Radioframe Networks, Inc.

MCRB

March 29, 2006

Report No. RAFN0060

Report Prepared By

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

EMC Test Report

NORTHWEST EMC

22975 NW Evergreen Parkway
Suite 400
Hillsboro, Oregon 97124

Certificate of Test

Issue Date: March 29, 2006
Radioframe Networks, Inc.
Model: MCRB

Emissions				
Test Description	**Specification**	**Test Method**	**Pass**	**Fail**
Radiated Emissions	FCC 15.109(b) Class A:2005-10	ANSI C63.4:2003	☒	☐
Conducted Emissions	FCC 15.107 Class A:2005-10	ANSI C63.4:2003	☒	☐
Emission Mask	47 CFR 90.691:2005	TIA/EIA - 603:2002	☒	☐
Frequency Stability	47 CFR 2.1055, 90.217:2005	TIA/EIA - 603:2002	☒	☐
Output Power	47 CFR 2.1046 & 90.217:2005	TIA/EIA - 603:2002	☒	☐
Spurious Conducted Emissions-Transmit	47 CFR 2.1051 & 90.691:2005	TIA/EIA - 603:2002	☒	☐
Spurious Conducted Emissions-Receive	47 CFR 15.111(a)	ANSI C63.4:2003	☒	☐
Spurious Radiated Emissions	FCC 90.691 and 2.1053 Spurious Emissions:2005	TIA/EIA - 603-B:2002	☒	☐

Modifications made to the product
See the Modifications section of this report

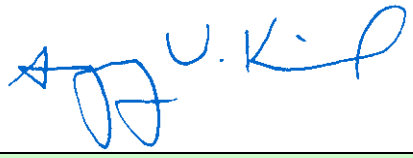
Test Facility

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 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 200629-0
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.

TÜV 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).

Technology International: Assessed in accordance with ISO Guide 25 defining the general international requirements for the competence of calibration and testing laboratories and with ITI assessment criteria LACO196. Based upon that assessment, Interference Technology International, Ltd., has granted approval for specifications implementing the EU Directive on EMC (89/336/EEC and amendments). The scope of the approval was provided on a Schedule of Assessment supplied with the certificate and is available upon request.

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 and R-1025, 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

What is measurement uncertainty?

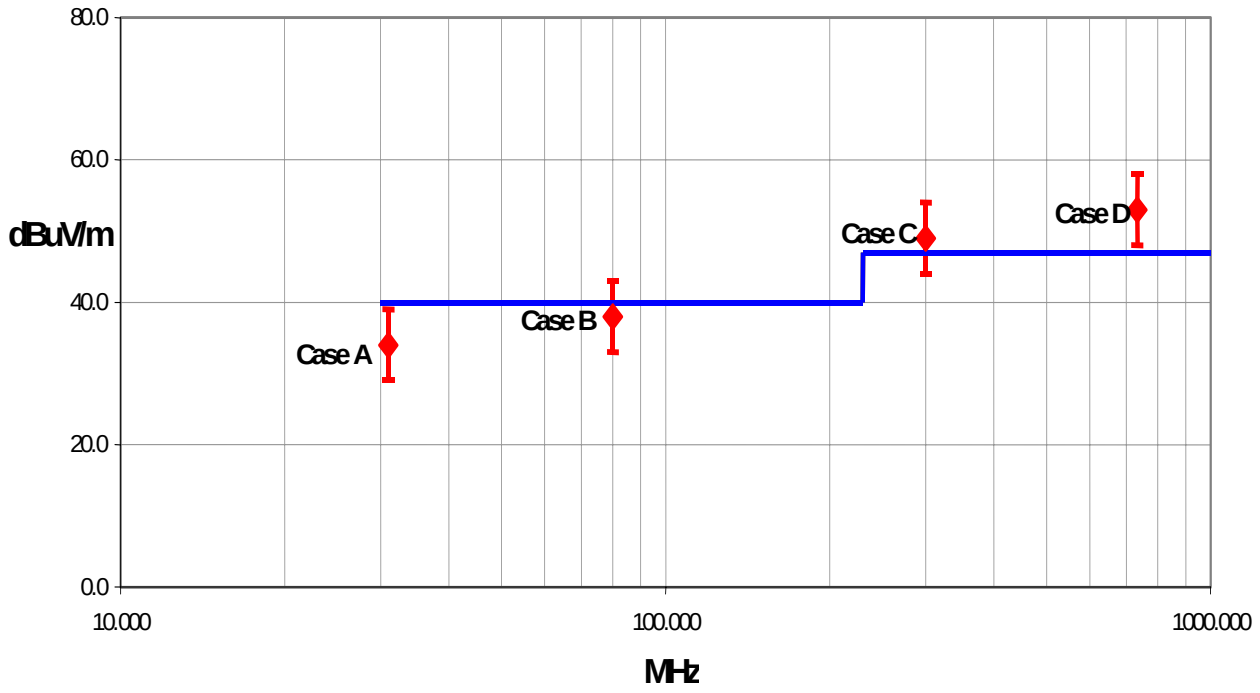
When a measurement is made, the result will be different from the true or theoretically correct value. The difference is the result of tolerances in the measurement system that cannot be completely eliminated. To the extent that technology allows us, it has been our aim to minimize this error. The following statement of measurement uncertainty is used to reflect the accuracy of the measured result as compared with its "true" value. In the case of transient tests (ESD, EFT, Surge, Voltage Dips and Interruptions), the test equipment has been demonstrated by calibration to provide at least a 95% confidence that it complies with the test specification requirements.

The following documents were the basis for determining the uncertainty levels of our measurements:

- "ISO Guide to the Expression of Uncertainty in Measurements", October 1993
- "NIS81: The Treatment of Uncertainty in EMC Measurements", May 1994
- "IEC CISPR 16-3 A1 f1 Ed.1: Radio-interference measurements and statistical techniques", December 2000

How might measurement uncertainty be applied to test results?

If the diamond marks the measured value for the test and the vertical bars bracket the range of + and – measurement uncertainty, then test results can be interpreted from the diagram below. (See CISPR 16-4-1, 4.7)



Test Result Scenarios:
Case A: Product complies.
Case B: Product conditionally complies. It is not possible to say with 95% confidence that the product complies.
Case C: Product conditionally does not comply. It is not possible to say with 95% confidence that the product does not comply.
Case D: Product does not comply.

Radiated Emissions ≤ 1 GHz

Value (dB)

Test Distance	Probability Distribution	Biconical Antenna 3m	Biconical Antenna 10m	Log Periodic Antenna 3m	Log Periodic Antenna 10m	Dipole Antenna 3m	Dipole Antenna 10m
Combined standard uncertainty $u_c(y)$	normal	+ 1.86 - 1.88	+ 1.82 - 1.87	+ 2.23 - 1.41	+ 1.29 - 1.26	+ 1.31 - 1.27	+ 1.25 - 1.25
Expanded uncertainty **U** (level of confidence ≈ 95%)	normal (k=2)	+ 3.72 - 3.77	+ 3.64 - 3.73	+ 4.46 -2.81	+ 2.59 - 2.52	+ 2.61 - 2.55	+ 2.49 - 2.49

Radiated Emissions > 1 GHz

Value (dB)

	Probability Distribution	Without High Pass Filter	With High Pass Filter
Combined standard uncertainty $u_c(y)$	normal	+ 1.29 - 1.25	+ 1.38 - 1.35
Expanded uncertainty **U** (level of confidence ≈ 95%)	normal (k=2)	+ 2.57 - 2.51	+ 2.76 - -2.70

Conducted Emissions

	Probability Distribution	Value (+/- dB)
Combined standard uncertainty ***uc(y)***	normal	1.48
Expanded uncertainty **U** (level of confidence ≈ 95 %)	normal (k = 2)	2.97

Radiated Immunity

	Probability Distribution	Value (+/- dB)
Combined standard uncertainty ***uc(y)***	normal	1.05
Expanded uncertainty **U** (level of confidence ≈ 95 %)	normal (k = 2)	2.11

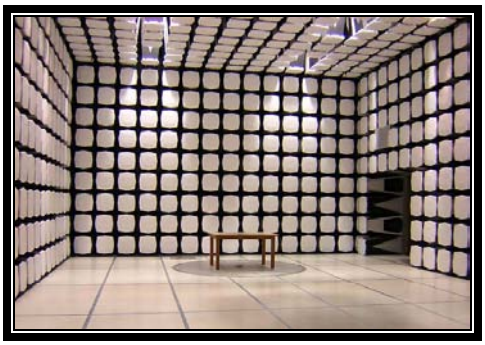
Conducted Immunity

	Probability Distribution	Value (+/- dB)
Combined standard uncertainty ***uc(y)***	normal	1.05
Expanded uncertainty **U** (level of confidence ≈ 95 %)	normal (k = 2)	2.10

Legend

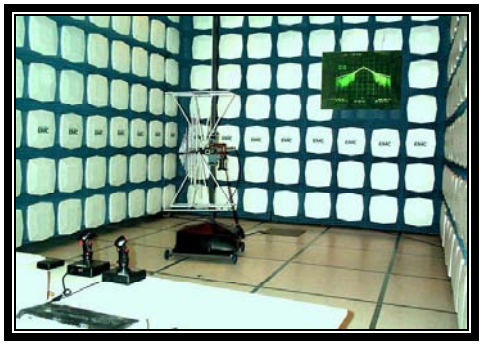
$u_c(y)$ = square root of the sum of squares of the individual standard uncertainties

U = combined standard uncertainty multiplied by the coverage factor: **k**. This defines an interval about the measured result that will encompass the true value with a confidence level of approximately 95%. If a higher level of confidence is required, then k=3 (CL of 99.7%) can be used. Please note that with a coverage factor of one, uc(y) yields a confidence level of only 68%.



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 – EV10

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

Party Requesting the Test	
Company Name:	Radioframe Networks, Inc.
Address:	1120 112th Ave NE, Suite 600
City, State, Zip:	Bellevue, WA 98004
Test Requested By:	Dean Busch
Model:	MCRB
First Date of Test:	March 20, 2006
Last Date of Test:	March 23, 2006
Receipt Date of Samples:	March 20, 2006
Equipment Design Stage:	Production
Equipment Condition:	No visual damage.

Information Provided by the Party Requesting the Test

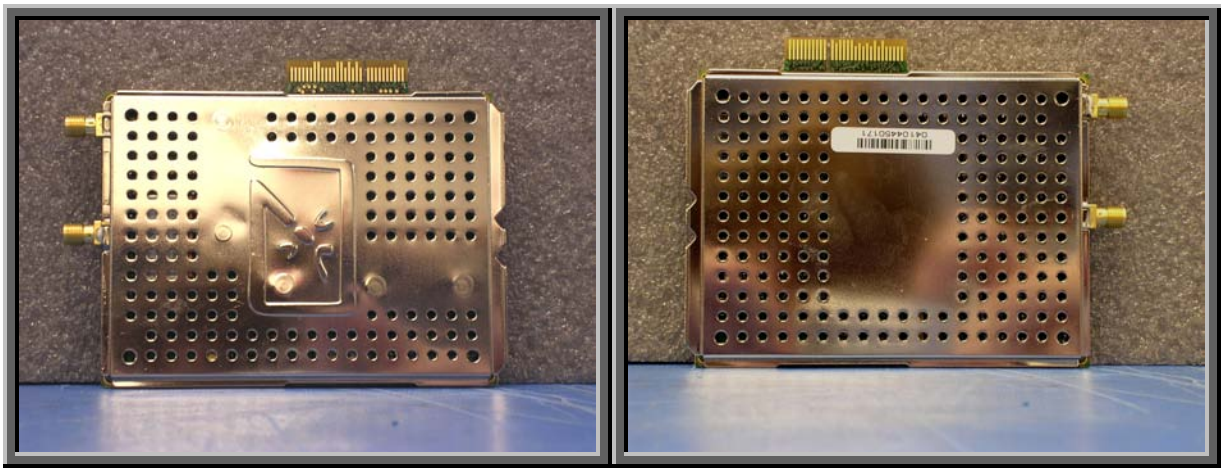
Clocks/Oscillators:	Not provided.
I/O Ports:	RF out

Functional Description of the EUT (Equipment Under Test):
Multi Band Radio blade for Cellular Micro Base Station covering both 800E MHz and 900MHz bands.

Client Justification for EUT Selection:
The product is an engineering sample, representative of the final product.

Client Justification for Test Selection:
These tests satisfy the requirements for FCC Certification

EUT Photo



CONFIGURATION 1 RAFN0060

Software/Firmware Running during test	
Description	**Version**
VxWorks	**RFN_14.0.225**
Software Script	**idencric.gz**

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
EUT- Multi-Channel RadioBlade (MCRB)	Radioframe Networks, Inc.	176-0860-00	14106110148
EUT- Multi-Channel RadioBlade (MCRB)	Radioframe Networks, Inc.	176-0860-00	14106110160
EUT- Multi-Channel RadioBlade (MCRB)	Radioframe Networks, Inc.	176-0860-00	14106110151
EUT- Multi-Channel RadioBlade (MCRB)	Radioframe Networks, Inc.	176-0860-00	14106110146
EUT- Multi-Channel RadioBlade (MCRB)	Radioframe Networks, Inc.	176-0860-00	14106110173
EUT- Multi-Channel RadioBlade (MCRB)	Radioframe Networks, Inc.	176-0860-00	14106110174

Peripherals in test setup boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
MC-15 SERIES DUAL BAND SYSTEM (3 SECTOR)	Radioframe Networks, Inc.	176-7970-xx	14106050325
FRU, DUAL BAND RF SHELF	Radioframe Networks, Inc.	176-0970-xx	14105510109
FRU, DUAL BAND RF SHELF	Radioframe Networks, Inc.	176-0970-xx	14105510110
FRU, DUAL BAND RF SHELF	Radioframe Networks, Inc.	176-0970-xx	14105510113
RadioBlade Shelf (RBS)	Radioframe Networks, Inc.	176-0535-xx	14106030127
MC-15 BTS Interface Chassis (BIC)	Radioframe Networks, Inc.	176-0900-xx	14106050474
MC Common RadioFrame Interface Card (CRIC)	Radioframe Networks, Inc.	176-7540-xx	041053919XV
MC Common RadioFrame Interface Card (CRIC)	Radioframe Networks, Inc.	176-7540-xx	041053919W3
Base Processing Card (BPC)	Radioframe Networks, Inc.	176-7570-xx	04105411HGM
Base Processing Card (BPC)	Radioframe Networks, Inc.	176-7570-xx	04105401GP1
Base Processing Card (BPC)	Radioframe Networks, Inc.	176-7570-xx	04105421JKZ
MC-15 Airlink Interface Chassis (AIC)	Radioframe Networks, Inc.	176-0800-xx	14106050522
BPC W/ LC SPAM	Radioframe Networks, Inc.	176-7565-xx	04105411HC0
SPAM	Radioframe Networks, Inc.	176-7510-xx	Unknown
SPAM	Radioframe Networks, Inc.	176-7510-xx	Unknown
BPC W/ LC SPAM	Radioframe Networks, Inc.	176-7565-xx	04105411HJX
SPAM	Radioframe Networks, Inc.	176-7510-xx	Unknown
SPAM	Radioframe Networks, Inc.	176-7510-xx	Unknown
BPC W/ LC SPAM	Radioframe Networks, Inc.	176-7565-xx	04105411HLH
SPAM	Radioframe Networks, Inc.	176-7510-xx	Unknown
SPAM	Radioframe Networks, Inc.	176-7510-xx	Unknown
Ethernet Rear Transition Module (ERTM)	Radioframe Networks, Inc.	176-7562-xx	14105320204
Ethernet Rear Transition Module (ERTM)	Radioframe Networks, Inc.	176-7562-xx	14105320203
Coaxial RMII Transceiver Card (CRTC)	Radioframe Networks, Inc.	176-0820-xx	14105480250

Remote Equipment Outside of Test Setup Boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Site Simulator	Radioframe Networks, Inc.	N/a	N/a
Site Controller	Motorola, Inc.	CCN1008N	CAF030LTC4
GPS Antenna	Hewlett-Packard	8532A	901
DC Power Supply	Sorensen	DCR 60-45B	0144

Cables					
Cable Type	**Shield**	**Length (m)**	**Ferrite**	**Connection 1**	**Connection 2**
DC Power	No	8.0	No	MC-15 SERIES DUAL BAND SYSTEM	DC Supply
BNC	Yes	30.0	No	ERTM	Site Simulator
BNC	Yes	30.0	No	Site Controller	Site Simulator
BNC	Yes	3.0	No	GPS Antenna	Site Controller
Ethernet	No	3.0	No	Site Controller	ERTM
PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown.					

CONFIGURATION 2 RAFN0060

Software/Firmware Running during test	
Description	**Version**
VxWorks	**RFN_14.0.225**
Software Script	**idencric.gz**

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
EUT- Multi-Channel RadioBlade (MCRB)	Radioframe Networks, Inc.	176-0860-00	14106110148
EUT- Multi-Channel RadioBlade (MCRB)	Radioframe Networks, Inc.	176-0860-00	14106110160
EUT- Multi-Channel RadioBlade (MCRB)	Radioframe Networks, Inc.	176-0860-00	14106110151
EUT- Multi-Channel RadioBlade (MCRB)	Radioframe Networks, Inc.	176-0860-00	14106110146
EUT- Multi-Channel RadioBlade (MCRB)	Radioframe Networks, Inc.	176-0860-00	14106110173
EUT- Multi-Channel RadioBlade (MCRB)	Radioframe Networks, Inc.	176-0860-00	14106110174

Peripherals in test setup boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
MC-15 SERIES DUAL BAND SYSTEM (3 SECTOR)	Radioframe Networks, Inc.	176-7970-xx	14106050325
FRU, DUAL BAND RF SHELF	Radioframe Networks, Inc.	176-0970-xx	14105510109
FRU, DUAL BAND RF SHELF	Radioframe Networks, Inc.	176-0970-xx	14105510110
FRU, DUAL BAND RF SHELF	Radioframe Networks, Inc.	176-0970-xx	14105510113
RadioBlade Shelf (RBS)	Radioframe Networks, Inc.	176-0535-xx	14106030127
MC-15 BTS Interface Chassis (BIC)	Radioframe Networks, Inc.	176-0900-xx	14106050474
MC Common RadioFrame Interface Card (CRIC)	Radioframe Networks, Inc.	176-7540-xx	041053919XV
MC Common RadioFrame Interface Card (CRIC)	Radioframe Networks, Inc.	176-7540-xx	041053919W3
Base Processing Card (BPC)	Radioframe Networks, Inc.	176-7570-xx	04105411HGM
Base Processing Card (BPC)	Radioframe Networks, Inc.	176-7570-xx	04105401GP1
Base Processing Card (BPC)	Radioframe Networks, Inc.	176-7570-xx	04105421JKZ
MC-15 Airlink Interface Chassis (AIC)	Radioframe Networks, Inc.	176-0800-xx	14106050522
BPC W/ LC SPAM	Radioframe Networks, Inc.	176-7565-xx	04105411HC0
SPAM	Radioframe Networks, Inc.	176-7510-xx	Unknown
SPAM	Radioframe Networks, Inc.	176-7510-xx	Unknown
BPC W/ LC SPAM	Radioframe Networks, Inc.	176-7565-xx	04105411HJX
SPAM	Radioframe Networks, Inc.	176-7510-xx	Unknown
SPAM	Radioframe Networks, Inc.	176-7510-xx	Unknown
BPC W/ LC SPAM	Radioframe Networks, Inc.	176-7565-xx	04105411HLH
SPAM	Radioframe Networks, Inc.	176-7510-xx	Unknown
SPAM	Radioframe Networks, Inc.	176-7510-xx	Unknown

Ethernet Rear Transition Module (ERTM)	Radioframe Networks, Inc.	176-7562-xx	14105320204
Ethernet Rear Transition Module (ERTM)	Radioframe Networks, Inc.	176-7562-xx	14105320203
Coaxial RMII Transceiver Card (CRTC)	Radioframe Networks, Inc.	176-0820-xx	14105480250

Remote Equipment Outside of Test Setup Boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Site Simulator	Radioframe Networks, Inc.	N/a	N/a
Site Controller	Motorola, Inc.	CCN1008N	CAF030LTC4
GPS Antenna	Hewlett-Packard	8532A	901
DC Power Supply	Sorensen	DCR 60-45B	0144
DC Power Supply	Electronic Measurements, Inc.	EMS 60-33	20K11738

Cables					
Cable Type	**Shield**	**Length (m)**	**Ferrite**	**Connection 1**	**Connection 2**
DC Power	No	8.0	No	MC-15 SERIES DUAL BAND SYSTEM	DC Supply
BNC	Yes	30.0	No	ERTM	Site Simulator
BNC	Yes	30.0	No	Site Controller	Site Simulator
BNC	Yes	3.0	No	GPS Antenna	Site Controller
Ethernet	No	3.0	No	Site Controller	ERTM
PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown.					

CONFIGURATION 3 RAFN0060

Software/Firmware Running during test	
Description	**Version**
VxWorks	**RFN_14.0.225**
Software Script	**idencric.gz**

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
EUT- Multi-Channel RadioBlade (MCRB)	Radioframe Networks, Inc.	176-0860-00	14106110148
EUT- Multi-Channel RadioBlade (MCRB)	Radioframe Networks, Inc.	176-0860-00	14106110160
EUT- Multi-Channel RadioBlade (MCRB)	Radioframe Networks, Inc.	176-0860-00	14106110151
EUT- Multi-Channel RadioBlade (MCRB)	Radioframe Networks, Inc.	176-0860-00	14106110146
EUT- Multi-Channel RadioBlade (MCRB)	Radioframe Networks, Inc.	176-0860-00	14106110173
EUT- Multi-Channel RadioBlade (MCRB)	Radioframe Networks, Inc.	176-0860-00	14106110174

Peripherals in test setup boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
MC-15 SERIES DUAL BAND SYSTEM (3 SECTOR)	Radioframe Networks, Inc.	176-7970-xx	14106050325
FRU, DUAL BAND RF SHELF	Radioframe Networks, Inc.	176-0970-xx	14105510109
FRU, DUAL BAND RF SHELF	Radioframe Networks, Inc.	176-0970-xx	14105510110
FRU, DUAL BAND RF SHELF	Radioframe Networks, Inc.	176-0970-xx	14105510113
RadioBlade Shelf (RBS)	Radioframe Networks, Inc.	176-0535-xx	14106030127
MC-15 BTS Interface Chassis (BIC)	Radioframe Networks, Inc.	176-0900-xx	14106050474
MC Common RadioFrame Interface Card (CRIC)	Radioframe Networks, Inc.	176-7540-xx	041053919XV
MC Common RadioFrame Interface Card (CRIC)	Radioframe Networks, Inc.	176-7540-xx	041053919W3
Base Processing Card (BPC)	Radioframe Networks, Inc.	176-7570-xx	04105411HGM
Base Processing Card (BPC)	Radioframe Networks, Inc.	176-7570-xx	04105401GP1

Base Processing Card (BPC)	Radioframe Networks, Inc.	176-7570-xx	04105421JKZ
MC-15 Airlink Interface Chassis (AIC)	Radioframe Networks, Inc.	176-0800-xx	14106050522
BPC W/ LC SPAM	Radioframe Networks, Inc.	176-7565-xx	04105411HC0
SPAM	Radioframe Networks, Inc.	176-7510-xx	Unknown
SPAM	Radioframe Networks, Inc.	176-7510-xx	Unknown
BPC W/ LC SPAM	Radioframe Networks, Inc.	176-7565-xx	04105411HJX
SPAM	Radioframe Networks, Inc.	176-7510-xx	Unknown
SPAM	Radioframe Networks, Inc.	176-7510-xx	Unknown
BPC W/ LC SPAM	Radioframe Networks, Inc.	176-7565-xx	04105411HLH
SPAM	Radioframe Networks, Inc.	176-7510-xx	Unknown
SPAM	Radioframe Networks, Inc.	176-7510-xx	Unknown
Ethernet Rear Transition Module (ERTM)	Radioframe Networks, Inc.	176-7562-xx	14105320204
Ethernet Rear Transition Module (ERTM)	Radioframe Networks, Inc.	176-7562-xx	14105320203
Coaxial RMII Transceiver Card (CRTC)	Radioframe Networks, Inc.	176-0820-xx	14105480250

Remote Equipment Outside of Test Setup Boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Site Simulator	Radioframe Networks, Inc.	N/a	N/a
Site Controller	Motorola, Inc.	CCN1008N	CAF030LTC4
GPS Antenna	Hewlett-Packard	8532A	901
DC Power Supply	Sorensen	DCR 60-45B	0144

Cables					
Cable Type	**Shield**	**Length (m)**	**Ferrite**	**Connection 1**	**Connection 2**
DC Power	No	8.0	No	MC-15 SERIES DUAL BAND SYSTEM	DC Supply
BNC	Yes	30.0	No	ERTM	Site Simulator
BNC	Yes	30.0	No	Site Controller	Site Simulator
BNC	Yes	3.0	No	GPS Antenna	Site Controller
Ethernet	No	3.0	No	Site Controller	ERTM
PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown.					

CONFIGURATION 4 RAFN0060

Software/Firmware Running during test	
Description	**Version**
VxWorks	**RFN_14.0.225**
Software Script	**idencric.gz**

EUT			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
EUT- Multi-Channel RadioBlade (MCRB)	Radioframe Networks, Inc.	176-0860-00	14106110148
EUT- Multi-Channel RadioBlade (MCRB)	Radioframe Networks, Inc.	176-0860-00	14106110160
EUT- Multi-Channel RadioBlade (MCRB)	Radioframe Networks, Inc.	176-0860-00	14106110151
EUT- Multi-Channel RadioBlade (MCRB)	Radioframe Networks, Inc.	176-0860-00	14106110146
EUT- Multi-Channel RadioBlade (MCRB)	Radioframe Networks, Inc.	176-0860-00	14106110173
EUT- Multi-Channel RadioBlade (MCRB)	Radioframe Networks, Inc.	176-0860-00	14106110174

Peripherals in test setup boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
MC-15 SERIES DUAL BAND SYSTEM (3 SECTOR)	Radioframe Networks, Inc.	176-7970-xx	14106050325
FRU, DUAL BAND RF SHELF	Radioframe Networks, Inc.	176-0970-xx	14105510109
FRU, DUAL BAND RF SHELF	Radioframe Networks, Inc.	176-0970-xx	14105510110
FRU, DUAL BAND RF SHELF	Radioframe Networks, Inc.	176-0970-xx	14105510113
RadioBlade Shelf (RBS)	Radioframe Networks, Inc.	176-0535-xx	14106030127
MC-15 BTS Interface Chassis (BIC)	Radioframe Networks, Inc.	176-0900-xx	14106050474
MC Common RadioFrame Interface Card (CRIC)	Radioframe Networks, Inc.	176-7540-xx	041053919XV
MC Common RadioFrame Interface Card (CRIC)	Radioframe Networks, Inc.	176-7540-xx	041053919W3
Base Processing Card (BPC)	Radioframe Networks, Inc.	176-7570-xx	04105411HGM
Base Processing Card (BPC)	Radioframe Networks, Inc.	176-7570-xx	04105401GP1
Base Processing Card (BPC)	Radioframe Networks, Inc.	176-7570-xx	04105421JKZ
MC-15 Airlink Interface Chassis (AIC)	Radioframe Networks, Inc.	176-0800-xx	14106050522
BPC W/ LC SPAM	Radioframe Networks, Inc.	176-7565-xx	04105411HC0
SPAM	Radioframe Networks, Inc.	176-7510-xx	Unknown
SPAM	Radioframe Networks, Inc.	176-7510-xx	Unknown
BPC W/ LC SPAM	Radioframe Networks, Inc.	176-7565-xx	04105411HJX
SPAM	Radioframe Networks, Inc.	176-7510-xx	Unknown
SPAM	Radioframe Networks, Inc.	176-7510-xx	Unknown
BPC W/ LC SPAM	Radioframe Networks, Inc.	176-7565-xx	04105411HLH
SPAM	Radioframe Networks, Inc.	176-7510-xx	Unknown
SPAM	Radioframe Networks, Inc.	176-7510-xx	Unknown
Ethernet Rear Transition Module (ERTM)	Radioframe Networks, Inc.	176-7562-xx	14105320204
Ethernet Rear Transition Module (ERTM)	Radioframe Networks, Inc.	176-7562-xx	14105320203
Coaxial RMII Transceiver Card (CRTC)	Radioframe Networks, Inc.	176-0820-xx	14105480250

Remote Equipment Outside of Test Setup Boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Site Simulator	Radioframe Networks, Inc.	N/a	N/a
Site Controller	Motorola, Inc.	CCN1008N	CAF030LTC4
GPS Antenna	Hewlett-Packard	8532A	901
DC Power Supply	Sorensen	DCR 60-45B	0144

Equipment modifications					
Item	Date	Test	Modification	Note	Disposition of EUT
1	3/20/2006	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.
2	3/20/2006	Emission Mask	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	3/21/2006	Frequency Stability	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	3/22/2006	Field Strength of Spurious radiation	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	3/22/2006	FCC 15.109 HF 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.
6	3/22/2006	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	3/23/2006	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	3/23/2006	Conducted Limits Receive Mode	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.
9	3/23/2006	Spurious Conducted Intermodulations	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	3/23/2006	Spurious Conducted Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was completed.

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

No Tx, receiving 24 Channel, 8 channel /sector (4 at 800MHz, 4 at 900MHz)

MODE USED FOR FINAL DATA

No Tx, receiving 24 Channel, 8 channel /sector (4 at 800MHz, 4 at 900MHz)

POWER SETTINGS INVESTIGATED

-48VDC

POWER SETTINGS USED FOR FINAL DATA

-48VDC

FREQUENCY RANGE INVESTIGATED

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
Spectrum Analyzer	Agilent	E4443A	AAS	12/8/2005	12
Antenna, Biconilog	EMCO	3142	AXB	1/6/2005	24
Pre-Amplifier	Miteq	AM-1551	AOY	11/28/2005	13

MEASUREMENT BANDWIDTHS

	Frequency Range (MHz)	Peak Data (kHz)	Quasi-Peak Data (kHz)	Average Data (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 EMC

RADIATED EMISSIONS DATA SHEET

PSA 2006.03.15
EMI 2006.3.14

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/23/06
Customer:	Radioframe Networks, Inc.			Temperature:	20
Attendees:	Dean Busch			Humidity:	34%
Project:	None			Barometric Pres.:	30.15
Tested by:	Rod Peloquin	Power:	-48VDC	Job Site:	EV11

TEST SPECIFICATIONS	Test Method
FCC 15.109(b) Class A:2005-10	ANSI C63.4:2003

TEST PARAMETERS			
Antenna Height(s) (m)	1 - 4	Test Distance (m)	10

COMMENTS

Full system configuration, Receive ports terminated

EUT OPERATING MODES

No Tx, receiving 24 Channel, 8 channel /sector (4 at 800MHz, 4 at 900MHz)

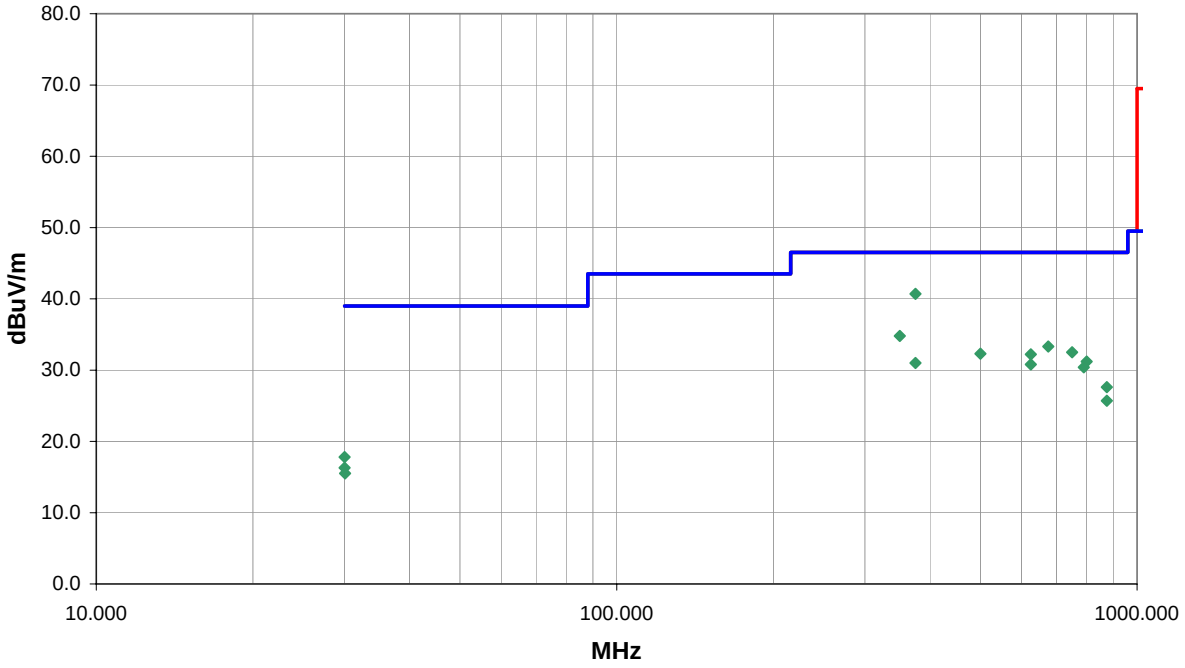
DEVIATIONS FROM TEST STANDARD

No deviations.

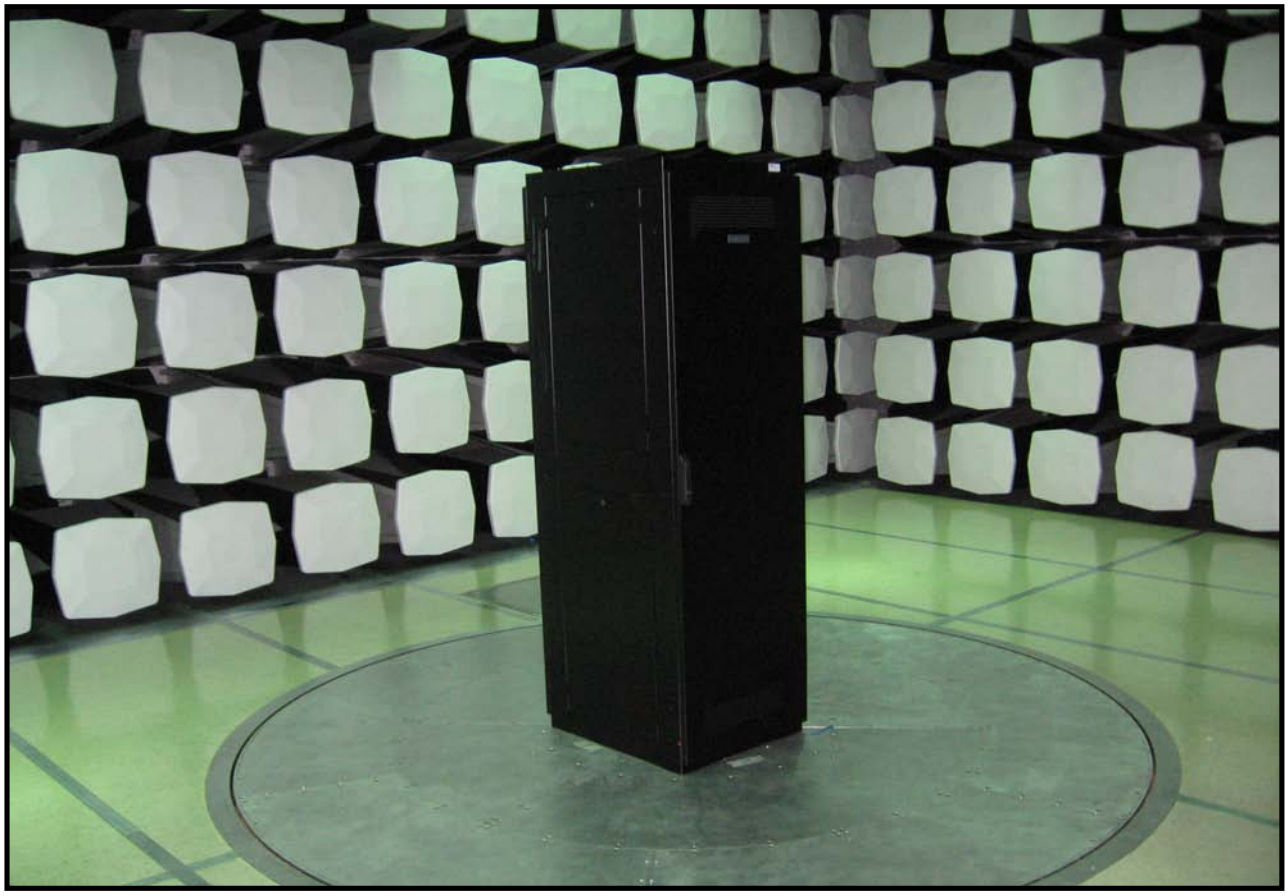
Run #	1
Configuration #	4
Results	Pass

NVLAP Lab Code 200630-0

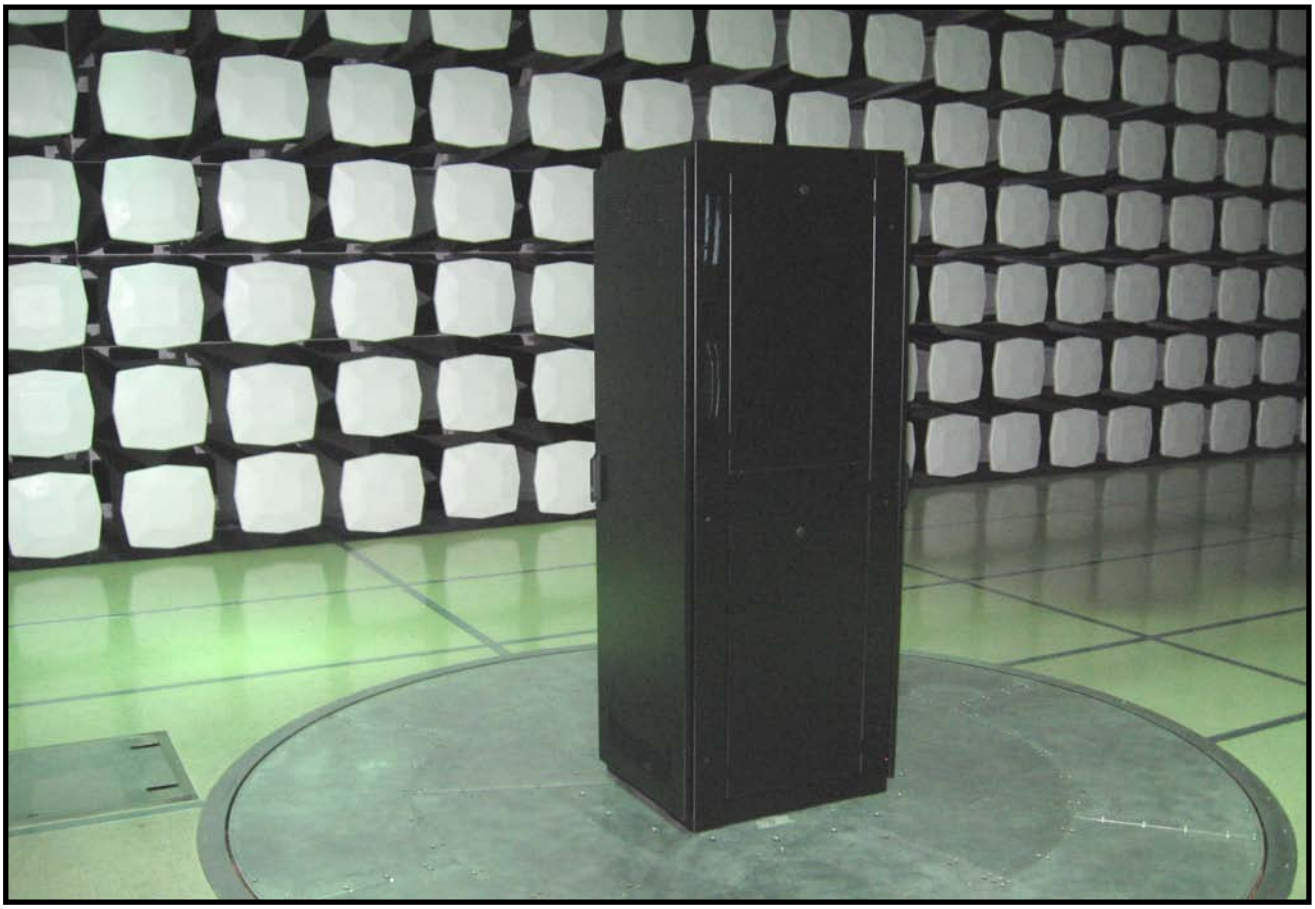
Signature



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)
375.003	58.1	-17.4	50.0	1.4	10.0	0.0	H-Bilog	QP	0.0	40.7	46.5	-5.8
350.007	52.9	-18.1	42.0	1.2	10.0	0.0	H-Bilog	QP	0.0	34.8	46.5	-11.7
675.005	45.2	-11.9	322.0	2.6	10.0	0.0	H-Bilog	QP	0.0	33.3	46.5	-13.2
750.008	43.6	-11.1	178.0	2.0	10.0	0.0	H-Bilog	QP	0.0	32.5	46.5	-14.0
500.005	47.3	-15.0	138.0	1.4	10.0	0.0	H-Bilog	QP	0.0	32.3	46.5	-14.2
625.006	45.1	-12.9	151.0	1.2	10.0	0.0	V-Bilog	QP	0.0	32.2	46.5	-14.3
800.006	42.4	-11.2	65.0	1.6	10.0	0.0	V-Bilog	QP	0.0	31.2	46.5	-15.3
375.005	48.4	-17.4	131.0	3.8	10.0	0.0	V-Bilog	QP	0.0	31.0	46.5	-15.5
625.006	43.7	-12.9	139.0	1.2	10.0	0.0	H-Bilog	QP	0.0	30.8	46.5	-15.7
790.007	41.6	-11.2	277.0	1.0	10.0	0.0	H-Bilog	QP	0.0	30.4	46.5	-16.1
874.986	37.3	-9.7	146.0	1.0	10.0	0.0	V-Bilog	QP	0.0	27.6	46.5	-18.9
874.984	35.4	-9.7	326.0	1.0	10.0	0.0	V-Bilog	QP	0.0	25.7	46.5	-20.8
30.008	33.7	-15.9	149.0	1.0	10.0	0.0	V-Bilog	QP	0.0	17.8	39.0	-21.2
30.003	32.2	-15.9	109.0	1.2	10.0	0.0	V-Bilog	QP	0.0	16.3	39.0	-22.7
30.076	31.4	-15.9	273.0	3.5	10.0	0.0	H-Bilog	QP	0.0	15.5	39.0	-23.5



Radiated Emissions



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

No Tx, receiving 24 Channel, 8 channel /sector (4 at 800MHz, 4 at 900MHz)

MODE USED FOR FINAL DATA

No Tx, receiving 24 Channel, 8 channel /sector (4 at 800MHz, 4 at 900MHz)

POWER SETTINGS INVESTIGATED

-48VDC

POWER SETTINGS USED FOR FINAL DATA

-48VDC

FREQUENCY RANGE INVESTIGATED

Start Frequency	1GHz	Stop Frequency	5GHz

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
Spectrum Analyzer	Agilent	E4446A	AAQ	7/15/2005	12
Pre-Amplifier	Miteq	AMF-4D-010100-24-10P	APW	8/2/2005	13
Antenna, Horn	EMCO	3115	AHC	8/30/2005	12

MEASUREMENT BANDWIDTHS

	Frequency Range (MHz)	Peak Data (kHz)	Quasi-Peak Data (kHz)	Average Data (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 EMC

RADIATED EMISSIONS DATA SHEET

PSA 2006.03.15
EMI 2006.3.14

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/22/06
Customer:	Radioframe Networks, Inc.			Temperature:	22
Attendees:	Dean Busch			Humidity:	32%
Project:	None			Barometric Pres.:	30.12
Tested by:	Rod Peloquin	Power:	-48VDC	Job Site:	EV01

TEST SPECIFICATIONS	Test Method
FCC 15.109(b) Class A:2005-10	ANSI C63.4:2003

TEST PARAMETERS			
Antenna Height(s) (m)	1 - 4	Test Distance (m)	3

COMMENTS

Full system configuration, Receive ports terminated

EUT OPERATING MODES

No Tx, receiving 24 Channel, 8 channel /sector (4 at 800MHz, 4 at 900MHz)

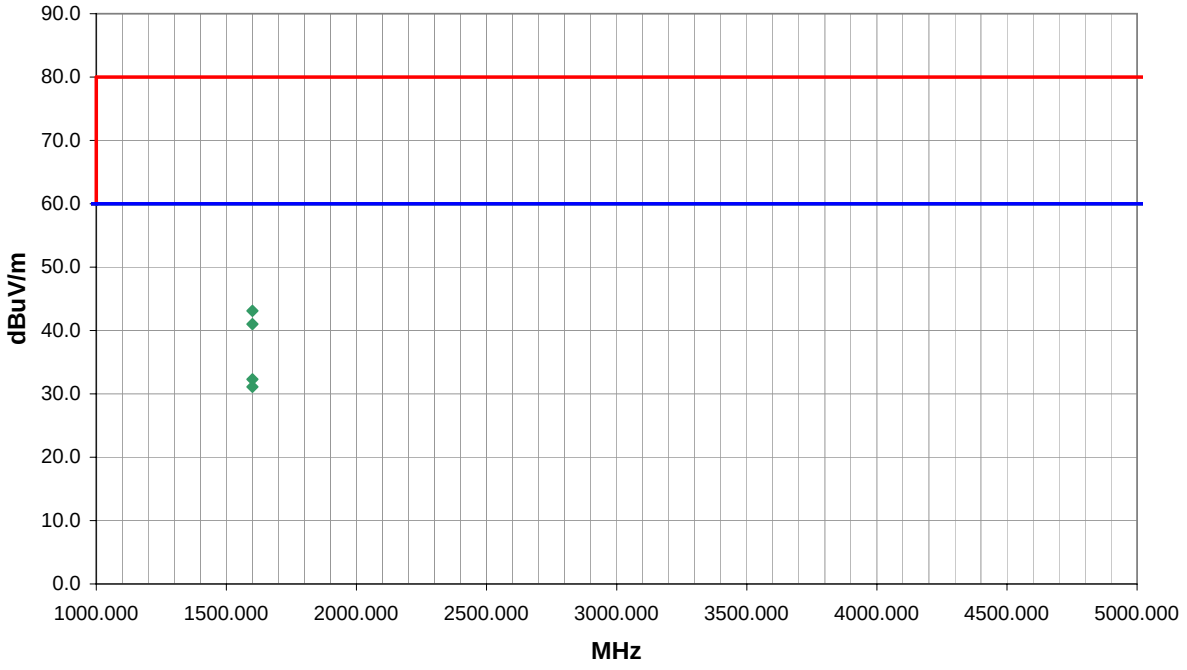
DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	1
Configuration #	4
Results	Pass

NVLAP Lab Code 200630-0

Signature



Freq (MHz)	Amplitude (dBuV)	Factor (dB)	Azimuth (degrees)	Height (meters)	Distance (meters)	External Attenuation (dB)	Polarity	Detector	Distance Adjustment (dB)	Adjusted dBuV/m	Spec. Limit dBuV/m	Compared to Spec. (dB)
1599.901	35.2	-2.9	353.0	1.2	3.0	0.0	V-Horn	AV	0.0	32.3	60.0	-27.7
1600.011	34.0	-2.9	221.0	1.1	3.0	0.0	H-Horn	AV	0.0	31.1	60.0	-28.9
1600.122	46.0	-2.9	353.0	1.2	3.0	0.0	V-Horn	PK	0.0	43.1	80.0	-36.9
1599.944	43.9	-2.9	221.0	1.1	3.0	0.0	H-Horn	PK	0.0	41.0	80.0	-39.0


NORTHWEST
EMC
NORTHWEST
EMC


NORTHWEST
EMC


EMC
EMC
NORTHWEST
EMC

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

No Tx, receiving 24 Channel, 8 channel /sector (4 at 800MHz, 4 at 900MHz)

POWER SETTINGS INVESTIGATED

-48VDC

SAMPLE CALCULATIONS

Conducted Emissions: Adjusted Level = Measured Level + Transducer Factor + Cable Attenuation Factor + External Attenuator

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Spectrum Analyzer	Agilent	E4446A	AAQ	7/15/2005	12
LISN	Solar	9252-50-R-24-BNC	LIP	12/13/2005	13
High Pass Filter	TTE	H97-100k-50-720B	HFC	12/19/2005	13

MEASUREMENT BANDWIDTHS

	Frequency Range (MHz)	Peak Data (kHz)	Quasi-Peak Data (kHz)	Average Data (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 50Ω.

NORTHWEST
EMC

CONDUCTED EMISSIONS DATA SHEET

PSA 2006.03.15
EMI 2006.3.14

EUT:	MCRB			**Work Order:**	RAFN0060
Serial Number:	Various			**Date:**	03/22/06
Customer:	Radioframe Networks, Inc.			**Temperature:**	22
Attendees:	Dean Busch			**Humidity:**	32%
Project:	None			**Barometric Pres.:**	30.12
Tested by:	Rod Peloquin	**Power:**	-48VDC	**Job Site:**	EV01

TEST SPECIFICATIONS	Test Method
FCC 15.107 Class A:2005-10	ANSI C63.4:2003

TEST PARAMETERS

Cable or Line Tested	Positive

COMMENTS

Full system configuration, Receive ports terminated

EUT OPERATING MODES

No Tx, receiving 24 Channel, 8 channel /sector (4 at 800MHz, 4 at 900MHz)

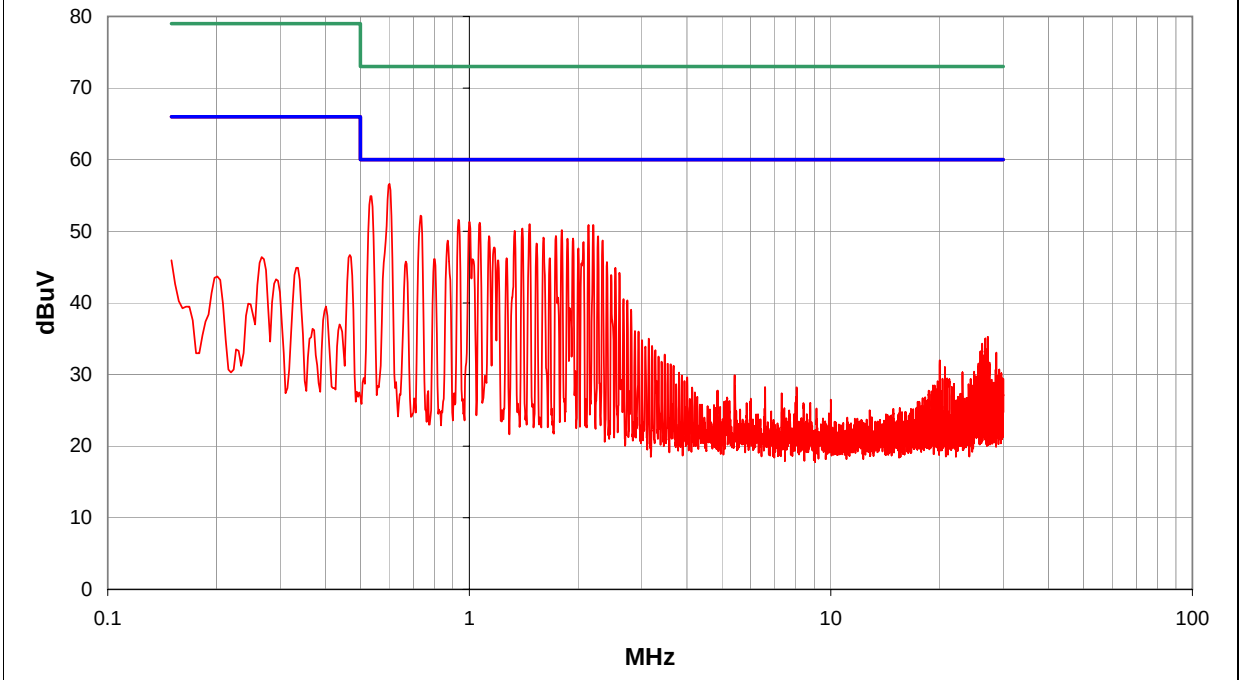
DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	1
Configuration #	4
Results	Pass

NVLAP Lab Code 200630-0

Signature



Freq (MHz)	Amplitude (dBuV)			Transducer (dB)	Cable (dB)	External Attenuation (dB)		Detector (blank equal peaks [PK] from scan)		Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)
0.602	36.4			0.0	0.2	20.0				56.6	60.0	-3.4
0.536	34.7			0.0	0.2	20.0				54.9	60.0	-5.1
0.733	31.9			0.0	0.3	20.0				52.2	60.0	-7.8
0.934	31.3			0.0	0.3	20.0				51.6	60.0	-8.4
1.003	31.0			0.0	0.3	20.0				51.3	60.0	-8.7
1.068	30.9			0.0	0.3	20.0				51.2	60.0	-8.8
1.469	30.6			0.0	0.4	20.0				51.0	60.0	-9.0
2.136	30.4			0.0	0.5	20.0				50.9	60.0	-9.1
2.202	30.4			0.0	0.5	20.0				50.9	60.0	-9.1
1.404	30.0			0.0	0.4	20.0				50.4	60.0	-9.6
1.804	29.7			0.0	0.5	20.0				50.2	60.0	-9.8
1.334	29.7			0.0	0.4	20.0				50.1	60.0	-9.9
1.735	28.9			0.0	0.4	20.0				49.3	60.0	-10.7
1.134	29.0			0.0	0.3	20.0				49.3	60.0	-10.7
2.271	28.8			0.0	0.5	20.0				49.3	60.0	-10.7
1.604	28.7			0.0	0.4	20.0				49.1	60.0	-10.9
1.936	28.5			0.0	0.5	20.0				49.0	60.0	-11.0
1.870	28.5			0.0	0.5	20.0				49.0	60.0	-11.0
0.872	28.4			0.0	0.3	20.0				48.7	60.0	-11.3

NORTHWEST EMC

CONDUCTED EMISSIONS DATA SHEET

PSA 2006.03.15
EMI 2006.3.14

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/22/06
Customer:	Radioframe Networks, Inc.			Temperature:	22
Attendees:	Dean Busch			Humidity:	32%
Project:	None			Barometric Pres.:	30.12
Tested by:	Rod Peloquin	Power:	-48VDC	Job Site:	EV01

TEST SPECIFICATIONS	Test Method
FCC 15.107 Class A:2005-10	ANSI C63.4:2003

TEST PARAMETERS	
Cable or Line Tested	Negative

COMMENTS

Full system configuration, Receive ports terminated

EUT OPERATING MODES

No Tx, receiving 24 Channel, 8 channel /sector (4 at 800MHz, 4 at 900MHz)

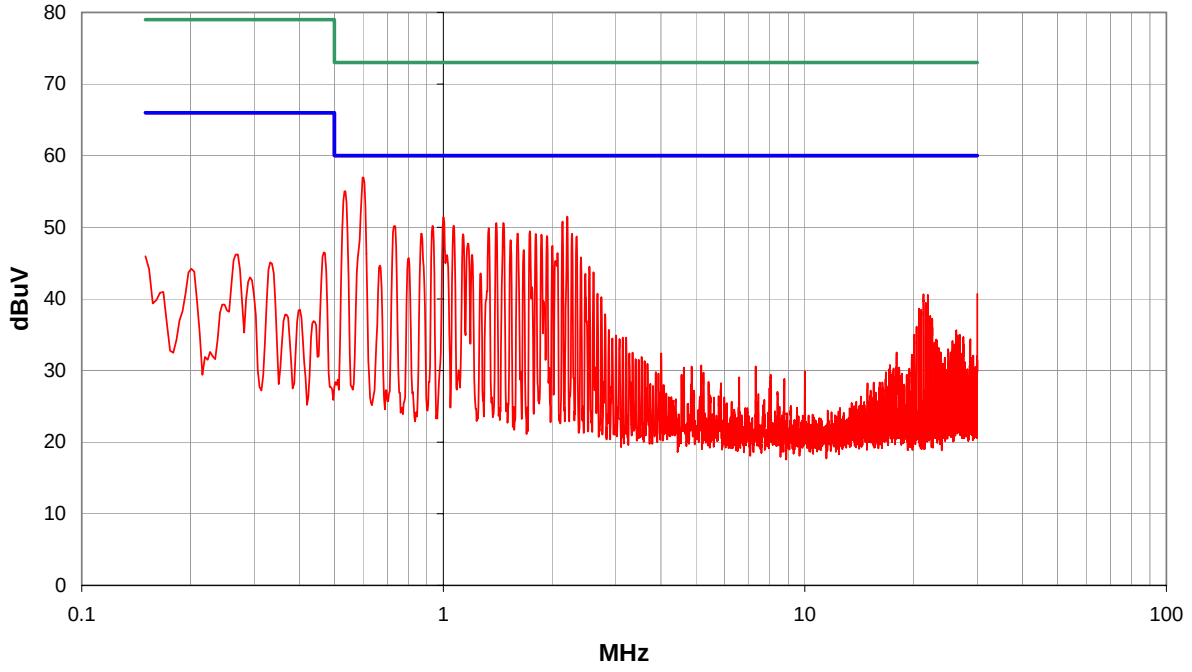
DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	2
Configuration #	4
Results	Pass

NVLAP Lab Code 200630-0

Signature



Freq (MHz)	Amplitude (dBuV)			Transducer (dB)	Cable (dB)	External Attenuation (dB)		Detector (blank equal peaks [PK] from scan)		Adjusted dBuV	Spec. Limit dBuV	Compared to Spec. (dB)
0.602	36.7			0.0	0.2	20.0				56.9	60.0	-3.1
0.536	34.8			0.0	0.2	20.0				55.0	60.0	-5.0
2.202	31.0			0.0	0.5	20.0				51.5	60.0	-8.5
1.003	31.1			0.0	0.3	20.0				51.4	60.0	-8.6
2.136	30.3			0.0	0.5	20.0				50.8	60.0	-9.2
1.466	30.2			0.0	0.4	20.0				50.6	60.0	-9.4
1.404	30.2			0.0	0.4	20.0				50.6	60.0	-9.4
1.068	29.9			0.0	0.3	20.0				50.2	60.0	-9.8
0.934	29.9			0.0	0.3	20.0				50.2	60.0	-9.8
0.733	29.9			0.0	0.3	20.0				50.2	60.0	-9.8
1.338	29.5			0.0	0.4	20.0				49.9	60.0	-10.1
1.735	29.0			0.0	0.4	20.0				49.4	60.0	-10.6
1.604	28.7			0.0	0.4	20.0				49.1	60.0	-10.9
0.868	28.8			0.0	0.3	20.0				49.1	60.0	-10.9
2.271	28.6			0.0	0.5	20.0				49.1	60.0	-10.9
1.804	28.6			0.0	0.5	20.0				49.1	60.0	-10.9
1.134	28.7			0.0	0.3	20.0				49.0	60.0	-11.0
1.870	28.5			0.0	0.5	20.0				49.0	60.0	-11.0
1.936	28.3			0.0	0.5	20.0				48.8	60.0	-11.2


NORTHWEST
EMC


EMC
EMC
EMC
EMC

Justification

The individuals and/or the organization requesting the test provided the modes, configurations and settings available to evaluate. While scanning the radiated emissions, all of the EUT parameters listed below were investigated. This includes, but may not be limited to, antennas, tuned transmit frequency ranges, operating modes, and data rates.

Channels in Specified Band Investigated:
Low Channel, 800MHz Band
Mid Channel, 800MHz Band
High Channel, 800MHz Band
Low Channel, 900MHz Band
Mid Channel, 900MHz Band
High Channel, 900MHz Band

Operating Modes Investigated:
Typical, Single channel

Data Rates Investigated:
96 kBps at 64-QAM

Output Power Setting(s) Investigated:
Maximum ~ 14 dBm

Power Input Settings Investigated:
-48Vdc

Software\Firmware Applied During Test			
Exercise software	Vx Works	**Version**	N/A
Description			
The system was tested using standard operating production software to exercise the functions of the device during the testing.			

EUT and Peripherals			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
EUT- Multi-Channel RadioBlade (MCRB	Radioframe Networks, Inc.	176-0860-00	14106110148
EUT- Multi-Channel RadioBlade (MCRB	Radioframe Networks, Inc.	176-0860-00	14106110160
EUT- Multi-Channel RadioBlade (MCRB	Radioframe Networks, Inc.	176-0860-00	14106110151
EUT- Multi-Channel RadioBlade (MCRB	Radioframe Networks, Inc.	176-0860-00	14106110146
EUT- Multi-Channel RadioBlade (MCRB	Radioframe Networks, Inc.	176-0860-00	14106110173
EUT- Multi-Channel RadioBlade (MCRB	Radioframe Networks, Inc.	176-0860-00	14106110174
MC-15 SERIES DUAL BAND SYSTEM (3 SE	Radioframe Networks, Inc.	176-7970-xx	14106050325
FRU, DUAL BAND RF SHELF	Radioframe Networks, Inc.	176-0970-xx	14105510109
FRU, DUAL BAND RF SHELF	Radioframe Networks, Inc.	176-0970-xx	14105510110
FRU, DUAL BAND RF SHELF	Radioframe Networks, Inc.	176-0970-xx	14105510113
RadioBlade Shelf (RBS)	Radioframe Networks, Inc.	176-0535-xx	14106030127
MC-15 BTS Interface Chassis (BIC)	Radioframe Networks, Inc.	176-0900-xx	14106050474
MC Common RadioFrame Interface Card	Radioframe Networks, Inc.	176-7540-xx	041053919XV
MC Common RadioFrame Interface Card	Radioframe Networks, Inc.	176-7540-xx	041053919W3
Base Processing Card (BPC)	Radioframe Networks, Inc.	176-7570-xx	04105411HGM
Base Processing Card (BPC)	Radioframe Networks, Inc.	176-7570-xx	04105401GP1
Base Processing Card (BPC)	Radioframe Networks, Inc.	176-7570-xx	04105421JKZ
MC-15 Airlink Interface Chassis (AIC)	Radioframe Networks, Inc.	176-0800-xx	14106050522
BPC W/ LC SPAM	Radioframe Networks, Inc.	176-7565-xx	04105411HC0
SPAM	Radioframe Networks, Inc.	176-7510-xx	Unknown
SPAM	Radioframe Networks, Inc.	176-7510-xx	Unknown
BPC W/ LC SPAM	Radioframe Networks, Inc.	176-7565-xx	04105411HJX
SPAM	Radioframe Networks, Inc.	176-7510-xx	Unknown
SPAM	Radioframe Networks, Inc.	176-7510-xx	Unknown
BPC W/ LC SPAM	Radioframe Networks, Inc.	176-7565-xx	04105411HLH
SPAM	Radioframe Networks, Inc.	176-7510-xx	Unknown
SPAM	Radioframe Networks, Inc.	176-7510-xx	Unknown
Ethernet Rear Transition Module (ERTM)	Radioframe Networks, Inc.	176-7562-xx	14105320204
Ethernet Rear Transition Module (ERTM)	Radioframe Networks, Inc.	176-7562-xx	14105320203
Coaxial RMII Transceiver Card (CRTC	Radioframe Networks, Inc.	176-0820-xx	14105480250

Remote Equipment Outside of Test Setup Boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Site Simulator	Radioframe Networks, Inc.	N/a	N/a
Site Controller	Motorola, Inc.	CCN1008N	CAF030LTC4
GPS Antenna	Hewlett-Packard	8532A	901
DC Power Supply	Sorensen	DCR 60-45B	0144

Equipment isolated from the EUT so as not to contribute to the measurement result is considered to be outside the test setup boundary

Cables					
Cable Type	**Shield**	**Length (m)**	**Ferrite**	**Connection 1**	**Connection 2**
DC Power	No	8.0	No	MC-15 SERIES DUAL BAND SYSTEM	DC Supply
BNC	Yes	30.0	No	ERTM	Site Simulator
BNC	Yes	30.0	No	Site Controller	Site Simulator
BNC	Yes	3.0	No	GPS Antenna	Site Controller
Ethernet	No	3.0	No	Site Controller	ERTM

Measurement Equipment					
Description	**Manufacturer**	**Model**	**Identifier**	**Last Cal**	**Interval**
Spectrum Analyzer	Hewlett-Packard	8593E	AAN	01/25/2006	13 mo

Test Description

Requirement: Per 47 CFR 90.691, "The emission limits are as follows: (1) For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 116 Log_{10}(f/6.1) decibels or 50 + 10 Log_{10}(P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 kHz. (2) For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 43 + 10Log10(P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 37.5 kHz."

FCC Interpretation Regarding Emission Mask and 90.691

```
-----Original Message-----
From: Andrew Leimer [mailto:ALEIMER@fcc.gov] Sent: Wednesday, May 14, 2003
12:21 PM
To: rwacs@att.net
Subject: Re: Part 90 rules


Hello Dean,

How are you doing?  I have not heard from you in a while!  The following
explanation is from the archives.  The basic question was if emissions mask g
would ever be used.  I hope it answers your question:

I found that footnote 3 was added to Section 90.210 as a result of the First
R&O, Eighth R&O and 2nd FNPRM in PR Docket 93-144 (FCC 95-501), adopted
12/15/95.  Footnote 3 initially said "Equipment in this band licensed to EA
systems shall comply with the emission mask provisions of Section 90.691."
Note here that this R&O dealt principally with the upper 200 MHz SMR channels
which were auctioned in contiguous segments/blocks.  Consequently, providing
more flexibility in the emission mask that required protection of the "outer"
channels in those blocks and to any interior channels in those blocks used by
incumbents made sense.
```

When the Commission subsequently dealt with auctioning the lower 80 channels (non-contiguous channels in each block) and the General Category channels (contiguously allocated channels by block for auction purposes but originally allocated on a single channel basis for site-specific licensing purposes), the
consideration of emission mask caused footnote 3 to be modified as it exists today. Specifically, the Second R&O in PR Docket 93-144 (FCC 97-223), adopted
6/23/97 @ para 80 reasons that applying the same emission mask standards to the lower 230 channels (lower 80 channels and 150 General Category channels) as to the upper 200 channels facilitates the use of common equipment and the combining of all such channels. It further states that Section 90.691 (the emission mask) would apply to "outer" channels used by a licensee "that create
out-of-band emissions that affect another licensee". The MO&O on reconsideration of the 800 MHz 1st R&O (FCC 97-224, adopted 6/23/97) at para 76 agreed with Erricson's recommendation to expand the emission mask provision
of Section 90.691 to "non-EA 800 MHz Part 90 CMRS systems". The decision was based ostensibly on extending the flexibility of the 90.691 emission mask to incumbent licensees (non-EA licensees or non-auction winners) and to those non-SMR channels used by CMRS operators. The paragraph closes by stating that
neither Ericsson or Motorola believe that such relaxation will increase the amount of interference to adjacent channel licensees.

You'll note that there is some similarity between emission mask G (applicable to equipment without audio low pass filters) under Section 90.210 and the emission mask required by Section 90.691. It is my interpretation that footnote 3 under Section 90.210 (the applicability of the emission mask under Section 90.691) was intended principally for Part 90 CMRS systems in the 800 MHz band to provide flexbility and consistency to those operators. As Section
90.210 is written, however, I don't see how we could legally prevent any 800 MHz licensee from using the more flexibile emission mask under Section 90.691.

Bottom line: As the rule is written, it is possible that the "G" mask would never be used by 800 MHz licensees.

>>> Dean Busch 05/14/03 01:22PM >>>
Andy;

I hope you can help me with this or at least point me in the right direction.

I have a client that has an EA based radio system that is currently using licensed transmitters with an output of 100mW in the 851 - 866 MHz range. The system is approved under 90.691. If the manufacturer raises the power level to 5 watts per channel output will they need to meet the emissions mask of 90.210 (g) or do they still fall under 90.691.

Thanks

Dean Busch
Radiowave Compliance Services, Inc.

Configuration: The peak measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The occupied bandwidth / emission mask was measured with the EUT set to low; medium, and high transmit frequencies. At each channel, measurements were made at the highest output settings

See emission mask table below. It was concluded that testing at lower power levels was unnecessary since the general limit is -13 dBm. Clearly the high power configuration is worse case.

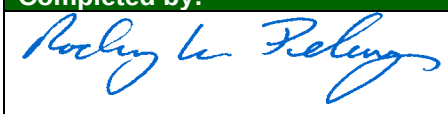
800 MHz Band

Channel	Output Power	Power (P)	Attenuation for the range 12.5 kHz to 37.5 kHz from fc				Attenuation >37.5 kHz from fc	
	(dBm)	Watts	(dBc)				(dBc)	
			50 + (10*log P)	116*log(f/6.1)		80	43 + (10*log P)	80
				f = 12.5 kHz	f = 37.5 kHz			
Low	11.3	1.35E-02	31.3	36.14	91.49	80	24.3	80
	5	3.16E-03	25.0	36.14	91.49	80	18.0	80
Mid	13.8	2.40E-02	33.8	36.14	91.49	80	26.8	80
	7.8	6.03E-03	27.8	36.14	91.49	80	20.8	80
High	12.7	1.86E-02	32.7	36.14	91.49	80	25.7	80
	6.7	4.68E-03	26.7	36.14		80	19.7	80

900 MHz Band

Channel	Output Power	Power (P)	Attenuation for the range 12.5 kHz to 37.5 kHz from fc				Attenuation >37.5 kHz from fc	
	(dBm)	Watts	(dBc)				(dBc)	
			50 + (10*log P)	116*log(f/6.1)		80	43 + (10*log P)	80
				f = 12.5 kHz	f = 37.5 kHz			
Low	13.85	2.43E-02	33.9	36.14	91.49	80	26.9	80
	6.9	4.90E-03	26.9	36.14	91.49	80	19.9	80
Mid	13.97	2.49E-02	34.0	36.14	91.49	80	27.0	80
	6.4	4.37E-03	26.4	36.14	91.49	80	19.4	80
High	13.46	2.22E-02	33.5	36.14	91.49	80	26.5	80
	6.5	4.47E-03	26.5	36.14	91.49	80	19.5	80

Completed by:



NORTHWEST EMC

EMISSIONS MASK

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	21° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 90.691	Year:	2005	Method:	TIA / EIA - 603	Year:	2003

SAMPLE CALCULATIONS

COMMENTS

EUT OPERATING MODES

Modulated Carrier

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission must be attenuated below the specified emission mask. 0 dB reference is 13.84 dBm

RESULTS

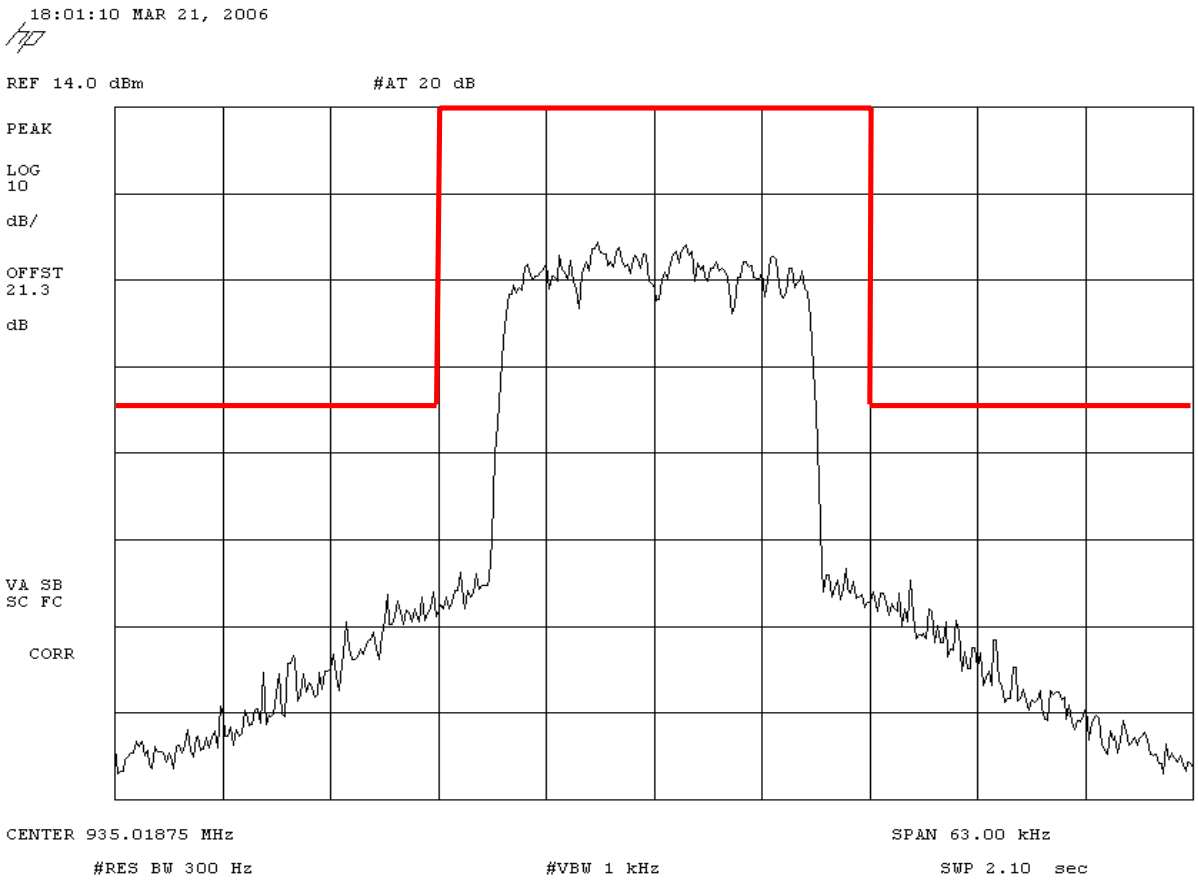
Pass

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Emission Mask for EA-based Systems: Lowest Channel @ Highest Output Power



NORTHWEST EMC

EMISSIONS MASK

Rev BETA 01/30/01

EUT:	MC Series System			Work Order:	RAFN0054
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	23° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	40%
Customer Ref. No.:	None	Power:	-48Vdc	Job Site:	Off-site

TEST SPECIFICATIONS

Specification:	47 CFR 90.691	Year:	2005	Method:	TIA / EIA - 603	Year:	2003

SAMPLE CALCULATIONS

COMMENTS

EUT OPERATING MODES

Modulated Carrier

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission must be attenuated below the specified emission mask. 0 dB reference is 13.84 dBm

RESULTS

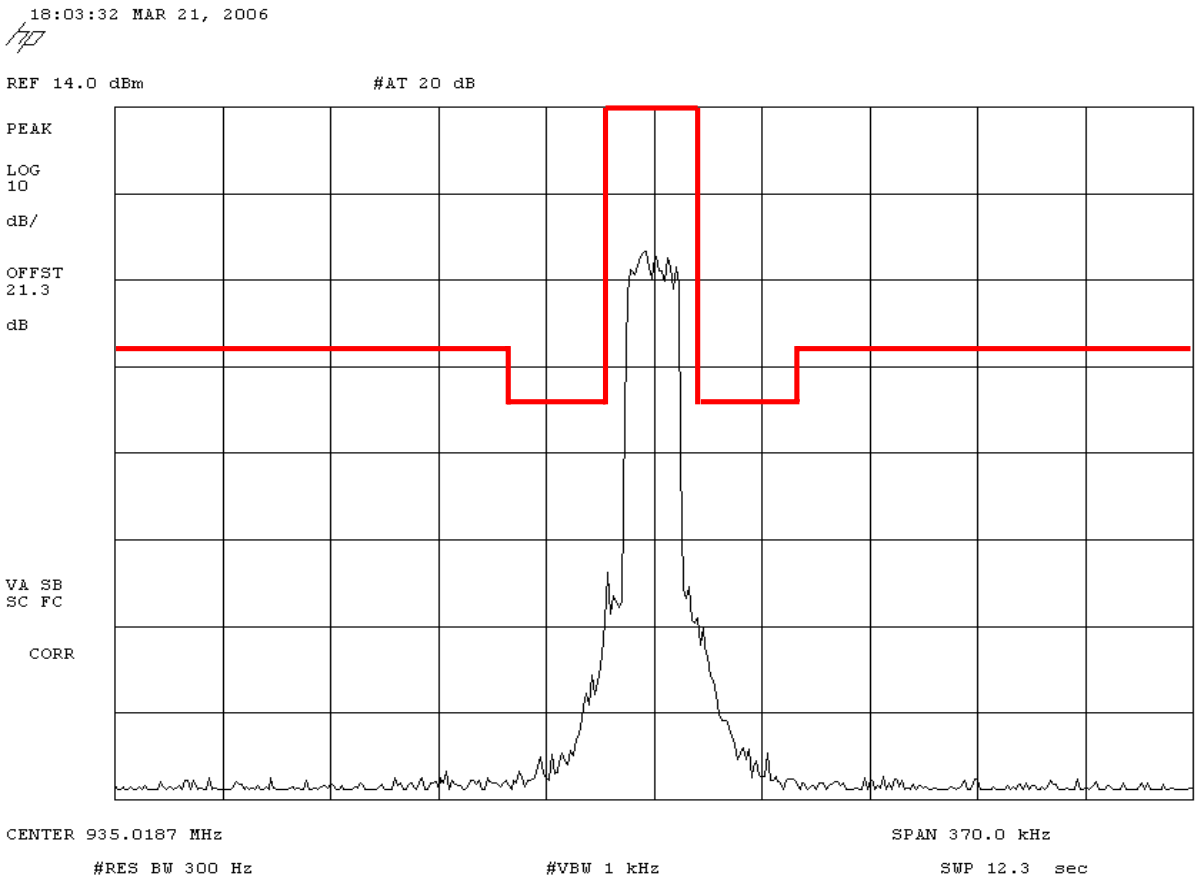
Pass

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Emission Mask for EA-based Systems: Lowest Channel @ Highest Output Power



NORTHWEST EMC

EMISSIONS MASK

Rev BETA 01/30/01

EUT:	MC Series System			Work Order:	RAFN0054
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	23° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	40%
Customer Ref. No.:	None	Power:	-48Vdc	Job Site:	Off-site

TEST SPECIFICATIONS

Specification:	47 CFR 90.691	Year:	2005	Method:	TIA / EIA - 603	Year:	2003

SAMPLE CALCULATIONS

COMMENTS

EUT OPERATING MODES

Modulated Carrier

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission must be attenuated below the specified emission mask. 0 dB reference is 13.84 dBm

RESULTS

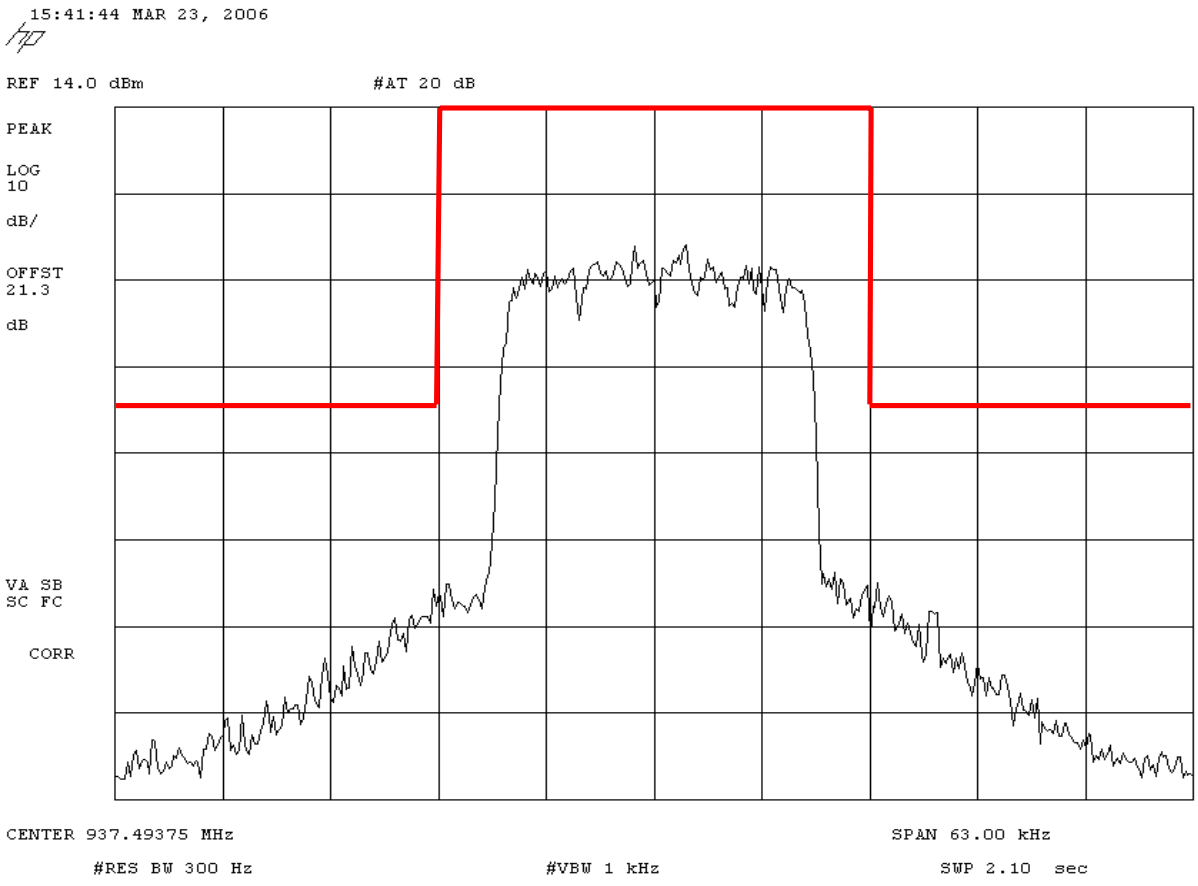
Pass

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Emission Mask for EA-based Systems: Middle Channel @ Highest Output Power



NORTHWEST EMC

EMISSIONS MASK

Rev BETA 01/30/01

EUT:	MC Series System			Work Order:	RAFN0054
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	23° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	40%
Customer Ref. No.:	None	Power:	-48Vdc	Job Site:	Off-site

TEST SPECIFICATIONS

Specification:	47 CFR 90.691	Year:	2005	Method:	TIA / EIA - 603	Year:	2003

SAMPLE CALCULATIONS

COMMENTS

EUT OPERATING MODES

Modulated Carrier

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission must be attenuated below the specified emission mask. 0 dB reference is 13.84 dBm

RESULTS

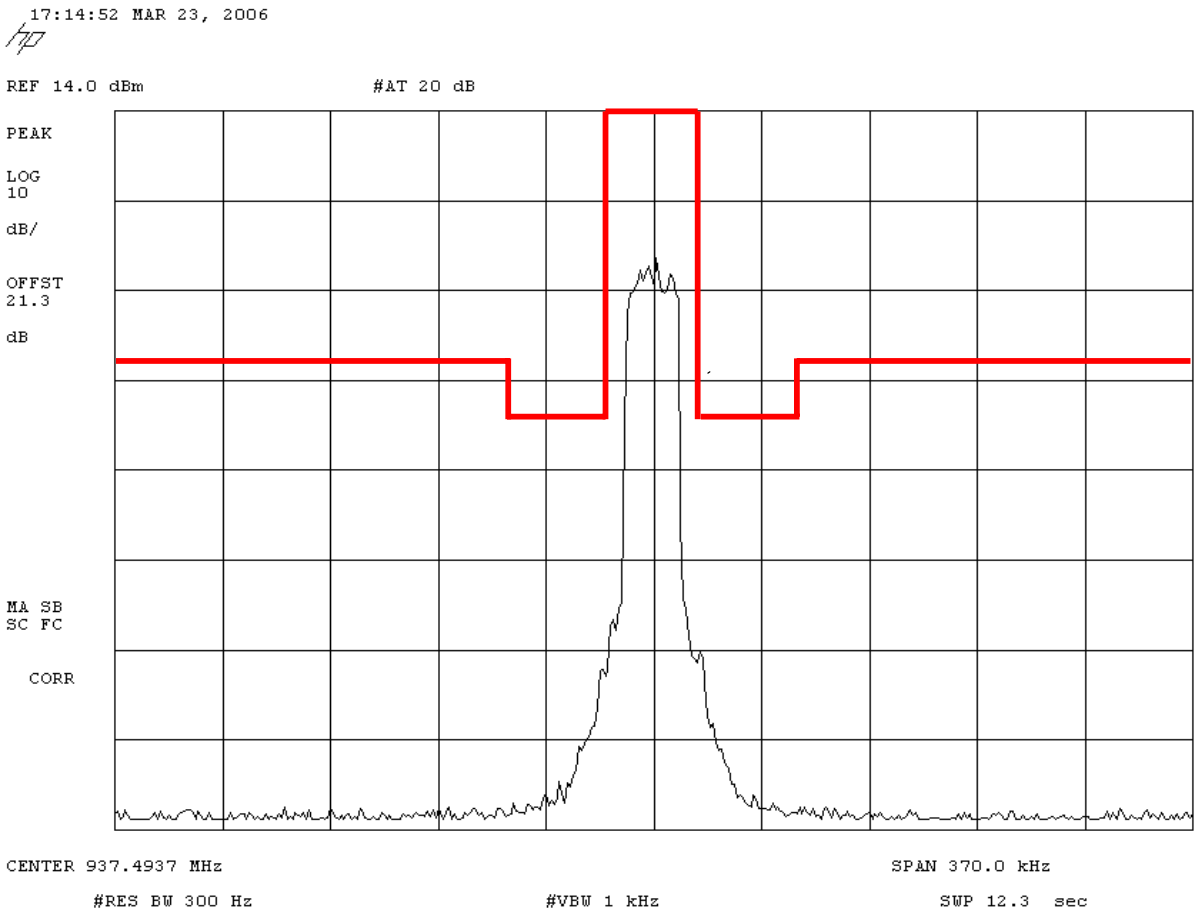
Pass

SIGNATURE

Tested By:

DESCRIPTION OF TEST

Emission Mask for EA-based Systems: Middle Channel @ Highest Output Power



NORTHWEST EMC

EMISSIONS MASK

Rev BETA 01/30/01

EUT:	MC Series System			Work Order:	RAFN0054
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	23° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	40%
Customer Ref. No.:	None	Power:	-48Vdc	Job Site:	Off-site

TEST SPECIFICATIONS

Specification:	47 CFR 90.691	Year:	2005	Method:	TIA / EIA - 603	Year:	2003

SAMPLE CALCULATIONS

COMMENTS

EUT OPERATING MODES

Modulated Carrier

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission must be attenuated below the specified emission mask. 0 dB reference is 13.84 dBm

RESULTS

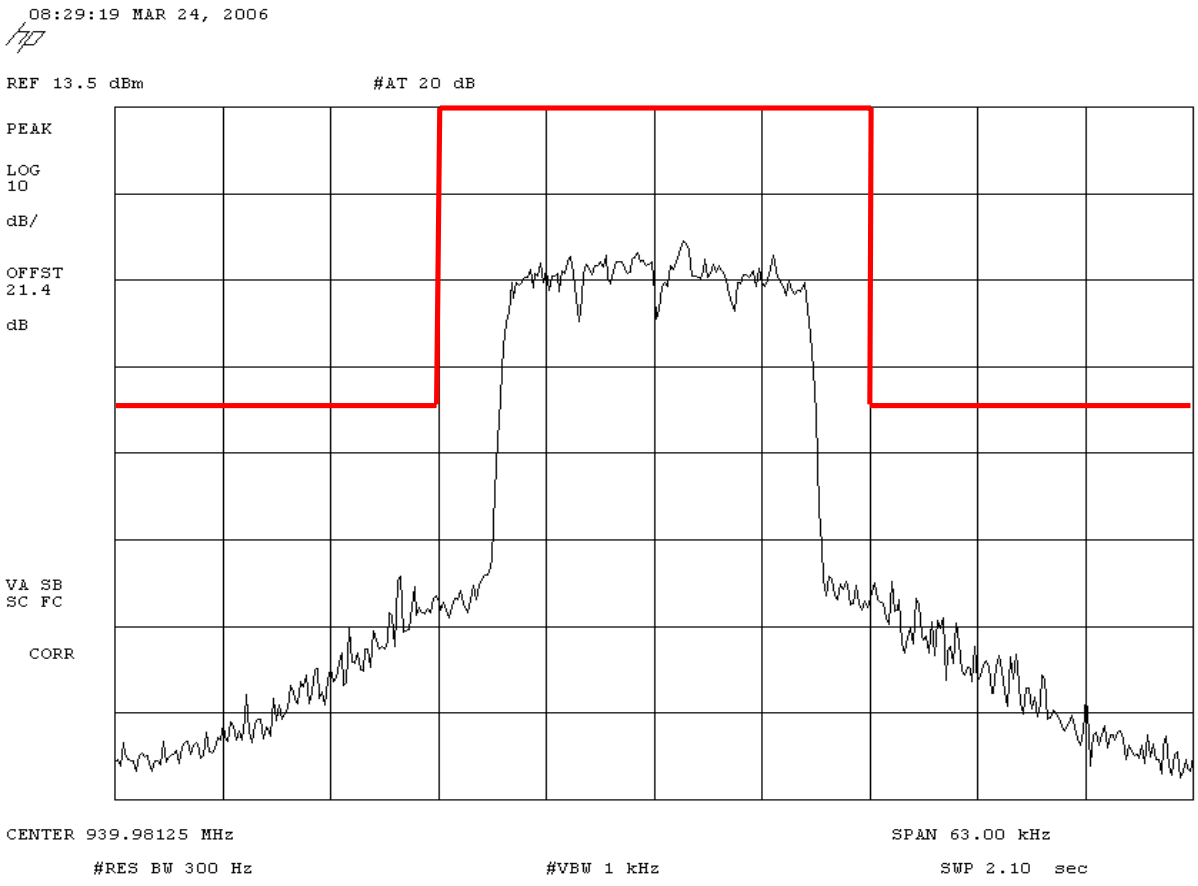
Pass

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Emission Mask for EA-based Systems: Highest Channel @ Highest Output Power



NORTHWEST EMC

EMISSIONS MASK

Rev BETA 01/30/01

EUT:	MC Series System			Work Order:	RAFN0054
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	23° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	40%
Customer Ref. No.:	None	Power:	-48Vdc	Job Site:	Off-site

TEST SPECIFICATIONS

Specification:	47 CFR 90.691	Year:	2005	Method:	TIA / EIA - 603	Year:	2003

SAMPLE CALCULATIONS

COMMENTS

EUT OPERATING MODES

Modulated Carrier

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission must be attenuated below the specified emission mask. 0 dB reference is 13.84 dBm

RESULTS

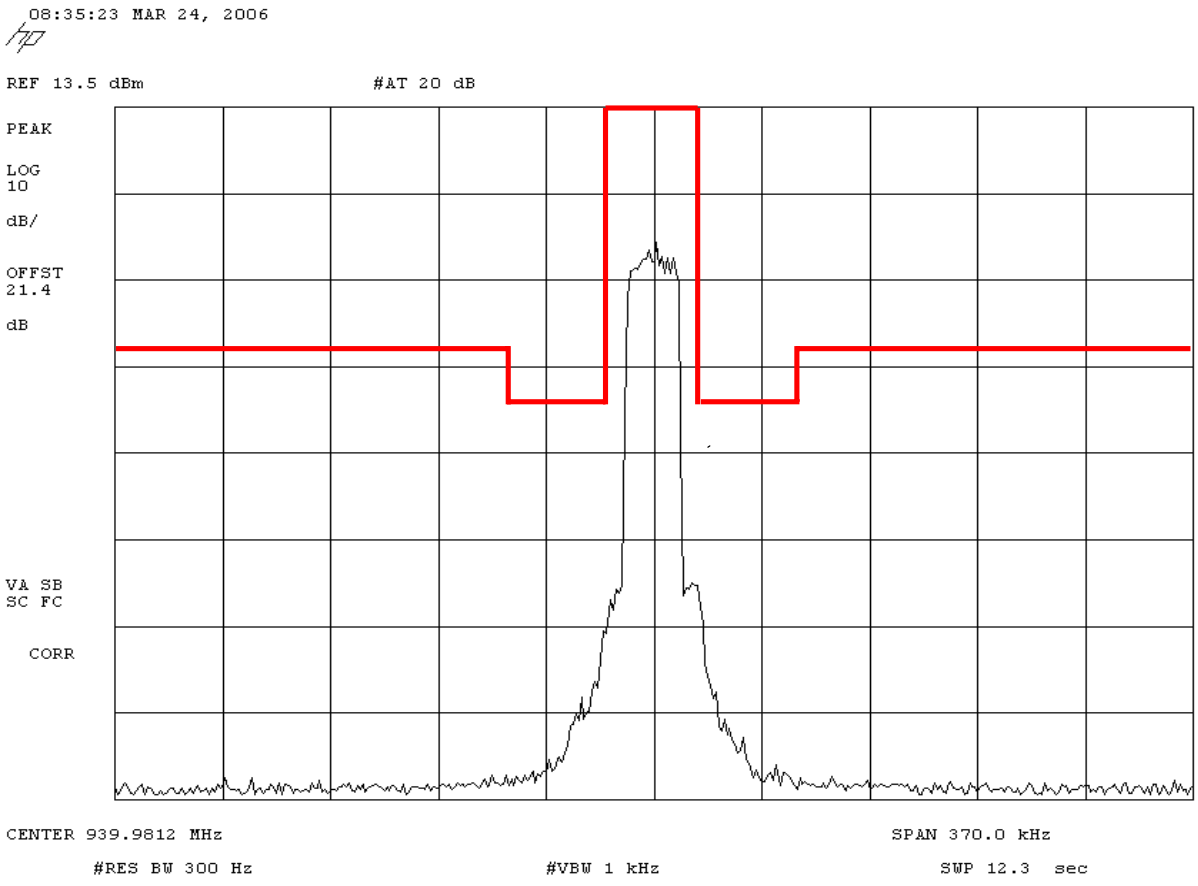
Pass

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Emission Mask for EA-based Systems: Highest Channel @ Highest Output Power



NORTHWEST EMC

EMISSIONS MASK

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	21° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 90.691	Year:	2005	Method:	TIA / EIA - 603	Year:	2002

SAMPLE CALCULATIONS

COMMENTS

EUT OPERATING MODES

Modulated Carrier

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission must be attenuated below the specified emission mask. 0 dB reference is 13.84 dBm

RESULTS

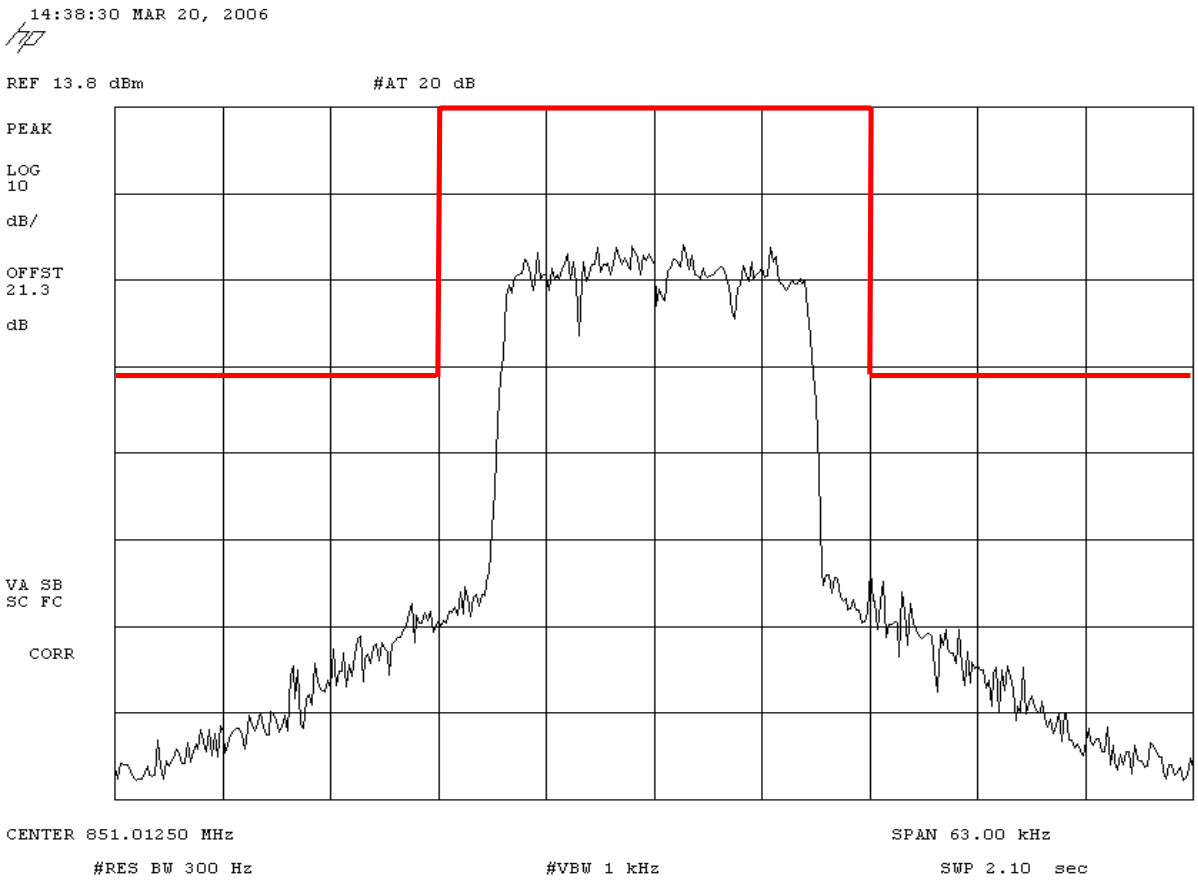
Pass

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Emission Mask for EA-based Systems: Lowest Channel @ Highest Output Power



NORTHWEST EMC

EMISSIONS MASK

Rev BETA 01/30/01

EUT:	MC Series System			Work Order:	RAFN0054
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	23° C
Attendees:	Neil Ross	Tested by:	Rod Peloquin	Humidity:	40%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	Off-site

TEST SPECIFICATIONS

Specification:	47 CFR 90.691	Year:	2005	Method:	TIA / EIA - 603	Year:	2002

SAMPLE CALCULATIONS

COMMENTS

EUT OPERATING MODES

Modulated Carrier

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission must be attenuated below the specified emission mask. 0 dB reference is 13.84 dBm

RESULTS

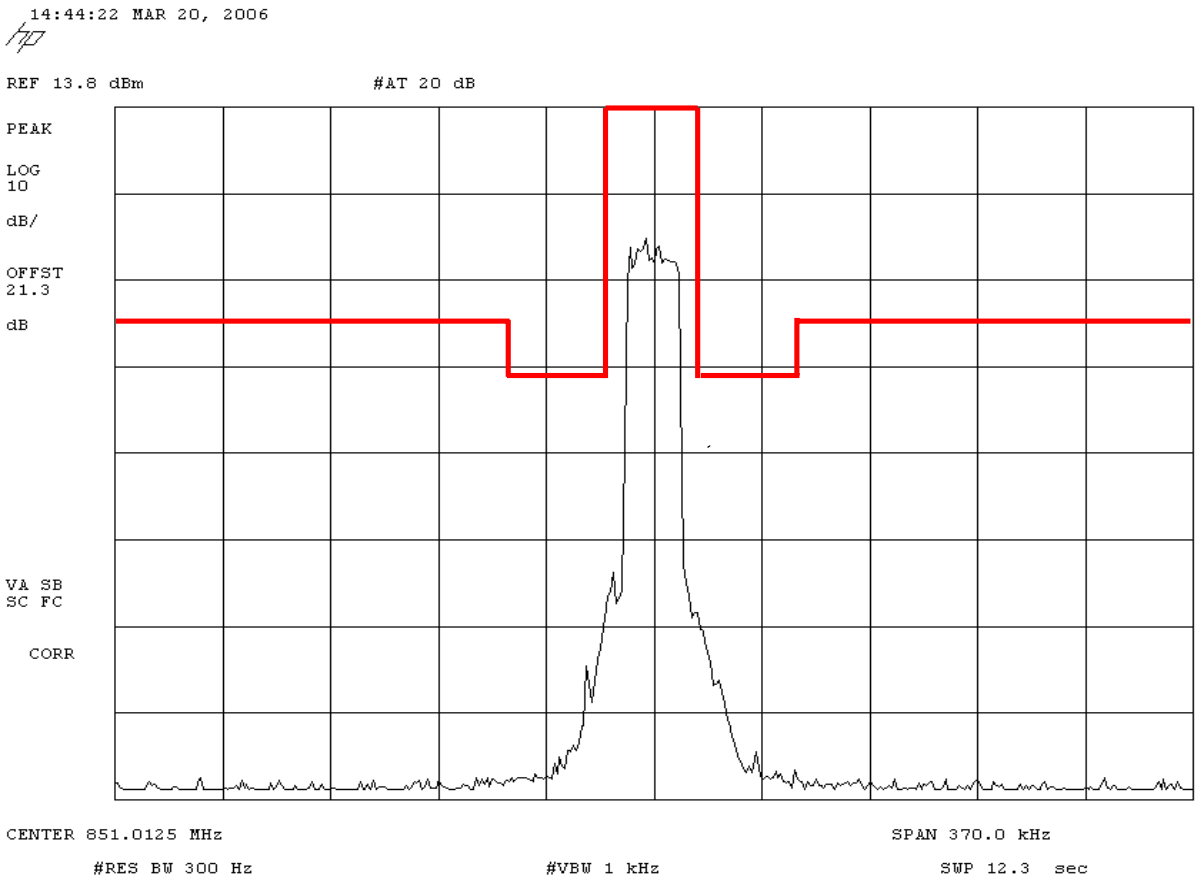
Pass

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Emission Mask for EA-based Systems: Lowest Channel @ Highest Output Power



NORTHWEST EMC

EMISSIONS MASK

Rev BETA 01/30/01

EUT:	MC Series System			Work Order:	RAFN0054
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	23° C
Attendees:	Neil Ross	Tested by:	Rod Peloquin	Humidity:	40%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	Off-site

TEST SPECIFICATIONS

Specification:	47 CFR 90.691	Year:	2005	Method:	TIA / EIA - 603	Year:	2002

SAMPLE CALCULATIONS

COMMENTS

EUT OPERATING MODES

Modulated Carrier

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission must be attenuated below the specified emission mask. 0 dB reference is 13.84 dBm

RESULTS

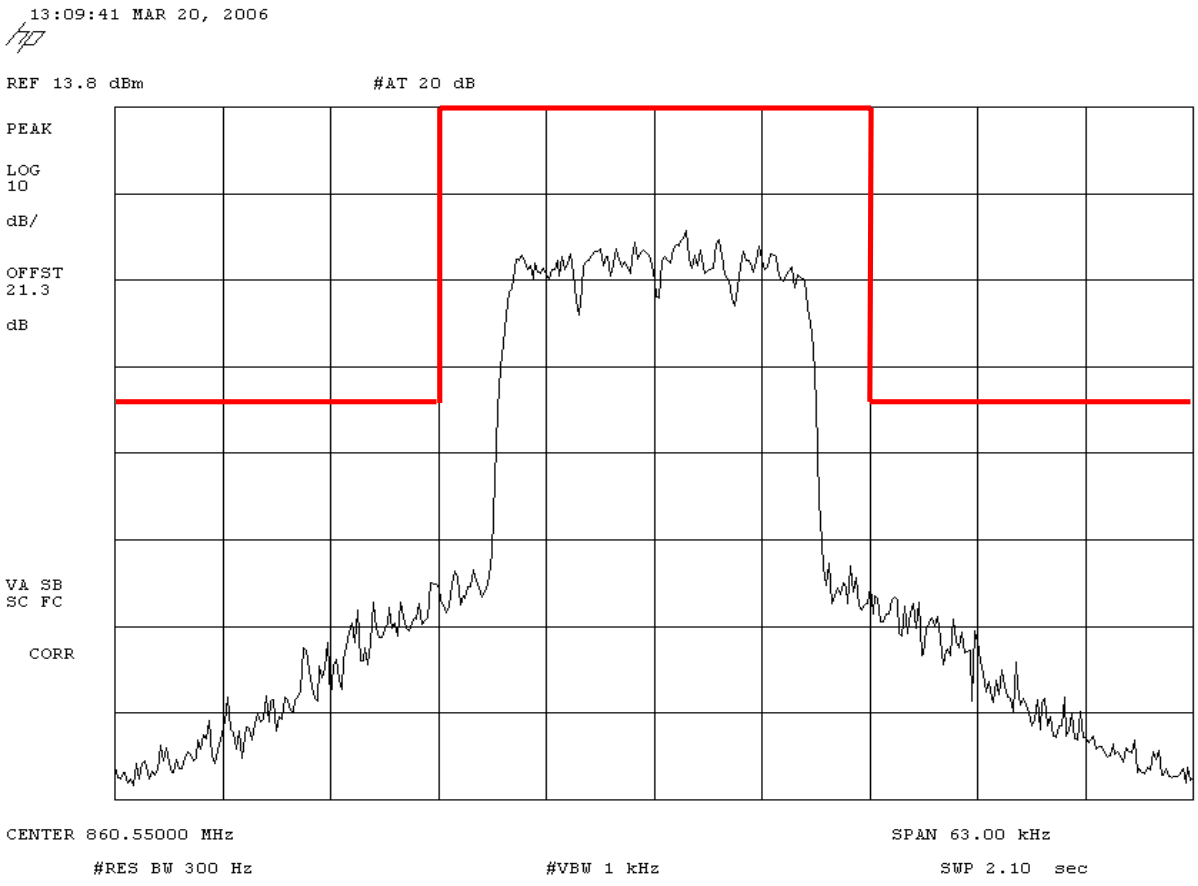
Pass

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Emission Mask for EA-based Systems: Middle Channel @ Highest Output Power



NORTHWEST EMC

EMISSIONS MASK

Rev BETA 01/30/01

EUT:	MC Series System			Work Order:	RAFN0054
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	23° C
Attendees:	Neil Ross	Tested by:	Rod Peloquin	Humidity:	40%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	Off-site

TEST SPECIFICATIONS

Specification:	47 CFR 90.691	Year:	2005	Method:	TIA / EIA - 603	Year:	2002

SAMPLE CALCULATIONS

COMMENTS

EUT OPERATING MODES

Modulated Carrier

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission must be attenuated below the specified emission mask. 0 dB reference is 13.84 dBm

RESULTS

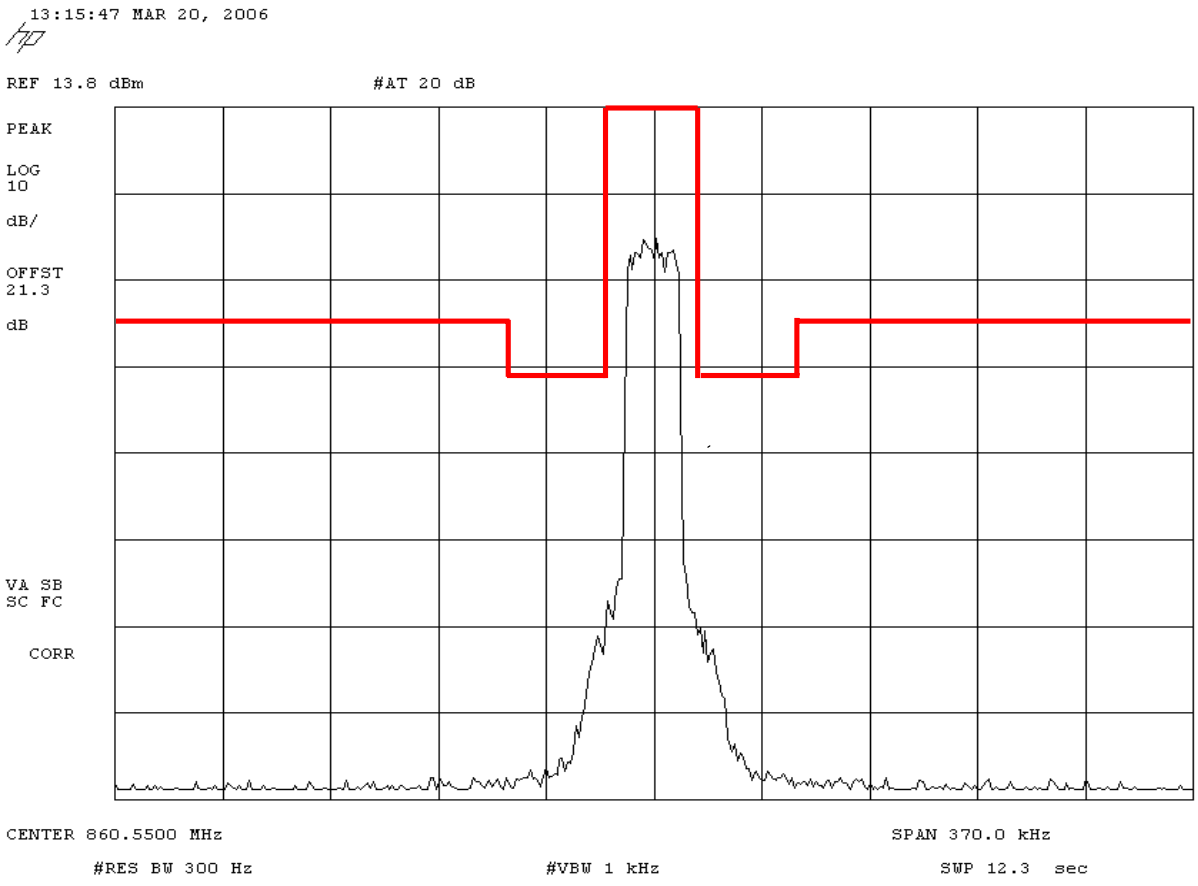
Pass

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Emission Mask for EA-based Systems: Middle Channel @ Highest Output Power



NORTHWEST EMC

EMISSIONS MASK

Rev BETA 01/30/01

EUT:	MC Series System			Work Order:	RAFN0054
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	23° C
Attendees:	Neil Ross	Tested by:	Rod Peloquin	Humidity:	40%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	Off-site

TEST SPECIFICATIONS

Specification:	47 CFR 90.691	Year:	2005	Method:	TIA / EIA - 603	Year:	2002

SAMPLE CALCULATIONS

COMMENTS

EUT OPERATING MODES

Modulated Carrier

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission must be attenuated below the specified emission mask. 0 dB reference is 13.84 dBm

RESULTS

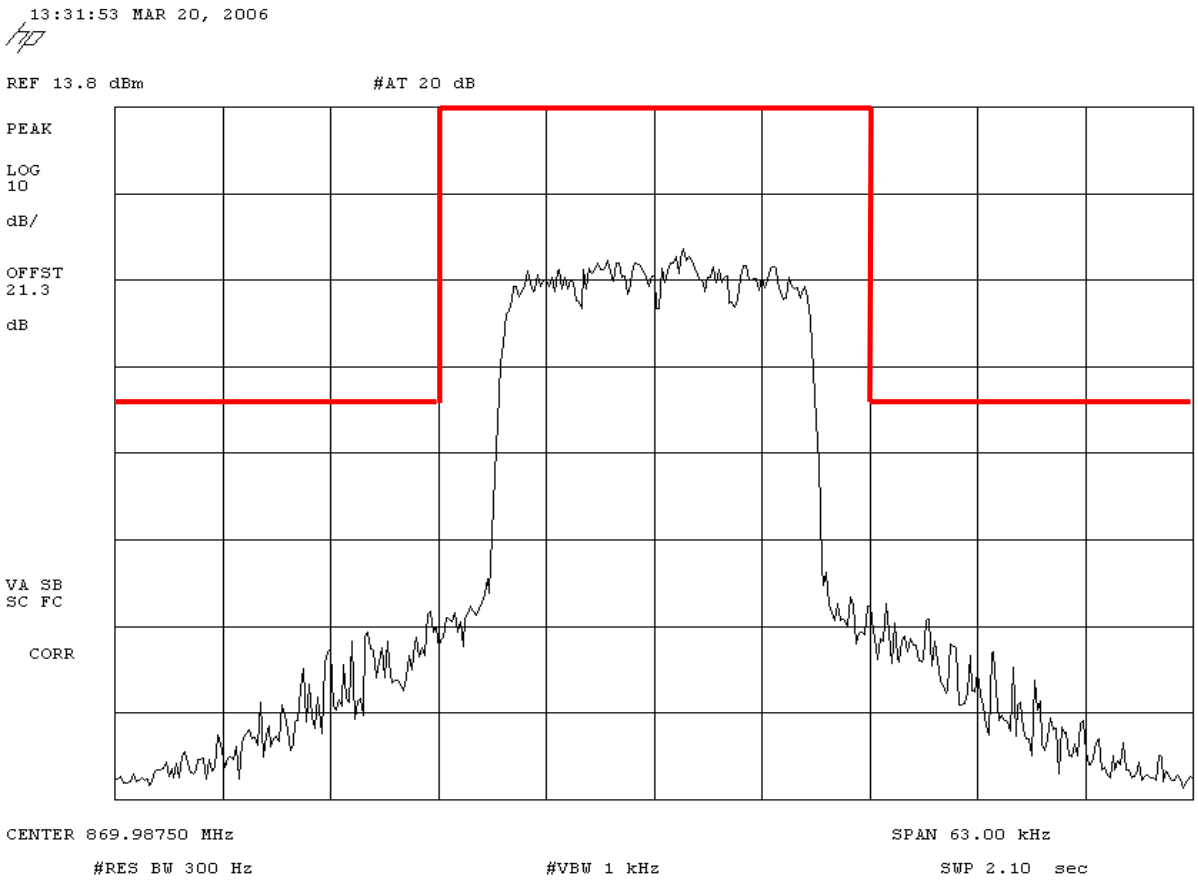
Pass

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Emission Mask for EA-based Systems: Highest Channel @ Highest Output Power



NORTHWEST EMC

EMISSIONS MASK

Rev BETA 01/30/01

EUT:	MC Series System			Work Order:	RAFN0054
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	23° C
Attendees:	Neil Ross	Tested by:	Rod Peloquin	Humidity:	40%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	Off-site

TEST SPECIFICATIONS

Specification:	47 CFR 90.691	Year:	2005	Method:	TIA / EIA - 603	Year:	2002

SAMPLE CALCULATIONS

COMMENTS

EUT OPERATING MODES

Modulated Carrier

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any spurious emission must be attenuated below the specified emission mask. 0 dB reference is 13.84 dBm

RESULTS

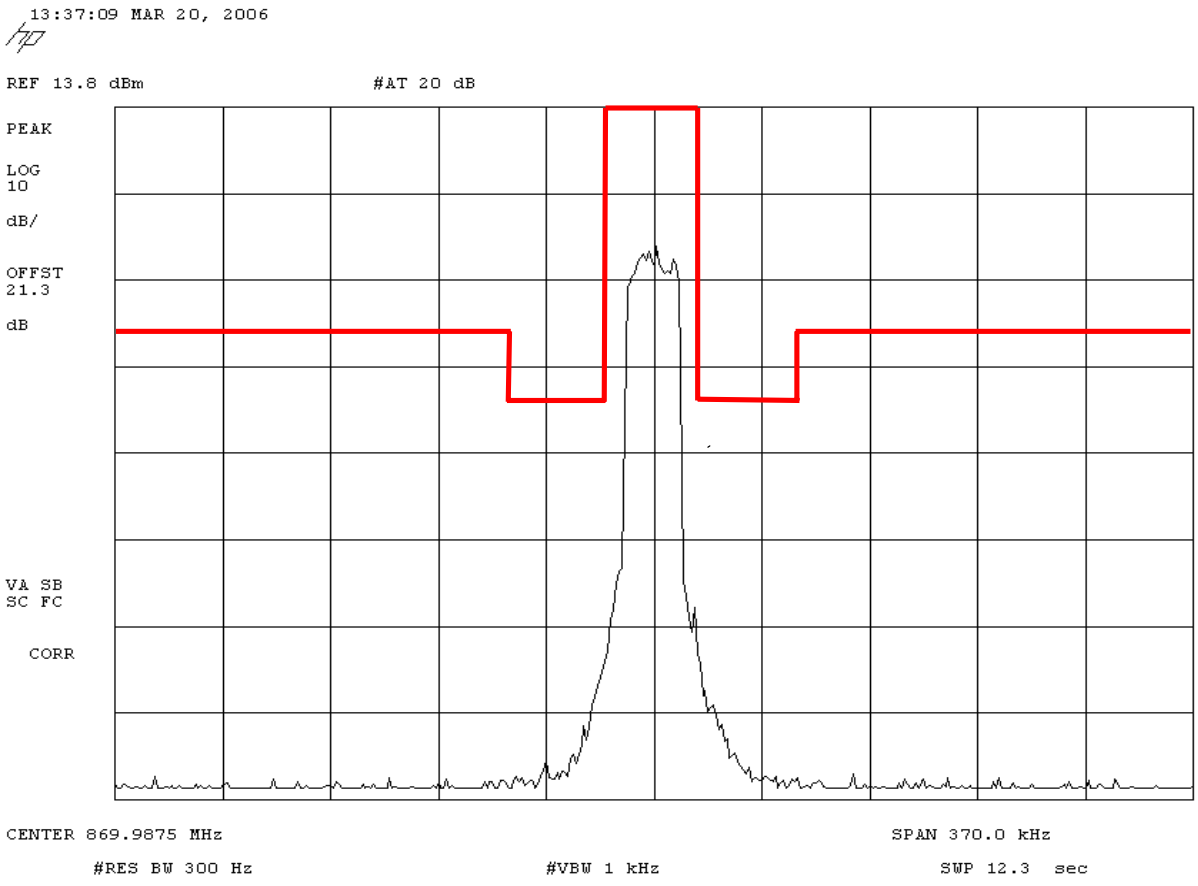
Pass

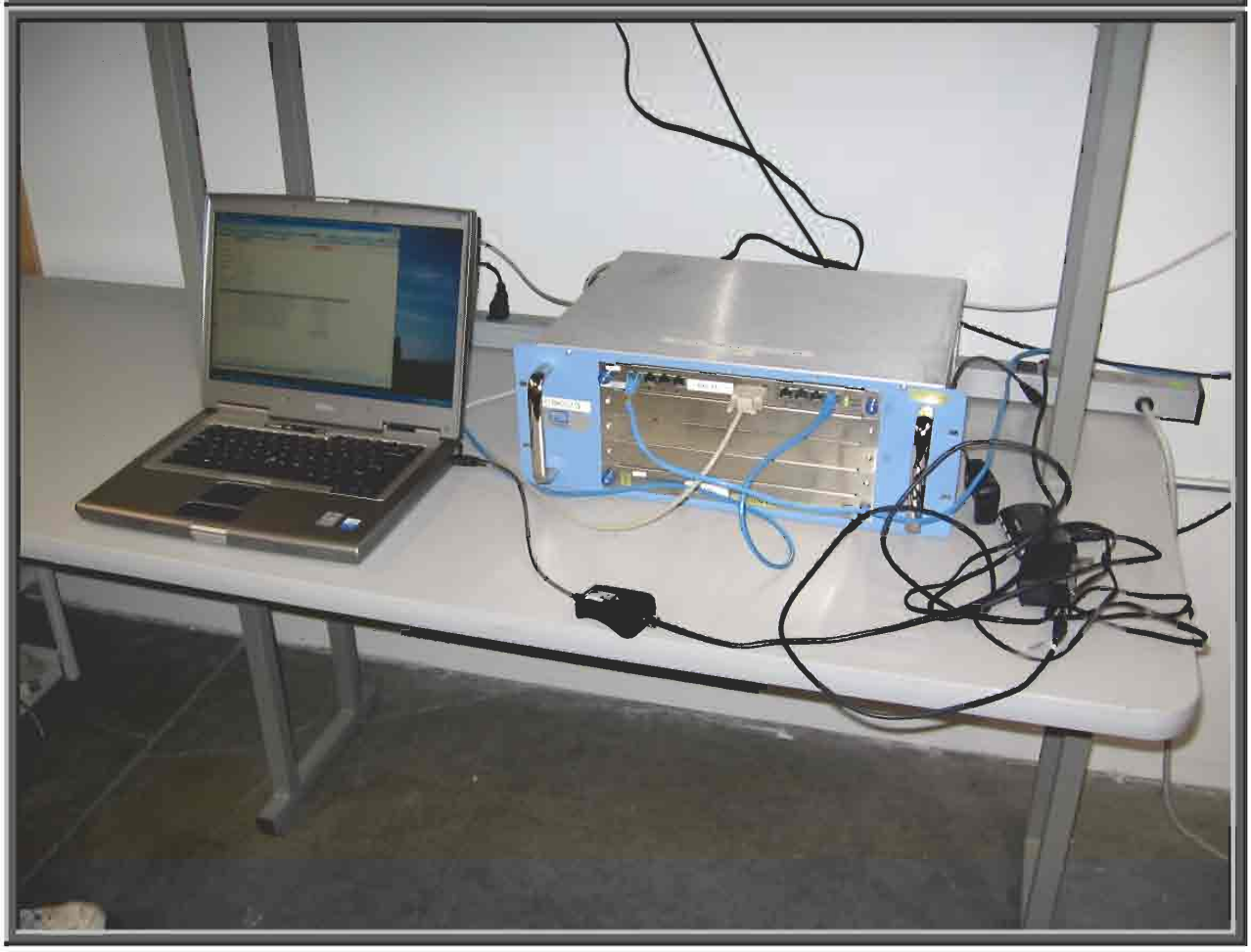
SIGNATURE

Tested By: _____

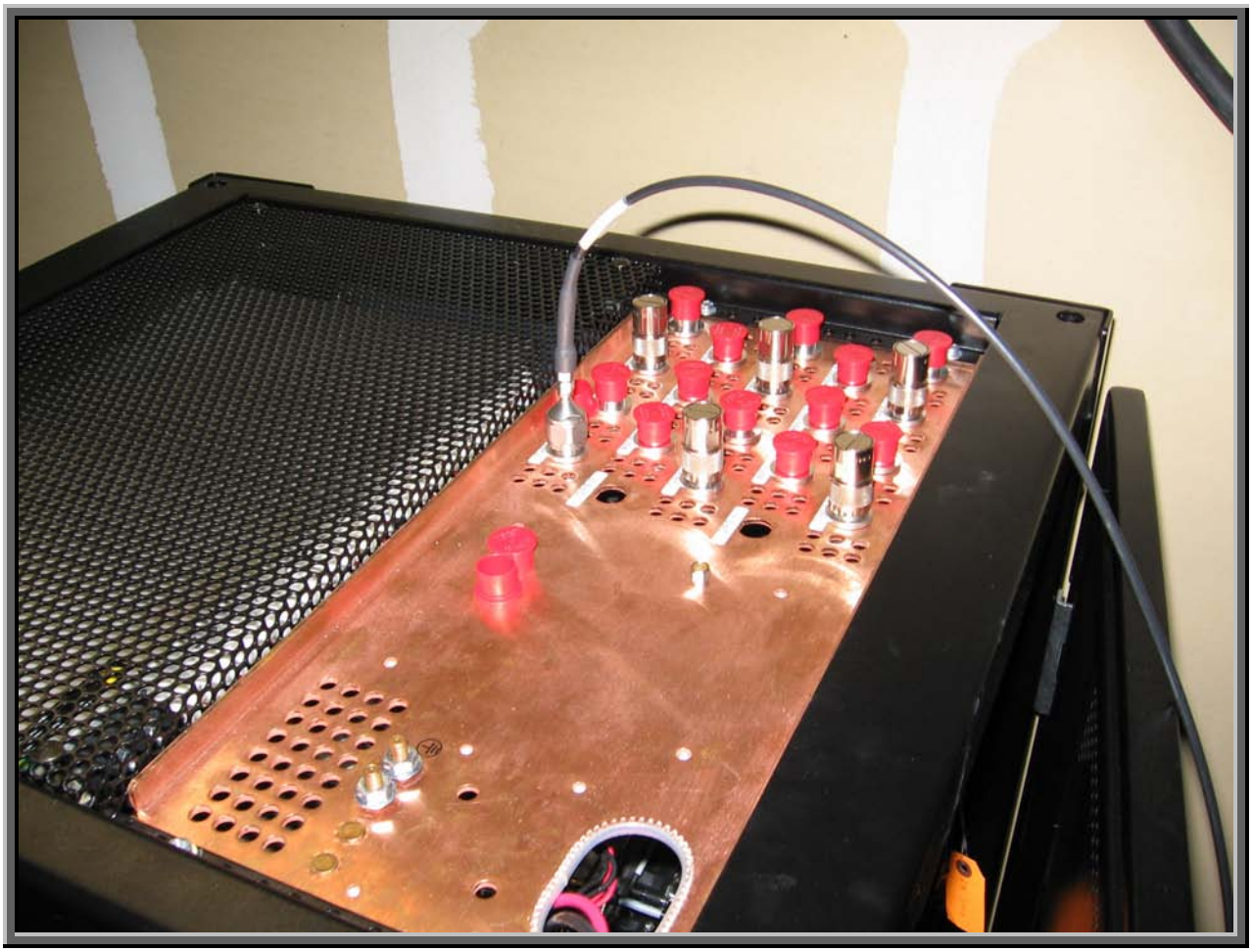
DESCRIPTION OF TEST

Emission Mask for EA-based Systems: Highest Channel @ Highest Output Power





Report No. RAFN0060 47/176



Justification

The individuals and/or the organization requesting the test provided the modes, configurations and settings available to evaluate. While scanning the radiated emissions, all of the EUT parameters listed below were investigated. This includes, but may not be limited to, antennas, tuned transmit frequency ranges, operating modes, and data rates.

Channels in Specified Band Investigated:
Low Channel, 800MHz Band
Mid Channel, 800MHz Band
High Channel, 800MHz Band
Low Channel, 900MHz Band
Mid Channel, 900MHz Band
High Channel, 900MHz Band

Operating Modes Investigated:
Typical, Single channel

Data Rates Investigated:
96 kBps at 64-QAM

Output Power Setting(s) Investigated:
Maximum ~ 14 dBm
Minimum ~ 6 dBm

Power Input Settings Investigated:
-48Vdc

Software\Firmware Applied During Test			
Exercise software	Vx Works	**Version**	N/A
Description			
The system was tested using standard operating production software to exercise the functions of the device during the testing.			

EUT and Peripherals			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
EUT- Multi-Channel RadioBlade (MCRB	Radioframe Networks, Inc.	176-0860-00	14106110148
EUT- Multi-Channel RadioBlade (MCRB	Radioframe Networks, Inc.	176-0860-00	14106110160
EUT- Multi-Channel RadioBlade (MCRB	Radioframe Networks, Inc.	176-0860-00	14106110151
EUT- Multi-Channel RadioBlade (MCRB	Radioframe Networks, Inc.	176-0860-00	14106110146
EUT- Multi-Channel RadioBlade (MCRB	Radioframe Networks, Inc.	176-0860-00	14106110173
EUT- Multi-Channel RadioBlade (MCRB	Radioframe Networks, Inc.	176-0860-00	14106110174
MC-15 SERIES DUAL BAND SYSTEM (3 SE	Radioframe Networks, Inc.	176-7970-xx	14106050325
FRU, DUAL BAND RF SHELF	Radioframe Networks, Inc.	176-0970-xx	14105510109
FRU, DUAL BAND RF SHELF	Radioframe Networks, Inc.	176-0970-xx	14105510110
FRU, DUAL BAND RF SHELF	Radioframe Networks, Inc.	176-0970-xx	14105510113
RadioBlade Shelf (RBS)	Radioframe Networks, Inc.	176-0535-xx	14106030127
MC-15 BTS Interface Chassis (BIC)	Radioframe Networks, Inc.	176-0900-xx	14106050474
MC Common RadioFrame Interface Card	Radioframe Networks, Inc.	176-7540-xx	041053919XV
MC Common RadioFrame Interface Card	Radioframe Networks, Inc.	176-7540-xx	041053919W3
Base Processing Card (BPC)	Radioframe Networks, Inc.	176-7570-xx	04105411HGM
Base Processing Card (BPC)	Radioframe Networks, Inc.	176-7570-xx	04105401GP1
Base Processing Card (BPC)	Radioframe Networks, Inc.	176-7570-xx	04105421JKZ
MC-15 Airlink Interface Chassis (AI	Radioframe Networks, Inc.	176-0800-xx	14106050522
BPC W/ LC SPAM	Radioframe Networks, Inc.	176-7565-xx	04105411HC0
SPAM	Radioframe Networks, Inc.	176-7510-xx	Unknown
SPAM	Radioframe Networks, Inc.	176-7510-xx	Unknown
BPC W/ LC SPAM	Radioframe Networks, Inc.	176-7565-xx	04105411HJX
SPAM	Radioframe Networks, Inc.	176-7510-xx	Unknown
SPAM	Radioframe Networks, Inc.	176-7510-xx	Unknown
BPC W/ LC SPAM	Radioframe Networks, Inc.	176-7565-xx	04105411HLH
SPAM	Radioframe Networks, Inc.	176-7510-xx	Unknown
SPAM	Radioframe Networks, Inc.	176-7510-xx	Unknown
Ethernet Rear Transition Module (ER	Radioframe Networks, Inc.	176-7562-xx	14105320204
Ethernet Rear Transition Module (ER	Radioframe Networks, Inc.	176-7562-xx	14105320203
Coaxial RMII Transceiver Card (CRTC	Radioframe Networks, Inc.	176-0820-xx	14105480250

Remote Equipment Outside of Test Setup Boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Site Simulator	Radioframe Networks, Inc.	N/a	N/a
Site Controller	Motorola, Inc.	CCN1008N	CAF030LTC4
GPS Antenna	Hewlett-Packard	8532A	901
DC Power Supply	Sorensen	DCR 60-45B	0144

Equipment isolated from the EUT so as not to contribute to the measurement result is considered to be outside the test setup boundary

Cables					
Cable Type	**Shield**	**Length (m)**	**Ferrite**	**Connection 1**	**Connection 2**
DC Power	No	8.0	No	MC-15 SERIES DUAL BAND SYSTEM	DC Supply
BNC	Yes	30.0	No	ERTM	Site Simulator
BNC	Yes	30.0	No	Site Controller	Site Simulator
BNC	Yes	3.0	No	GPS Antenna	Site Controller
Ethernet	No	3.0	No	Site Controller	ERTM

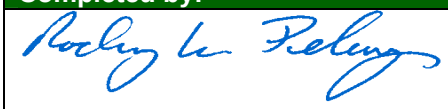
Measurement Equipment					
Description	**Manufacturer**	**Model**	**Identifier**	**Last Cal**	**Interval**
Spectrum Analyzer	Hewlett-Packard	8593E	AAN	01/25/2006	13 mo
Power Meter	Hewlett Packard	E4418A	SPA	07/23/2004	24 mo
Power Sensor	Hewlett-Packard	8481H	SPB	07/23/2004	24 mo
Signal Generator	Hewlett-Packard	8648D	TGC	01/27/2006	13 mo

Test Description

Requirement: Per 47 CFR 2.1046 and 90.205, the conducted power output was measured at the RF output terminals after the tune-up procedure. The measured value, the value stated in the manual, and the value on Form 731 must agree.

Configuration: 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 spectrum analyzer.

Completed by:



NORTHWEST EMC

Output Power

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	21° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	40%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1046 & 90.217	Year: 2005	Method: TIA/EIA-603	Year:	2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System configuration, 900MHz band

EUT OPERATING MODES

With modulation

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

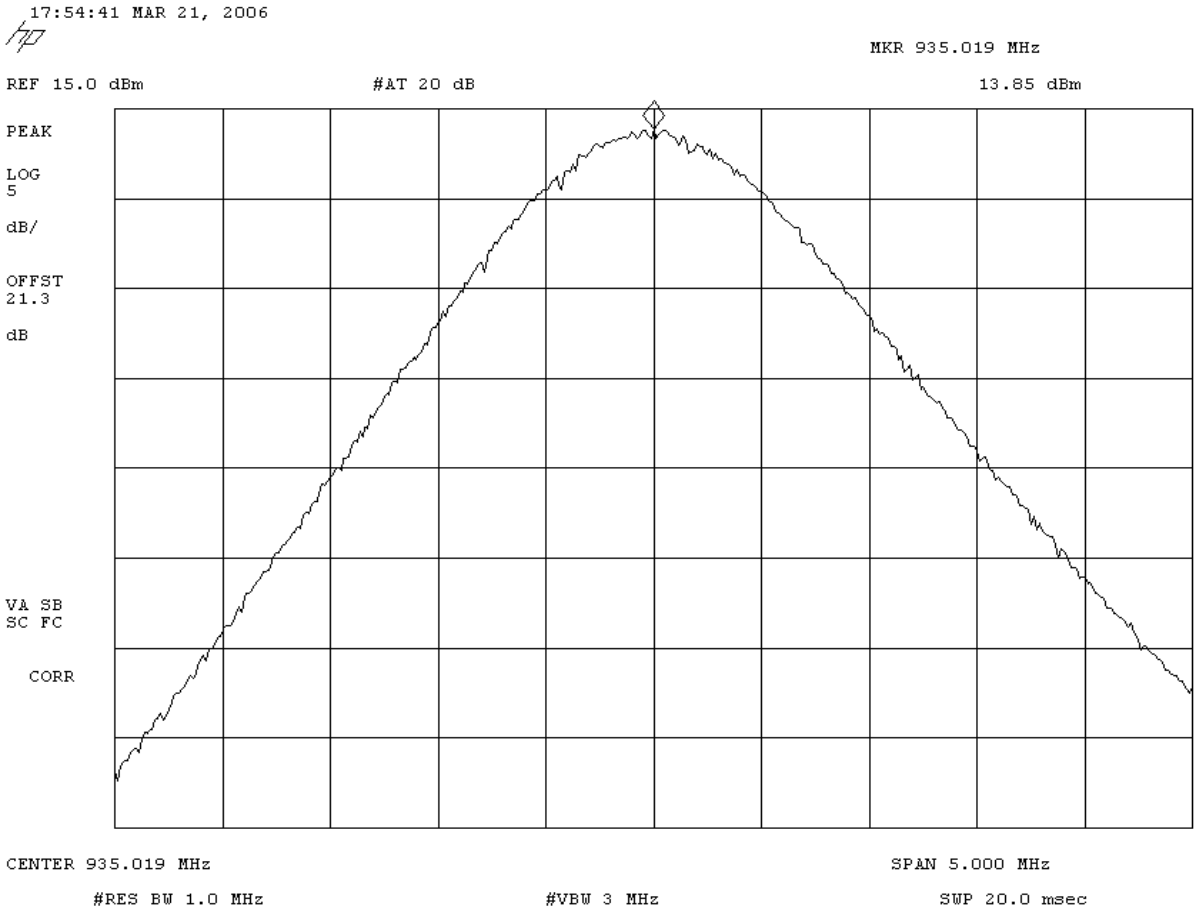
RESULTS	AMPLITUDE
Pass	13.85 dBm

SIGNATURE

Tested By: Rodney La Peloquin

DESCRIPTION OF TEST

Output Power - Low Channel, High Power



NORTHWEST EMC

Output Power

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	21° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	40%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1046 & 90.217	Year:	2005	Method:	TIA/EIA-603	Year:	2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System configuration, 900MHz band

EUT OPERATING MODES

With modulation

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

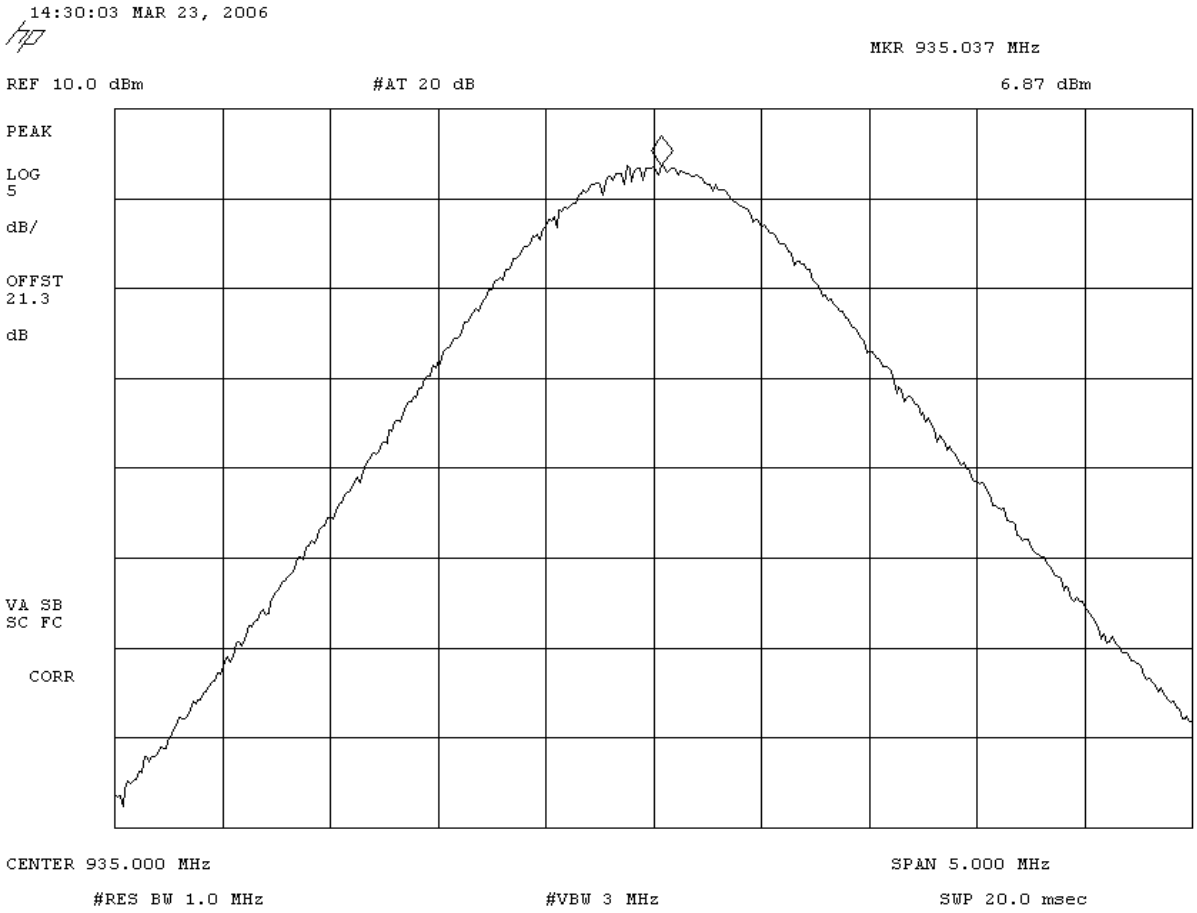
RESULTS	AMPLITUDE
Pass	6.9 dBm

SIGNATURE

Tested By: Rodney La Peloquin

DESCRIPTION OF TEST

Output Power - Low Channel, Low Power



NORTHWEST EMC

Output Power

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	21° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	40%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1046 & 90.217	Year:	2005	Method:	TIA/EIA-603	Year:	2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System configuration, 900MHz band

EUT OPERATING MODES

With modulation

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

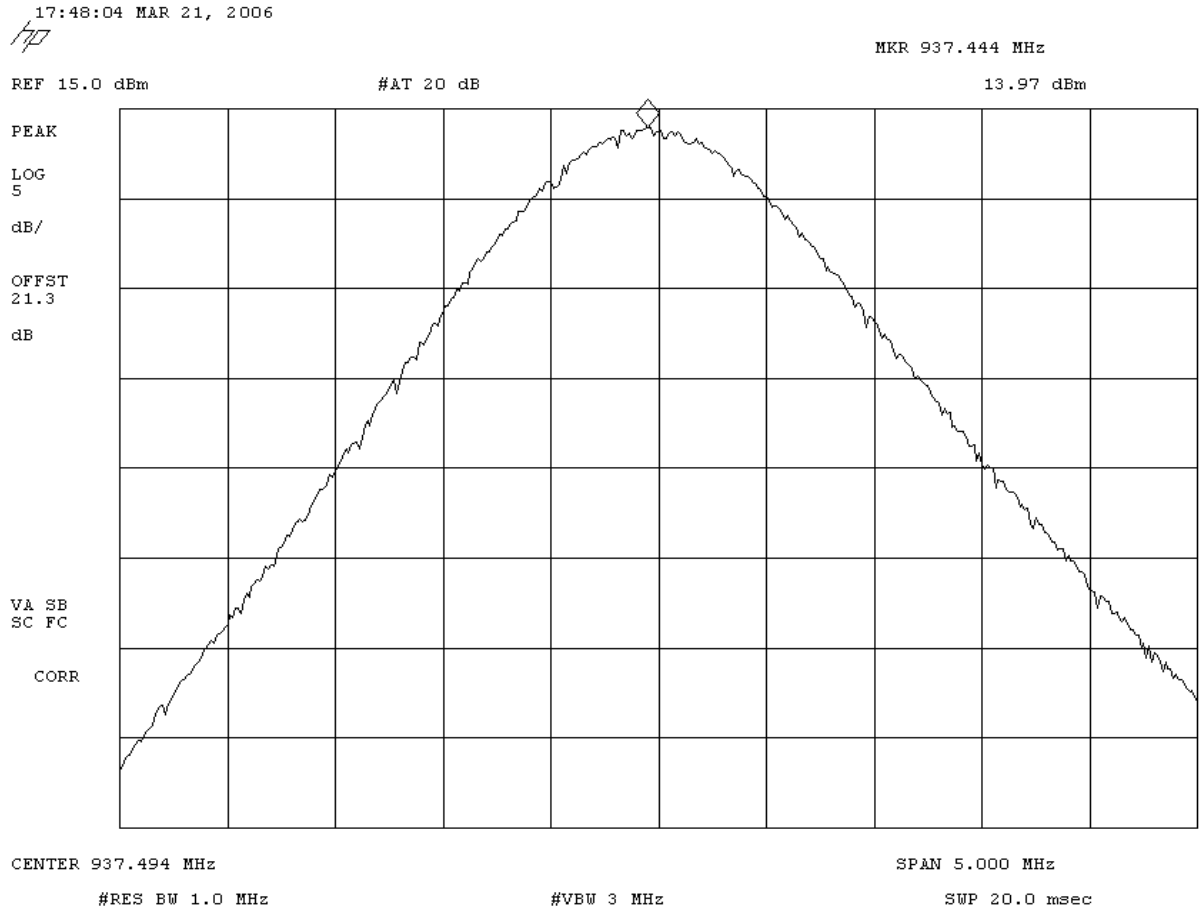
RESULTS	AMPLITUDE
Pass	13.97 dBm

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Output Power - Medium Channel, High Power



NORTHWEST EMC

Output Power

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	21° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	40%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1046 & 90.217	Year:	2005	Method:	TIA/EIA-603	Year:	2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System configuration, 900MHz band

EUT OPERATING MODES

With modulation

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

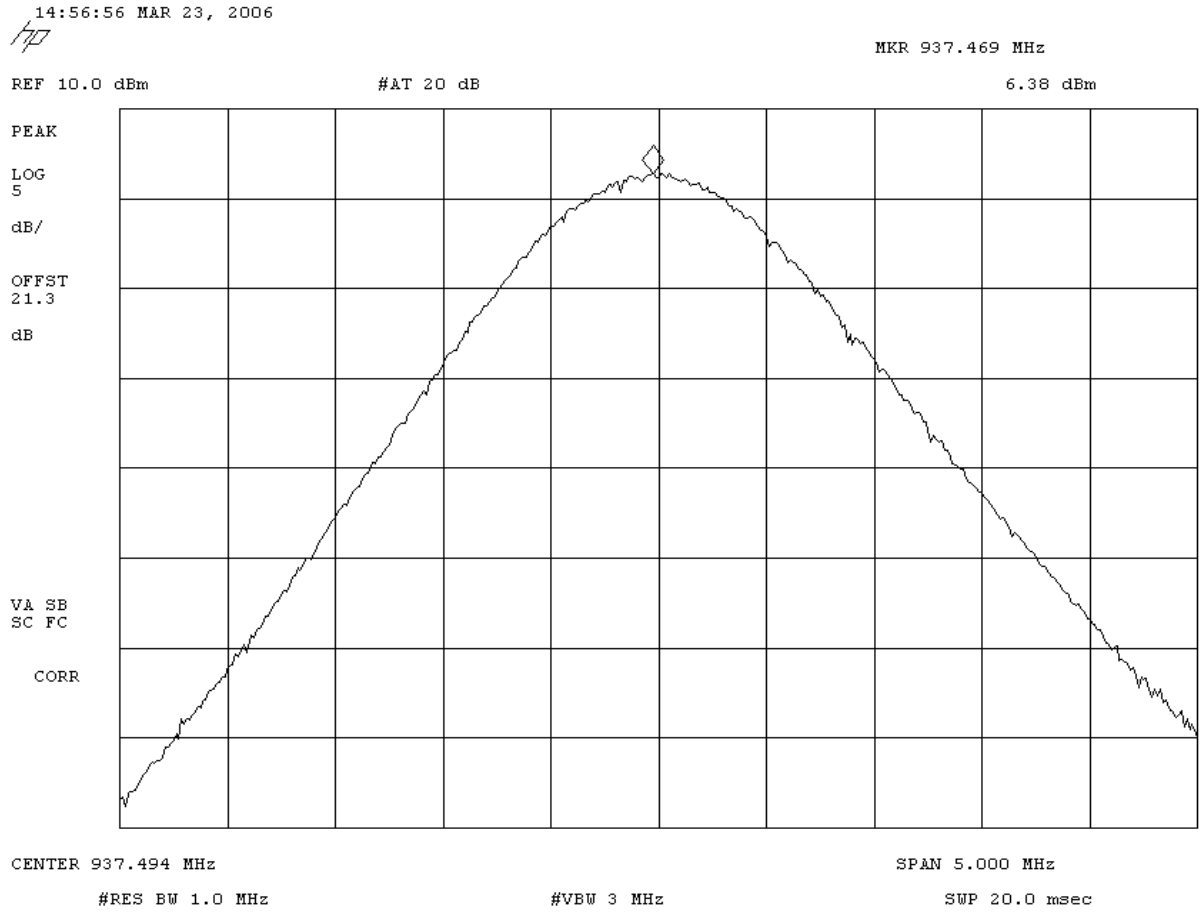
RESULTS	AMPLITUDE
Pass	6.4 dBm

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Output Power - Medium Channel, Low Power



NORTHWEST EMC

Output Power

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	21° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	40%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1046 & 90.217	Year: 2005	Method: TIA/EIA-603	Year:	2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System configuration, 900MHz band

EUT OPERATING MODES

With modulation

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

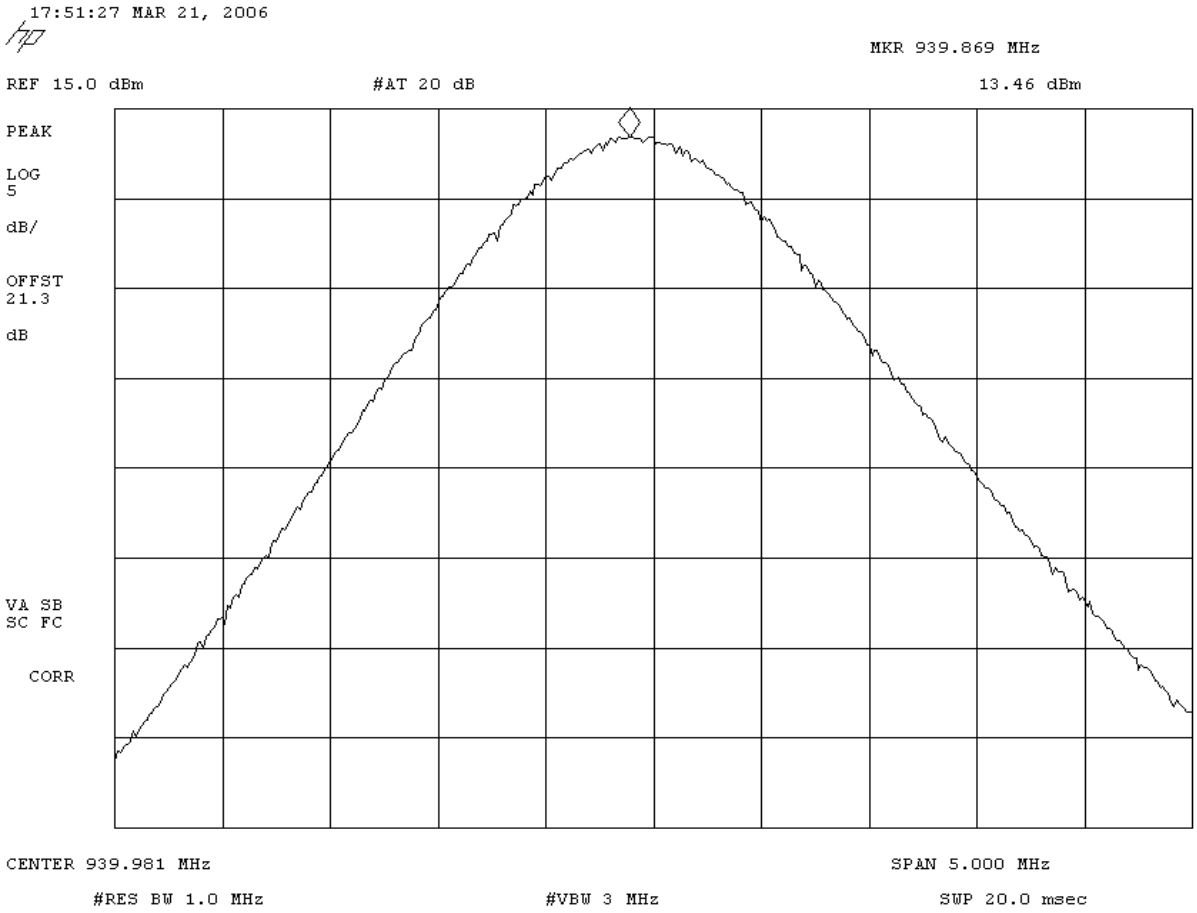
RESULTS	AMPLITUDE
Pass	13.46 dBm

SIGNATURE

Tested By: Rodney L. Peloquin

DESCRIPTION OF TEST

Output Power - High Channel, High Power



NORTHWEST EMC

Output Power

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	21° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	40%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1046 & 90.217	Year:	2005	Method:	TIA/EIA-603	Year:	2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System configuration, 900MHz band

EUT OPERATING MODES

With modulation

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

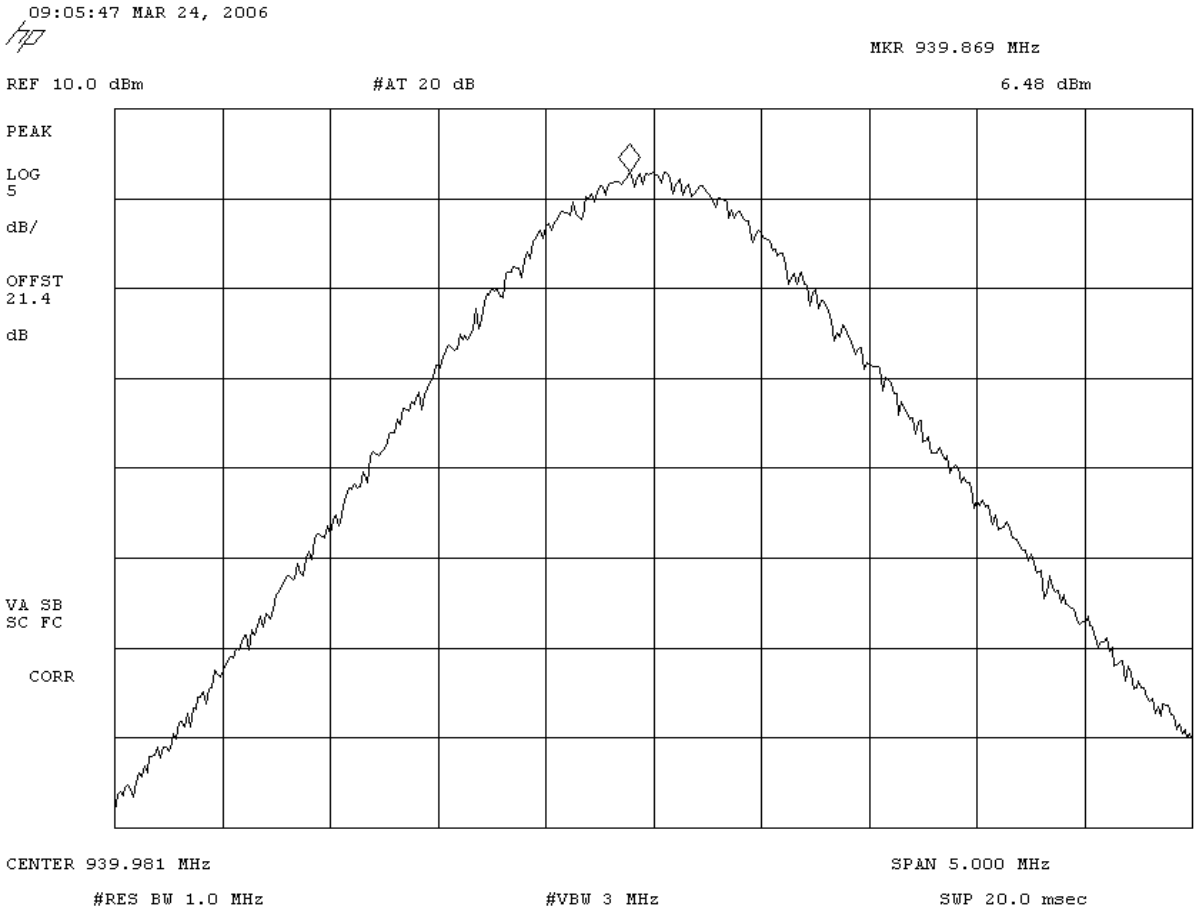
RESULTS	AMPLITUDE
Pass	6.5 dBm

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Output Power - High Channel, Low Power



NORTHWEST EMC

Output Power

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	21° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	40%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1046 & 90.217	Year:	2005	Method:	TIA/EIA-603	Year:	2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System configuration, 800MHz band

EUT OPERATING MODES

With modulation

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

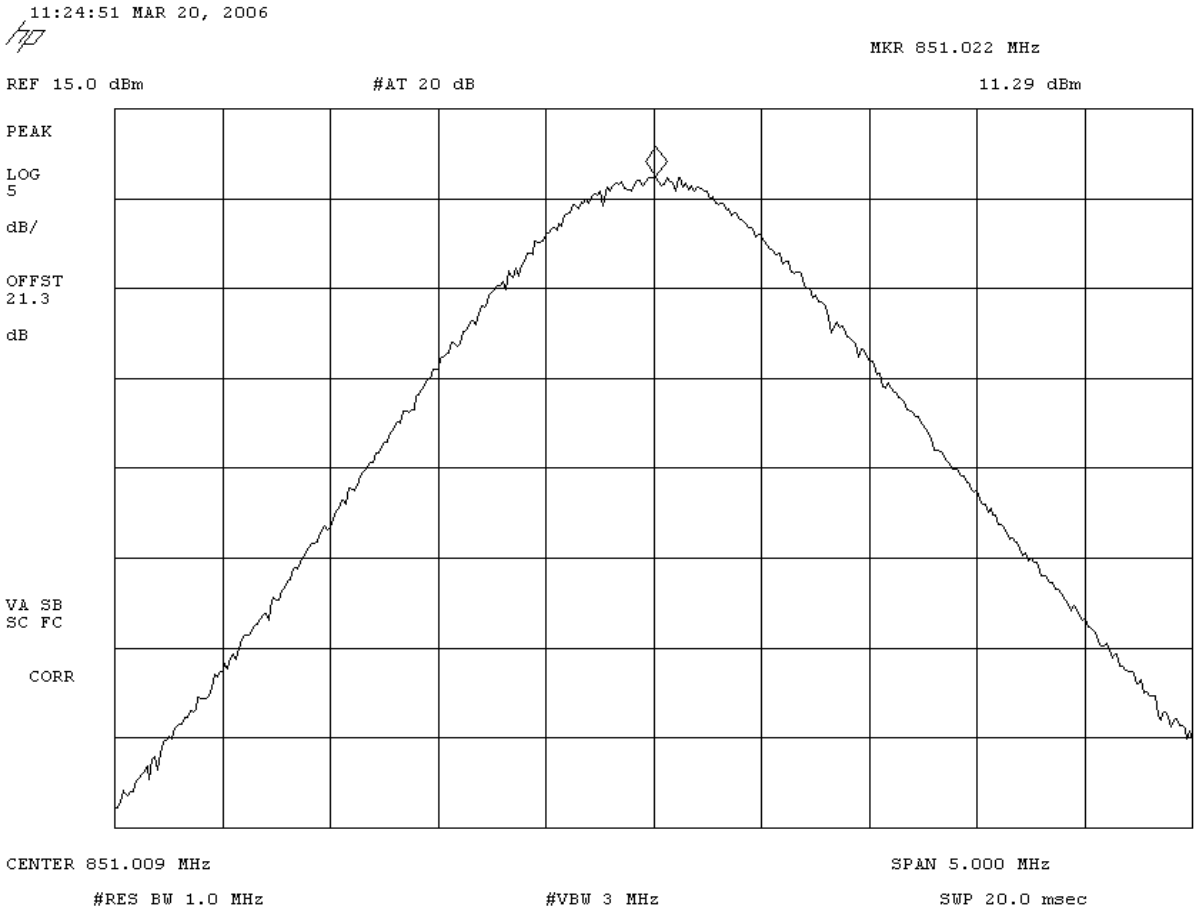
RESULTS	AMPLITUDE
Pass	11.3 dBm

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Output Power - Low Channel, High Power



NORTHWEST
EMC

Output Power

Rev BETA
01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	21° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	40%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1046 & 90.217	Year: 2005	Method: TIA/EIA-603	Year:	2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System configuration

EUT OPERATING MODES

With modulation

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

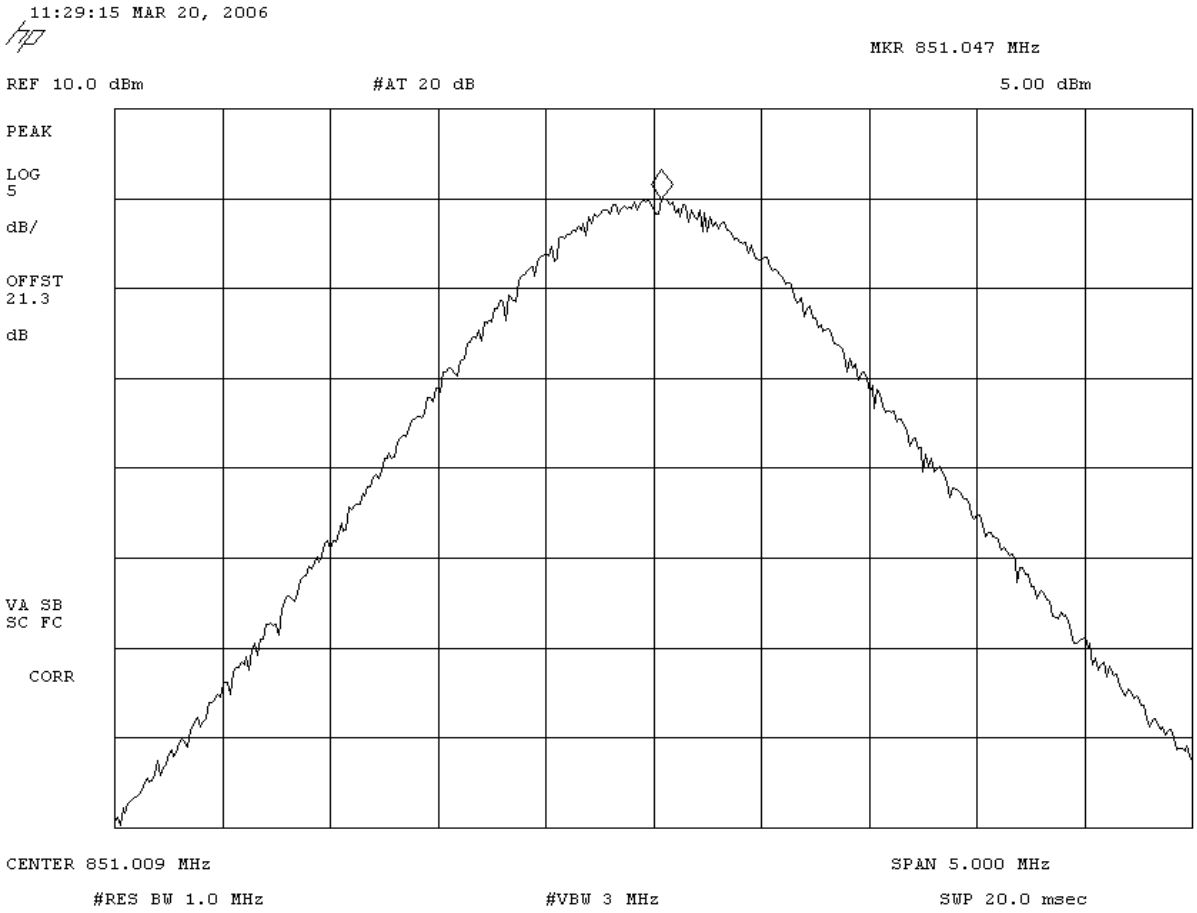
RESULTS	AMPLITUDE
Pass	5.0 dBm

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Output Power - Low Channel, Low Power



NORTHWEST EMC

Output Power

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	21° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	40%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1046 & 90.217	Year:	2005	Method:	TIA/EIA-603	Year:	2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System configuration

EUT OPERATING MODES

With modulation

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

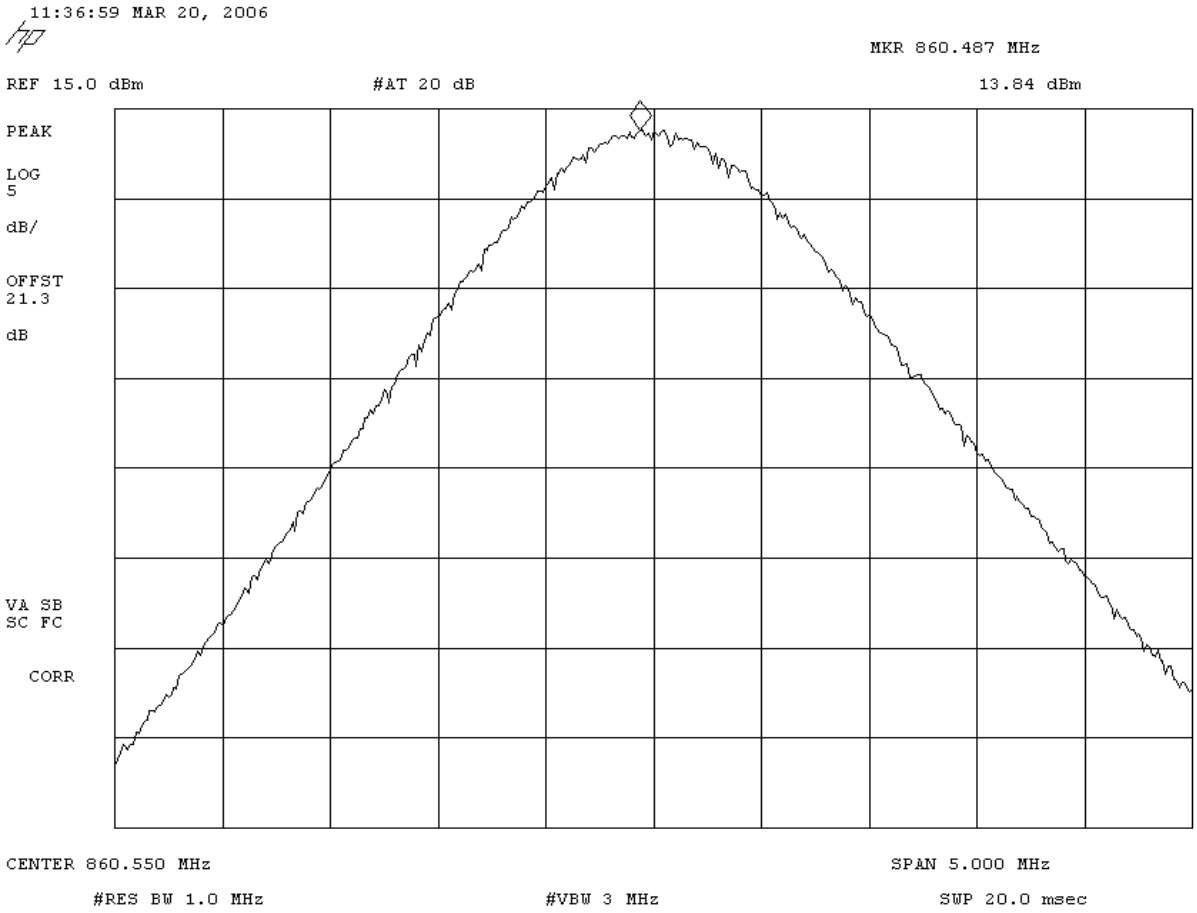
RESULTS	AMPLITUDE
Pass	13.8 dBm

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Output Power - Medium Channel, High Power



NORTHWEST EMC

Output Power

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	21° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	40%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1046 & 90.217	Year:	2005	Method:	TIA/EIA-603	Year:	2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System configuration

EUT OPERATING MODES

With modulation

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

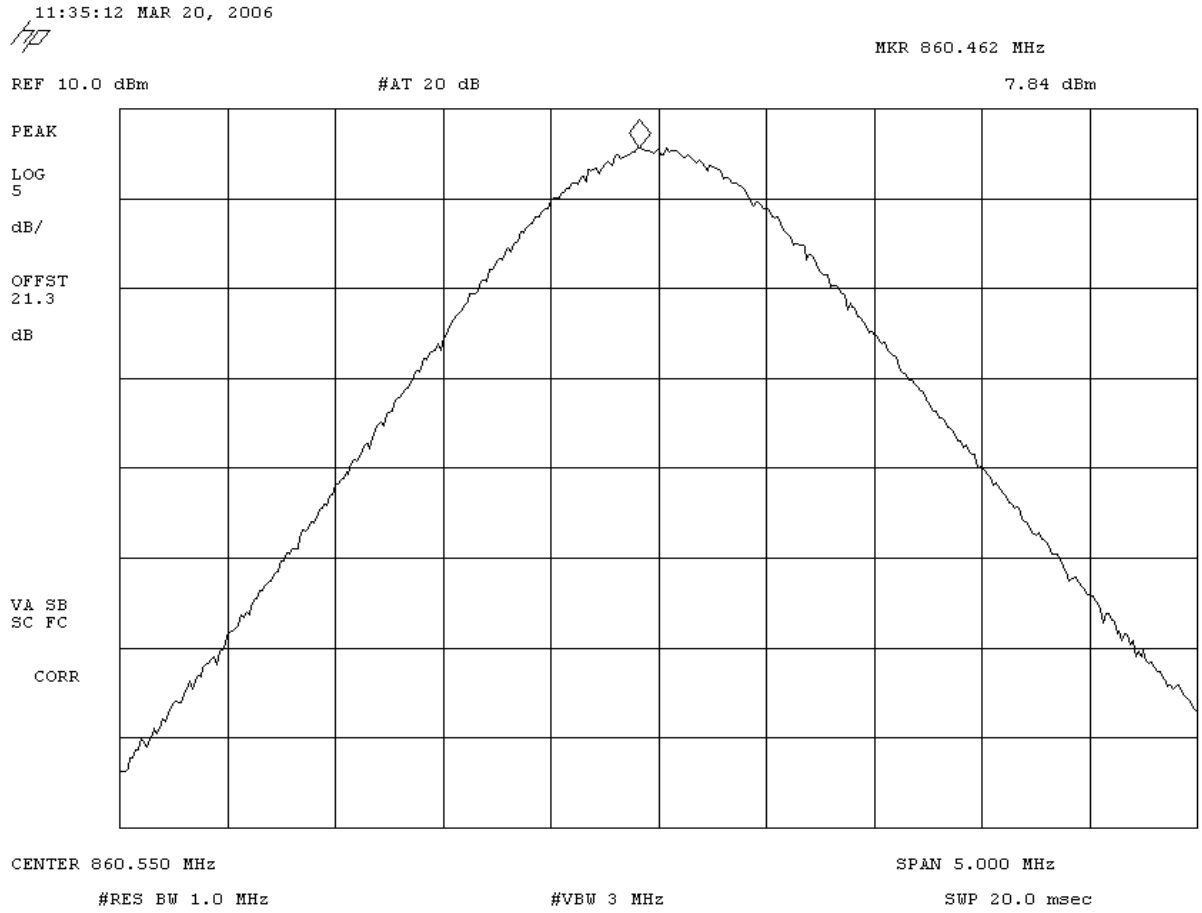
RESULTS	AMPLITUDE
Pass	7.8 dBm

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Output Power - Medium Channel, Low Power



NORTHWEST EMC

Output Power

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	21° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	40%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1046 & 90.217	Year: 2005	Method: TIA/EIA-603	Year:	2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System configuration

EUT OPERATING MODES

With modulation

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

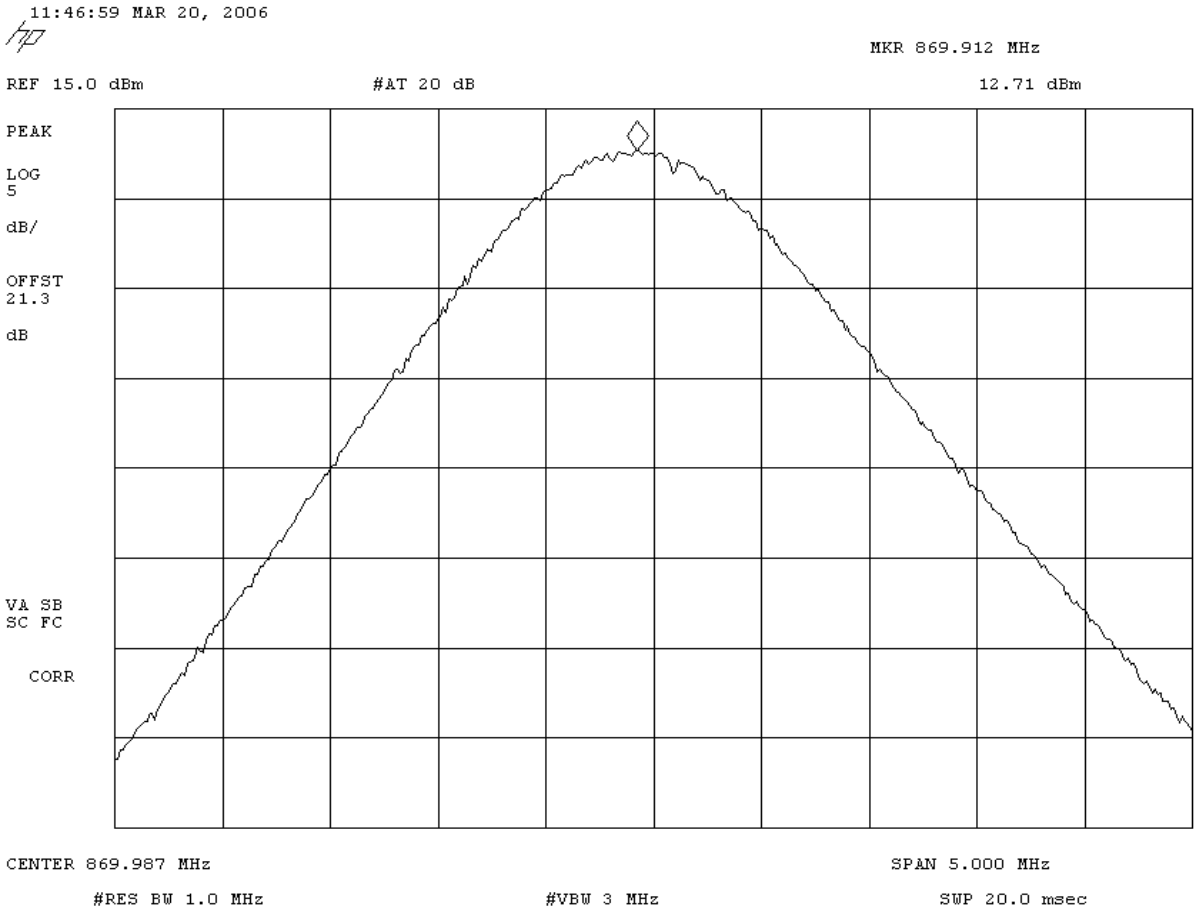
RESULTS	AMPLITUDE
Pass	12.7 dBm

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Output Power - High Channel, High Power



NORTHWEST EMC

Output Power

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	21° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	40%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1046 & 90.217	Year: 2005	Method: TIA/EIA-603	Year:	2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System configuration

EUT OPERATING MODES

With modulation

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

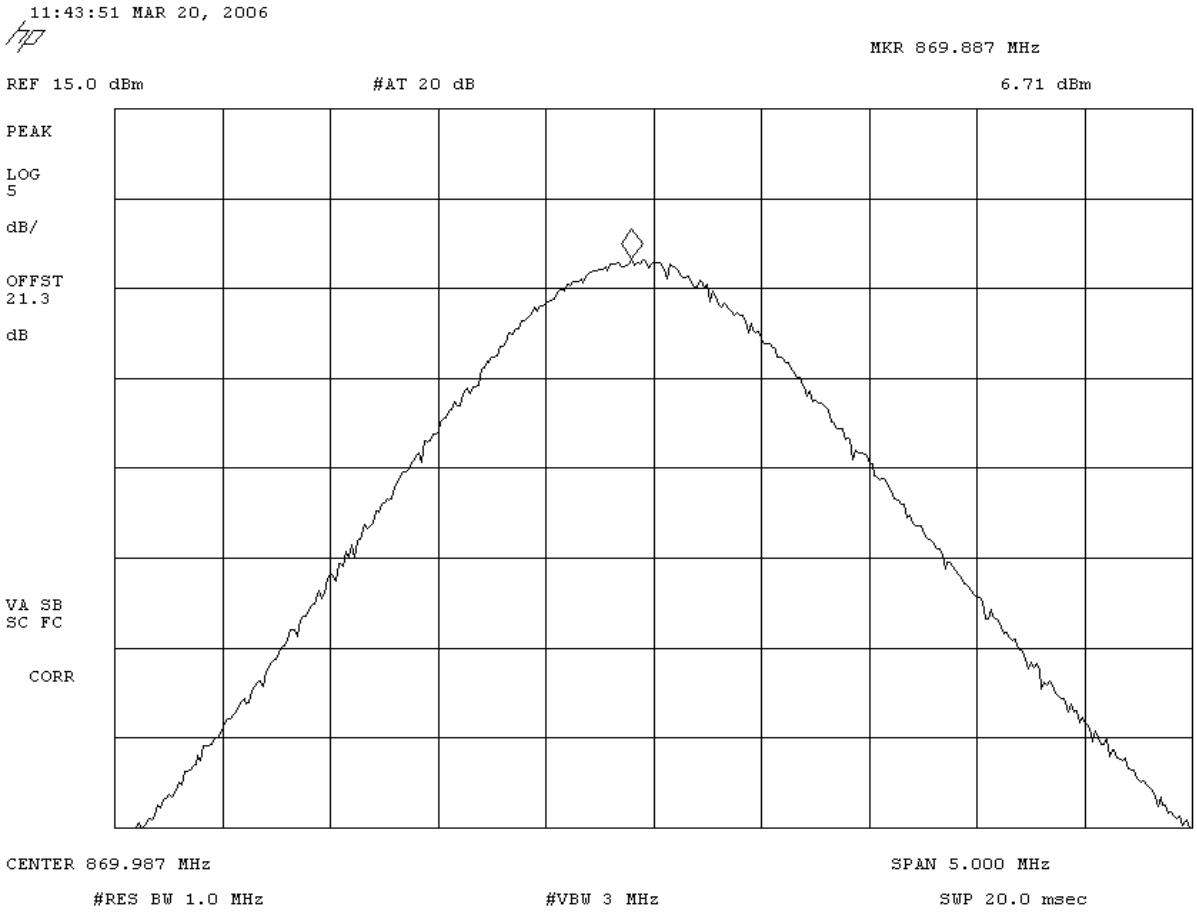
RESULTS	AMPLITUDE
Pass	6.7 dBm

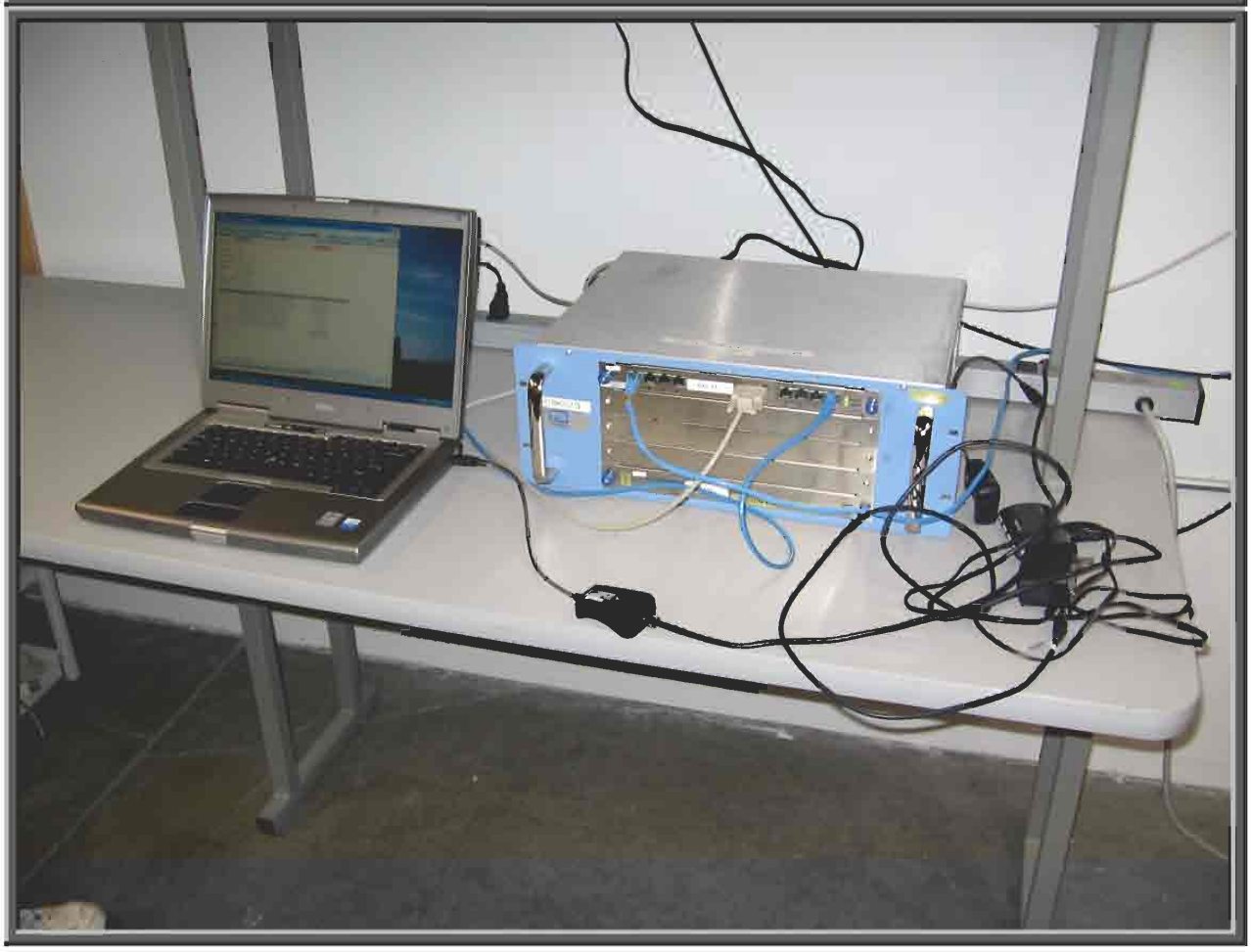
SIGNATURE

Tested By: _____

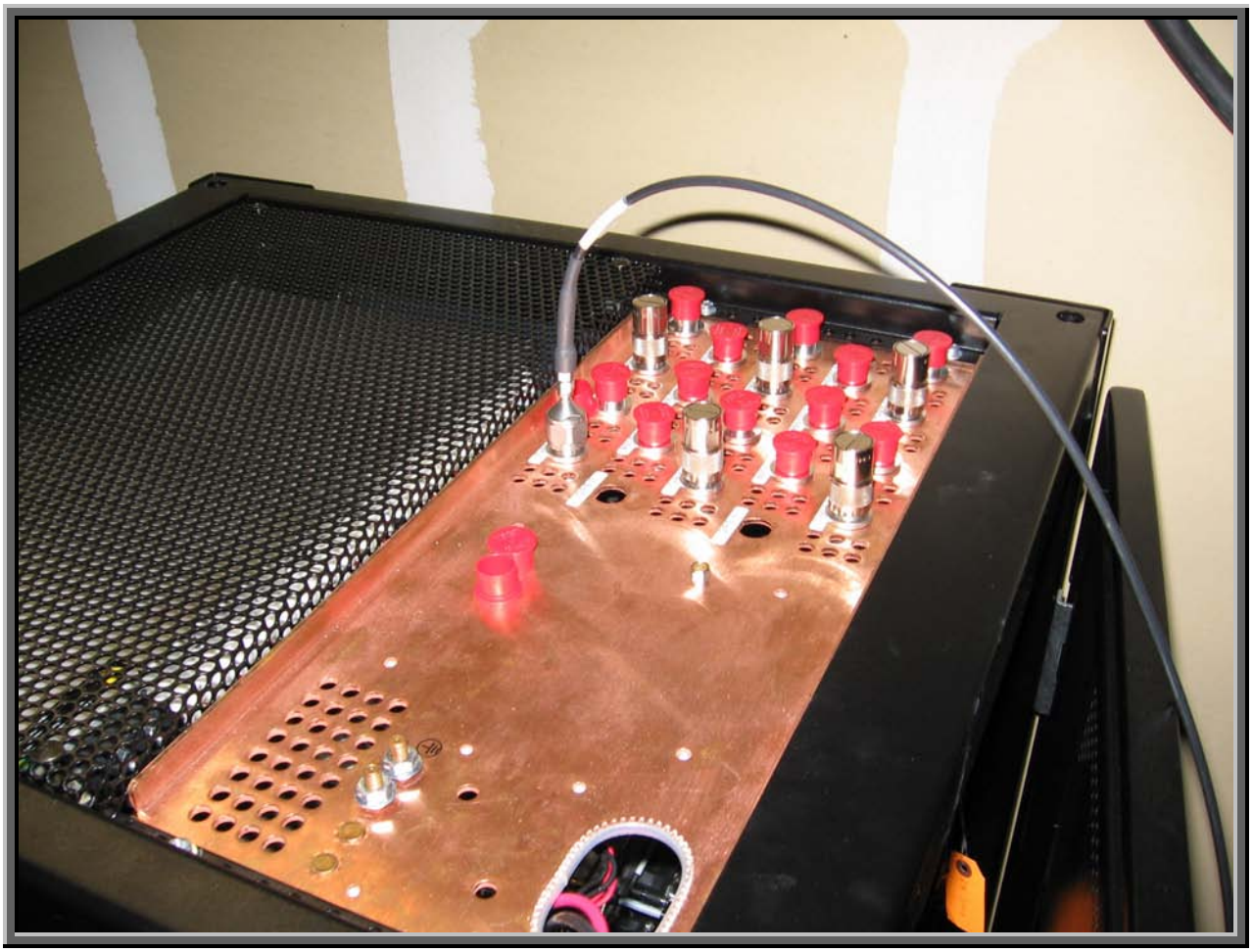
DESCRIPTION OF TEST

Output Power - High Channel, Low Power





Report No. RAFN0060 66/176



Justification

The individuals and/or the organization requesting the test provided the modes, configurations and settings available to evaluate. While scanning the radiated emissions, all of the EUT parameters listed below were investigated. This includes, but may not be limited to, antennas, tuned transmit frequency ranges, operating modes, and data rates.

Channels in Specified Band Investigated:
Single channels within the center of the allowable 800MHz and 900MHz bands

Operating Modes Investigated:
Typical

Data Rates Investigated:
96 kBps at 64-QAM

Output Power Setting(s) Investigated:
Maximum ~ 14 dBm

Power Input Settings Investigated:
-48Vdc

Software\Firmware Applied During Test			
Exercise software	Vx Works	**Version**	N/A
Description			
The system was tested using standard operating production software to exercise the functions of the device during the testing.			

EUT and Peripherals			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
EUT- Multi-Channel RadioBlade (MCRB	Radioframe Networks, Inc.	176-0860-00	14106110148
EUT- Multi-Channel RadioBlade (MCRB	Radioframe Networks, Inc.	176-0860-00	14106110160
EUT- Multi-Channel RadioBlade (MCRB	Radioframe Networks, Inc.	176-0860-00	14106110151
EUT- Multi-Channel RadioBlade (MCRB	Radioframe Networks, Inc.	176-0860-00	14106110146
EUT- Multi-Channel RadioBlade (MCRB	Radioframe Networks, Inc.	176-0860-00	14106110173
EUT- Multi-Channel RadioBlade (MCRB	Radioframe Networks, Inc.	176-0860-00	14106110174
MC-15 SERIES DUAL BAND SYSTEM (3 SE	Radioframe Networks, Inc.	176-7970-xx	14106050325
FRU, DUAL BAND RF SHELF	Radioframe Networks, Inc.	176-0970-xx	14105510109
FRU, DUAL BAND RF SHELF	Radioframe Networks, Inc.	176-0970-xx	14105510110
FRU, DUAL BAND RF SHELF	Radioframe Networks, Inc.	176-0970-xx	14105510113
RadioBlade Shelf (RBS)	Radioframe Networks, Inc.	176-0535-xx	14106030127
MC-15 BTS Interface Chassis (BIC)	Radioframe Networks, Inc.	176-0900-xx	14106050474
MC Common RadioFrame Interface Card	Radioframe Networks, Inc.	176-7540-xx	041053919XV
MC Common RadioFrame Interface Card	Radioframe Networks, Inc.	176-7540-xx	041053919W3
Base Processing Card (BPC)	Radioframe Networks, Inc.	176-7570-xx	04105411HGM
Base Processing Card (BPC)	Radioframe Networks, Inc.	176-7570-xx	04105401GP1
Base Processing Card (BPC)	Radioframe Networks, Inc.	176-7570-xx	04105421JKZ
MC-15 Airlink Interface Chassis (AI	Radioframe Networks, Inc.	176-0800-xx	14106050522
BPC W/ LC SPAM	Radioframe Networks, Inc.	176-7565-xx	04105411HC0
SPAM	Radioframe Networks, Inc.	176-7510-xx	Unknown
SPAM	Radioframe Networks, Inc.	176-7510-xx	Unknown
BPC W/ LC SPAM	Radioframe Networks, Inc.	176-7565-xx	04105411HJX
SPAM	Radioframe Networks, Inc.	176-7510-xx	Unknown
SPAM	Radioframe Networks, Inc.	176-7510-xx	Unknown
BPC W/ LC SPAM	Radioframe Networks, Inc.	176-7565-xx	04105411HLH
SPAM	Radioframe Networks, Inc.	176-7510-xx	Unknown
SPAM	Radioframe Networks, Inc.	176-7510-xx	Unknown
Ethernet Rear Transition Module (ER	Radioframe Networks, Inc.	176-7562-xx	14105320204
Ethernet Rear Transition Module (ER	Radioframe Networks, Inc.	176-7562-xx	14105320203
Coaxial RMII Transceiver Card (CRTC	Radioframe Networks, Inc.	176-0820-xx	14105480250

Remote Equipment Outside of Test Setup Boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Site Simulator	Radioframe Networks, Inc.	N/a	N/a
Site Controller	Motorola, Inc.	CCN1008N	CAF030LTC4
GPS Antenna	Hewlett-Packard	8532A	901
DC Power Supply	Electronic Measurements, Inc.	EMS 60-33	20K11738

Equipment isolated from the EUT so as not to contribute to the measurement result is considered to be outside the test setup boundary

Cables					
Cable Type	**Shield**	**Length (m)**	**Ferrite**	**Connection 1**	**Connection 2**
DC Power	No	8.0	No	MC-15 SERIES DUAL BAND SYSTEM	DC Supply
BNC	Yes	30.0	No	ERTM	Site Simulator
BNC	Yes	30.0	No	Site Controller	Site Simulator
BNC	Yes	3.0	No	GPS Antenna	Site Controller
Ethernet	No	3.0	No	Site Controller	ERTM

Measurement Equipment					
Description	**Manufacturer**	**Model**	**Identifier**	**Last Cal**	**Interval**
Spectrum Analyzer	Hewlett-Packard	8593E	AAN	01/25/2006	13 mo
Multimeter	Tektronix	DMM912	MMH	12/08/2005	13 mo
DC Power Supply	Sorensen	DCR60-45B	TPB	NCR	NA
Chamber, Temp./Humidity Chamber	Cincinnati Sub Zero (CSZ)	ZH-32-2-2-H/AC	TBA	08/24/2005	12 mo
Chamber Temp. & Humidity Controller	ESZ / Eurotherm	Dimension II	TBC	08/24/2005	12 mo

Test Description

Requirement: Per 47 CFR 15.255, the frequency stability shall be measured with variation of ambient temperature and primary supply voltage. A spectrum analyzer or frequency counter can be used to measure the frequency stability. If using a spectrum analyzer, it must have a precision frequency reference that exceeds the stability requirement of the transmitter. A temperature / humidity chamber is required.

Configuration:

Variation of Supply Voltage

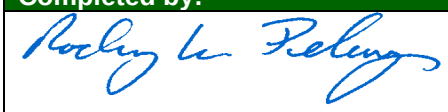
The primary supply voltage was varied from 85% to 115% of nominal. The EUT can only be operated from the public AC mains, so an DC lab supply was used to vary the supply voltage from 115% to 85% -48V DC.

Variation of Ambient Temperature

Using a temperature chamber, the transmit frequency was recorded at the extremes of the specified temperature range (-20° to +50° C) and at 10°C intervals.

Measurements were made at the single transmit frequency. The antenna is integral to the EUT, so a radiated measurement was made using a spectrum analyzer and a near field probe. The spectrum analyzer is equipped with a precision frequency reference that exceeds the stability requirement of the EUT.

Completed by:



NORTHWEST EMC

FREQUENCY STABILITY

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/21/06
Customer:	Radioframe Networks, Inc.			Temperature:	21°C
Attendees:	Dean Busch	Tested by:	Rod Pelqouin	Humidity:	32%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06 & EV09

TEST SPECIFICATIONS

Specification:	47 CFR 2.1055, 90.217	Year: 2005	Method: TIA/EIA - 603	Year:	2002

SAMPLE CALCULATIONS

COMMENTS

EUT OPERATING MODES

Transmitting mid 900MHz band

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Minimum frequency stability of 1 part per million (ppm) for variations of temperature and supply voltage (DC)

RESULTS	MINIMUM FREQUENCY STABILITY
Pass	0.05 ppm

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Frequency Stability

Frequency Stability with Variation of Ambient Temperature (Primary Supply = -48 Vdc)

Temp (°C)	Assigned Frequency (MHz)	Measured Frequency (MHz)	Tolerance (ppm)	Specification (ppm)
50	937.46875	937.468775	0.03	1
40	937.46875	937.468800	0.05	1
30	937.46875	937.468800	0.05	1
20	937.46875	937.468787	0.04	1
10	937.46875	937.468763	0.01	1
0	937.46875	937.468787	0.04	1
-10	937.46875	937.468763	0.01	1
-20	937.46875	937.468763	0.01	1
-30	937.46875	937.468775	0.03	1

Frequency Stability with Variation of Primary Supply Voltage (Ambient Temperature = 20°C)

Voltage (Vdc)	Assigned Frequency (MHz)	Measured Frequency (MHz)	Tolerance (ppm)	Specification (ppm)
55.2 (115%)	937.46875	937.468738	0.01	1
52.8 (110%)	937.46875	937.468763	0.01	1
50.4 (105%)	937.46875	937.468763	0.01	1
48 (100%)	937.46875	937.468775	0.03	1
45.6 (95%)	937.46875	937.468775	0.03	1
43.2 (90%)	937.46875	937.468775	0.03	1
40.8 (85%)	937.46875	937.468775	0.03	N/A

NORTHWEST EMC

FREQUENCY STABILITY

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/21/06
Customer:	Radioframe Networks, Inc.			Temperature:	21°C
Attendees:	Dean Busch	Tested by:	Rod Pelqouin	Humidity:	32%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	Off-site

TEST SPECIFICATIONS

Specification:	47 CFR 2.1055, 90.217	Year: 2005	Method: TIA/EIA - 603	Year:	2002

SAMPLE CALCULATIONS

COMMENTS

EUT OPERATING MODES

Transmitting mid band

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Minimum frequency stability of 1 part per million (ppm) for variations of temperature and supply voltage (DC)

RESULTS	MINIMUM FREQUENCY STABILITY
Pass	0.3 ppm

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

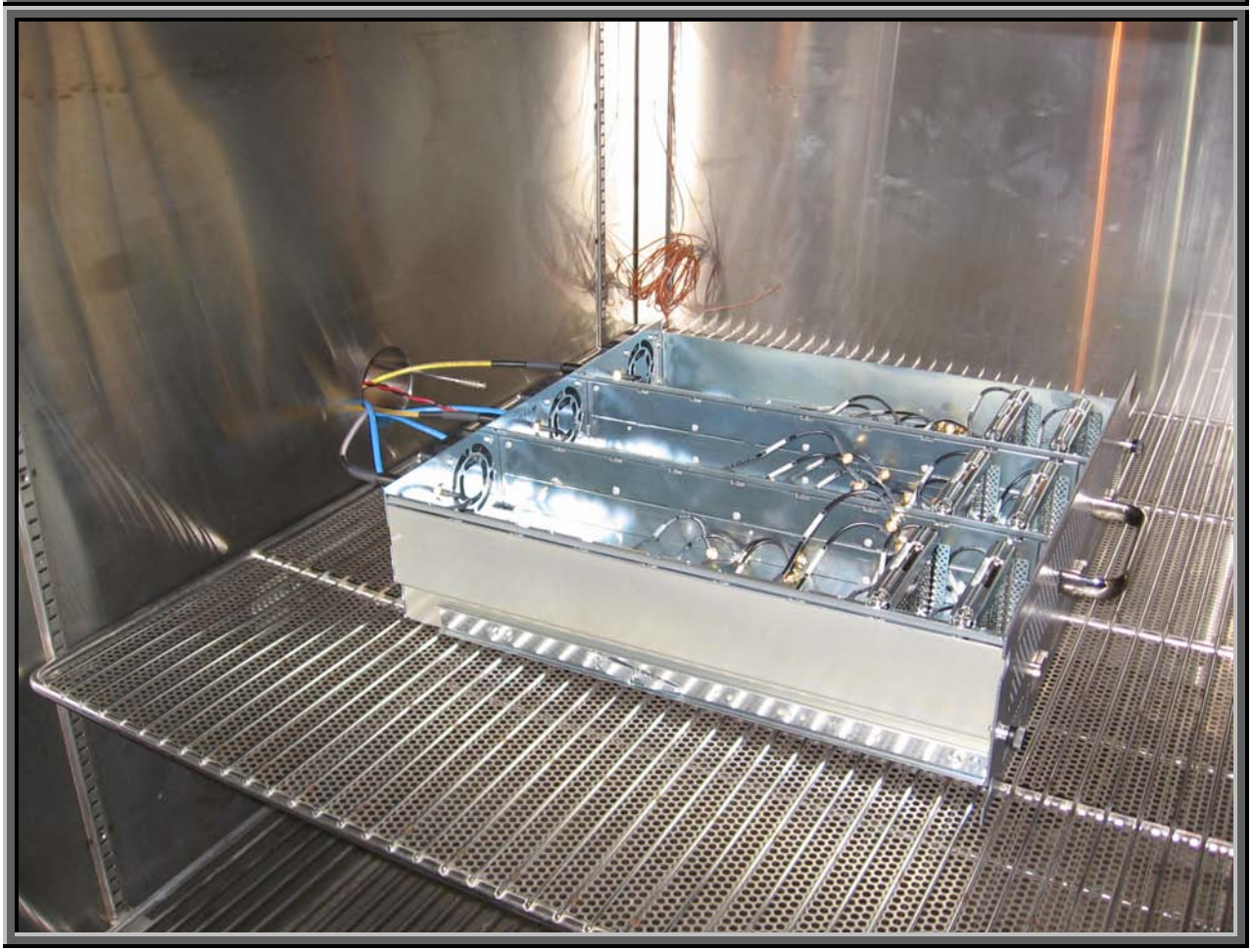
Frequency Stability

Frequency Stability with Variation of Ambient Temperature (Primary Supply = 48 Vdc)

Temp (°C)	Assigned Frequency (MHz)	Measured Frequency (MHz)	Tolerance (ppm)	Specification (ppm)
50	860.55000	860.550037	0.04	1
40	860.55000	860.550062	0.07	1
30	860.55000	860.550037	0.04	1
20	860.55000	860.550037	0.04	1
10	860.55000	860.550250	0.29	1
0	860.55000	860.550037	0.04	1
-10	860.55000	860.550049	0.06	1
-20	860.55000	860.550049	0.06	1
-30	860.55000	860.550049	0.06	1

Frequency Stability with Variation of Primary Supply Voltage (Ambient Temperature = 20°C)

Voltage (Vdc)	Assigned Frequency (MHz)	Measured Frequency (MHz)	Tolerance (ppm)	Specification (ppm)
55.2 (115%)	860.55000	860.550062	0.07	1
52.8 (110%)	860.55000	860.550037	0.04	1
50.4 (105%)	860.55000	860.550050	0.06	1
48 (100%)	860.55000	860.550037	0.04	1
45.6 (95%)	860.55000	860.550050	0.06	1
43.2 (90%)	860.55000	860.550000	0.00	1
40.8 (85%)	860.55000	860.55000	0.00	1



Justification

The individuals and/or the organization requesting the test provided the modes, configurations and settings available to evaluate. While scanning the radiated emissions, all of the EUT parameters listed below were investigated. This includes, but may not be limited to, antennas, tuned transmit frequency ranges, operating modes, and data rates.

Channels in Specified Band Investigated:
Low Channel, 800MHz Band
Mid Channel, 800MHz Band
High Channel, 800MHz Band
Low Channel, 900MHz Band
Mid Channel, 900MHz Band
High Channel, 900MHz Band

Operating Modes Investigated:
Typical, Single channel
Typical, 7 channel operation

Data Rates Investigated:
96 kBps at 64-QAM

Output Power Setting(s) Investigated:
Maximum ~ 14 dBm
Minimum ~ 6 dBm

Power Input Settings Investigated:
-48Vdc

Other Settings Investigated:
7 channel operation for Intermodulation product investigation, 800MHz and 900MHz band.

Software\Firmware Applied During Test			
Exercise software	Vx Works	**Version**	N/A
Description			
The system was tested using standard operating production software to exercise the functions of the device during the testing.			

EUT and Peripherals			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
EUT- Multi-Channel RadioBlade (MCRB	Radioframe Networks, Inc.	176-0860-00	14106110148
EUT- Multi-Channel RadioBlade (MCRB	Radioframe Networks, Inc.	176-0860-00	14106110160
EUT- Multi-Channel RadioBlade (MCRB	Radioframe Networks, Inc.	176-0860-00	14106110151
EUT- Multi-Channel RadioBlade (MCRB	Radioframe Networks, Inc.	176-0860-00	14106110146
EUT- Multi-Channel RadioBlade (MCRB	Radioframe Networks, Inc.	176-0860-00	14106110173
EUT- Multi-Channel RadioBlade (MCRB	Radioframe Networks, Inc.	176-0860-00	14106110174
MC-15 SERIES DUAL BAND SYSTEM (3 SE	Radioframe Networks, Inc.	176-7970-xx	14106050325
FRU, DUAL BAND RF SHELF	Radioframe Networks, Inc.	176-0970-xx	14105510109
FRU, DUAL BAND RF SHELF	Radioframe Networks, Inc.	176-0970-xx	14105510110
FRU, DUAL BAND RF SHELF	Radioframe Networks, Inc.	176-0970-xx	14105510113
RadioBlade Shelf (RBS)	Radioframe Networks, Inc.	176-0535-xx	14106030127
MC-15 BTS Interface Chassis (BIC)	Radioframe Networks, Inc.	176-0900-xx	14106050474
MC Common RadioFrame Interface Card	Radioframe Networks, Inc.	176-7540-xx	041053919XV
MC Common RadioFrame Interface Card	Radioframe Networks, Inc.	176-7540-xx	041053919W3
Base Processing Card (BPC)	Radioframe Networks, Inc.	176-7570-xx	04105411HGM
Base Processing Card (BPC)	Radioframe Networks, Inc.	176-7570-xx	04105401GP1
Base Processing Card (BPC)	Radioframe Networks, Inc.	176-7570-xx	04105421JKZ
MC-15 Airlink Interface Chassis (AI	Radioframe Networks, Inc.	176-0800-xx	14106050522
BPC W/ LC SPAM	Radioframe Networks, Inc.	176-7565-xx	04105411HC0
SPAM	Radioframe Networks, Inc.	176-7510-xx	Unknown
SPAM	Radioframe Networks, Inc.	176-7510-xx	Unknown
BPC W/ LC SPAM	Radioframe Networks, Inc.	176-7565-xx	04105411HJX
SPAM	Radioframe Networks, Inc.	176-7510-xx	Unknown
SPAM	Radioframe Networks, Inc.	176-7510-xx	Unknown
BPC W/ LC SPAM	Radioframe Networks, Inc.	176-7565-xx	04105411HLH
SPAM	Radioframe Networks, Inc.	176-7510-xx	Unknown
SPAM	Radioframe Networks, Inc.	176-7510-xx	Unknown
Ethernet Rear Transition Module (ERTM)	Radioframe Networks, Inc.	176-7562-xx	14105320204
Ethernet Rear Transition Module (ERTM)	Radioframe Networks, Inc.	176-7562-xx	14105320203
Coaxial RMII Transceiver Card (CRTC	Radioframe Networks, Inc.	176-0820-xx	14105480250

Remote Equipment Outside of Test Setup Boundary			
Description	**Manufacturer**	**Model/Part Number**	**Serial Number**
Site Simulator	Radioframe Networks, Inc.	N/a	N/a
Site Controller	Motorola, Inc.	CCN1008N	CAF030LTC4
GPS Antenna	Hewlett-Packard	8532A	901
DC Power Supply	Sorensen	DCR 60-45B	0144

Equipment isolated from the EUT so as not to contribute to the measurement result is considered to be outside the test setup boundary

Cables					
Cable Type	**Shield**	**Length (m)**	**Ferrite**	**Connection 1**	**Connection 2**
DC Power	No	8.0	No	MC-15 SERIES DUAL BAND SYSTEM	DC Supply
BNC	Yes	30.0	No	ERTM	Site Simulator
BNC	Yes	30.0	No	Site Controller	Site Simulator
BNC	Yes	3.0	No	GPS Antenna	Site Controller
Ethernet	No	3.0	No	Site Controller	ERTM

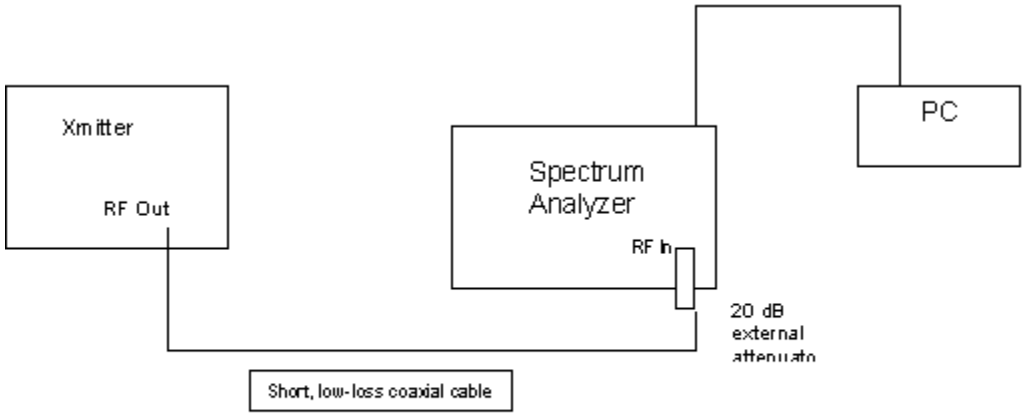
Measurement Equipment					
Description	**Manufacturer**	**Model**	**Identifier**	**Last Cal**	**Interval**
Spectrum Analyzer	Hewlett-Packard	8593E	AAN	01/25/2006	13 mo

Test Description

Requirement: Per 47 CFR 90.217(b), any emission appearing on a frequency 25 kHz or more removed from the assigned frequency must be attenuated at least 30 dB below the un-modulated carrier. Per 47 CFR 2.1051, the spurious emissions were measured at the RF output terminals with analyzer plots made for each modulation type.

Configuration: A spectrum analyzer was used to scan from 0 to 9GHz or 10GHz depending on the band investigated. A 100kHz resolution bandwidth was used below 1GHz and 1MHz above 1GHz. No video filtering was employed. A 20dB external attenuator was used on the RF input of the spectrum analyzer.

Test Setup Diagram



Completed by:

NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/23/06
Customer:	Radio Frame Networks			Temperature:	22°C
Attendees:	Dean Bush	Tested by:	Rod Peloquin	Humidity:	36% RH
Customer Ref. No.:	None	Power:	-48 VDC	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.111(a)	Year:	2005	Method:	ANSI C63.4	Year:	2003

SAMPLE CALCULATIONS

COMMENTS

4 900MHz channels receive Sector 1 only

EUT OPERATING MODES

Receive mode 8 channels (4 channels 800MHz band, 4 channels 900MHz band)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

The power at the antenna terminal at any frequency within the range of measurements specified in 15.111 shall not exceed 2.0 nanowatts (-57 dBm).

RESULTS

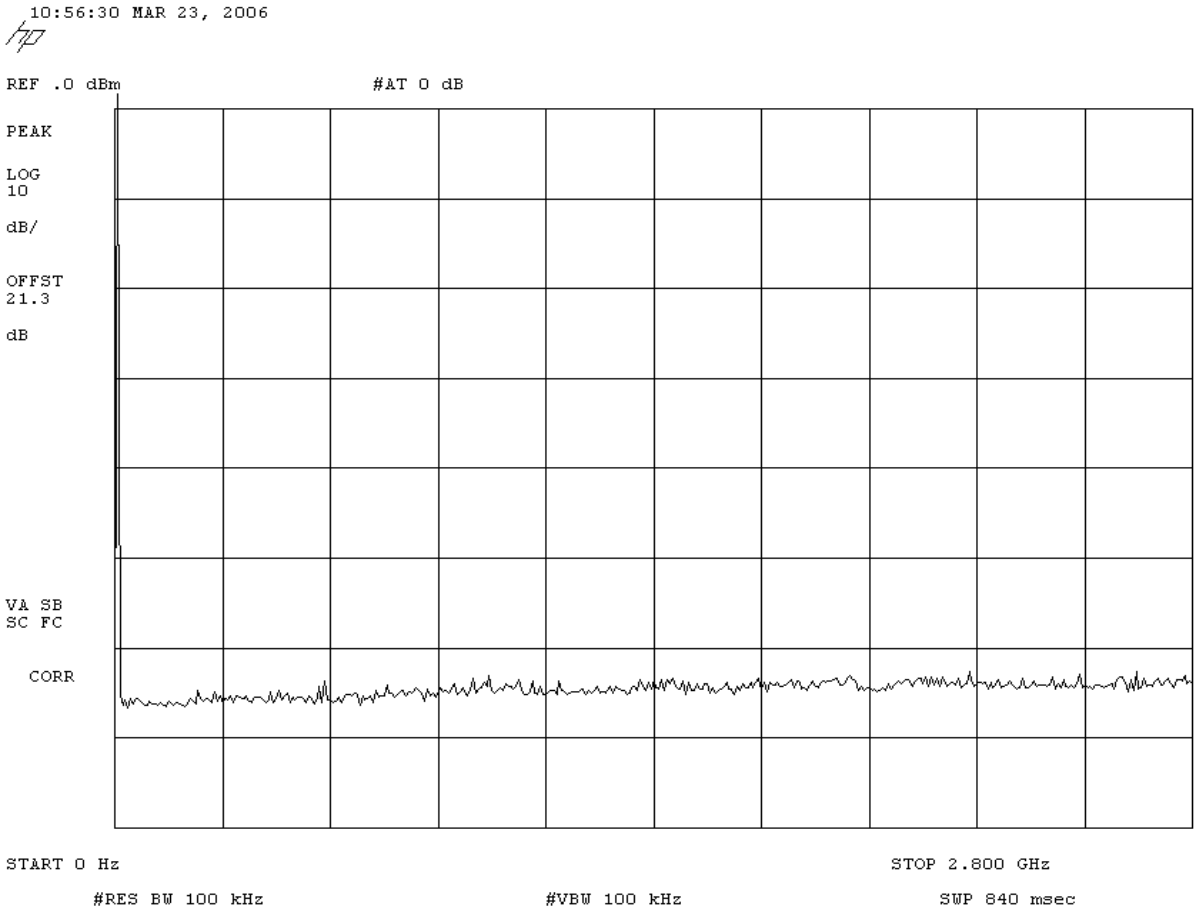
Pass

SIGNATURE

Tested By: Rodney La Peloquin

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - 0Mz - 2.8GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/23/06
Customer:	Radio Frame Networks			Temperature:	22°C
Attendees:	Dean Bush	Tested by:	Rod Peloquin	Humidity:	36% RH
Customer Ref. No.:	None	Power:	-48 VDC	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.111(a)	Year:	2005	Method:	ANSI C63.4	Year:	2003

SAMPLE CALCULATIONS

COMMENTS

4 900MHz channels receive Sector 1 only

EUT OPERATING MODES

Receive mode 8 channels (4 channels 800MHz band, 4 channels 900MHz band)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

The power at the antenna terminal at any frequency within the range of measurements specified in 15.111 shall not exceed 2.0 nanowatts (-57 dBm).

RESULTS

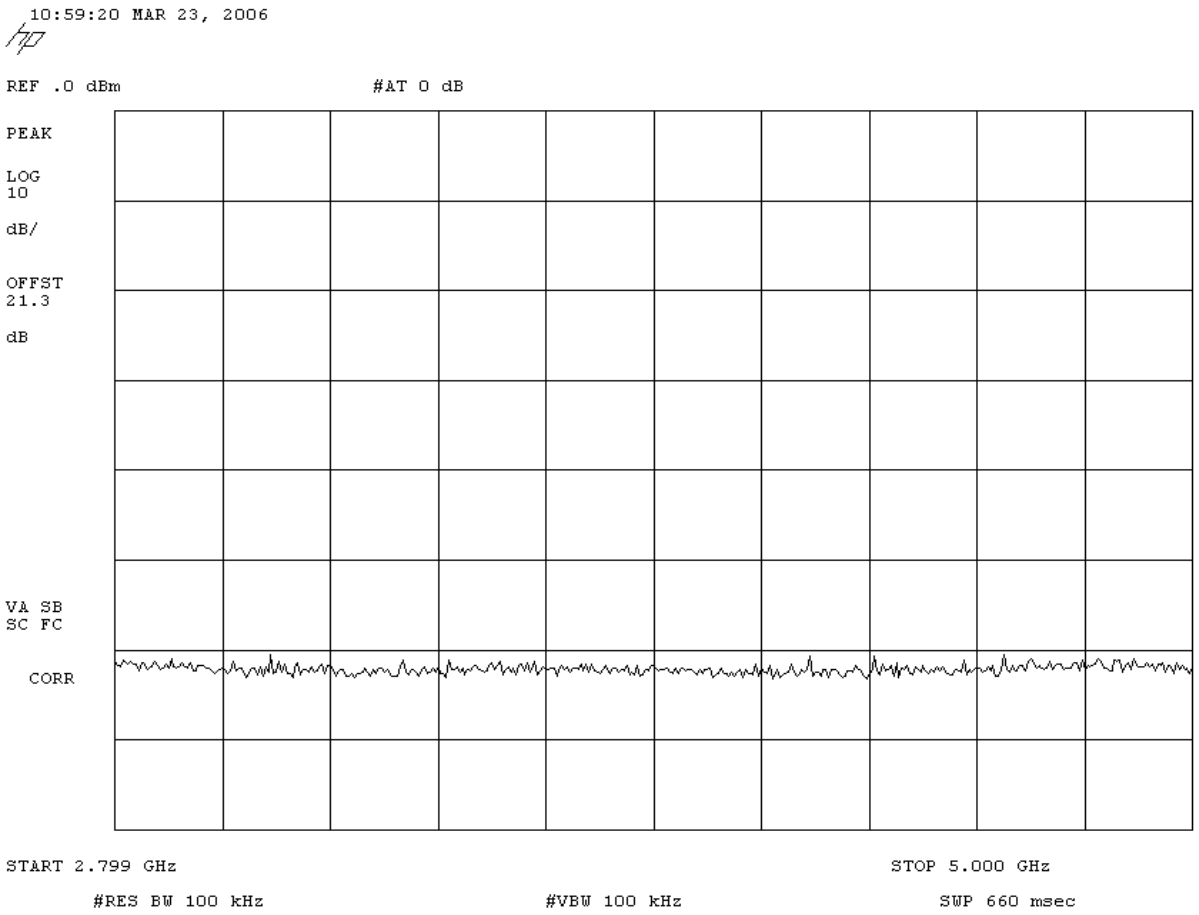
Pass

SIGNATURE

Tested By: Rodney La Peloquin

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - 2.8GHz - 5GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/23/06
Customer:	Radio Frame Networks			Temperature:	22°C
Attendees:	Dean Bush	Tested by:	Rod Peloquin	Humidity:	36% RH
Customer Ref. No.:	None	Power:	-48 VDC	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.111(a)	Year:	2005	Method:	ANSI C63.4	Year:	2003

SAMPLE CALCULATIONS

COMMENTS

4 channels 900MHz receive Sector 2 only

EUT OPERATING MODES

Receive mode 8 channels (4 channels 800MHz band, 4 channels 900MHz band)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

The power at the antenna terminal at any frequency within the range of measurements specified in 15.111 shall not exceed 2.0 nanowatts (-57 dBm).

RESULTS

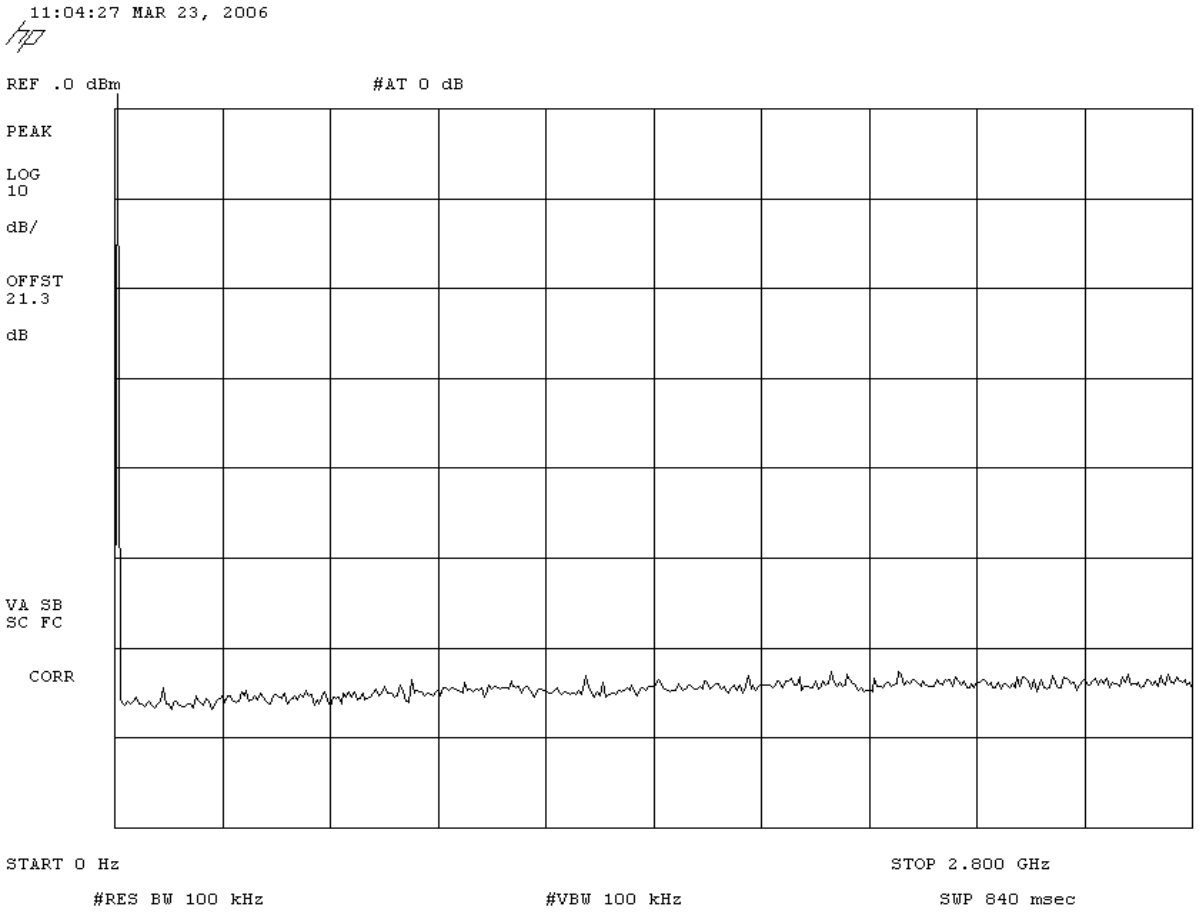
Pass

SIGNATURE

Tested By: Rodney La Peloquin

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - 0Mz - 2.8GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/23/06
Customer:	Radio Frame Networks			Temperature:	22°C
Attendees:	Dean Bush	Tested by:	Rod Peloquin	Humidity:	36% RH
Customer Ref. No.:	None	Power:	-48 VDC	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.111(a)	Year:	2005	Method:	ANSI C63.4	Year:	2003

SAMPLE CALCULATIONS

COMMENTS

4 channels 900MHz receive Sector 2 only

EUT OPERATING MODES

Receive mode 8 channels (4 channels 800MHz band, 4 channels 900MHz band)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

The power at the antenna terminal at any frequency within the range of measurements specified in 15.111 shall not exceed 2.0 nanowatts (-57 dBm).

RESULTS

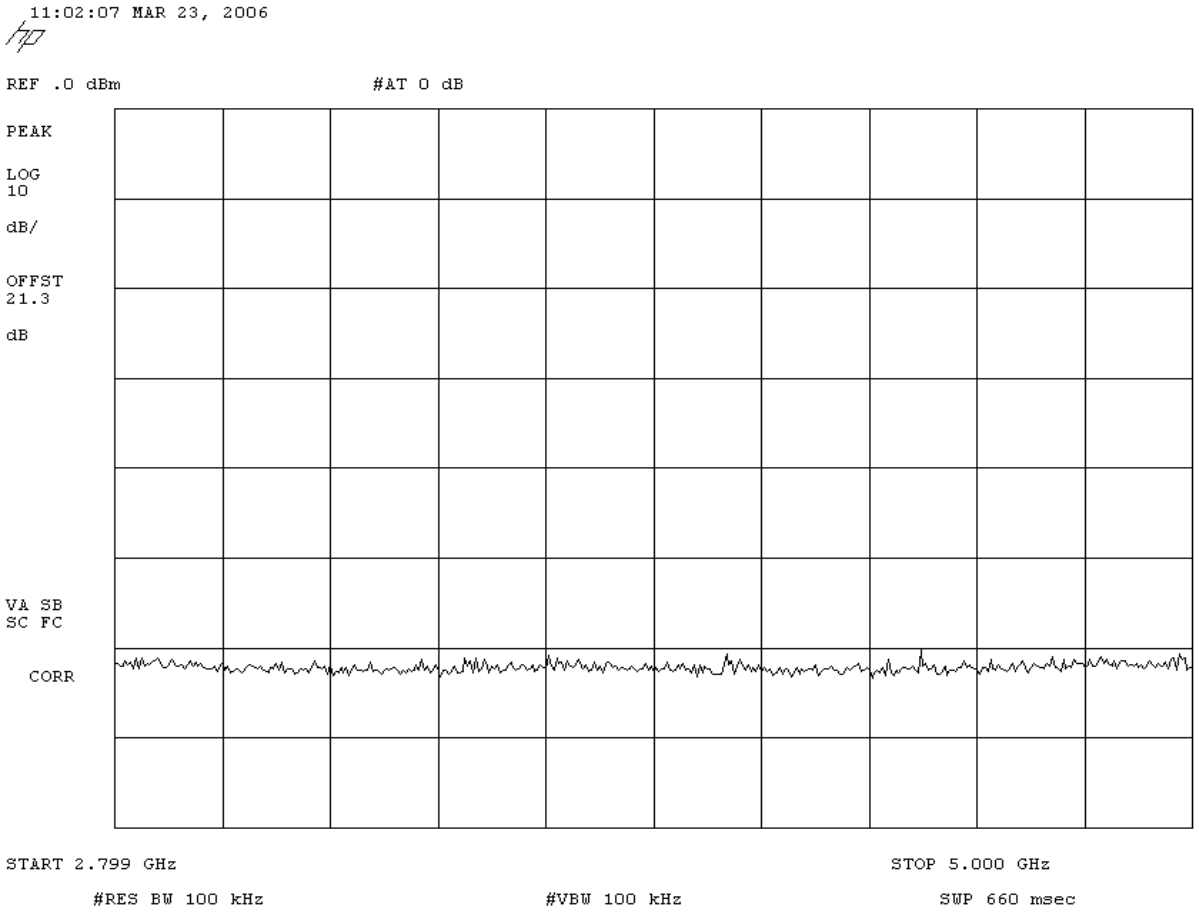
Pass

SIGNATURE

Tested By: Rodney La Peloquin

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - 2.8GHz - 5GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/23/06
Customer:	Radio Frame Networks			Temperature:	22°C
Attendees:	Dean Bush	Tested by:	Rod Peloquin	Humidity:	36% RH
Customer Ref. No.:	None	Power:	-48 VDC	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.111(a)	Year:	2005	Method:	ANSI C63.4	Year:	2003

SAMPLE CALCULATIONS

COMMENTS

4 channels 900MHz receive Sector 3 only

EUT OPERATING MODES

Receive mode 8 channels (4 channels 800MHz band, 4 channels 900MHz band)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

The power at the antenna terminal at any frequency within the range of measurements specified in 15.111 shall not exceed 2.0 nanowatts (-57 dBm).

RESULTS

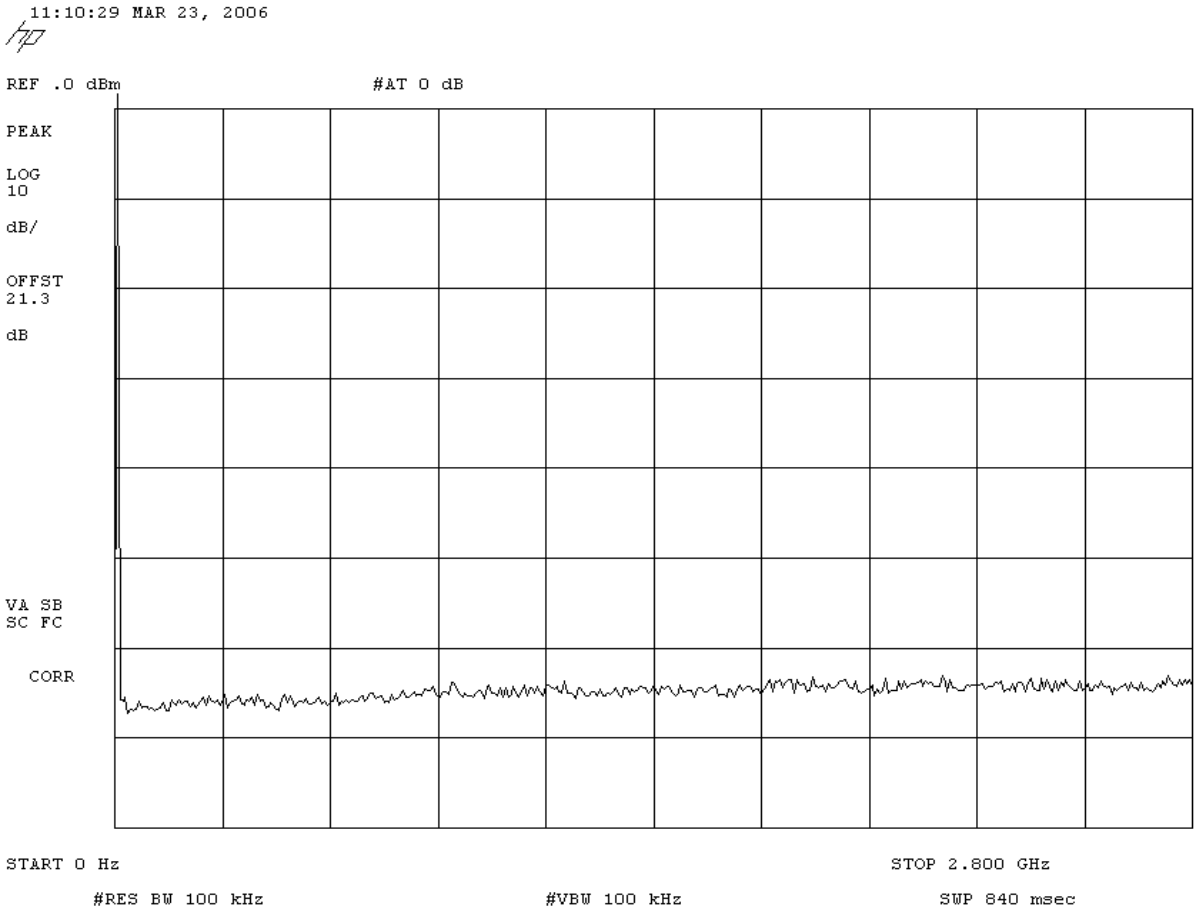
Pass

SIGNATURE

Tested By: Rodney La Peloquin

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - 0Mz - 2.8GHz



NORTHWEST
EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA
01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/23/06
Customer:	Radio Frame Networks			Temperature:	22°C
Attendees:	Dean Bush	Tested by:	Rod Peloquin	Humidity:	36% RH
Customer Ref. No.:	None	Power:	-48 VDC	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.111(a)	Year:	2005	Method:	ANSI C63.4	Year:	2003

SAMPLE CALCULATIONS

COMMENTS

4 channels 900MHz receive Sector 3 only

EUT OPERATING MODES

Receive mode 8 channels (4 channels 800MHz band, 4 channels 900MHz band)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

The power at the antenna terminal at any frequency within the range of measurements specified in 15.111 shall not exceed 2.0 nanowatts (-57 dBm).

RESULTS

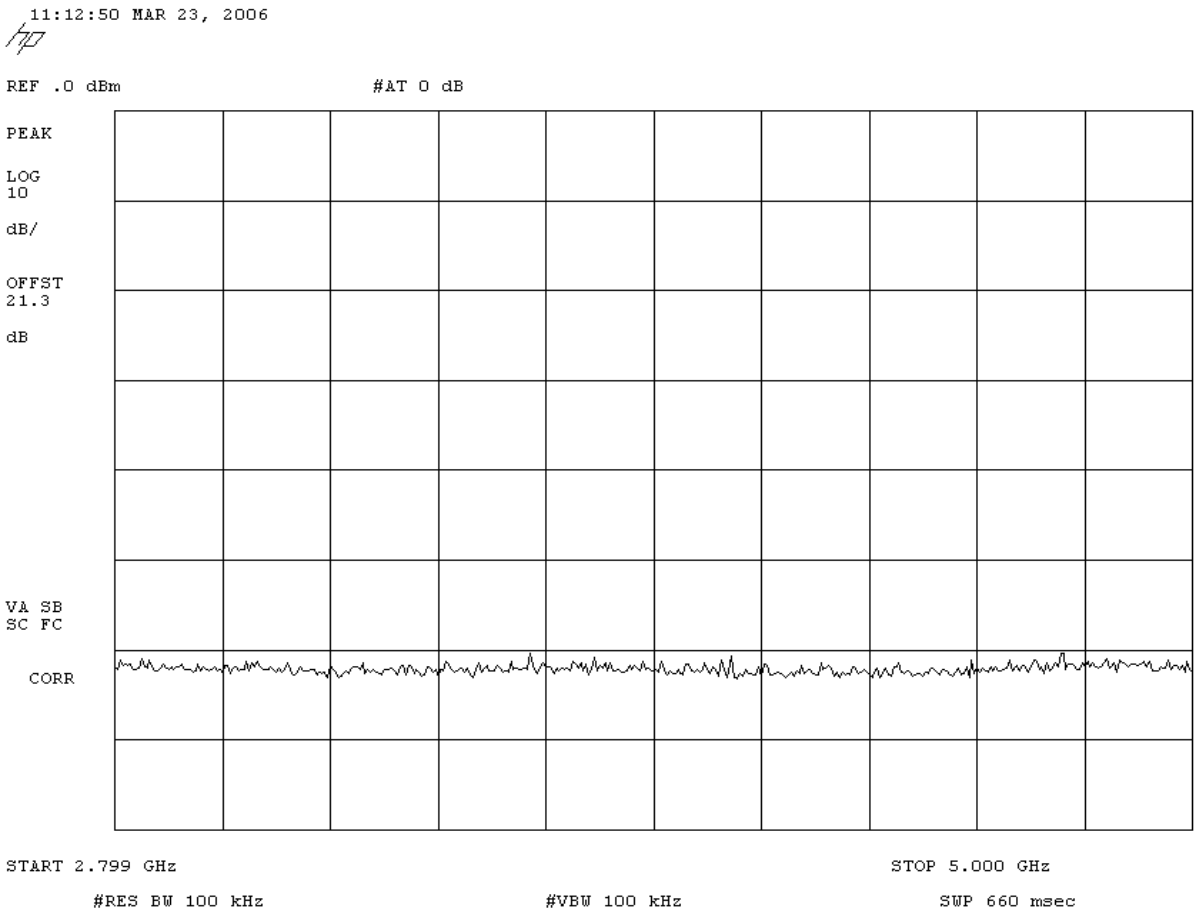
Pass

SIGNATURE

Tested By: Rodney La Peloquin

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - 2.8GHz - 5GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/23/06
Customer:	Radio Frame Networks			Temperature:	22° C
Attendees:	Dean Bush	Tested by:	Rod Peloquin	Humidity:	36% RH
Customer Ref. No.:	None	Power:	-48 VDC	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.111(a)	Year:	2005	Method:	ANSI C63.4	Year:	2002

SAMPLE CALCULATIONS

COMMENTS

4 800MHz channels receive Sector 1 only

EUT OPERATING MODES

Receive mode 8 channels (4 channels 800MHz band, 4 channels 900MHz band)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

The power at the antenna terminal at any frequency within the range of measurements specified in 15.111 shall not exceed 2.0 nanowatts (-57 dBm).

RESULTS

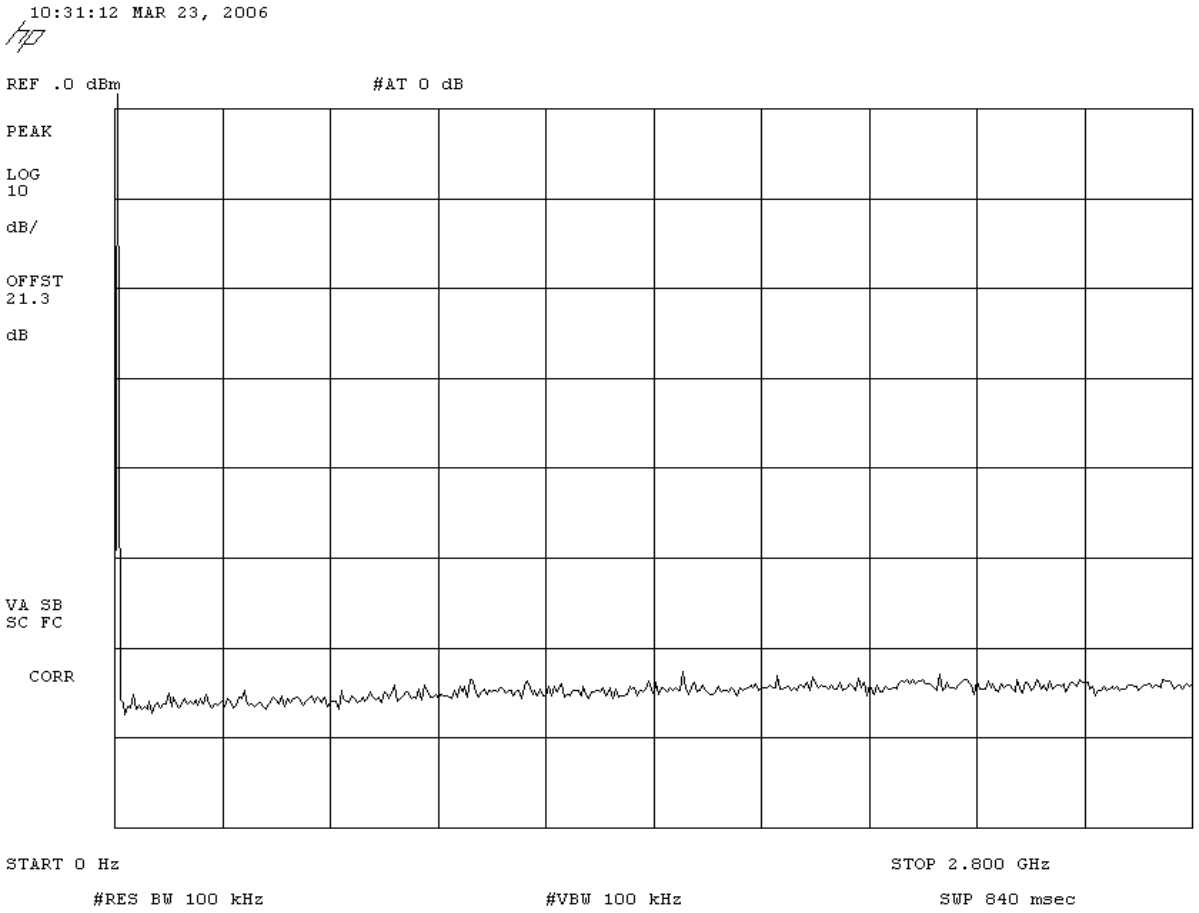
Pass

SIGNATURE

Tested By: Rodney La Peloquin

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - 0Mz - 2.8GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/23/06
Customer:	Radio Frame Networks			Temperature:	22° C
Attendees:	Dean Bush	Tested by:	Rod Peloquin	Humidity:	36% RH
Customer Ref. No.:	None	Power:	-48 VDC	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.111(a)	Year:	2005	Method:	ANSI C63.4	Year:	2002

SAMPLE CALCULATIONS

COMMENTS

4 800MHz channels receive Sector 1 only

EUT OPERATING MODES

Receive mode 8 channels (4 channels 800MHz band, 4 channels 900MHz band)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

The power at the antenna terminal at any frequency within the range of measurements specified in 15.111 shall not exceed 2.0 nanowatts (-57 dBm).

RESULTS

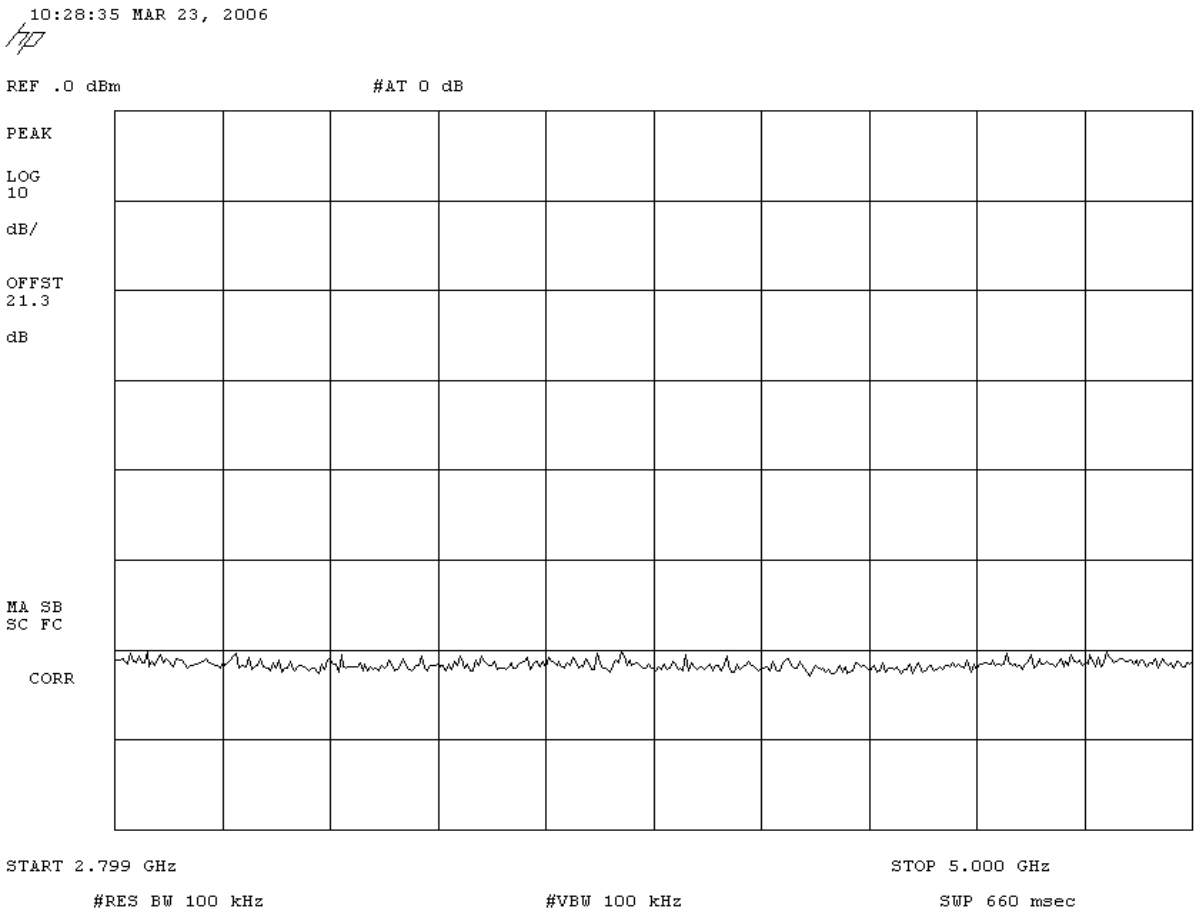
Pass

SIGNATURE

Tested By: Rodney La Peloquin

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - 2.8GHz - 5GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/23/06
Customer:	Radio Frame Networks			Temperature:	22° C
Attendees:	Dean Bush	Tested by:	Rod Peloquin	Humidity:	36% RH
Customer Ref. No.:	None	Power:	-48 VDC	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.111(a)	Year:	2005	Method:	ANSI C63.4	Year:	2002

SAMPLE CALCULATIONS

COMMENTS

4 channels 800MHz receive Sector 2 only

EUT OPERATING MODES

Receive mode 8 channels (4 channels 800MHz band, 4 channels 900MHz band)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

The power at the antenna terminal at any frequency within the range of measurements specified in 15.111 shall not exceed 2.0 nanowatts (-57 dBm).

RESULTS

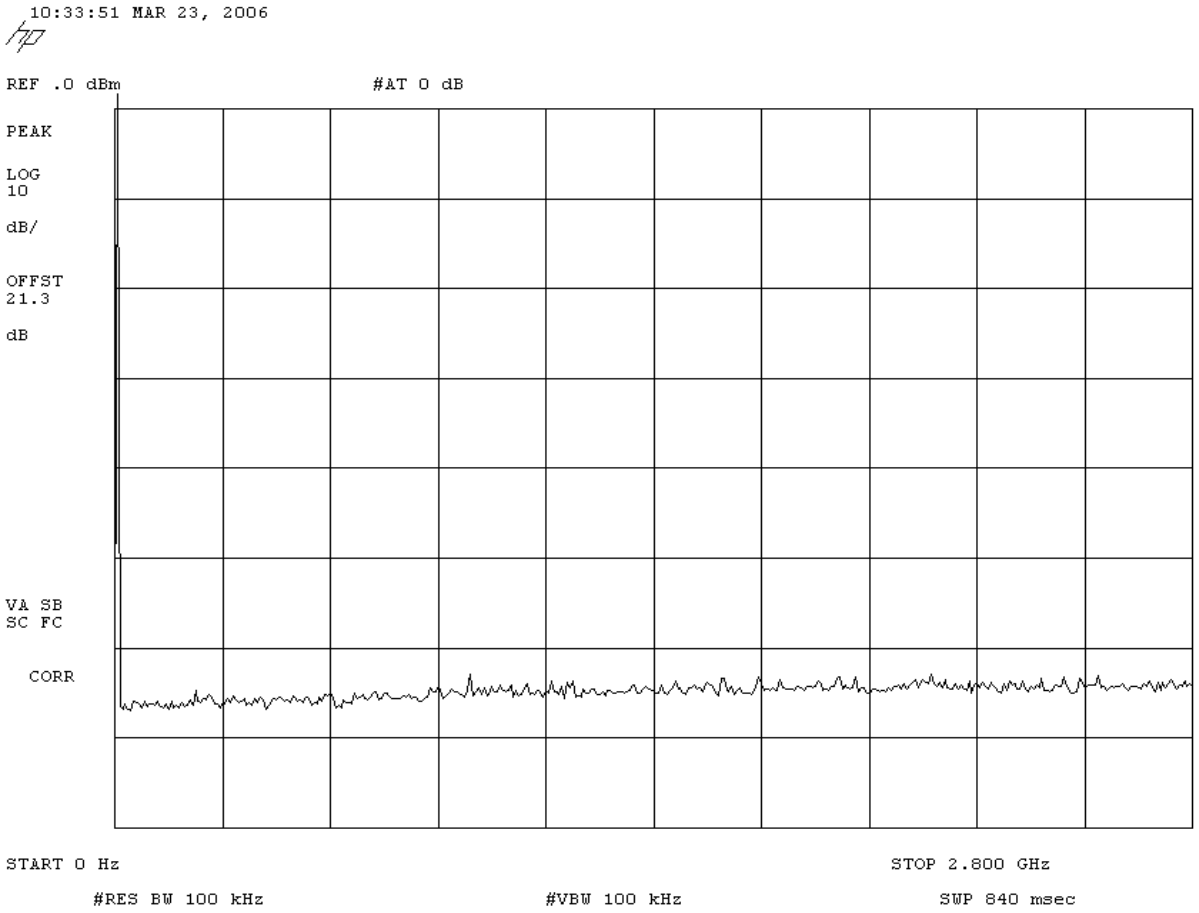
Pass

SIGNATURE

Tested By: Rodney La Peloquin

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - 0Mz - 2.8GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/23/06
Customer:	Radio Frame Networks			Temperature:	22° C
Attendees:	Dean Bush	Tested by:	Rod Peloquin	Humidity:	36% RH
Customer Ref. No.:	None	Power:	-48 VDC	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.111(a)	Year:	2005	Method:	ANSI C63.4	Year:	2002

SAMPLE CALCULATIONS

COMMENTS

4 channels 800MHz receive Sector 2 only

EUT OPERATING MODES

Receive mode 8 channels (4 channels 800MHz band, 4 channels 900MHz band)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

The power at the antenna terminal at any frequency within the range of measurements specified in 15.111 shall not exceed 2.0 nanowatts (-57 dBm).

RESULTS

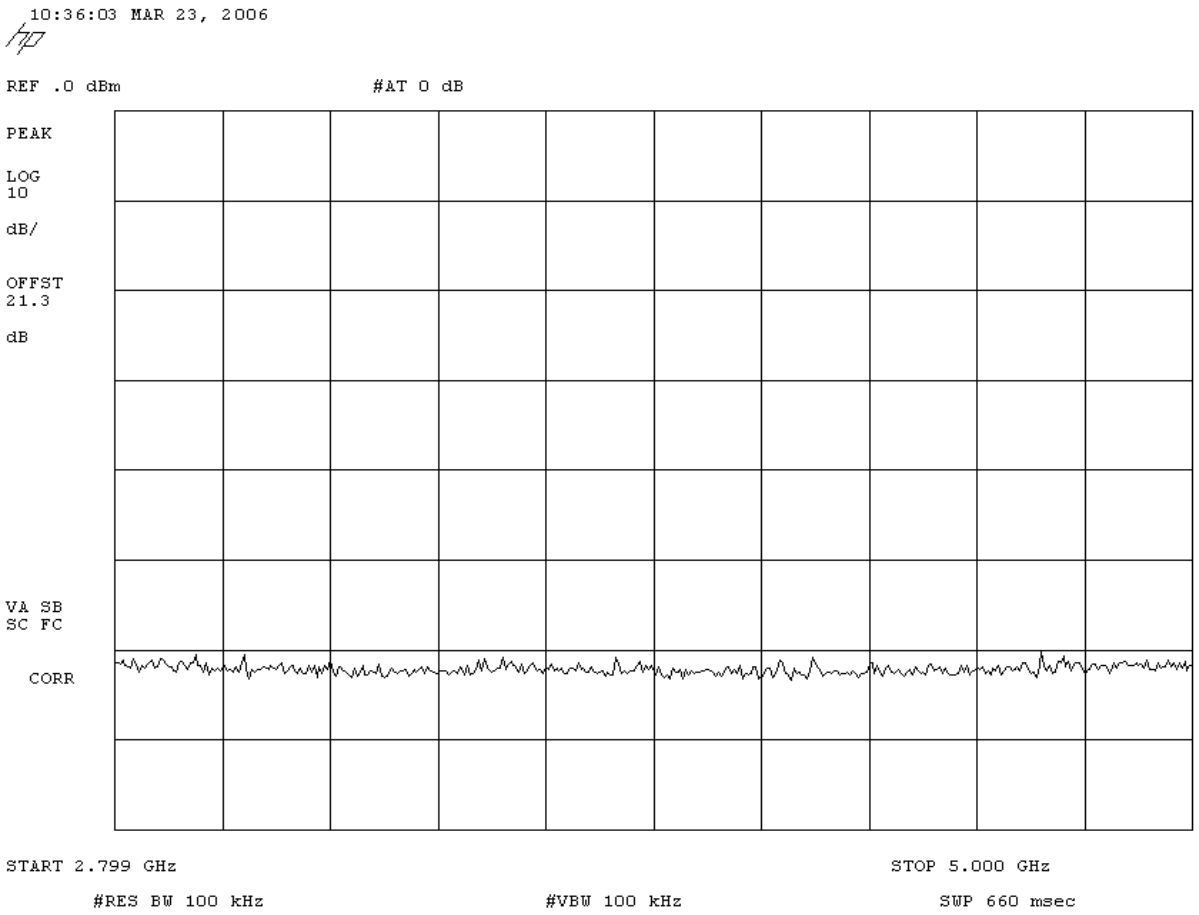
Pass

SIGNATURE

Tested By: Rodney La Peloquin

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - 2.8GHz - 5GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/23/06
Customer:	Radio Frame Networks			Temperature:	22° C
Attendees:	Dean Bush	Tested by:	Rod Peloquin	Humidity:	36% RH
Customer Ref. No.:	None	Power:	-48 VDC	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.111(a)	Year:	2005	Method:	ANSI C63.4	Year:	2002

SAMPLE CALCULATIONS

COMMENTS

4 channels 800MHz receive Sector 3 only

EUT OPERATING MODES

Receive mode 8 channels (4 channels 800MHz band, 4 channels 900MHz band)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

The power at the antenna terminal at any frequency within the range of measurements specified in 15.111 shall not exceed 2.0 nanowatts (-57 dBm).

RESULTS

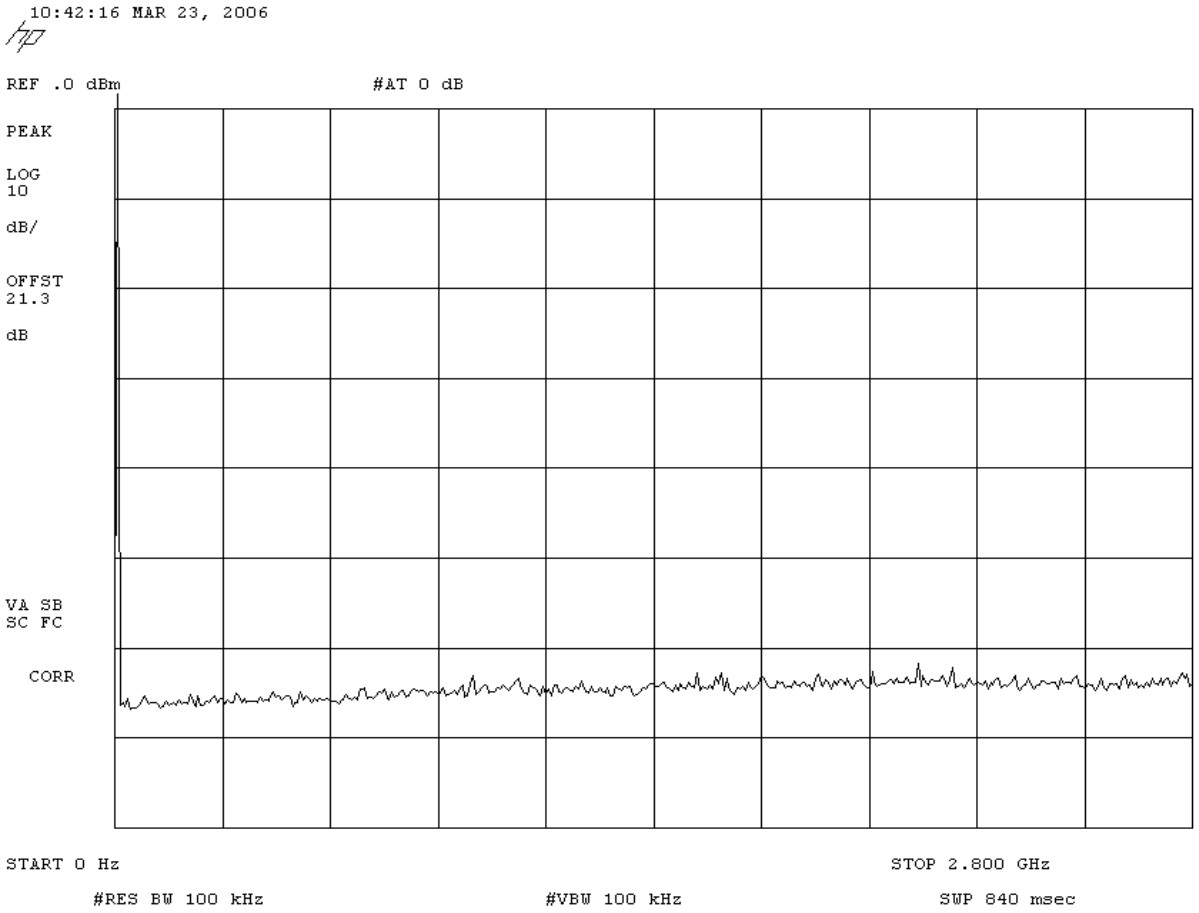
Pass

SIGNATURE

Tested By: Rodney La Peloquin

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - 0Mz - 2.8GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/23/06
Customer:	Radio Frame Networks			Temperature:	22° C
Attendees:	Dean Bush	Tested by:	Rod Peloquin	Humidity:	36% RH
Customer Ref. No.:	None	Power:	-48 VDC	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 15.111(a)	Year:	2005	Method:	ANSI C63.4	Year:	2002

SAMPLE CALCULATIONS

COMMENTS

4 channels 800MHz receive Sector 3 only

EUT OPERATING MODES

Receive mode 8 channels (4 channels 800MHz band, 4 channels 900MHz band)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

The power at the antenna terminal at any frequency within the range of measurements specified in 15.111 shall not exceed 2.0 nanowatts (-57 dBm).

RESULTS

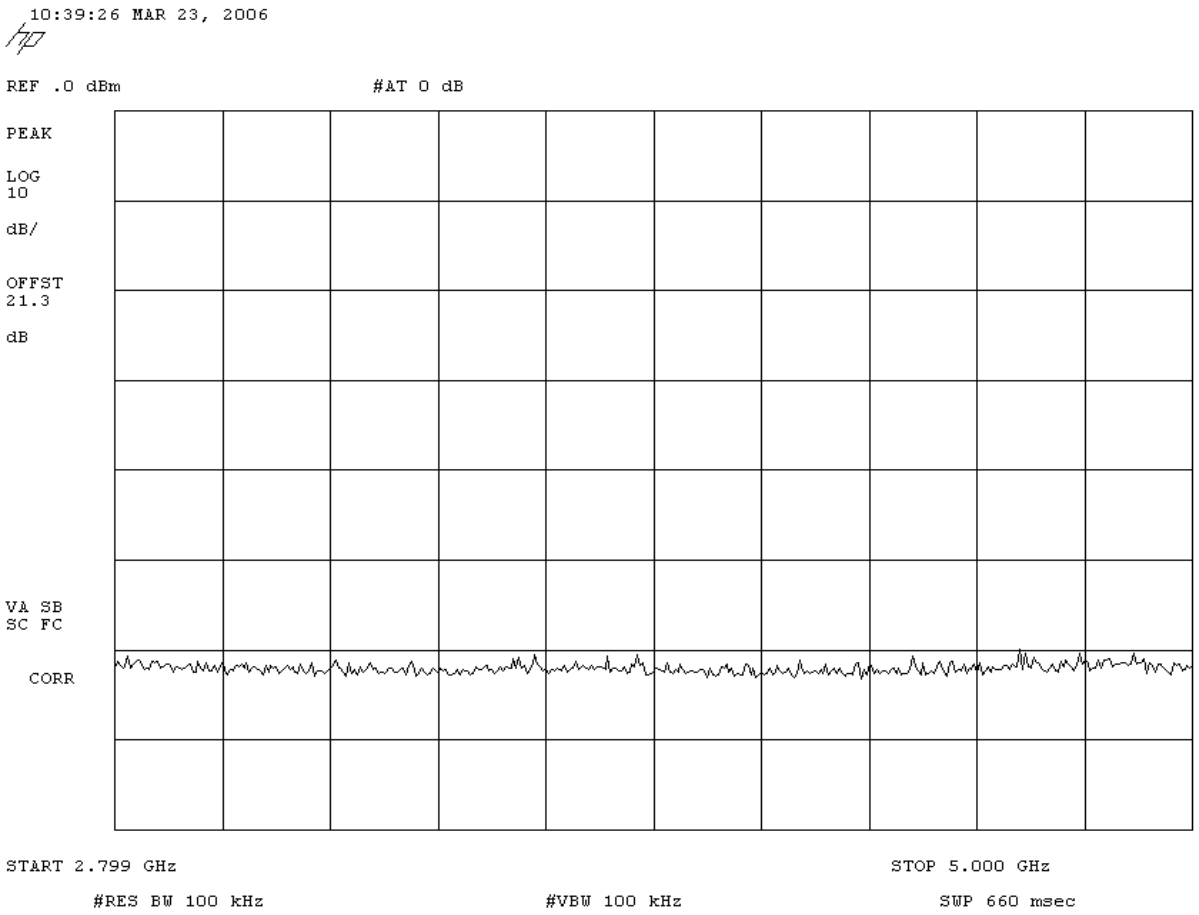
Pass

SIGNATURE

Tested By: Rodney La Peloquin

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - 2.8GHz - 5GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at lowest output power level (approx. 7 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

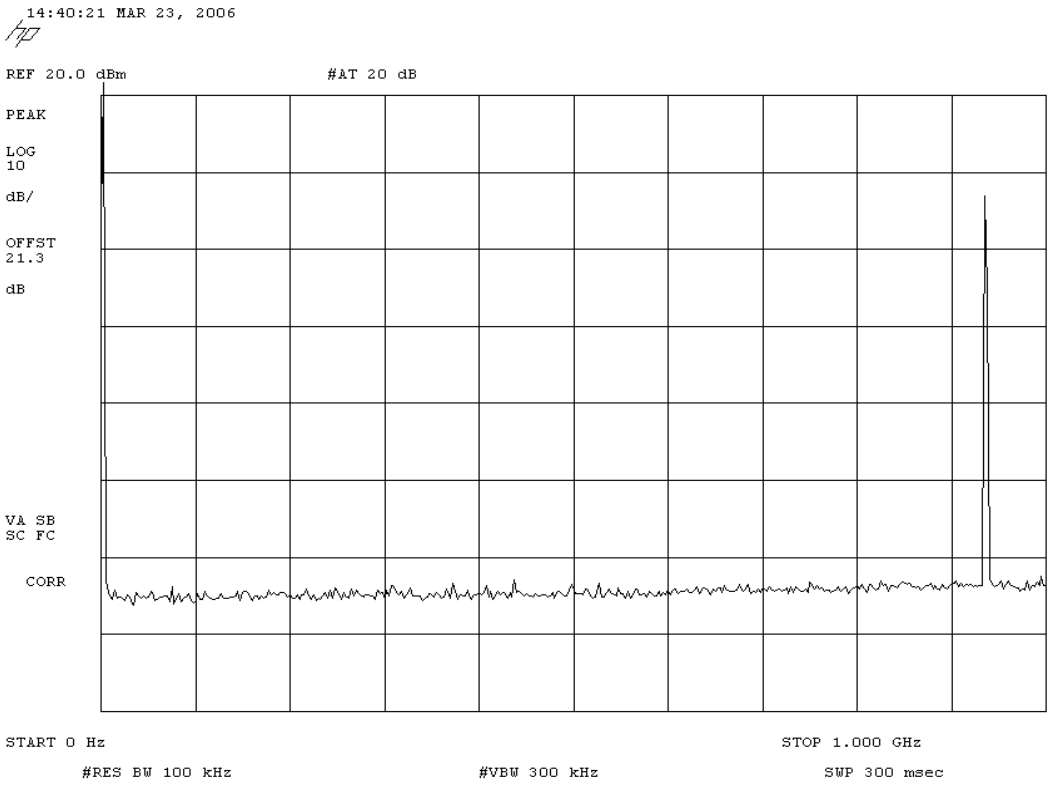
Pass

SIGNATURE

Tested By:

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Low Channel 0MHz-1GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at lowest output power level (approx. 7 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

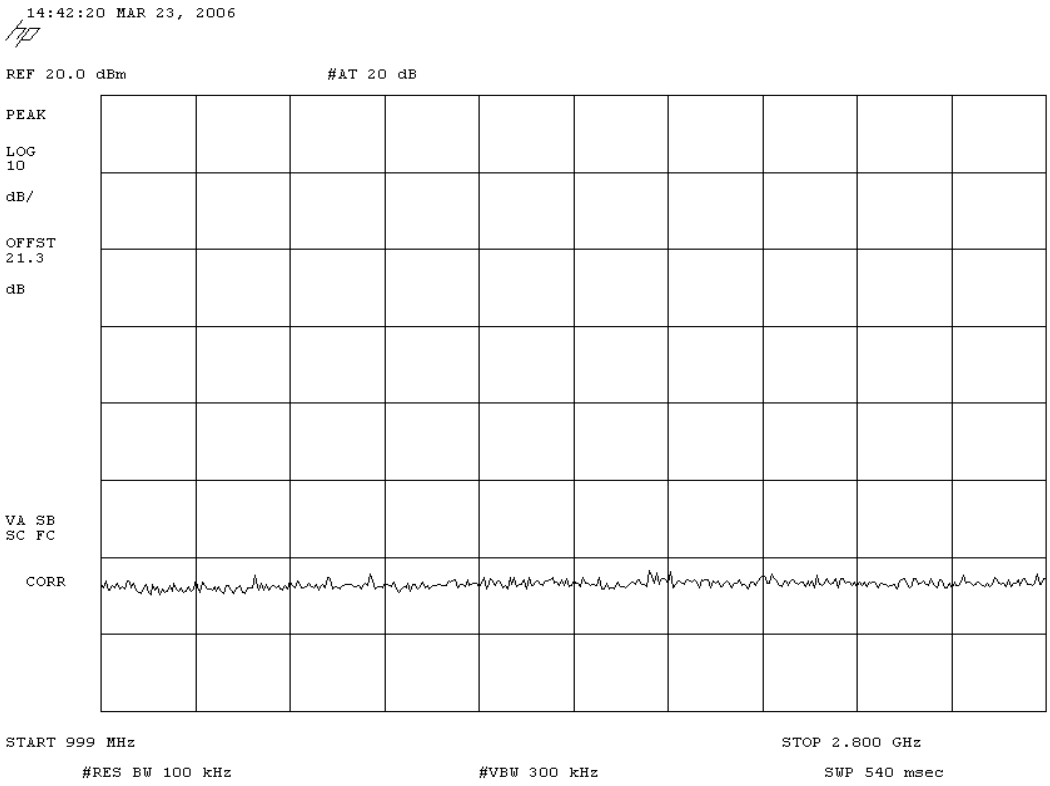
Pass

SIGNATURE

Tested By:

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Low Channel 1GHz-2.8GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at lowest output power level (approx. 7 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

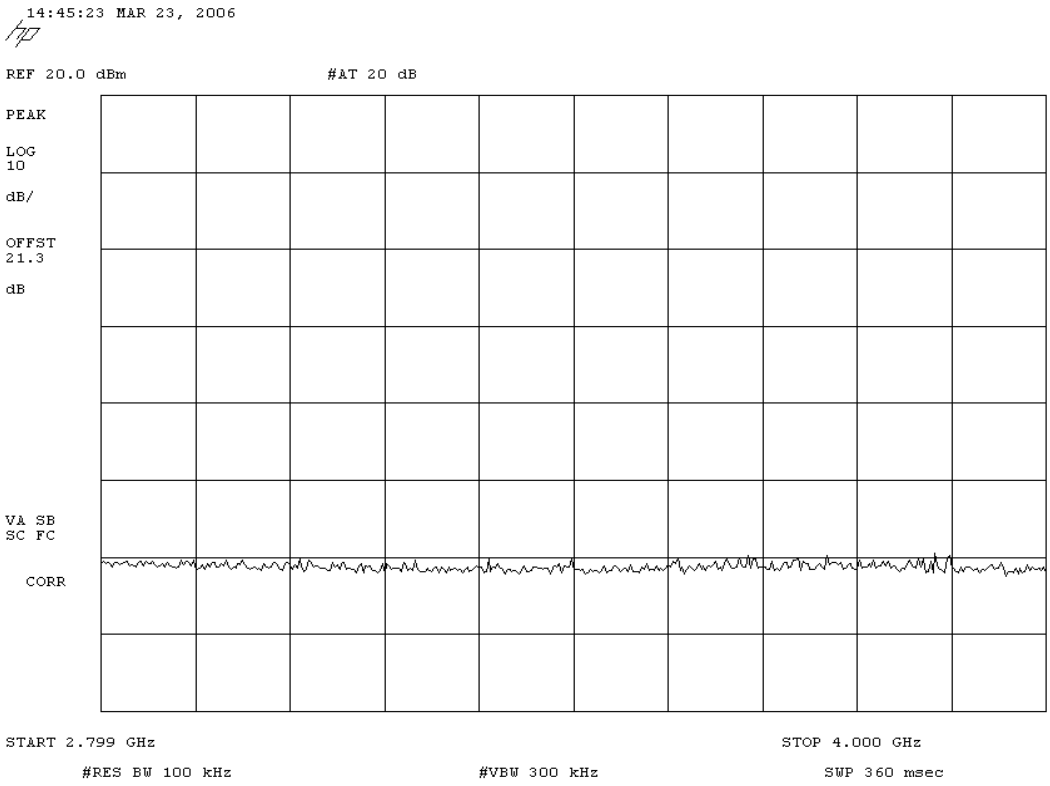
Pass

SIGNATURE

Tested By: Rodney L. Peloquin

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Low Channel 2.8GHz-4GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at lowest output power level (approx. 7 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

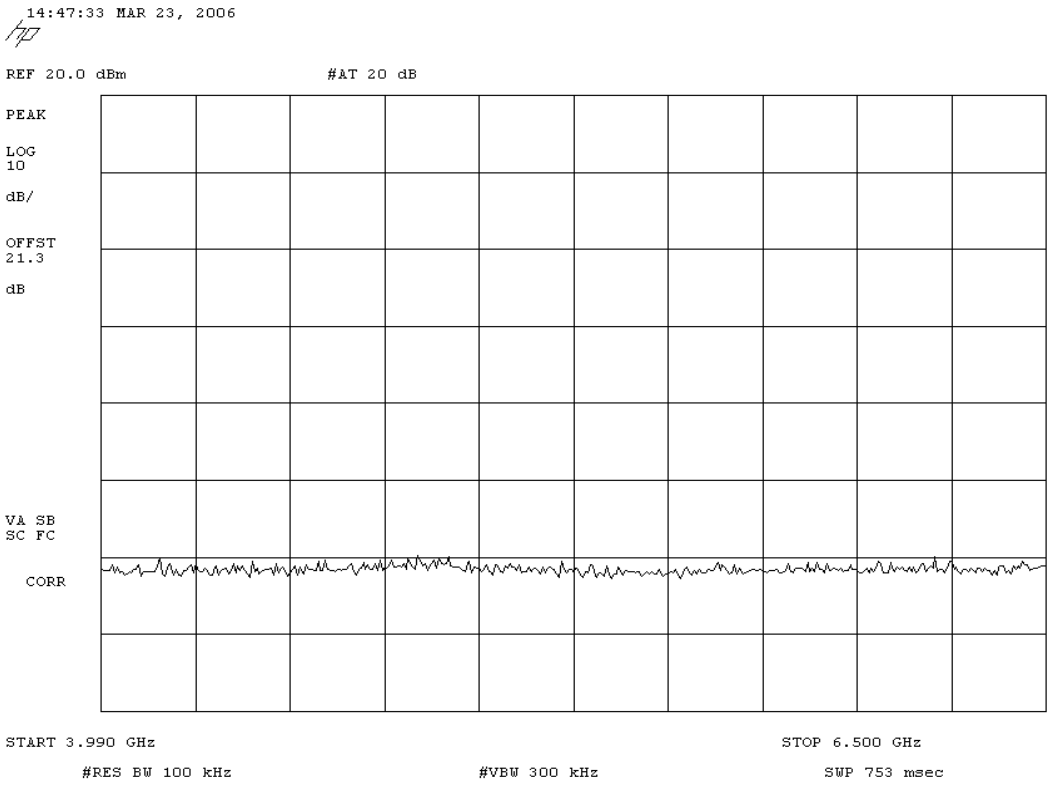
Pass

SIGNATURE

Tested By: Rodney L. Peloquin

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Low Channel 4GHz-6.5GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at lowest output power level (approx. 7 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

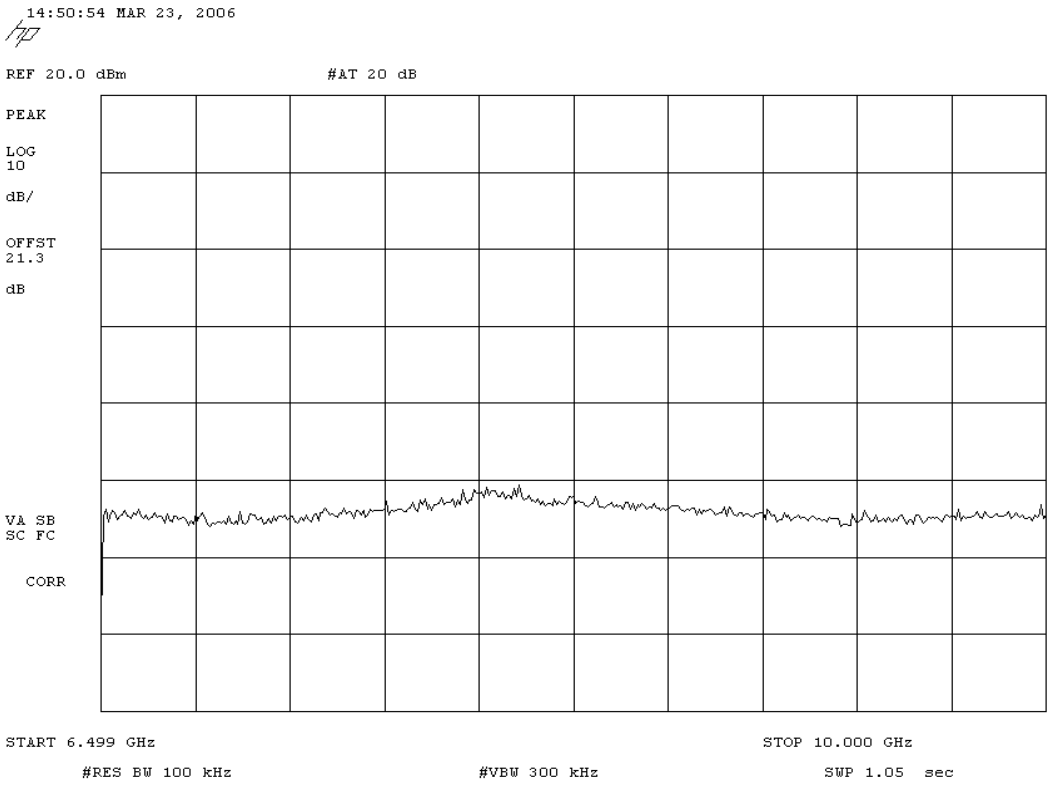
Pass

SIGNATURE

Tested By: Rodney L. Peloquin

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Low Channel 6.5GHz - 10GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at lowest output power level (approx. 7 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

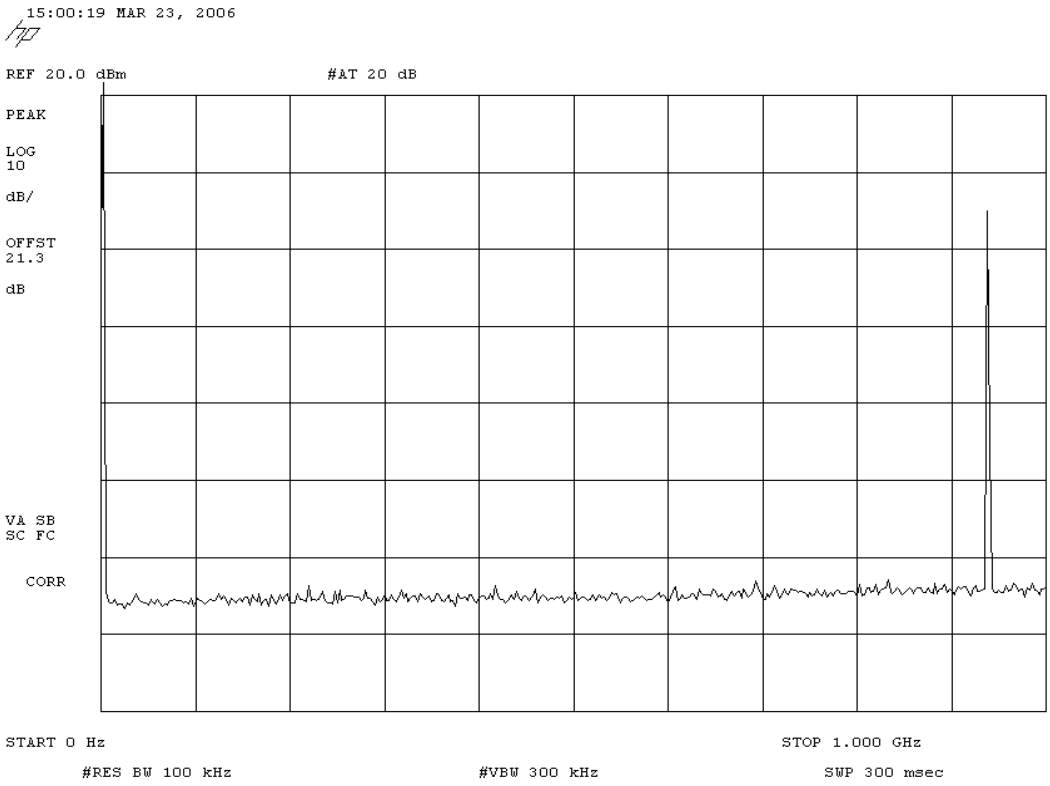
Pass

SIGNATURE

Tested By: Rodney La Peloquin

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Mid Channel 0MHz-1GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at lowest output power level (approx. 7 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

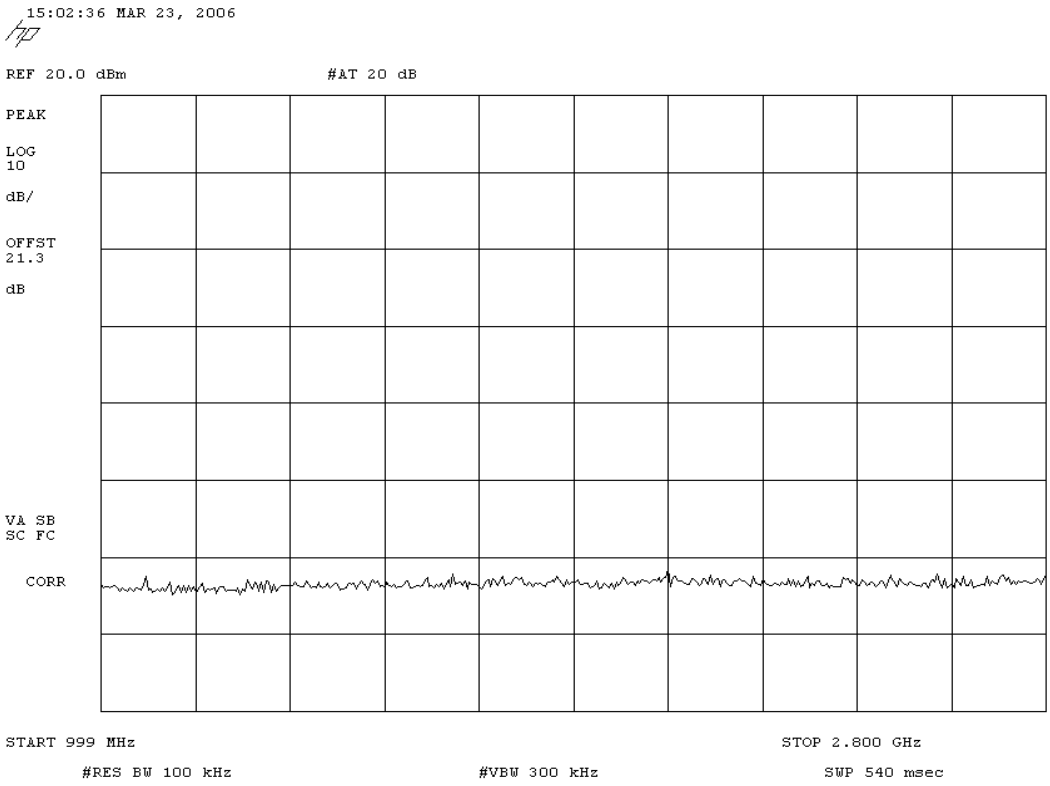
Pass

SIGNATURE

Tested By:

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Mid Channel 1GHz-2.8GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at lowest output power level (approx. 7 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

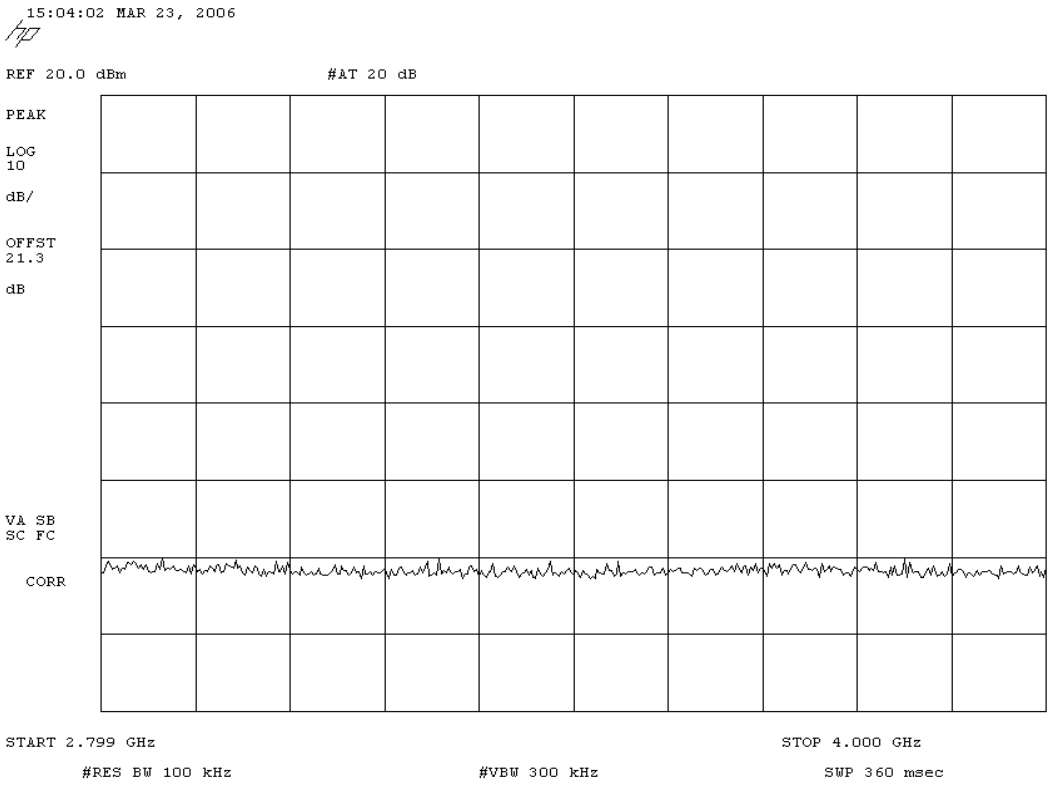
Pass

SIGNATURE

Tested By: Rodney L. Peloquin

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Mid Channel 2.8GHz-4GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at lowest output power level (approx. 7 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

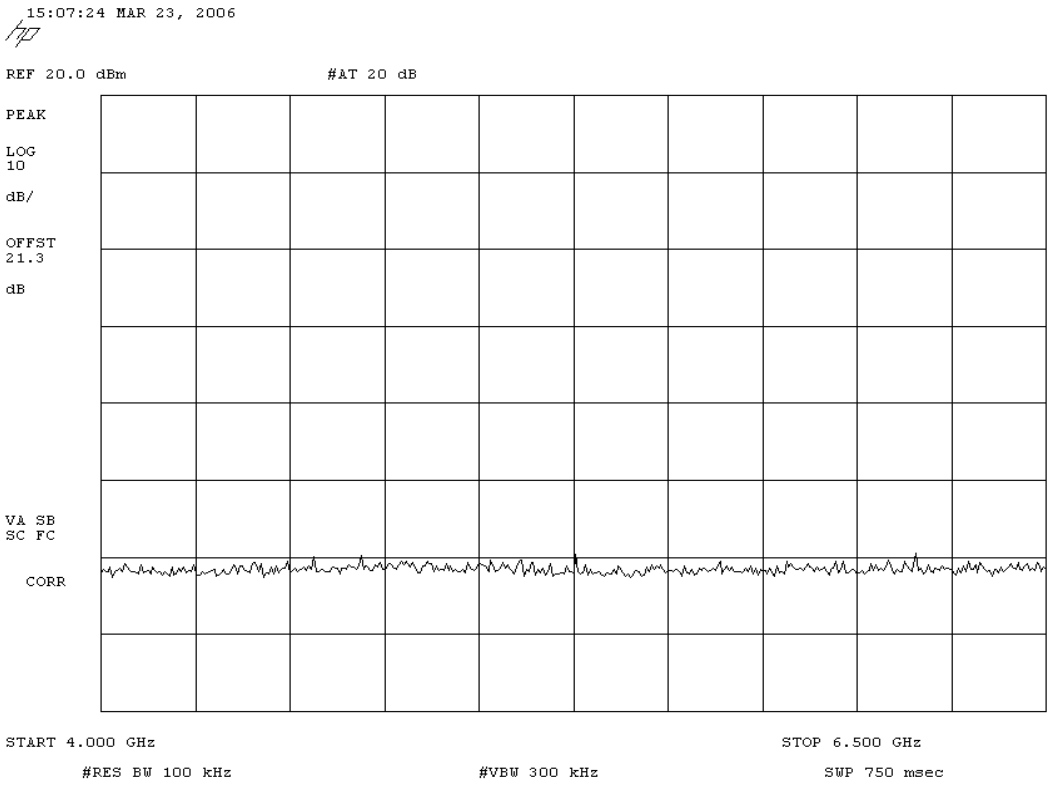
Pass

SIGNATURE

Tested By: Rodney L. Peloquin

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Mid Channel 4GHz - 6.5GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year:	2005	Method:	TIA / EIA - 603	Year:	2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at lowest output power level (approx. 7 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

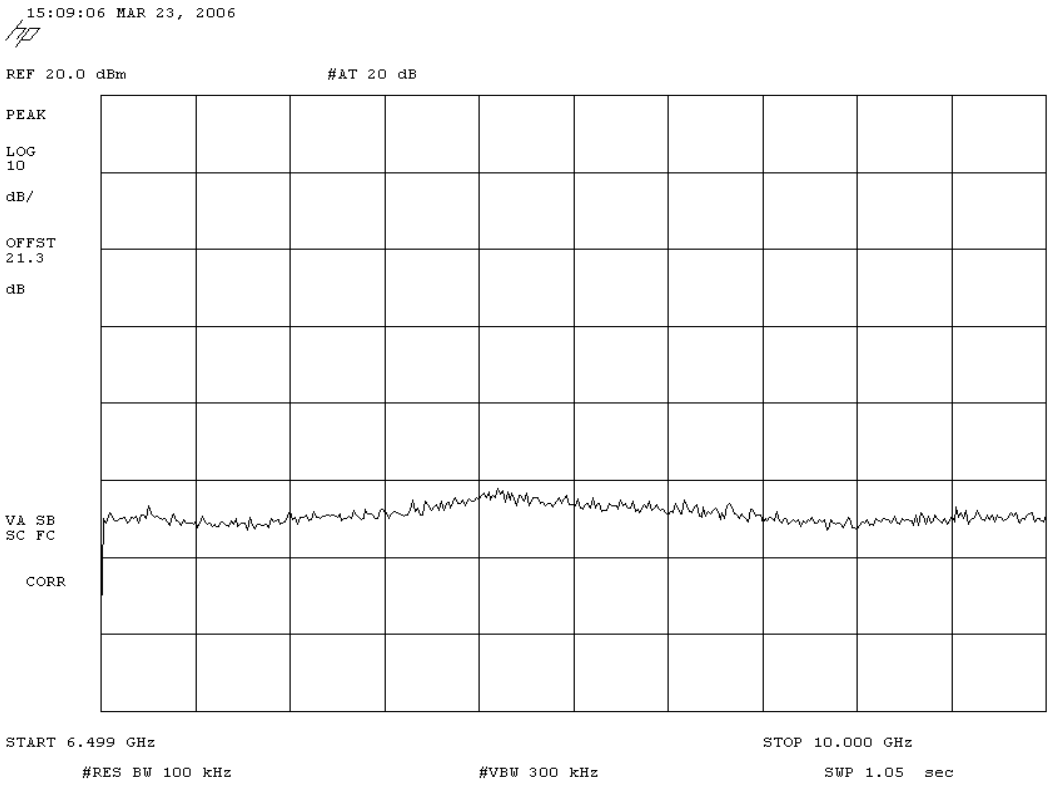
Pass

SIGNATURE

Tested By: Rodney L. Peloquin

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Mid Channel 6.5GHz-10GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year:	2005	Method:	TIA / EIA - 603	Year:	2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at lowest output power level (approx. 7 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

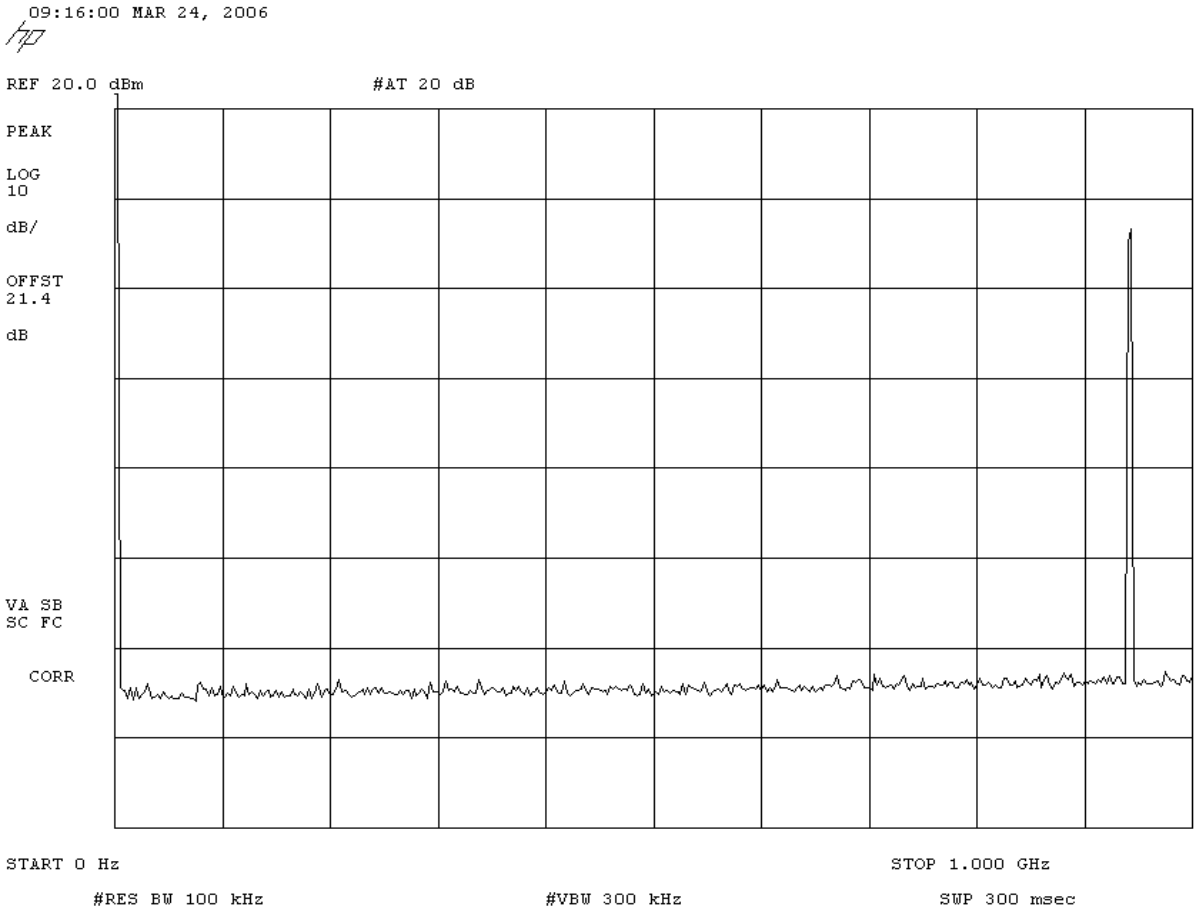
Pass

SIGNATURE

Tested By: Rodney Lee Peloquin

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - High Channel 0MHz-1GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at lowest output power level (approx. 7 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

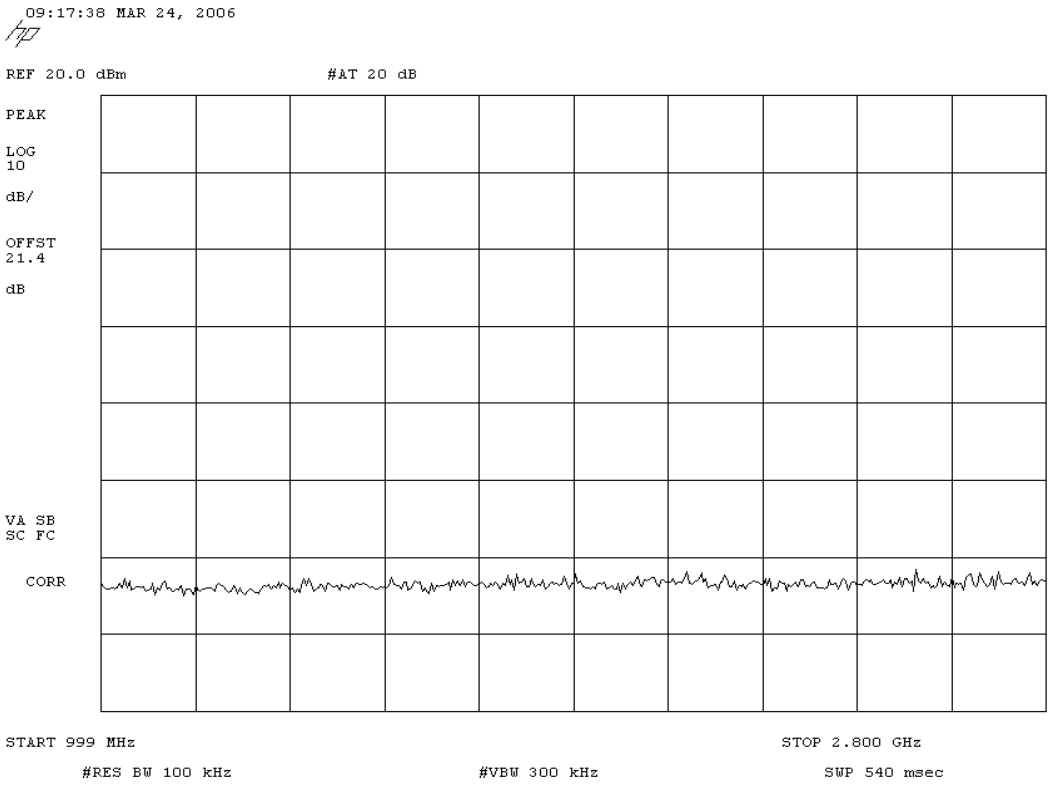
Pass

SIGNATURE

Tested By:

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - High Channel 1GHz-2.8GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at lowest output power level (approx. 7 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

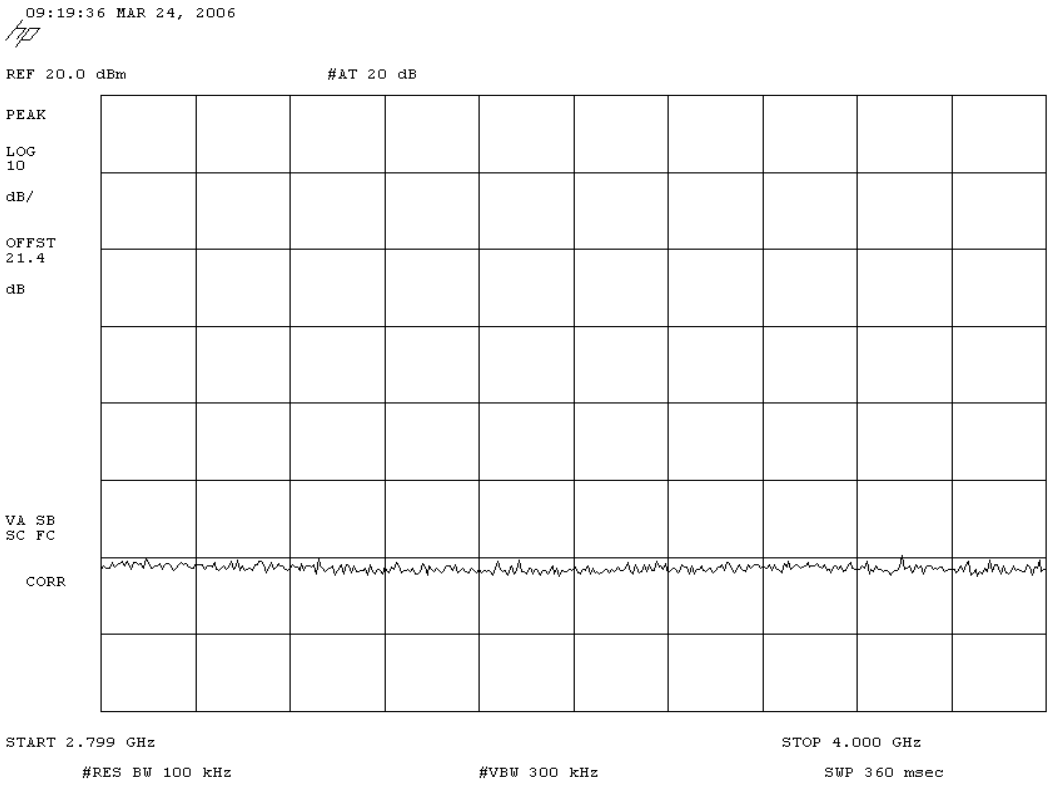
Pass

SIGNATURE

Tested By:

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - High Channel 2.8GHz-4GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at lowest output power level (approx. 7 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

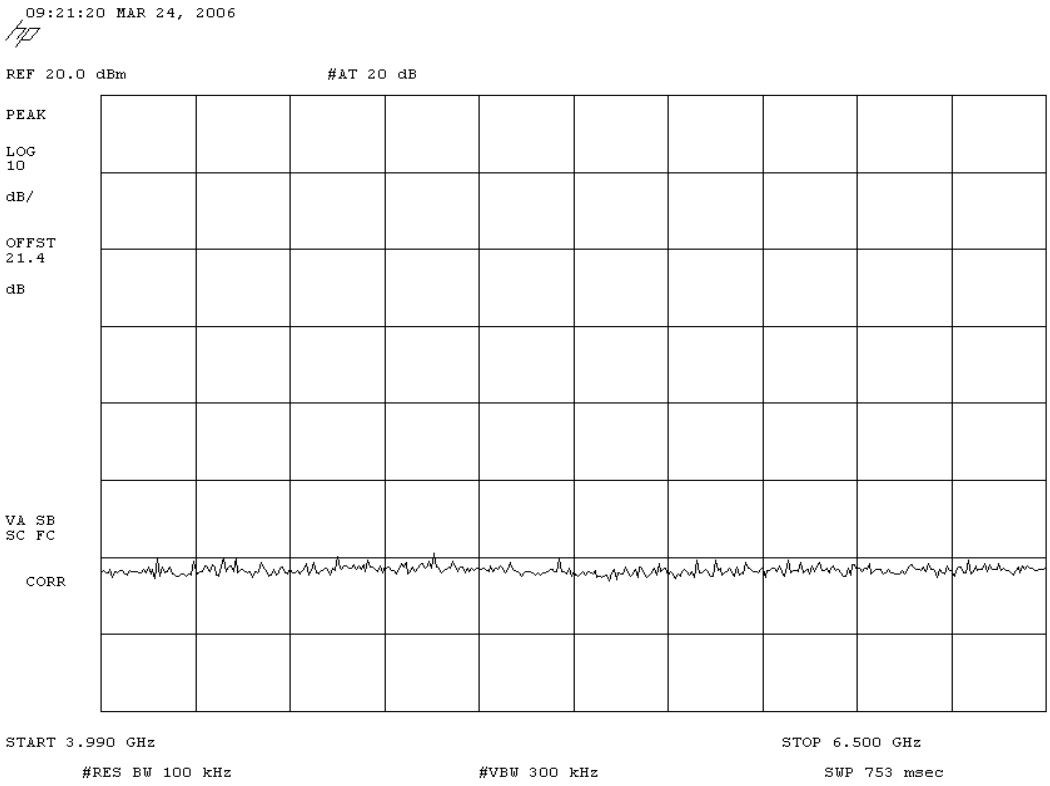
Pass

SIGNATURE

Tested By:

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - High Channel 4GHz-6.5GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at lowest output power level (approx. 7 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

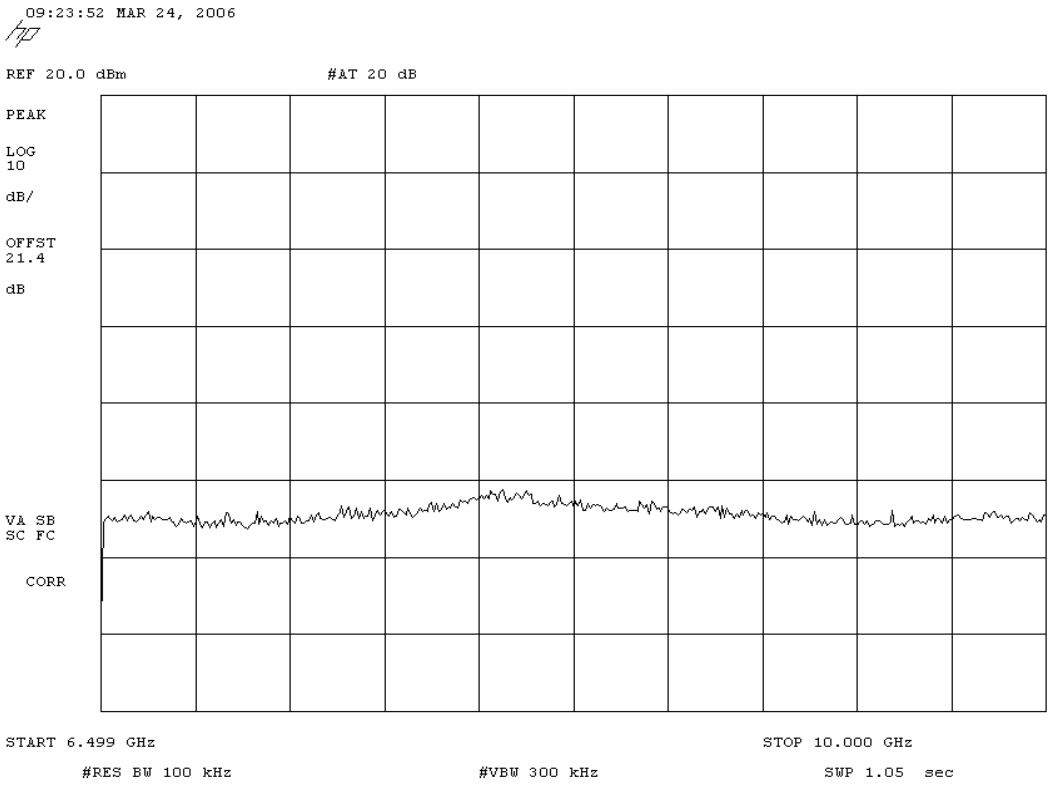
Pass

SIGNATURE

Tested By:

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - High Channel 6.5GHz-10GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at highest output power level (approx. 12 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

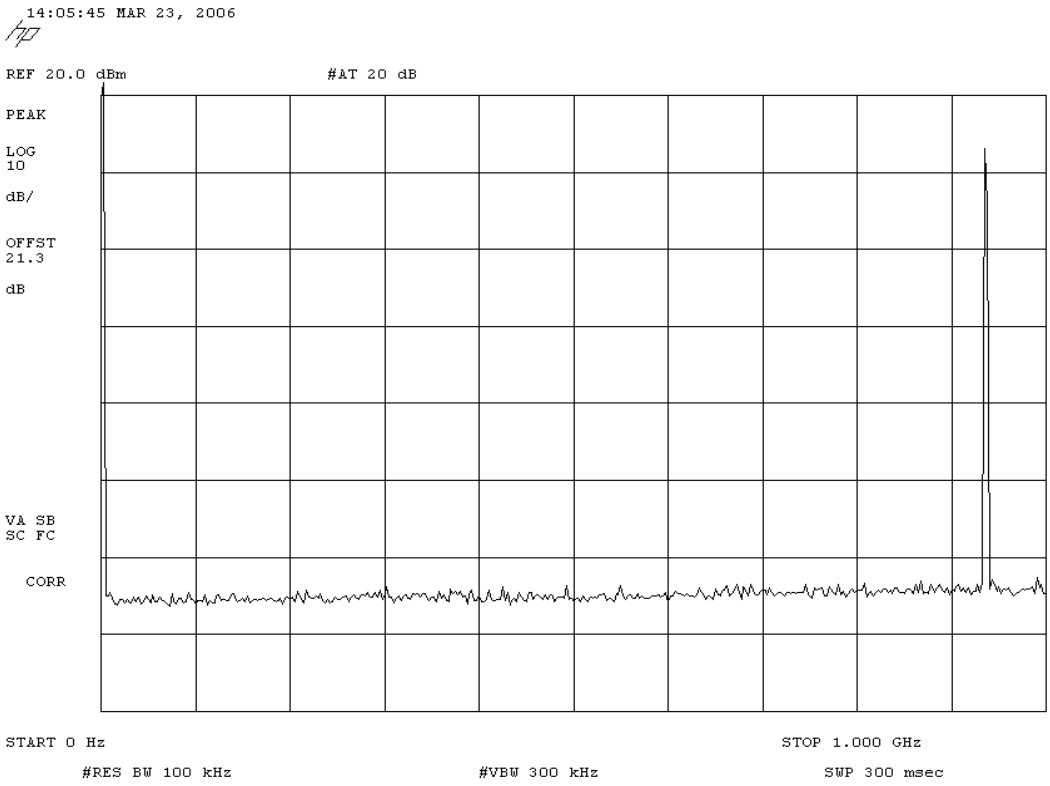
Pass

SIGNATURE

Tested By: Rodney L. Peloquin

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Low Channel 0MHz-1GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at highest output power level (approx. 12 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

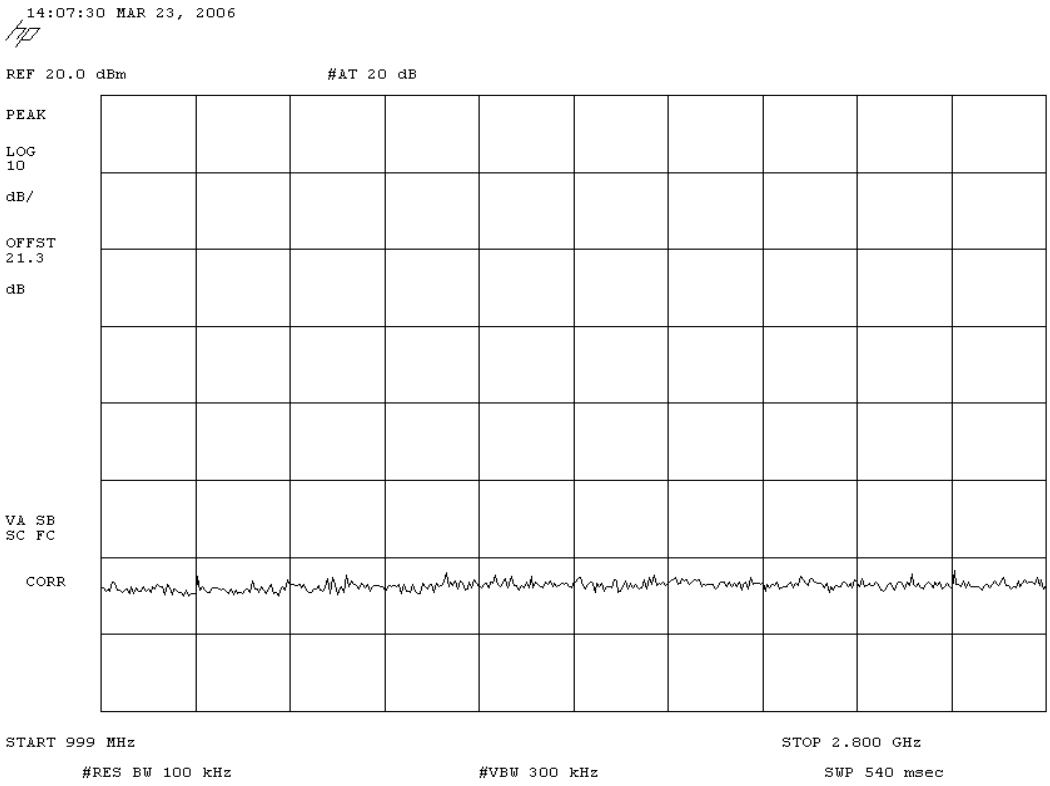
Pass

SIGNATURE

Tested By:

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Low Channel 1GHz-2.8GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at highest output power level (approx. 12 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

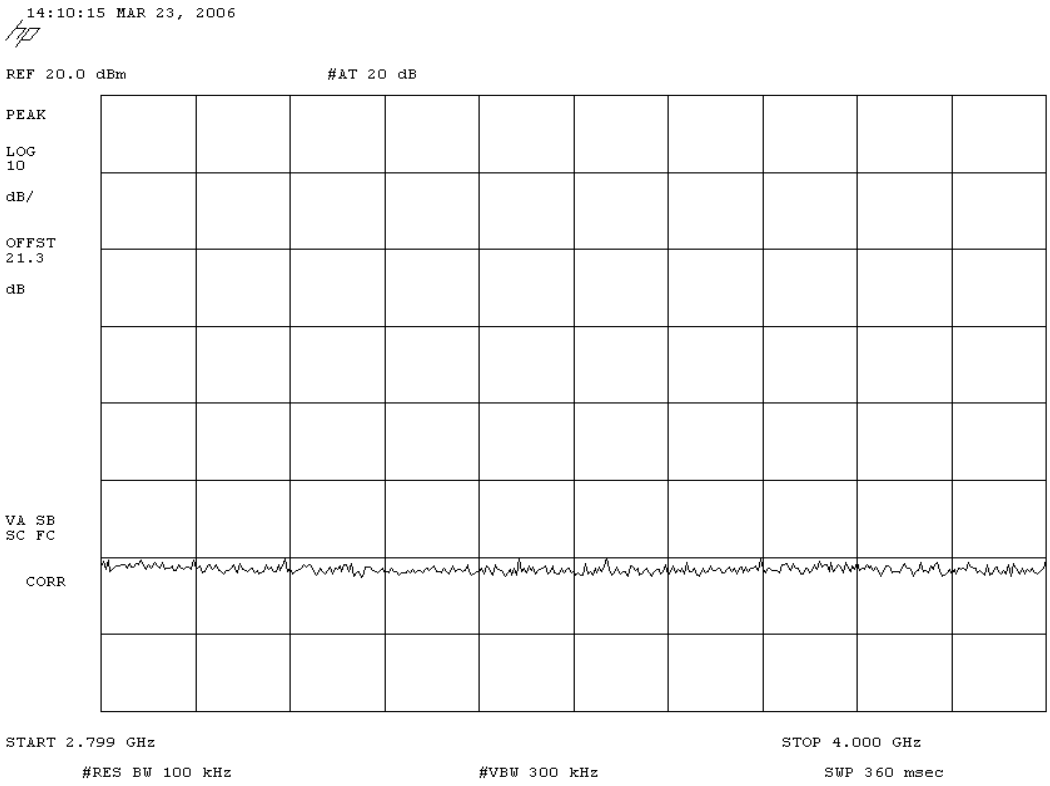
Pass

SIGNATURE

Tested By:

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Low Channel 2.8GHz-4GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at highest output power level (approx. 12 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

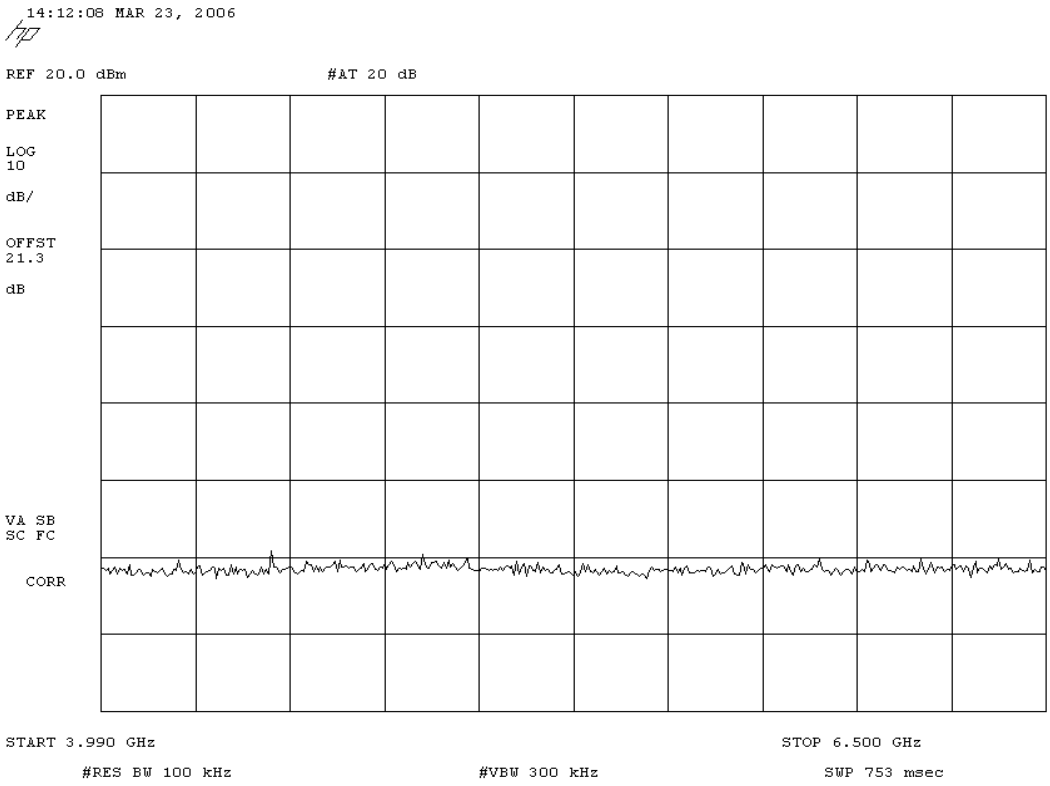
Pass

SIGNATURE

Tested By: Rodney L. Peloquin

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Low Channel 4GHz-6.5GHz



NORTHWEST
EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA
01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at highest output power level (approx. 12 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

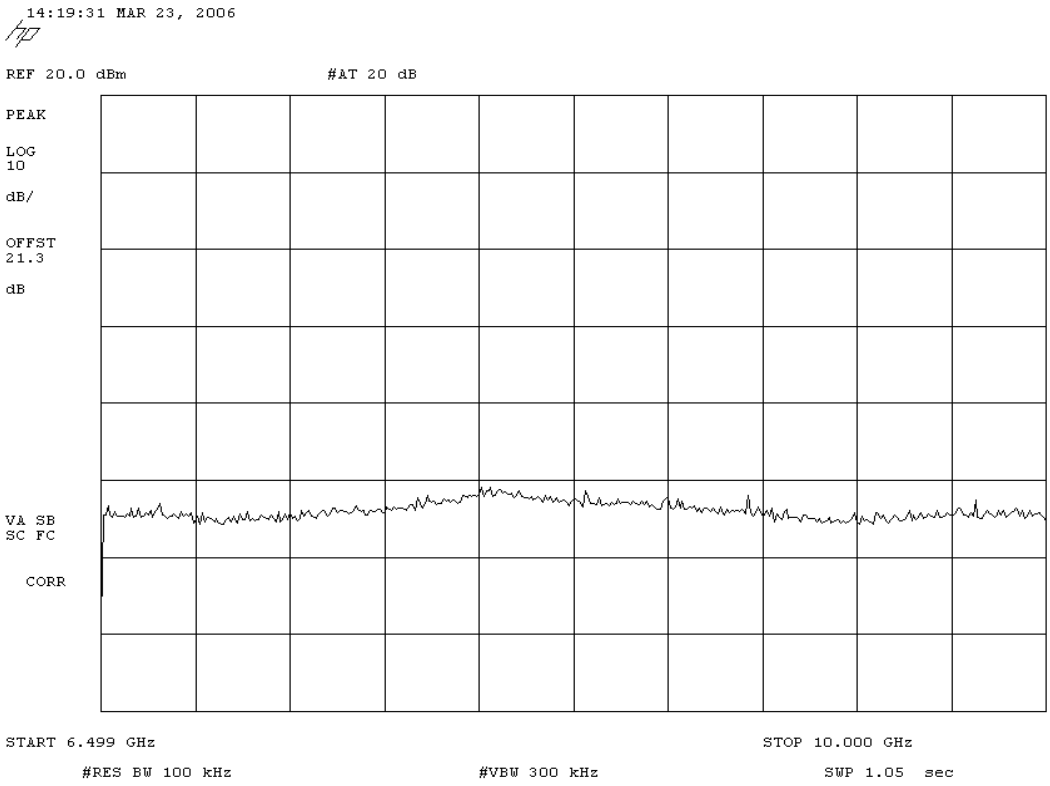
Pass

SIGNATURE

Tested By: Rodney M. Peloquin

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Low Channel 6.5GHz - 10GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at highest output power level (approx. 12 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

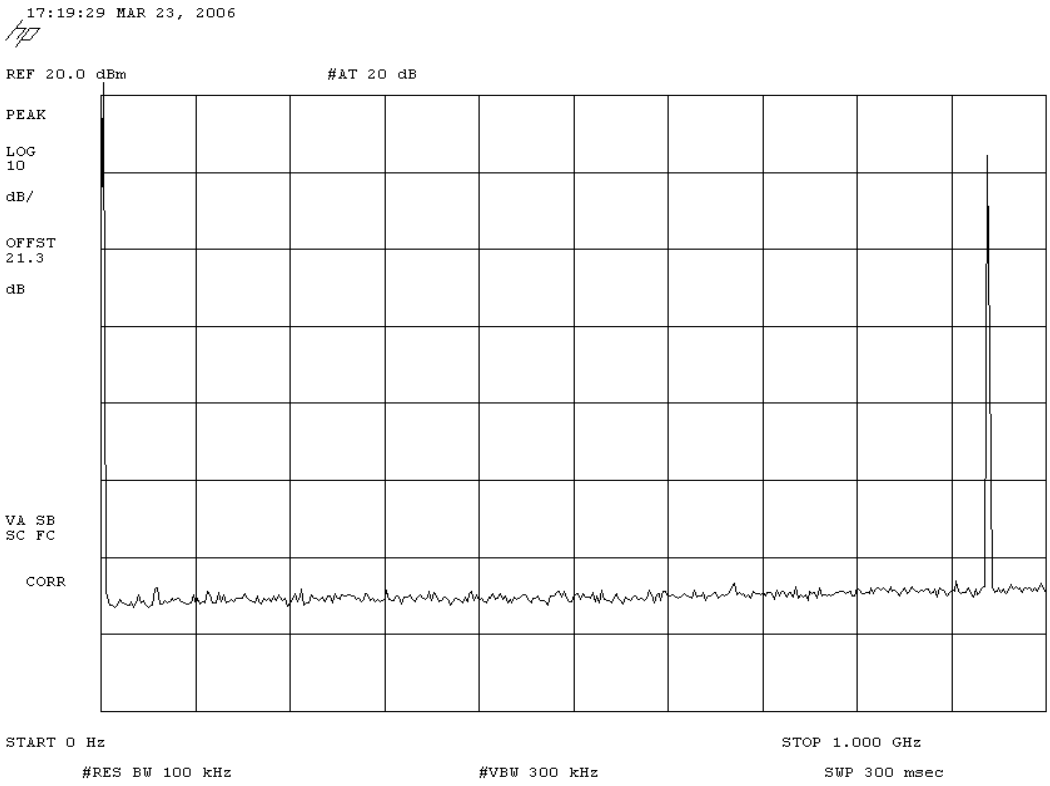
Pass

SIGNATURE

Tested By:

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Mid Channel 0MHz-1GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at highest output power level (approx. 12 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

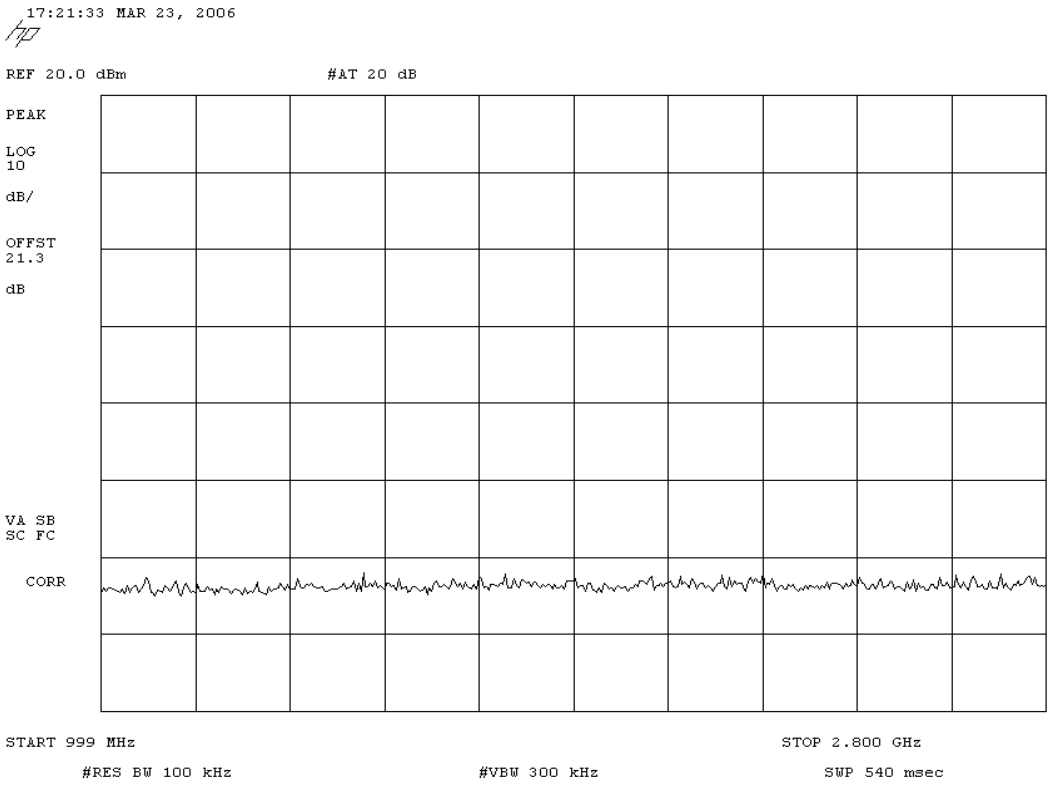
Pass

SIGNATURE

Tested By: Rodney L. Peloquin

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Mid Channel 1GHz-2.8GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year:	2005	Method:	TIA / EIA - 603	Year:	2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at highest output power level (approx. 12 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

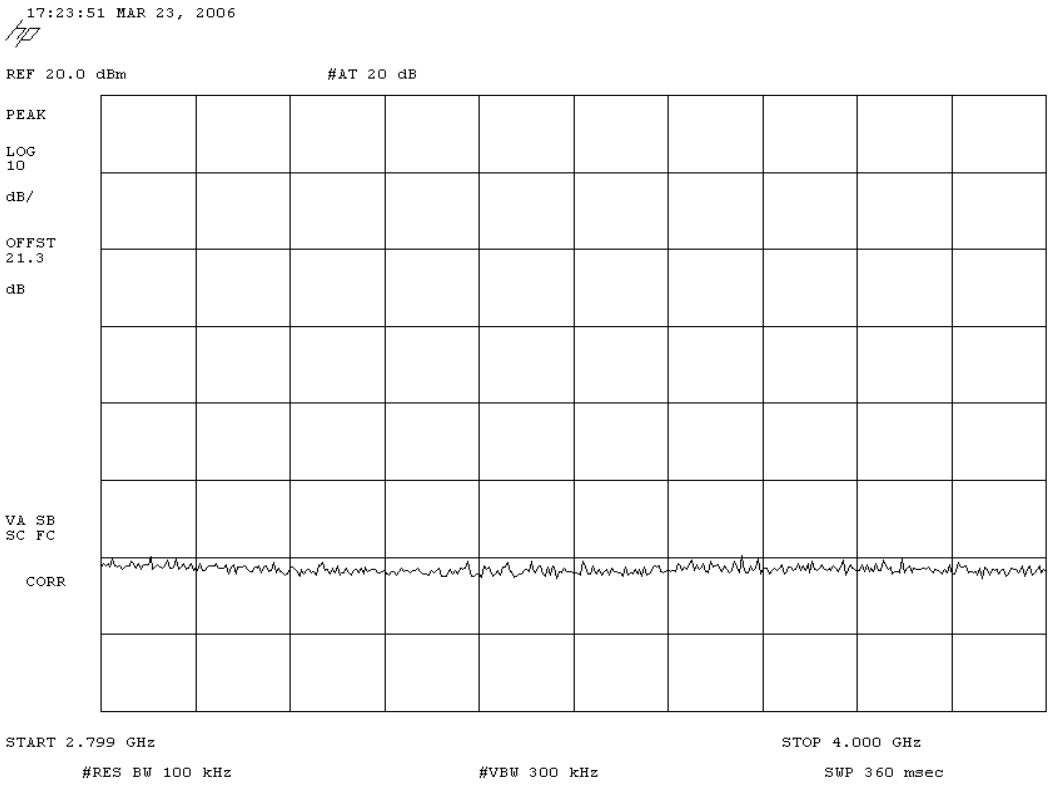
Pass

SIGNATURE

Tested By: Rodney L. Peloquin

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Mid Channel 2.8GHz-4GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at highest output power level (approx. 12 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

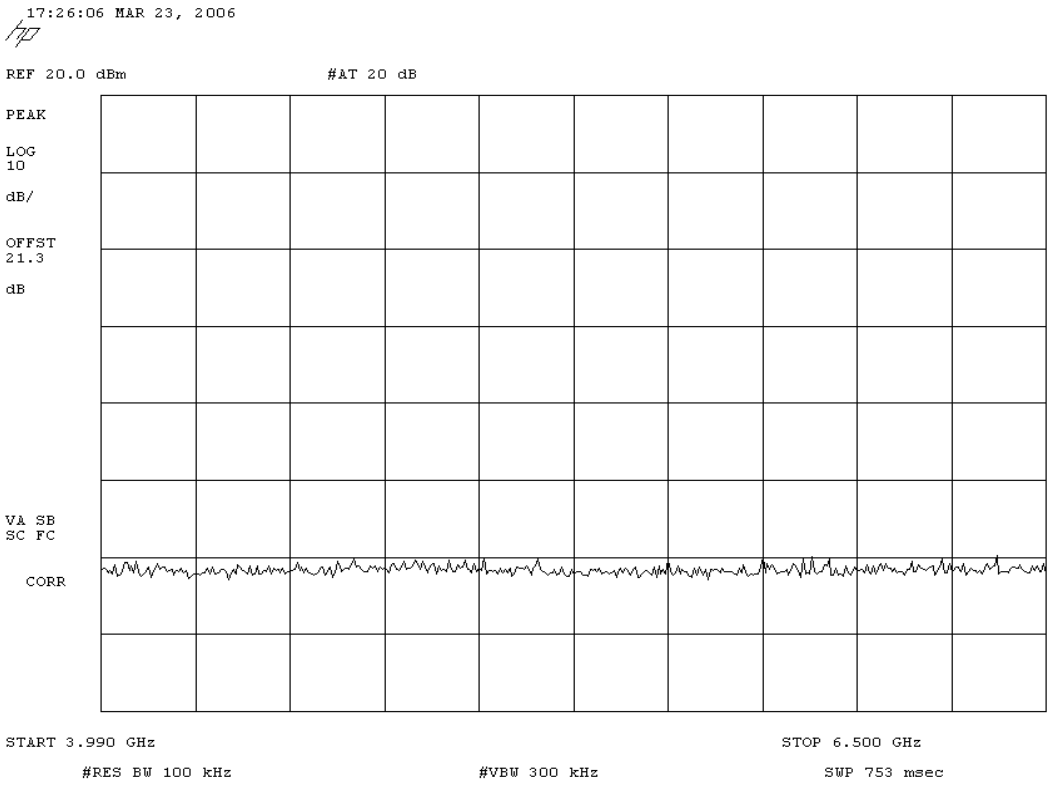
Pass

SIGNATURE

Tested By: Rodney L. Peloquin

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Mid Channel 4GHz - 6.5GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at highest output power level (approx. 12 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

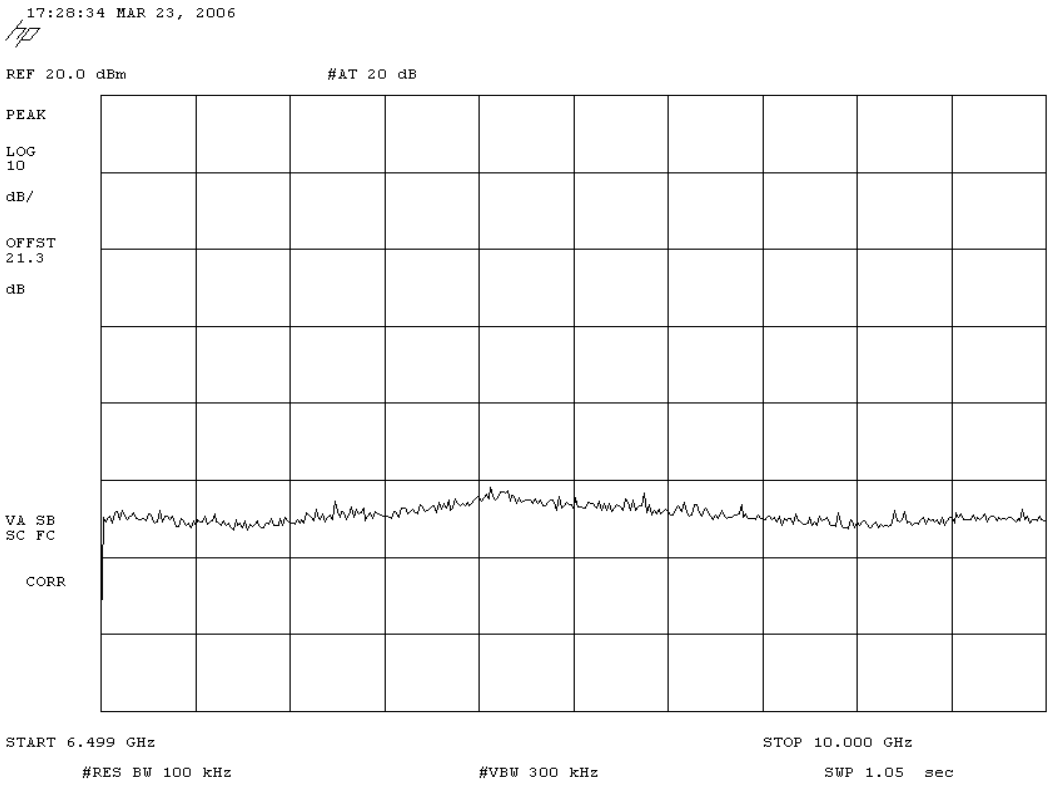
Pass

SIGNATURE

Tested By: Rodney L. Peloquin

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Mid Channel 6.5GHz-10GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year:	2005	Method:	TIA / EIA - 603	Year:	2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at highest output power level (approx. 12 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

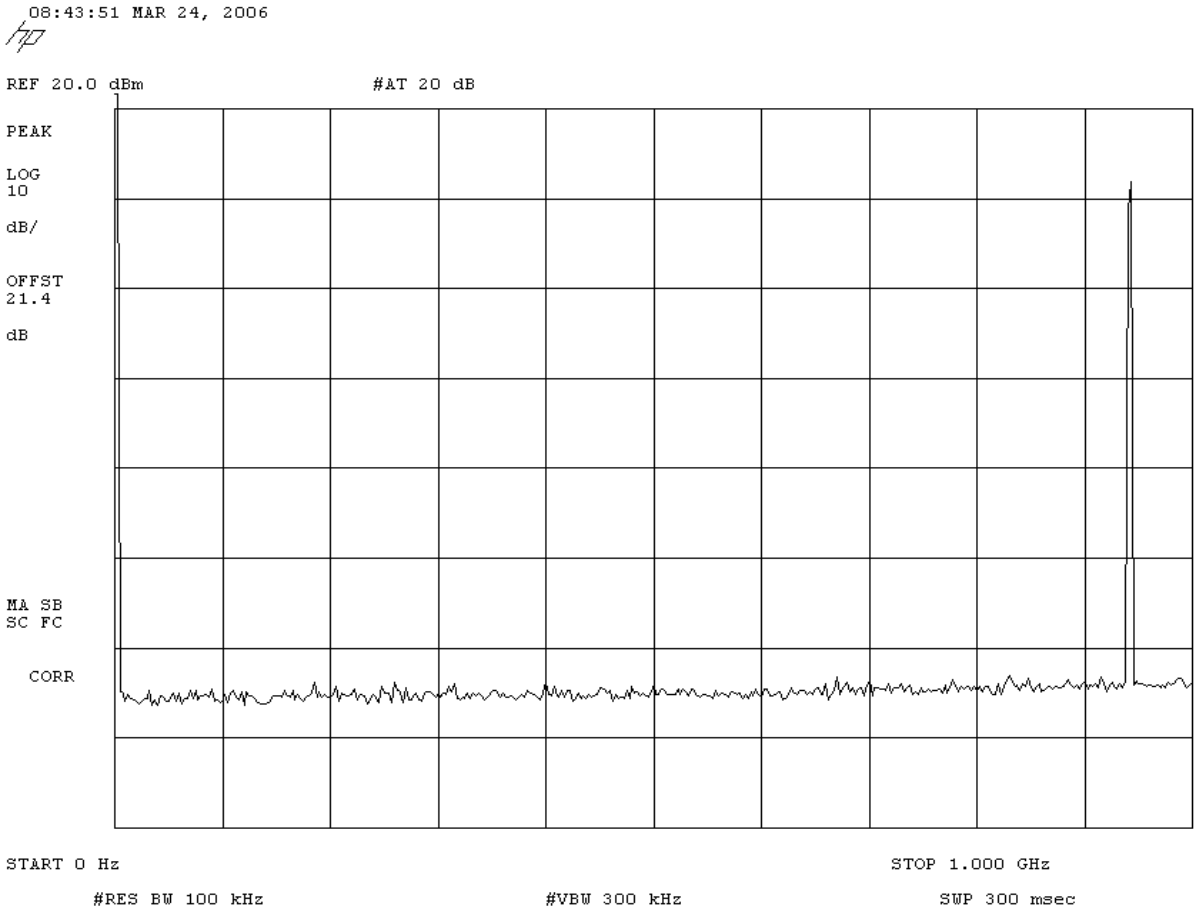
Pass

SIGNATURE

Tested By: Rodney La Peloquin

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - High Channel 0MHz-1GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at highest output power level (approx. 12 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

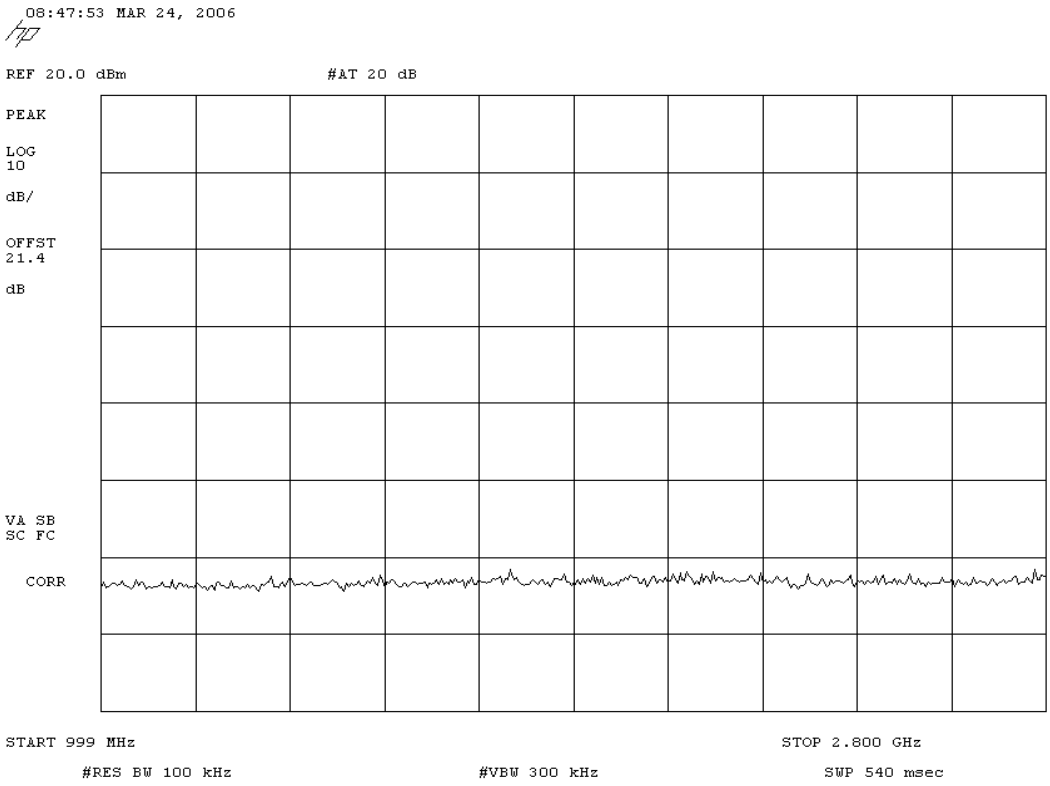
Pass

SIGNATURE

Tested By: Rodney L. Peloquin

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - High Channel 1GHz-2.8GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at highest output power level (approx. 12 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

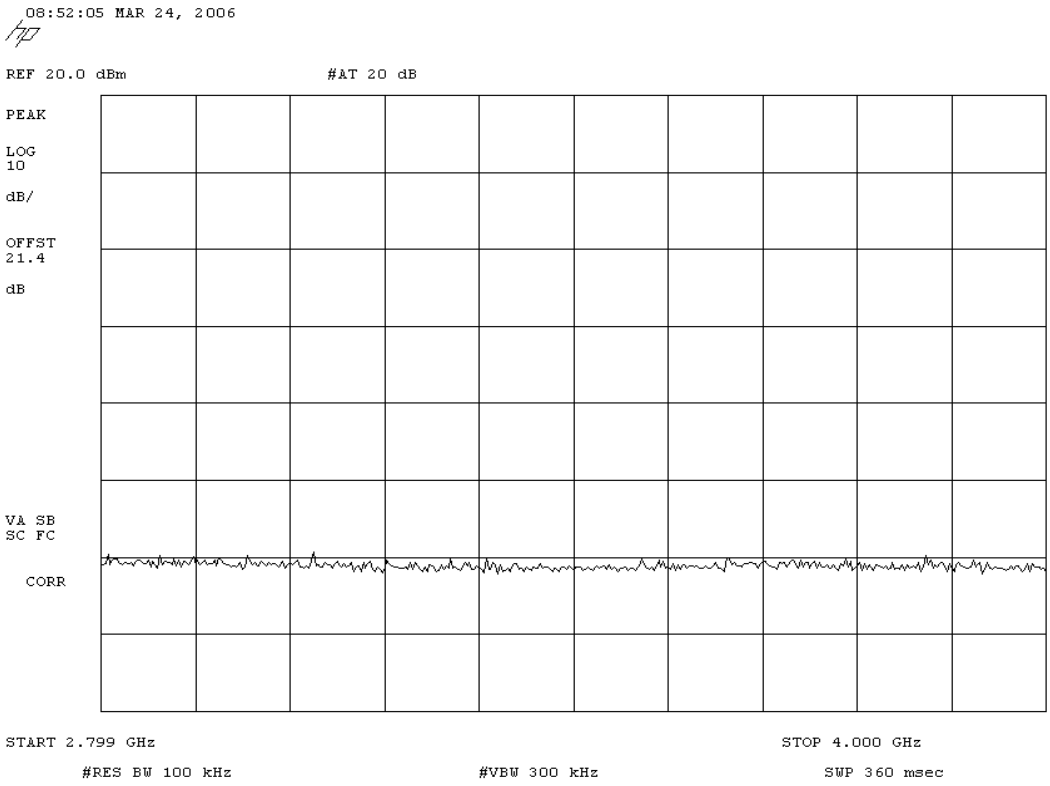
Pass

SIGNATURE

Tested By:

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - High Channel 2.8GHz-4GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at highest output power level (approx. 12 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

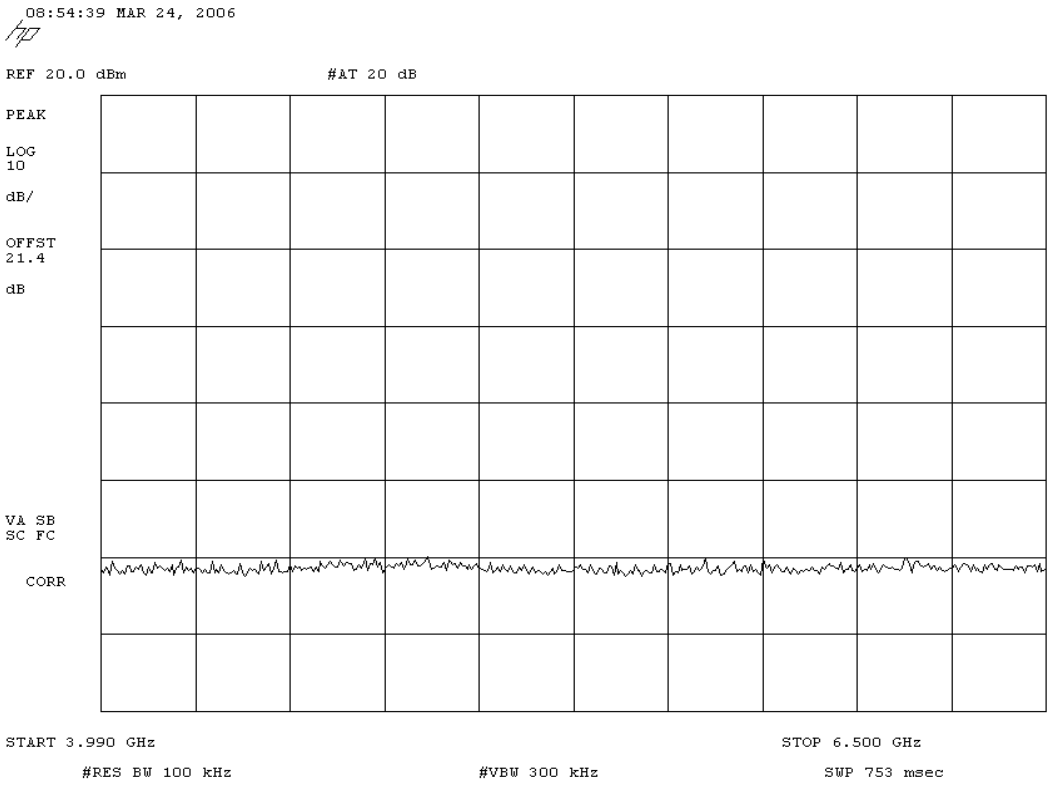
Pass

SIGNATURE

Tested By:

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - High Channel 4GHz-6.5GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at highest output power level (approx. 12 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

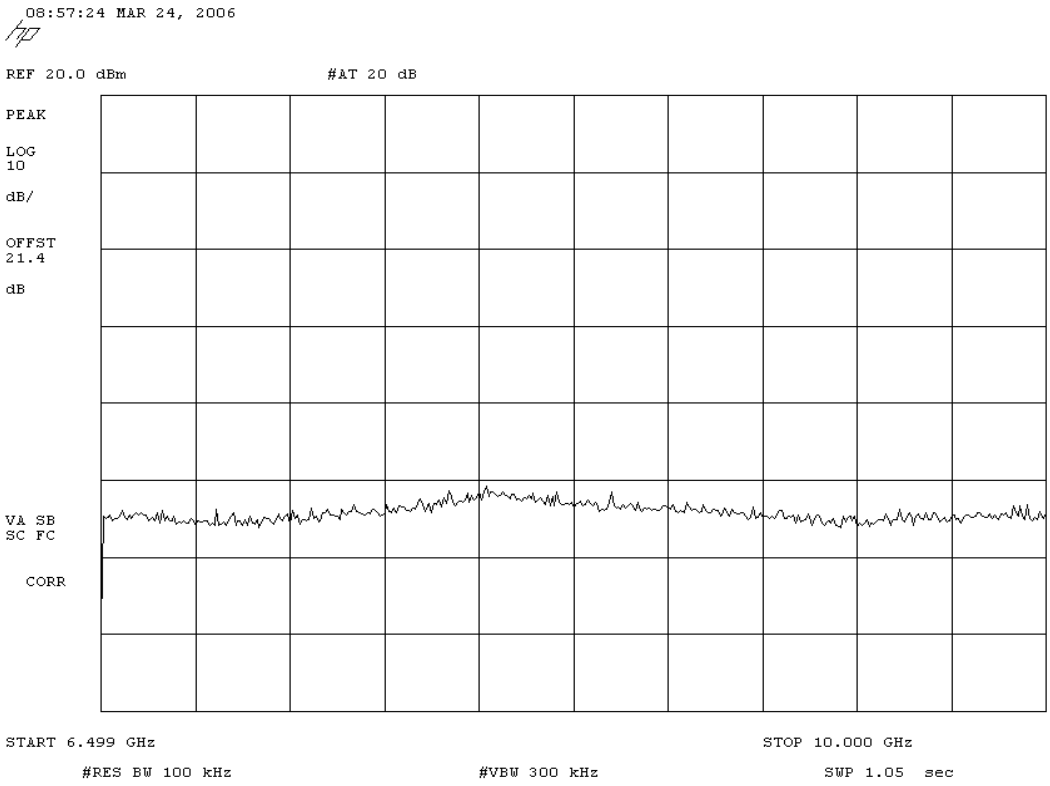
Pass

SIGNATURE

Tested By:

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - High Channel 6.5GHz-10GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/23/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year:	2005	Method:	TIA / EIA - 603	Year:	2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

7 channels transmitting in 900MHz band with modulation at highest output power level

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

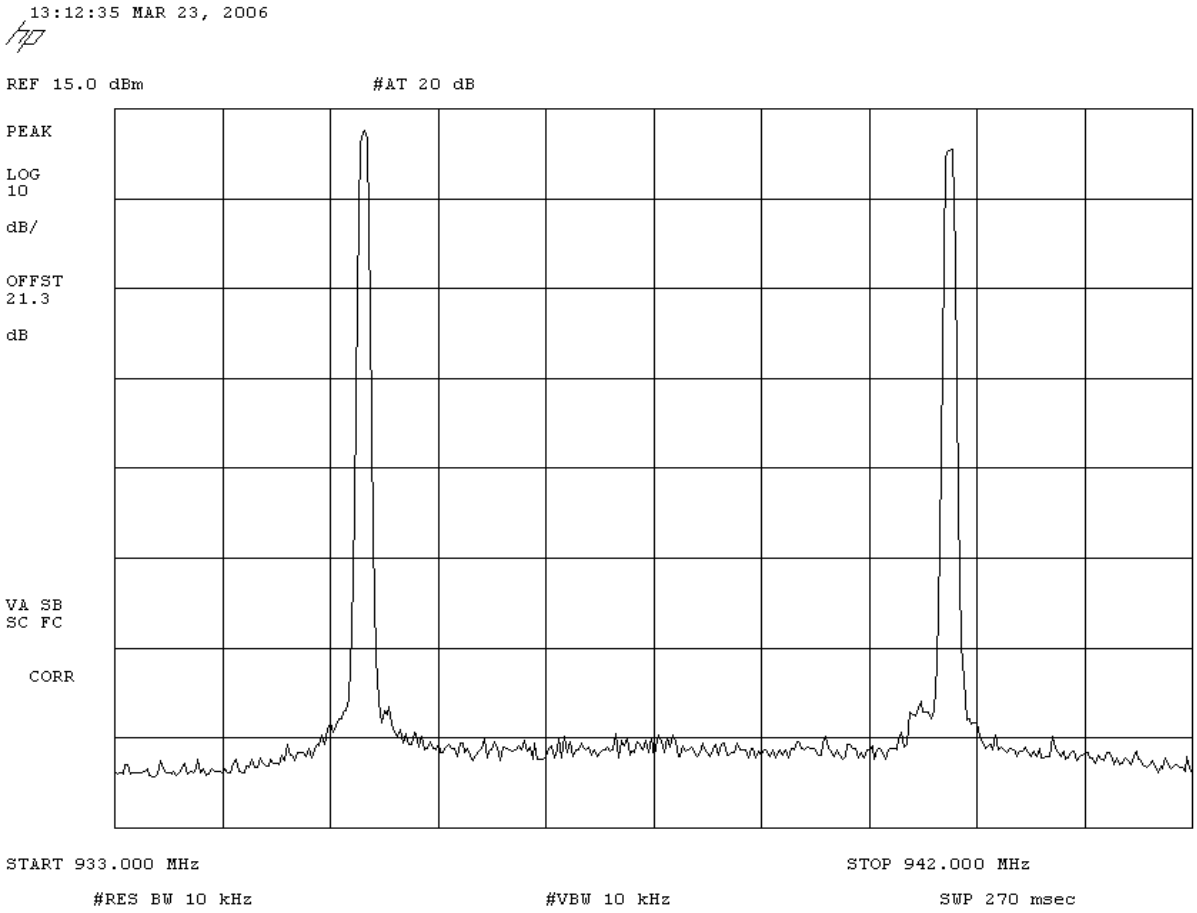
Pass

SIGNATURE

Tested By: Rodney La Peloquin

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - 7 Signal IM Test, In Band



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/23/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year:	2005	Method:	TIA / EIA - 603	Year:	2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

7 channels transmitting in 900MHz band with modulation at highest output power level

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

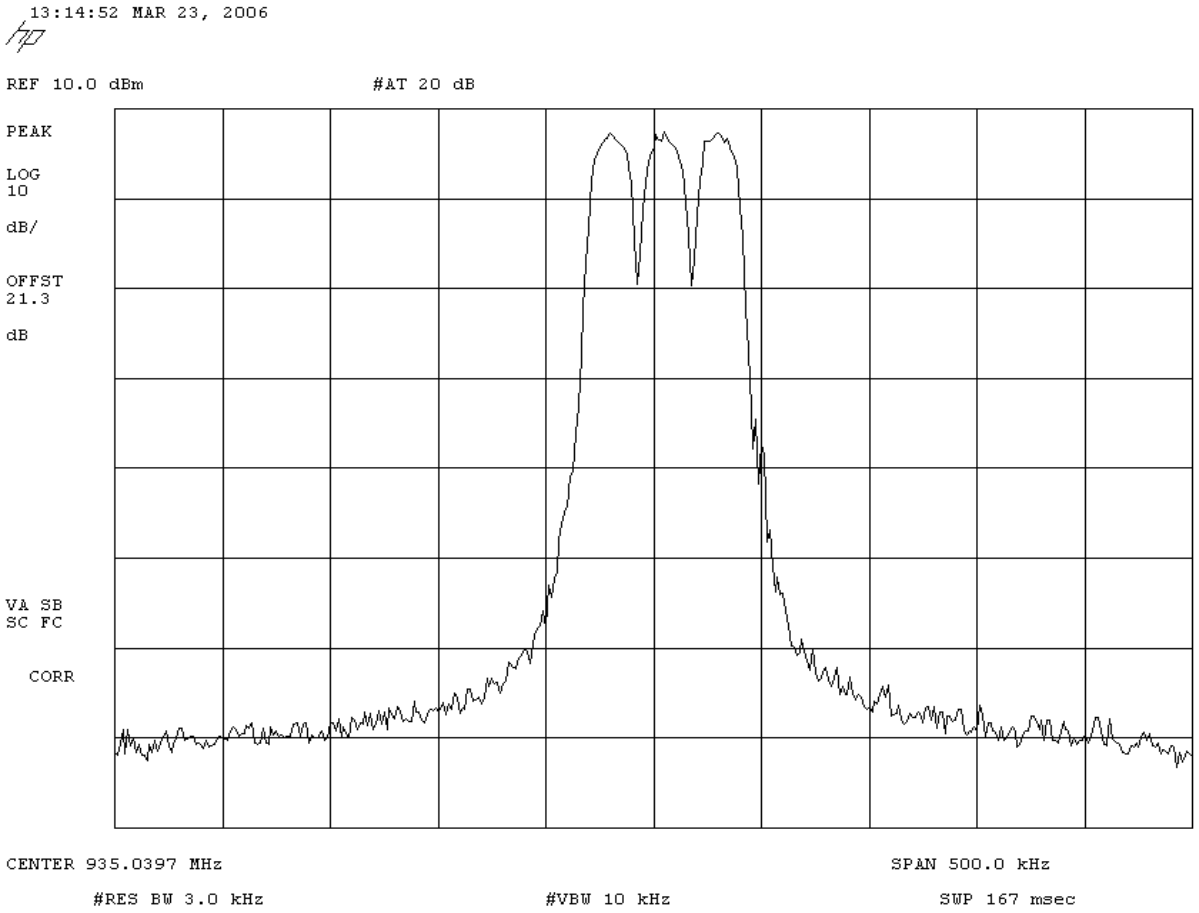
Pass

SIGNATURE

Tested By: Rodney La Peloquin

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - 7 Signal IM Test, In Band



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/23/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year:	2005	Method:	TIA / EIA - 603	Year:	2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

7 channels transmitting in 900MHz band with modulation at highest output power level

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

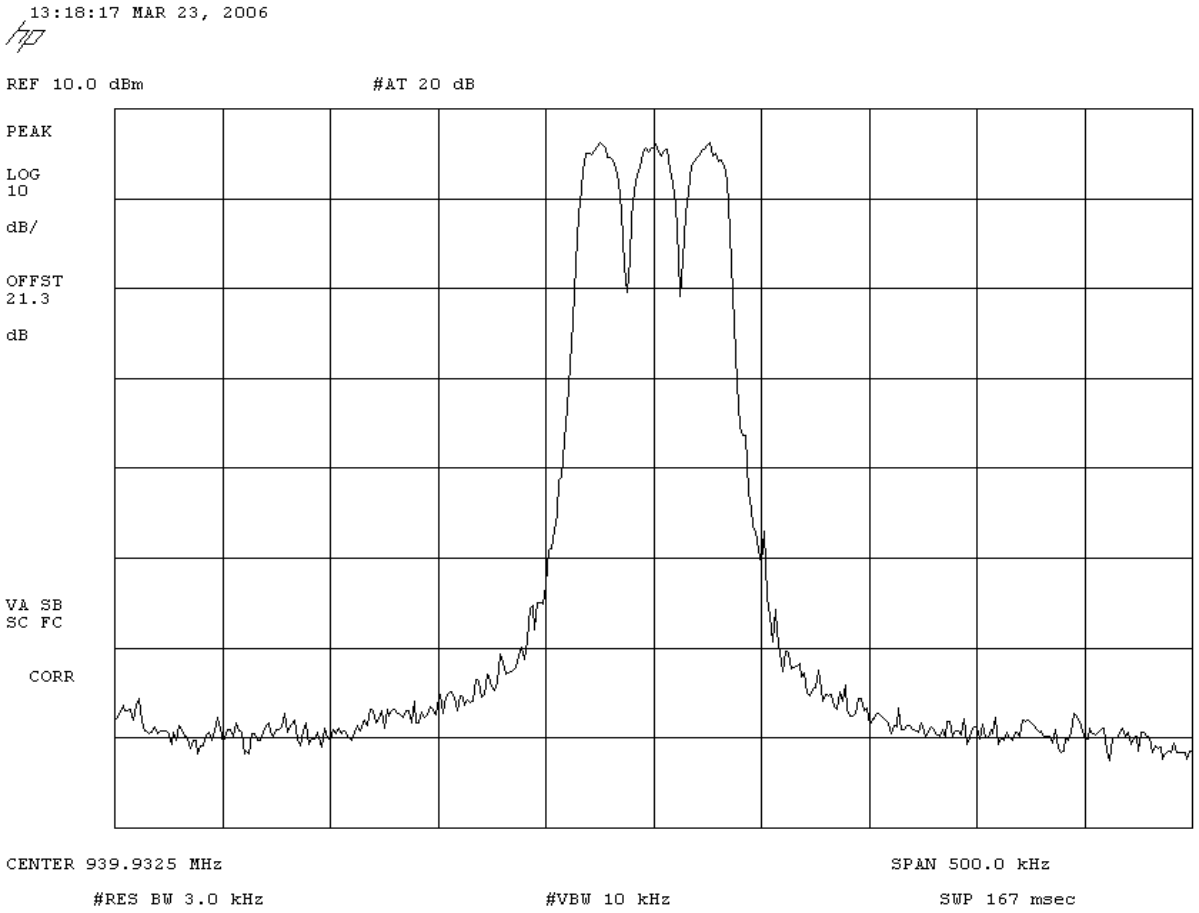
Pass

SIGNATURE

Tested By: Rodney Lee Peloquin

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - 7 Signal IM Test, In Band



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/23/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year:	2005	Method:	TIA / EIA - 603	Year:	2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

7 channels transmitting in 900MHz band with modulation at highest output power level

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

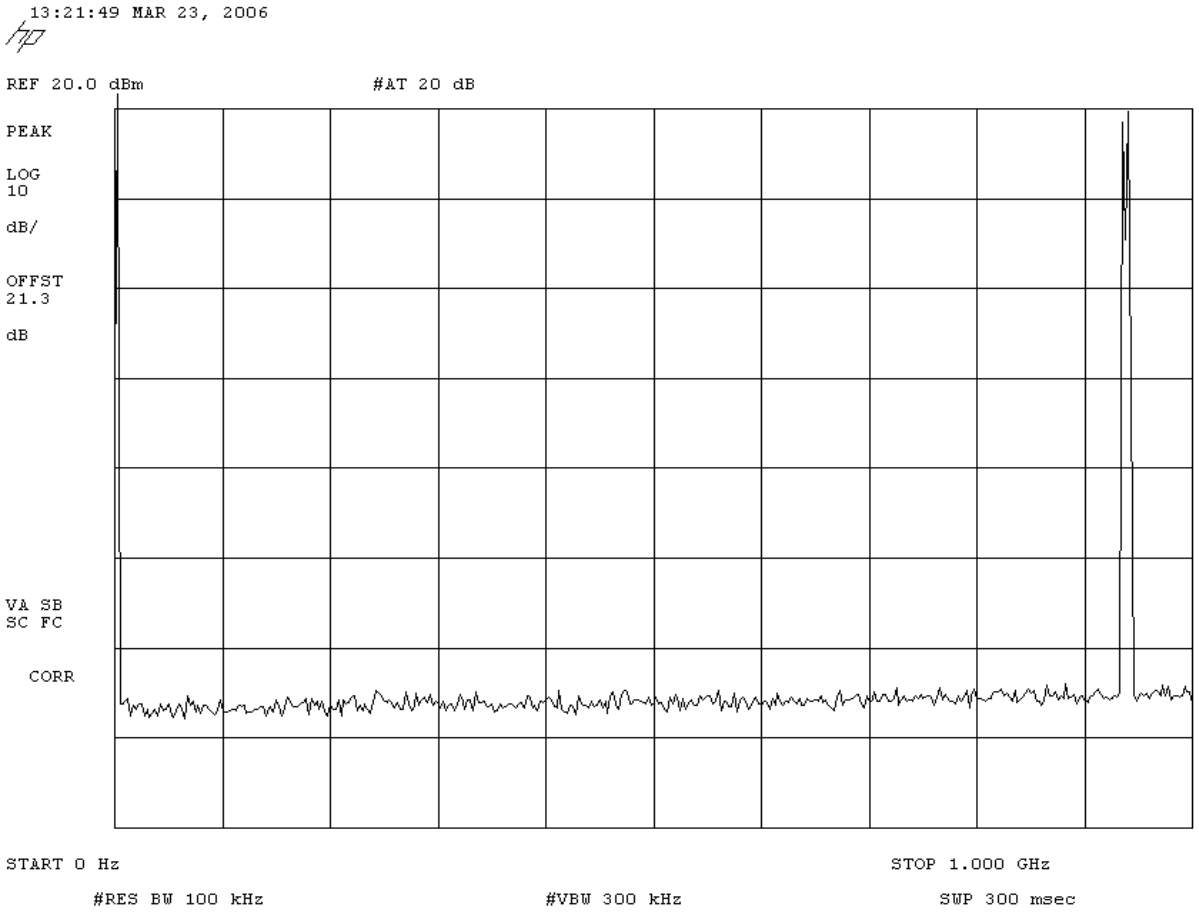
Pass

SIGNATURE

Tested By: Rodney La Peloquin

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - 7 Signal IM Test, 0MHz-1GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/23/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

7 channels transmitting in 900MHz band with modulation at highest output power level

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

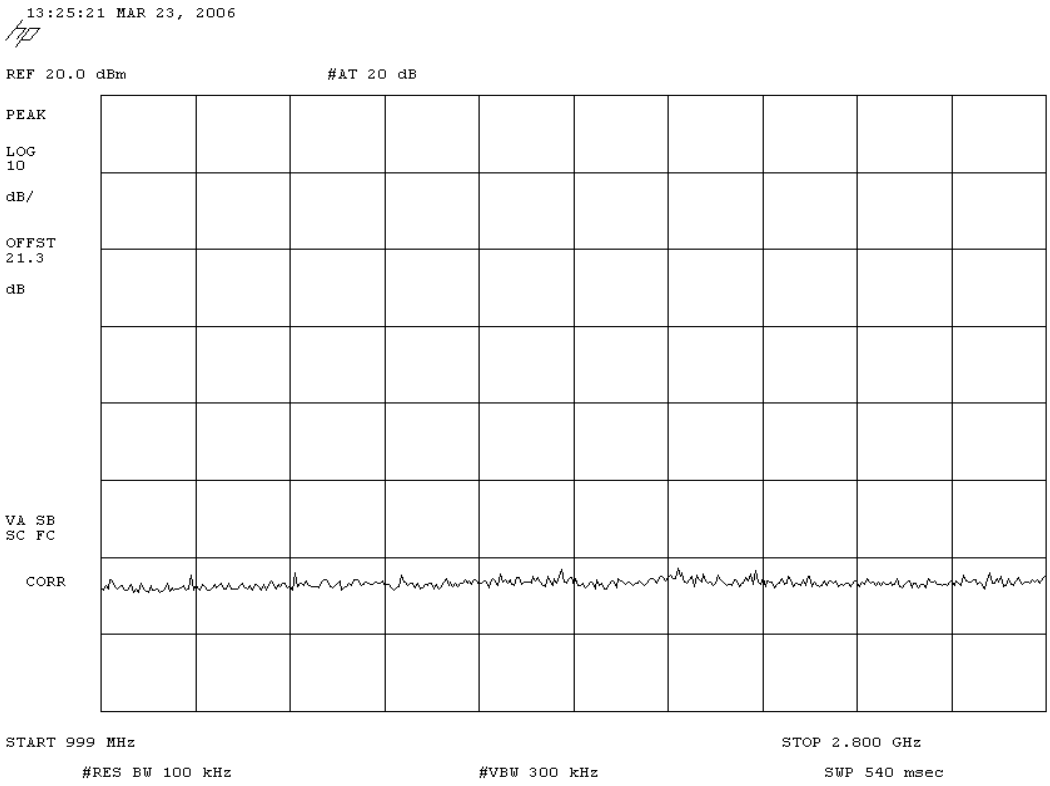
Pass

SIGNATURE

Tested By:

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - 7 Signal IM Test, 1GHz-2.8GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/23/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

7 channels transmitting in 900MHz band with modulation at highest output power level

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

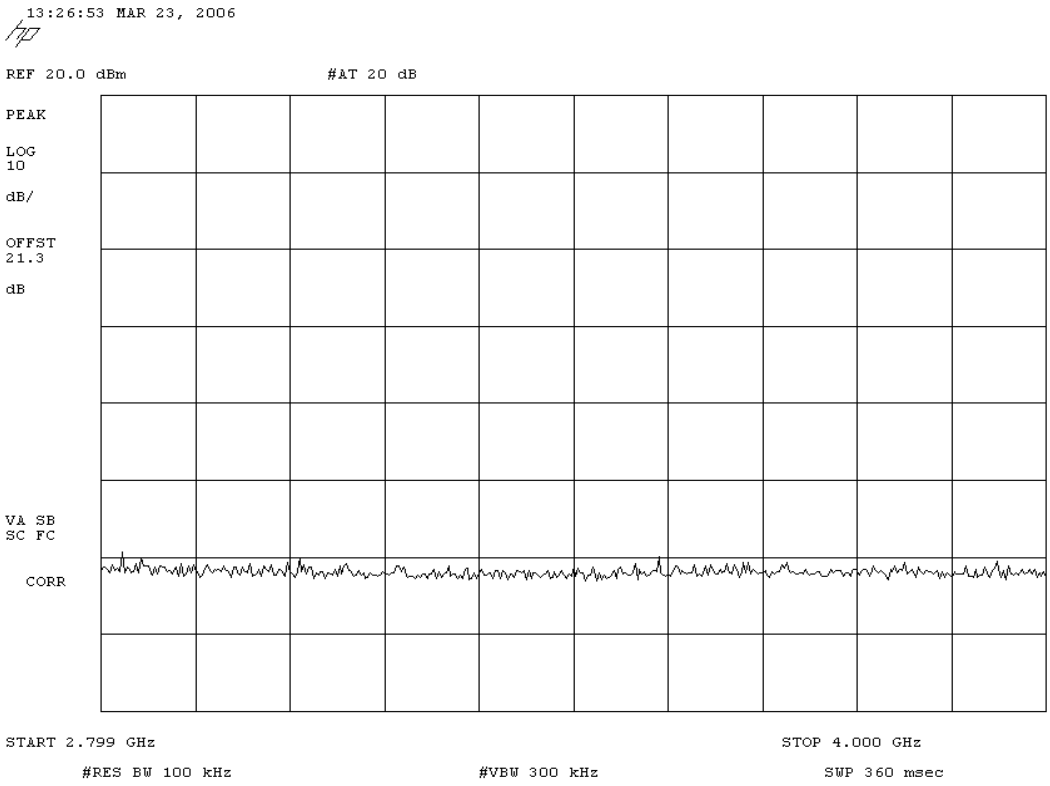
Pass

SIGNATURE

Tested By:

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - 7 Signal IM Test, 2.8GHz-4GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/23/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

7 channels transmitting in 900MHz band with modulation at highest output power level

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

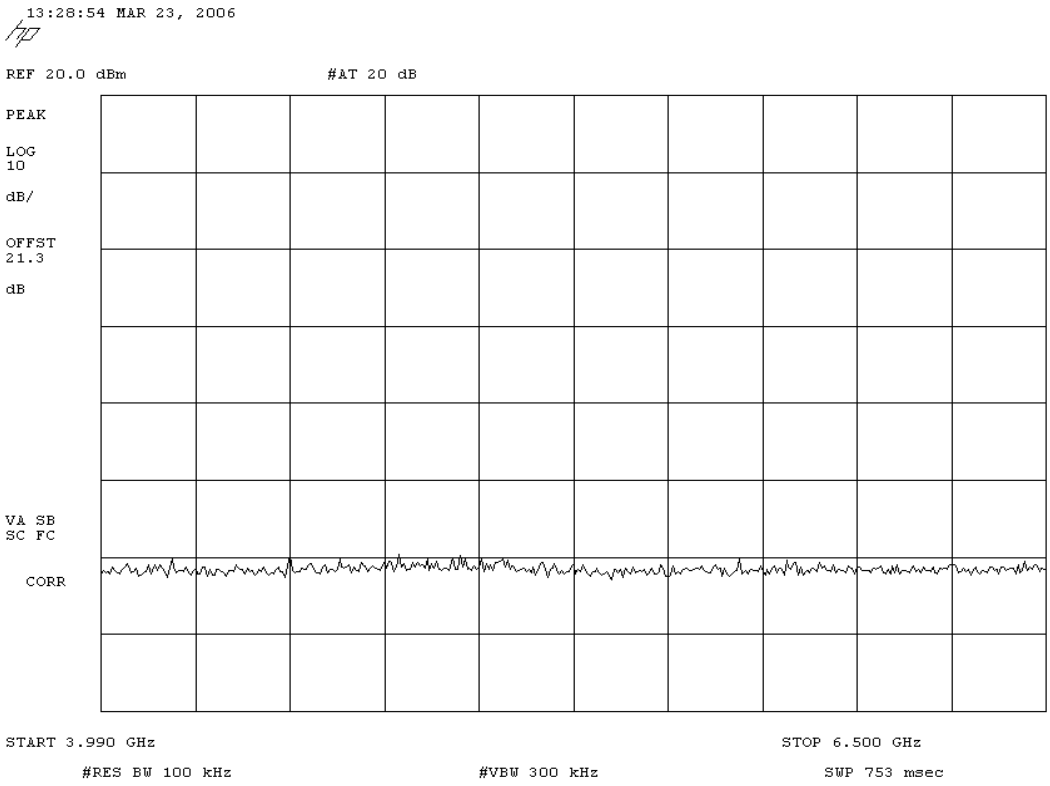
Pass

SIGNATURE

Tested By: Rodney L. Peloquin

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - 7 Signal IM Test, 4GHz-6.5GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/23/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

7 channels transmitting in 900MHz band with modulation at highest output power level

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

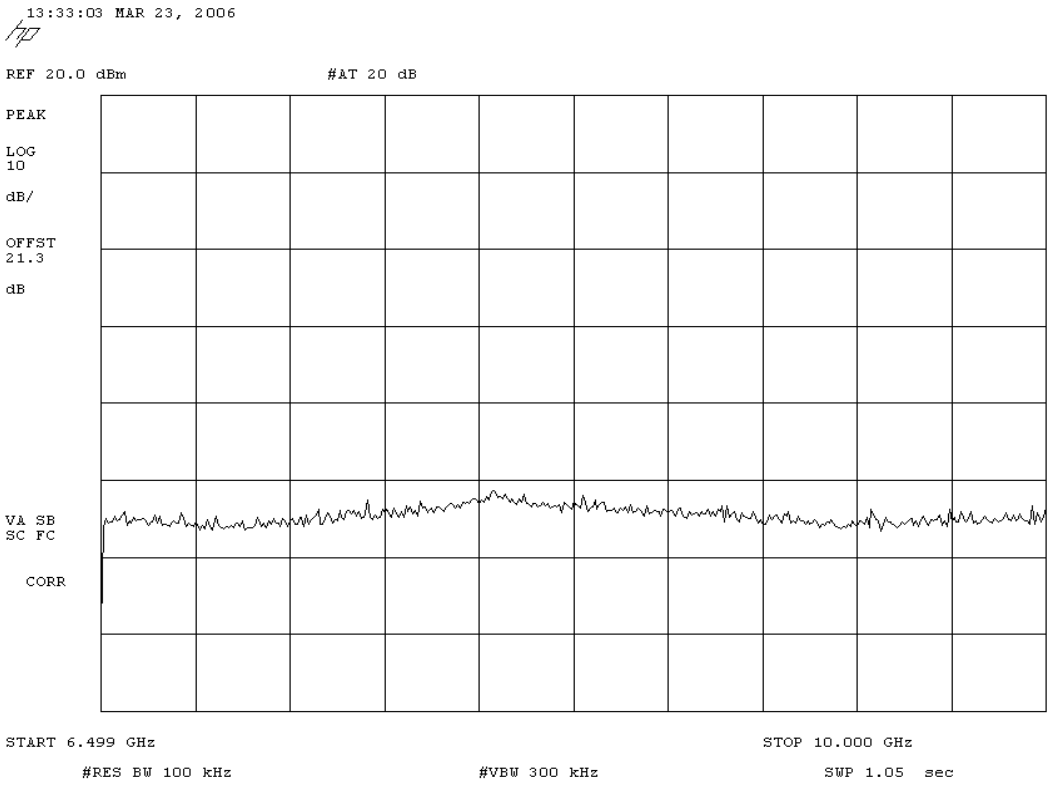
Pass

SIGNATURE

Tested By:

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - 7 Signal IM Test, 6.5GHz-10GHz



NORTHWEST
EMC SPURIOUS CONDUCTED EMISSIONS

Rev BETA
01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at highest output power level (approx. 5 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

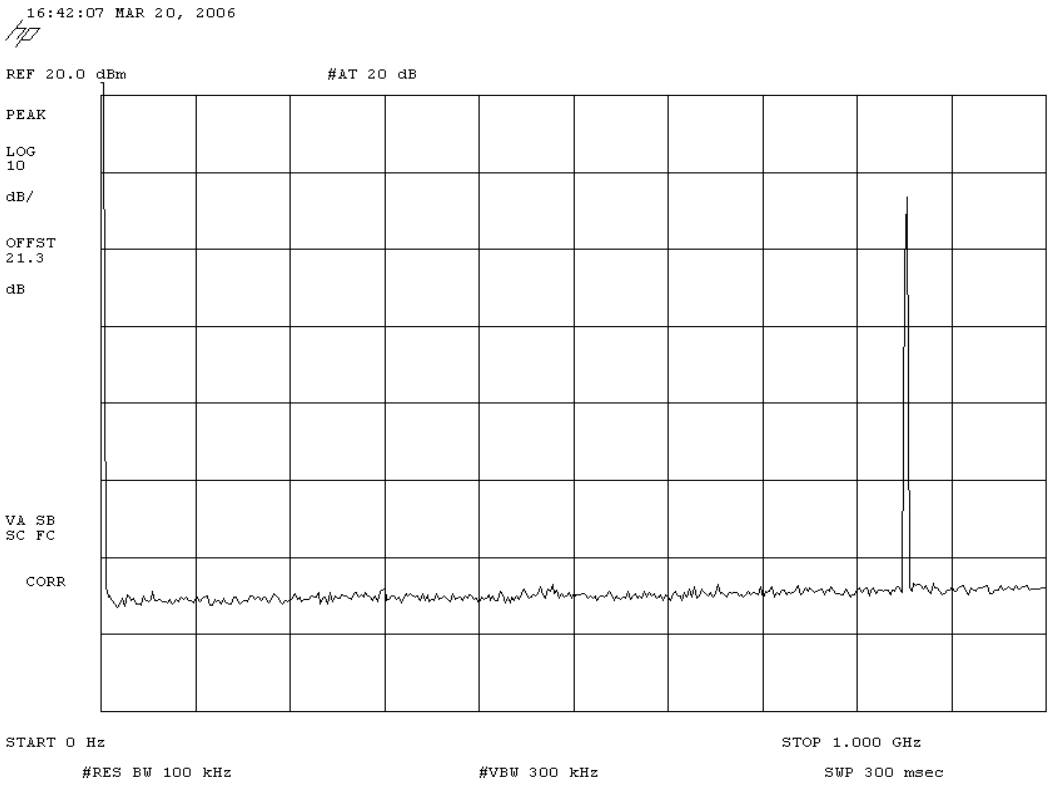
Pass

SIGNATURE

Tested By: Rodney L. Peloquin

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Low Channel 0MHz-1GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at highest output power level (approx. 5 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

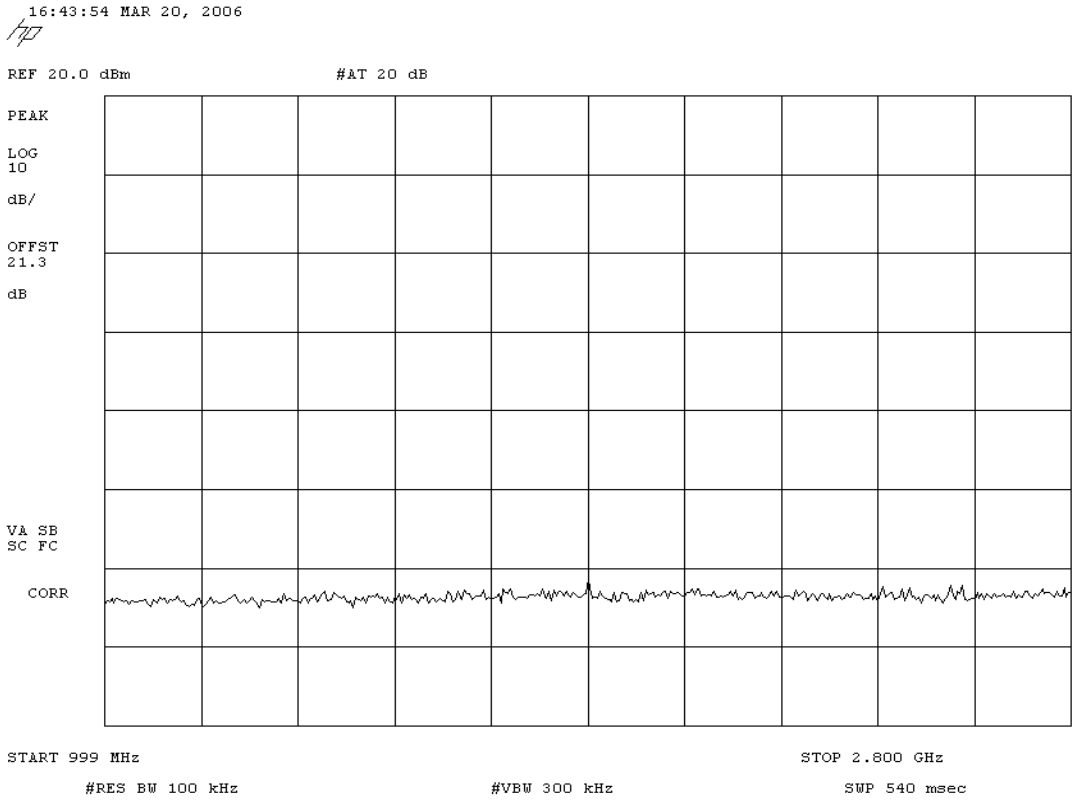
Pass

SIGNATURE

Tested By:

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Low Channel 1GHz-2.8GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at highest output power level (approx. 5 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

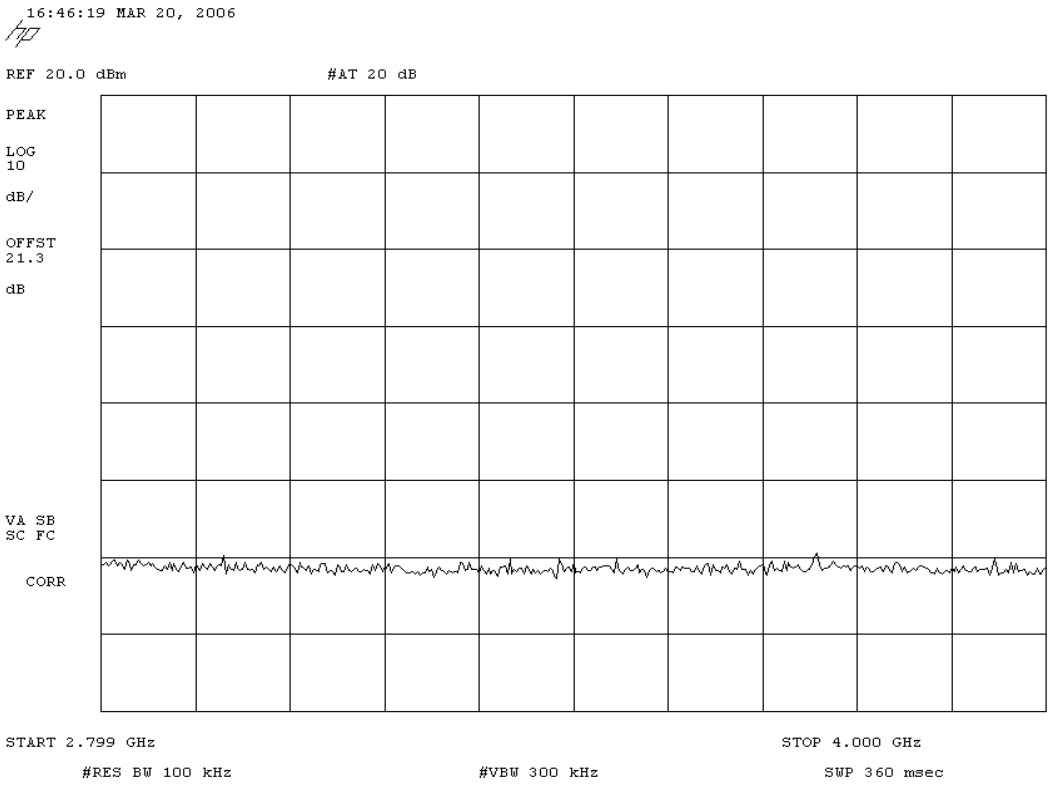
Pass

SIGNATURE

Tested By: Rodney L. Peloquin

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Low Channel 2.8GHz-4GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at highest output power level (approx. 5 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

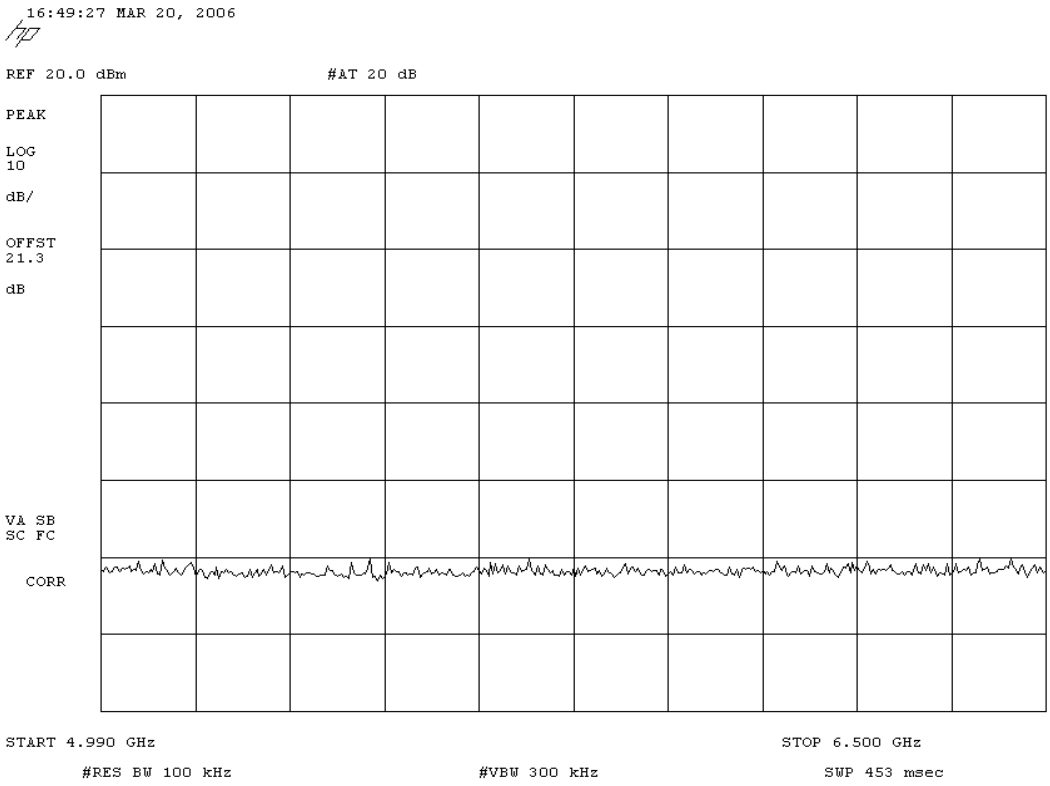
Pass

SIGNATURE

Tested By: Rodney L. Peloquin

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Low Channel 4GHz-6.5GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at highest output power level (approx. 5 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

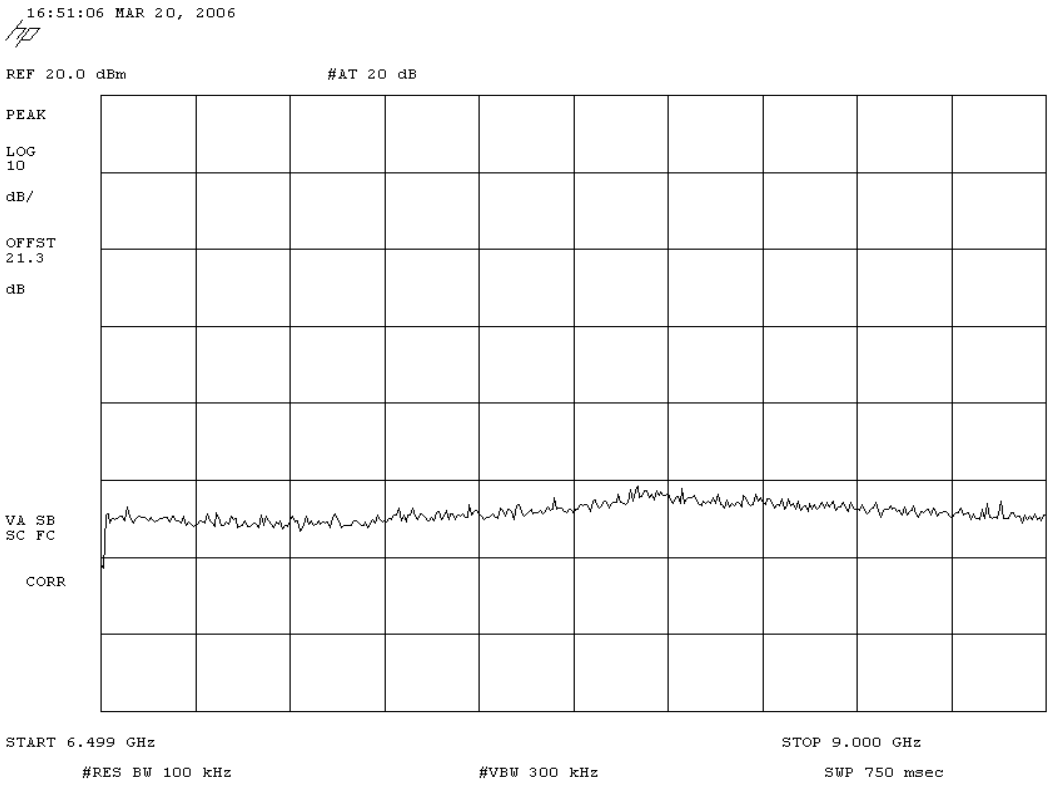
Pass

SIGNATURE

Tested By:

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Low Channel 6.5GHz - 9GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at highest output power level (approx. 7.8 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

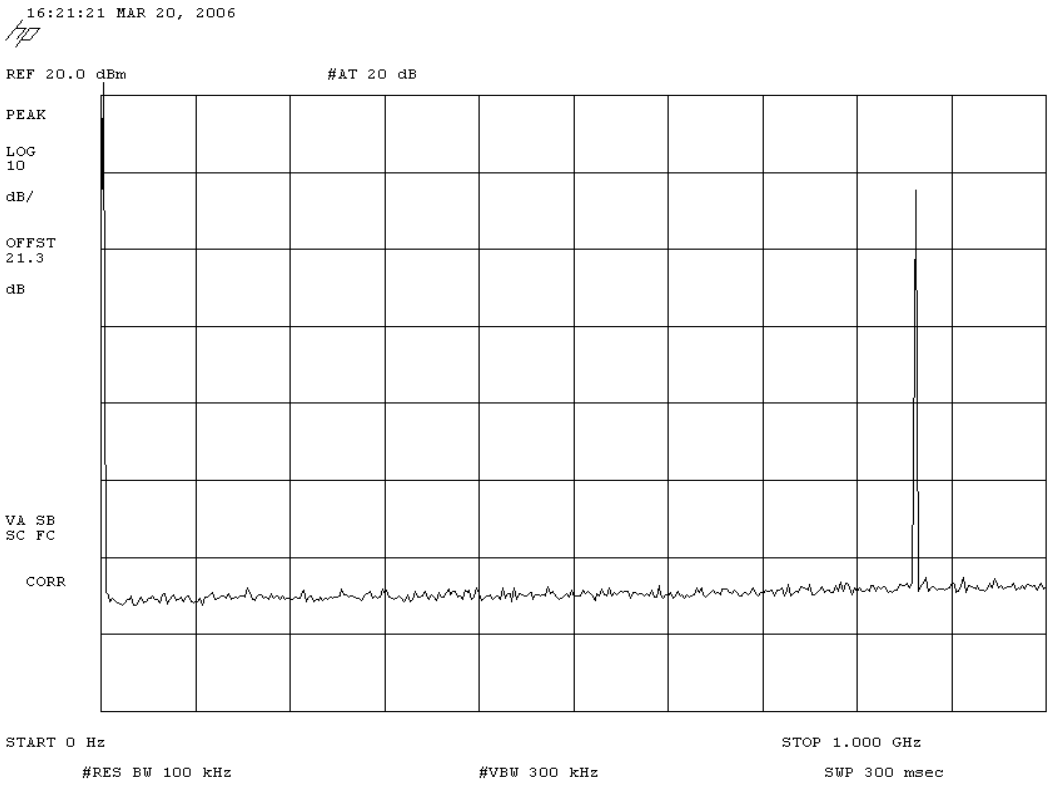
Pass

SIGNATURE

Tested By: Rodney La Peloquin

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Mid Channel 0MHz-1GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at highest output power level (approx. 7.8 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

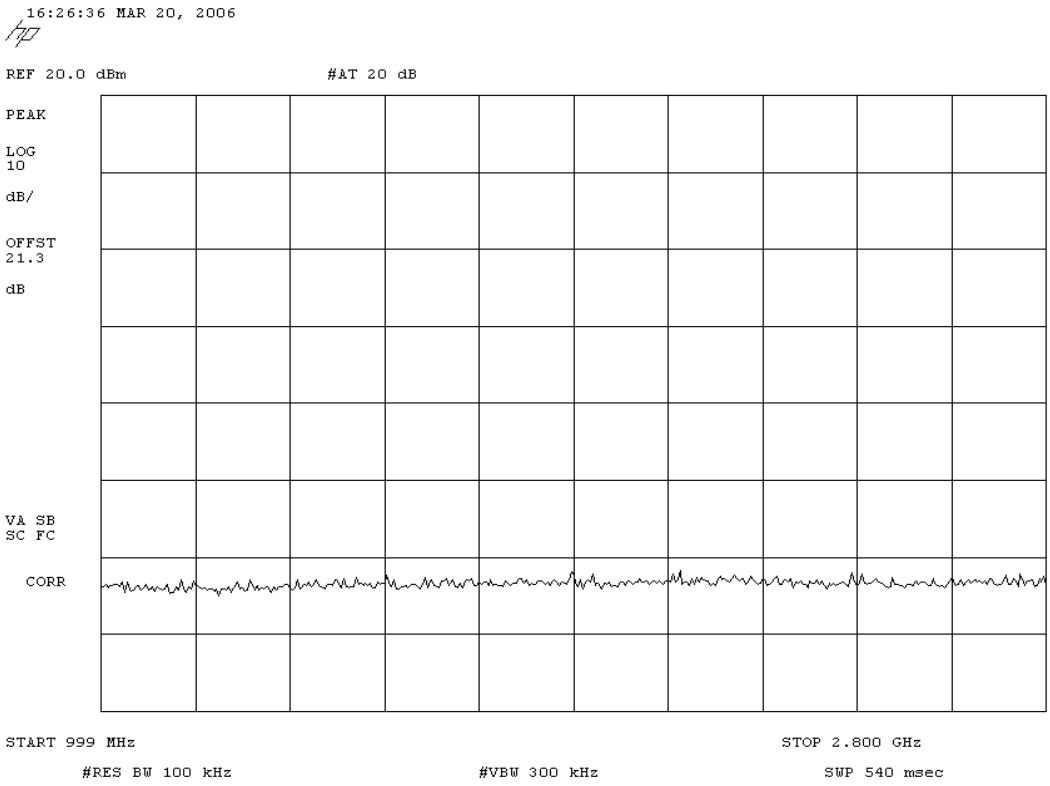
Pass

SIGNATURE

Tested By:

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Mid Channel 1GHz-2.8GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at highest output power level (approx. 7.8 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

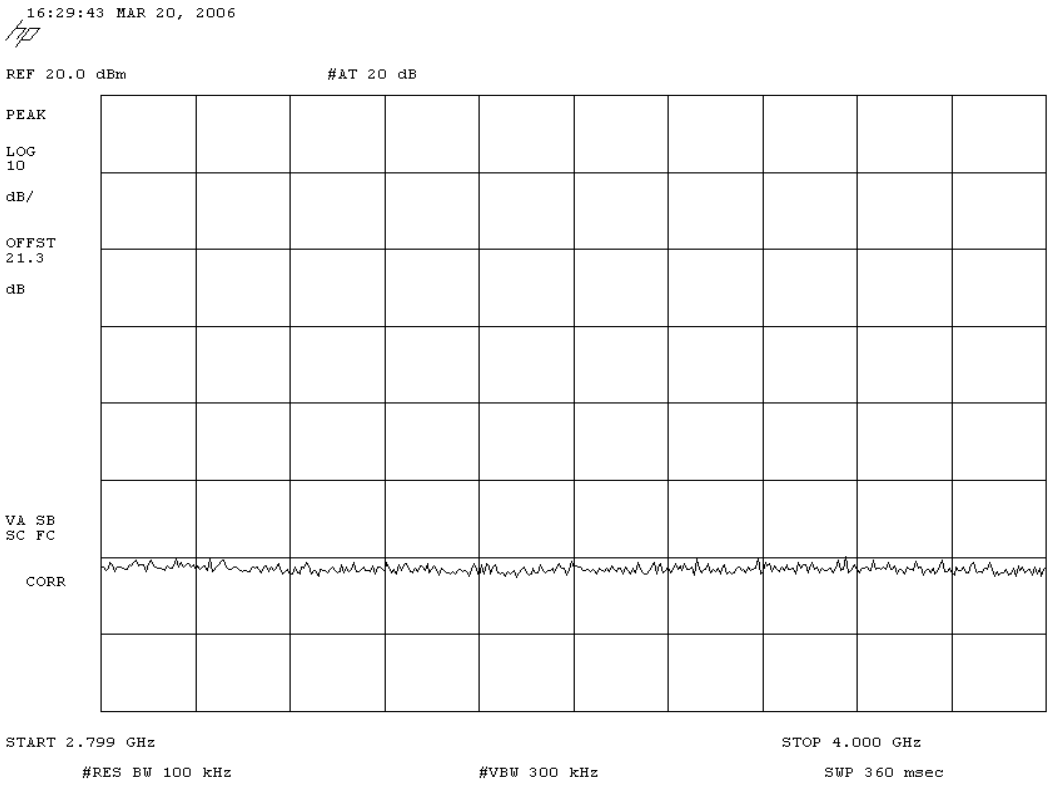
Pass

SIGNATURE

Tested By: Rodney L. Peloquin

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Mid Channel 2.8GHz-4GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at highest output power level (approx. 7.8 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

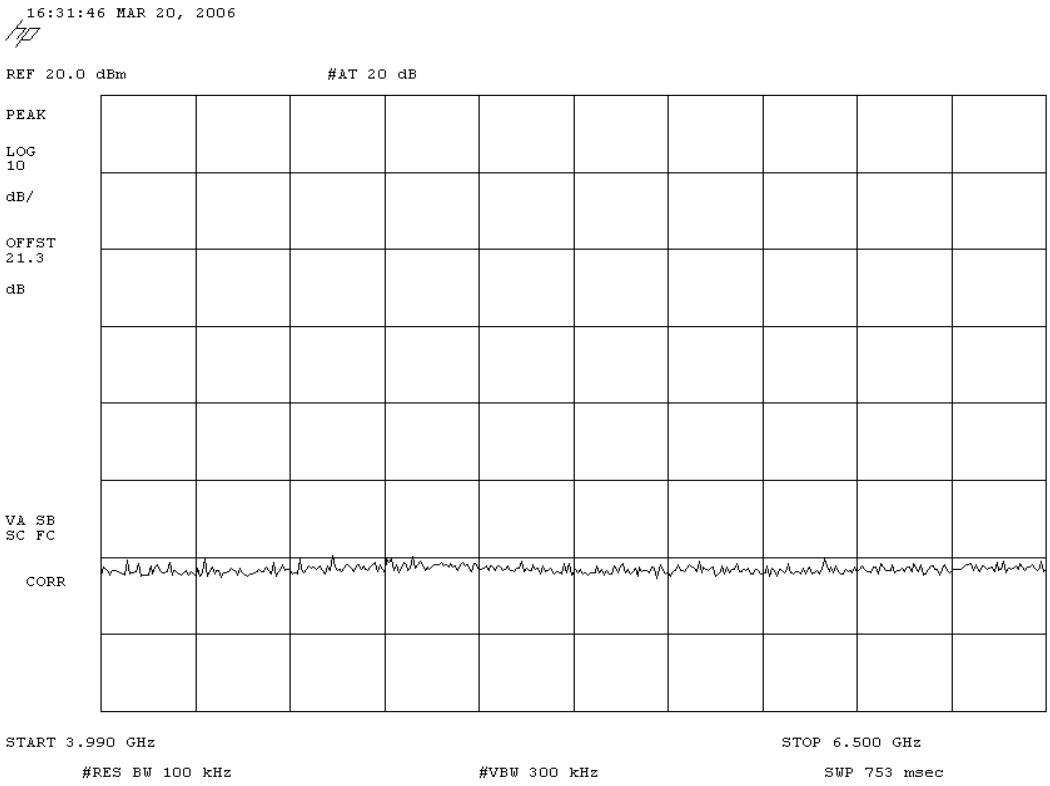
Pass

SIGNATURE

Tested By: Rodney L. Peloquin

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Mid Channel 4GHz - 6.5GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at highest output power level (approx. 7.8 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

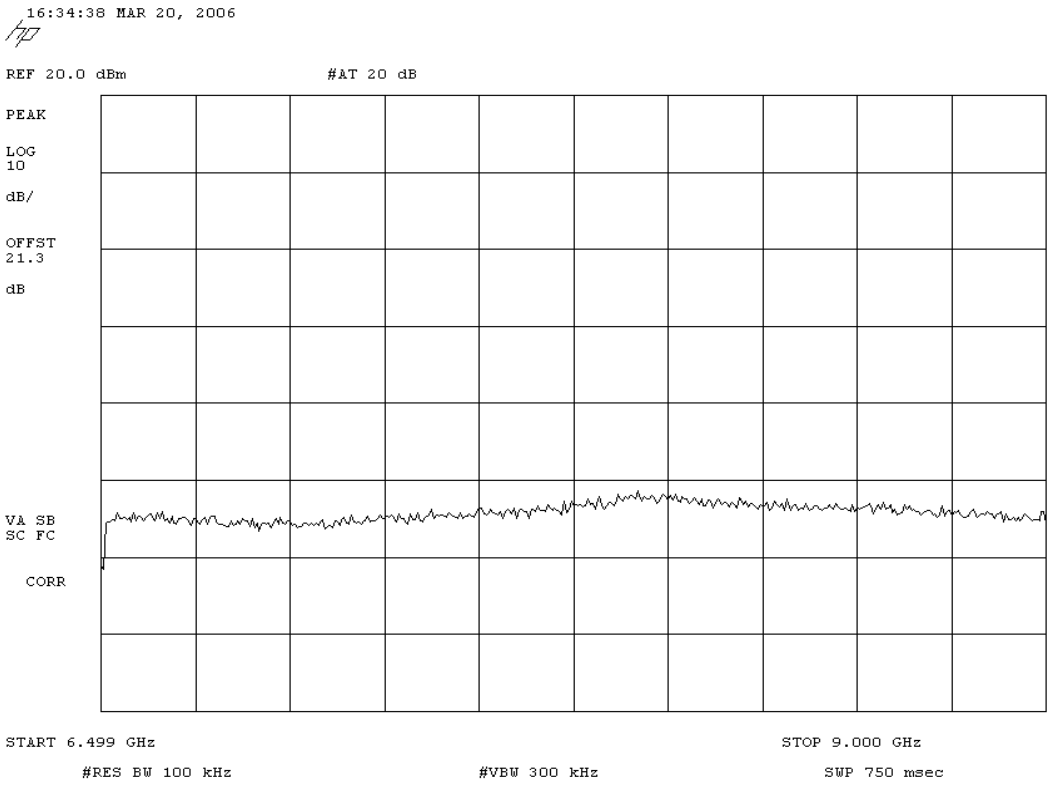
Pass

SIGNATURE

Tested By:

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Mid Channel 6.5GHz-9GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year:	2005	Method:	TIA / EIA - 603	Year:	2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at highest output power level (approx. 6.7 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

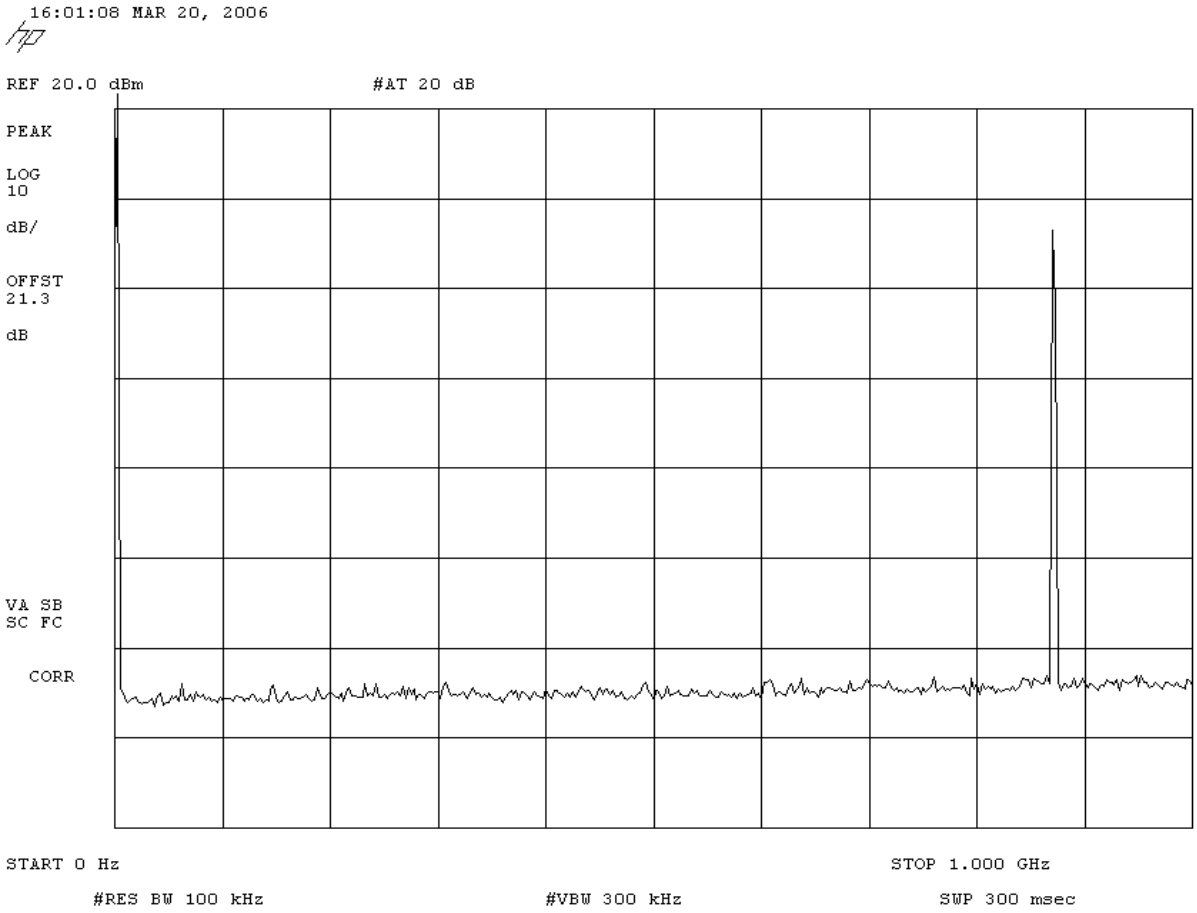
Pass

SIGNATURE

Tested By: Rodney Lee Peloquin

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - High Channel 0MHz-1GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at highest output power level (approx. 6.7 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

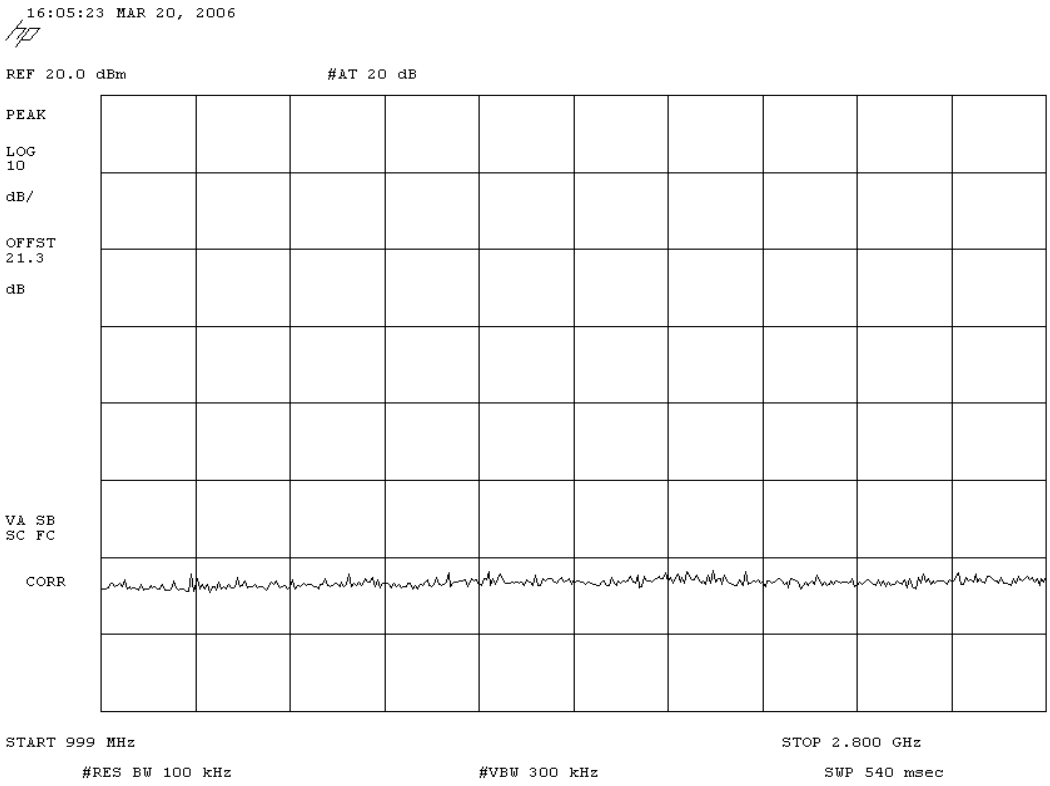
Pass

SIGNATURE

Tested By: Rodney La Peloquin

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - High Channel 1GHz-2.8GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at highest output power level (approx. 6.7 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

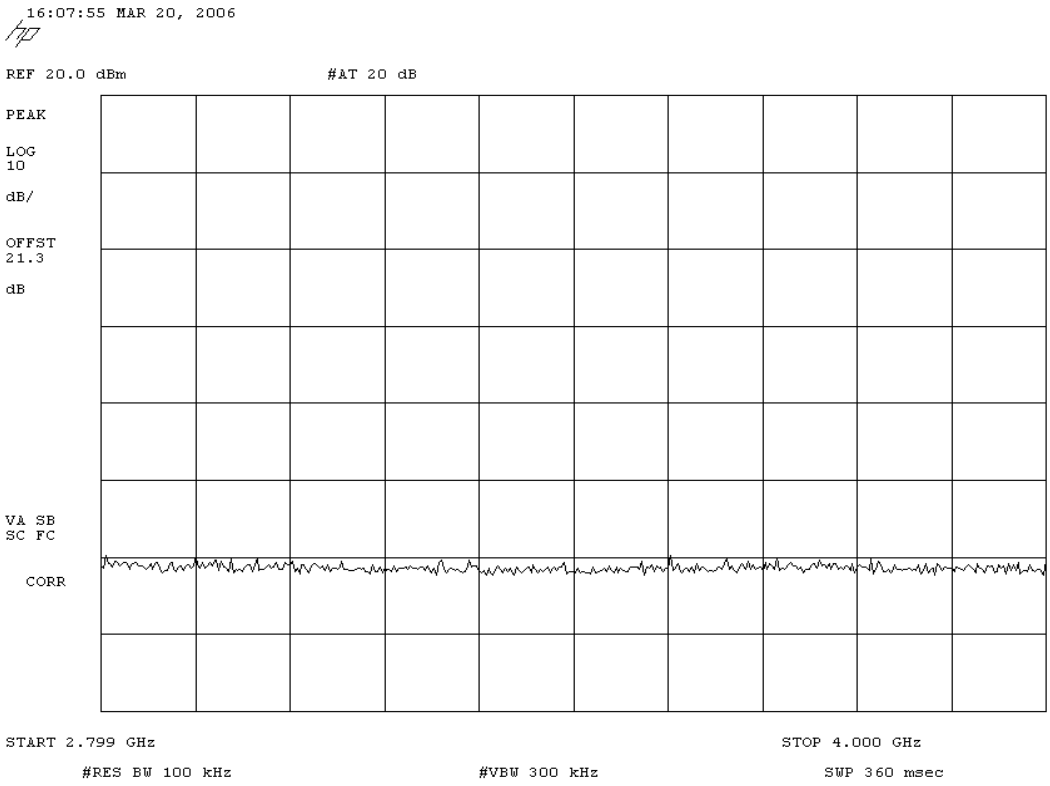
Pass

SIGNATURE

Tested By: Rodney L. Peloquin

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - High Channel 2.8GHz-4GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at highest output power level (approx. 6.7 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

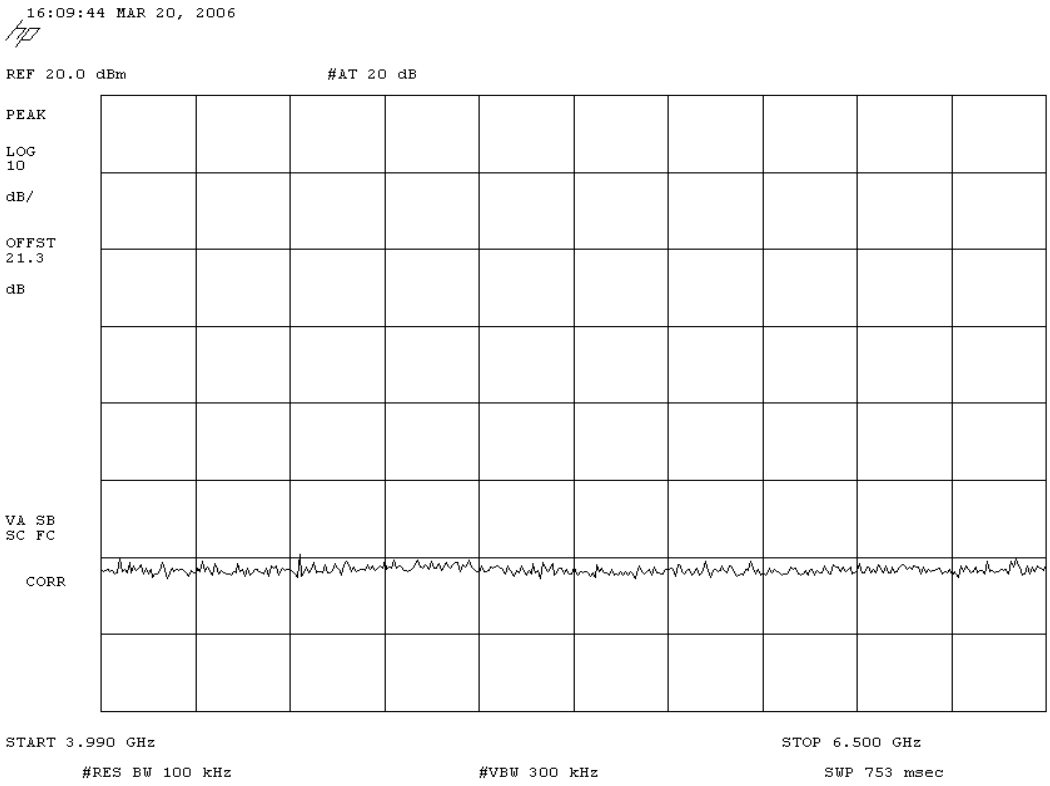
Pass

SIGNATURE

Tested By: Rodney L. Peloquin

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - High Channel 4GHz-6.5GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at highest output power level (approx. 6.7 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

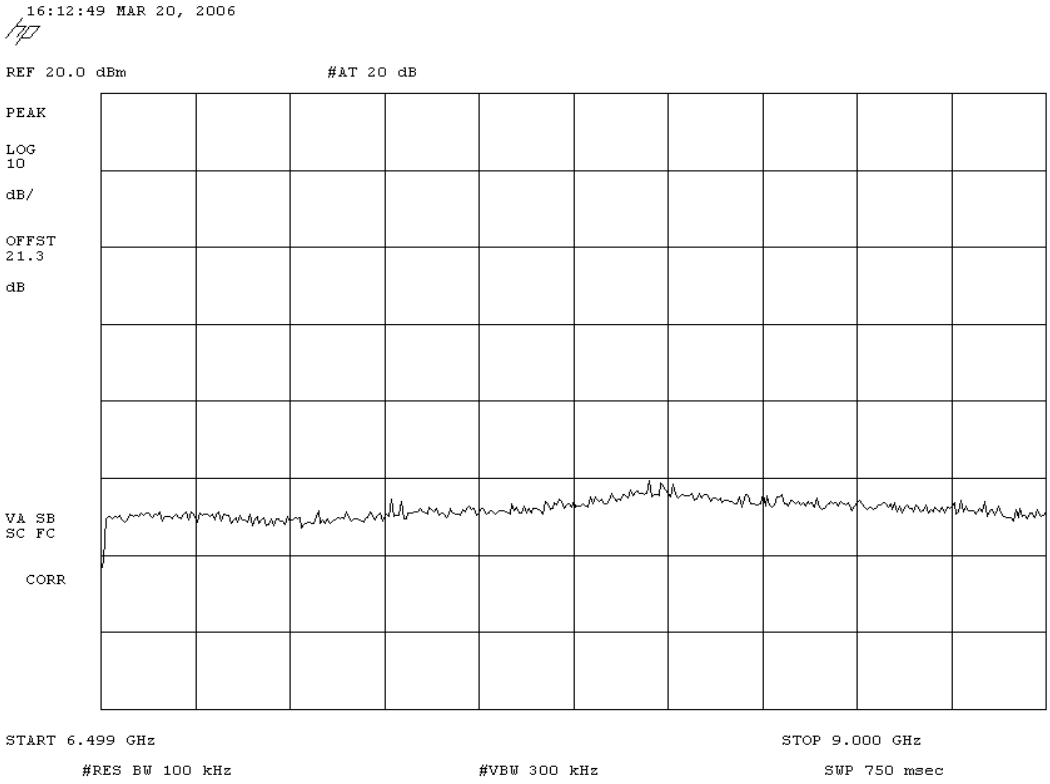
Pass

SIGNATURE

Tested By:

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - High Channel 6.5GHz-9GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at highest output power level (approx. 12 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

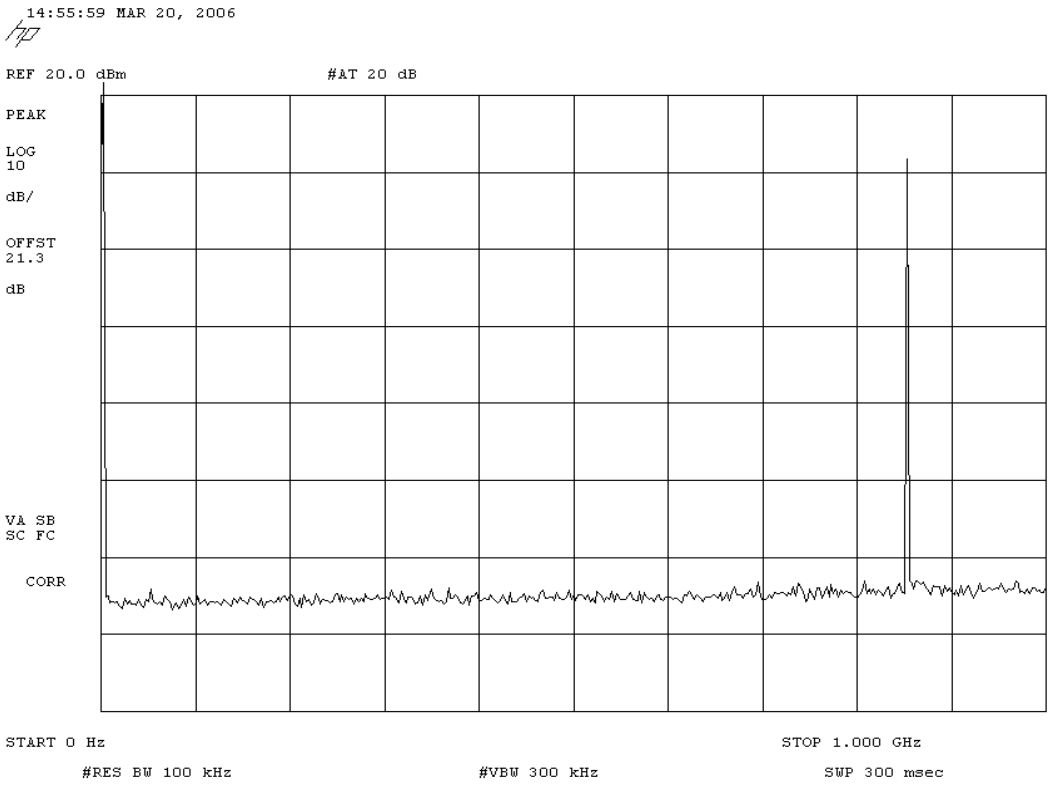
Pass

SIGNATURE

Tested By: Rodney L. Peloquin

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Low Channel 0MHz-1GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at highest output power level (approx. 12 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

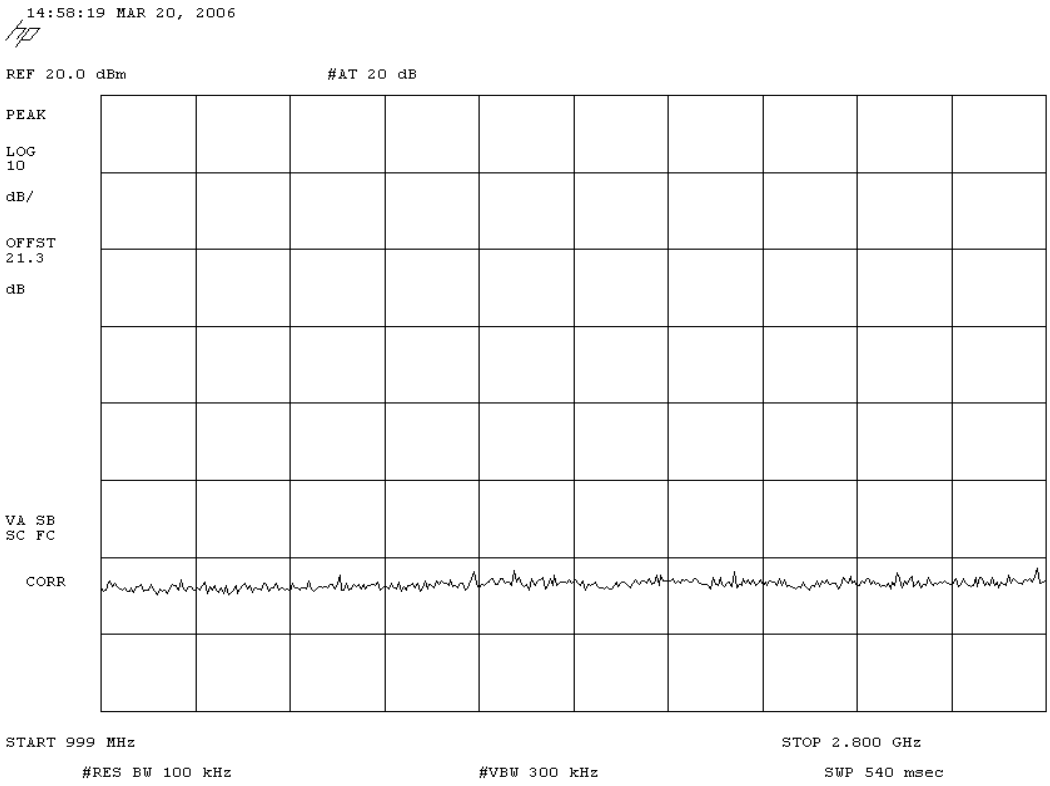
Pass

SIGNATURE

Tested By:

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Low Channel 1GHz-2.8GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at highest output power level (approx. 12 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

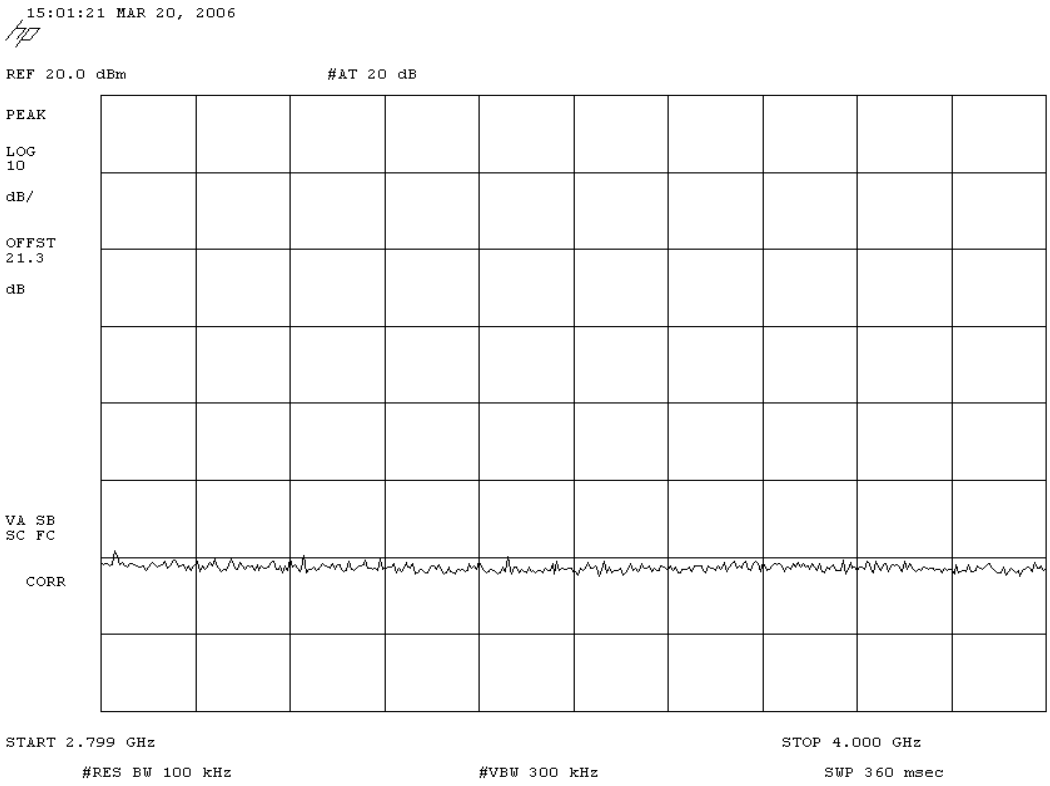
Pass

SIGNATURE

Tested By: Rodney L. Peloquin

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Low Channel 2.8GHz-4GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at highest output power level (approx. 12 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

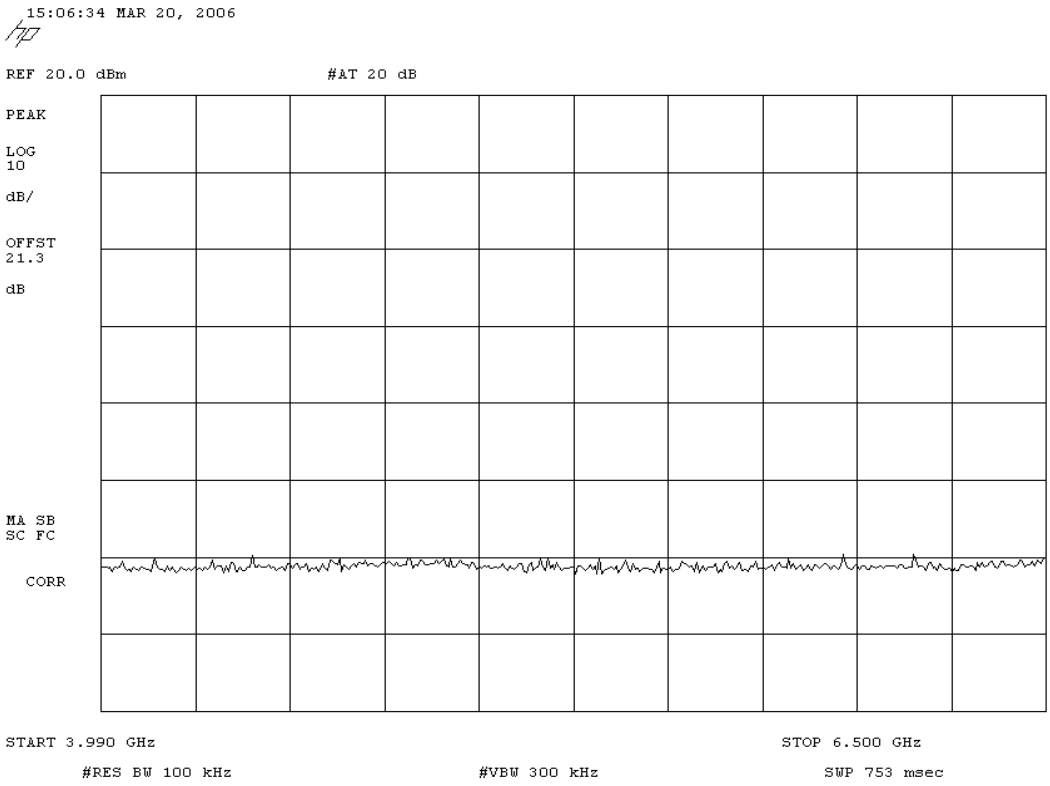
Pass

SIGNATURE

Tested By: Rodney L. Peloquin

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Low Channel 4GHz-6.5GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at highest output power level (approx. 12 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

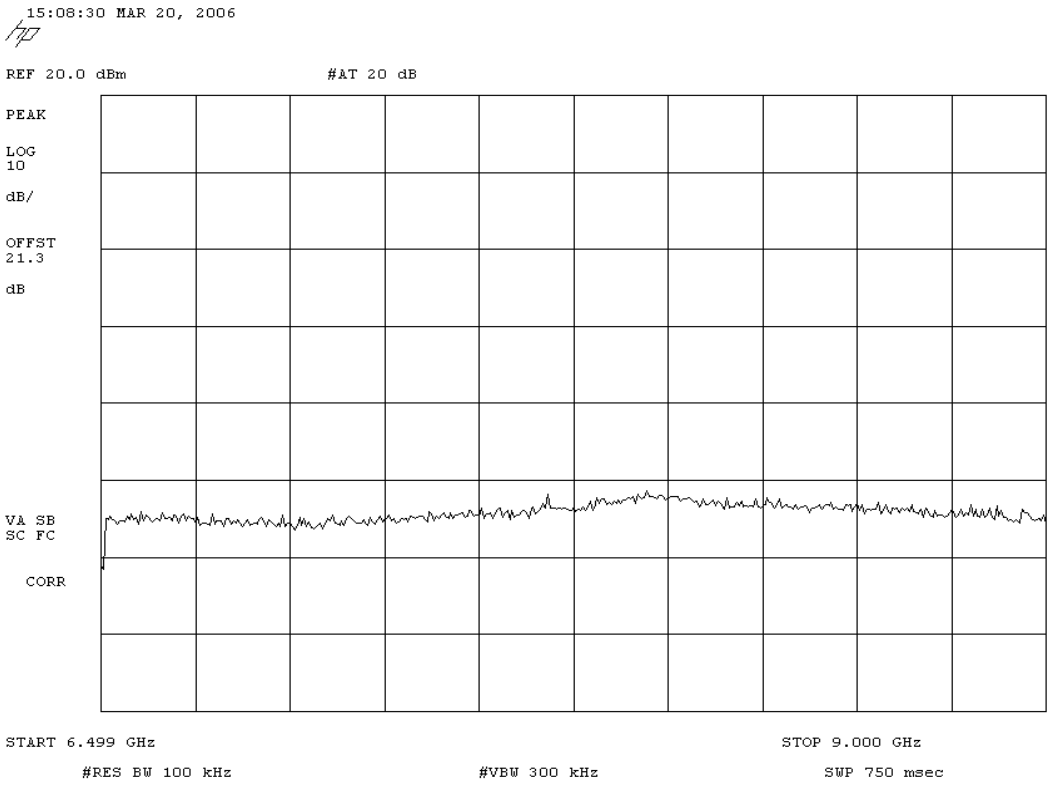
Pass

SIGNATURE

Tested By:

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Low Channel 6.5GHz - 9GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at highest output power level (approx. 12 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

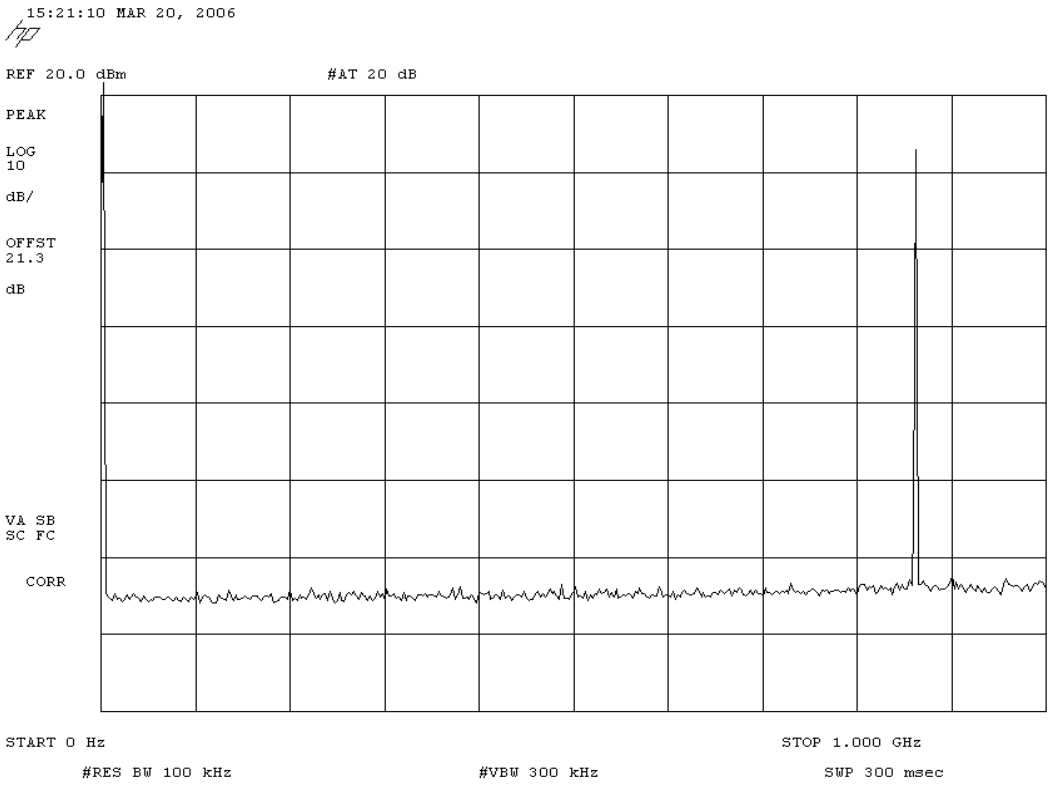
Pass

SIGNATURE

Tested By:

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Mid Channel 0MHz-1GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at highest output power level (approx. 12 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

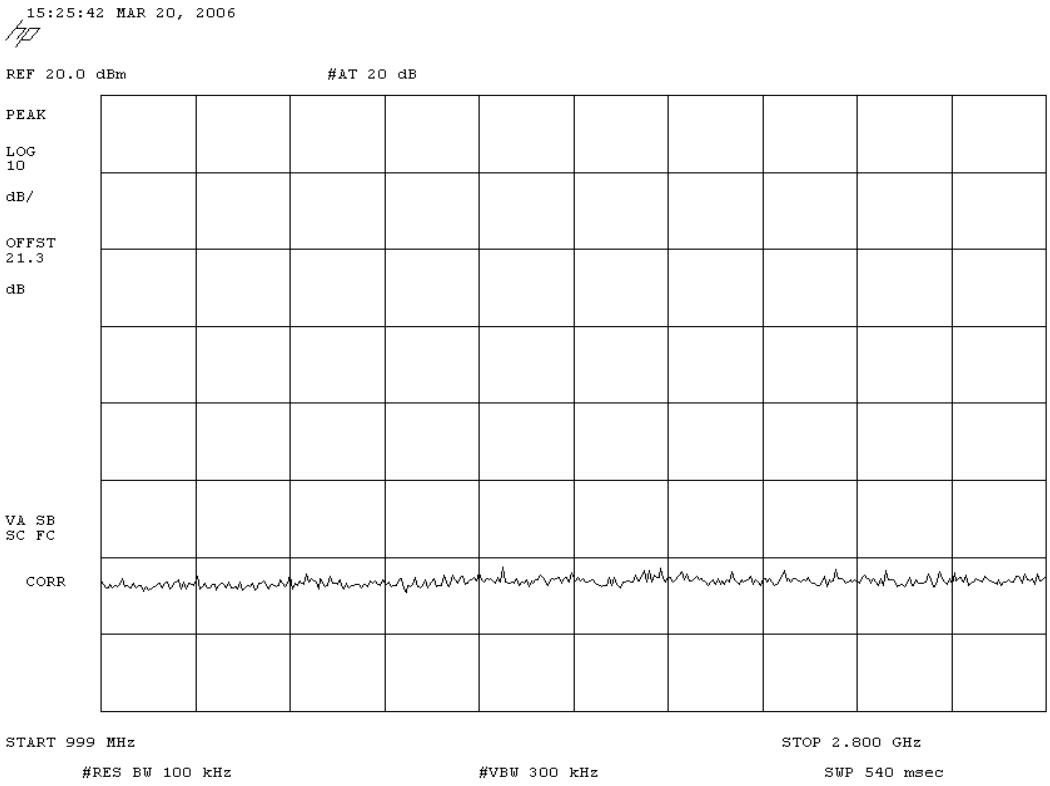
Pass

SIGNATURE

Tested By:

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Mid Channel 1GHz-2.8GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at highest output power level (approx. 12 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

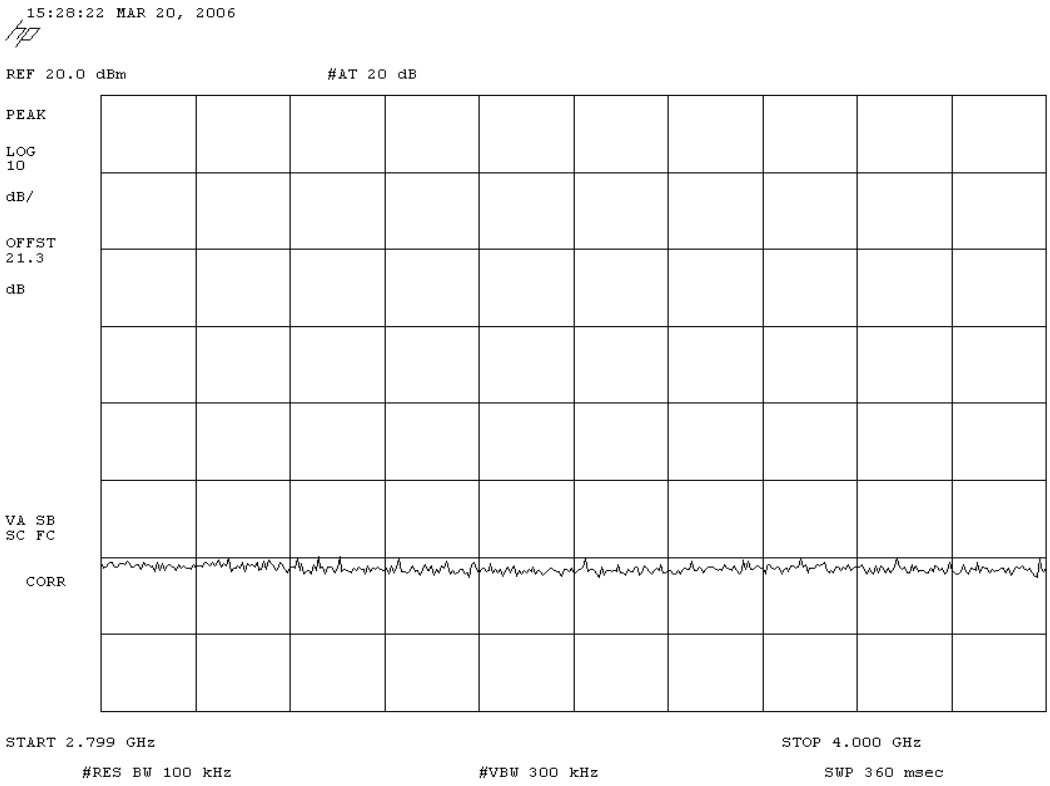
Pass

SIGNATURE

Tested By: Rodney L. Peloquin

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Mid Channel 2.8GHz-4GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at highest output power level (approx. 12 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

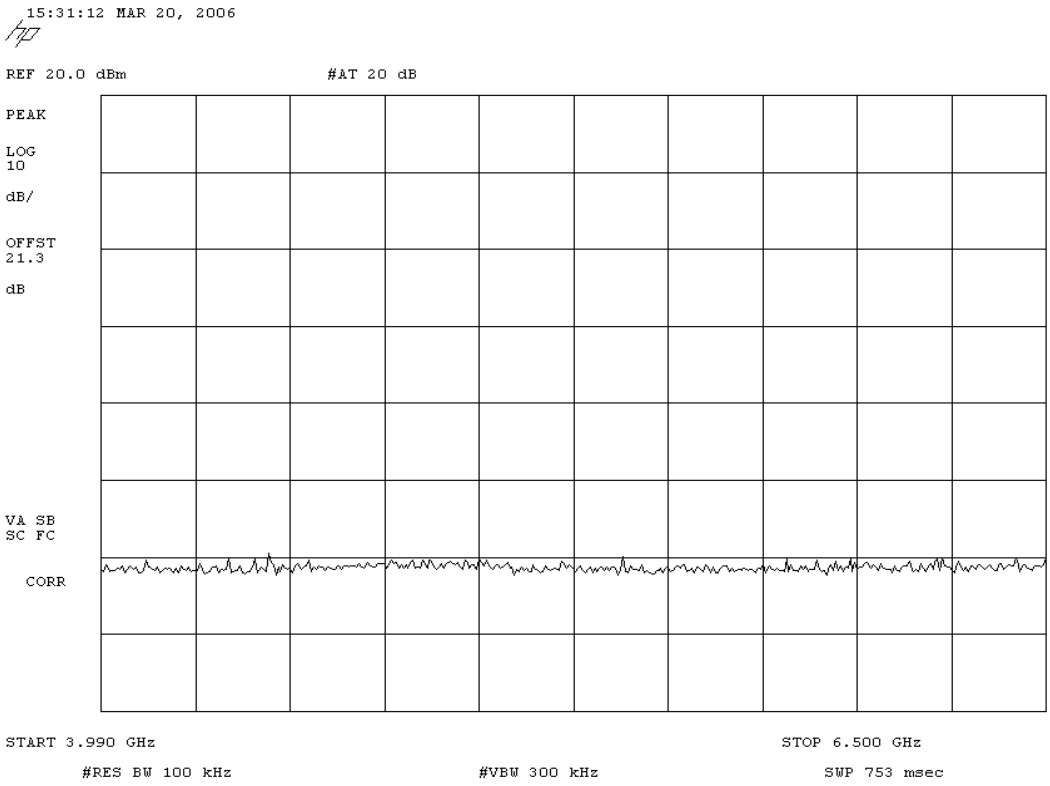
Pass

SIGNATURE

Tested By:

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Mid Channel 4GHz - 6.5GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at highest output power level (approx. 12 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

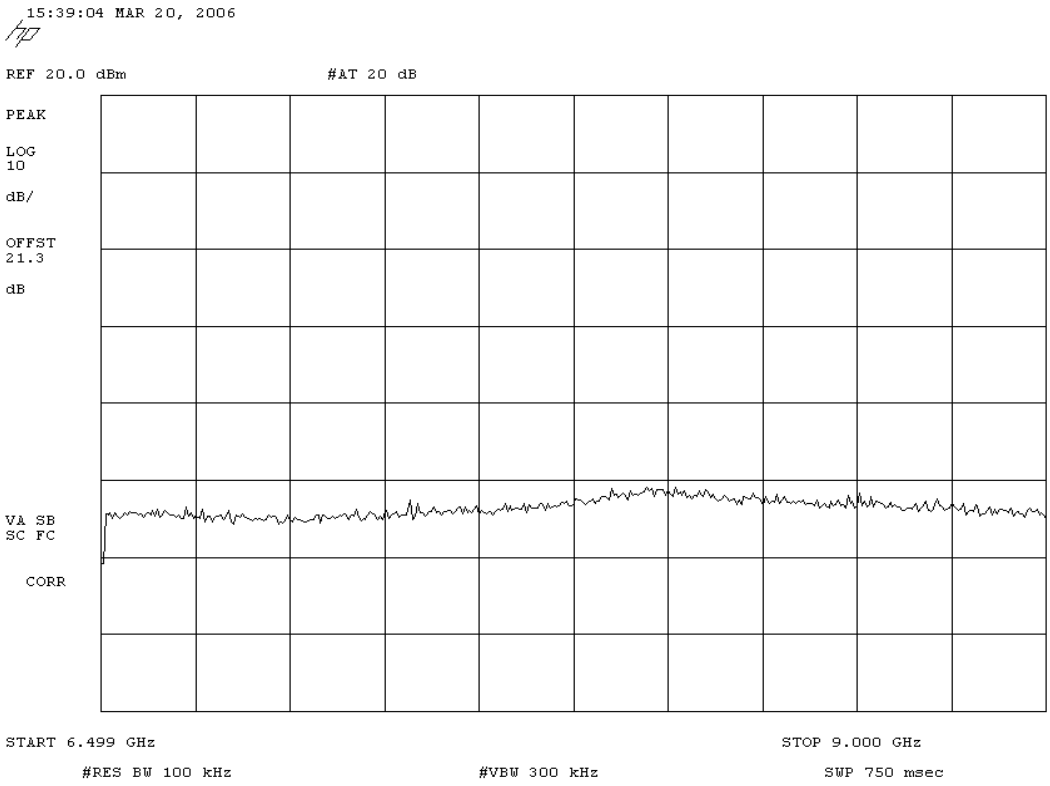
Pass

SIGNATURE

Tested By:

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - Mid Channel 6.5GHz-9GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year:	2005	Method:	TIA / EIA - 603	Year:	2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at highest output power level (approx. 12 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

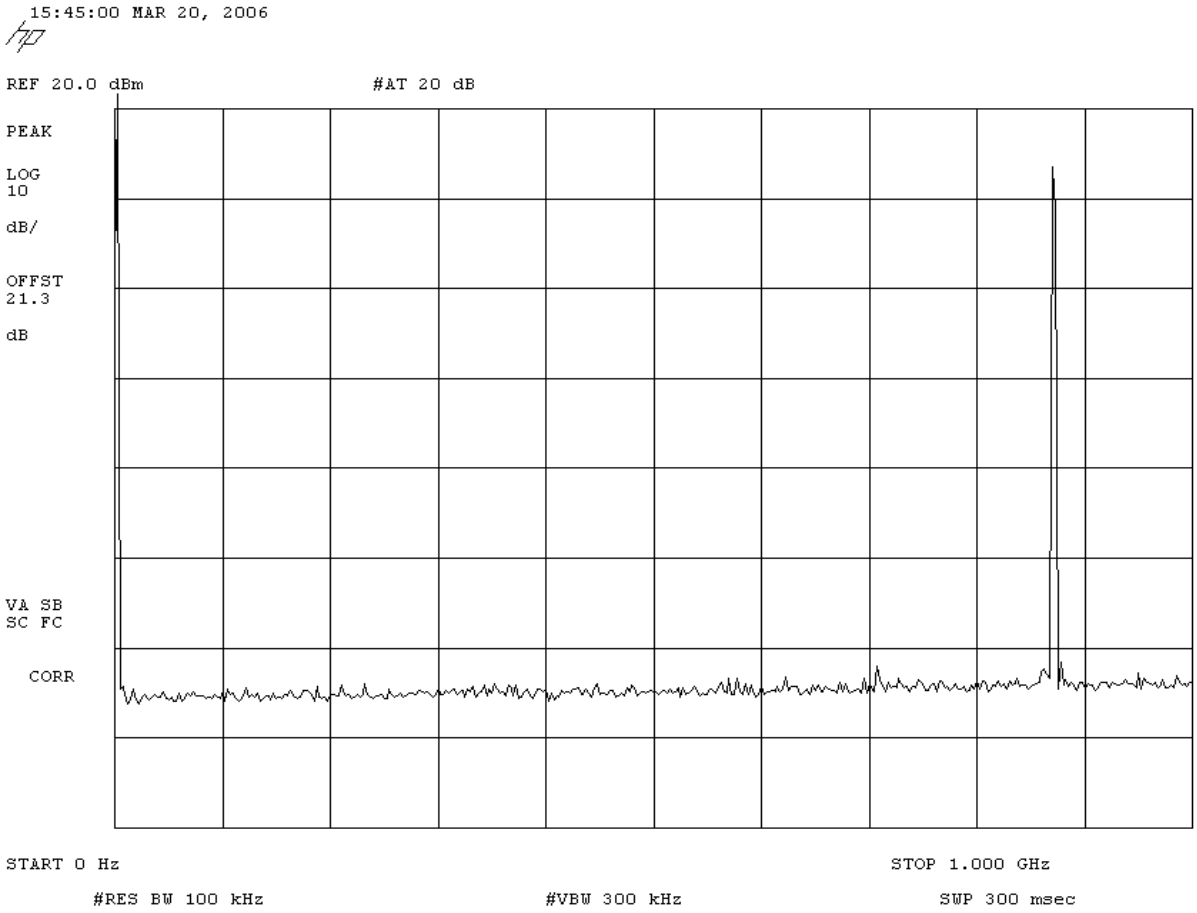
Pass

SIGNATURE

Tested By: _____

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - High Channel 0MHz-1GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at highest output power level (approx. 12 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

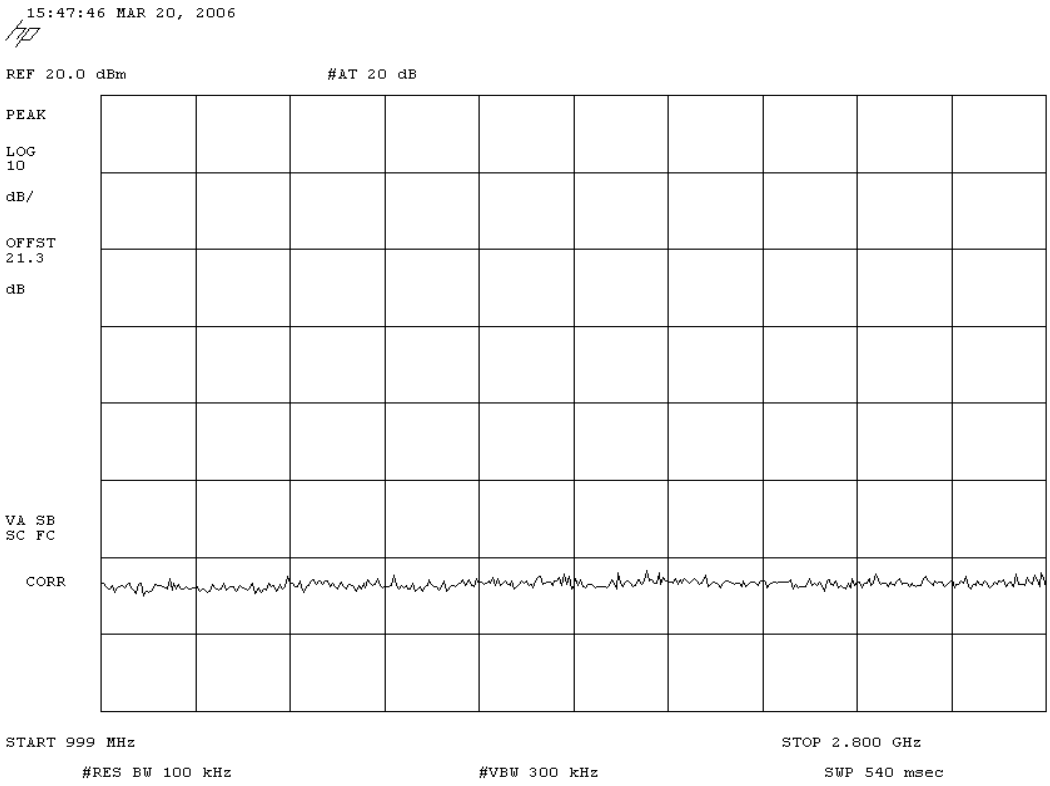
Pass

SIGNATURE

Tested By: Rodney L. Peloquin

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - High Channel 1GHz-2.8GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at highest output power level (approx. 12 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

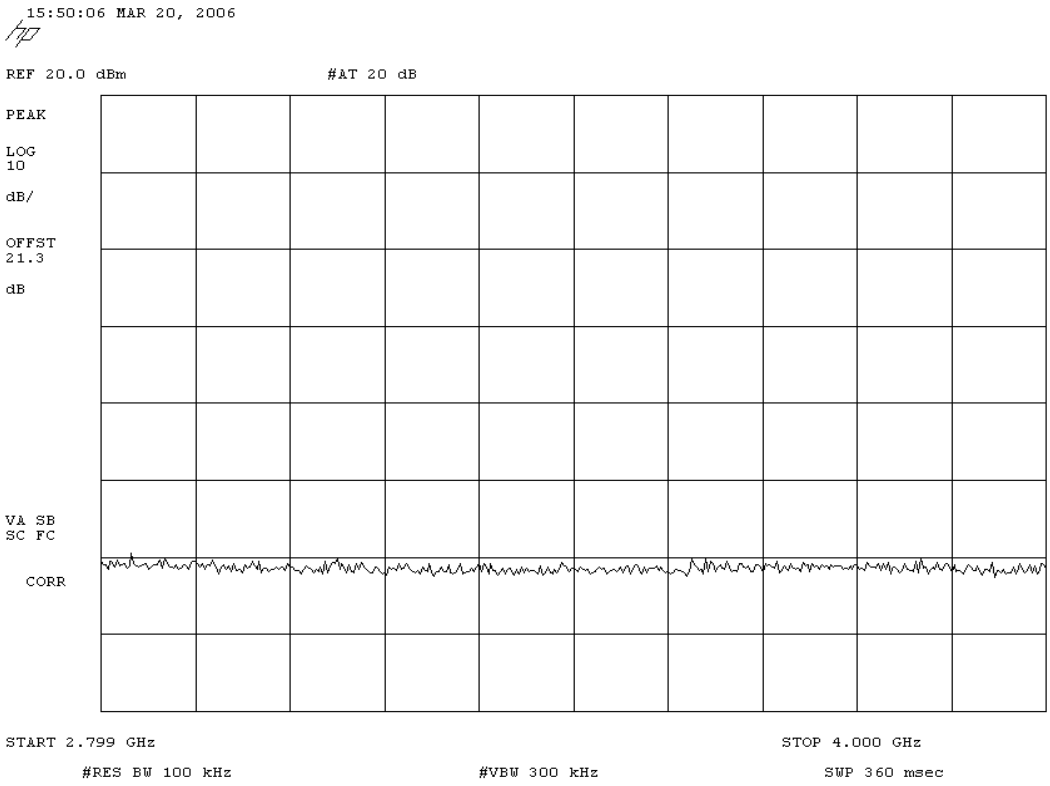
Pass

SIGNATURE

Tested By: Rodney L. Peloquin

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - High Channel 2.8GHz-4GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at highest output power level (approx. 12 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

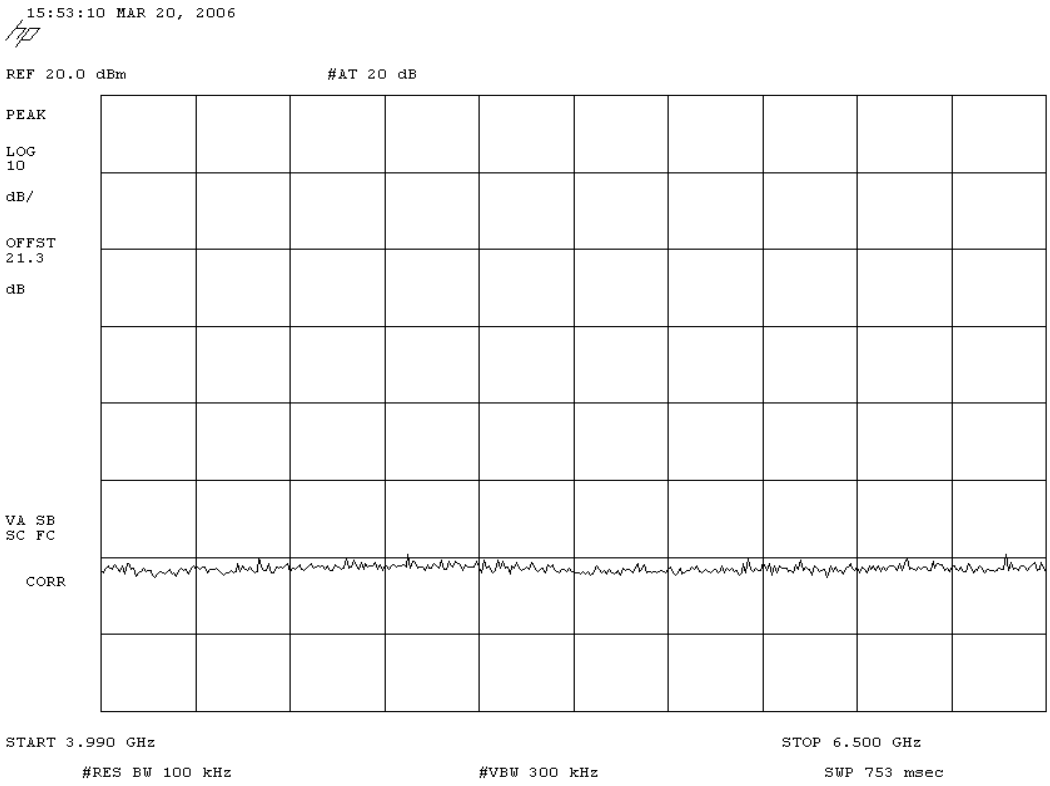
Pass

SIGNATURE

Tested By: Rodney L. Peloquin

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - High Channel 4GHz-6.5GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/20/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

With modulation at highest output power level (approx. 12 dBm)

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

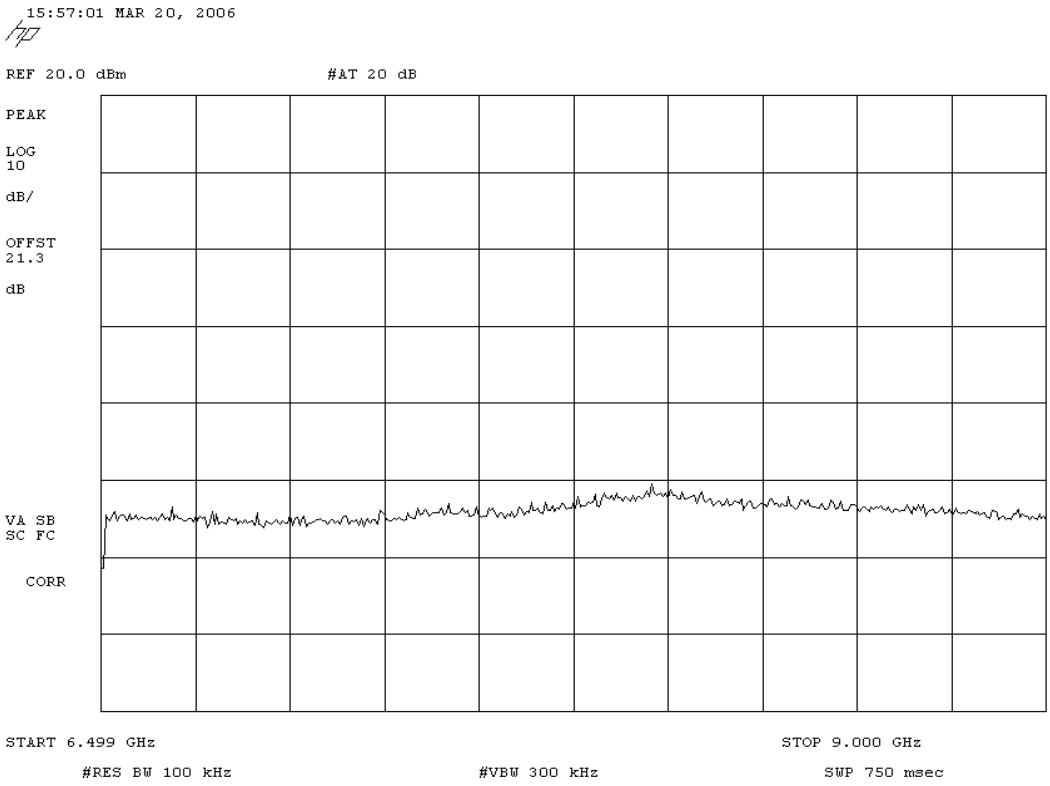
Pass

SIGNATURE

Tested By: Rodney L. Peloquin

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - High Channel 6.5GHz-9GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/23/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year:	2005	Method:	TIA / EIA - 603	Year:	2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

7 channels transmitting with modulation at highest output power level

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

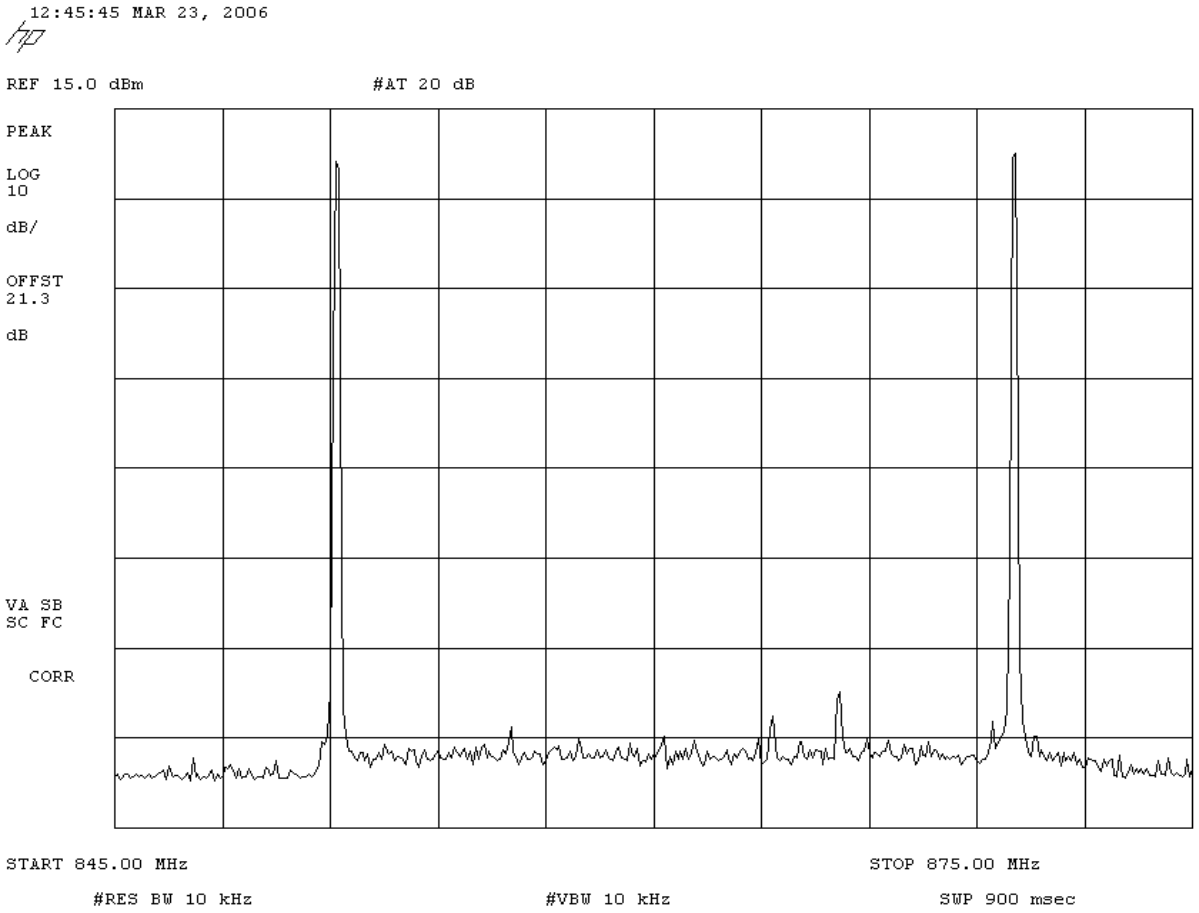
Pass

SIGNATURE

Tested By: Rodney La Peloquin

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - 7 Signal IM Test, In Band



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/23/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year:	2005	Method:	TIA / EIA - 603	Year:	2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

7 channels transmitting with modulation at highest output power level

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

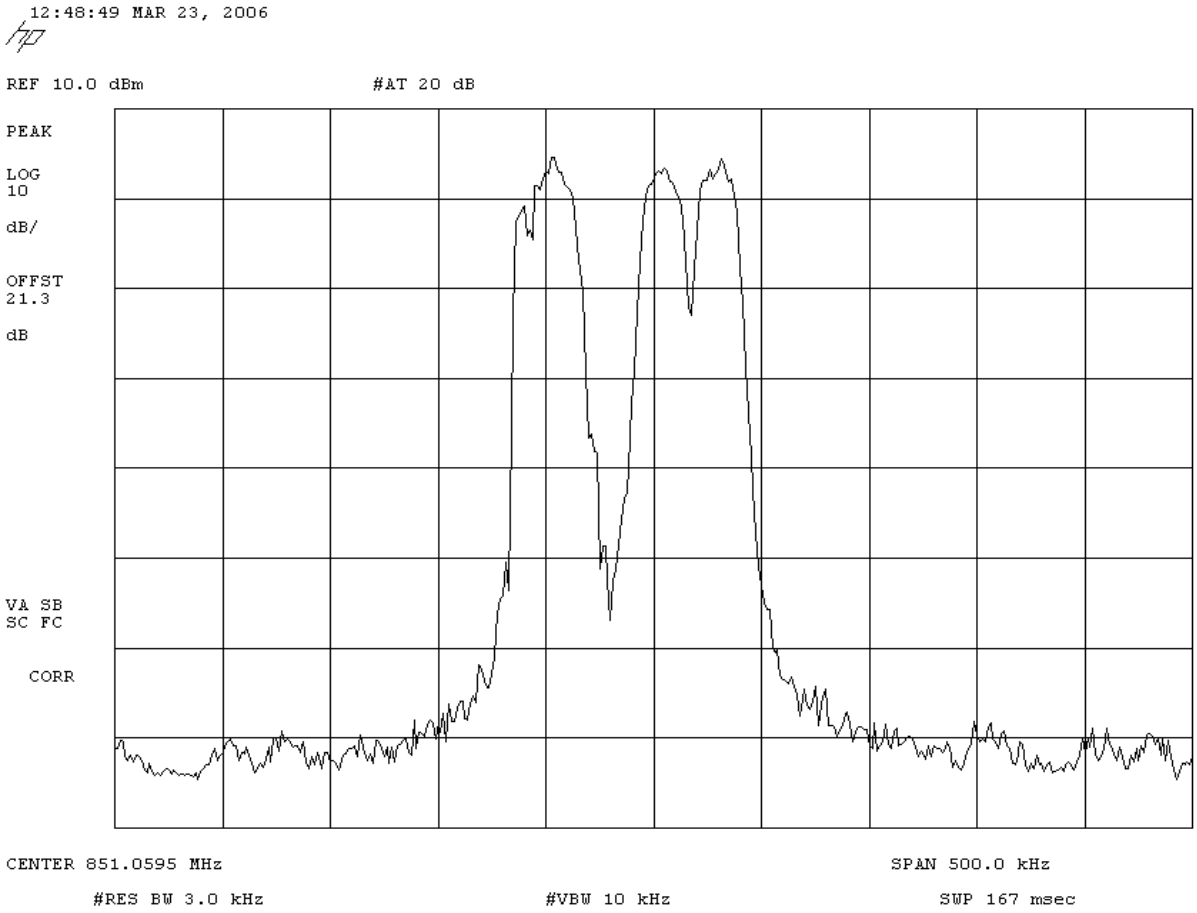
Pass

SIGNATURE

Tested By: Rodney Lee Peloquin

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - 7 Signal IM Test, In Band



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/23/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year:	2005	Method:	TIA / EIA - 603	Year:	2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

7 channels transmitting with modulation at highest output power level

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

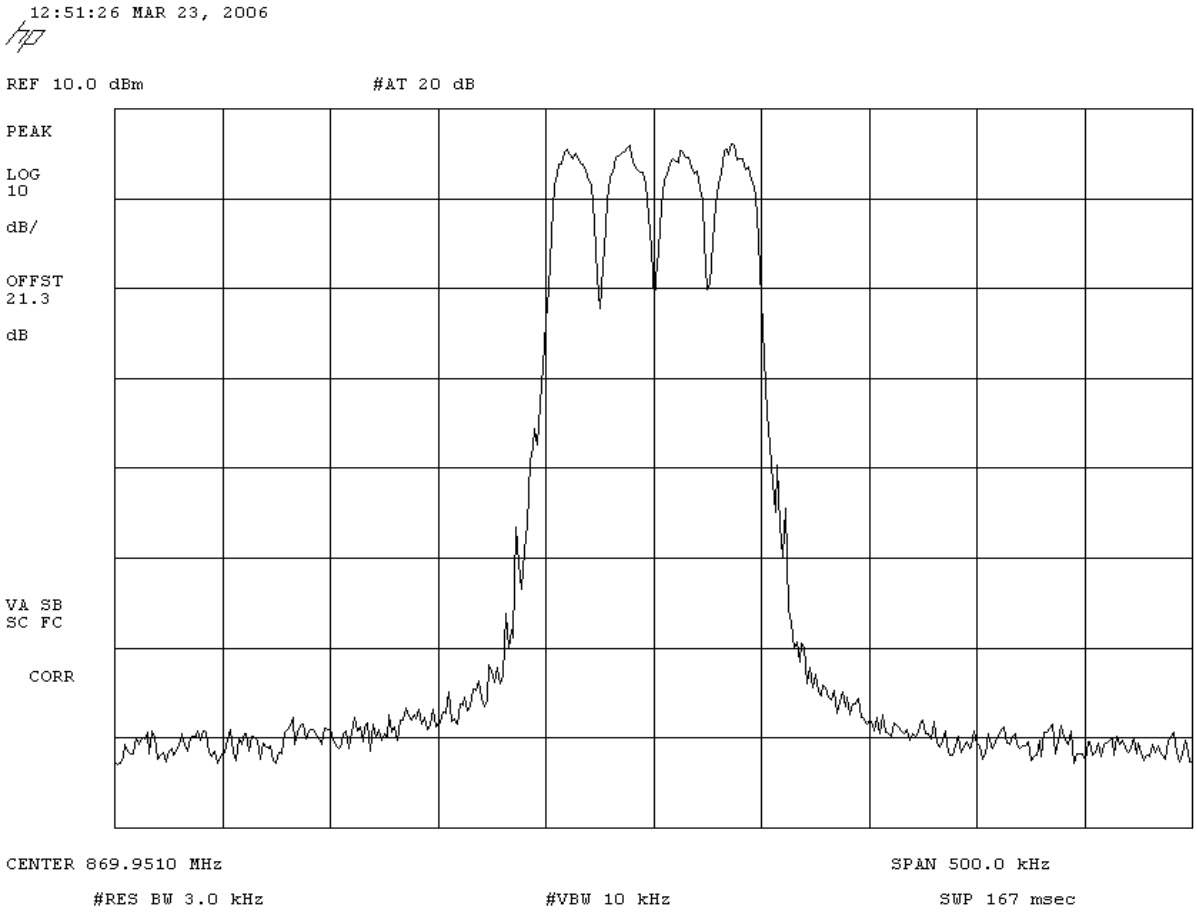
Pass

SIGNATURE

Tested By: Rodney Lee Peloquin

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - 6 Signal IM Test, In Band



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/23/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year:	2005	Method:	TIA / EIA - 603	Year:	2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

7 channels transmitting with modulation at highest output power level

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

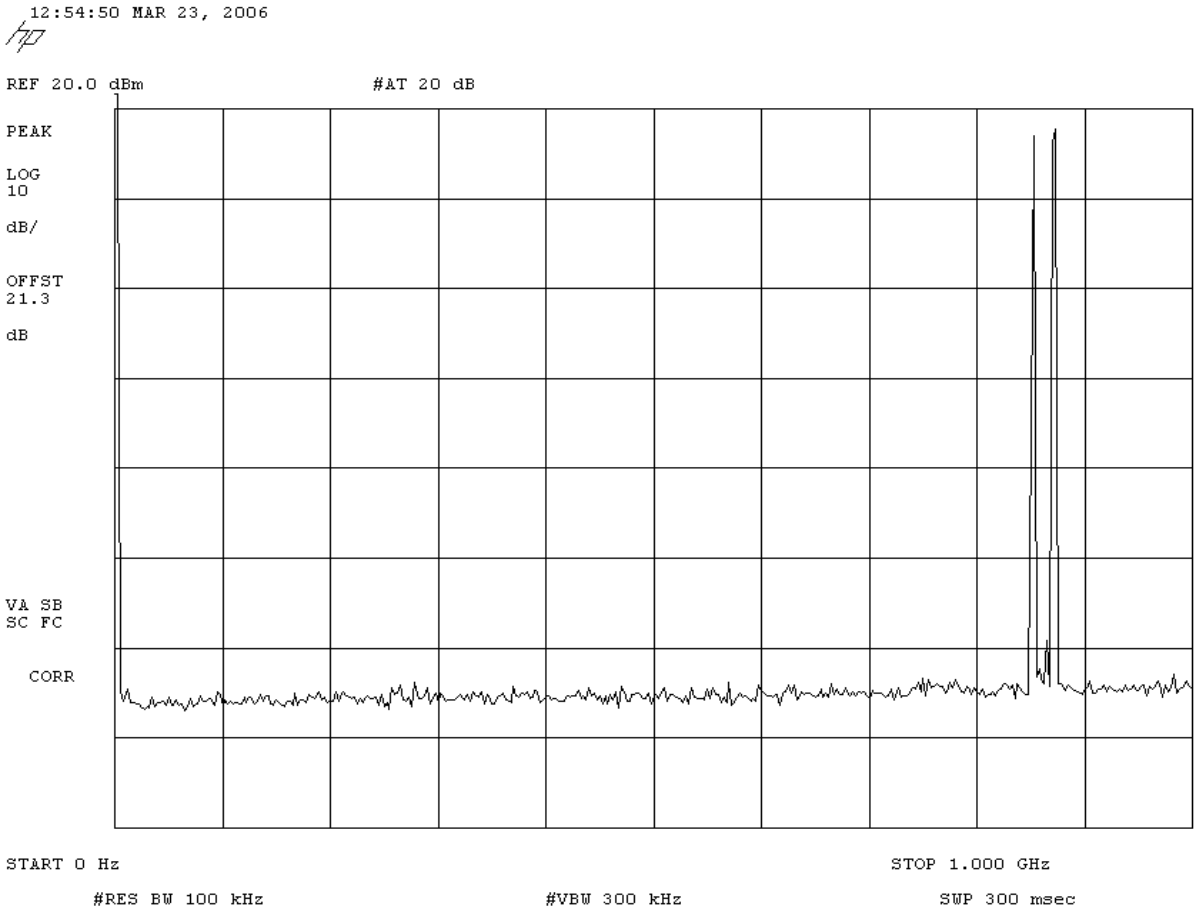
Pass

SIGNATURE

Tested By: Rodney La Peloquin

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - 7 Signal IM Test, 0MHz-1GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/23/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

7 channels transmitting with modulation at highest output power level

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

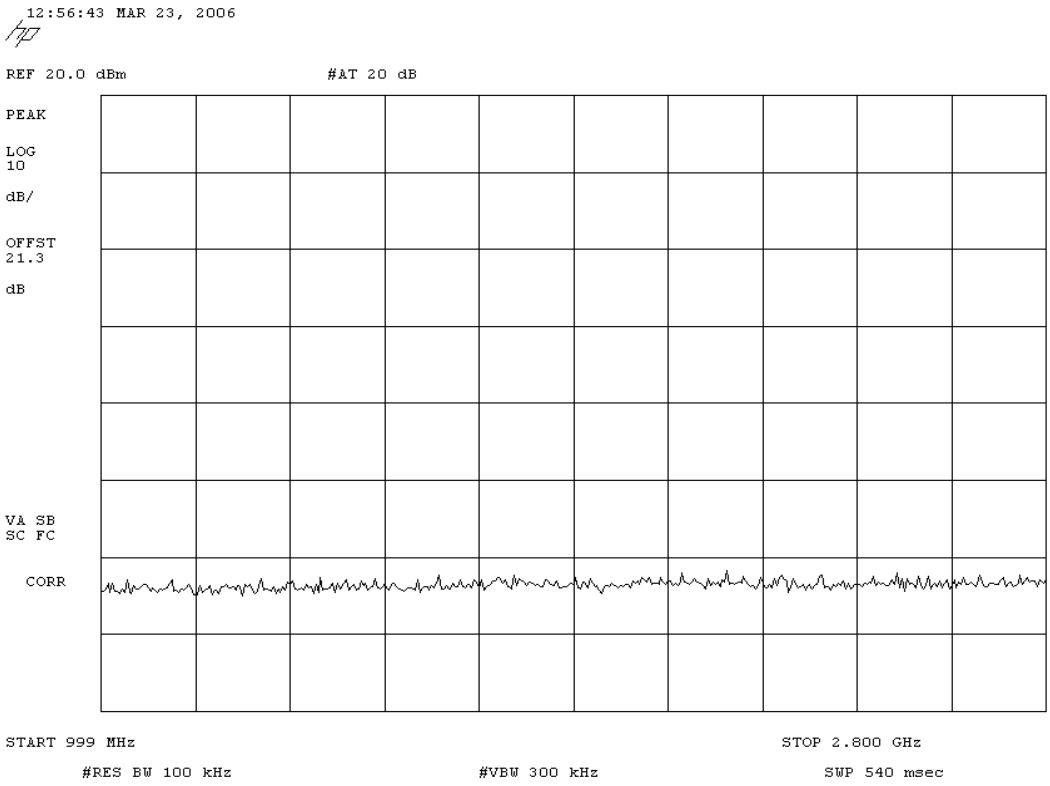
Pass

SIGNATURE

Tested By:

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - 7 Signal IM Test, 1GHz-2.8GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/23/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

7 channels transmitting with modulation at highest output power level

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

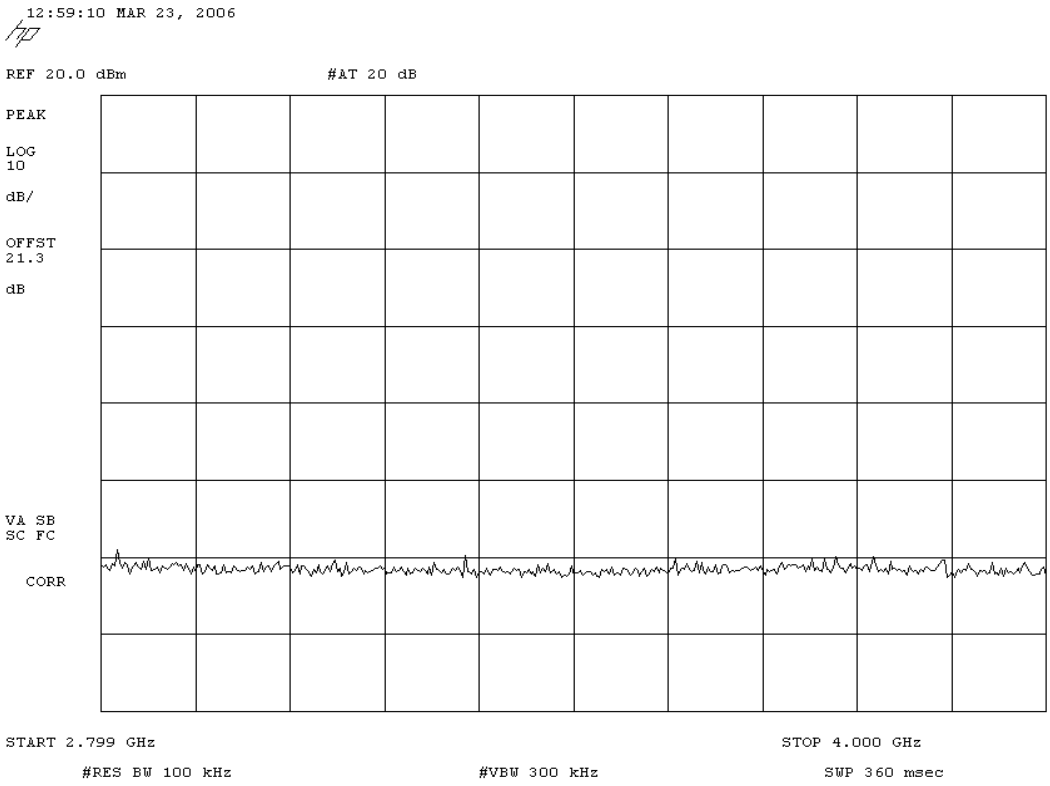
Pass

SIGNATURE

Tested By:

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - 7 Signal IM Test, 2.8GHz-4GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/23/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

7 channels transmitting with modulation at highest output power level

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

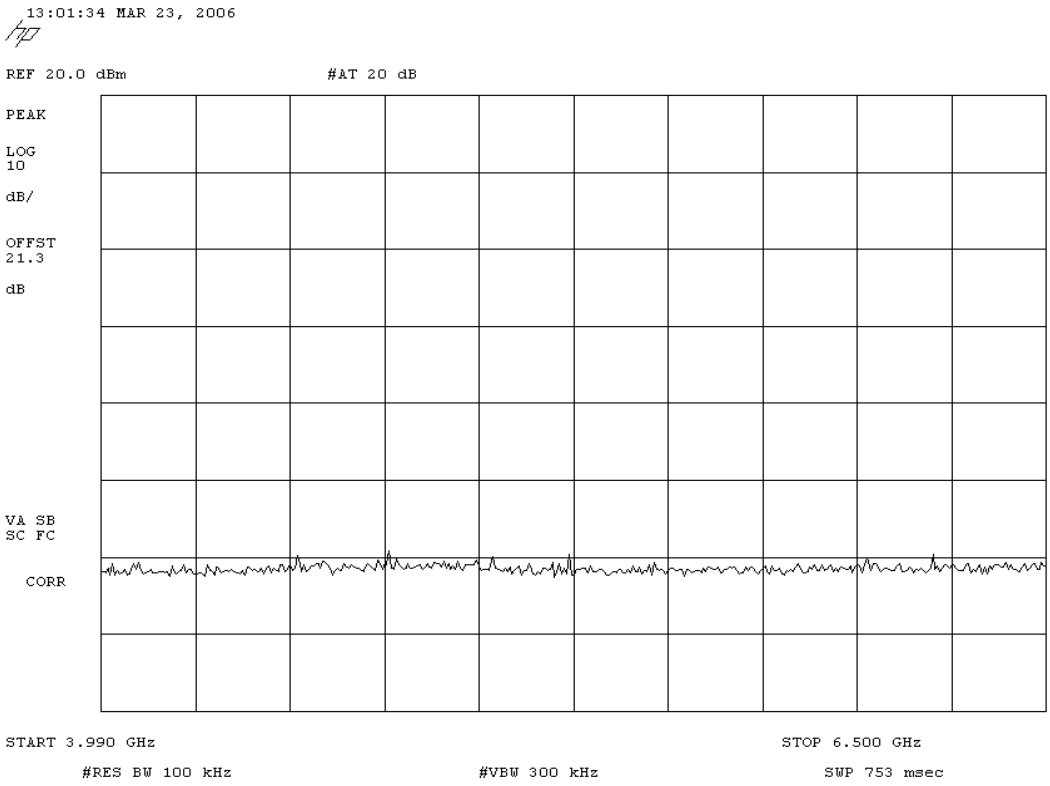
Pass

SIGNATURE

Tested By: Rodney L. Peloquin

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - 7 Signal IM Test, 4GHz-6.5GHz



NORTHWEST EMC

SPURIOUS CONDUCTED EMISSIONS

Rev BETA 01/30/01

EUT:	MCRB			Work Order:	RAFN0060
Serial Number:	Various			Date:	03/23/06
Customer:	Radioframe Networks, Inc.			Temperature:	22° C
Attendees:	Dean Busch	Tested by:	Rod Peloquin	Humidity:	31%
Customer Ref. No.:	None	Power:	-48 Vdc	Job Site:	EV06

TEST SPECIFICATIONS

Specification:	47 CFR 2.1051 & 90.691	Year: 2005	Method:	TIA / EIA - 603	Year: 2002

SAMPLE CALCULATIONS

COMMENTS

Tested in System Configuration

EUT OPERATING MODES

7 channels transmitting with modulation at highest output power level

DEVIATIONS FROM TEST STANDARD

None

REQUIREMENTS

Maximum level of any out of band spurious emission must be attenuated below the limit of -13 dBm.

RESULTS

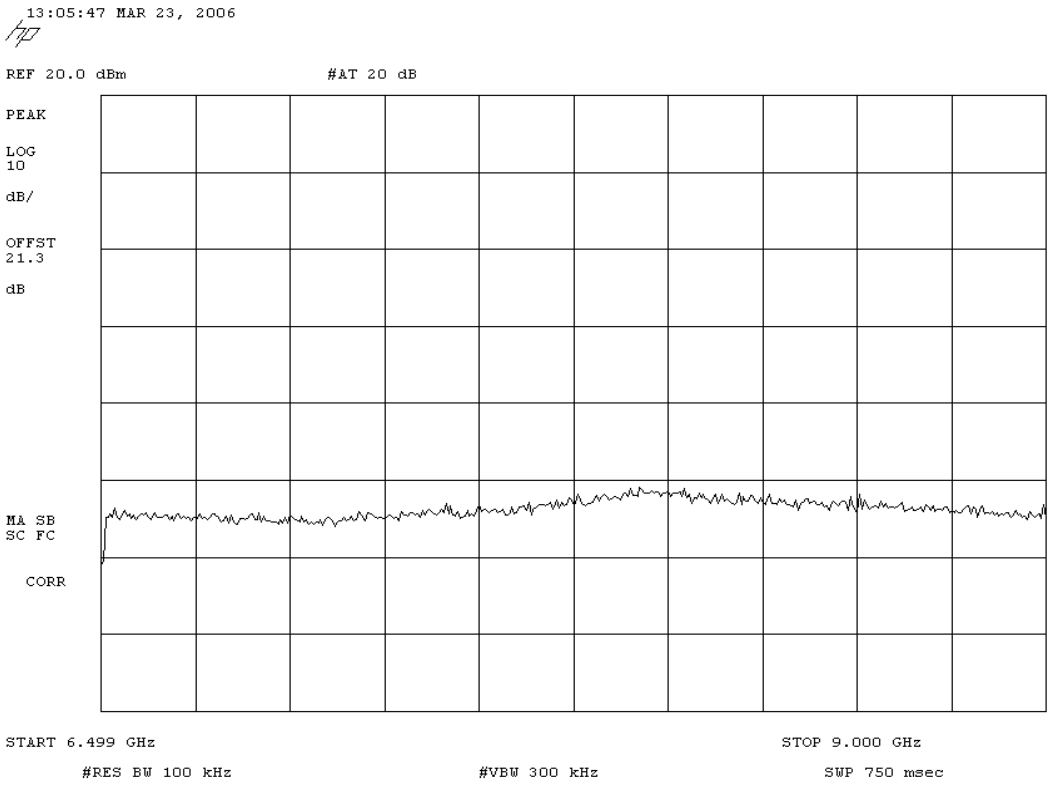
Pass

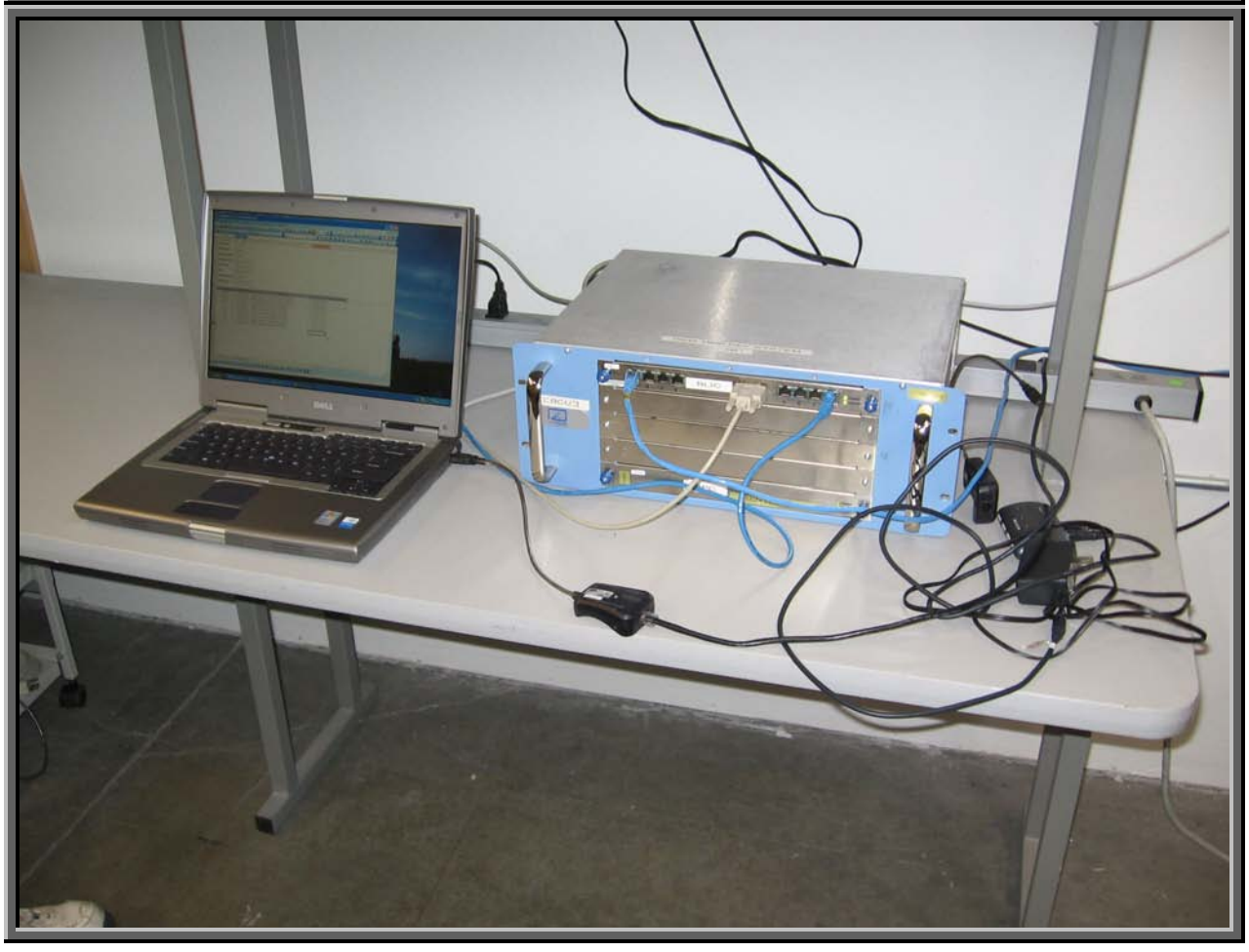
SIGNATURE

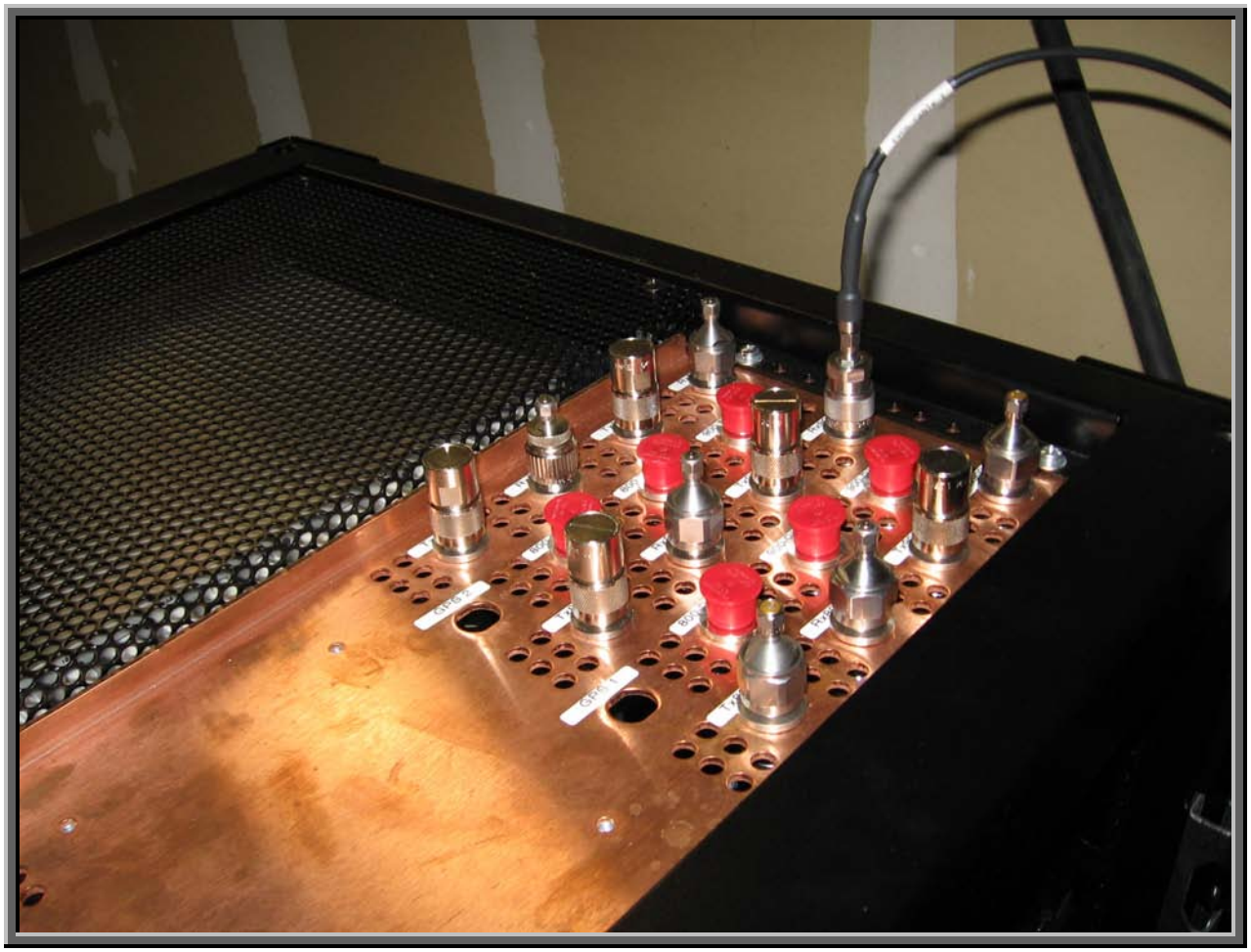
Tested By:

DESCRIPTION OF TEST

Antenna Conducted Spurious Emissions - 7 Signal IM Test, 6.5GHz-9GHz







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

24 Channel, 3 sector, 8 channel per sector (4 at 800MHz, 4 at 900MHz)

MODE USED FOR FINAL DATA

24 Channel, 3 sector, 8 channel per sector (4 at 800MHz, 4 at 900MHz)

POWER SETTINGS INVESTIGATED

-48VDC

POWER SETTINGS USED FOR FINAL DATA

-48VDC

FREQUENCY RANGE INVESTIGATED

Start Frequency	30MHz	Stop Frequency	10GHz

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
Spectrum Analyzer	Agilent	E4446A	AAQ	7/15/2005	12
High Pass Filter 1.2 - 18 GHz	Micro-Tronics	HPM50108	HFV	9/28/2005	13
Antenna, Biconilog	EMCO	3141	AXE	12/28/2005	24
Pre-Amplifier	Miteq	AM-1616-1000	AOL	1/4/2006	13
Antenna, Horn	EMCO	3115	AHC	8/30/2005	12
Pre-Amplifier	Miteq	AMF-4D-010100-24-10P	APW	8/2/2005	13
Signal Generator	Hewlett Packard	8341B	TGN	1/26/2006	13
Antenna, Horn	EMCO	3115	AHJ	5/20/2005	24

MEASUREMENT BANDWIDTHS

Frequency Range (MHz)	Peak Data (kHz)	Quasi-Peak Data (kHz)	Average Data (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

Per 2.1053 and 90.691, the Field Strength of Spurious Radiation was measured in the far-field at an FCC Listed OATS up to 10 GHz. Spectrum analyzer, signal generator, and linearly polarized antennas were used to measure radiated harmonics and spurious emissions. The orientation of the EUT and measurement antenna were manipulated to maximize the level of emissions. The EUT was configured to transmit at the highest output power into a dummy load at low, mid, and high frequencies for both the 800MHz and 900MHz bands.

For licensed transmitters, the FCC references TIA/EIA-603 as the measurement procedure standard. TIA/EIA-603 Section 2.2.12 describes a method for measuring radiated spurious emissions that utilizes an antenna substitution method:

At an approved test site, the transmitter is place on a remotely controlled turntable, and the measurement antenna is placed 3 meters from the transmitter. The turntable azimuth is varied to maximize the level of spurious emissions. The height of the measurement antenna is also varied from 1 to 4 meters. The amplitude and frequency of the highest emissions are noted. The transmitter is then replaced with a ½ wave dipole that is successively tuned to each of the highest spurious emissions. A signal generator is connected to the dipole (horn antenna for frequencies above 1 GHz), and its output is adjusted to match the level previously noted for each frequency. The output of the signal generator is recorded, and by factoring in the cable loss to the dipole antenna and its gain; the power (dBm) into an ideal ½ wave dipole antenna is determined for each radiated spurious emission.

For the purposes of preliminary measurements, the field strength of the spurious emissions can be measured and compared with a 3 meter limit. The 3 meter limit was calculated to be 82.5 dBuV/m at 3 meters. The final measurements must be made utilizing the substitution method described above.

NORTHWEST EMC

Spurious Radiated Emissions

PSA 2006.03.15
EMI 2006.3.14

EUT:	MCRB	Work Order:	RAFN0060
Serial Number:	Various	Date:	03/22/06
Customer:	Radioframe Networks, Inc.	Temperature:	22
Attendees:	Dean Busch	Humidity:	32%
Project:	None	Barometric Pres.:	30.12
Tested by:	Rod Peloquin	Power: 48VDC	Job Site: EV01

TEST SPECIFICATIONS	Test Method
FCC 90.691 and 2.1053 Spurious Emissions:2005	TIA/EIA-603-B:2002

TEST PARAMETERS

Antenna Height(s) (m)	1 - 4	Test Distance (m)	3

COMMENTS

Full system configuration

EUT OPERATING MODES

24 Channel, 3 sector, 8 channel per sector (4 at 800MHz, 4 at 900MHz)

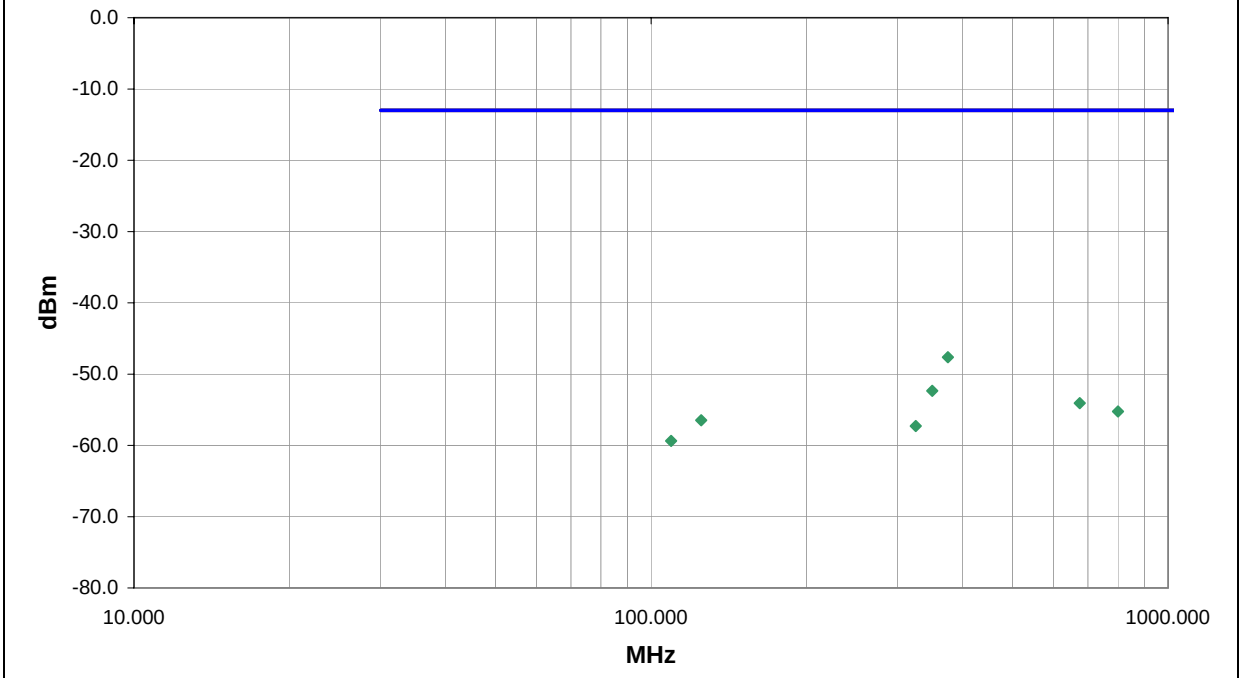
DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	1
Configuration #	3
Results	Pass

NVLAP Lab Code 200630-0

Signature



Freq (MHz)			Azimuth (degrees)	Height (meters)			Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)
375.013			106.0	1.5			H-Bilog	PK	1.72E-08	-47.6	-13.0	-34.6
349.955			106.0	1.5			H-Bilog	PK	5.82E-09	-52.4	-13.0	-39.4
674.955			212.0	1.0			H-Bilog	PK	3.92E-09	-54.1	-13.0	-41.1
799.925			296.0	1.0			H-Bilog	PK	3.00E-09	-55.2	-13.0	-42.2
125.002			237.0	1.8			H-Bilog	PK	2.25E-09	-56.5	-13.0	-43.5
325.016			199.0	1.8			H-Bilog	PK	1.87E-09	-57.3	-13.0	-44.3
109.347			196.0	2.0			H-Bilog	PK	1.15E-09	-59.4	-13.0	-46.4

NORTHWEST EMC

Spurious Radiated Emissions

PSA 2006.03.15
EMI 2006.3.14

EUT:	MCRB	Work Order:	RAFN0060
Serial Number:	Various	Date:	03/22/06
Customer:	Radioframe Networks, Inc.	Temperature:	22
Attendees:	Dean Busch	Humidity:	32%
Project:	None	Barometric Pres.:	30.12
Tested by:	Rod Peloquin	Power: 48VDC	Job Site: EV01

TEST SPECIFICATIONS	Test Method
FCC 90.691 and 2.1053 Spurious Emissions:2005	TIA/EIA-603-B:2002

TEST PARAMETERS			
Antenna Height(s) (m)	1 - 4	Test Distance (m)	3

COMMENTS

Full system configuration

EUT OPERATING MODES

24 Channel, 3 sector, 8 channel per sector (4 at 800MHz, 4 at 900MHz)

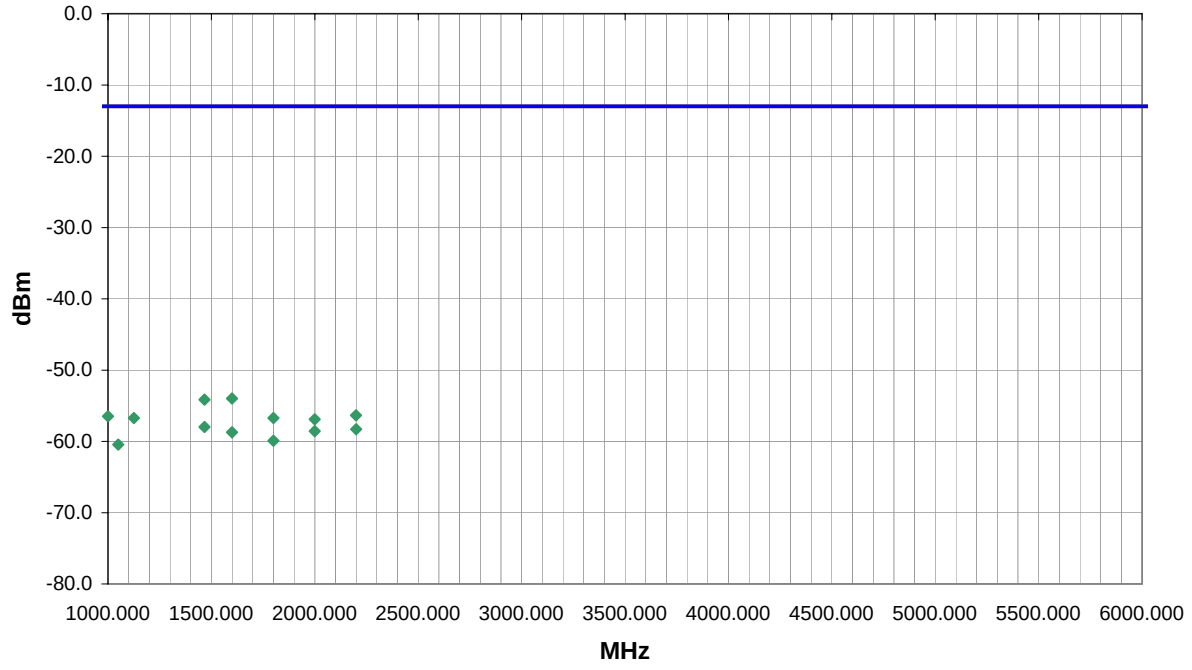
DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	2
Configuration #	3
Results	Pass

NVLAP Lab Code 200630-0

Signature



Freq (MHz)			Azimuth (degrees)	Height (meters)			Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)
1599.731			335.0	1.0			V-Horn	PK	3.99E-09	-54.0	-13.0	-41.0
1466.624			345.0	1.0			V-Horn	PK	3.85E-09	-54.2	-13.0	-41.2
2199.348			301.0	1.0			V-Horn	PK	2.32E-09	-56.3	-13.0	-43.3
1000.352			97.0	1.4			H-Horn	PK	2.25E-09	-56.5	-13.0	-43.5
1124.942			176.0	1.1			V-Horn	PK	2.13E-09	-56.7	-13.0	-43.7
1799.685			333.0	1.0			V-Horn	PK	2.13E-09	-56.7	-13.0	-43.7
1999.759			211.0	1.0			V-Horn	PK	2.04E-09	-56.9	-13.0	-43.9
1466.556			135.0	1.3			H-Horn	PK	1.59E-09	-58.0	-13.0	-45.0
2199.606			58.0	1.3			H-Horn	PK	1.48E-09	-58.3	-13.0	-45.3
1999.798			44.0	1.3			H-Horn	PK	1.39E-09	-58.6	-13.0	-45.6
1599.769			75.0	1.3			H-Horn	PK	1.34E-09	-58.7	-13.0	-45.7
1800.001			287.0	1.3			H-Horn	PK	1.02E-09	-59.9	-13.0	-46.9
1049.802			96.0	1.3			H-Horn	PK	9.02E-10	-60.4	-13.0	-47.4


EMC


EMC