilization Network), the 50 Ω measuring port is terminated by a 50 Ω EMI meter or a 50 Ω resistive load. All 50 Ω measuring ports of the LISN are terminated by 50 Ω .

NORTHWEST **CONDUCTED EMISSIONS DATA SHEET EMC** EUT: M8S radio in PAD 3500 Work Order: ELET0003 Serial Number: Beta 8 (Host) Date: 05/31/06 Customer: ADASA Inc Temperature: 23°C Attendees: Clarke McAllister Humidity: 42% Project: None Barometric Pres.: 29.61 Tested by: David Divergigelis TEST SPECIFICATIONS Power: 120VAC/60Hz Job Site: EV07 FCC 15.107 Class B:2005-10 ANSI C63.4:2003 TEST PARAMETERS Cable or Line Tested N COMMENTS EUT OPERATING MODES RFID low channel **DEVIATIONS FROM TEST** STANDARD No deviations. Run# Signature David Di Vergegelis Configuration # 1 Results Pass NVLAP Lab Code 200630-0 80.0 70.0 60.0 50.0 dBuV 40.0 30.0 20.0 10.0 0.0 0.100 1.000 10.000 100.000 MHz External Compared to Amplitude Spec. Limit Frea Transducer Cable Adjusted Attenuation Detector (dBuV) dBuV (dB) blank equal peak [PK] from scan) (dB) (dB) dBuV (dB) (MHz) 5.409 50.0 9.6 0.5 0.0 20.0 ΑV 30.1 -19.9 5.409 14.5 0.5 0.0 20.0 QP 35.0 60.0 -25.0 5.567 27.7 0.5 0.0 20.0 48.2 50.0 -1.8 3.926 22.8 43.3 46.0 -2.7 0.5 0.0 20.0 3.986 22.8 0.5 0.0 20.0 43.3 46.0 -2.7 4 047 -2.8 22.7 0.5 0.0 20.0 43.2 46.0 0.5 3.796 22.6 0.0 20.0 43.1 46.0 -2.9 4.167 22.5 0.5 0.0 20.0 43.0 46.0 -3.0 4.227 22.5 0.5 0.0 20.0 43.0 46.0 -3.0 4.287 22.4 0.5 0.0 20.0 42.9 46.0 -3.1 4.107 22.2 0.5 0.0 20.0 42.7 46.0 -3.3 4.357 22.2 0.5 0.0 20.0 42.7 46.0 -3.3 -3.5 3.866 22.0 0.5 0.0 20.0 42.5 46.0 46.0 3 736 21.9 0.5 0.0 20.0 42 4 -3.6 0.916 21.6 0.7 0.0 20.0 42.3 46.0 -3.7 1.735 21.8 0.5 0.0 20.0 42.3 46.0 -3.7

4.467

1.385

1.445

21.7

21.6

0.5

0.5

0.0

0.0

0.0

20.0

20.0

20.0

42.2

42.1

42.1

46.0

46.0

46.0

-3.8

-3.9

-3.9

NORTHWEST **CONDUCTED EMISSIONS DATA SHEET EMC** EUT: M8S radio in PAD 3500 Work Order: ELET0003 Serial Number: Beta 8 (Host) Date: 05/31/06 Customer: ADASA Inc. Temperature: 23°C Attendees: Clarke McAllister Humidity: 42% Project: None Barometric Pres.: 29.61 Tested by: David Divergigelis Power: 120VAC/60Hz Job Site: EV07 TEST SPECIFICATIONS FCC 15.107 Class B:2005-10 ANSI C63.4:2003 TEST PARAMETERS Cable or Line Tested L1 COMMENTS EUT OPERATING MODES RFID low channel **DEVIATIONS FROM TEST STANDARD** No deviations. Run# 2 Signature David Di Vergegelis Configuration # 1 Results Pass NVLAP Lab Code 200630-0 80 70 60 50 dBuV 40 30 20 10 0 0.1 1 10 100 MHz External Compared to Freq Amplitude Cable Spec. Limit Transducer Detector Adjusted Attenuation blank equal peak [PK] from scan) dBuV (dBuV) (dB) (dB) (dB) dBuV (dB) (MHz) 3.816 20.0 21.9 0.5 0.0 42.4 46.0 -3.6 1.605 21.8 0.5 0.0 20.0 42.3 46.0 -3.7 1.775 21.8 0.5 0.0 20.0 42.3 46.0 -3.7 3.996 0.5 42.3 46.0 -3.7 21.8 0.0 20.0 3.636 21.6 0.5 0.0 20.0 42.1 46.0 -3.9 3 886 20.0 46.0 21.5 0.5 0.0 42 0 -4.0 1.485 0.5 20.0 21.4 0.0 41.9 46.0 -4.1 3.936 21.4 0.5 0.0 20.0 41.9 46.0 -4.1 1.425 21.2 0.5 0.0 20.0 41.7 46.0 -4.3 1.545 21.2 0.5 0.0 20.0 41.7 46.0 -4.3 3.756 20.0 41.7 46.0 21.2 0.5 0.0 -4.3 0.783 20.5 1.1 0.0 20.0 41.6 46.0 -4.4 46.0 1.895 0.5 0.0 20.0 41.6 -4.4 21.1 2 006 46.0 0.5 0.0 20.0 41.6 -4.4 21.1 0.604 19.9 1.6 0.0 20.0 41.5 46.0 -4.5 1.375 21.0 0.5 0.0 20.0 41.5 46.0 -4.5

1.955

2.066

4.127

21.0

21.0

0.5

0.5

0.0

0.0

0.0

20.0

20.0

20.0

41.5

41.5

41.5

46.0

46.0

46.0

-4.5

-4.5

NORTHWEST **CONDUCTED EMISSIONS DATA SHEET EMC** EUT: M8S radio in PAD 3500 Work Order: ELET0003 Serial Number: Beta 8 (Host) Date: 05/31/06 Customer: ADASA Inc Temperature: 23°C Attendees: Clarke McAllister Humidity: 42% Project: None Barometric Pres.: 29.61 Tested by: David Divergigelis TEST SPECIFICATIONS Power: 120VAC/60Hz Job Site: EV07 FCC 15.107 Class B:2005-10 ANSI C63.4:2003 TEST PARAMETERS Cable or Line Tested L1 COMMENTS EUT OPERATING MODES RFID mid channel STANDARD **DEVIATIONS FROM TEST** No deviations. Run# 3 Signature David Di Vergegelis Configuration # 1 Results Pass NVLAP Lab Code 200630-0 80 70 60 50 dBuV 40 30 20 10 0 0.1 1 10 100 MHz External Compared to Amplitude Cable Spec. Limit Frea Transducer Detector Adjusted Attenuation (blank equal peak [PK] from scan) dBuV (dBuV) (dB) (dB) (dB) dBuV (dB) (MHz) 1.955 20.0 21.3 0.5 0.0 41.8 46.0 -4.2 1.485 20.8 0.5 0.0 20.0 41.3 46.0 -4.7 1.425 20.7 0.5 0.0 20.0 41.2 46.0 -4.8 1.775 0.5 41.1 46.0 -4.9 20.6 0.0 20.0 3.766 20.3 0.5 0.0 20.0 40.8 46.0 -5.2 46.0 1.655 20.2 0.5 0.0 20.0 40.7 -5.3 0.5 20.0 1.895 20.2 0.0 40.7 46.0 -5.3 1.545 20.0 0.5 0.0 20.0 40.5 46.0 -5.5 1.015 19.9 0.5 0.0 20.0 40.4 46.0 -5.6 0.604 18.8 1.6 0.0 20.0 40.4 46.0 -5.6 3.886 20.0 46.0 19.9 0.5 0.0 40.4 -5.6 4.007 19.9 0.5 0.0 20.0 40.4 46.0 -5.6 46.0 -5.6 0.725 1.3 0.0 20.0 40.4 19.1 46.0 1.195 198 0.5 0.0 20.0 40.3 -5.7 1.315 19.8 0.5 0.0 20.0 40.3 46.0 -5.7 2.016 19.8 0.5 0.0 20.0 40.3 46.0 -5.7

2.316

3.526

4.067

19.8

19.7

0.5

0.5

0.0

0.0

0.0

20.0

20.0

20.0

40.3

40.2

46.0

46.0

46.0

-5.7

-5.7

-5.8

NORTHWEST EMC		NDUCTED E	MISS	SIONS	S DATA SH			CQ-2006.05.30 EMI 2005.9.18
	EUT: M8S radio in PAD 35	00					er: ELET0003	3
	ber: Beta 8 (Host)						te: 05/31/06	
	mer: ADASA Inc.					Temperatu		
	lees: Clarke McAllister ject: None					Barometric Pre	ity: 42%	
	by: David Divergigelis			Power:	120VAC/60Hz		te: EV07	
TEST SPECIFI				r ower.	Test Method	300 3	ite. LV07	
FCC 15.107 CI					ANSI C63.4:2003			
					74401 000.1.2000			
TEST PARAMI								
Cable or Line	Tested				N			
COMMENTS								
EUT OPERATI								
RFID mid char DEVIATIONS F No deviations.	ROM TEST STANDARD							
Run #	4	I						
Configuration		1				A	11	.0
Results	Pass	NVLAP Lab Code 2006	20.0		Signatur	David Di	Jergian	30
Results	1 433	INVEAF Lab Code 2000	30-0		Signature	3	0	
80								
70								
60								
50								
Angp								
30			, i		The state of the s	Late All Holling bearing and a		
20	ա հանդական	A A MANANANIA	umphilling	Ishillin, shihall	all think have all her had been also	(Austria) (August production of the second		
10								
0 -	1 1					1		400
0.1		1		MHz	10			100
Freq (MHz)	Amplitude (dBuV)	Transducer (dB)	Cable (dB)	External Attenuation (dB)	Detector (blank equal peak [PK] from scan)	asa.	dBuV	(dB)
	0.541 20.5	1.8	0.0	20.0			2.3 46.0	
	0.728 20.5 3.536 21.1	1.3 0.5	0.0 0.0	20.0 20.0			1.8 46.0 1.6 46.0	
	.315 21.0	0.5 0.5	0.0	20.0			1.6 46.0 1.5 46.0	
	3.716 20.8	0.5	0.0	20.0			1.3 46.0	
	.495 20.7	0.5	0.0	20.0			1.2 46.0	
	3.346 20.7	0.5	0.0	20.0			1.2 46.0	
	.145 20.6	0.5	0.0	20.0			1.1 46.0	
	3.596 20.6	0.5	0.0	20.0			1.1 46.0	
	3.896 20.5	0.5	0.0	20.0			1.0 46.0	
	1.987 20.5	0.5	0.0	20.0			1.0 46.0	
	0.908 20.2 3.776 20.4	0.8 0.5	0.0 0.0	20.0 20.0			1.0 46.0 0.9 46.0	
	3.776 20.4 3.956 20.4	0.5 0.5	0.0	20.0			0.9 46.0 0.9 46.0	
	3.476 20.3	0.5	0.0	20.0			0.9 46.0 0.8 46.0	
	.835 20.2	0.5	0.0	20.0			0.7 46.0	
	.075 20.1	0.5	0.0	20.0			0.6 46.0	
	3.646 20.1	0.5	0.0	20.0			0.6 46.0	
	.029 20.0	0.5	0.0	20.0			0.5 46.0	

NORTHWEST **CONDUCTED EMISSIONS DATA SHEET EMC** EUT: M8S radio in PAD 3500 Work Order: ELET0003 Serial Number: Beta 8 (Host) Date: 05/31/06 Customer: ADASA Inc Temperature: 23°C Attendees: Clarke McAllister Humidity: 42% Project: None Barometric Pres.: 29.61 Tested by: David Divergigelis TEST SPECIFICATIONS Power: 120VAC/60Hz Job Site: EV07 FCC 15.107 Class B:2005-10 ANSI C63.4:2003 TEST PARAMETERS Cable or Line Tested N COMMENTS EUT OPERATING MODES RFID high channel DEVIATIONS FROM TEST STANDARD No deviations. Run# 5 Signature David Di Vergegelis Configuration # 1 Results Pass NVLAP Lab Code 200630-0 80 70 60 50 dBuV 40 30 20 10 0 0.1 1 10 100 MHz External Compared to Amplitude Cable Spec. Limit Frea Transducer Detector Adjusted Attenuation (blank equal peak [PK] from scan) dBuV (dBuV) (dB) (dB) (dB) dBuV (dB) (MHz) 0.488 20.0 21.7 1.9 0.0 43.6 46.2 -2.6 0.730 19.6 1.2 0.0 20.0 40.8 46.0 -5.2 0.915 20.0 0.7 0.0 20.0 40.7 46.0 -5.3 3.616 40.7 46.0 -5.3 20.2 0.5 0.0 20.0 3.676 20.1 0.5 0.0 20.0 40.6 46.0 -5.4 46.0 -5.5 3.376 20.0 0.5 0.0 20.0 40.5 0.366 20.5 2.3 0.0 20.0 42.8 48.6 -5.8 0.669 18.7 1.4 0.0 20.0 40.1 46.0 -5.9 1.445 19.6 0.5 0.0 20.0 40.1 46.0 -5.9 1.855 19.6 0.0 20.0 40.1 46.0 -5.9 3.496 46.0 19.6 0.5 0.0 20.0 40.1 -5.9 1.095 19.5 0.5 0.0 20.0 40.0 46.0 -6.0 0.5 0.0 20.0 40.0 46.0 -6.0 1.555 19.5 46.0 0.856 19.0 0.9 0.0 20.0 39 9 -6.1 3.316 19.4 0.5 0.0 20.0 39.9 46.0 -6.1 3.986 19.4 0.5 0.0 20.0 39.9 46.0 -6.1 1.265 19.3 0.5 0.0 20.0 39.8 46.0 -6.2

0.0

0.0

1.6

20.0

20.0

46.0

46.0

39.7

-6.2

-6.3

1.325

0.609

NORTHWEST **CONDUCTED EMISSIONS DATA SHEET EMC** EUT: M8S radio in PAD 3500 Work Order: ELET0003 Serial Number: Beta 8 (Host) Date: 05/31/06 Customer: ADASA Inc Temperature: 23°C Attendees: Clarke McAllister Humidity: 42% Project: None Barometric Pres.: 29.61 Tested by: David Divergigelis TEST SPECIFICATIONS Power: 120VAC/60Hz Job Site: EV07 FCC 15.107 Class B:2005-10 ANSI C63.4:2003 TEST PARAMETERS Cable or Line Tested L1 COMMENTS EUT OPERATING MODES RFID high channel DEVIATIONS FROM TEST STANDARD No deviations. Run# 6 Signature David Di Vergegelis Configuration # 1 Results Pass NVLAP Lab Code 200630-0 80 70 60 50 dBuV 40 30 20 10 0 0.1 1 10 100 MHz External Compared to Amplitude Cable Spec. Limit Frea Transducer Detector Adjusted Attenuation dBuV (dBuV) (dB) blank equal peak [PK] from scan) (dB) (dB) dBuV (dB) (MHz) 47.3 0.429 20.0 21.4 2.1 0.0 43.5 -3.8 0.670 19.1 1.4 0.0 20.0 40.5 46.0 -5.5 1.615 19.8 0.5 0.0 20.0 40.3 46.0 -5.7 0.918 0.7 40.2 46.0 -5.8 19.5 0.0 20.0 1.855 19.4 0.5 0.0 20.0 39.9 46.0 -6.1 46.0 1 155 19.3 0.5 0.0 20.0 39.8 -6.2 0.5 20.0 46.0 1.335 19.3 0.0 39.8 -6.2 3.566 19.2 0.5 0.0 20.0 39.7 46.0 -6.3 0.488 17.9 1.9 0.0 20.0 39.8 46.2 -6.4 1.565 19.1 0.5 0.0 20.0 39.6 46.0 -6.4 20.0 46.0 1.675 19.1 0.5 0.0 39.6 -6.4 3.446 19.1 0.5 0.0 20.0 39.6 46.0 -6.4 3.876 0.5 0.0 20.0 39.6 46.0 -6.4 19.1 46.0 4 787 191 0.5 0.0 20.0 396 -6.4 4.917 19.1 0.5 0.0 20.0 39.6 46.0 -6.4 1.385 19.0 0.5 0.0 20.0 39.5 46.0 -6.5 3.686 19.0 0.5 0.0 20.0 39.5 46.0 -6.5

0.0

0.0

0.5

20.0

20.0

46.0

46.0

39.3

-6.6

-6.7

4.977

1.095

Conducted Emissions





CHANNEL SEPARATION

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT										
Description	Manufacturer	Model	ID	Last Cal.	Interval					
Spectrum Analyzer	Hewlett-Packard	8593E	AAN	1/25/2006	13					

MEASUREMENT UNCERTAINTY

Measurement uncertainty is used to reflect the accuracy of the measured result as compared with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. In the case of transient tests our test equipment has been demonstrated by calibration to provide at least a 95% confidence that it complies with the test specification requirements. The measurement uncertainty for any test is available upon request.

TEST DESCRIPTION

The carrier frequency separation was measured between each of 5 hopping channels in the middle of the authorized band. The measurements were made using a direct connection between the RF output of the EUT and the spectrum analyzer. The hopping function of the EUT was enabled.

NORTHWEST EMC		CHANNEL S	EPAR	ATION		XMit 2006.03.01
EUT:	M8S radio in PAD 3500				Work Order:	ELET0003
Serial Number:	Beta 8 (Host)				Date:	05/31/06
	ADASA Inc.				Temperature:	
Attendees:	Clarke McAllister				Humidity:	42%
Project:					Barometric Pres.:	
	Rod Peloquin		Power:	120VAC/60Hz	Job Site:	EV06
TEST SPECIFICATION	ONS			Test Method		
FCC 15.247 2006-2				ANSI C63.4 2003		
COMMENTS						
DEVIATIONS FROM	TEST STANDARD					
				-		
Configuration #	1	Rocky la Signature	- Relu	7		

Value

300 kHz

Limit

≥ 87.5 kHz

Result

Pass

Modes of Operation and Test ConditionsChannel separation

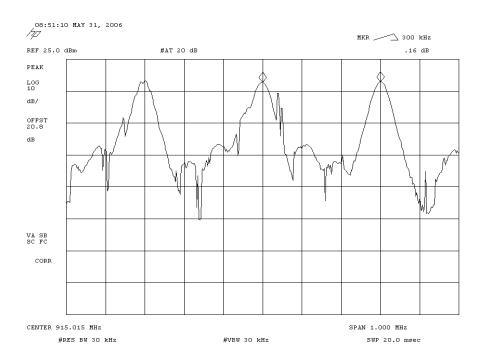
CHANNEL SEPARATION

 Channel separation

 Result:
 Pass

 Value:
 300 kHz

 Limit:
 ≥ 87.5 kHz



CHANNEL SEPARATION



DWELL TIME

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT					
Description	Manufacturer	Model	ID	Last Cal.	Interval
Spectrum Analyzer	Hewlett-Packard	8593E	AAN	1/25/2006	13

MEASUREMENT UNCERTAINTY

Measurement uncertainty is used to reflect the accuracy of the measured result as compared with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. In the case of transient tests our test equipment has been demonstrated by calibration to provide at least a 95% confidence that it complies with the test specification requirements. The measurement uncertainty for any test is available upon request.

TEST DESCRIPTION

The average dwell time per hopping channel was measured at one hopping channel in the middle of the authorized band. The measurements were made using a direct connection between the RF output of the EUT and the spectrum analyzer. The hopping function of the EUT was enabled.

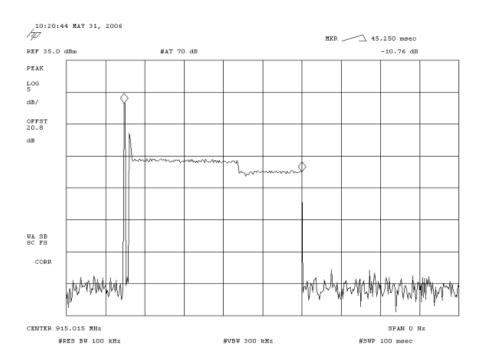
NORTHWEST		DWELL	TIME		XMit 2006.03.01
EMC		DWELI	_ IIME		
EUT:	M8S radio in PAD 3500)		Work Order:	ELET0003
Serial Number:	Beta 8 (Host)			Date:	05/22/06
	ADASA, Inc.			Temperature:	23°C
Attendees:	Clarke McAllister			Humidity:	42%
Project:				Barometric Pres.:	29.61
	Rod Peloquin		Power: 120VAC/60Hz	Job Site:	EV06
TEST SPECIFICATION	ONS		Test Method		
FCC 15.247 2006-2			ANSI C63.4 2003		
COMMENTS					
DEVIATIONS FROM	TEST STANDARD				
Configuration #	1	Rocky L Signature	L. Reling		

Modes of Operation and Test Conditions	Value	Limit	Result
Pulse Width	45.25 mSec	N/A	N/A
Period	20 Seconds	N/A	N/A
Number of Pulses in 20 second period	8 Pulses	N/A	N/A
Dwell Time	0.362 Seconds	0.4 Seconds	Pass

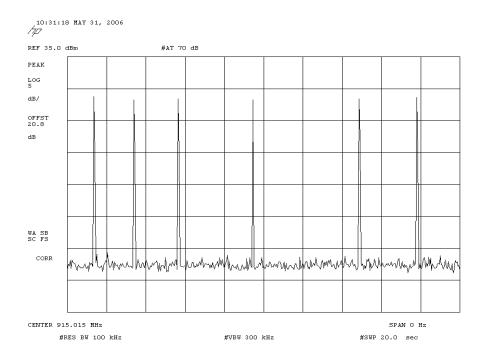
DWELL TIME

 Pulse Width

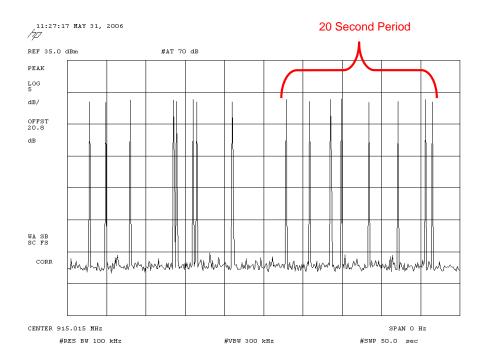
 Result:
 N/A
 Value:
 45.25 mSec
 Limit:
 N/A



Result: N/A Value: 20 Seconds Limit: N/A



Number of Pulses in 20 second period						
Result: N/A	Value:	8	Limit:	N/A		



	Period		
Result: Pass	Value: 0.362 Seconds	Limit: 0.4	4 Seconds

Pulse Width * Number of Pulses in 20 Second period = Dwell Time

0.04525 * 8 = 0.362 Seconds

EMC



NUMBER OF HOPPING CHANNELS

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT									
	Description	Manufacturer	Model	ID	Last Cal.	Interval			
	Spectrum Analyzer	Hewlett-Packard	8593E	AAN	1/25/2006	13			

MEASUREMENT UNCERTAINTY

Measurement uncertainty is used to reflect the accuracy of the measured result as compared with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. In the case of transient tests our test equipment has been demonstrated by calibration to provide at least a 95% confidence that it complies with the test specification requirements. The measurement uncertainty for any test is available upon request.

TEST DESCRIPTION

The number of hopping frequencies was measured across the authorized band. The measurements were made using a direct connection between the RF output of the EUT and the spectrum analyzer. The hopping function of the EUT was enabled.

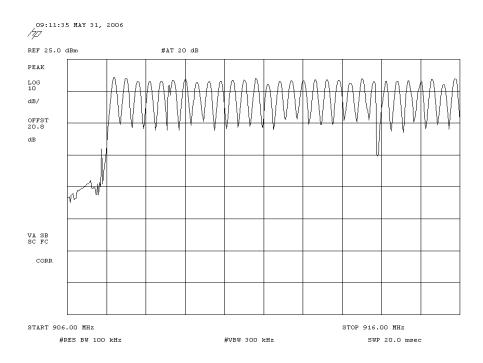
NORTHWEST EMC	N	UMBER OF HOP	PING	CHANNEL	_S	XMit 2006.03.01
EUT:	M8S radio in PAD 350	00			Work Order:	ELET0003
Serial Number:	Beta 8 (Host)				Date:	05/31/06
Customer:	ADASA Inc.				Temperature:	23°C
Attendees:	Clarke McAllister	Humidity:	40%			
Project:					Barometric Pres.:	29.99
	Rod Peloquin		Power:	120VAC/60Hz	Job Site:	EV06
TEST SPECIFICATION	ONS			Test Method		
FCC 15.247 2006-2				ANSI C63.4 2003		
COMMENTS						
DEVIATIONS FROM	I TEST STANDARD					
Configuration #	1	Rocky (Signature	La Rely			

Modes of Operation and Test Conditions	Value	Limit	Result
906 MHz - 916 MHz	53 Channels	At least 50 Channels	Pass
915 MHz - 925 MHz	53 Channels	At least 50 Channels	Pass

NUMBER OF HOPPING CHANNELS

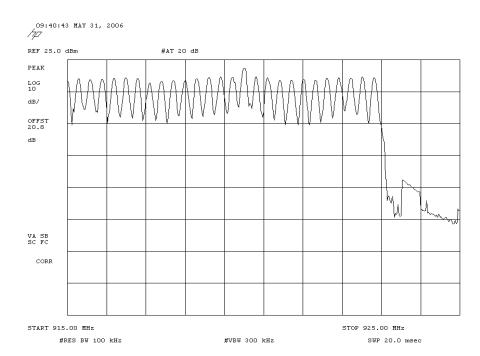
906 MHz - 916 MHz

Result: Pass Value: 53 Channels Limit: At least 50 Channels



915 MHz - 925 MHz

Result: Pass Value: 53 Channels Limit: At least 50 Channels



NUMBER OF HOPPING CHANNELS



OCCUPIED BANDWIDTH

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT									
	Description	Manufacturer	Model	ID	Last Cal.	Interval			
	Spectrum Analyzer	Hewlett-Packard	8593E	AAN	1/25/2006	13			

MEASUREMENT UNCERTAINTY

Measurement uncertainty is used to reflect the accuracy of the measured result as compared with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. In the case of transient tests our test equipment has been demonstrated by calibration to provide at least a 95% confidence that it complies with the test specification requirements. The measurement uncertainty for any test is available upon request.

TEST DESCRIPTION

The occupied bandwidth was measured with the EUT set to low, medium, and high transmit frequencies. The measurement was made using a direct connection between the RF output of the EUT and the spectrum analyzer. The EUT was transmitting at its maximum data rate in a no hop mode.

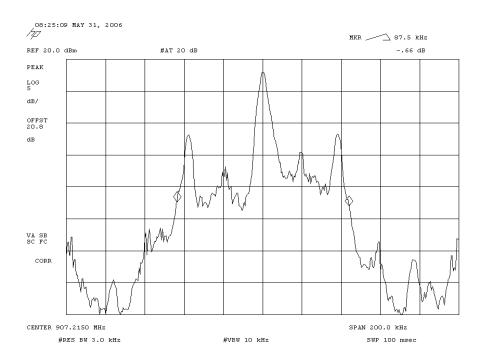
NORTHWEST EMC		OCCUPIED E	BAND	WIDTH		XMit 2006.03.01
EUT:	M8S radio in PAD 3500				Work Order:	ELET0003
Serial Number:	Beta 8 (Host)				Date:	05/22/06
Customer:	ADASA Inc				Temperature:	23°C
Attendees:	Clarke McAllister				Humidity:	42%
Project:					Barometric Pres.:	29.61
	Rod Peloquin		Power:	120VAC/60Hz	Job Site:	EV06
TEST SPECIFICATION	ONS			Test Method		
FCC 15.247 2005-9				ANSI C63.4 2003		
COMMENTS						
DEVIATIONS FROM	TEST STANDARD					
Configuration #	1	Rocky li Signature	r Pely			

Modes of Operation and Test Conditions	Value	Limit	Result
Low Channel	87.5 kHz	< 250 kHz	Pass
Mid Channel	87.5 kHz	< 250 kHz	Pass
High Channel	86.5 kHz	< 250 kHz	Pass

OCCUPIED BANDWIDTH

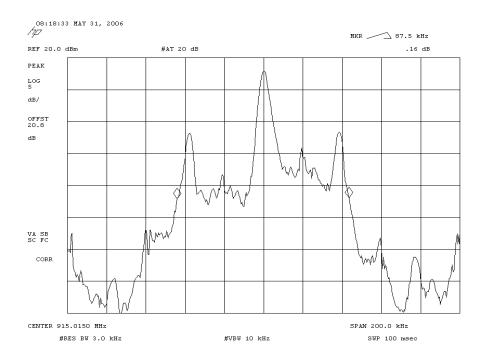
Low Channel

Result: Pass Value: 87.5 kHz Limit: < 250 kHz



Mid Channel

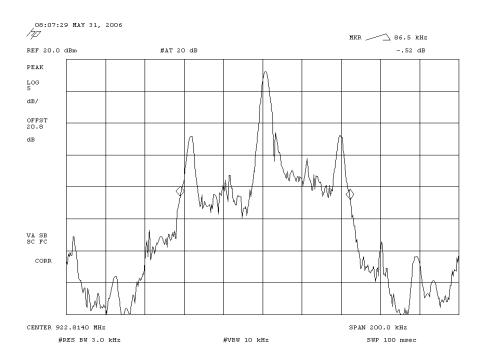
Result: Pass Value: 87.5 kHz Limit: < 250 kHz



OCCUPIED BANDWIDTH

High Channel

Result: Pass Value: 86.5 kHz Limit: < 250 kHz



OCCUPIED BANDWIDTH



Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT					
Description	Manufacturer	Model	ID	Last Cal.	Interval
Attenuator	Pasternack	PE7005-20	AUN	2/14/2006	13
Spectrum Analyzer	Hewlett-Packard	8593E	AAN	1/25/2006	13
Power Meter	Hewlett Packard	E4418A	SPA	7/23/2004	24
Power Sensor	Hewlett-Packard	8481H	SPB	7/23/2004	24
Signal Generator	Hewlett-Packard	8648D	TGC	1/27/2006	13

MEASUREMENT UNCERTAINTY

Measurement uncertainty is used to reflect the accuracy of the measured result as compared with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. In the case of transient tests our test equipment has been demonstrated by calibration to provide at least a 95% confidence that it complies with the test specification requirements. The measurement uncertainty for any test is available upon request.

TEST DESCRIPTION

The peak output power was measured with the EUT set to low, medium, and high transmit frequencies. The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The EUT was transmitting at its maximum data rate in a no hop mode.

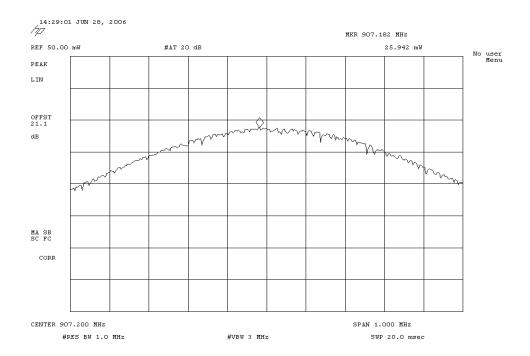
De Facto EIRP Limit: Per 47 CFR 15.247 (b)(1-3), the EUT meets the de facto EIRP limit of +36dBm.

NORTHWEST		OUTDUT F	COMED		XMit 2006.03.01
EMC		OUTPUT F	OWER		
EUT:	M8S radio in PAD 3500			Work Order:	ELET0003
Serial Number:	Beta 8 (Host)			Date:	06/28/06
Customer:	ADASA Inc.			Temperature:	23°C
Attendees:	Clarke McAllister			Humidity:	42%
Project:	None			Barometric Pres.:	29.61
	Rod Peloquin		Power: 120VAC/60Hz	Job Site:	EV06
TEST SPECIFICATI	IONS		Test Method		
FCC 15.247 2006-2			ANSI C63.4 2003		
COMMENTS					
DEVIATIONS FROM	M TEST STANDARD				
Configuration #	1	Rocky Le	Reling		

Modes of Operation and Test Conditions	Value	Limit	Result
Low Channel	25.94 mW	1 W	Pass
Mid Channel	26.18 mW	1 W	Pass
High Channel	26.85 mW	1 W	Pass

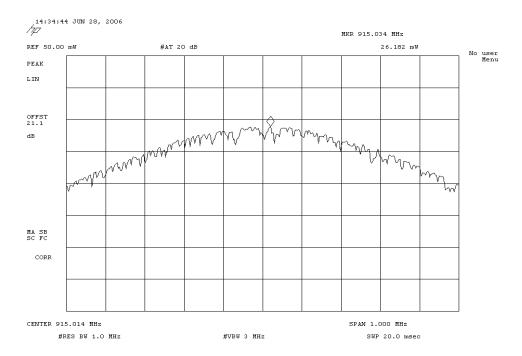
Low Channel

Result: Pass Value: 25.94 mW Limit: 1 W



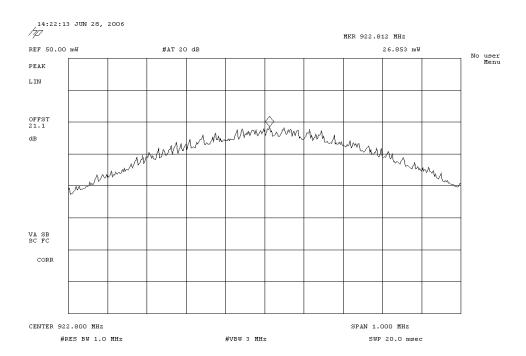
Mid Channel

Result: Pass Value: 26.18 mW Limit: 1 W



High Channel

Result: Pass Value: 26.85 mW Limit: 1 W





BAND EDGE COMPLIANCE

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT							
Description	Manufacturer	Model	ID	Last Cal.	Interval		
Spectrum Analyzer	Hewlett-Packard	8593E	AAN	1/25/2006	13		

MEASUREMENT UNCERTAINTY

Measurement uncertainty is used to reflect the accuracy of the measured result as compared with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. In the case of transient tests our test equipment has been demonstrated by calibration to provide at least a 95% confidence that it complies with the test specification requirements. The measurement uncertainty for any test is available upon request.

TEST DESCRIPTION

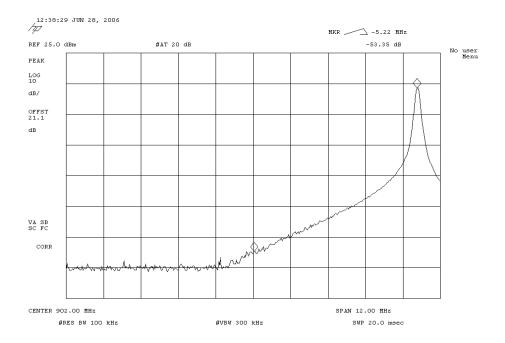
The spurious RF conducted emissions at the edges of the authorized band were measured with the EUT set to low and high transmit frequencies. The measurement was made using a direct connection between the RF output of the EUT and the spectrum analyzer. The EUT was transmitting at its maximum data rate in a no hop mode. The channels closest to the band edges were selected. The spectrum was scanned across each band edge from 5 MHz below the band edge to 5 MHz above the band edge.

NODTHERE							XMit 2006.03.01
NORTHWEST		BAND ED	GE COME	PLIANCE			XIVIIL 2000.03.01
EMC			OE GOMII				
	M8S radio in PAD 350	0			W	ork Order: ELETO	
Serial Number:	Beta 8 (Host)				_	Date: 06/28/	06
Customer: Attendees:	ADASA Inc.				Ten	nperature: 23°C	
Project:					Baromo	Humidity: 34% tric Pres.: 30.09	
Tested by:	Greg Kiemel		Power:		Baronie	Job Site: EV06	
TEST SPECIFICATI	ONS		1 GWGI.	Test Method		00D 0110: 2100	
FCC 15.247 2006-2				ANSI C63.4 2003	3		
COMMENTS							
DEVIATIONS EDON	A TECT CTANDARD						
DEVIATIONS FROM	I TEST STANDARD						
			/				
Configuration #	1		ADU.K.	\mathcal{L}			
	-	Signature	10				
Modes of Opera	tion and Test Cond	ditions			Value	Limit	Result
Low Channel					-53.35 dBc	≤ -20 dBc	Pass
High Channel					-52.39 dBc	≤ -20 dBc	Pass
J							

BAND EDGE COMPLIANCE

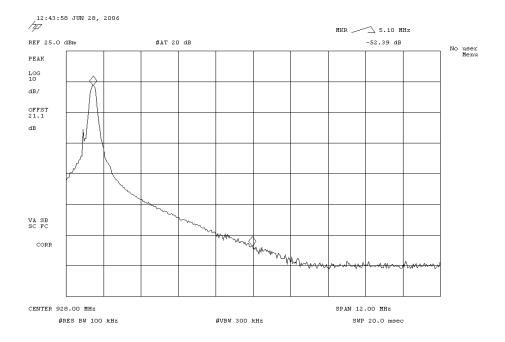
 Low Channel

 Result: Pass
 Value: -53.35 dBc
 Limit: ≤ -20 dBc



 High Channel

 Result: Pass
 Value: -52.39 dBc
 Limit: ≤ -20 dBc



BAND EDGE COMPLIANCE



Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT							
Description	Manufacturer	Model	ID	Last Cal.	Interval		
Spectrum Analyzer	Hewlett-Packard	8593E	AAN	1/25/2006	13		

MEASUREMENT UNCERTAINTY

Measurement uncertainty is used to reflect the accuracy of the measured result as compared with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. In the case of transient tests our test equipment has been demonstrated by calibration to provide at least a 95% confidence that it complies with the test specification requirements. The measurement uncertainty for any test is available upon request.

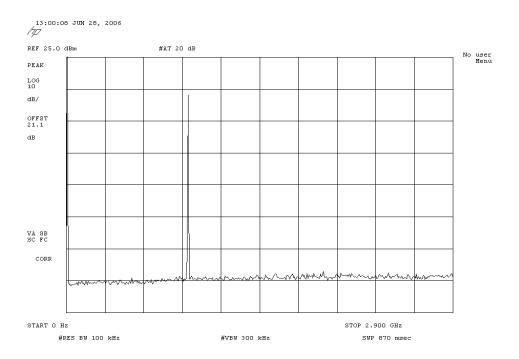
TEST DESCRIPTION

The spurious RF conducted emissions were measured with the EUT set to low, medium, and high transmit frequencies. The measurements were made using a direct connection between the RF output of the EUT and the spectrum analyzer. The EUT was transmitting at its maximum data rate in a no hop mode. For each transmit frequency, the spectrum was scanned throughout the specified frequency.

NORTHWEST	ODI		NDUATE	FMICOLO	NO	XMit 2006.03.01
EMC	SPU	IRIOUS CO	NDUCTEL) EMISSIO	NS	
EUT:	M8S radio in PAD 3500				Work Order:	ELET0003
Serial Number:	Beta 8 (Host)				Date:	06/28/06
Customer:	ADASA Inc.				Temperature:	23°C
Attendees:	Clarke McAllister				Humidity:	38%
Project:					Barometric Pres.:	
	Rod Peloquin		Power:	120VAC/60Hz	Job Site:	EV06
TEST SPECIFICATION	ONS			Test Method		
FCC 15.247 2006-2				ANSI C63.4 2003		
COMMENTS						
DEVIATIONS FROM	TEST STANDARD					
Configuration #	1	Signature	ADU.K.	ρ		

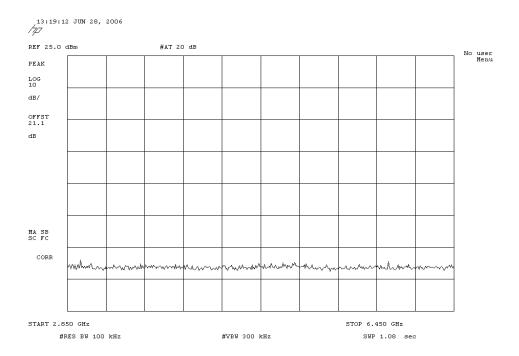
Modes of Operation and Test Conditions	Value	Limit	Result
Low Channel, 0MHz - 2.9GHz	< -50 dBc	≤ -20 dBc	Pass
Low Channel, 2.85GHz-6.45GHz	< -50 dBc	≤ -20 dBc	Pass
Low Channel, 6.4GHz-10GHz	< -50 dBc	≤ -20 dBc	Pass
Mid Channel, 0MHz - 2.9GHz	< -50 dBc	≤ -20 dBc	Pass
Mid Channel, 2.85GHz-6.45GHz	< -50 dBc	≤ -20 dBc	Pass
Mid Channel, 6.4GHz-10GHz	< -50 dBc	≤ -20 dBc	Pass
High Channel, 0MHz - 2.9GHz	< -50 dBc	≤ -20 dBc	Pass
High Channel, 2.85GHz-6.45GHz	< -50 dBc	≤ -20 dBc	Pass
High Channel, 6.4GHz-10GHz	< -50 dBc	≤ -20 dBc	Pass

	Low Channel, 0MHz - 2.9GHz		
Result: Pass	Value: < -50 dBc	Limit:	≤ -20 dBc

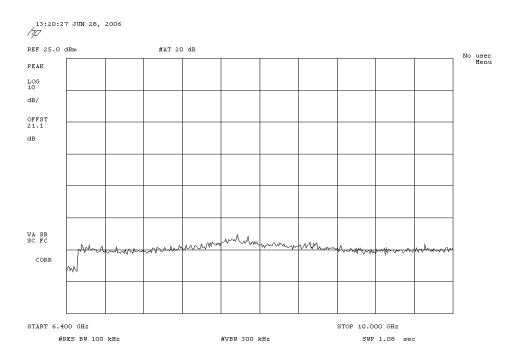


 Low Channel, 2.85GHz-6.45GHz

 Result: Pass
 Value: < -50 dBc</th>
 Limit: ≤ -20 dBc

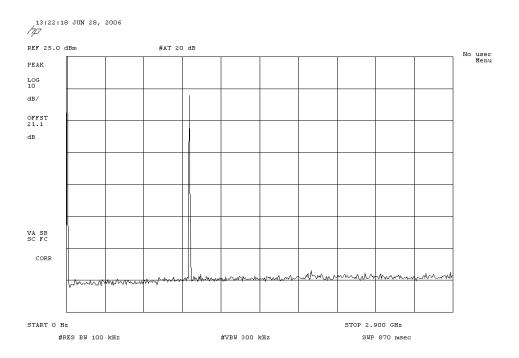


	Low Channel, 6.4GHz-10GHz		
Result: Pass	Value: < -50 dBc	Limit:	≤ -20 dBc

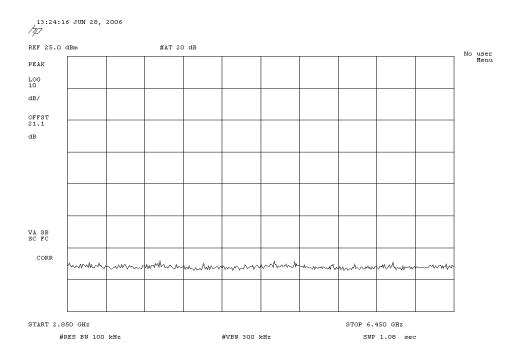


 Mid Channel, 0MHz - 2.9GHz

 Result: Pass
 Value: < -50 dBc</th>
 Limit: ≤ -20 dBc

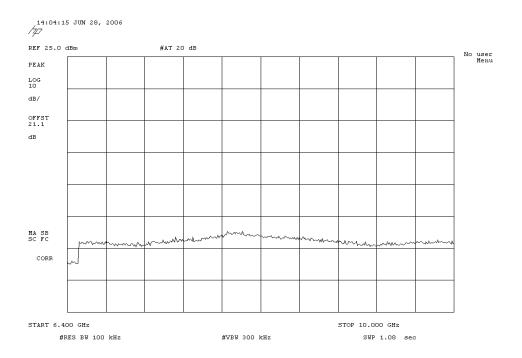


	Mid Channel, 2.85GHz-6.45GHz		
Result: Pass	Value: < -50 dBc	Limit:	≤ -20 dBc



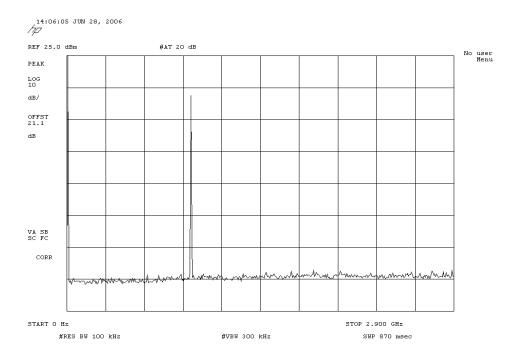
 Mid Channel, 6.4GHz-10GHz

 Result: Pass
 Value: < -50 dBc</th>
 Limit: ≤ -20 dBc



High Channel, 0MHz - 2.9GHz

Result: Pass Value: < -50 dBc Limit: ≤ -20 dBc

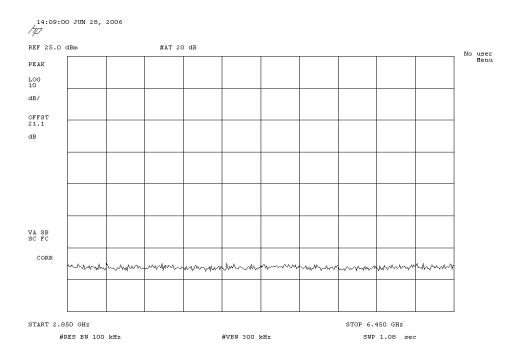


High Channel, 2.85GHz-6.45GHz

Result: Pass

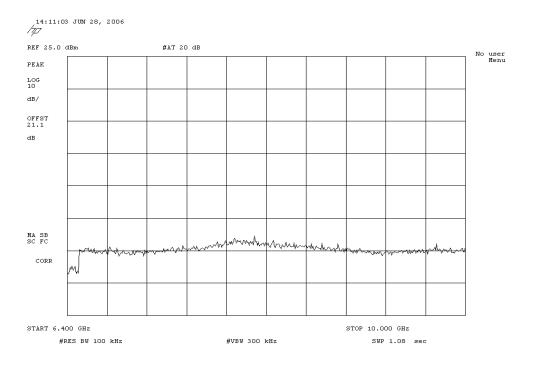
Value: < -50 dBc

Limit: ≤ -20 dBc



High Channel, 6.4GHz-10GHz

Result: Pass Value: < -50 dBc Limit: ≤ -20 dBc





PSA 2006.05.30

SPURIOUS RADIATED EMISSIONS

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

MODES OF OPERATION

RFID low channel,

RFID high channel,

RFID mid channel

POWER SETTINGS INVESTIGATED

120V/AC/60Hz

FREQUENCY RANGE INVESTIGATED					
Start Frequency	30 MHz	Stop Frequency			

Stop Frequency 12.5 GHz

SAMPLE CALCULATIONS

Radiated Emissions: Field Strength = Measured Level + Antenna Factor + Cable Factor - Amplifier Gain + Distance Adjustment Factor + External Attenuation

TEST EQUIPMENT					
Description	Manufacturer	Model	ID	Last Cal.	Interval
EV01 cables g,h,j			EVB	3/30/2006	13
EV01 cables c,g, h			EVA	3/30/2006	13
.5-1 GHz Notch Filter	K&L Microwave	3TNF-500/1000-N/N	HFT	8/4/2005	13
Antenna, Horn	EMCO	3115	AHC	8/30/2005	12
Antenna, Biconilog	EMCO	3141	AXE	12/28/2005	24
Low Pass Filter 0-425 MHz	Micro-Tronics	LPM50003	LFB	9/28/2005	13
Low Pass Filter 0-1000 MHz	Micro-Tronics	LPM50004	LFD	9/28/2005	13
High Pass Filter 1.2 - 18 GHz	Micro-Tronics	HPM50108	HFV	9/28/2005	13
Pre-Amplifier	Miteq	AMF-4D-010100-24-10P	APW	8/2/2005	13
Pre-Amplifier	Miteq	AM-1616-1000	AOL	1/4/2006	13
Spectrum Analyzer	Agilent	E4446A	AAT	4/4/2006	12

EASUREMEN	T BANDWIDTHS			
	Frequency Range	Peak Data	Quasi-Peak Data	Average Data
	(MHz)	(kHz)	(kHz)	(kHz)
	0.01 - 0.15	1.0	0.2	0.2
	0.15 - 30.0	10.0	9.0	9.0
	30.0 - 1000	100.0	120.0	120.0
	Above 1000	1000.0	N/A	1000.0
N.	Aeasurements were made using	n the handwidths and det	ectors specified No video filter	r was used

MEASUREMENT UNCERTAINTY

Measurement uncertainty is used to reflect the accuracy of the measured result as compared with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. In the case of transient tests our test equipment has been demonstrated by calibration to provide at least a 95% confidence that it complies with the test specification requirements. The measurement uncertainty for any test is available upon request.

TEST DESCRIPTION

The highest gain of each type of antenna to be used with the EUT was tested. The EUT was configured for low, mid, and high channels in both frequency bands. For each configuration, the spectrum was scanned throughout the specified range. In addition, measurements were made in the restricted bands to verify compliance. While scanning, emissions from the EUT were maximized by rotating the EUT on a turntable, adjusting the position of the EUT and the EUT antenna in three orthogonal axis, and adjusting measurement antenna height and polarization, and manipulating the EUT antenna in 3 orthogonal planes (per ANSI C63.4:2003). A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

ANSI C63.4:2003 FPARAMETERS Inna Height(s) (m)	
erial Number: Beta 6 (Host) Customer: ADASA Inc. Attendees: Clarke McAllister Project: None Tested by: Holly Ashkannejhad SPECIFICATIONS Test Method 15.247(d) Spurious Radiated Emissions:2005-9 PARAMETERS Ina Height(s) (m) Ina Height(s) (m) PARAMETERS Inardware and ADASA 5-26-06 frimware. Completely encased with copper tape. Adasa antenna. 15dBm output power. PERATING MODES high channel, ATIONS FROM TEST STANDARD Pass NVLAP Lab Code 200630-0 NVLAP Lab Code 200630-0 Reference Signature Signature Fast McModes Signature AUSI C63.4:2003 Signature Signature Fast McModes AUSI C63.4:2003 ANSI C63.4:2003 A	
Attendees: Clarke McAllister Humidity: 40% Project: None Barometric Pres.: 29.61 Tested by: Holly Ashkannejhad Power: 120VAC/60Hz Job Site: EV01 SPECIFICATIONS Test Method 15.247(d) Spurious Radiated Emissions: 2005-9 ANSI C63.4:2003 PARAMETERS Anna Height(s) (m) 1 - 4 Test Distance (m) 3 MENTS hardware and ADASA 5-26-06 frimware. Completely encased with copper tape. Adasa antenna. 15dBm output power. OPERATING MODES high channel, ATIONS FROM TEST STANDARD eviations. # 7 guration # 4 Its Pass NVLAP Lab Code 200630-0 Signature How Modes NVLAP Lab Code 200630-0 Signature How Modes NVLAP Lab Code 200630-0	
Project: None Tested by: Holly Ashkannejhad Power: 120VAC/60Hz Job Site: EV01 SPECIFICATIONS Test Method ANSI C63.4:2003 PARAMETERS The Height(s) (m) 1 - 4 Test Distance (m) MENTS Test Distance (m)	
Tested by: Holly Ashkannejhad SPECIFICATIONS Test Method 15.247(d) Spurious Radiated Emissions:2005-9 ANSI C63.4:2003 PARAMETERS In Height (s) (m) 1 - 4 MENTS Hardware and ADASA 5-26-06 frimware. Completely encased with copper tape. Adasa antenna. 15dBm output power. OPERATING MODES High channel, ATIONS FROM TEST STANDARD eviations. # 7 iguration # 4 Its Pass NVLAP Lab Code 200630-0 NVLAP Lab Code 200630-0 NVLAP Lab Code 200630-0 Its Signature Job Site: EV01 Test Method ANSI C63.4:2003 ANSI C63.4:2003 ANSI C63.4:2003 ANSI C63.4:2003 Signature From Test Distance (m) 3 MENTS ANSI C63.4:2003	
T SPECIFICATIONS Test Method ANSI C63.4:2003 T PARAMETERS Inna Height(s) (m)	
T PARAMETERS nna Height(s) (m)	
Test Distance (m) 3 MENTS hardware and ADASA 5-26-06 frimware. Completely encased with copper tape. Adasa antenna. 15dBm output power. OPERATING MODES high channel, ATIONS FROM TEST STANDARD eviations. # 7 iguration # 4 Its Pass NVLAP Lab Code 200630-0 Signature Test Distance (m) 3 Test Distance (m) 3 Test Distance (m) 3 Adasa antenna. 15dBm output power. Sometimes of the standard output power. Signature # 4 NVLAP Lab Code 200630-0	,
MENTS hardware and ADASA 5-26-06 frimware. Completely encased with copper tape. Adasa antenna. 15dBm output power. OPERATING MODES high channel, ATIONS FROM TEST STANDARD eviations. # 7 iguration # 4 Its Pass NVLAP Lab Code 200630-0 Signature NVLAP Lab Code 200630-0	,
hardware and ADASA 5-26-06 frimware. Completely encased with copper tape. Adasa antenna. 15dBm output power. OPERATING MODES Thigh channel, ATIONS FROM TEST STANDARD evolations. # 7 iguration # 4 Its Pass NVLAP Lab Code 200630-0 Signature	,
deviations. # 7 figuration # 4 ults Pass NVLAP Lab Code 200630-0 Signature Holly Adding the Signature of Sig	H
# 7 iguration # 4 Ilts Pass NVLAP Lab Code 200630-0 Signature Holy Auling Auling August 1 NVLAP Lab Code 200630-0 Signature	+
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70.0	_
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2700.000 2900.000 3100.000 3300.000 3500.000 3700.000 3900.000 4100.000 4300.000 4500.000 47	00.000
MHz	
Freq Amplitude Factor Azimuth Height Correction Attenuation Polarity Detector Adjustment Adjusted Spec. Limit	Compared to
Freq Amplitude Factor Azimuth Height Correction Attenuation Polarity Detector Adjustment Adjusted Spec. Limit (MHz) (dBuV) (dB) (degrees) (meters) Factor (dB) (dB) (dB) dBuV/m dBuV/m	Spec. (dB)
(WILL) (COURT OF THE PROPERTY	-5.2
691.334 51.1 4.6 48.0 1.1 6.9 0.0 V-Horn AV 0.0 48.8 54.0	
	-5.2
768.370 51.1 1.6 22.0 1.1 6.9 0.0 V-Horn AV 0.0 45.8 54.0 768.597 49.5 1.6 360.0 1.7 6.9 0.0 H-Horn AV 0.0 44.2 54.0	-5.2 -8.2 -9.8

					Duty Cycle									
Freq	Amplitude	Factor	Azimuth	Height	Correction	Attenuation	Polarity	Detector	Adjustment	Adjusted	Spec. Limit	Spec.		
(MHz)	(dBuV)	(dB)	(degrees)	(meters)	Factor	(dB)			(dB)	dBuV/m	dBuV/m	(dB)	Comments	
3691.231	51.1	4.6	-1.0	1.9	6.9	0.0	H-Horn	AV	0.0	48.8	54.0	-5.2	EUT on side	
3691.334	51.1	4.6	48.0	1.1	6.9	0.0	V-Horn	AV	0.0	48.8	54.0	-5.2	EUT vertical	
2768.370	51.1	1.6	22.0	1.1	6.9	0.0	V-Horn	AV	0.0	45.8	54.0	-8.2	EUT vertical	
2768.597	49.5	1.6	360.0	1.7	6.9	0.0	H-Horn	AV	0.0	44.2	54.0	-9.8	EUT on side	
3691.344	57.9	4.6	48.0	1.1	0.0	0.0	V-Horn	PK	0.0	62.5	74.0	-11.5	EUT vertical	
3691.231	53.7	4.6	-1.0	1.9	0.0	0.0	H-Horn	PK	0.0	58.3	74.0	-15.7	EUT on side	
2768.577	52.9	1.6	22.0	1.1	0.0	0.0	V-Horn	PK	0.0	54.5	74.0	-19.5	EUT vertical	
4614.067	46.9	5.9	53.0	1.1	0.0	0.0	V-Horn	PK	0.0	52.8	74.0	-21.2	EUT vertical	
2768.581	50.9	1.6	360.0	1.7	0.0	0.0	H-Horn	PK	0.0	52.5	74.0	-21.5	EUT on side	
4614.241	44.9	5.9	282.0	1.2	0.0	0.0	H-Horn	PK	0.0	50.8	74.0	-23.2	EUT on side	
4614.571	26.9	5.9	282.0	1.2	6.9	0.0	H-Horn	AV	0.0	25.9	54.0	-28.1	EUT on side	
4613.830	24.8	5.9	53.0	1.1	6.9	0.0	V-Horn	AV	0.0	23.8	54.0	-30.2	EUT vertical	
	3691.231 3691.334 2768.370 2768.597 3691.344 3691.231 2768.577 4614.067 2768.581 4614.241 4614.571	(MHz) (dBuV) 3691.231 51.1 3691.334 51.1 2768.370 51.1 2768.597 49.5 3691.344 57.9 3691.231 53.7 2768.577 52.9 4614.067 46.9 2768.581 50.9 4614.241 44.9 4614.571 26.9	(MHz) (dBuV) (dB) 3691.231 51.1 4.6 3691.334 51.1 4.6 2768.370 51.1 1.6 2768.597 49.5 1.6 3691.344 57.9 4.6 3691.231 53.7 4.6 2768.577 52.9 1.6 4614.067 46.9 5.9 2768.581 50.9 1.6 4614.241 44.9 5.9 4614.571 26.9 5.9	(MHz) (dBuV) (dB) (degrees) 3691.231 51.1 4.6 -1.0 3691.334 51.1 4.6 48.0 2768.370 51.1 1.6 22.0 2768.597 49.5 1.6 360.0 3691.344 57.9 4.6 48.0 3691.231 53.7 4.6 -1.0 2768.577 52.9 1.6 22.0 4614.067 46.9 5.9 53.0 2768.581 50.9 1.6 360.0 4614.241 44.9 5.9 282.0 4614.571 26.9 5.9 282.0	(MHz) (dBuV) (dB) (degrees) (meters) 3691.231 51.1 4.6 -1.0 1.9 3691.334 51.1 4.6 48.0 1.1 2768.370 51.1 1.6 22.0 1.1 2768.597 49.5 1.6 360.0 1.7 3691.344 57.9 4.6 48.0 1.1 3691.231 53.7 4.6 -1.0 1.9 2768.577 52.9 1.6 22.0 1.1 4614.067 46.9 5.9 53.0 1.1 2768.581 50.9 1.6 360.0 1.7 4614.241 44.9 5.9 282.0 1.2 4614.571 26.9 5.9 282.0 1.2	(MHz) (dBuV) (dB) (degrees) (meters) Factor 3691.231 51.1 4.6 -1.0 1.9 6.9 3691.334 51.1 4.6 48.0 1.1 6.9 2768.370 51.1 1.6 22.0 1.1 6.9 2768.597 49.5 1.6 360.0 1.7 6.9 3691.344 57.9 4.6 48.0 1.1 0.0 3691.231 53.7 4.6 -1.0 1.9 0.0 2768.577 52.9 1.6 22.0 1.1 0.0 4614.067 46.9 5.9 53.0 1.1 0.0 2768.581 50.9 1.6 360.0 1.7 0.0 4614.241 44.9 5.9 282.0 1.2 0.0 4614.571 26.9 5.9 282.0 1.2 6.9	Freq (MHz) Amplitude (dBuV) Factor (dB) Azimuth (degrees) Height (meters) Correction Factor Attenuation (dB) 3691.231 51.1 4.6 -1.0 1.9 6.9 0.0 3691.334 51.1 4.6 48.0 1.1 6.9 0.0 2768.370 51.1 1.6 22.0 1.1 6.9 0.0 2768.597 49.5 1.6 360.0 1.7 6.9 0.0 3691.344 57.9 4.6 48.0 1.1 0.0 0.0 3691.231 53.7 4.6 -1.0 1.9 0.0 0.0 2768.577 52.9 1.6 22.0 1.1 0.0 0.0 4614.067 46.9 5.9 53.0 1.1 0.0 0.0 2768.581 50.9 1.6 360.0 1.7 0.0 0.0 4614.241 44.9 5.9 282.0 1.2 0.0 0.0 4614.571 26.9	Freq (MHz) Amplitude (dBuV) Factor (dB) Azimuth (degrees) Height (meters) Correction Factor Attenuation (dB) Polarity 3691.231 51.1 4.6 -1.0 1.9 6.9 0.0 H-Horn 3691.334 51.1 4.6 48.0 1.1 6.9 0.0 V-Horn 2768.597 49.5 1.6 360.0 1.7 6.9 0.0 V-Horn 3691.344 57.9 4.6 48.0 1.1 0.0 0.0 V-Horn 3691.231 53.7 4.6 -1.0 1.9 0.0 0.0 H-Horn 2768.577 52.9 1.6 22.0 1.1 0.0 0.0 V-Horn 4614.067 46.9 5.9 53.0 1.1 0.0 0.0 V-Horn 4614.241 44.9 5.9 282.0 1.2 0.0 0.0 H-Horn 4614.571 26.9 5.9 282.0 1.2 6.9 0.0 H-Horn <	Freq (MHz) Amplitude (dBuV) Factor (dB) Azimuth (degrees) Height (meters) Correction Factor Attenuation (dB) Polarity Detector 3691.231 51.1 4.6 -1.0 1.9 6.9 0.0 H-Horn AV 3691.334 51.1 4.6 48.0 1.1 6.9 0.0 V-Horn AV 2768.597 49.5 1.6 360.0 1.7 6.9 0.0 V-Horn AV 3691.344 57.9 4.6 48.0 1.1 0.0 0.0 V-Horn PK 3691.231 53.7 4.6 -1.0 1.9 0.0 0.0 H-Horn PK 2768.577 52.9 1.6 22.0 1.1 0.0 0.0 V-Horn PK 4614.067 46.9 5.9 53.0 1.1 0.0 0.0 V-Horn PK 4614.241 44.9 5.9 282.0 1.2 0.0 0.0 H-Horn PK <tr< th=""><th>Freq (MHz) Amplitude (dBuV) Factor (dB) Azimuth (degrees) Height (meters) Correction Factor (meters) Attenuation Factor (dB) Polarity Detector (dB) Adjustment (dB) 3691.231 51.1 4.6 -1.0 1.9 6.9 0.0 H-Horn AV 0.0 3691.334 51.1 1.6 22.0 1.1 6.9 0.0 V-Horn AV 0.0 2768.597 49.5 1.6 360.0 1.7 6.9 0.0 V-Horn AV 0.0 3691.344 57.9 4.6 48.0 1.1 0.0 0.0 V-Horn PK 0.0 3691.231 53.7 4.6 -1.0 1.9 0.0 0.0 H-Horn PK 0.0 2768.577 52.9 1.6 22.0 1.1 0.0 0.0 V-Horn PK 0.0 4614.067 46.9 5.9 53.0 1.1 0.0 0.0 V-Horn PK 0.0 461</th><th>Freq (MHz) Amplitude (dBuV) Factor (dB) Azimuth (degrees) Height (degrees) Correction Factor (release) Attenuation Factor (dB) Polarity Detector (dB) Adjustment (dB) Adjustment (dB)V/m 3691.231 51.1 4.6 -1.0 1.9 6.9 0.0 H-Horn AV 0.0 48.8 2768.370 51.1 1.6 22.0 1.1 6.9 0.0 V-Horn AV 0.0 45.8 2768.597 49.5 1.6 360.0 1.7 6.9 0.0 H-Horn AV 0.0 44.2 3691.234 57.9 4.6 48.0 1.1 0.0 0.0 V-Horn PK 0.0 42.5 3691.231 53.7 4.6 -1.0 1.9 0.0 0.0 H-Horn PK 0.0 62.5 3691.231 53.7 4.6 -1.0 1.9 0.0 0.0 H-Horn PK 0.0 58.3 2768.577 52.9 1.6 22.0 1.1 0.0 0.0 V-Horn PK</th><th>Freq (MHz) Amplitude (dBuV) Factor (dB) Azimuth (degrees) Height (degrees) Correction Factor (redered by 100 meters) Attenuation Factor (dB) Polarity (dB) Detector (dB) Adjustment (dB) Adjustment dBuV/m dBuV/m dBuV/m Spec. 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SPURIOUS RADIATED EMISSIONS **EMC** EMI 2006.6. EUT: M8S radio in PAD 3500 Work Order: ELET0003 Serial Number: Beta 6 (Host) Date: 06/03/06 Customer: ADASA Inc. Attendees: Clarke McAllister Temperature: 24 Humidity: 40% Barometric Pres.: 29.61 Project: None Tested by: Holly Ashkannejhad TEST SPECIFICATIONS Power: 120VAC/60Hz Job Site: EV01 FCC 15.247(d) Spurious Radiated Emissions:2005-9 ANSI C63.4:2003 TEST PARAMETERS Antenna Height(s) (m) 1 - 4 Test Distance (m) COMMENTS 2.0.1 hardware and ADASA 5-26-06 frimware. Completely encased with copper tape. Adasa antenna. Output power set to P15. EUT OPERATING MODES RFID low channel, DEVIATIONS FROM TEST STANDARD No deviations. Signature Holy Aling 11 Run# Configuration # 4 Results Pass NVLAP Lab Code 200630-0 80.0 70.0 60.0 • 50.0 ٠ • • dBuV/m • 40.0 • 30.0 20.0 10.0 0.0 2700.000 3200.000 3700.000 4200.000 4700.000 5200.000 MHz Duty Cycle Correction Distance compared to Adjustment (dB) Frea Amplitude Factor Azimuth Height Attenuation Polarity Detector Adjusted Spec. Limit (dBuV) dBuV/m (dB) (dB) dBuV/m (dB) (MHz) (degrees) (meters) Factor Comments EUT horizontal 3628.953 53.0 351.0 H-Horn 50.5 6.9 0.0 0.0 -3.5 2721.710 53.9 1.5 25.0 1.2 6.9 0.0 H-Horn ΑV 0.0 48.5 54.0 -5.5 EUT horizontal 2721.835 53.1 1.5 13.0 1.1 6.9 0.0 V-Horn ΑV 0.0 47.7 54.0 -6.3 **EUT** vertical 48.7 V-Horn 54.0 -7.8 3628.943 4.4 37.0 6.9 ΑV 46.2 **EUT** vertical 1.1 0.0 0.0 5443.355 44.2 7.9 40.0 0.0 H-Horn ΑV 45.2 54.0 EUT horizontal 6.9 0.0 -8.8 3628.963 56.1 4.4 351.0 2.9 0.0 0.0 H-Horn PΚ 60.5 74.0 -13.5 **EUT** horizontal 3628.833 53.1 4.4 37.0 1.1 0.0 0.0 V-Horn PK 0.0 57.5 74.0 -16.5 **EUT** vertical 5443,425 35.9 7.9 62.0 V-Horn ΑV 36.9 54.0 EUT vertical 1.1 6.9 0.0 0.0 -17.1 2721.660 55.0 1.5 25.0 1.2 0.0 0.0 H-Horn PΚ 0.0 56.5 74.0 -17.5 EUT horizontal 2721.621 54.3 13.0 0.0 0.0 V-Horn PK PK 0.0 55.8 74.0 -18.2 **EUT** vertical 5443 369 46.8 79 40.0 1.2 0.0 0.0 H-Horn 0.0 54 7 74 0 -193 FUT horizontal 5443.359 V-Horn PK 49.4 74.0 EUT vertical 41.5 7.9 62.0 1.1 0.0 0.0 0.0 -24.6 4536.254 V-Horn PΚ 74.0 **EUT** vertical 43.5 5.8 326.0 1.1 0.0 0.0 0.0 49.3 -24.7 4536.142 30.0 5.8 274.0 1.7 6.9 0.0 H-Horn ΑV 0.0 28.9 54.0 -25.1 EUT horizontal 4536,165 40.4 5.8 274 0 1.7 0.0 0.0 H-Horn PK 0.0 46.2 74 0 -27 8 **EUT** horizontal ΑV 4536.451 326.0 V-Horn 26.1 5.8 1.1 6.9 0.0 0.0 25.0 54.0 -29.0 **EUT** vertical

	ORTHWEST EMC				SPL	JR	RIC	ΟU	SF	RAD	ΙA	TE	D	EM	ISS	SI	ONS				2006.05.3 MI 2006.6.:
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	Custo				lister													perature:			
		ject: I		WICAI	iistei													tric Pres.:			
	Tested	d by:	Holly A	Ashka	nnejhad							Powe		20VAC/6				Job Site:			
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	Freq		Amplite (dBu)		Factor (dB)		zimuth egrees		Height meters)	Correcti Factor	J11	Attenuatio (dB)	n)	Polarity	Detec	ctor	Adjustment (dB)	Adjusted dBuV/m	Spec. dBu\		Spec. (dB)
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72	(MHz) 257.856		30.		15.5		17.0		1.2	6.9		0.0		H-Horn	A۱		0.0	38.7	54		-15.3
72 90	(MHz) 257.856 072.191			ı	15.5		14.0		1.1	6.9		0.0		V-Horn	A\ A\		0.0 0.0	38.7 37.4	54		-15.3 -16.6
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72 90 90 72 72 90	(MHz) 257.856 072.191 072.243 257.848 257.876		31. 41.	1 3 0	13.2		59.0		1.1	0.0		0.0		V-Horn	Pk	< <	0.0	54.5	74	.0 .0 .0	-19.5

SPURIOUS RADIATED EMISSIONS **EMC** EMI 2006.6. EUT: M8S radio in PAD 3500 Serial Number: Beta 6 (Host) Work Order: ELET0003 Date: 06/04/06 Temperature: 24 Humidity: 40% Barometric Pres.: 29.61 Customer: ADASA Inc. Attendees: Clarke McAllister Project: None Tested by: Holly Ashkannejhad TEST SPECIFICATIONS Power: 120VAC/60Hz Job Site: EV01 FCC 15.247(d) Spurious Radiated Emissions:2005-9 ANSI C63.4:2003 TEST PARAMETERS Antenna Height(s) (m) 1 - 4 Test Distance (m) COMMENTS 2.0.1 hardware and ADASA 5-26-06 frimware. Completely encased with copper tape. Adasa antenna. Output power set to P15. EUT OPERATING MODES RFID mid channel DEVIATIONS FROM TEST STANDARD No deviations. Signature Holy Aling 13 Run# Configuration # 4 Results Pass NVLAP Lab Code 200630-0 80.0 70.0 60.0 50.0 dBuV/m 40.0 \$ 30.0 20.0 10.0 0.0 $7300.000 \quad 7500.000 \quad 7700.000 \quad 7900.000 \quad 8100.000 \quad 8300.000 \quad 8500.000 \quad 8700.000 \quad 8900.000 \quad 9100.000 \quad 8100.000 \quad 8100.0000 \quad 8$ MHz Duty Cycle Correction Distance Compared to Adjustment (dB) Frea Amplitude Factor Azimuth Height Attenuation Polarity Detector Adjusted Spec. Limit Spec. (dBuV) (dB) dBuV/m dBuV/m (dB) (dB) (MHz) (degrees) (meters) Factor Comments 7320.290 39.2 13.4 6.9 0.0 V-Horn 45.7 EUT vertical 63.0 1.1 0.0 -8.3 9150.336 30.0 15.5 63.0 1.1 6.9 0.0 V-Horn ΑV 0.0 38.6 54.0 -15.4 EUT vertical 54.0 9150.322 29.1 15.5 360.0 2.0 6.9 0.0 H-Horn ΑV 0.0 37.7 -16.3 **EUT** horizontal 37.4 54.0 30.9 H-Horn EUT horizontal 7320.266 13.4 13.0 1.2 6.9 0.0 ΑV 0.0 -16.6 7320.200 43.5 63.0 1.1 0.0 0.0 V-Horn PK 0.0 56.9 74.0 EUT vertical 13.4 9150.452 39.3 15.5 63.0 0.0 0.0 V-Horn PΚ 0.0 54.8 74.0 -19.2 EUT vertical PK PK 9150.122 38.9 15.5 360.0 2.0 1.2 0.0 0.0 H-Horn 0.0 54.4 52.7 74.0 -19.6 **EUT** horizontal

0.0

0.0

H-Horn

0.0

74.0

-21.3

EUT horizontal

7320.243

39.3

13.4

13.0

	ORTHWEST EMC			(SF	PU	JR	210	0	U	S	F	2/	1	DI	A	Ī	Ė	1)		M	I	SS	SI	Ol	NS					F		006.05.3 I 2006.6.
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	Freq (MHz)		dBuV)		(dB))	(de	egree	es)	(n	nete	rs)		(met	ters)	- 1	-	(ub)									(dB)		IBU V/II	n	aBu	ıv/m		(uD)
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73 73	(MHz) 382.653 382.659	(39.6 37.3		13.6	6 6	1	egree 167.0 194.0	0 0	(r	1.1	2		3.	.0			0.0			Н-Н	orn		А١	/		0.0		53.2 50.9		54 54	4.0 4.0		-0.8 -3.1
73 73 73	(MHz) 382.653	(39.6		13.6	6 6 6	1 1	egree 167.0	0 0 0	(r	1.1	2		3.	.0	<u> l </u>		0.0				orn orn			/ <		0.0		53.2		54 54 74	1.0		-0.8

Spurious Radiated Emissions





Spurious Radiated Emissions





CONDUCTED EMISSIONS

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

MODES OF OPERATION

RFID high channel

RFID mid channel

RFID low channel

POWER SETTINGS INVESTIGATED

120VAC/60Hz

SAMPLE CALCULATIONS

 $Conducted \ Emissions: \ Adjuste \underline{d} \ Level = \underline{Measured} \ \underline{Level} + \underline{Transducer} \ Factor + \underline{Cable} \ Attenuation \ Factor + \underline{External} \ Attenuation \ Factor + \underline{Cable} \ Attenuation \ Factor + \underline{Cab$

TEST EQUIPMENT					
Description	Manufacturer	Model	ID	Last Cal.	Interval
LISN	Solar	9252-50-R-24-BNC	LIQ	12/13/2005	13
High Pass Filter	T.T.E.	7766	HFG	12/19/2005	13
Attenuator	Coaxicom	66702 2910-20	RBS	12/19/2005	13
Quasi-Peak Adapter	Hewlett-Packard	85650A	AQD	12/21/2005	13
Spectrum Analyzer Display	Hewlett Packard	85662A	AAID	12/21/2005	13
Spectrum Analyzer	Hewlett-Packard	8568B	AAI	12/21/2005	13

Frequency Range	Peak Data	Quasi-Peak Data	Average Data
(MHz)	(kHz)	(kHz)	(kHz)
0.01 - 0.15	1.0	0.2	0.2
0.15 - 30.0	10.0	9.0	9.0
30.0 - 1000	100.0	120.0	120.0
Above 1000	1000.0	N/A	1000.0

MEASUREMENT UNCERTAINTY

Measurement uncertainty is used to reflect the accuracy of the measured result as compared with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. In the case of transient tests our test equipment has been demonstrated by calibration to provide at least a 95% confidence that it complies with the test specification requirements. The measurement uncertainty for any test is available upon request.

TEST DESCRIPTION

Using the mode of operation and configuration noted within this report, conducted emissions tests were performed. The frequency range investigated (scanned), is also noted in this report. Conducted power line measurements are made, unless otherwise specified, over the frequency range from 150 kHz to 30 MHz to determine the line-to-ground radio-noise voltage that is conducted from the EUT power-input terminals that are directly (or indirectly via separate transformer or power supplies) connected to a public power network. Equipment is tested with power cords that are normally used or that have electrical or shielding characteristics that are the same as those cords normally used. Typically those measurements are made using a LISN (Line Impedance Stabilization Network), the 50 Ω measuring port is terminated by a 50 Ω EMI meter or a 50 Ω resistive load. All 50 Ω measuring ports of the LISN are terminated by 50 Ω .

NORTHWEST **CONDUCTED EMISSIONS DATA SHEET EMC** EUT: M8S radio in PAD 3500 Work Order: ELET0003 Serial Number: Beta 8 (Host) Date: 05/31/06 Customer: ADASA Inc Temperature: 23°C Attendees: Clarke McAllister Humidity: 42% Project: None Barometric Pres.: 29.61 Tested by: David Divergigelis TEST SPECIFICATIONS Power: 120VAC/60Hz Job Site: EV07 FCC 15,207 Class B:2005-10 ANSI C63.4:2003 TEST PARAMETERS Cable or Line Tested N COMMENTS EUT OPERATING MODES RFID low channel **DEVIATIONS FROM TEST** STANDARD No deviations. Run# Signature David Di Vergegelis Configuration # 1 Results Pass NVLAP Lab Code 200630-0 80.0 70.0 60.0 50.0 dBuV 40.0 30.0 20.0 10.0 0.0 0.100 1.000 10.000 100.000 MHz External Compared to Amplitude Spec. Limit Frea Transducer Cable Adjusted Attenuation Detector (dBuV) dBuV (dB) blank equal peak [PK] from scan) (dB) (dB) dBuV (dB) (MHz) 5.409 50.0 9.6 0.5 0.0 20.0 ΑV 30.1 -19.9 5.409 14.5 0.5 0.0 20.0 QP 35.0 60.0 -25.0 5.567 27.7 0.5 0.0 20.0 48.2 50.0 -1.8 3.926 22.8 43.3 46.0 -2.7 0.5 0.0 20.0 3.986 22.8 0.5 0.0 20.0 43.3 46.0 -2.7 4 047 -2.8 22.7 0.5 0.0 20.0 43.2 46.0 0.5 3.796 22.6 0.0 20.0 43.1 46.0 -2.9 4.167 22.5 0.5 0.0 20.0 43.0 46.0 -3.0 4.227 22.5 0.5 0.0 20.0 43.0 46.0 -3.0 4.287 22.4 0.5 0.0 20.0 42.9 46.0 -3.1 4.107 22.2 0.5 0.0 20.0 42.7 46.0 -3.3 4.357 22.2 0.5 0.0 20.0 42.7 46.0 -3.3 -3.5 3.866 22.0 0.5 0.0 20.0 42.5 46.0 46.0 3 736 21.9 0.5 0.0 20.0 42 4 -3.6 0.916 21.6 0.7 0.0 20.0 42.3 46.0 -3.7 1.735 21.8 0.5 0.0 20.0 42.3 46.0 -3.7

4.467

1.385

1.445

21.7

21.6

0.5

0.5

0.0

0.0

0.0

20.0

20.0

20.0

42.2

42.1

42.1

46.0

46.0

46.0

-3.8

-3.9

-3.9

NORTHWEST **CONDUCTED EMISSIONS DATA SHEET EMC** EUT: M8S radio in PAD 3500 Work Order: ELET0003 Serial Number: Beta 8 (Host) Date: 05/31/06 Customer: ADASA Inc. Temperature: 23°C Attendees: Clarke McAllister Humidity: 42% Project: None Barometric Pres.: 29.61 Tested by: David Divergigelis Power: 120VAC/60Hz Job Site: EV07 TEST SPECIFICATIONS FCC 15,207 Class B:2005-10 ANSI C63.4:2003 TEST PARAMETERS Cable or Line Tested L1 COMMENTS EUT OPERATING MODES RFID low channel **DEVIATIONS FROM TEST STANDARD** No deviations. Run# 2 Signature David Di Vergegelis Configuration # 1 Results Pass NVLAP Lab Code 200630-0 80 70 60 50 dBuV 40 30 20 10 0 0.1 1 10 100 MHz External Compared to Freq Amplitude Cable Spec. Limit Transducer Detector Adjusted Attenuation blank equal peak [PK] from scan) dBuV (dBuV) (dB) (dB) (dB) dBuV (dB) (MHz) 3.816 20.0 21.9 0.5 0.0 42.4 46.0 -3.6 1.605 21.8 0.5 0.0 20.0 42.3 46.0 -3.7 1.775 21.8 0.5 0.0 20.0 42.3 46.0 -3.7 3.996 0.5 42.3 46.0 -3.7 21.8 0.0 20.0 3.636 21.6 0.5 0.0 20.0 42.1 46.0 -3.9 3 886 20.0 46.0 21.5 0.5 0.0 42 0 -4.0 1.485 0.5 20.0 21.4 0.0 41.9 46.0 -4.1 3.936 21.4 0.5 0.0 20.0 41.9 46.0 -4.1 1.425 21.2 0.5 0.0 20.0 41.7 46.0 -4.3 1.545 21.2 0.5 0.0 20.0 41.7 46.0 -4.3 3.756 20.0 41.7 46.0 21.2 0.5 0.0 -4.3 0.783 20.5 1.1 0.0 20.0 41.6 46.0 -4.4 46.0 1.895 0.5 0.0 20.0 41.6 -4.4 21.1 2 006 46.0 0.5 0.0 20.0 41.6 -4.4 21.1 0.604 19.9 1.6 0.0 20.0 41.5 46.0 -4.5 1.375 21.0 0.5 0.0 20.0 41.5 46.0 -4.5 1.955 21.0 0.5 0.0 20.0 41.5 46.0 -4.5

0.0

0.0

0.5

20.0

20.0

41.5

41.5

46.0

46.0

-4.5

2.066

4.127

21.0

NORTHWEST **CONDUCTED EMISSIONS DATA SHEET EMC** EUT: M8S radio in PAD 3500 Work Order: ELET0003 Serial Number: Beta 8 (Host) Date: 05/31/06 Customer: ADASA Inc Temperature: 23°C Attendees: Clarke McAllister Humidity: 42% Project: None Barometric Pres.: 29.61 Tested by: David Divergigelis TEST SPECIFICATIONS Power: 120VAC/60Hz Job Site: EV07 FCC 15,207 Class B:2005-10 ANSI C63.4:2003 TEST PARAMETERS Cable or Line Tested L1 COMMENTS EUT OPERATING MODES RFID mid channel STANDARD **DEVIATIONS FROM TEST** No deviations. Run# 3 Signature David Di Vergegelis Configuration # 1 Results Pass NVLAP Lab Code 200630-0 80 70 60 50 dBuV 40 30 20 10 0 0.1 1 10 100 MHz External Compared to Amplitude Cable Spec. Limit Frea Transducer Detector Adjusted Attenuation dBuV (dBuV) (dB) blank equal peak [PK] from scan) (dB) (dB) dBuV (dB) (MHz) 1.955 20.0 21.3 0.5 0.0 41.8 46.0 -4.2 1.485 20.8 0.5 0.0 20.0 41.3 46.0 -4.7 1.425 20.7 0.5 0.0 20.0 41.2 46.0 -4.8 1.775 0.5 41.1 46.0 -4.9 20.6 0.0 20.0 3.766 20.3 0.5 0.0 20.0 40.8 46.0 -5.2 46.0 1 655 20.2 0.5 0.0 20.0 40.7 -5.3 0.5 20.0 1.895 20.2 0.0 40.7 46.0 -5.3 1.545 20.0 0.5 0.0 20.0 40.5 46.0 -5.5 1.015 19.9 0.5 0.0 20.0 40.4 46.0 -5.6 0.604 18.8 1.6 0.0 20.0 40.4 46.0 -5.6 3.886 20.0 46.0 19.9 0.5 0.0 40.4 -5.6 4.007 19.9 0.5 0.0 20.0 40.4 46.0 -5.6 46.0 -5.6 0.725 1.3 0.0 20.0 40.4 19.1 46.0 1.195 198 0.5 0.0 20.0 40.3 -5.7 1.315 19.8 0.5 0.0 20.0 40.3 46.0 -5.7 2.016 19.8 0.5 0.0 20.0 40.3 46.0 -5.7 2.316 19.8 0.5 0.0 20.0 40.3 46.0 -5.7

0.0

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-5.7

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4.067

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NORTHWES		COI	NDUCTED I	EMIS	SIONS	DAT	A SHI	EET			Q-2006.05.30 EMI 2005.9.18
		M8S radio in PAD 35	00					Wo	ork Order:	ELET0003	
		Beta 8 (Host)							Date:	05/31/06	
		ADASA Inc.							perature:		
		Clarke McAllister							Humidity:		
	roject:	None David Divergigelis			Dower	1201/10/06		Barome	tric Pres.:		
TEST SPECI	EICATI	ONS			Power:	120VAC/60 Test Metho			Job Site:	EVU/	
FCC 15.207						ANSI C63.4					
FCC 15.207 (Ciass E	S.2005-10				ANSI Cos.2	1.2003				
TEST PARA											
Cable or Lin		ed					N				
COMMENTS											
EUT OPERA RFID mid ch	annel										
No deviation		TEST STANDARD									
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0 0.			1				10				100
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Freq		Amplitude	Transducer	Cable	External Attenuation		Detector		Adjusted	Spec. Limit	Compared to Spec.
(MHz)	0.541	(dBuV) 20.5	(dB)	(dB)	(dB)		(blank equal peaks [PK] from scan)		dBuV 42.3	dBuV 46.0	(dB) -3.7
	0.541	20.5	1.8						42.3 41.8	46.0 46.0	-3.7 -4.2
	3.536	21.1	0.5						41.6	46.0	-4.4
	1.315	21.0	0.5						41.5	46.0	-4.5
	3.716	20.8	0.5	0.0	20.0				41.3	46.0	-4.7
	1.495	20.7	0.5						41.2	46.0	-4.8
	3.346	20.7	0.5						41.2	46.0	-4.8
	1.145	20.6	0.5						41.1	46.0	-4.9
	3.596	20.6	0.5						41.1	46.0	-4.9
	3.896 4.987	20.5 20.5	0.5 0.5						41.0 41.0	46.0 46.0	-5.0 -5.0
	0.908	20.5	0.5						41.0	46.0 46.0	-5.0 -5.0
	3.776	20.2	0.5						40.9	46.0	-5.0 -5.1
	3.956	20.4	0.5						40.9	46.0	-5.1
	3.476	20.3	0.5						40.8	46.0	-5.2
	1.835	20.2	0.5						40.7	46.0	-5.3
	1.075	20.1	0.5						40.6	46.0	-5.4
	3.646	20.1	0.5						40.6	46.0	-5.4
	1.029	20.0	0.5	0.0	20.0				40.5	46.0	-5.5

NORTHWEST **CONDUCTED EMISSIONS DATA SHEET EMC** EUT: M8S radio in PAD 3500 Work Order: ELET0003 Serial Number: Beta 8 (Host) Date: 05/31/06 Customer: ADASA Inc Temperature: 23°C Attendees: Clarke McAllister Humidity: 42% Project: None Barometric Pres.: 29.61 Tested by: David Divergigelis TEST SPECIFICATIONS Power: 120VAC/60Hz Job Site: EV07 FCC 15,207 Class B:2005-10 ANSI C63.4:2003 TEST PARAMETERS Cable or Line Tested N COMMENTS EUT OPERATING MODES RFID high channel DEVIATIONS FROM TEST STANDARD No deviations. Run# 5 Signature David Di Vergegelis Configuration # 1 Results Pass NVLAP Lab Code 200630-0 80 70 60 50 dBuV 40 30 20 10 0 0.1 1 10 100 MHz External Compared to Amplitude Cable Spec. Limit Frea Transducer Detector Adjusted Attenuation (blank equal peak [PK] from scan) dBuV (dBuV) (dB) (dB) (dB) dBuV (dB) (MHz) 0.488 20.0 21.7 1.9 0.0 43.6 46.2 -2.6 0.730 19.6 1.2 0.0 20.0 40.8 46.0 -5.2 0.915 20.0 0.7 0.0 20.0 40.7 46.0 -5.3 3.616 46.0 -5.3 20.2 0.5 0.0 20.0 40.7 3.676 20.1 0.5 0.0 20.0 40.6 46.0 -5.4 46.0 -5.5 3.376 20.0 0.5 0.0 20.0 40.5 0.366 20.5 2.3 0.0 20.0 42.8 48.6 -5.8 0.669 18.7 1.4 0.0 20.0 40.1 46.0 -5.9 1.445 19.6 0.5 0.0 20.0 40.1 46.0 -5.9 1.855 19.6 0.0 20.0 40.1 46.0 -5.9 3.496 46.0 19.6 0.5 0.0 20.0 40.1 -5.9 1.095 19.5 0.5 0.0 20.0 40.0 46.0 -6.0 0.5 0.0 20.0 40.0 46.0 -6.0 1.555 19.5 46.0 0.856 19.0 0.9 0.0 20.0 39 9 -6.1 3.316 19.4 0.5 0.0 20.0 39.9 46.0 -6.1 3.986 19.4 0.5 0.0 20.0 39.9 46.0 -6.1 1.265 19.3 0.5 0.0 20.0 39.8 46.0 -6.2

0.0

0.0

1.6

20.0

20.0

46.0

46.0

39.7

-6.2

-6.3

1.325

0.609

18.1

NORTHWEST **CONDUCTED EMISSIONS DATA SHEET EMC** EUT: M8S radio in PAD 3500 Work Order: ELET0003 Serial Number: Beta 8 (Host) Date: 05/31/06 Customer: ADASA Inc Temperature: 23°C Attendees: Clarke McAllister Humidity: 42% Project: None Barometric Pres.: 29.61 Tested by: David Divergigelis TEST SPECIFICATIONS Power: 120VAC/60Hz Job Site: EV07 FCC 15,207 Class B:2005-10 ANSI C63.4:2003 TEST PARAMETERS Cable or Line Tested L1 COMMENTS EUT OPERATING MODES RFID high channel DEVIATIONS FROM TEST STANDARD No deviations. Run# 6 Signature David Di Vergegelis Configuration # 1 Results Pass NVLAP Lab Code 200630-0 80 70 60 50 dBuV 40 30 20 10 0 0.1 1 10 100 MHz External Compared to Amplitude Cable Spec. Limit Frea Transducer Detector Adjusted Attenuation dBuV (dBuV) (dB) blank equal peak [PK] from scan) (dB) (dB) dBuV (dB) (MHz) 47.3 0.429 20.0 21.4 2.1 0.0 43.5 -3.8 0.670 19.1 1.4 0.0 20.0 40.5 46.0 -5.5 1.615 19.8 0.5 0.0 20.0 40.3 46.0 -5.7 0.918 0.7 40.2 46.0 -5.8 19.5 0.0 20.0 1.855 19.4 0.5 0.0 20.0 39.9 46.0 -6.1 46.0 1 155 19.3 0.5 0.0 20.0 39.8 -6.2 0.5 20.0 46.0 1.335 19.3 0.0 39.8 -6.2 3.566 19.2 0.5 0.0 20.0 39.7 46.0 -6.3 0.488 17.9 1.9 0.0 20.0 39.8 46.2 -6.4 1.565 19.1 0.5 0.0 20.0 39.6 46.0 -6.4 20.0 46.0 1.675 19.1 0.5 0.0 39.6 -6.4 3.446 19.1 0.5 0.0 20.0 39.6 46.0 -6.4 3.876 0.5 0.0 20.0 39.6 46.0 -6.4 19.1 46.0 4 787 191 0.5 0.0 20.0 396 -6.4 4.917 19.1 0.5 0.0 20.0 39.6 46.0 -6.4 1.385 19.0 0.5 0.0 20.0 39.5 46.0 -6.5 3.686 19.0 0.5 0.0 20.0 39.5 46.0 -6.5

0.0

0.0

0.5

20.0

20.0

46.0

46.0

39.3

-6.6

-6.7

4.977

1.095

18.8

Conducted Emissions



