

Radioframe Networks, Inc.

OmniCell@Home

May 20, 2008

Report No. RAFN0085 Rev 2

Report Prepared By



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

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EMC Test Report

Certificate of Test
Issue Date: May 20, 2008
Radioframe Networks, Inc.
Model: OmniCell@Home

Emissions			
Test Description	Specification	Test Method	Pass/Fail
Effective Isotropic Radiated Power	FCC 24E:2007	ANSI/TIA/EIA-603-B-2002	Pass
Effective Radiated Power	FCC 22H:2007	ANSI/TIA/EIA-603-B-2002	Pass
Power Output	FCC 22H:2007	ANSI/TIA/EIA-603-B-2002	Pass
Power Output	FCC 24E:2007	ANSI/TIA/EIA-603-B-2002	Pass
Occupied Bandwidth	FCC 22H:2007	ANSI/TIA/EIA-603-B-2002	Pass
Occupied Bandwidth	FCC 24E:2007	ANSI/TIA/EIA-603-B-2002	Pass
Out of Band Emissions	FCC 22H:2007	ANSI/TIA/EIA-603-B-2002	Pass
Out of Band Emissions	FCC 24E:2007	ANSI/TIA/EIA-603-B-2002	Pass
Frequency Stability	FCC 22H:2007	ANSI/TIA/EIA-603-B-2002	Pass
Frequency Stability	FCC 24E:2007	ANSI/TIA/EIA-603-B-2002	Pass
Spurious Emissions at Antenna Terminals	FCC 22H:2007	ANSI/TIA/EIA-603-B-2002	Pass
Spurious Emissions at Antenna Terminals	FCC 24E:2007	ANSI/TIA/EIA-603-B-2002	Pass
Receiver Conducted Spurious Emissions	FCC 15.111:2007	ANSI C63.4:2003	Pass

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 (Site Filing #3496A).

Approved By:



Ethan Schoonover, Sultan Lab Manager



NVLAP Lab Code: 200630-0

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
01	Retested output power due to damaged connector on original unit	7/22/08	65-69, 76-102, 130-141
02	Updated all PCS band data	7/24/2008	60-64, 103-129, 142-153,

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 2004/108/EC, and ANSI C63.4. 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
 NVLAP LAB CODE 200761-0

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 TÜV Product Service Group's Listing of Recognized Laboratories. It qualifies in connection with the TÜV Certification after Recognition of Agent's Testing Program for the product categories and/or standards shown in TÜV's current Listing of CARAT Laboratories, available from TÜV. A certificate was issued to represent that this laboratory continues to meet TÜV's CARAT Program requirements. Certificate No. USA0604C.



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).



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



VCCI: Accepted as an Associate Member to the VCCI, Acceptance No. 564. Conducted and radiated measurement facilities have been registered in accordance with Regulations for Voluntary Control Measures, Article 8. (*Registration Numbers. - Hillsboro: C-1071, R-1025, C-2687, T-289, and R-2318, Irvine: R-1943, C-2766, and T-298, Sultan: R-871, C-1784, and T-294.*)



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



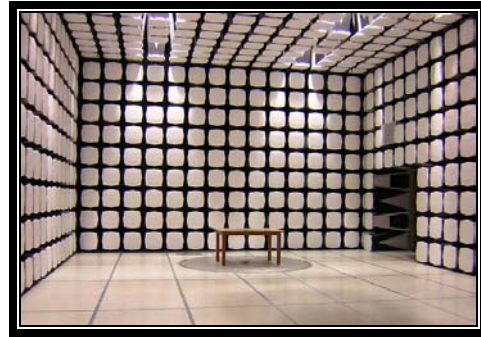
MIC: Northwest EMC, Inc is a CAB designated by MRA partners and recognized by Korea. (*Assigned Lab Numbers: Hillsboro: US0017, Irvine: US0158, Sultan: US0157*)



SCOPE

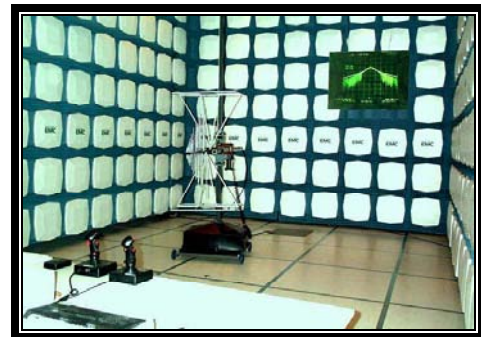
For details on the Scopes of our Accreditations, please visit:

<http://www.nwemc.com/accreditations/>



**California – Orange County Facility
Labs OC01 – OC13**

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



**Oregon – Evergreen Facility
Labs EV01 – EV11**

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



**Washington – Sultan Facility
Labs SU01 – SU07**

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

Party Requesting the Test

Company Name:	Radioframe Networks, Inc.
Address:	9461 Willows Road NE, Suite 100
City, State, Zip:	Redmond, WA 98052
Test Requested By:	Dean Busch
Model:	OmniCell@Home
First Date of Test:	May 12, 2008
Last Date of Test:	July 23, 2008
Receipt Date of Samples:	May 12, 2008
Equipment Design Stage:	Preproduction
Equipment Condition:	No Damage

Information Provided by the Party Requesting the Test**Functional Description of the EUT (Equipment Under Test):**

Cellular basestation for in-home use. Designed to provide more reliable cell phone coverage in the home.

Testing Objective:

These tests were selected to satisfy the EMC requirements for the FCC.

CONFIGURATION 1 RAFN0085

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
EUT - Pico Base Station	Radioframe Networks, Inc.	OmniCell@Home	Unknown

Peripherals in test setup boundary			
Description	Manufacturer	Model/Part Number	Serial Number
AC power adapter	CUI, Inc.	DP30B-1202000	None

Remote Equipment Outside of Test Setup Boundary			
Description	Manufacturer	Model/Part Number	Serial Number
Remote PC	Dell	Latitude D400	8JTD141
PC Power Adapter	Dell	ADP-90FB	17971-2BG-7KCQ

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
DC Power	PA	1.85m	PA	AC Mains	EUT - Pico Base Station
LAN	No	4.25m	No	EUT - Pico Base Station	Remote PC
LAN	No	0.85m	No	EUT - Pico Base Station	Unterminated
LAN	No	0.85m	No	EUT - Pico Base Station	Unterminated
LAN	No	0.85m	No	EUT - Pico Base Station	Unterminated
LAN	No	0.85m	No	EUT - Pico Base Station	Unterminated

PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown.

CONFIGURATION 2 RAFN0085

EUT			
Description	Manufacturer	Model/Part Number	Serial Number
EUT - Pico Base Station	Radioframe Networks, Inc.	OmniCell@Home	Unknown

Peripherals in test setup boundary			
Description	Manufacturer	Model/Part Number	Serial Number
AC power adapter	CUI, Inc.	DP30B-1202000	None

Remote Equipment Outside of Test Setup Boundary			
Description	Manufacturer	Model/Part Number	Serial Number
Remote PC	Dell	Latitude D400	8JTD141
PC Power Adapter	Dell	ADP-90FB	17971-2BG-7KCQ

Cables					
Cable Type	Shield	Length (m)	Ferrite	Connection 1	Connection 2
DC Power	PA	1.85m	PA	AC Mains	EUT - Pico Base Station
LAN	No	4.25m	No	EUT - Pico Base Station	Remote PC

PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown.

Equipment modifications					
Item	Date	Test	Modification	Note	Disposition of EUT
1	5/12/2008	ERP / EIRP of Fundamental	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
2	5/14/2008	Out of Band 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.
3	5/14/2008	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.
4	5/14/2008	Occupied Bandwidth	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
5	5/15/2008	Spurious Emissions at Antenna Terminals	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
6	5/16/2008	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.
7	5/16/2008	Receiver Conducted Spurious Emissions	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was complete.
8	7/23/2008	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.
9	7/23/2008	Occupied Bandwidth	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	EUT remained at Northwest EMC following the test.
10	7/23/2008	ERP / EIRP of Fundamental	Tested as delivered to Test Station.	No EMI suppression devices were added or modified during this test.	Scheduled testing was complete.

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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Spectrum Analyzer	Agilent	E4407B	AAU	12/7/2007	13
Attenuator 20 dB, SMA M/F 26GHz	S.M. Electronics	SA26B-20	AUY	6/8/2007	13
Pre-Amplifier	Hewlett-Packard	83017A	APL	10/24/2006	24
Signal Generator	Hewlett-Packard	8648D	TGC	12/7/2007	13

MEASUREMENT UNCERTAINTY

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

TEST DESCRIPTION

The antenna port spurious emissions were measured at the RF output terminal of the EUT with 20dB of external attenuation on the RF input of the spectrum analyzer. Analyzer plots utilizing a 100 kHz resolution bandwidth and no video filtering were made for each modulation type from 0 to 10 GHz. The peak conducted power of spurious emissions, up to the 10th harmonic of the transmit frequency, were investigated to ensure they were less than or equal to -13 dBm.

EUT: OmniCell@Home	Work Order: RAFN0085
Serial Number: None	Date: 05/15/08
Customer: Radioframe Networks, Inc.	Temperature: 23°C
Attendees: None	Humidity: 44%
Project: None	Barometric Pres.: 1027.9 mb
Tested by: Rod Peloquin	Power: 120VAC/60Hz
	Job Site: EV06

TEST SPECIFICATIONS	Test Method
FCC 22H:2007	ANSI/TIA/EIA-603-B-2002

COMMENTS
None

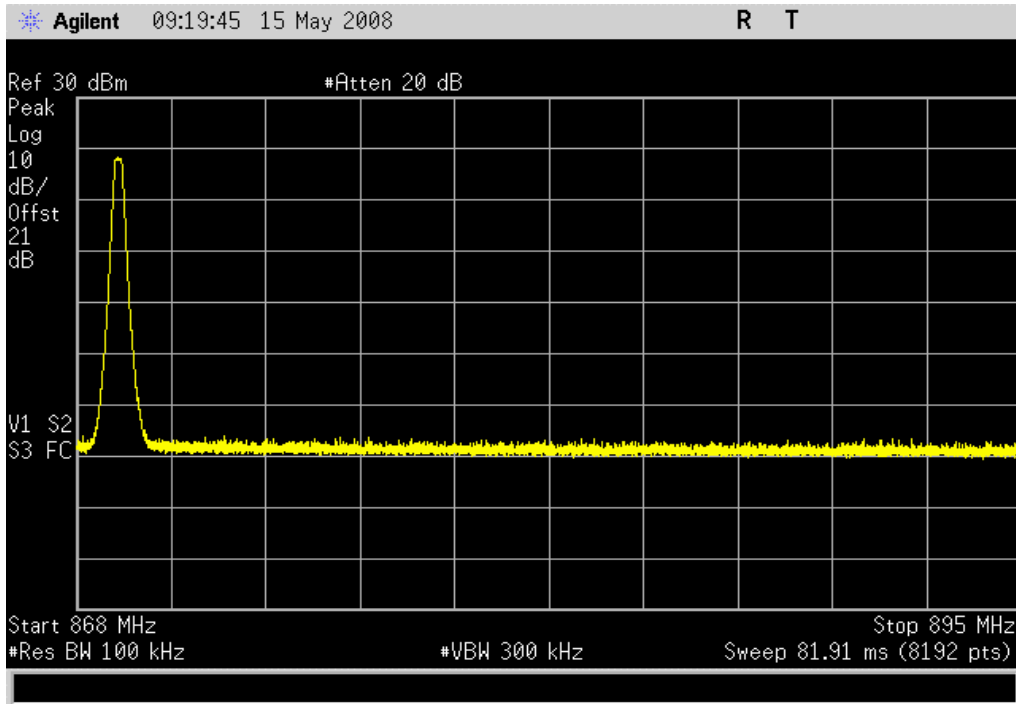
DEVIATIONS FROM TEST STANDARD
No Deviations

Configuration #	1	Signature <i>Rod Peloquin</i>
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		Value	Limit	Results
GSM Modulation				
Low Channel				
In Band		≤ -30 dBm	≤ -13 dBm	Pass
0-1GHz		≤ -30 dBm	≤ -13 dBm	Pass
995MHz-2.8GHz		≤ -30 dBm	≤ -13 dBm	Pass
2.795GHz-4.5GHz		≤ -30 dBm	≤ -13 dBm	Pass
4.495GHz-6GHz		≤ -30 dBm	≤ -13 dBm	Pass
5.995GHz-7.5GHz		≤ -30 dBm	≤ -13 dBm	Pass
7.495GHz-9.5GHz		≤ -30 dBm	≤ -13 dBm	Pass
Mid Channel				
In Band		≤ -30 dBm	≤ -13 dBm	Pass
0-1GHz		≤ -30 dBm	≤ -13 dBm	Pass
995MHz-2.8GHz		≤ -30 dBm	≤ -13 dBm	Pass
2.795GHz-4.5GHz		≤ -30 dBm	≤ -13 dBm	Pass
4.495GHz-6GHz		≤ -30 dBm	≤ -13 dBm	Pass
5.995GHz-7.5GHz		≤ -30 dBm	≤ -13 dBm	Pass
7.495GHz-9.5GHz		≤ -30 dBm	≤ -13 dBm	Pass
High Channel				
In Band		≤ -30 dBm	≤ -13 dBm	Pass
0-1GHz		≤ -30 dBm	≤ -13 dBm	Pass
995MHz-2.8GHz		≤ -30 dBm	≤ -13 dBm	Pass
2.795GHz-4.5GHz		≤ -30 dBm	≤ -13 dBm	Pass
4.495GHz-6GHz		≤ -30 dBm	≤ -13 dBm	Pass
5.995GHz-7.5GHz		≤ -30 dBm	≤ -13 dBm	Pass
7.495GHz-9.5GHz		≤ -30 dBm	≤ -13 dBm	Pass
GPRS Modulation				
Low Channel				
In Band		≤ -30 dBm	≤ -13 dBm	Pass
0-1GHz		≤ -30 dBm	≤ -13 dBm	Pass
995MHz-2.8GHz		≤ -30 dBm	≤ -13 dBm	Pass
2.795GHz-4.5GHz		≤ -30 dBm	≤ -13 dBm	Pass
4.495GHz-6GHz		≤ -30 dBm	≤ -13 dBm	Pass
5.995GHz-7.5GHz		≤ -30 dBm	≤ -13 dBm	Pass
7.495GHz-9.5GHz		≤ -30 dBm	≤ -13 dBm	Pass
Mid Channel				
In Band		≤ -30 dBm	≤ -13 dBm	Pass
0-1GHz		≤ -30 dBm	≤ -13 dBm	Pass
995MHz-2.8GHz		≤ -30 dBm	≤ -13 dBm	Pass
2.795GHz-4.5GHz		≤ -30 dBm	≤ -13 dBm	Pass
4.495GHz-6GHz		≤ -30 dBm	≤ -13 dBm	Pass
5.995GHz-7.5GHz		≤ -30 dBm	≤ -13 dBm	Pass
7.495GHz-9.5GHz		≤ -30 dBm	≤ -13 dBm	Pass
High Channel				
In Band		≤ -30 dBm	≤ -13 dBm	Pass
0-1GHz		≤ -30 dBm	≤ -13 dBm	Pass
995MHz-2.8GHz		≤ -30 dBm	≤ -13 dBm	Pass
2.795GHz-4.5GHz		≤ -30 dBm	≤ -13 dBm	Pass
4.495GHz-6GHz		≤ -30 dBm	≤ -13 dBm	Pass
5.995GHz-7.5GHz		≤ -30 dBm	≤ -13 dBm	Pass
7.495GHz-9.5GHz		≤ -30 dBm	≤ -13 dBm	Pass

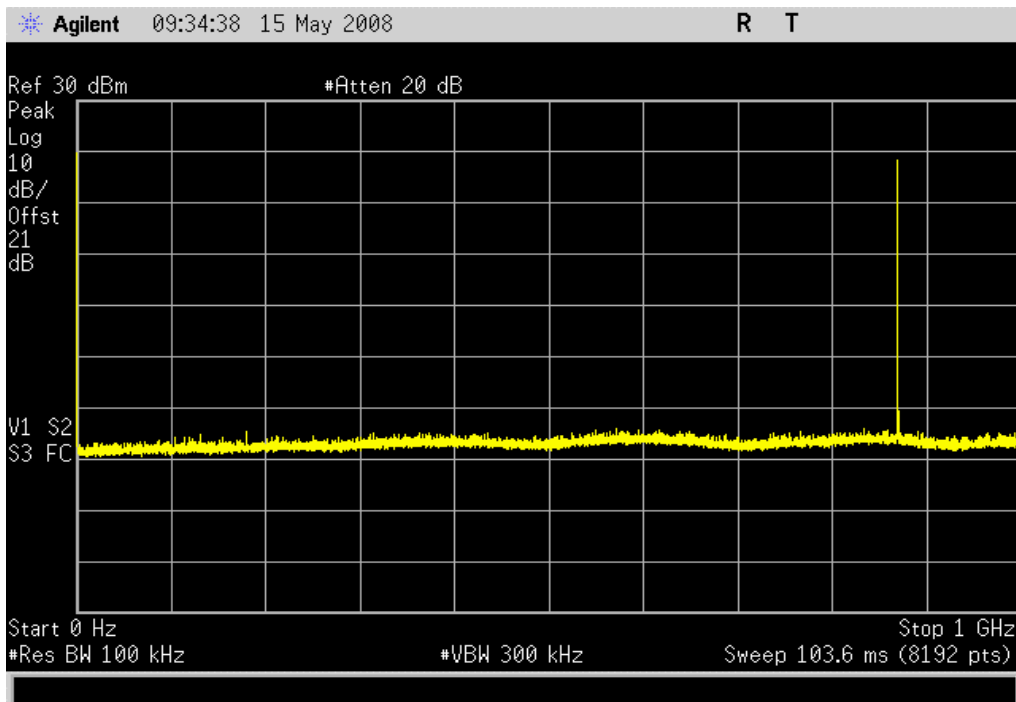
GSM Modulation, Low Channel, In Band

Result: Pass **Value:** ≤ -30 dBm **Limit:** ≤ -13 dBm



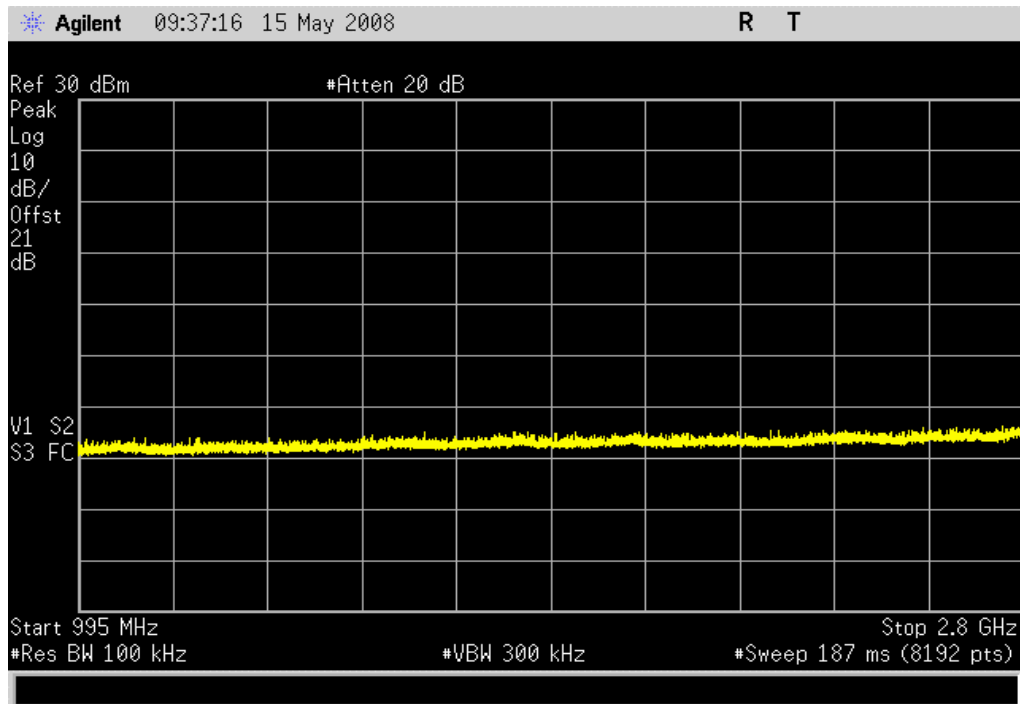
GSM Modulation, Low Channel, 0-1GHz

Result: Pass **Value:** ≤ -30 dBm **Limit:** ≤ -13 dBm



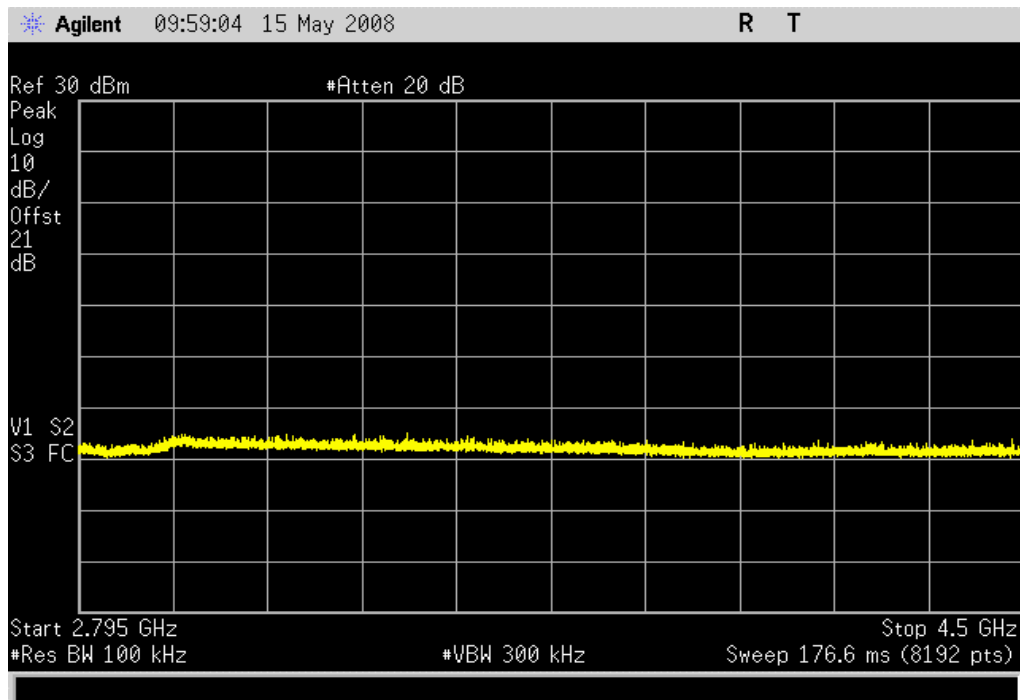
GSM Modulation, Low Channel, 995MHz-2.8GHz

Result: Pass

Value: ≤ -30 dBmLimit: ≤ -13 dBm

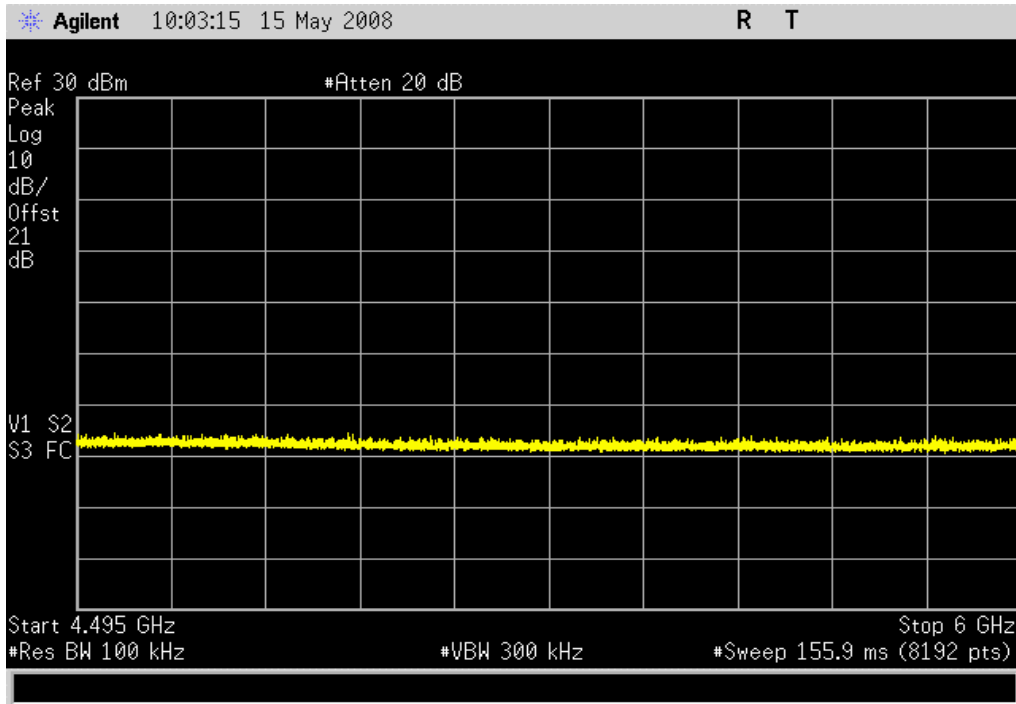
GSM Modulation, Low Channel, 2.795GHz-4.5GHz

Result: Pass

Value: ≤ -30 dBmLimit: ≤ -13 dBm

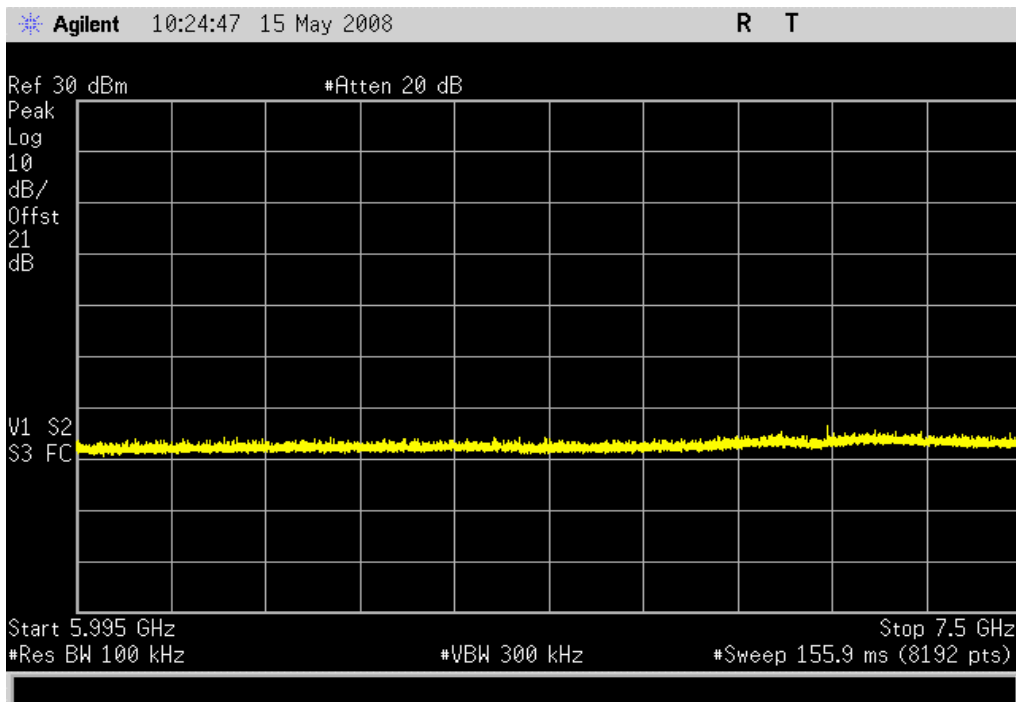
GSM Modulation, Low Channel, 4.495GHz-6GHz

Result: Pass **Value:** ≤ -30 dBm **Limit:** ≤ -13 dBm



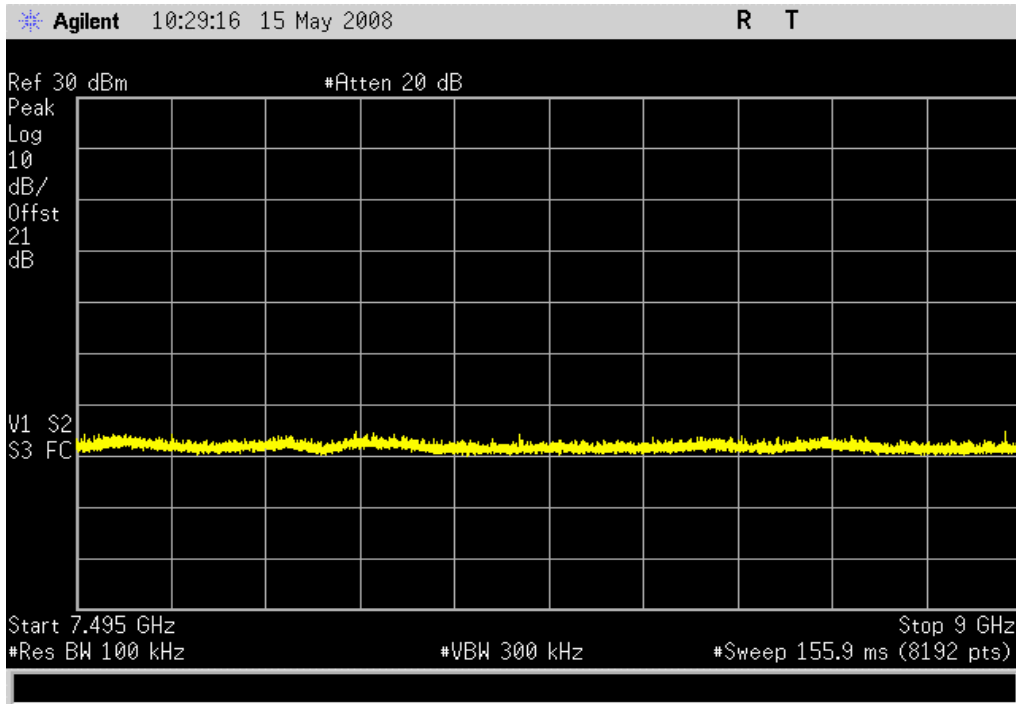
GSM Modulation, Low Channel, 5.995GHz-7.5GHz

Result: Pass **Value:** ≤ -30 dBm **Limit:** ≤ -13 dBm



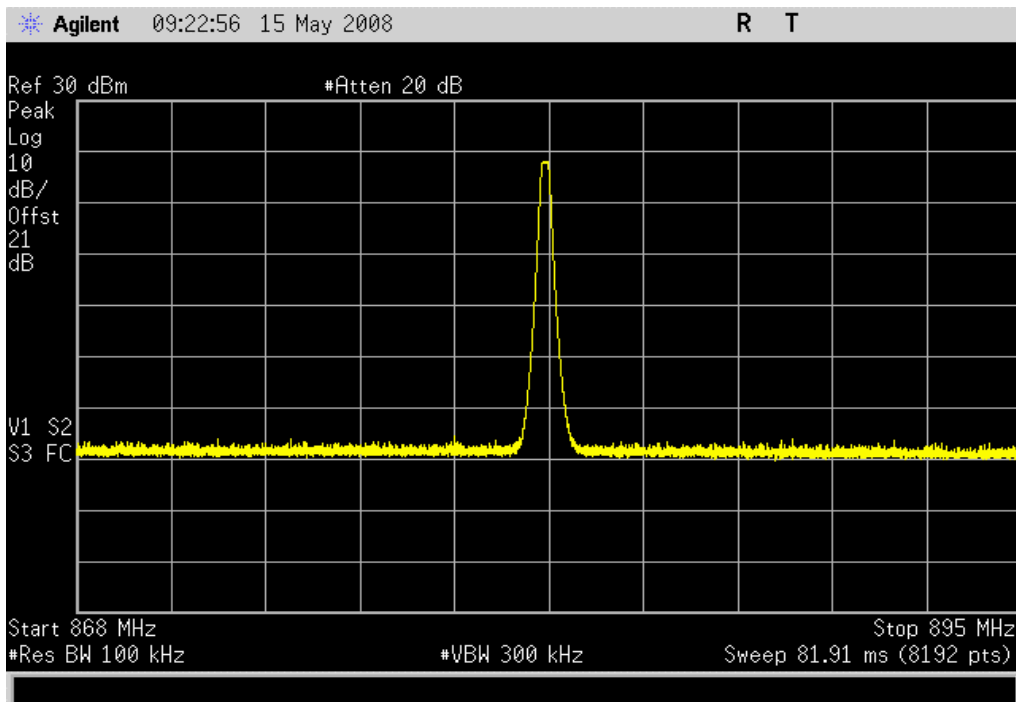
GSM Modulation, Low Channel, 7.495GHz-9.5GHz

Result: Pass **Value:** ≤ -30 dBm **Limit:** ≤ -13 dBm



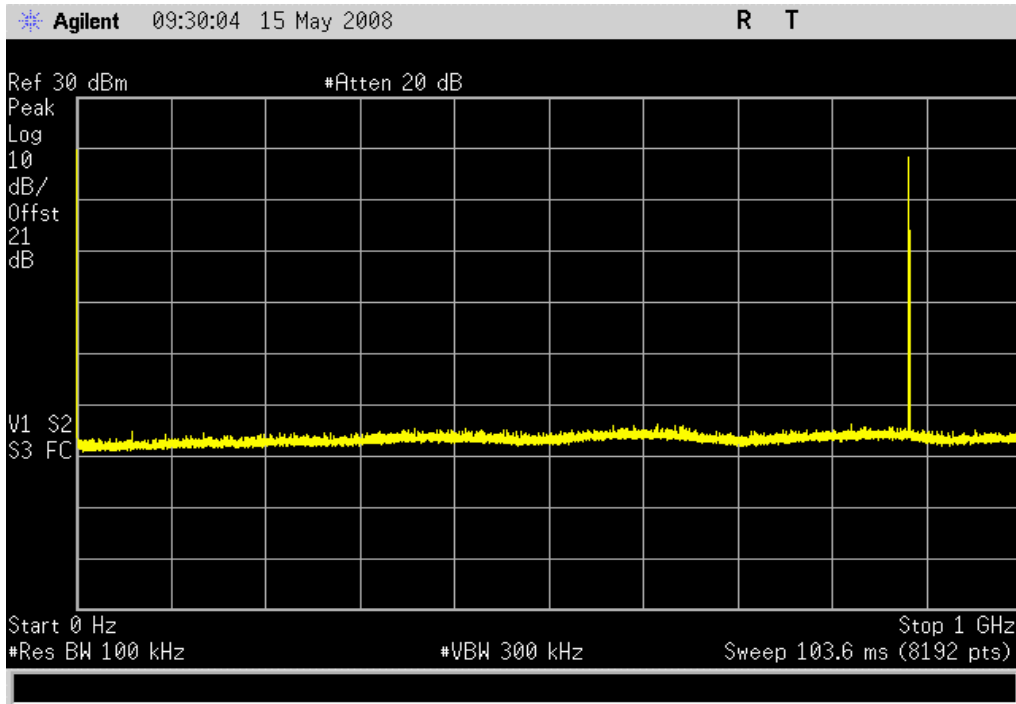
GSM Modulation, Mid Channel, In Band

Result: Pass **Value:** ≤ -30 dBm **Limit:** ≤ -13 dBm



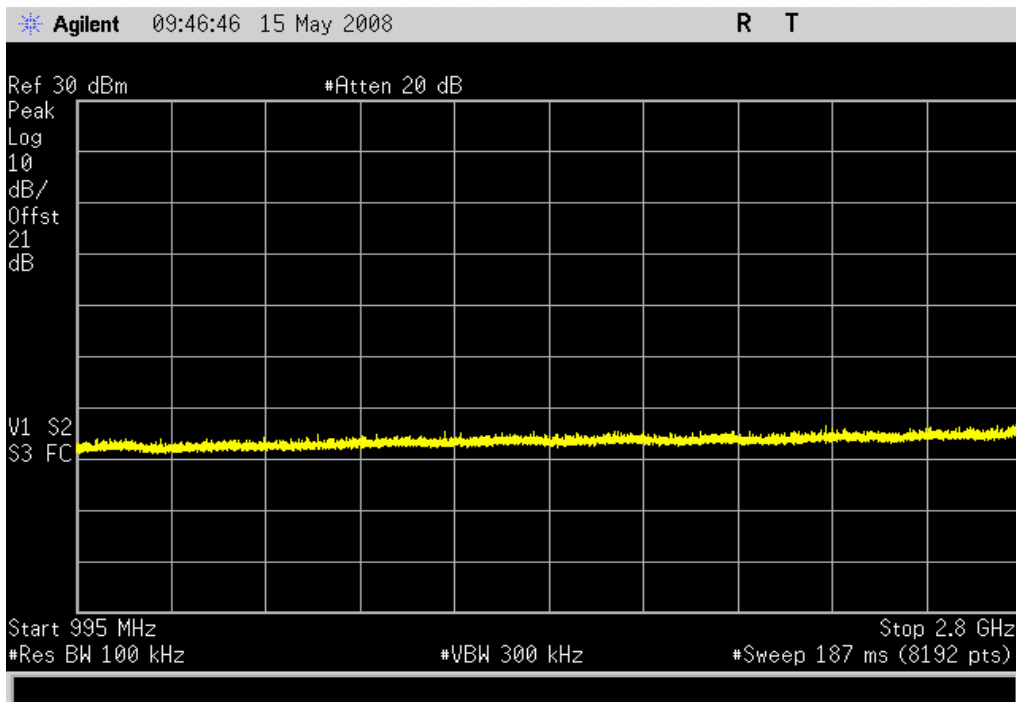
GSM Modulation, Mid Channel, 0-1GHz

Result: Pass **Value:** ≤ -30 dBm **Limit:** ≤ -13 dBm



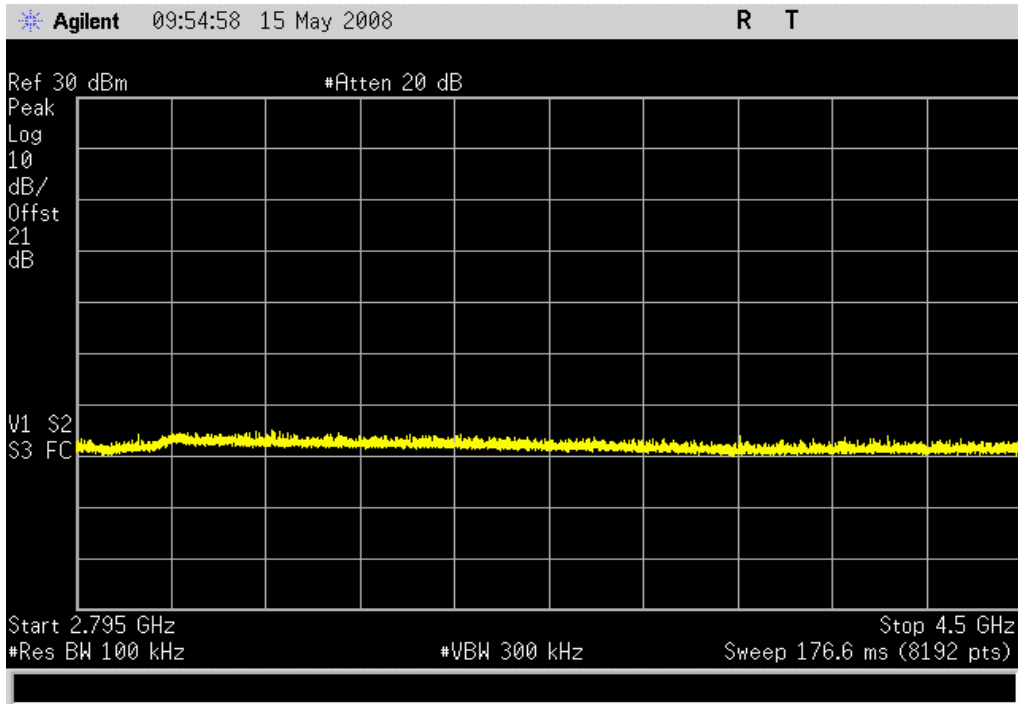
GSM Modulation, Mid Channel, 995MHz-2.8GHz

Result: Pass **Value:** ≤ -30 dBm **Limit:** ≤ -13 dBm



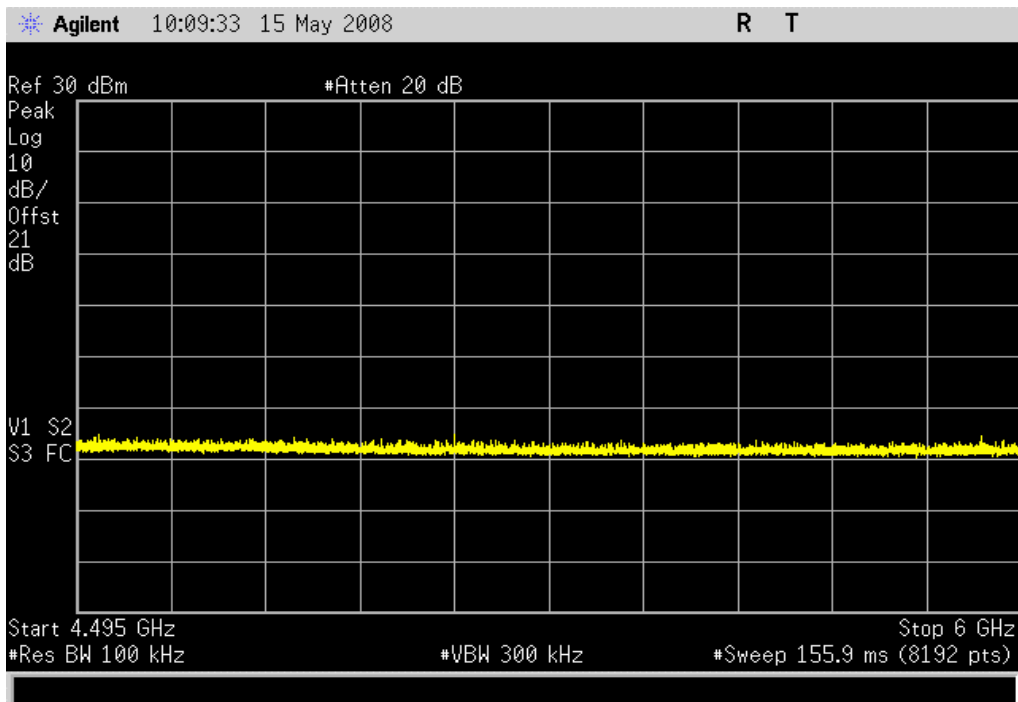
GSM Modulation, Mid Channel, 2.795GHz-4.5GHz

Result: Pass **Value:** ≤ -30 dBm **Limit:** ≤ -13 dBm



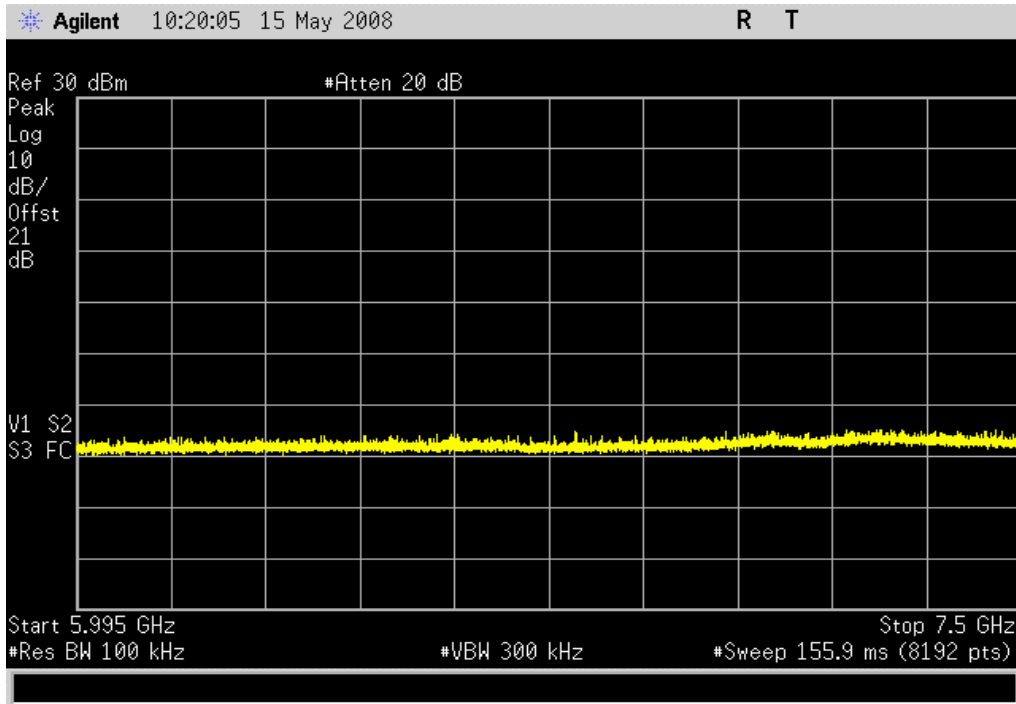
GSM Modulation, Mid Channel, 4.495GHz-6GHz

Result: Pass **Value:** ≤ -30 dBm **Limit:** ≤ -13 dBm



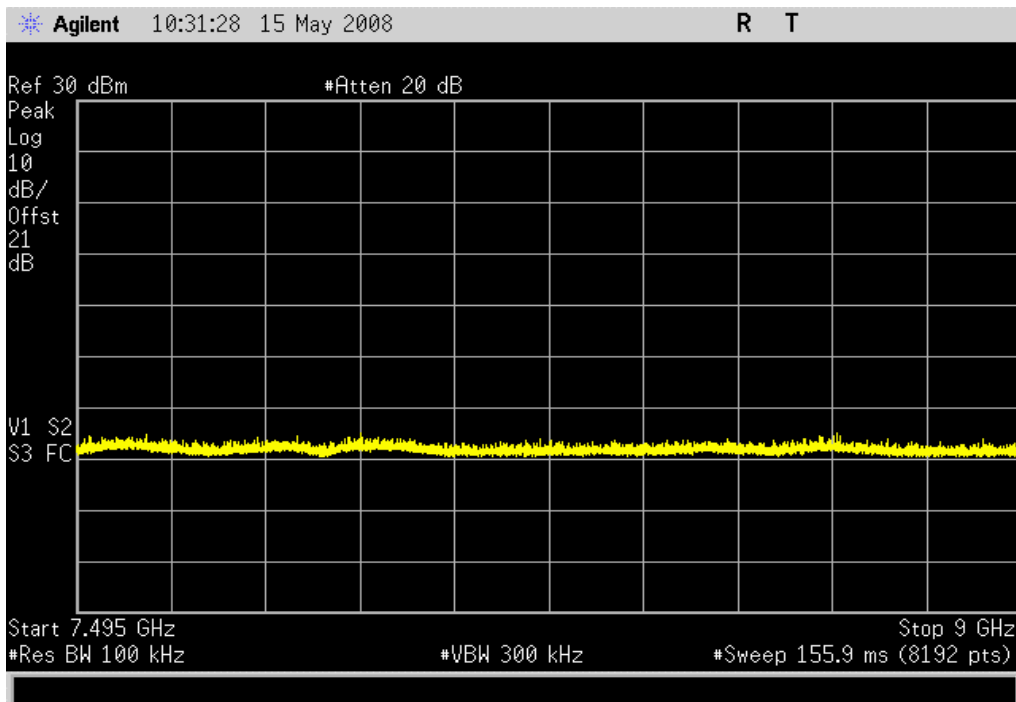
GSM Modulation, Mid Channel, 5.995GHz-7.5GHz

Result: Pass **Value:** ≤ -30 dBm **Limit:** ≤ -13 dBm



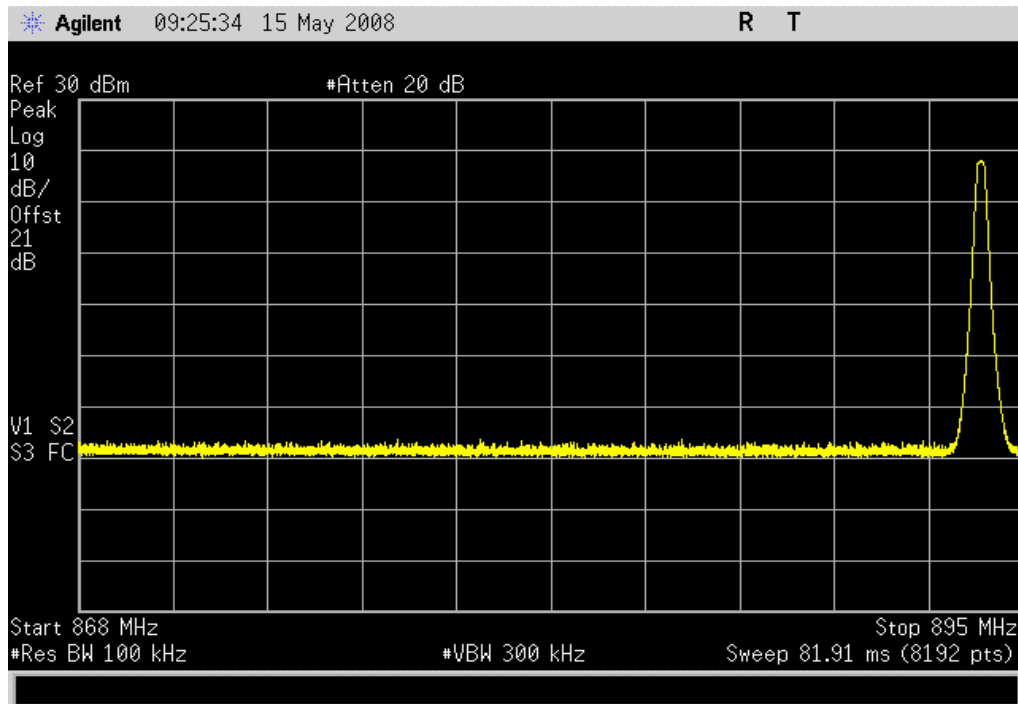
GSM Modulation, Mid Channel, 7.495GHz-9.5GHz

Result: Pass **Value:** ≤ -30 dBm **Limit:** ≤ -13 dBm



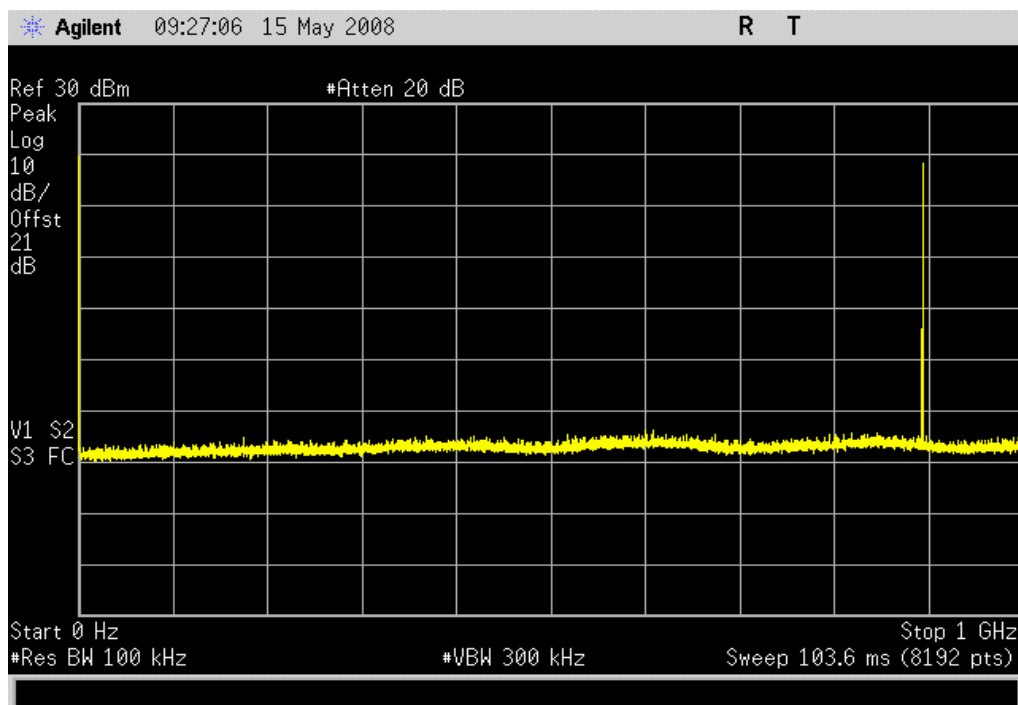
GSM Modulation, High Channel, In Band

Result: Pass **Value:** ≤ -30 dBm **Limit:** ≤ -13 dBm



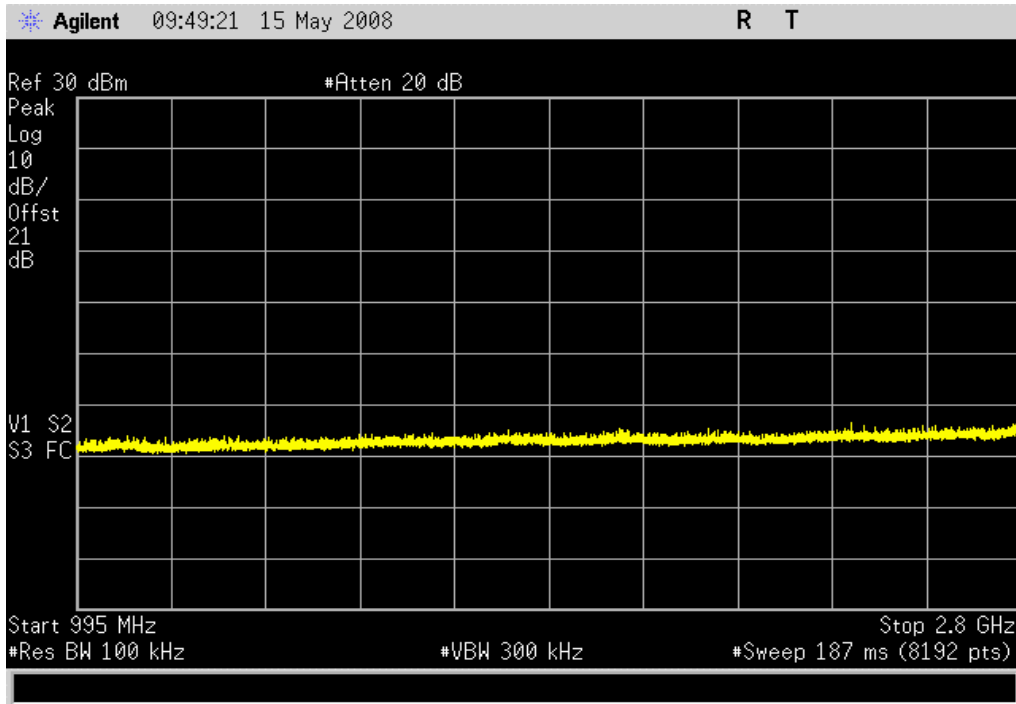
GSM Modulation, High Channel, 0-1GHz

Result: Pass **Value:** ≤ -30 dBm **Limit:** ≤ -13 dBm



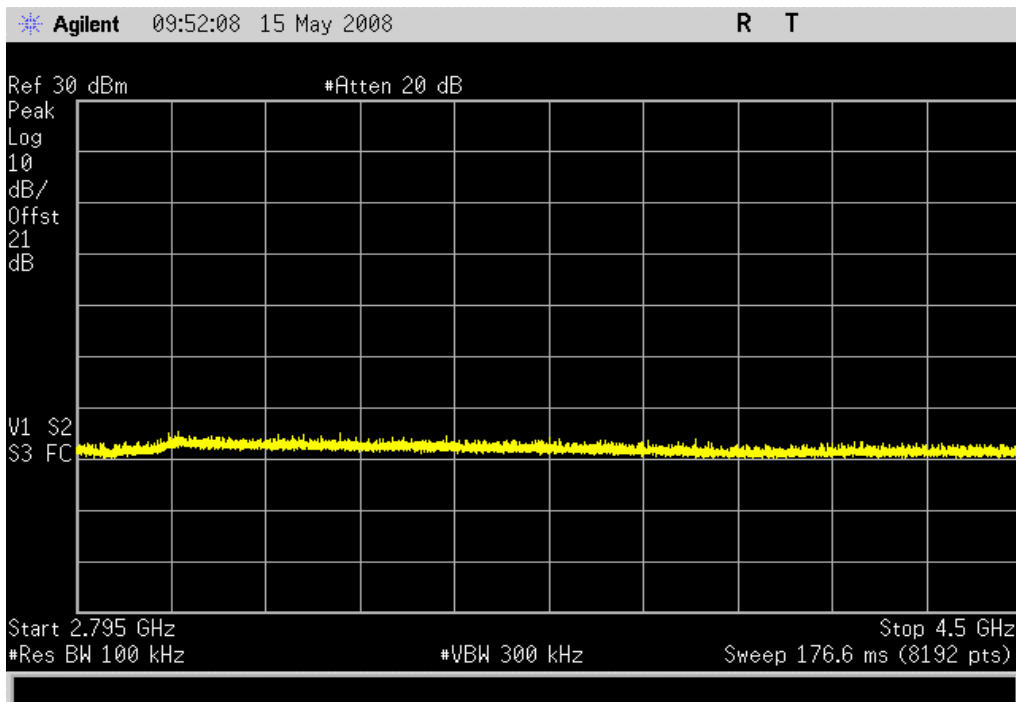
GSM Modulation, High Channel, 995MHz-2.8GHz

Result: Pass **Value:** ≤ -30 dBm **Limit:** ≤ -13 dBm



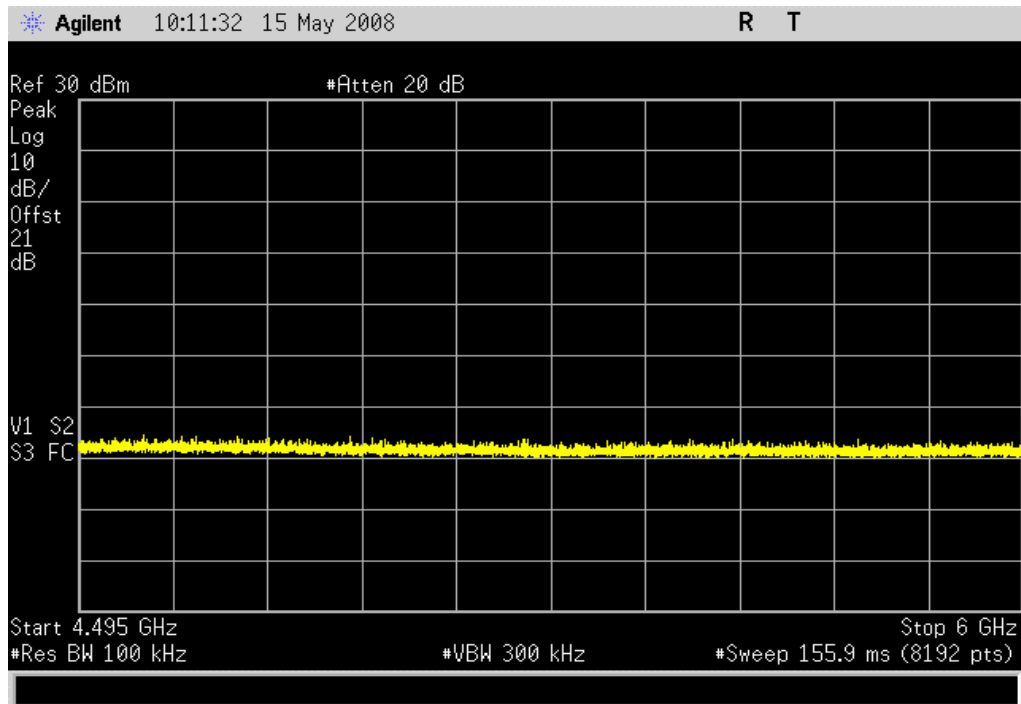
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Result: Pass **Value:** ≤ -30 dBm **Limit:** ≤ -13 dBm



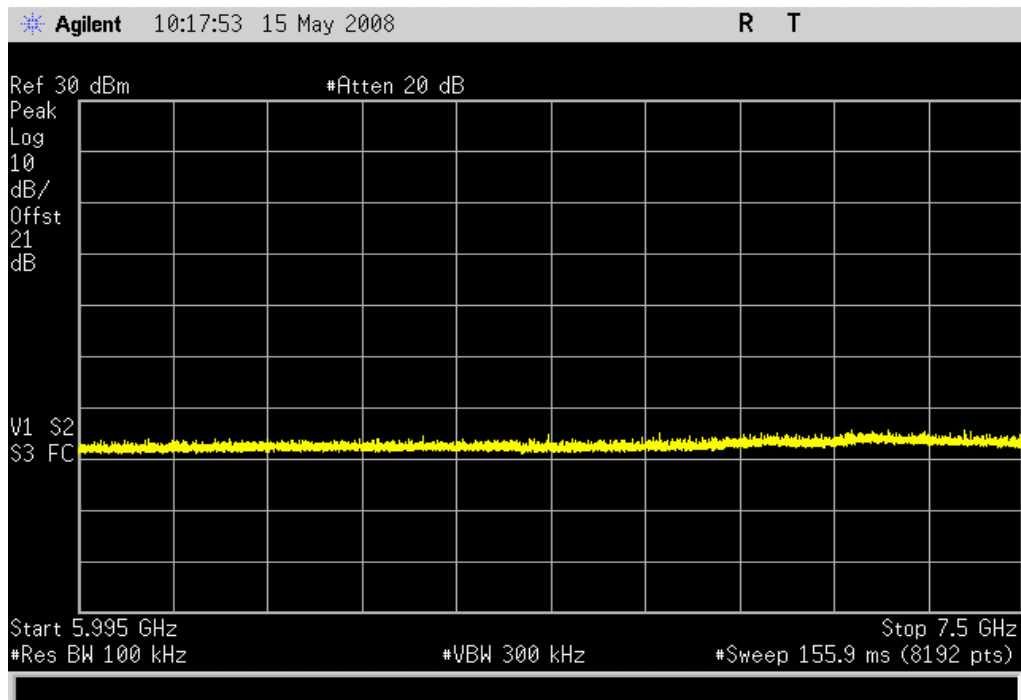
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Result: Pass

Value: ≤ -30 dBmLimit: ≤ -13 dBm

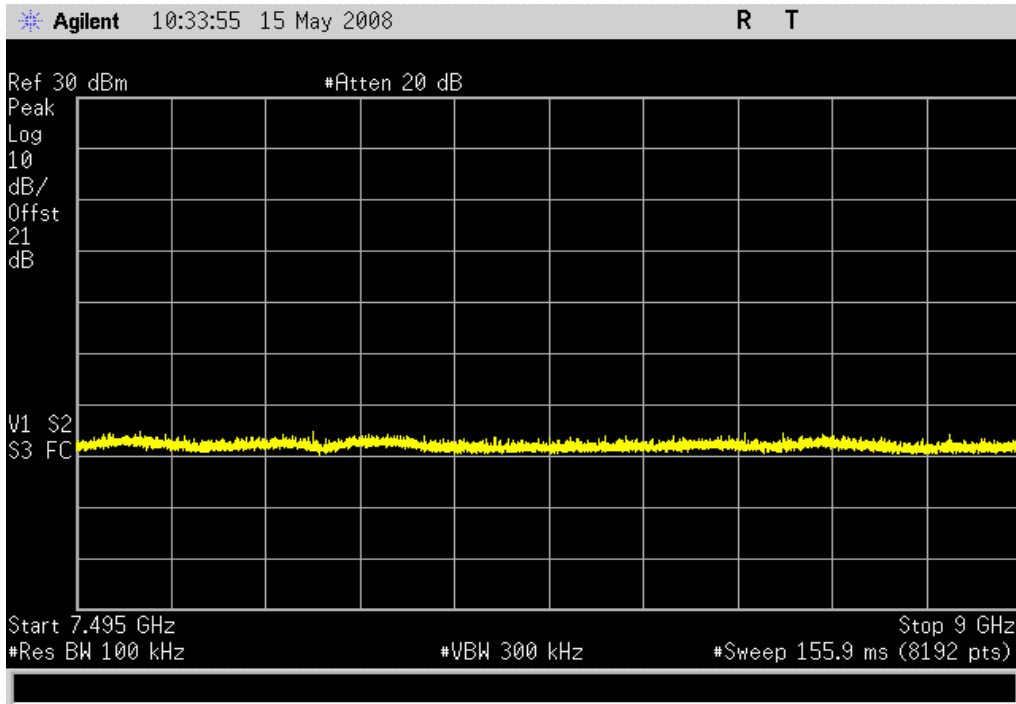
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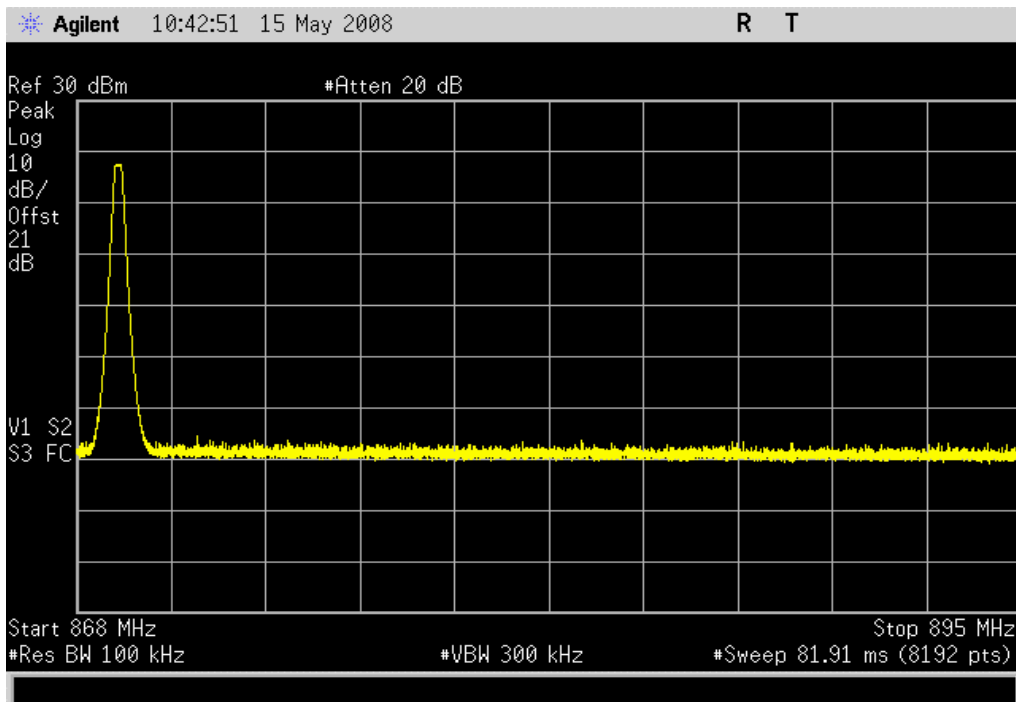
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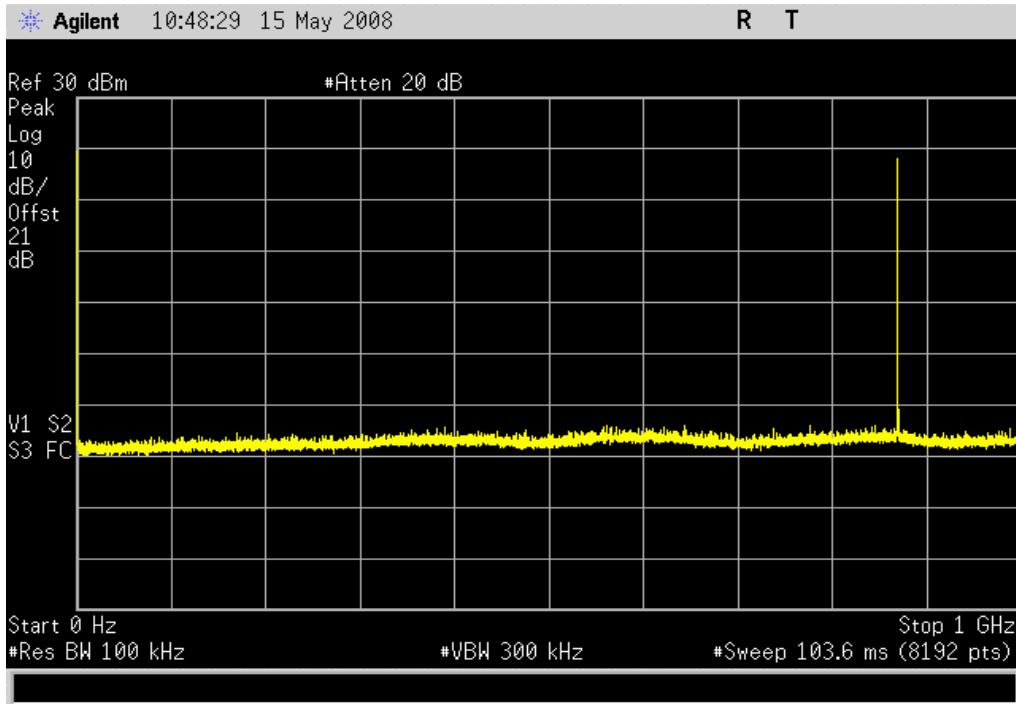
GPRS Modulation, Low Channel, In Band

Result: Pass **Value:** ≤ -30 dBm **Limit:** ≤ -13 dBm



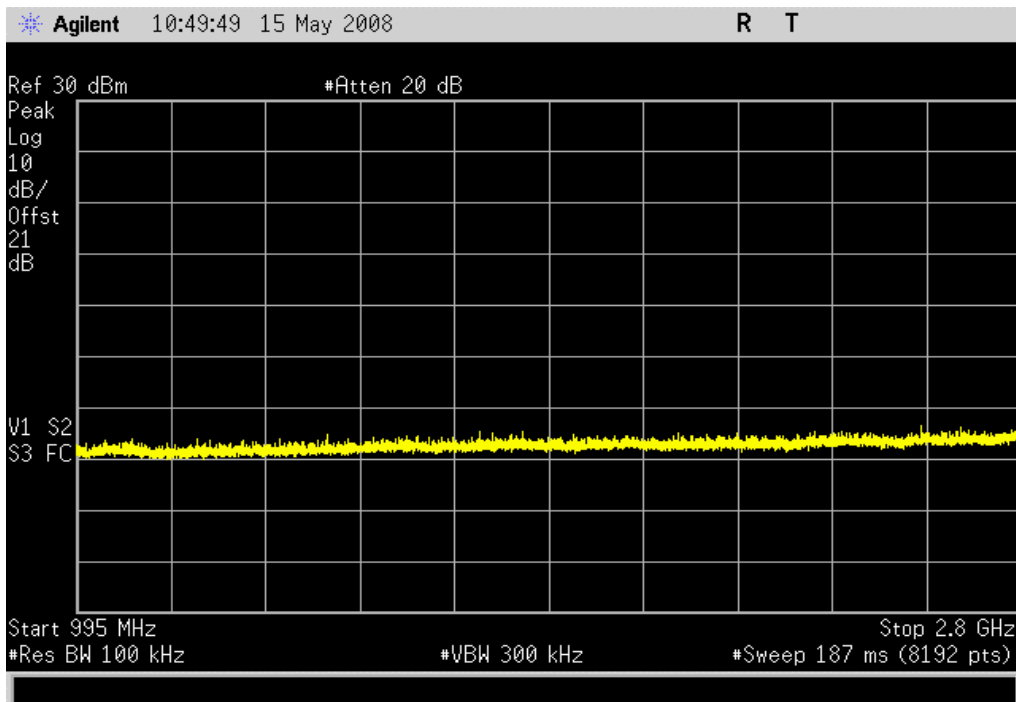
GPRS Modulation, Low Channel, 0-1GHz

Result: Pass **Value:** ≤ -30 dBm **Limit:** ≤ -13 dBm



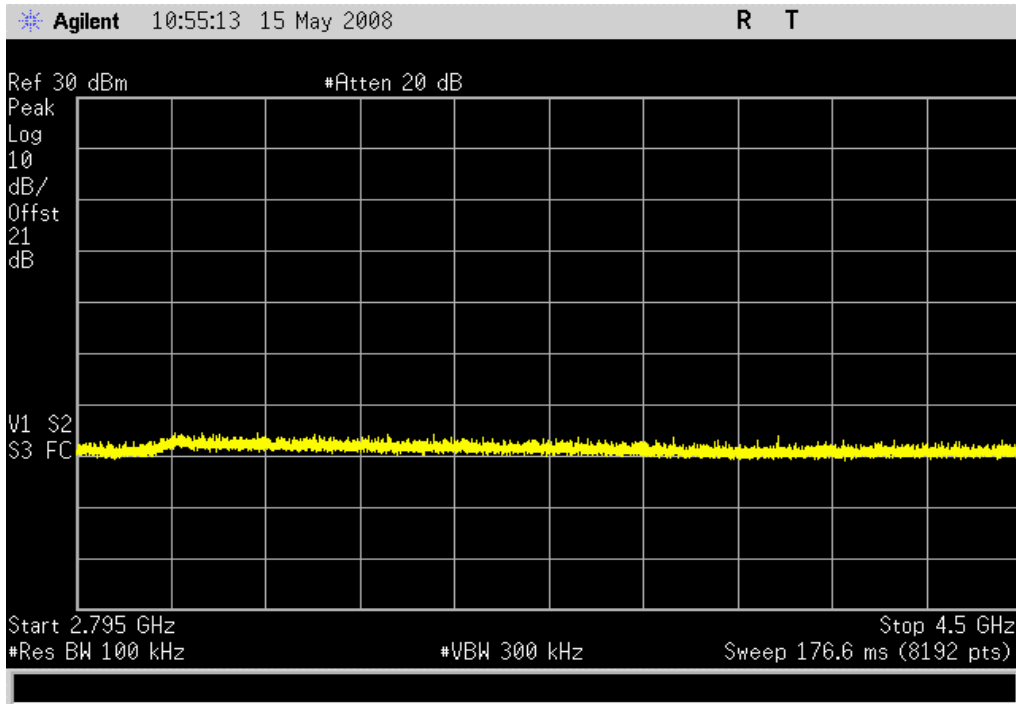
GPRS Modulation, Low Channel, 995MHz-2.8GHz

Result: Pass **Value:** ≤ -30 dBm **Limit:** ≤ -13 dBm



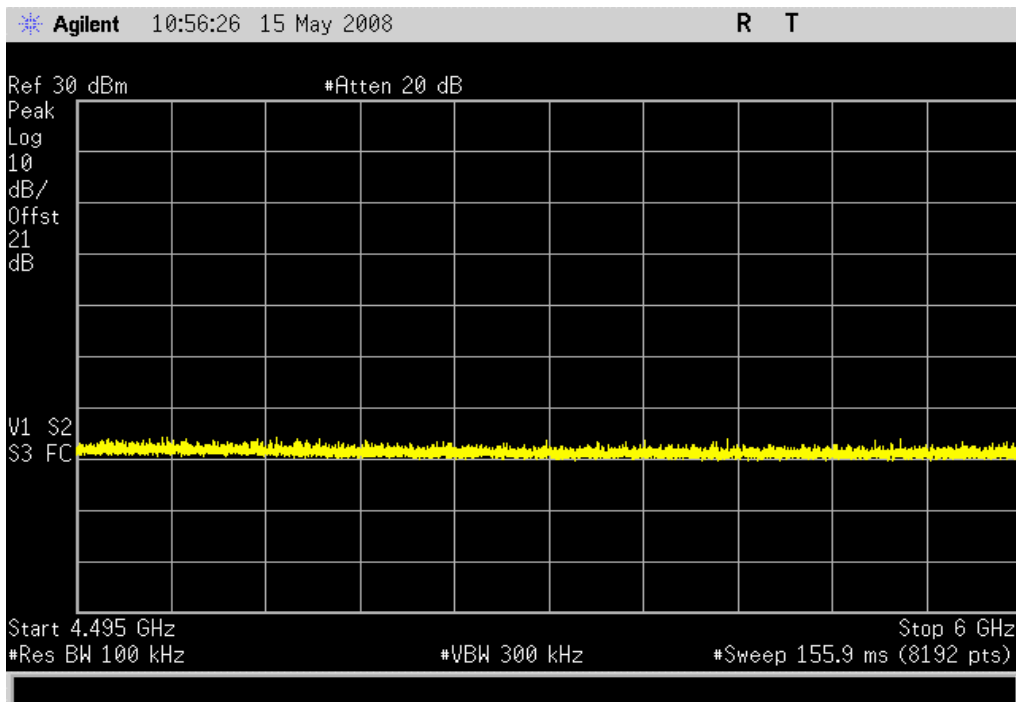
GPRS Modulation, Low Channel, 2.795GHz-4.5GHz

Result: Pass **Value:** ≤ -30 dBm **Limit:** ≤ -13 dBm



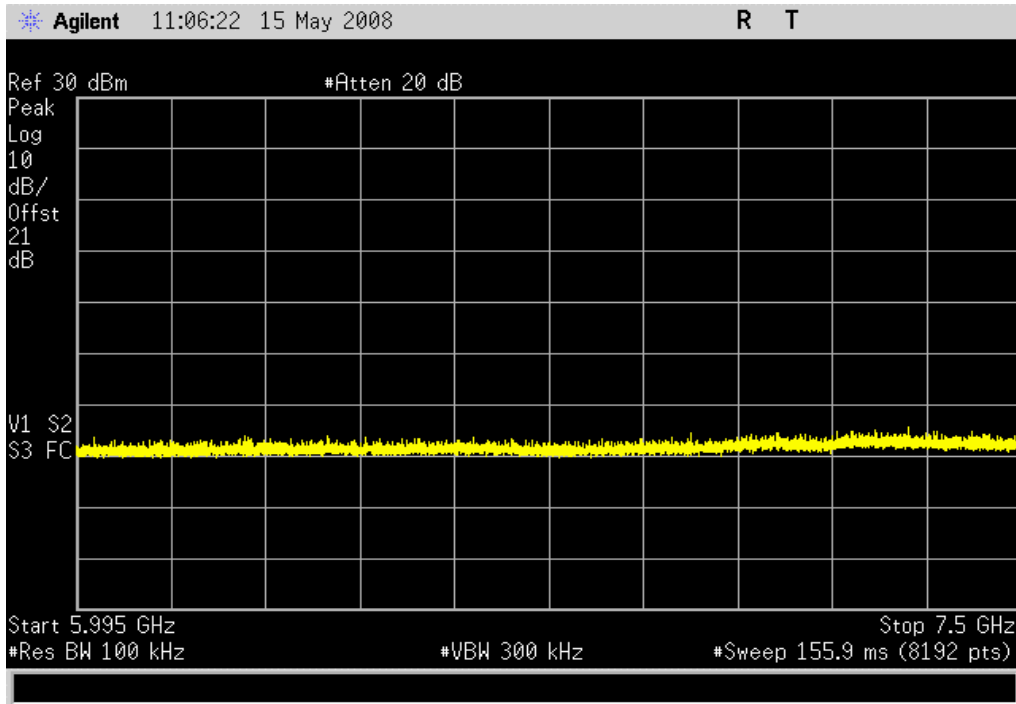
GPRS Modulation, Low Channel, 4.495GHz-6GHz

Result: Pass **Value:** ≤ -30 dBm **Limit:** ≤ -13 dBm



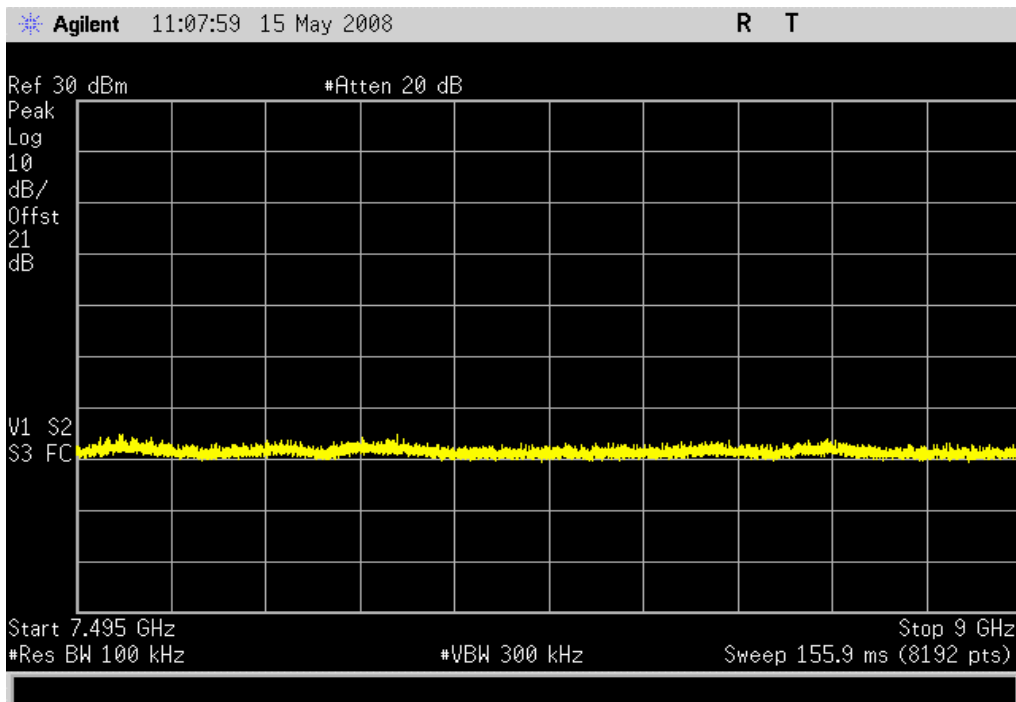
GPRS Modulation, Low Channel, 5.995GHz-7.5GHz

Result: Pass **Value:** ≤ -30 dBm **Limit:** ≤ -13 dBm



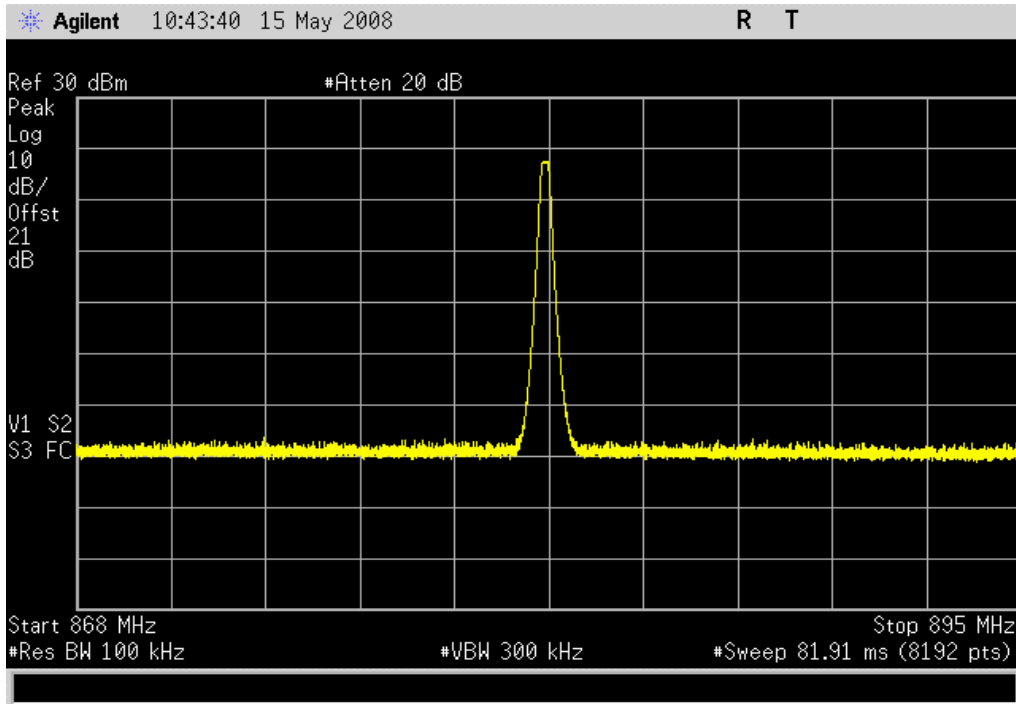
GPRS Modulation, Low Channel, 7.495GHz-9.5GHz

Result: Pass **Value:** ≤ -30 dBm **Limit:** ≤ -13 dBm



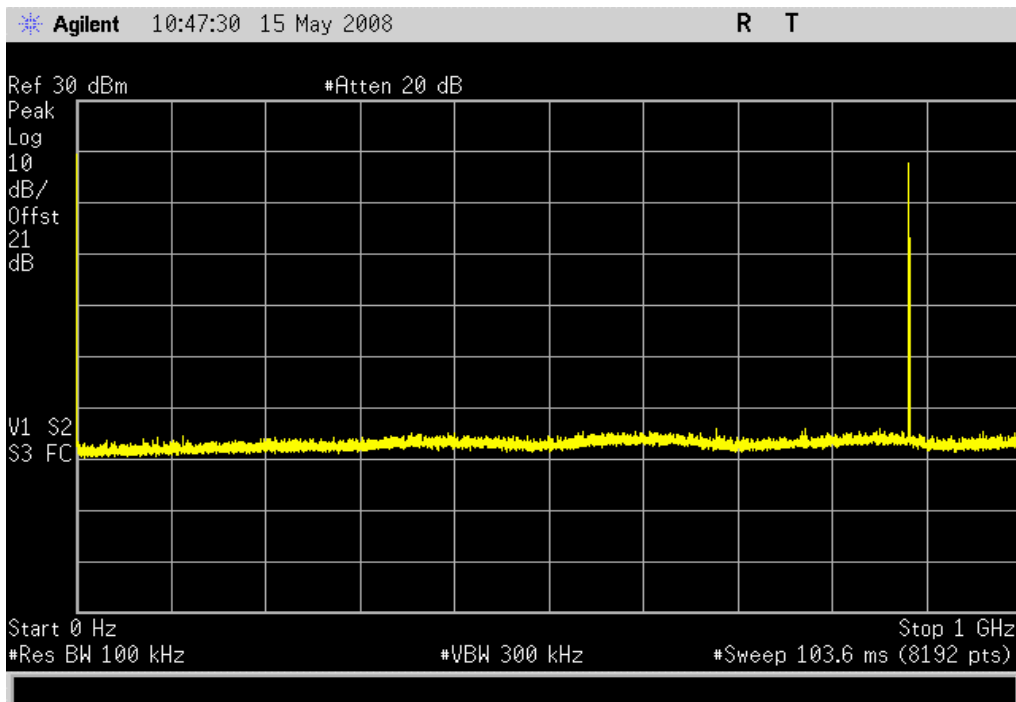
GPRS Modulation, Mid Channel, In Band

Result: Pass **Value:** ≤ -30 dBm **Limit:** ≤ -13 dBm



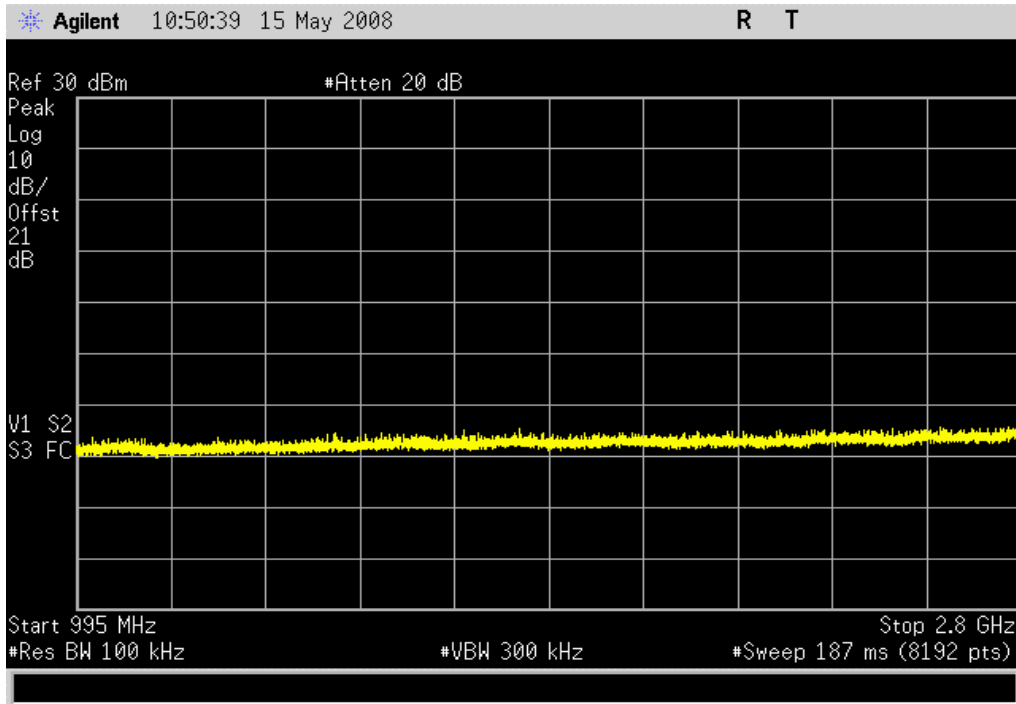
GPRS Modulation, Mid Channel, 0-1GHz

Result: Pass **Value:** ≤ -30 dBm **Limit:** ≤ -13 dBm



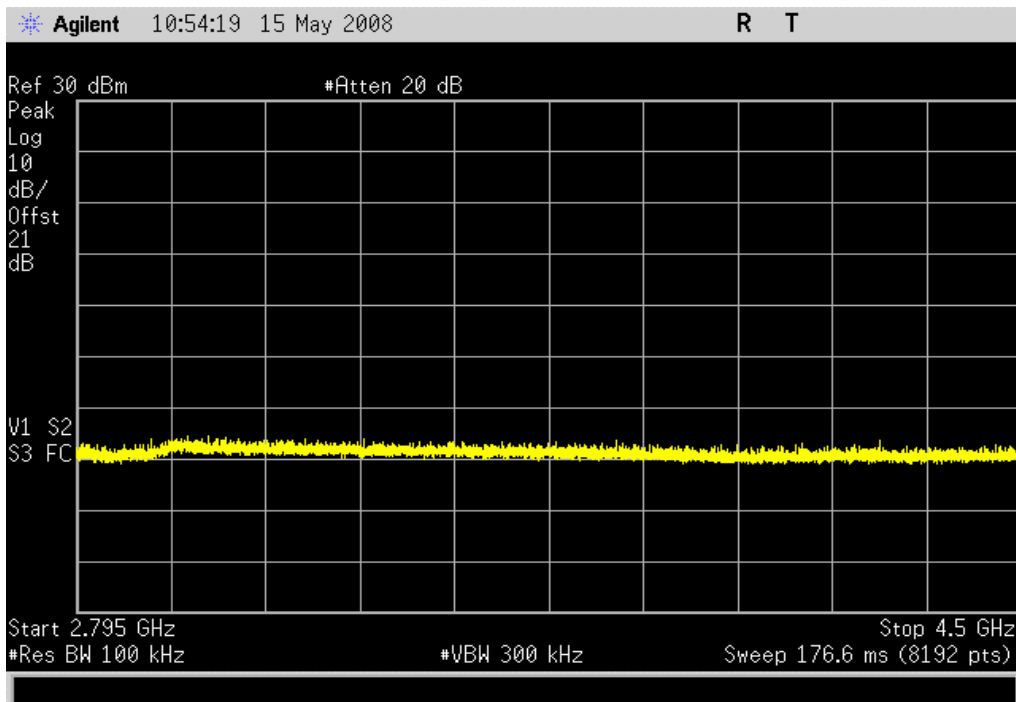
GPRS Modulation, Mid Channel, 995MHz-2.8GHz

Result: Pass **Value:** ≤ -30 dBm **Limit:** ≤ -13 dBm



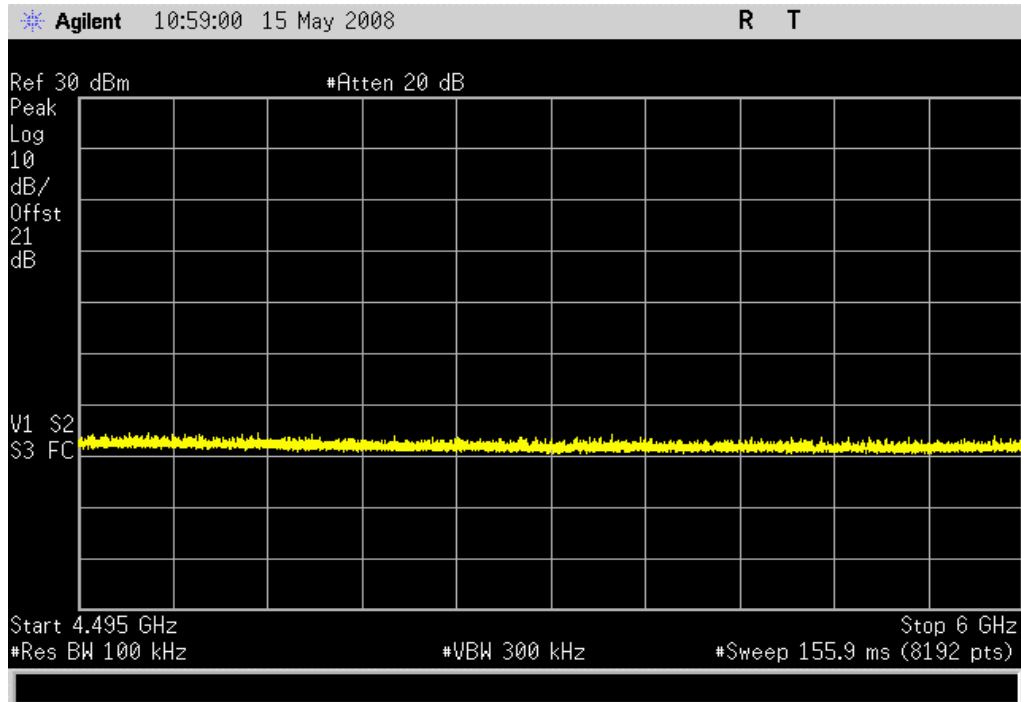
GPRS Modulation, Mid Channel, 2.795GHz-4.5GHz

Result: Pass **Value:** ≤ -30 dBm **Limit:** ≤ -13 dBm



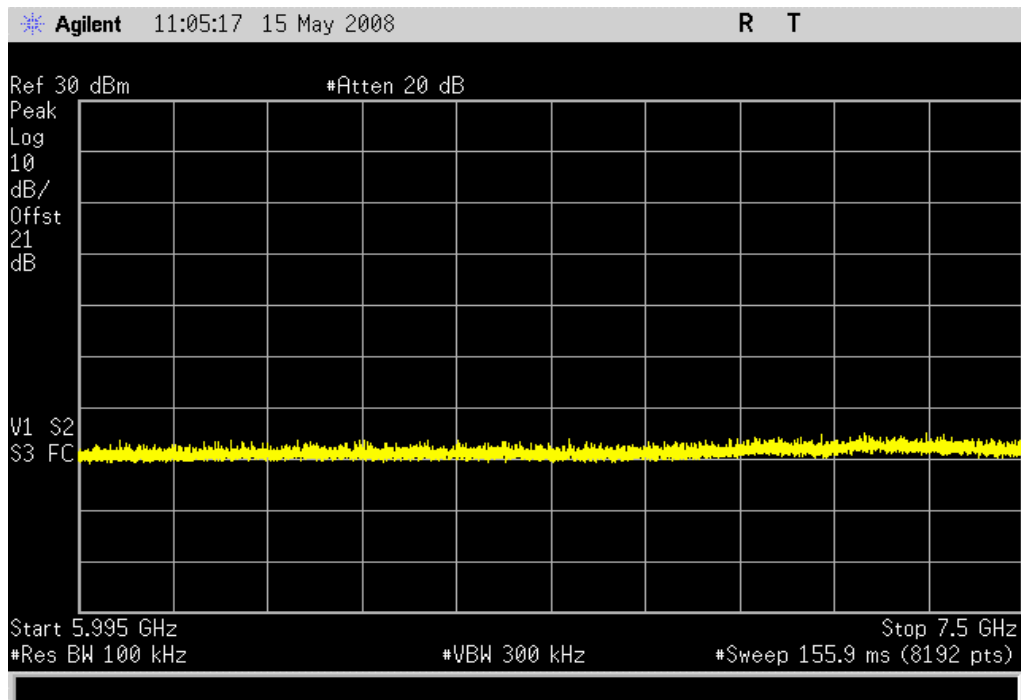
GPRS Modulation, Mid Channel, 4.495GHz-6GHz

Result: Pass

Value: ≤ -30 dBmLimit: ≤ -13 dBm

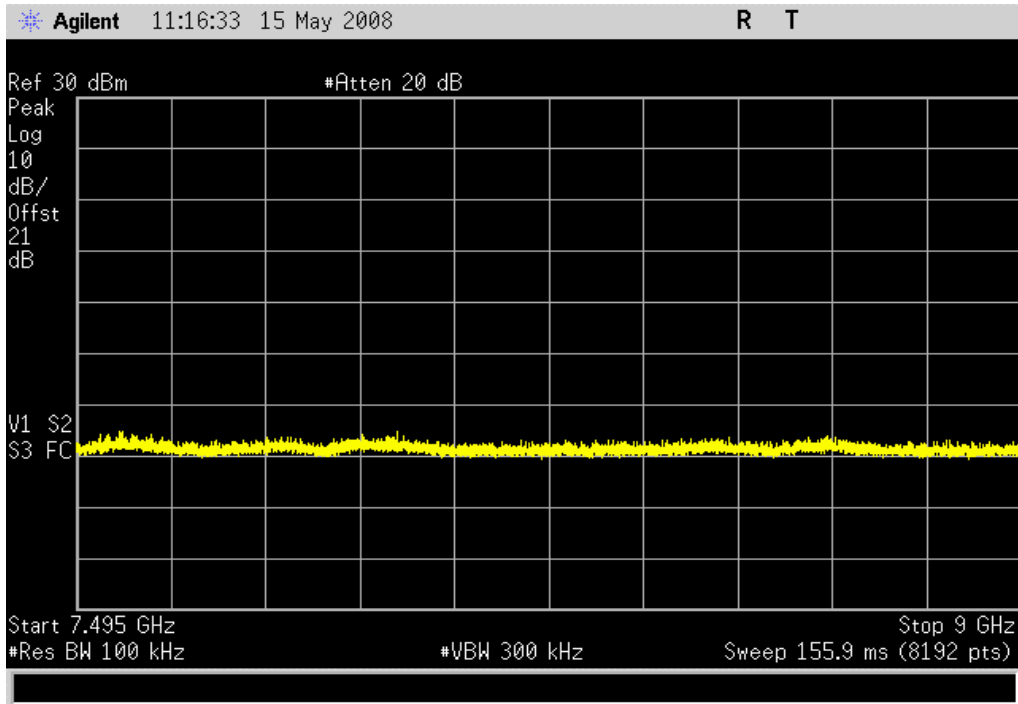
GPRS Modulation, Mid Channel, 5.995GHz-7.5GHz

Result: Pass

Value: ≤ -30 dBmLimit: ≤ -13 dBm

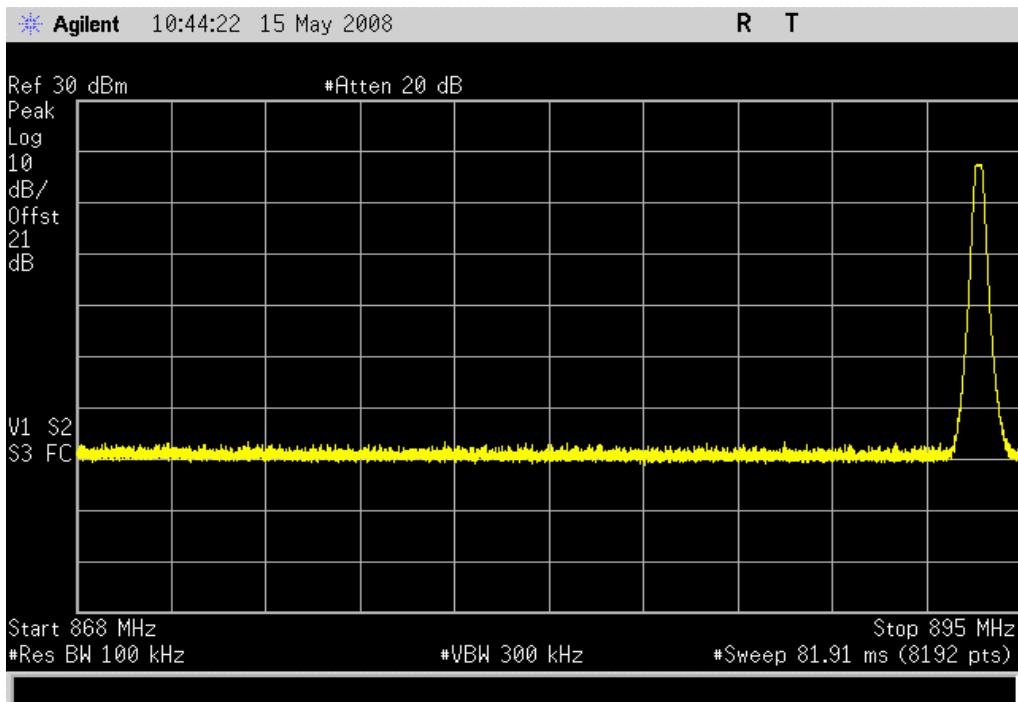
GPRS Modulation, Mid Channel, 7.495GHz-9.5GHz

Result: Pass **Value:** ≤ -30 dBm **Limit:** ≤ -13 dBm



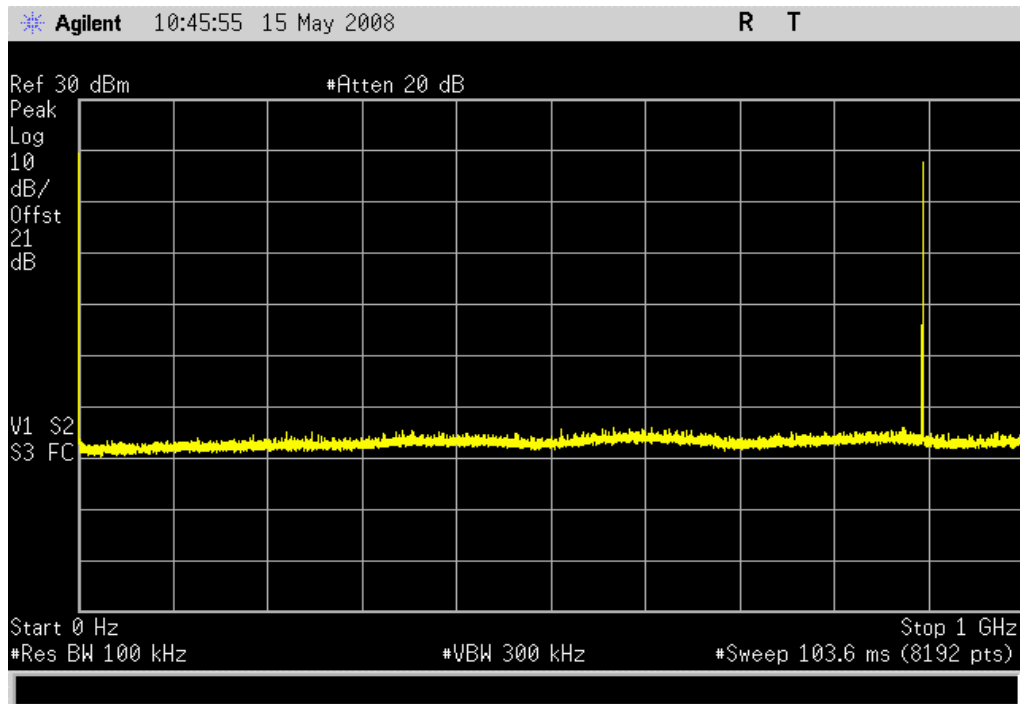
GPRS Modulation, High Channel, In Band

Result: Pass **Value:** ≤ -30 dBm **Limit:** ≤ -13 dBm



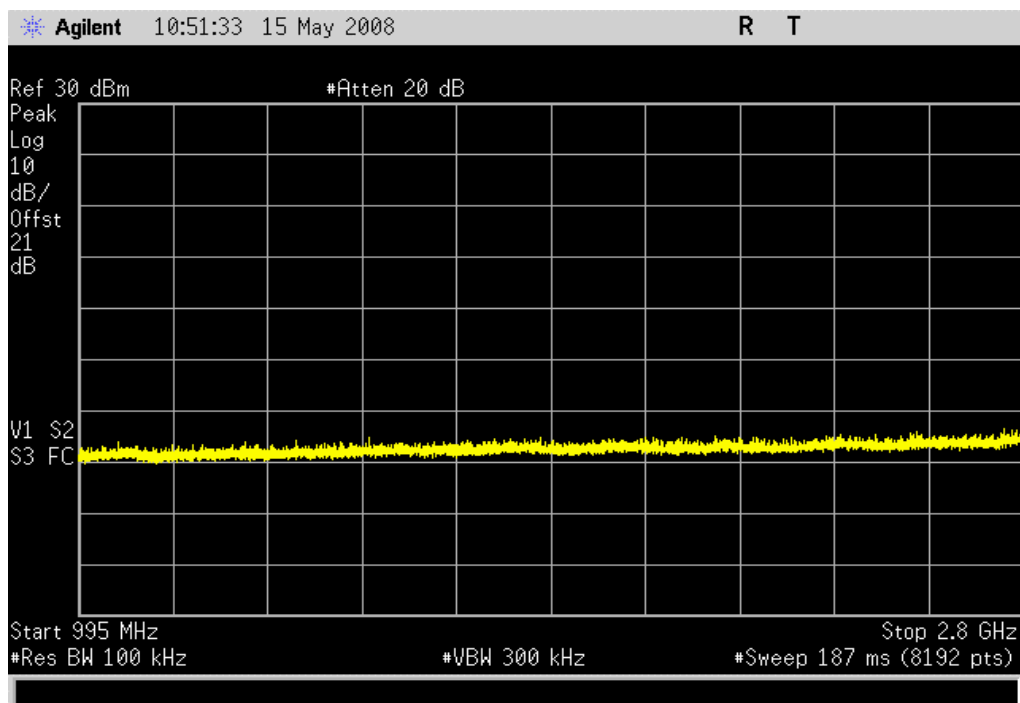
GPRS Modulation, High Channel, 0-1GHz

Result: Pass

Value: ≤ -30 dBmLimit: ≤ -13 dBm

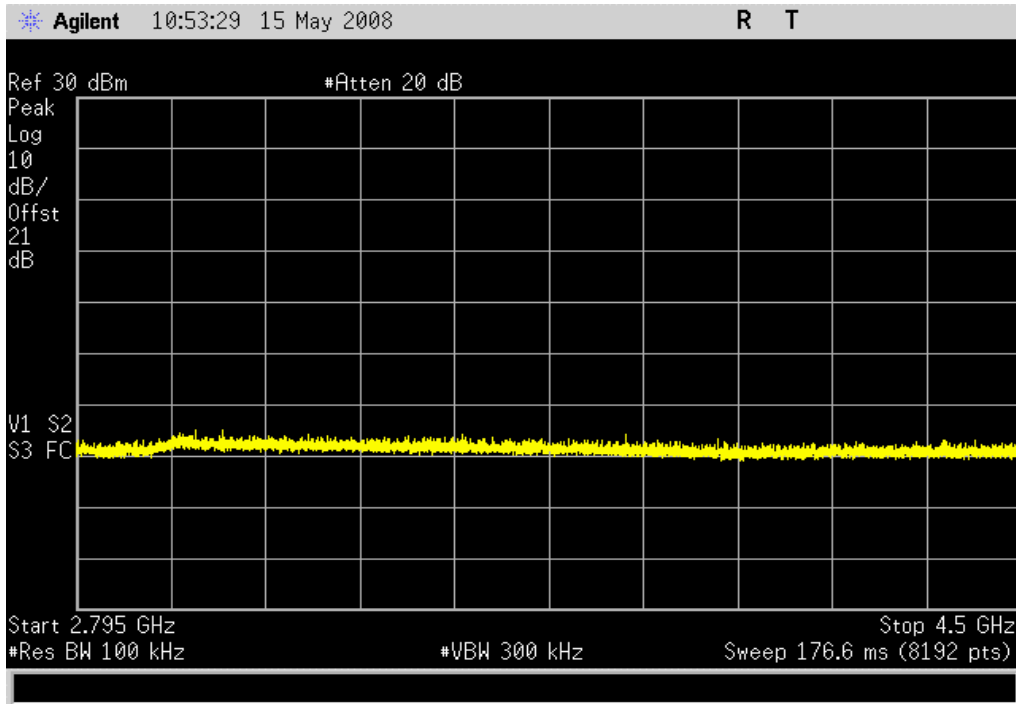
GPRS Modulation, High Channel, 995MHz-2.8GHz

Result: Pass

Value: ≤ -30 dBmLimit: ≤ -13 dBm

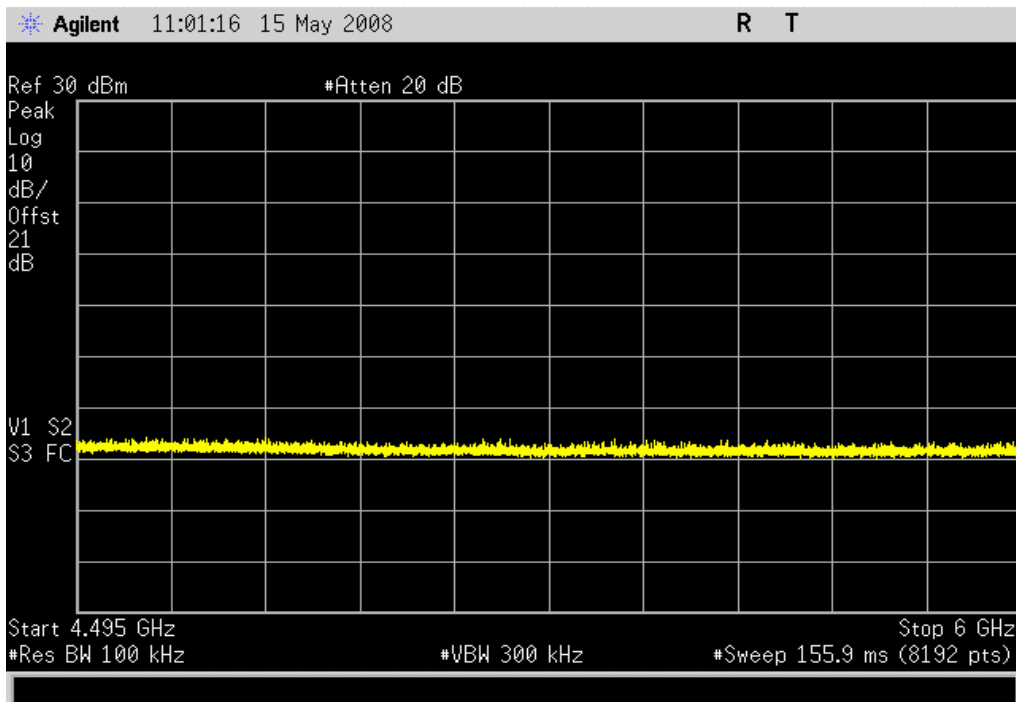
GPRS Modulation, High Channel, 2.795GHz-4.5GHz

Result: Pass **Value:** ≤ -30 dBm **Limit:** ≤ -13 dBm



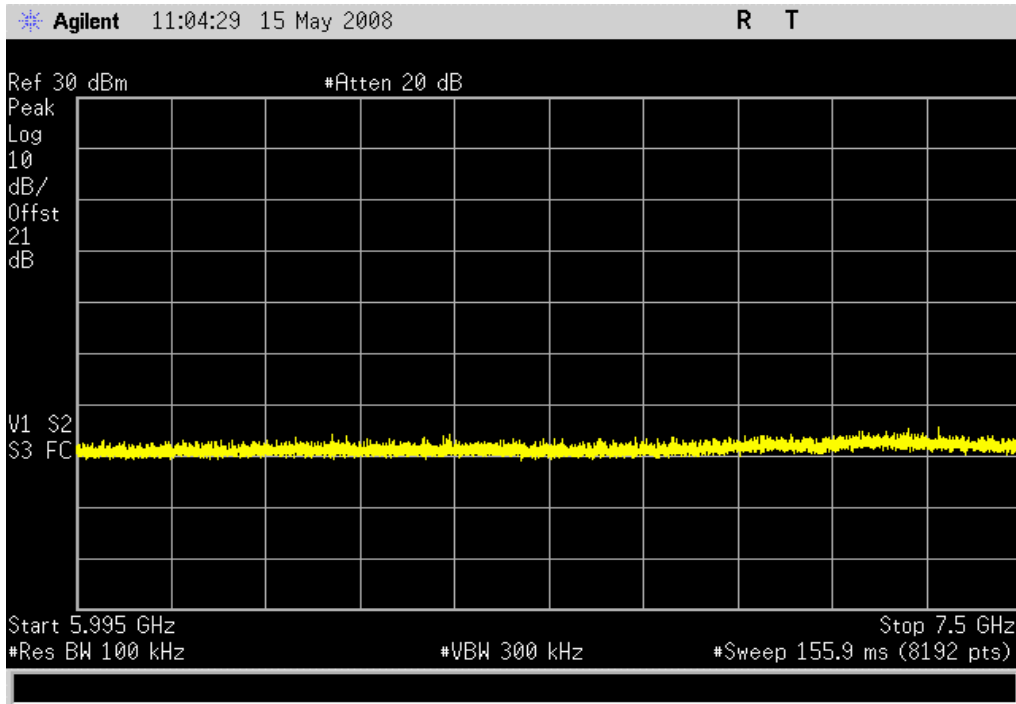
GPRS Modulation, High Channel, 4.495GHz-6GHz

Result: Pass **Value:** ≤ -30 dBm **Limit:** ≤ -13 dBm



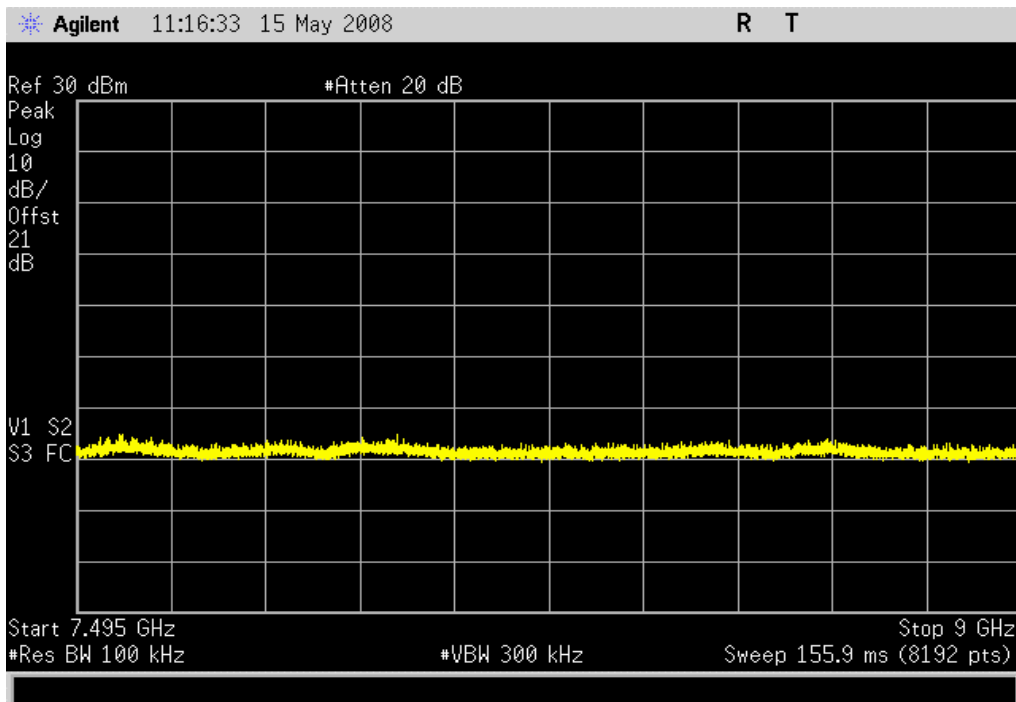
GPRS Modulation, High Channel, 5.995GHz-7.5GHz

Result: Pass **Value:** ≤ -30 dBm **Limit:** ≤ -13 dBm

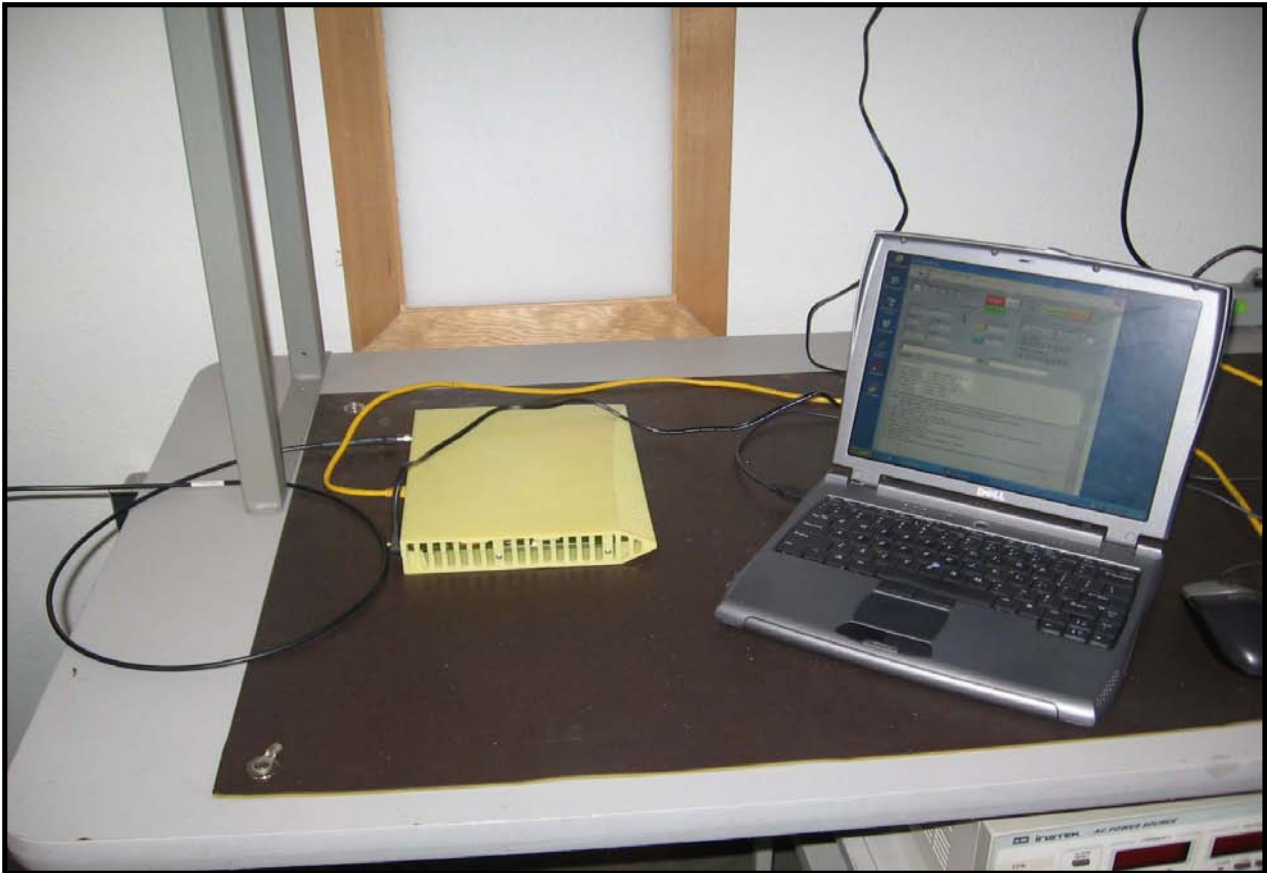


GPRS Modulation, High Channel, 7.495GHz-9.5GHz

Result: Pass **Value:** ≤ -30 dBm **Limit:** ≤ -13 dBm



SPURIOUS EMISSIONS AT ANTENNA TERMINALS



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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Spectrum Analyzer	Agilent	E4407B	AAU	12/7/2007	13
Attenuator 20 dB, SMA M/F 26GHz	S.M. Electronics	SA26B-20	AUY	6/8/2007	13
Power Meter	Gigatronics	8651A	SPM	12/7/2007	13
Power Sensor	Gigatronics	80701A	SPL	12/7/2007	13
Signal Generator	Hewlett-Packard	8648D	TGC	12/7/2007	13

MEASUREMENT UNCERTAINTY

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

TEST DESCRIPTION

The antenna port spurious emissions were measured at the RF output terminal of the EUT with 30dB of external attenuation on the RF input of the spectrum analyzer. Analyzer plots utilizing a 1MHz resolution bandwidth and no video filtering were made for each modulation type from 0 to 20 GHz. The peak conducted power of spurious emissions, up to the 10th harmonic of the transmit frequency, were investigated to ensure they were less than or equal to -13 dBm.

EUT:	OmniCell@Home	Work Order:	RAFNO085
Serial Number:	None	Date:	05/15/08
Customer:	Radioframe Networks, Inc.	Temperature:	24°C
Attendees:	None	Humidity:	41%
Project:	None	Barometric Pres.:	1027.5 mB
Tested by:	Rod Peloquin	Power:	120VAC/60Hz
		Job Site:	EV06

TEST SPECIFICATIONS	Test Method
FCC 24E:2007	ANSI/TIA/EIA-603-B-2002

COMMENTS
None

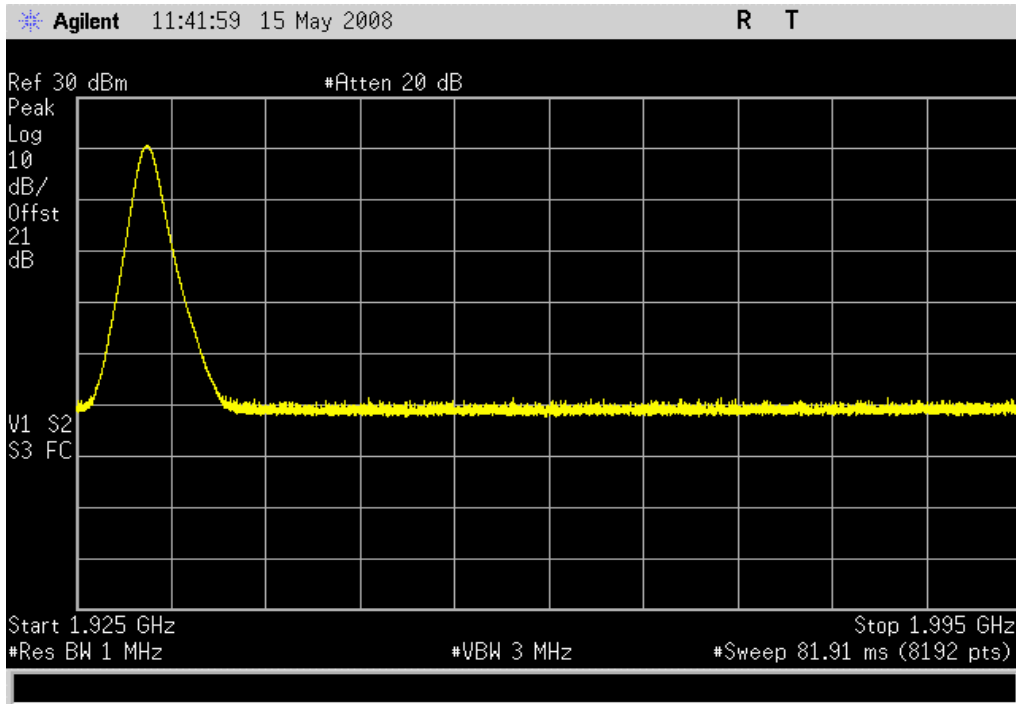
DEVIATIONS FROM TEST STANDARD
No Deviations

Configuration #	2	<i>Rod L. Peloquin</i> Signature
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		Value	Limit	Results
GSM Modulation				
	Low Channel			
	In Band	≤ -25 dBm	≤ -13 dBm	Pass
	0-2.8 GHz	≤ -25 dBm	≤ -13 dBm	Pass
	2.795 GHz-9 GHz	≤ -25 dBm	≤ -13 dBm	Pass
	8.995 GHz-14 GHz	≤ -25 dBm	≤ -13 dBm	Pass
	13.995 GHz-20 GHz	≤ -25 dBm	≤ -13 dBm	Pass
	Mid Channel			
	In Band	≤ -25 dBm	≤ -13 dBm	Pass
	0-2.8 GHz	≤ -25 dBm	≤ -13 dBm	Pass
	2.795 GHz-9 GHz	≤ -25 dBm	≤ -13 dBm	Pass
	8.995 GHz-14 GHz	≤ -25 dBm	≤ -13 dBm	Pass
	13.995 GHz-20 GHz	≤ -25 dBm	≤ -13 dBm	Pass
	High Channel			
	In Band	≤ -25 dBm	≤ -13 dBm	Pass
	0-2.8 GHz	≤ -25 dBm	≤ -13 dBm	Pass
	2.795 GHz-9 GHz	≤ -25 dBm	≤ -13 dBm	Pass
	8.995 GHz-14 GHz	≤ -25 dBm	≤ -13 dBm	Pass
	13.995 GHz-20 GHz	≤ -25 dBm	≤ -13 dBm	Pass
GPRS Modulation				
	Low Channel			
	In Band	≤ -25 dBm	≤ -13 dBm	Pass
	0-2.8 GHz	≤ -25 dBm	≤ -13 dBm	Pass
	2.795 GHz-9 GHz	≤ -25 dBm	≤ -13 dBm	Pass
	8.995 GHz-14 GHz	≤ -25 dBm	≤ -13 dBm	Pass
	13.995 GHz-20 GHz	≤ -25 dBm	≤ -13 dBm	Pass
	Mid Channel			
	In Band	≤ -25 dBm	≤ -13 dBm	Pass
	0-2.8 GHz	≤ -25 dBm	≤ -13 dBm	Pass
	2.795 GHz-9 GHz	≤ -25 dBm	≤ -13 dBm	Pass
	8.995 GHz-14 GHz	≤ -25 dBm	≤ -13 dBm	Pass
	13.995 GHz-20 GHz	≤ -25 dBm	≤ -13 dBm	Pass
	High Channel			
	In Band	≤ -25 dBm	≤ -13 dBm	Pass
	0-2.8 GHz	≤ -25 dBm	≤ -13 dBm	Pass
	2.795 GHz-9 GHz	≤ -25 dBm	≤ -13 dBm	Pass
	8.995 GHz-14 GHz	≤ -25 dBm	≤ -13 dBm	Pass
	13.995 GHz-20 GHz	≤ -25 dBm	≤ -13 dBm	Pass

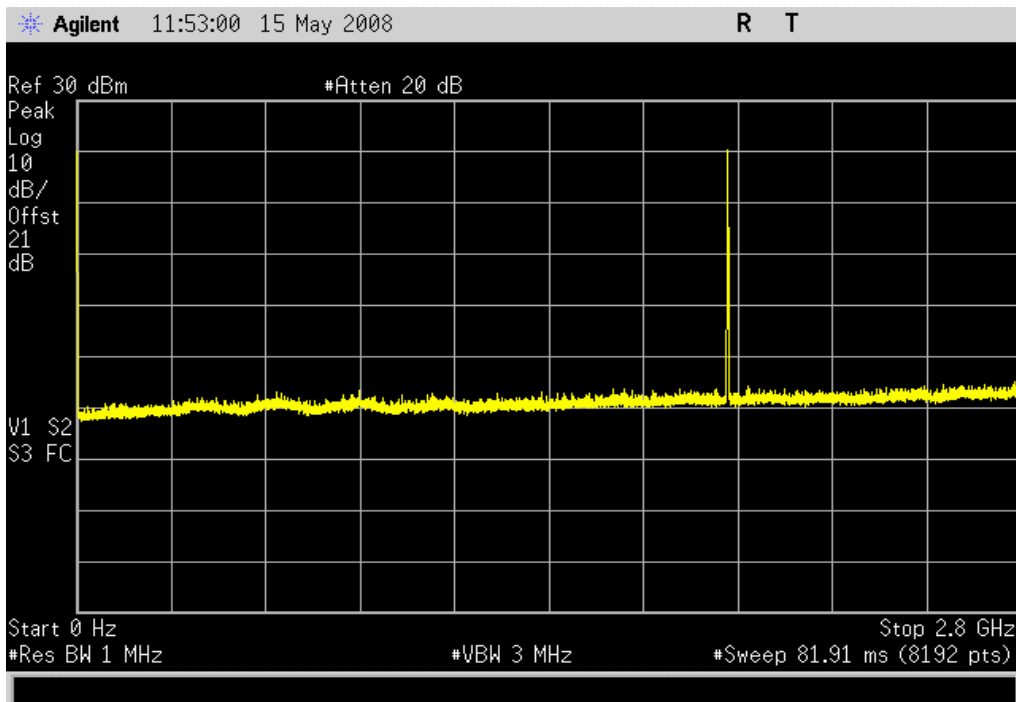
GSM Modulation, Low Channel, In Band

Result: Pass **Value:** ≤ -25 dBm **Limit:** ≤ -13 dBm



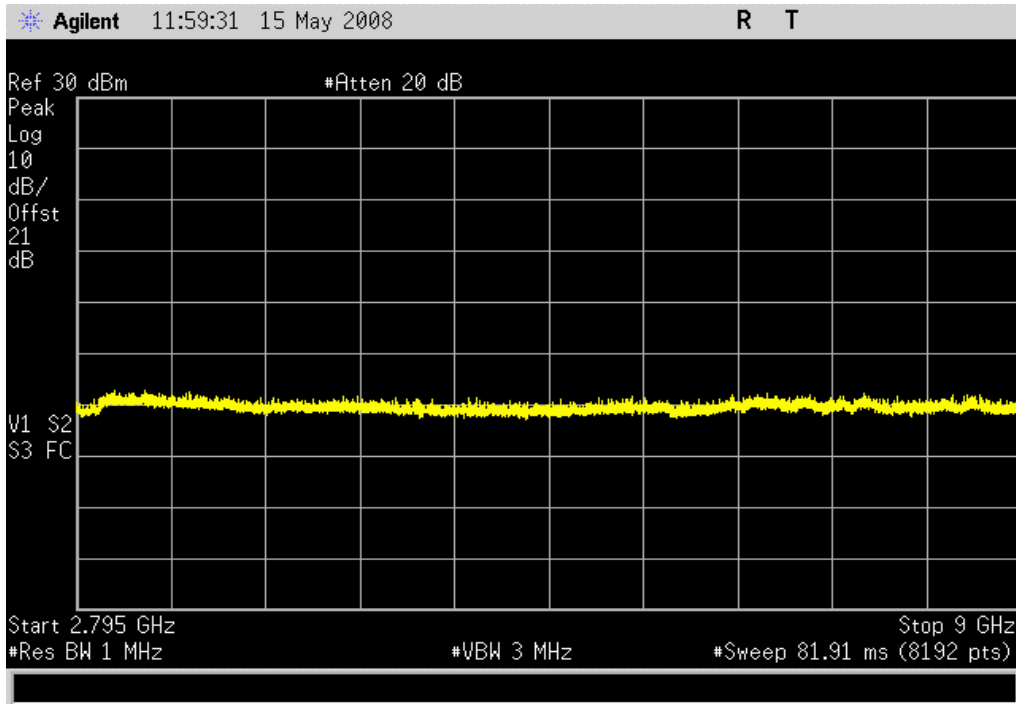
GSM Modulation, Low Channel, 0-2.8 GHz

Result: Pass **Value:** ≤ -25 dBm **Limit:** ≤ -13 dBm



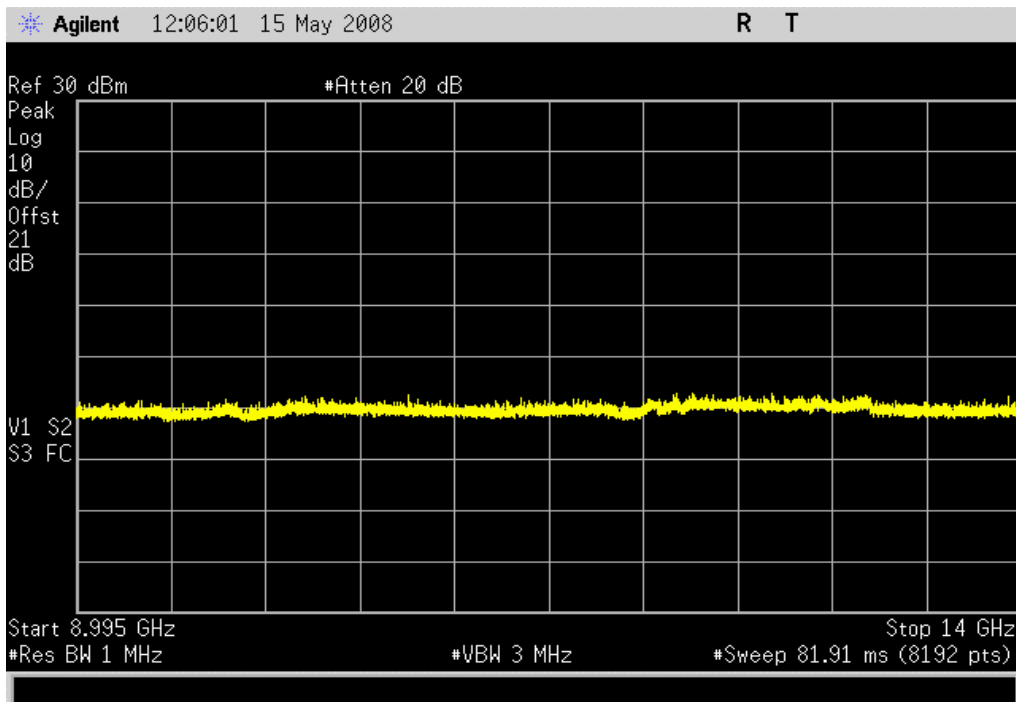
GSM Modulation, Low Channel, 2.795 GHz-9 GHz

Result: Pass **Value:** ≤ -25 dBm **Limit:** ≤ -13 dBm



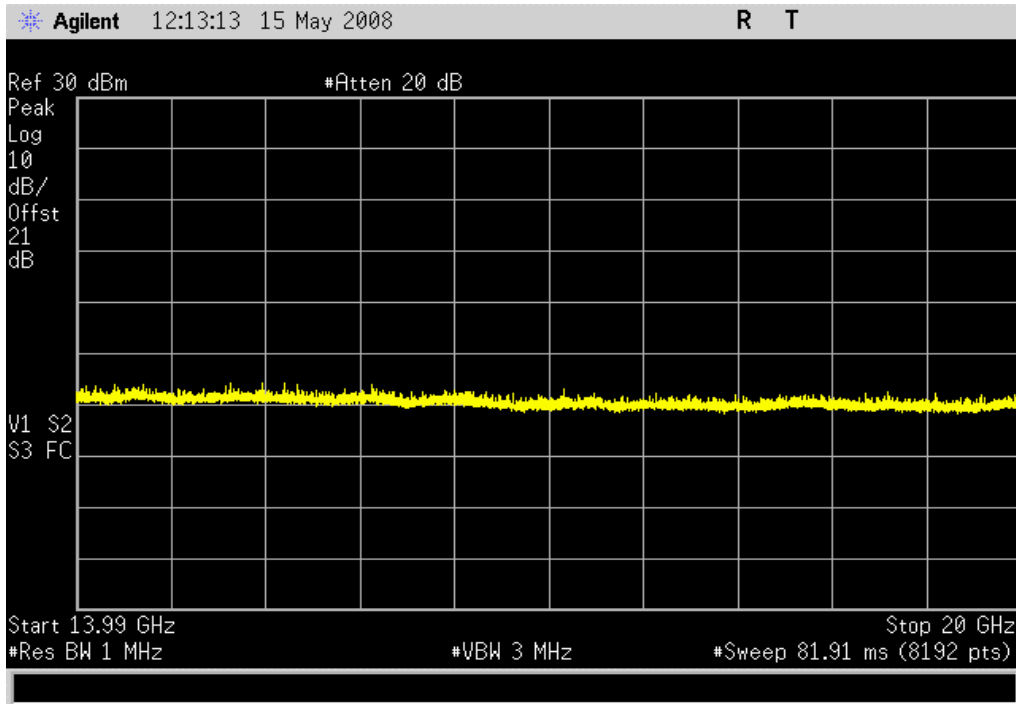
GSM Modulation, Low Channel, 8.995 GHz-14 GHz

Result: Pass **Value:** ≤ -25 dBm **Limit:** ≤ -13 dBm



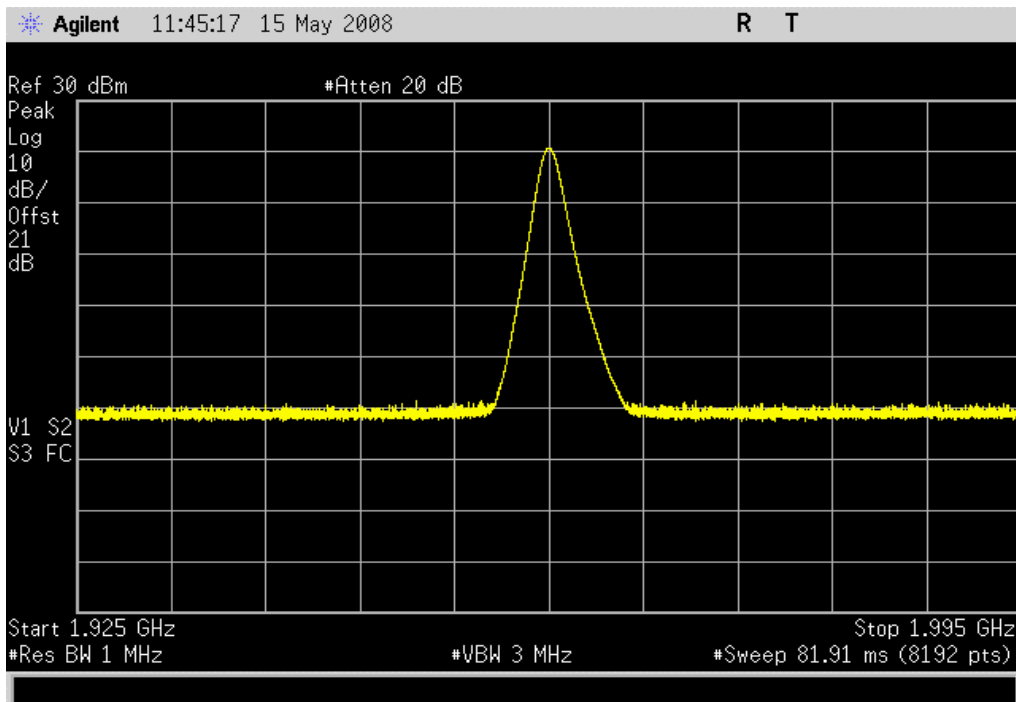
GSM Modulation, Low Channel, 13.995 GHz-20 GHz

Result: Pass **Value:** ≤ -25 dBm **Limit:** ≤ -13 dBm



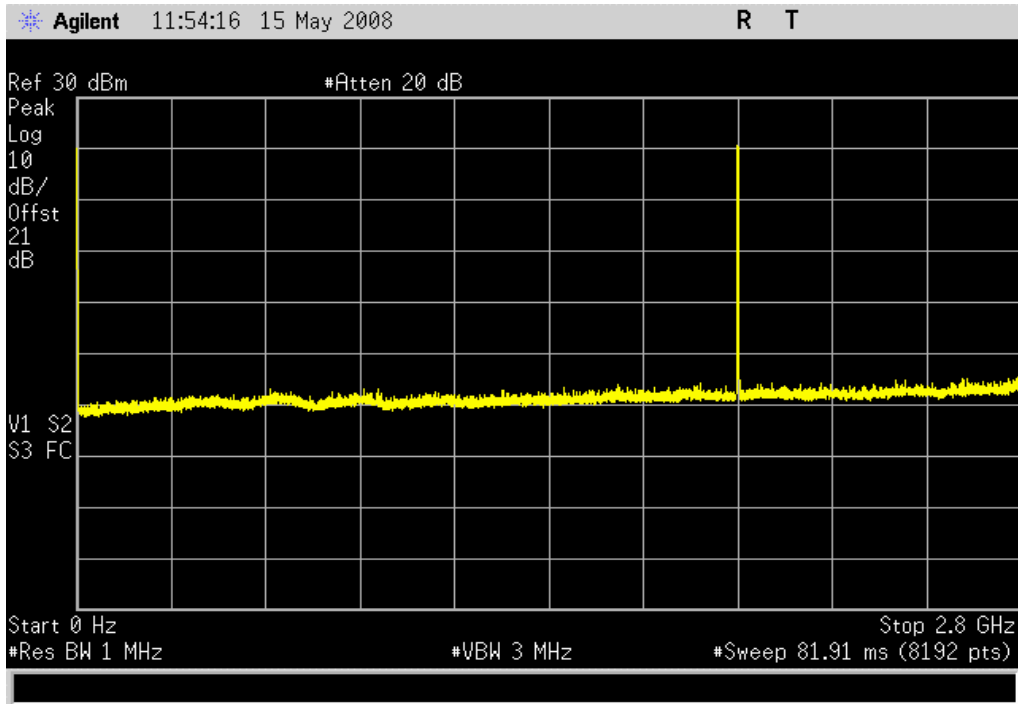
GSM Modulation, Mid Channel, In Band

Result: Pass **Value:** ≤ -25 dBm **Limit:** ≤ -13 dBm



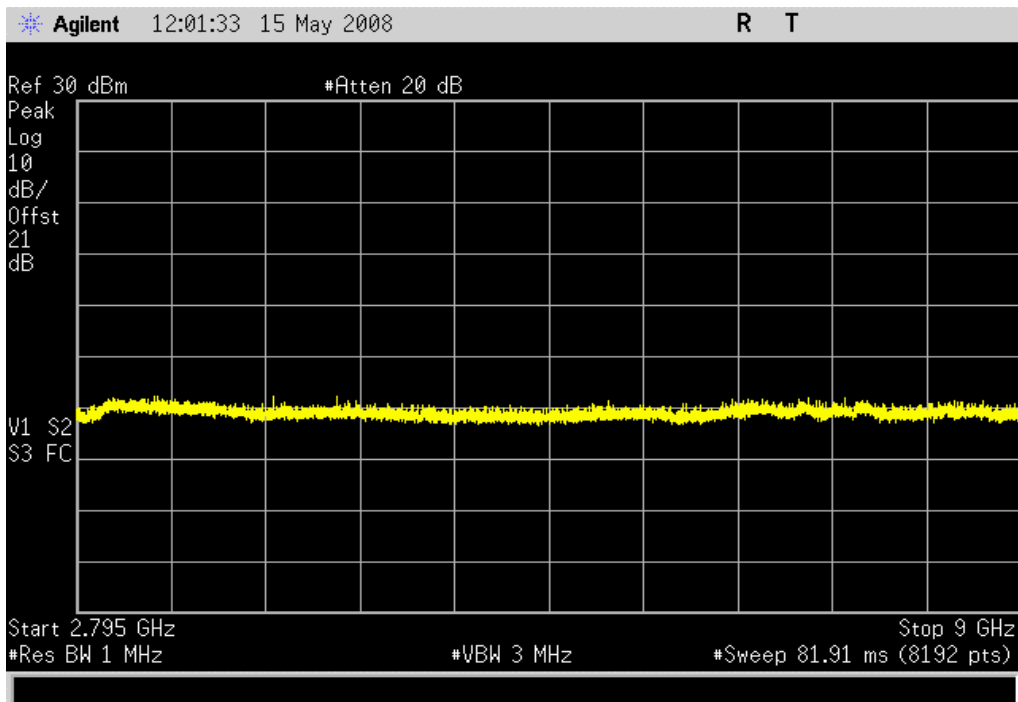
GSM Modulation, Mid Channel, 0-2.8 GHz

Result: Pass **Value:** ≤ -25 dBm **Limit:** ≤ -13 dBm



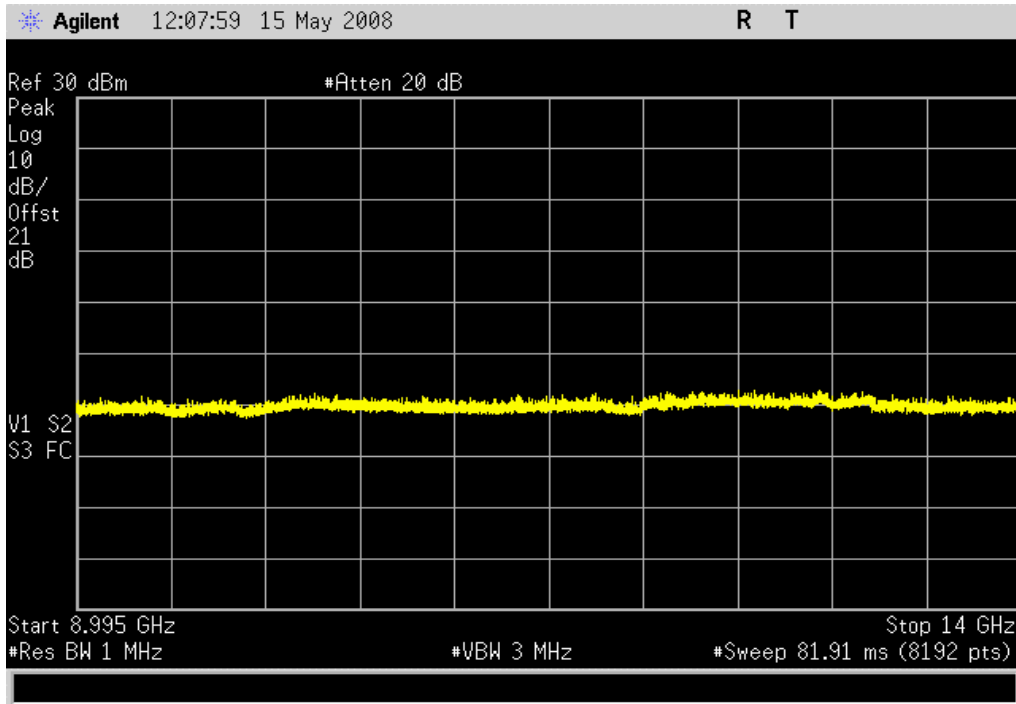
GSM Modulation, Mid Channel, 2.795 GHz-9 GHz

Result: Pass **Value:** ≤ -25 dBm **Limit:** ≤ -13 dBm



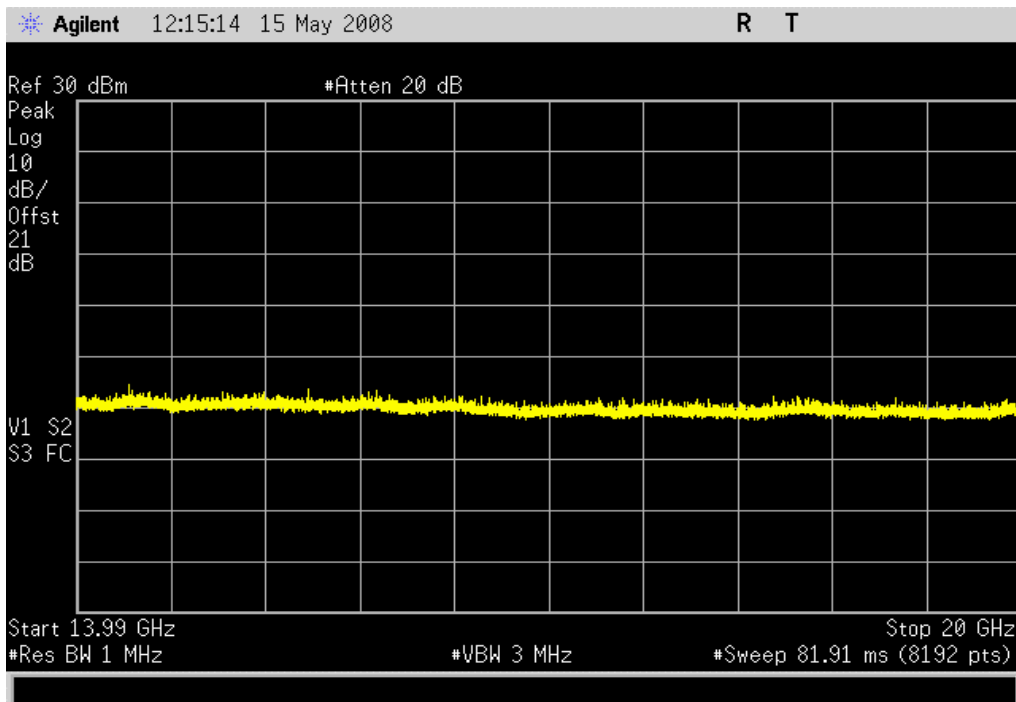
GSM Modulation, Mid Channel, 8.995 GHz-14 GHz

Result: Pass **Value:** ≤ -25 dBm **Limit:** ≤ -13 dBm



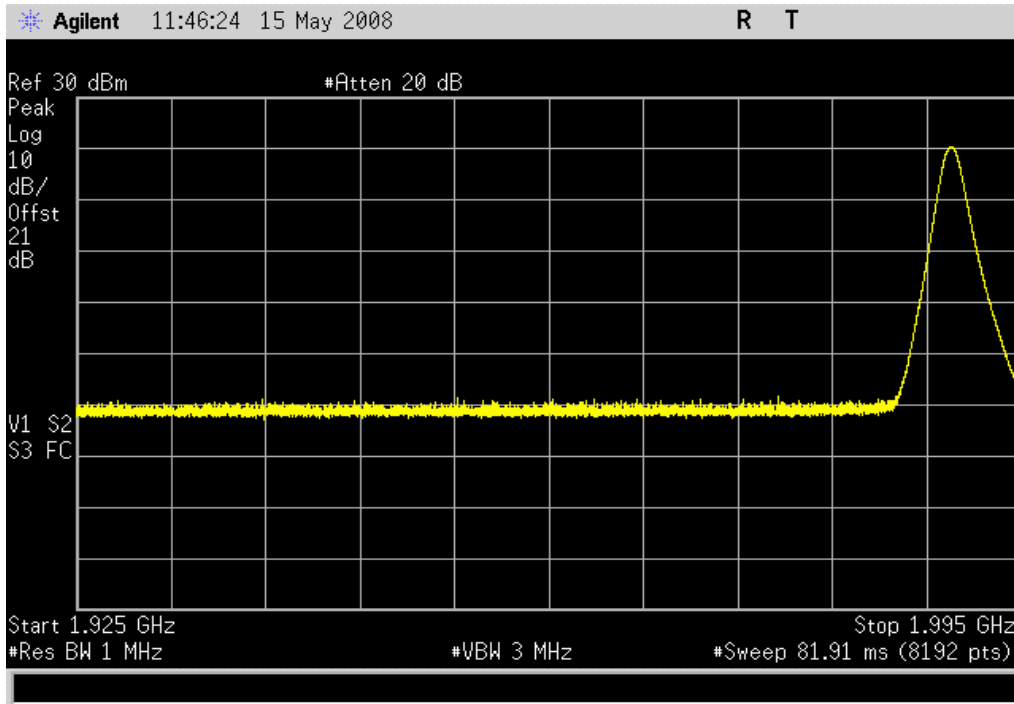
GSM Modulation, Mid Channel, 13.995 GHz-20 GHz

Result: Pass **Value:** ≤ -25 dBm **Limit:** ≤ -13 dBm



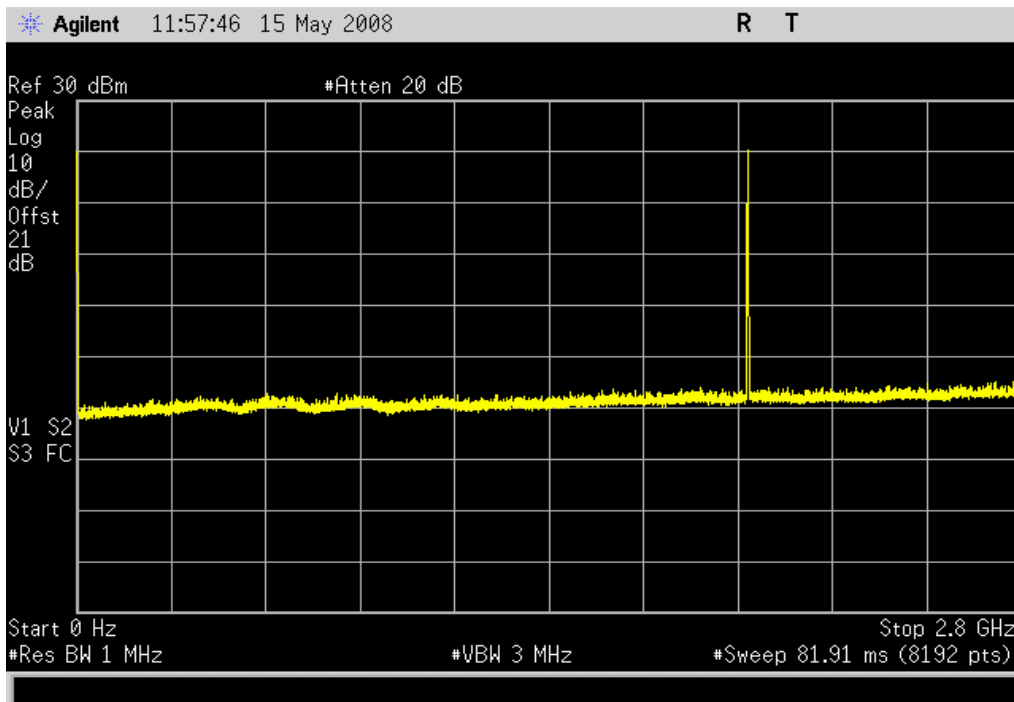
GSM Modulation, High Channel, In Band

Result: Pass **Value:** ≤ -25 dBm **Limit:** ≤ -13 dBm



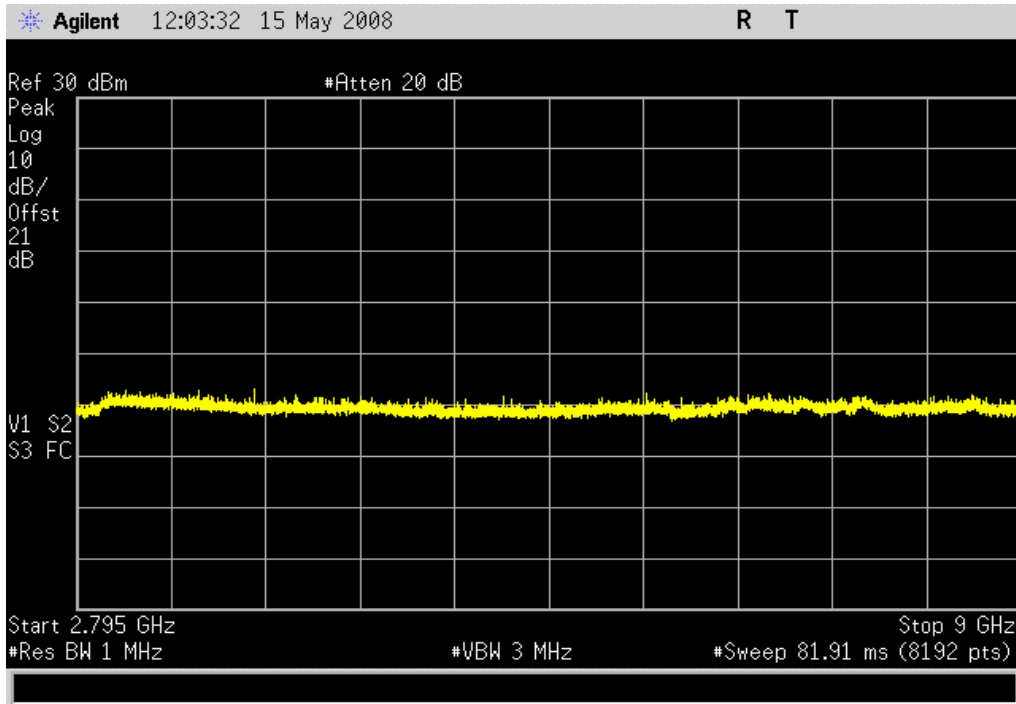
GSM Modulation, High Channel, 0-2.8 GHz

Result: Pass **Value:** ≤ -25 dBm **Limit:** ≤ -13 dBm



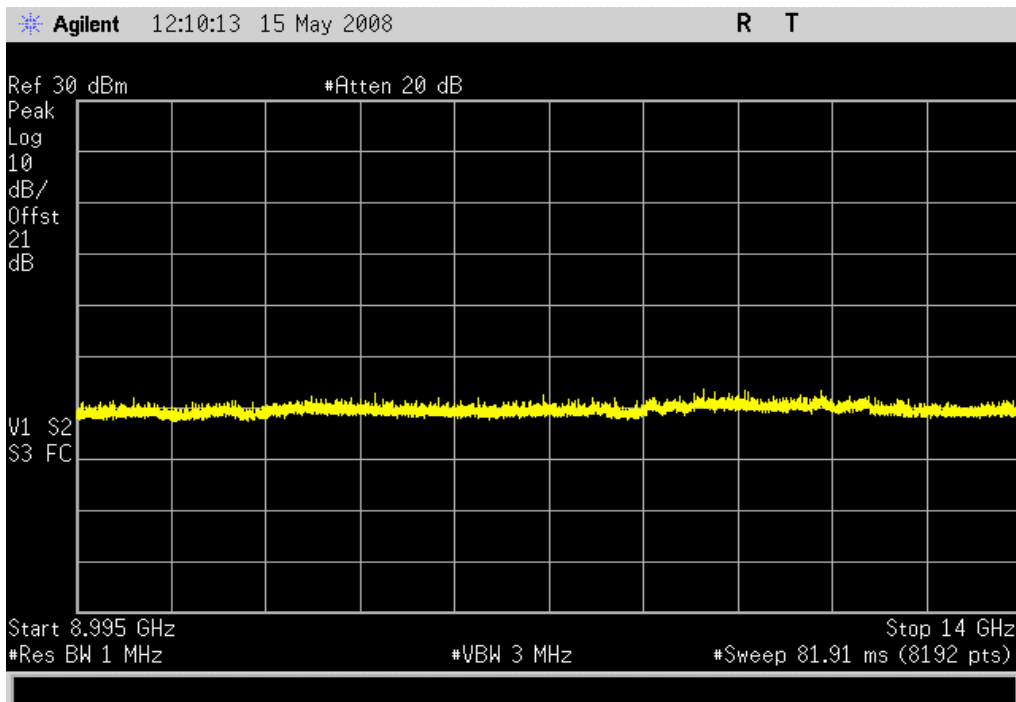
GSM Modulation, High Channel, 2.795 GHz-9 GHz

Result: Pass **Value:** ≤ -25 dBm **Limit:** ≤ -13 dBm



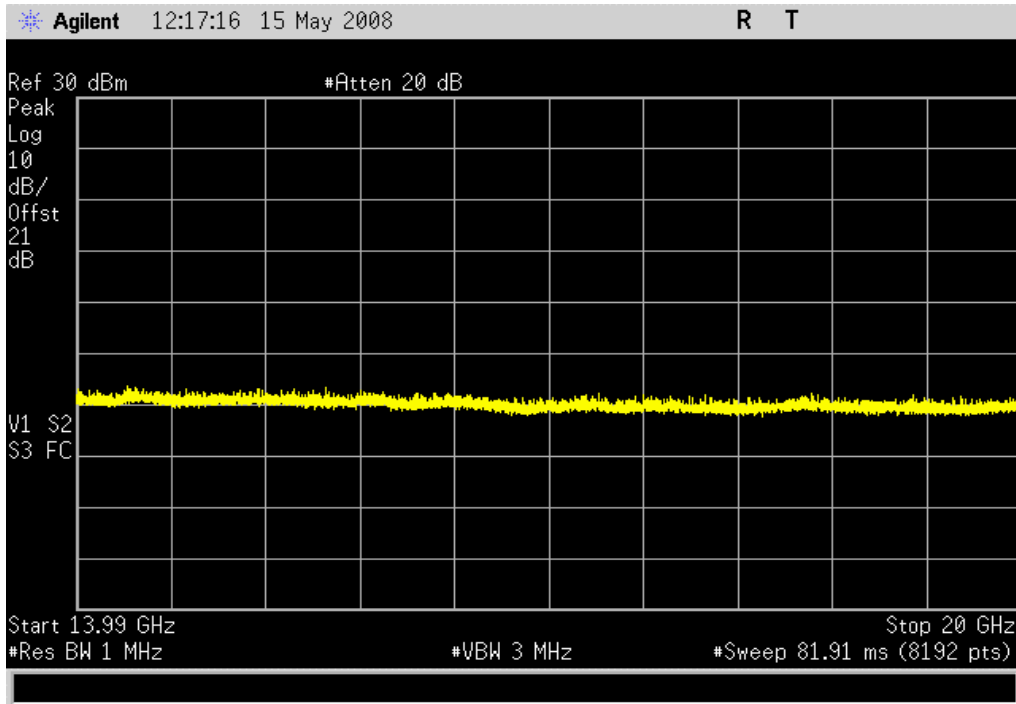
GSM Modulation, High Channel, 8.995 GHz-14 GHz

Result: Pass **Value:** ≤ -25 dBm **Limit:** ≤ -13 dBm



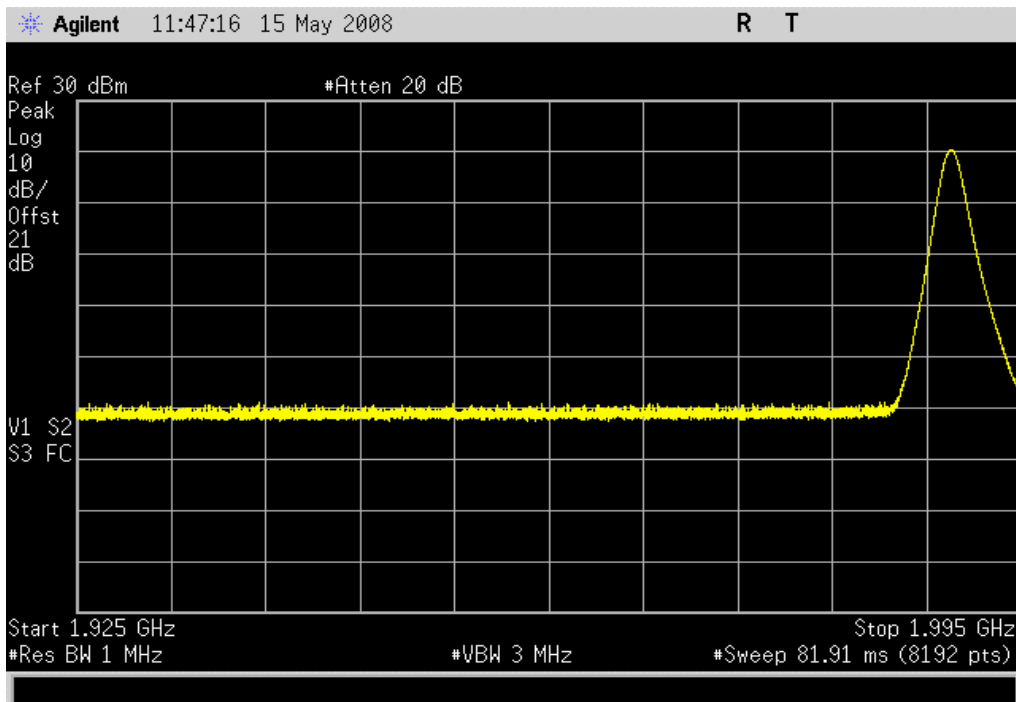
GSM Modulation, High Channel, 13.995 GHz-20 GHz

Result: Pass **Value:** ≤ -25 dBm **Limit:** ≤ -13 dBm



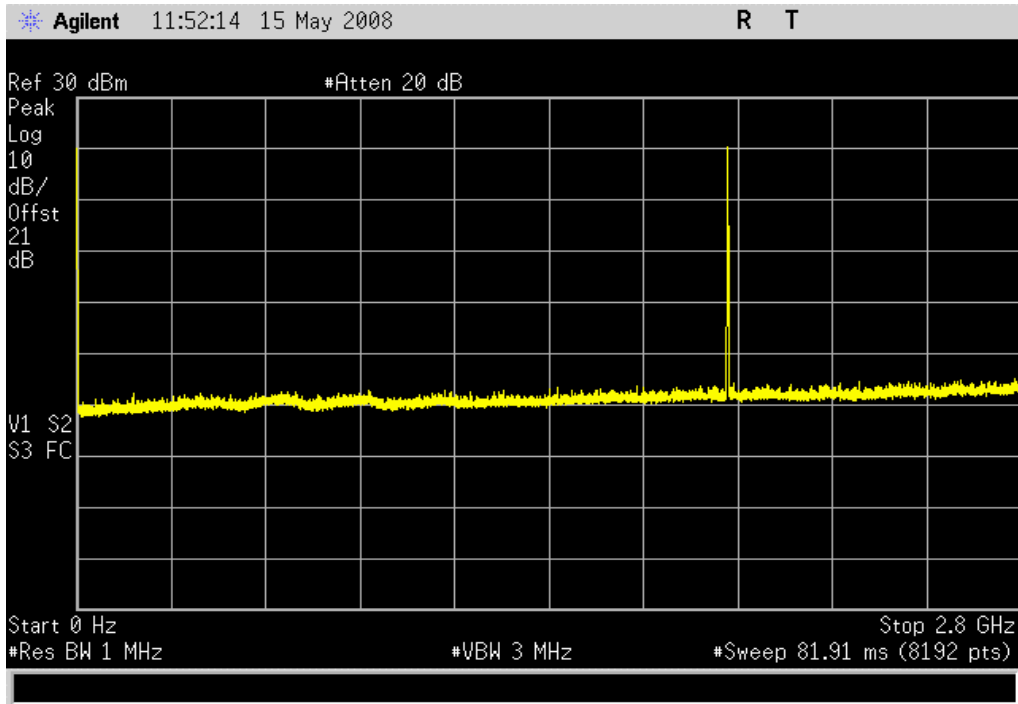
GPRS Modulation, Low Channel, In Band

Result: Pass **Value:** ≤ -25 dBm **Limit:** ≤ -13 dBm



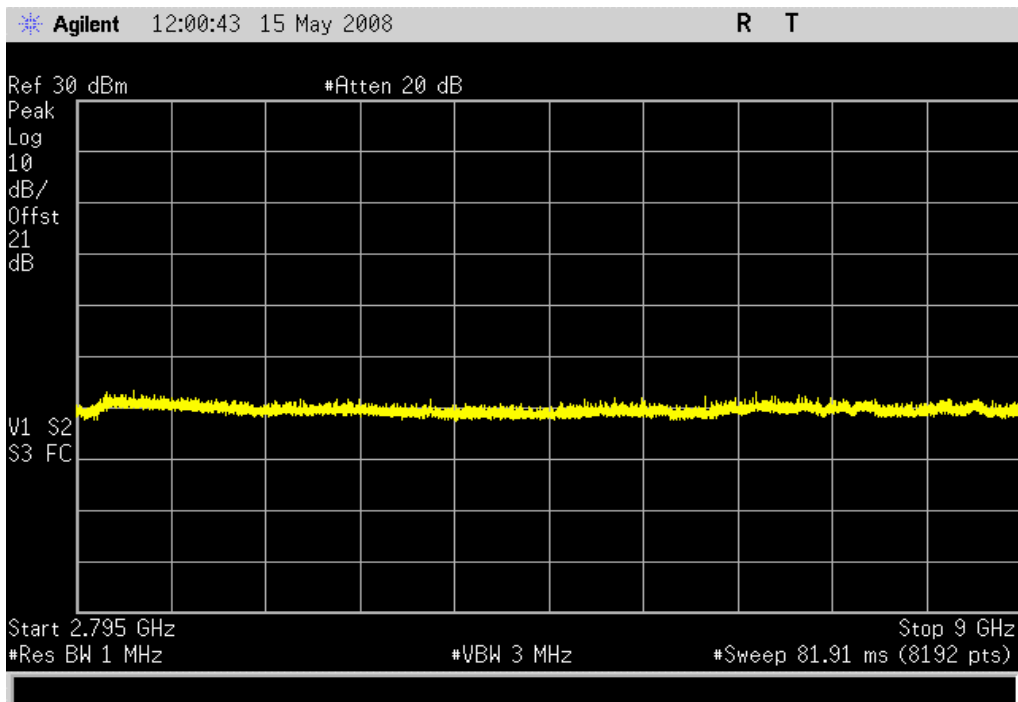
GPRS Modulation, Low Channel, 0-2.8 GHz

Result: Pass **Value:** ≤ -25 dBm **Limit:** ≤ -13 dBm



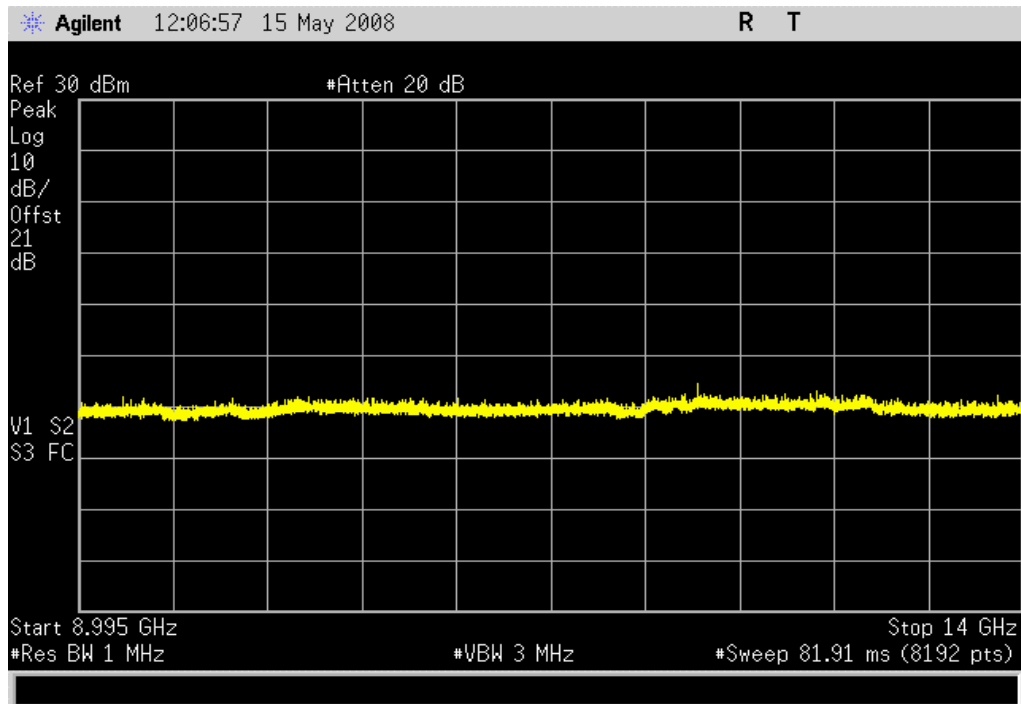
GPRS Modulation, Low Channel, 2.795 GHz-9 GHz

Result: Pass **Value:** ≤ -25 dBm **Limit:** ≤ -13 dBm



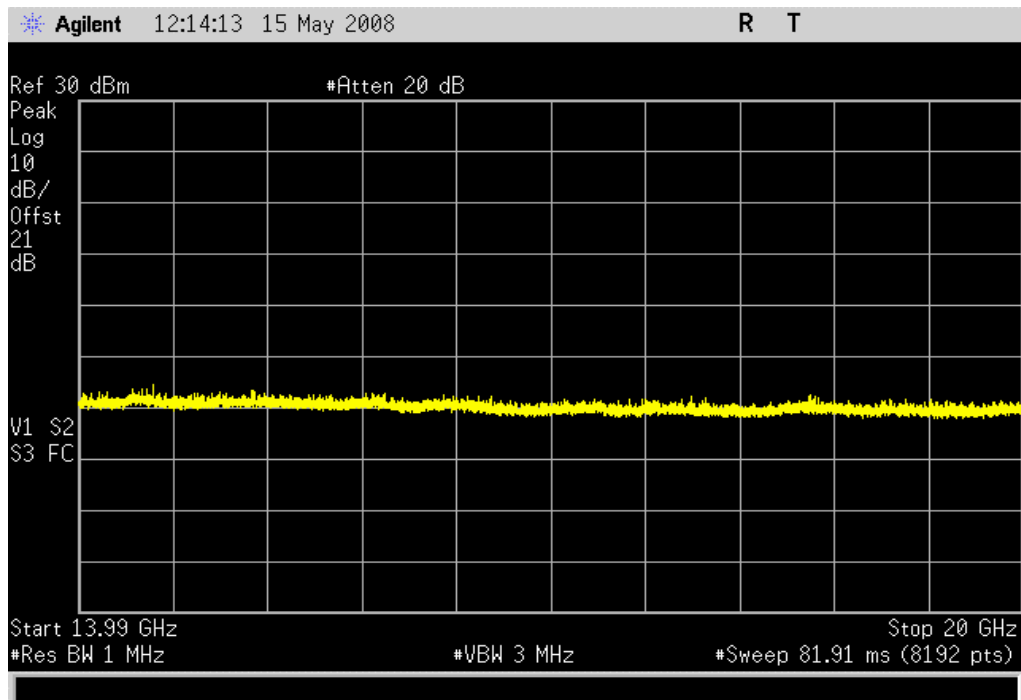
GPRS Modulation, Low Channel, 8.995 GHz-14 GHz

Result: Pass

Value: ≤ -25 dBmLimit: ≤ -13 dBm

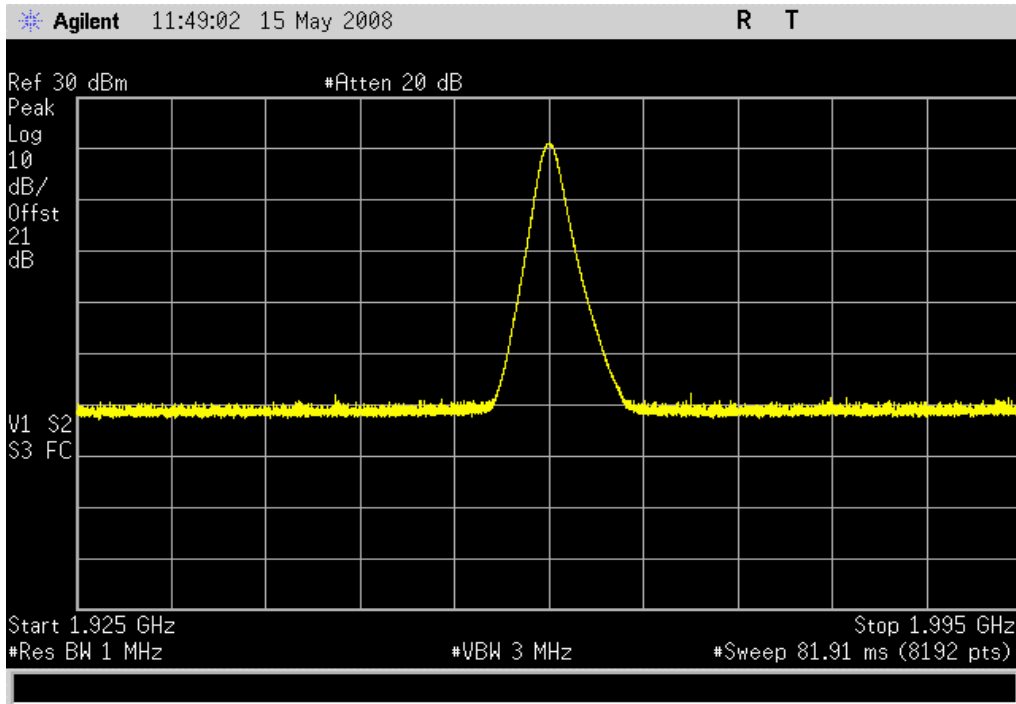
GPRS Modulation, Low Channel, 13.995 GHz-20 GHz

Result: Pass

Value: ≤ -25 dBmLimit: ≤ -13 dBm

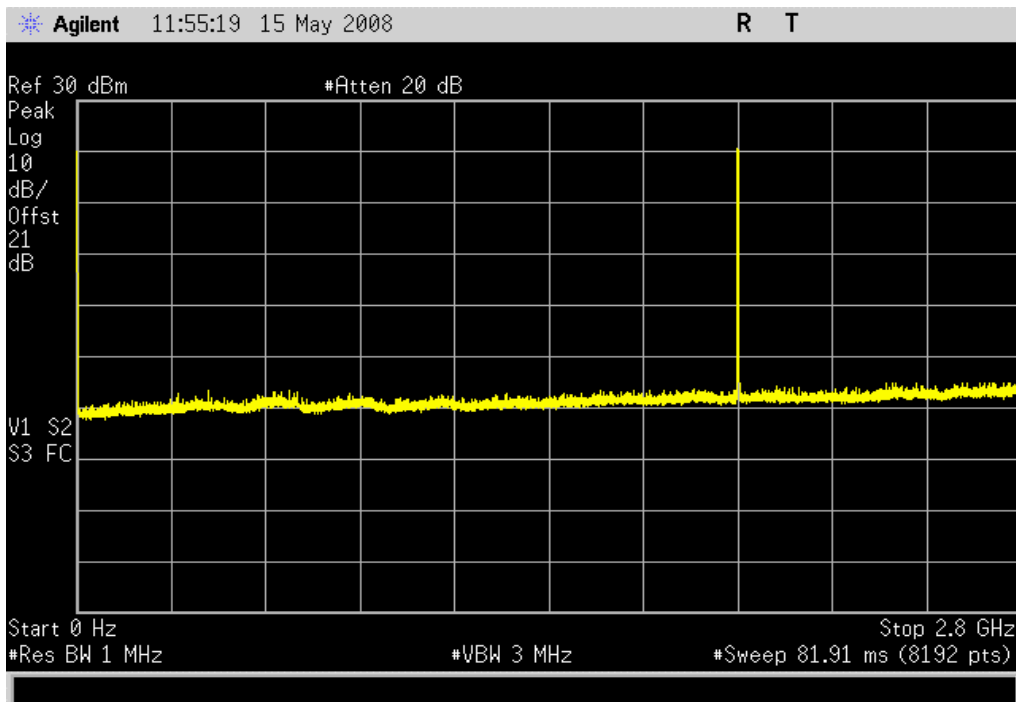
GPRS Modulation, Mid Channel, In Band

Result: Pass **Value:** ≤ -25 dBm **Limit:** ≤ -13 dBm



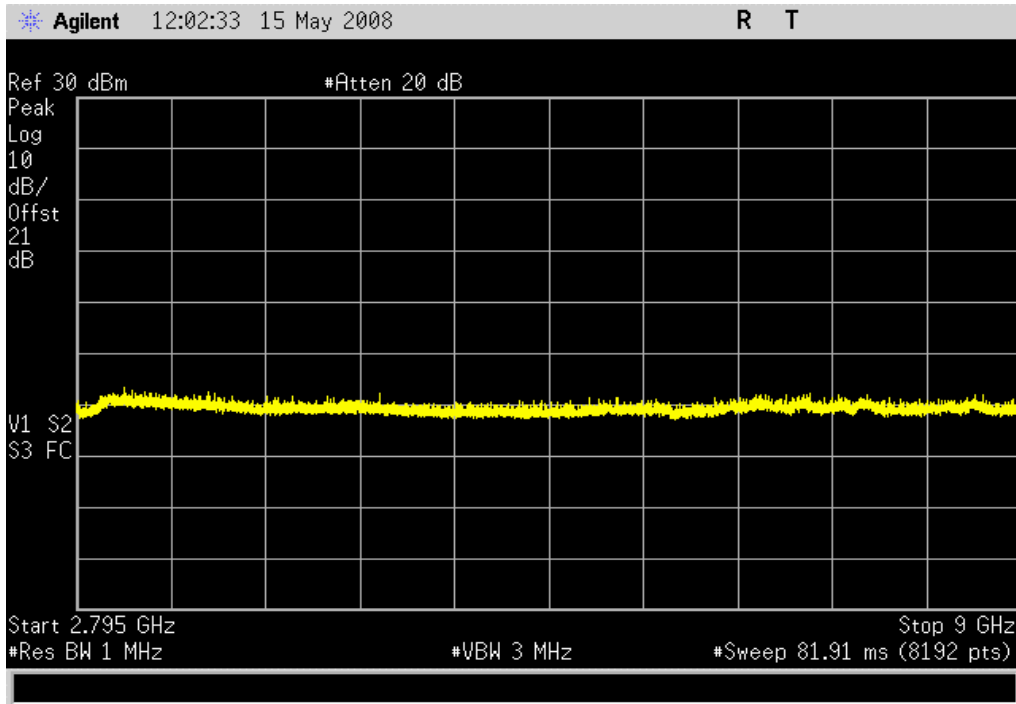
GPRS Modulation, Mid Channel, 0-2.8 GHz

Result: Pass **Value:** ≤ -25 dBm **Limit:** ≤ -13 dBm



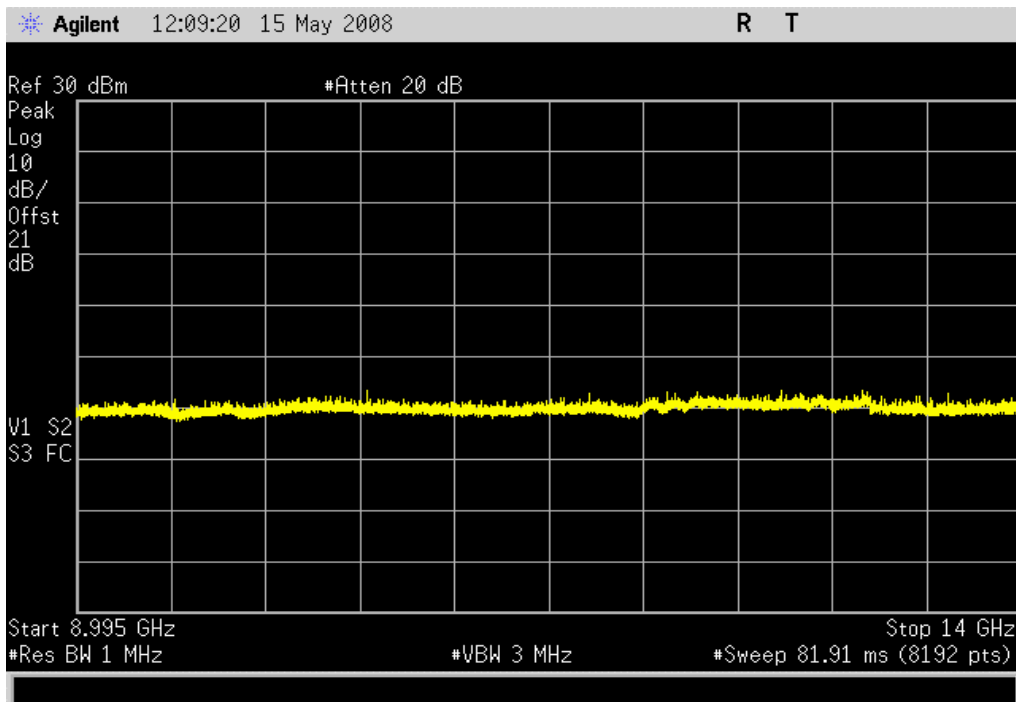
GPRS Modulation, Mid Channel, 2.795 GHz-9 GHz

Result: Pass **Value:** ≤ -25 dBm **Limit:** ≤ -13 dBm



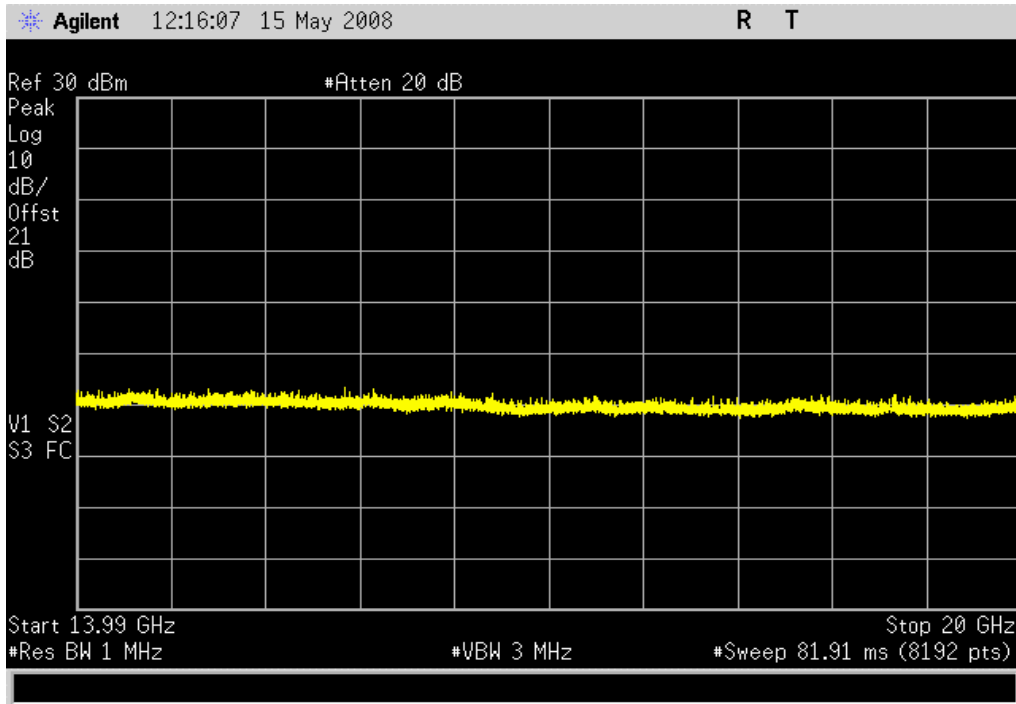
GPRS Modulation, Mid Channel, 8.995 GHz-14 GHz

Result: Pass **Value:** ≤ -25 dBm **Limit:** ≤ -13 dBm



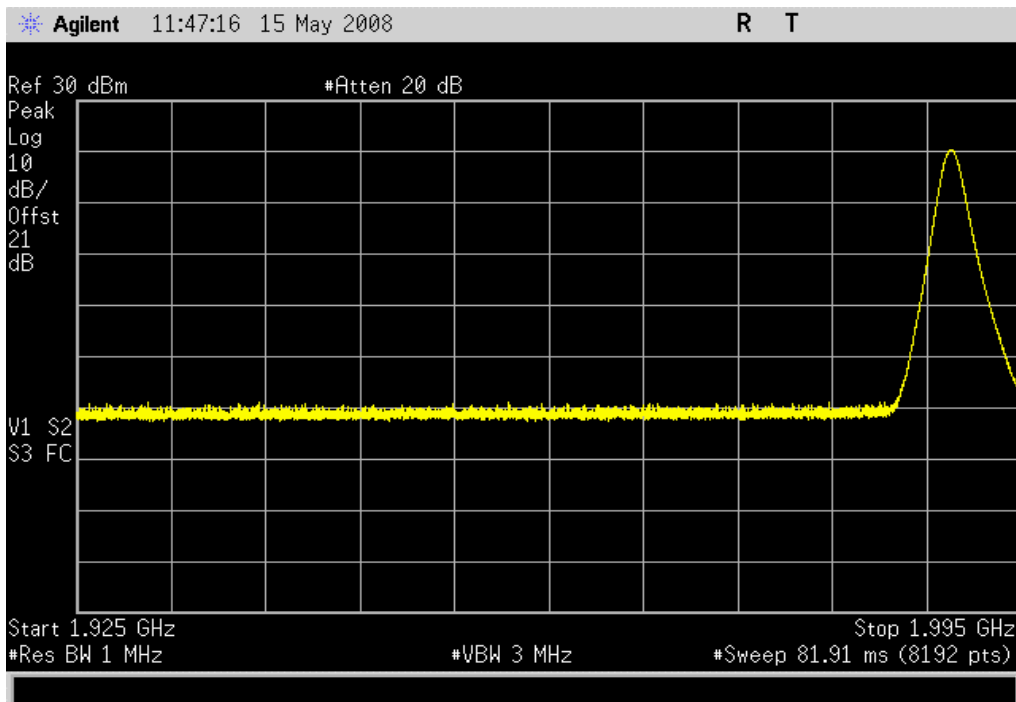
GPRS Modulation, Mid Channel, 13.995 GHz-20 GHz

Result: Pass **Value:** ≤ -25 dBm **Limit:** ≤ -13 dBm



GPRS Modulation, High Channel, In Band

Result: Pass **Value:** ≤ -25 dBm **Limit:** ≤ -13 dBm

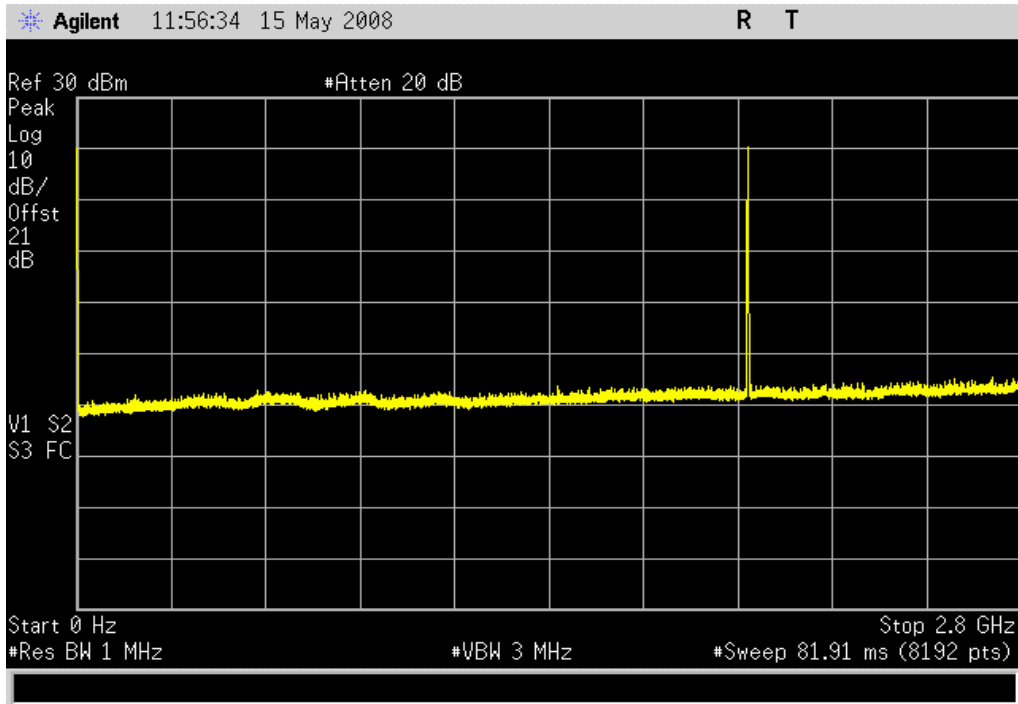


GPRS Modulation, High Channel, 0-2.8 GHz

Result: Pass

Value: ≤ -25 dBm

Limit: ≤ -13 dBm

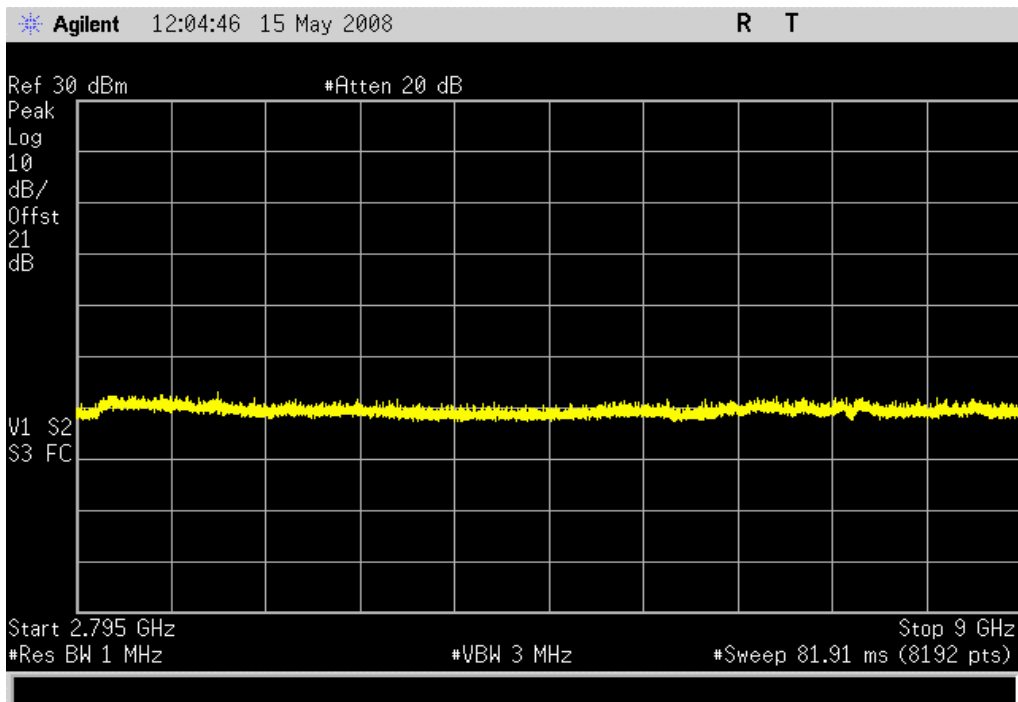


GPRS Modulation, High Channel, 2.795 GHz-9 GHz

Result: Pass

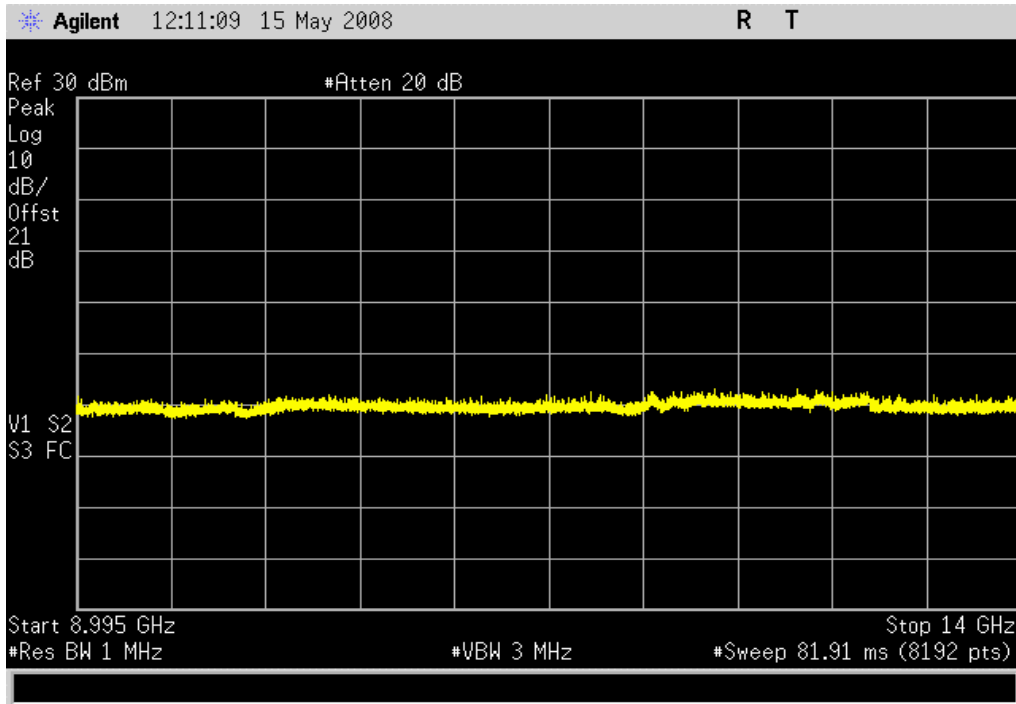
Value: ≤ -25 dBm

Limit: ≤ -13 dBm



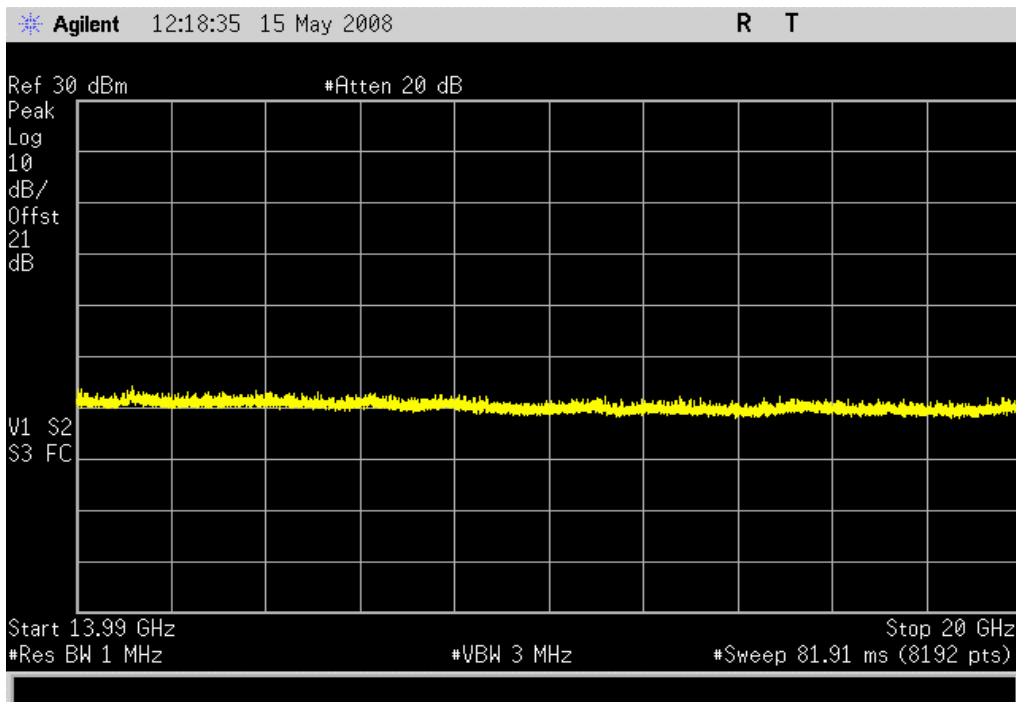
GPRS Modulation, High Channel, 8.995 GHz-14 GHz

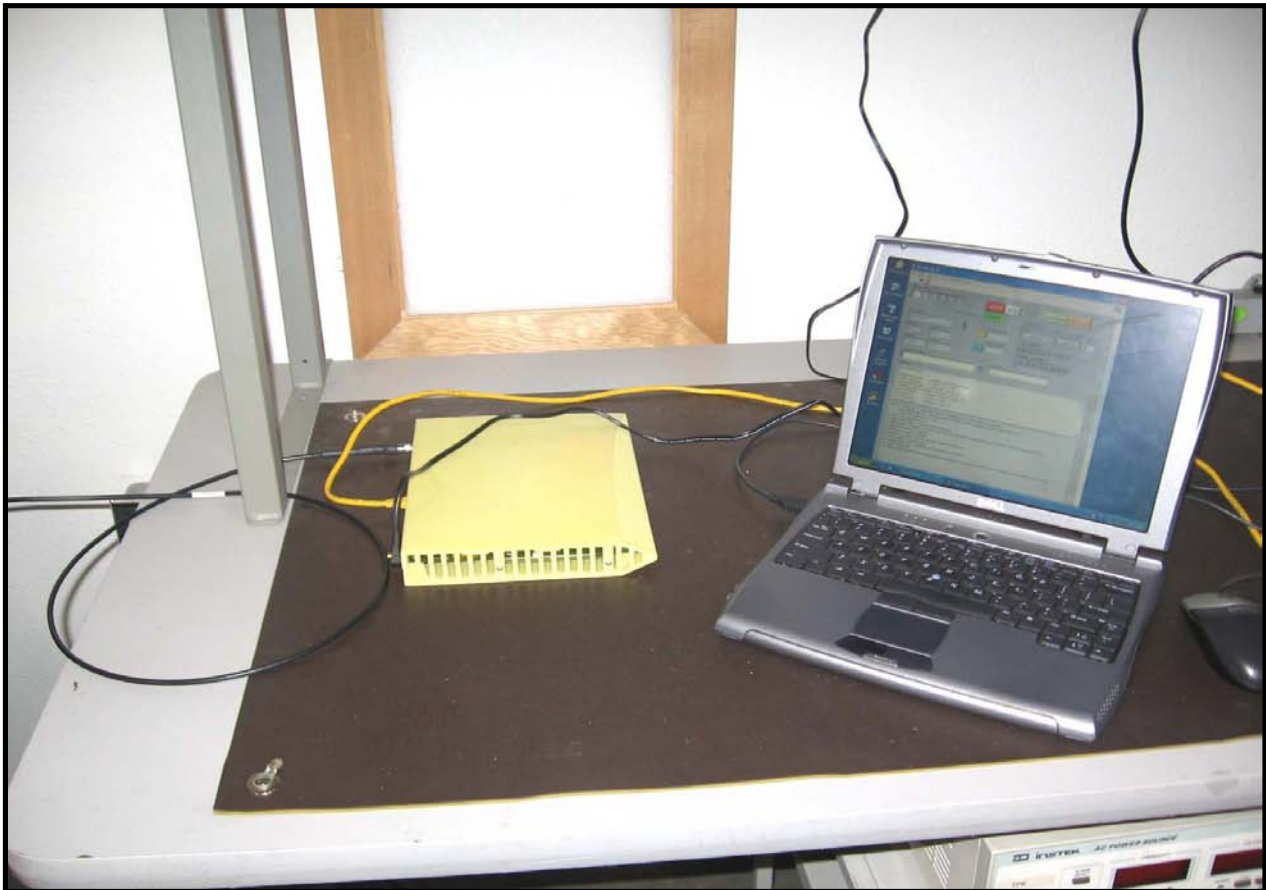
Result: Pass **Value:** ≤ -25 dBm **Limit:** ≤ -13 dBm



GPRS Modulation, High Channel, 13.995 GHz-20 GHz

Result: Pass **Value:** ≤ -25 dBm **Limit:** ≤ -13 dBm





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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Spectrum Analyzer	Agilent	E4407B	AAU	12/7/2007	13

MEASUREMENT UNCERTAINTY

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

TEST DESCRIPTION

The antenna power conducted emissions were measured with a direct connection between the Receive only RF port of the EUT and a spectrum analyzer. The spectrum was scanned throughout the specified frequency range.

EMC

Receiver Conducted Spurious Emissions

EUT:	OmniCell@Home	Work Order:	RAFN0085
Serial Number:	None	Date:	05/16/08
Customer:	Radioframe Networks, Inc.	Temperature:	24°C
Attendees:	None	Humidity:	39%
Project:	None	Barometric Pres.:	1017.6 mb
Tested by:	Holly Ashkannejhad	Power:	120VAC/60Hz
		Job Site:	EV06

TEST SPECIFICATIONS		Test Method
FCC 15.111:2007		ANSI C63.4:2003

COMMENTS
None

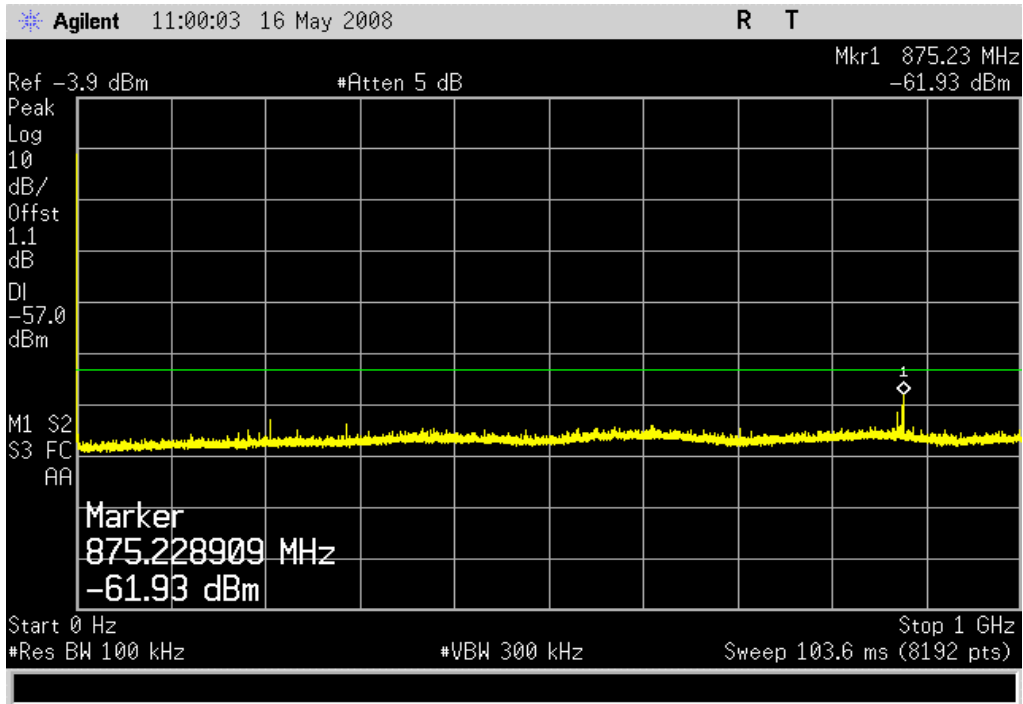
DEVIATIONS FROM TEST STANDARD
No Deviations

Configuration #	2	Signature <i>Holly Ashkannejhad</i>
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	Value	Limit	Results
Receive port, Low channel			
0 - 1 GHz	≤ -61 dBm	≤ -57 dBm	Pass
995 MHz - 2.8 GHz	≤ -68 dBm	≤ -57 dBm	Pass
2.795 GHz - 5 GHz	≤ -68 dBm	≤ -57 dBm	Pass
Receive port, Mid channel			
0 - 1 GHz	≤ -63 dBm	≤ -57 dBm	Pass
995 MHz - 2.8 GHz	≤ -68 dBm	≤ -57 dBm	Pass
2.795 GHz - 5 GHz	≤ -69 dBm	≤ -57 dBm	Pass
Receive port, High channel			
0 - 1 GHz	≤ -63 dBm	≤ -57 dBm	Pass
995 MHz - 2.8 GHz	≤ -69 dBm	≤ -57 dBm	Pass
2.795 GHz - 5 GHz	≤ -69 dBm	≤ -57 dBm	Pass

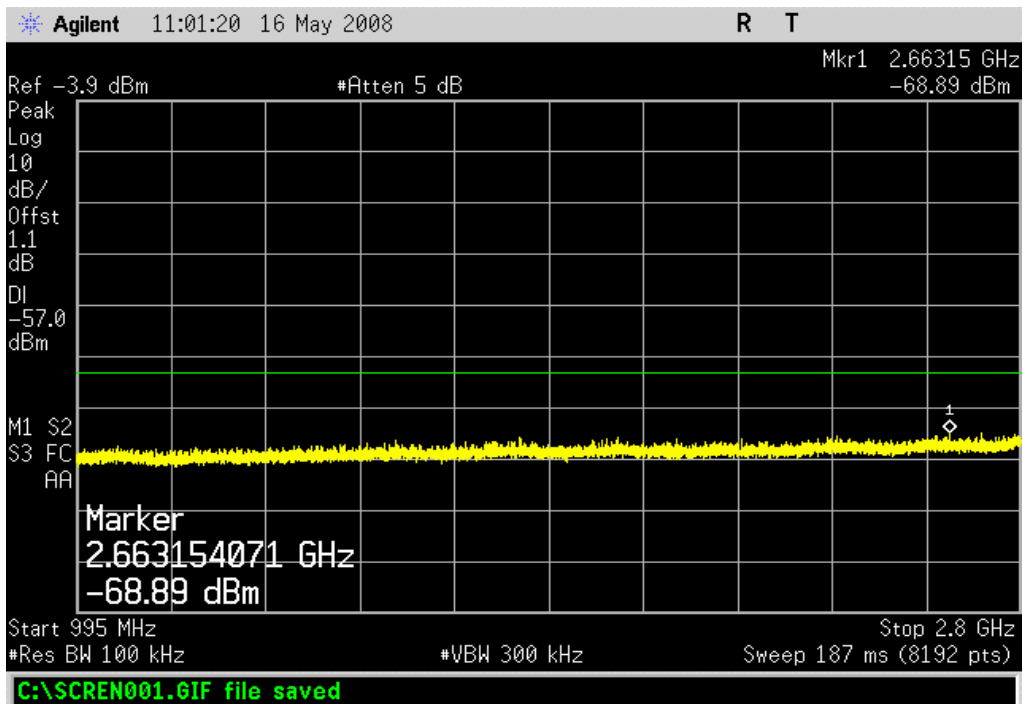
Receive port, Low channel, 0 - 1 GHz

Result: Pass **Value:** ≤ -61 dBm **Limit:** ≤ -57 dBm



Receive port, Low channel, 995 MHz - 2.8 GHz

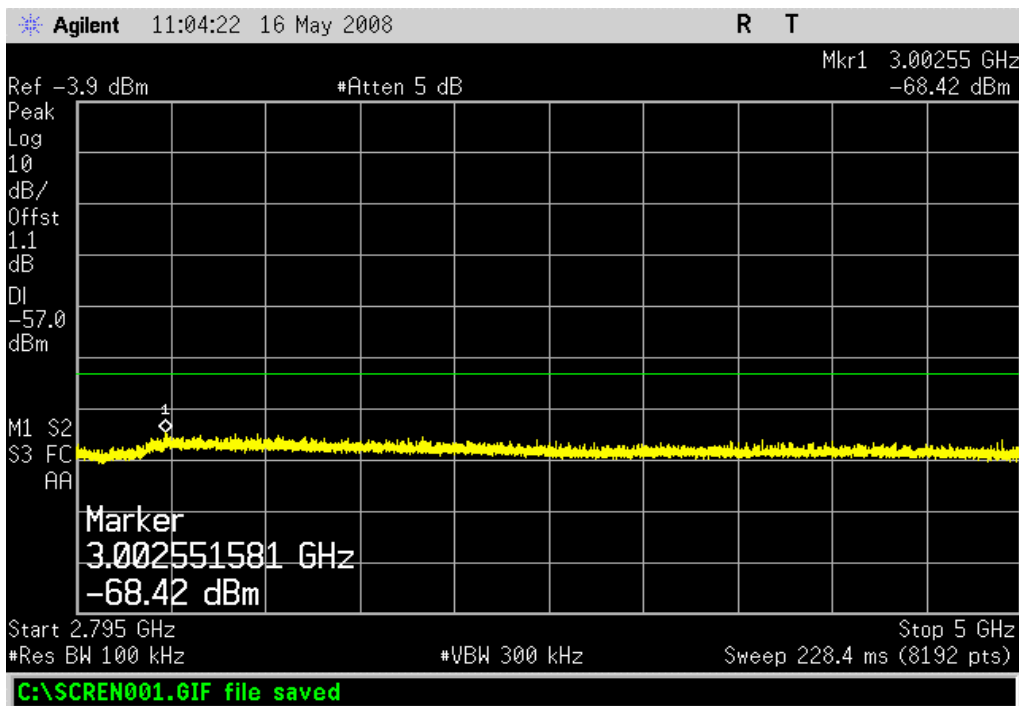
Result: Pass **Value:** ≤ -68 dBm **Limit:** ≤ -57 dBm



Receiver Conducted Spurious Emissions

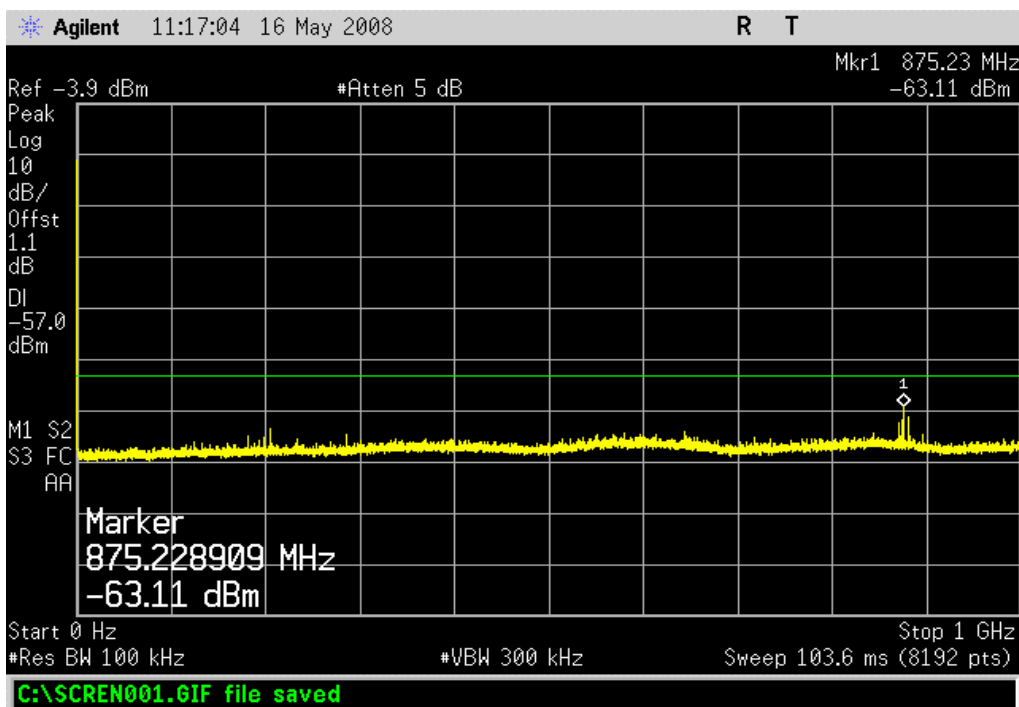
Receive port, Low channel, 2.795 GHz - 5 GHz

Result: Pass **Value:** ≤ -68 dBm **Limit:** ≤ -57 dBm

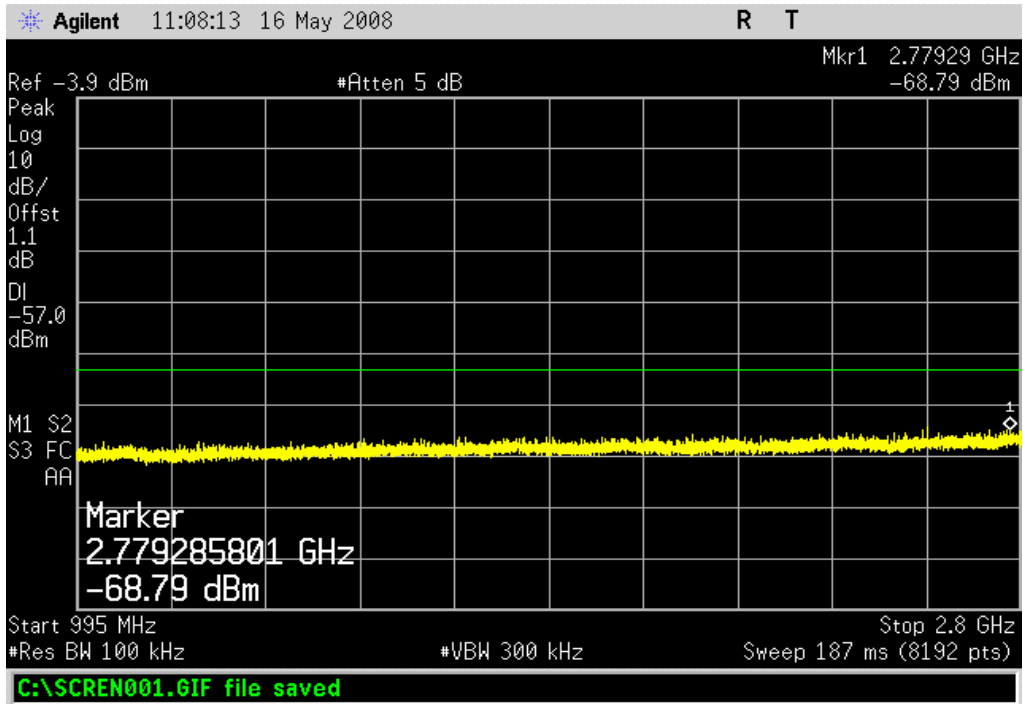


Receive port, Mid channel, 0 - 1 GHz

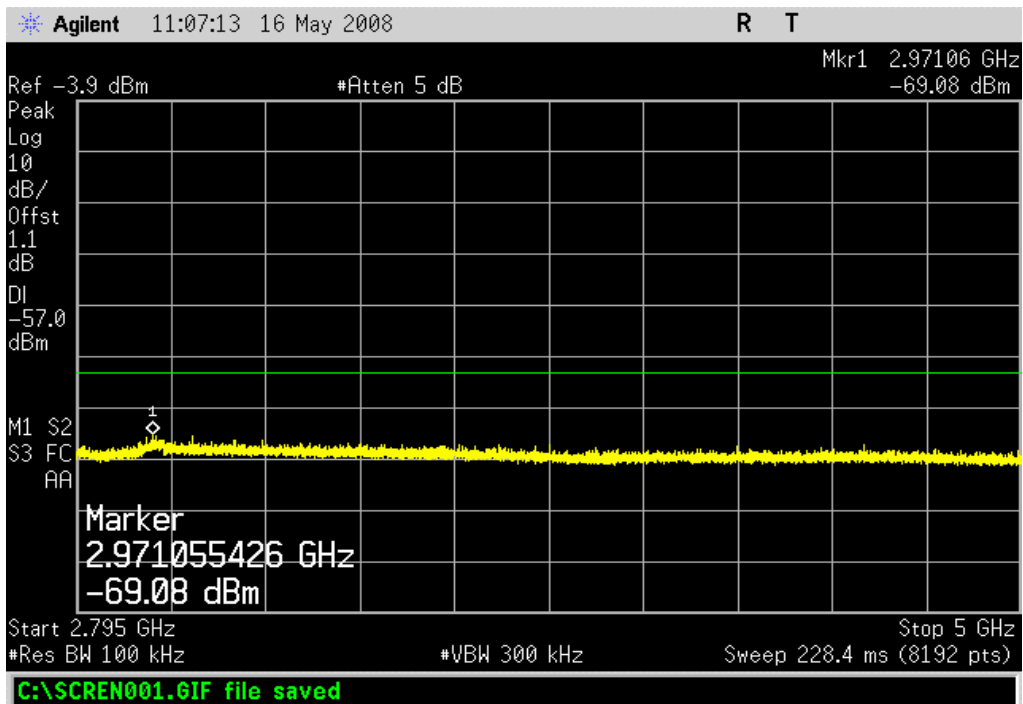
Result: Pass **Value:** ≤ -63 dBm **Limit:** ≤ -57 dBm



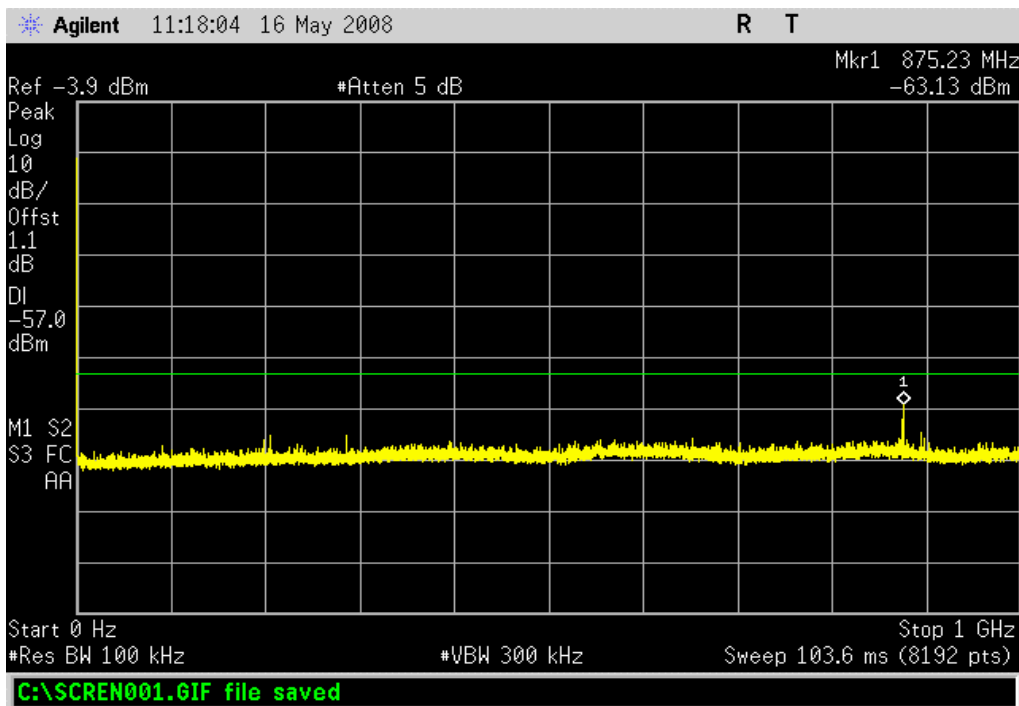
Receive port, Mid channel, 995 MHz - 2.8 GHz
Result: Pass **Value:** ≤ -68 dBm **Limit:** ≤ -57 dBm



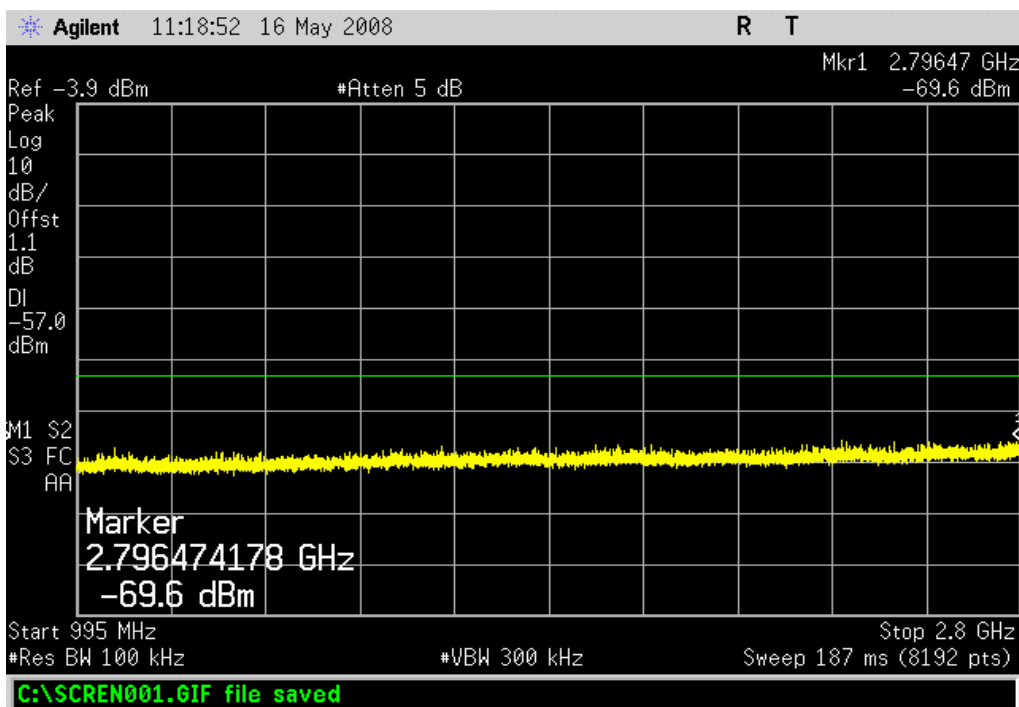
Receive port, Mid channel, 2.795 GHz - 5 GHz
Result: Pass **Value:** ≤ -69 dBm **Limit:** ≤ -57 dBm



Receive port, High channel, 0 - 1 GHz
Result: Pass **Value:** ≤ -63 dBm **Limit:** ≤ -57 dBm



Receive port, High channel, 995 MHz - 2.8 GHz
Result: Pass **Value:** ≤ -69 dBm **Limit:** ≤ -57 dBm

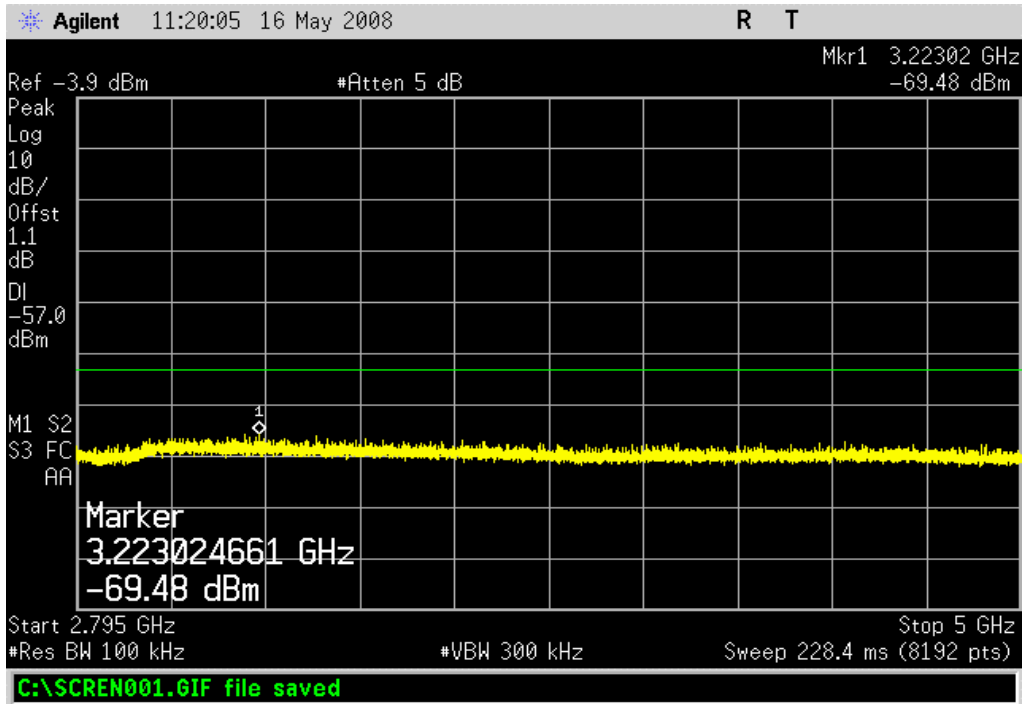


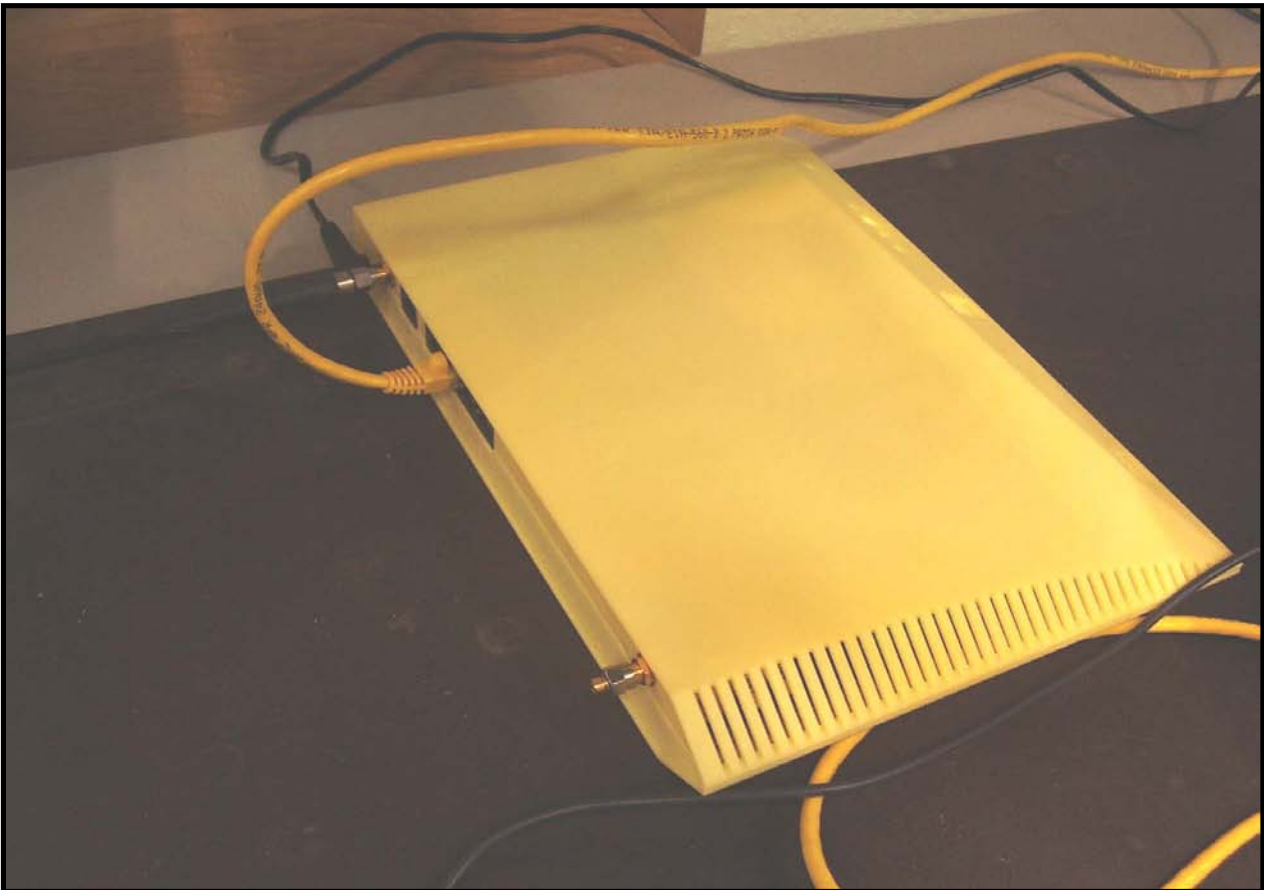
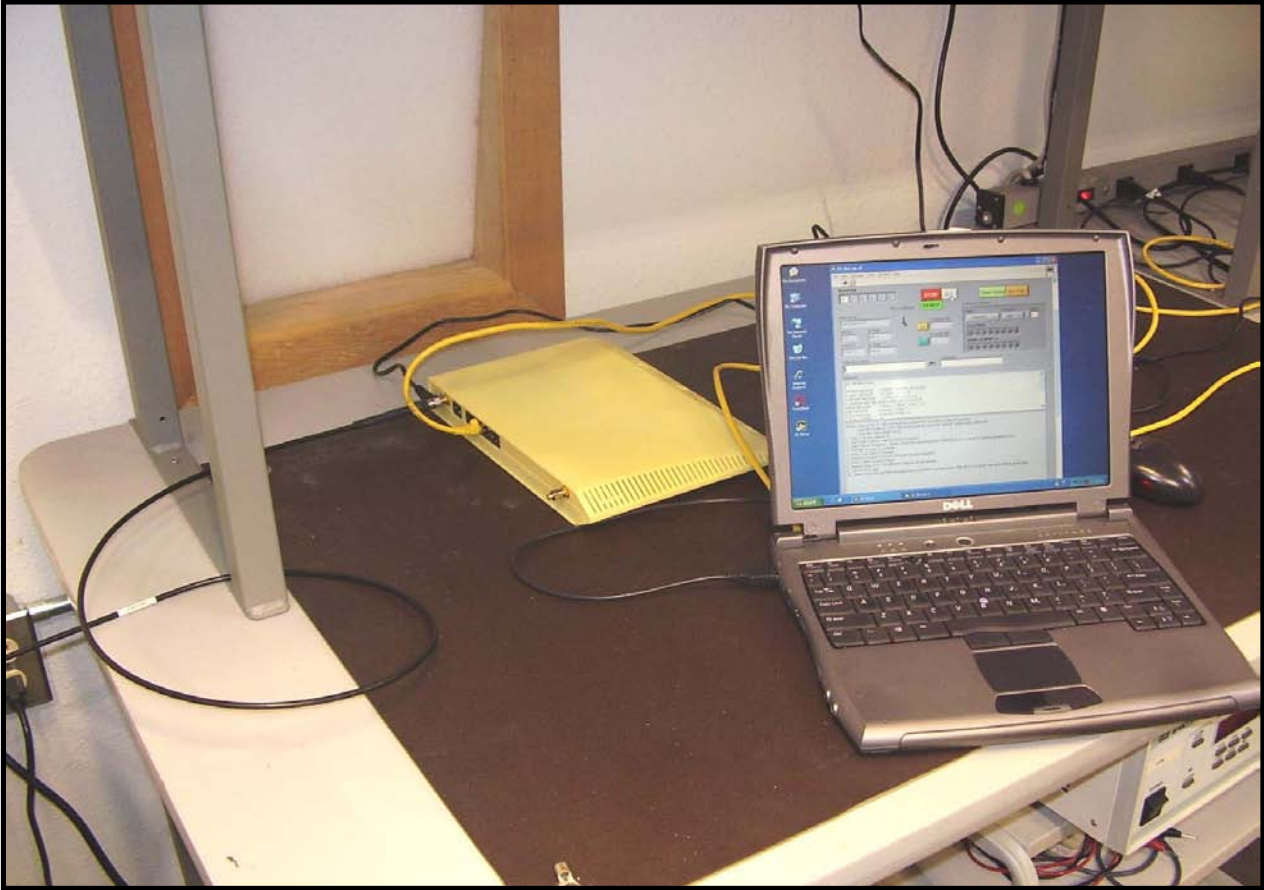
Receive port, High channel, 2.795 GHz - 5 GHz

Result: Pass

Value: ≤ -69 dBm

Limit: ≤ -57 dBm





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

GSM

GPRS

CHANNELS INVESTIGATED

Low channel, 1930.2MHz

Mid Channel, 1960MHz

High Channel 1989.8MHz

POWER SETTINGS INVESTIGATED

120VAC/60Hz

FREQUENCY RANGE INVESTIGATED

Start Frequency	1930MHz	Stop Frequency	1989.8MHz
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SAMPLE CALCULATIONS

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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Antenna, Horn	ETS	3115	AIB	11/14/2007	12
EV12 Cables		Double Ridge Horn Cables	EVT	6/17/2008	13
Pre-Amplifier	Miteq	AMF-3D00100800-32-13P	AVF	6/17/2008	13
Spectrum Analyzer	Agilent	E4446A	AAV	12/18/2007	12
Antenna, Horn	ETS	3115	AHW	7/21/2008	24
Power Meter	Gigatronics	8651A	SPM	12/7/2007	13
Power Sensor	Gigatronics	80701A	SPL	12/7/2007	13
Signal Generator	Hewlett-Packard	8648D	TGC	12/7/2007	13

MEASUREMENT BANDWIDTHS

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

Measurements were made using the bandwidths and detectors specified. No video filter was used.

MEASUREMENT UNCERTAINTY

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

TEST DESCRIPTION

The antennas to be used with the EUT were tested. The EUT was transmitting and/or receiving while set at the lowest channel, a middle channel, and the highest channel available. While scanning, emissions from the EUT were maximized by rotating the EUT, adjusting the measurement antenna height and polarization, and manipulating the EUT antenna in 3 orthogonal planes (per ANSI C63.4:2003).

The amplitude and frequency of the highest emissions were noted. The EUT was then replaced with a horn antenna. A signal generator was connected to the horn antenna and its output was adjusted to match the level previously noted for each frequency. The output of the signal generator was recorded, and by factoring in the cable loss to the dipole antenna and its gain (dBi); the effective radiated power for each radiated spurious emission was determined.

EUT: OmniCell@Home	Work Order: RAFN0085
Serial Number: None	Date: 07/23/08
Customer: Radioframe Networks, Inc.	Temperature: 23.39
Attendees: None	Humidity: 34%
Project: None	Barometric Pres.: 1023.5mb
Tested by: Holly Ashkannejhad	Power: 120VAC/60Hz
	Job Site: EV12

TEST SPECIFICATIONS	Test Method
FCC 24.232:2006	TIA/EIA-603-B:2002

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

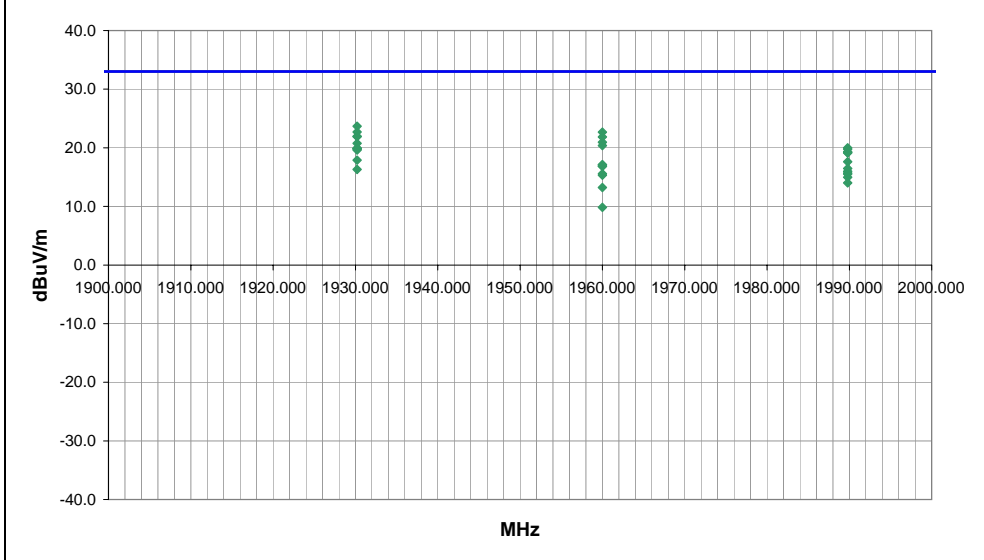
COMMENTS
None

EUT OPERATING MODES
PCS band, maximum output power, see comments for mode and channel

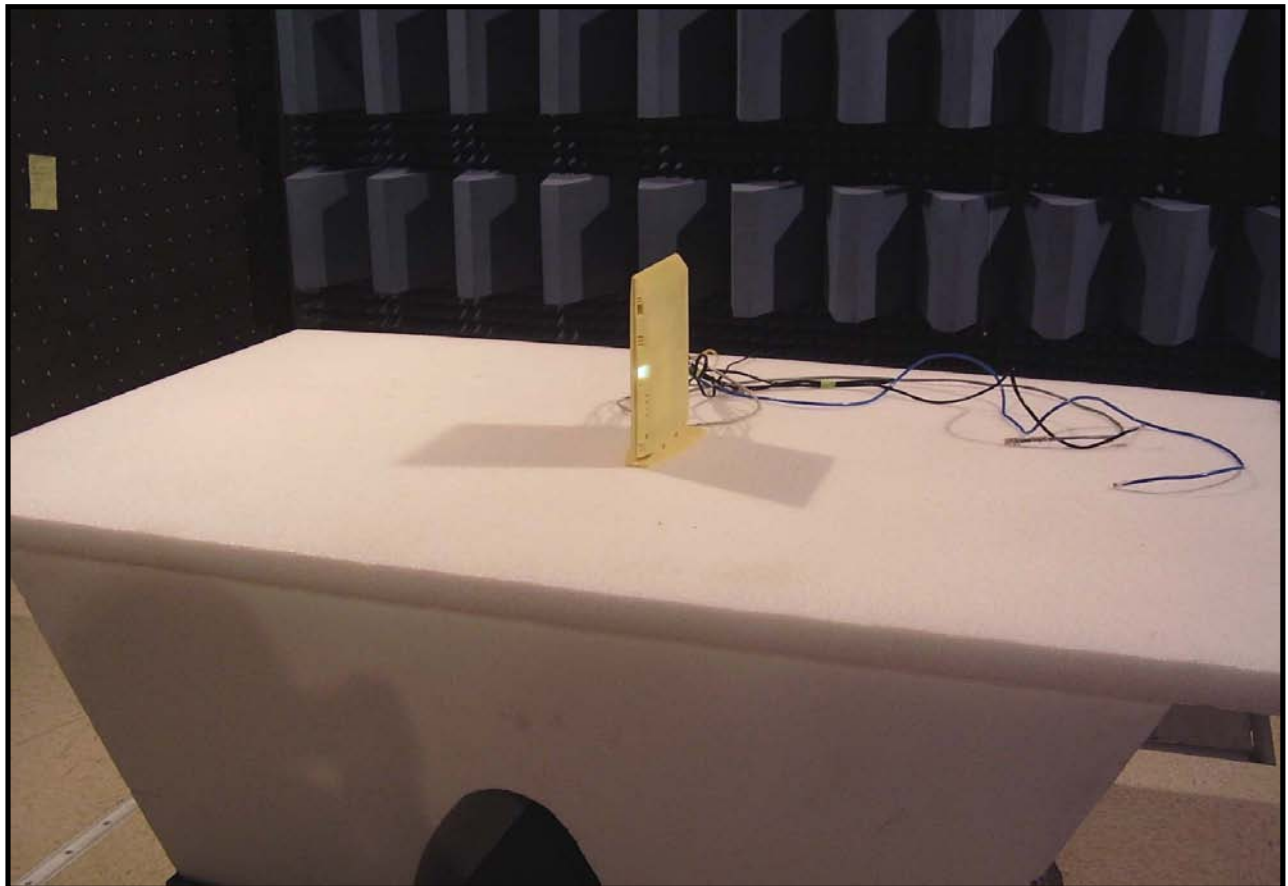
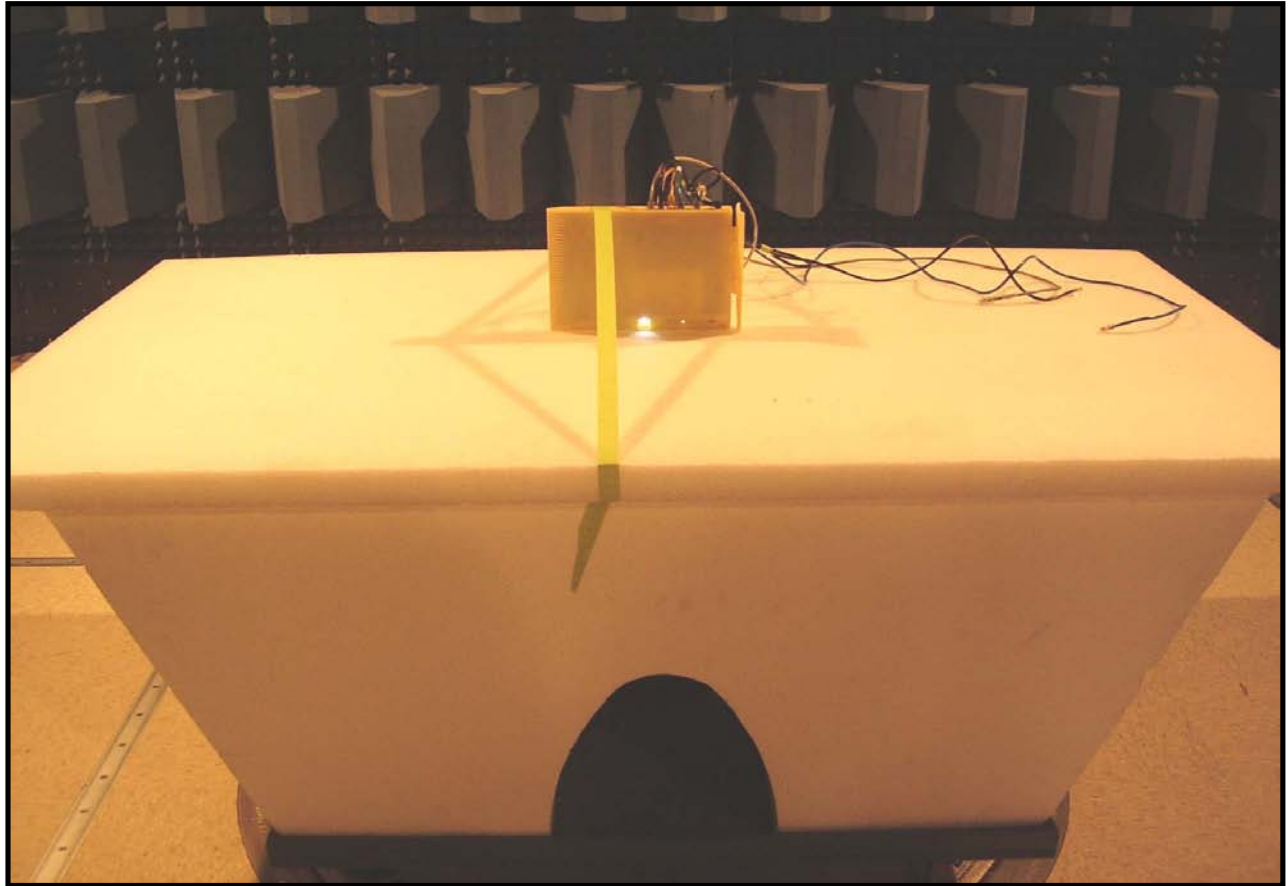
DEVIATIONS FROM TEST STANDARD
No deviations.

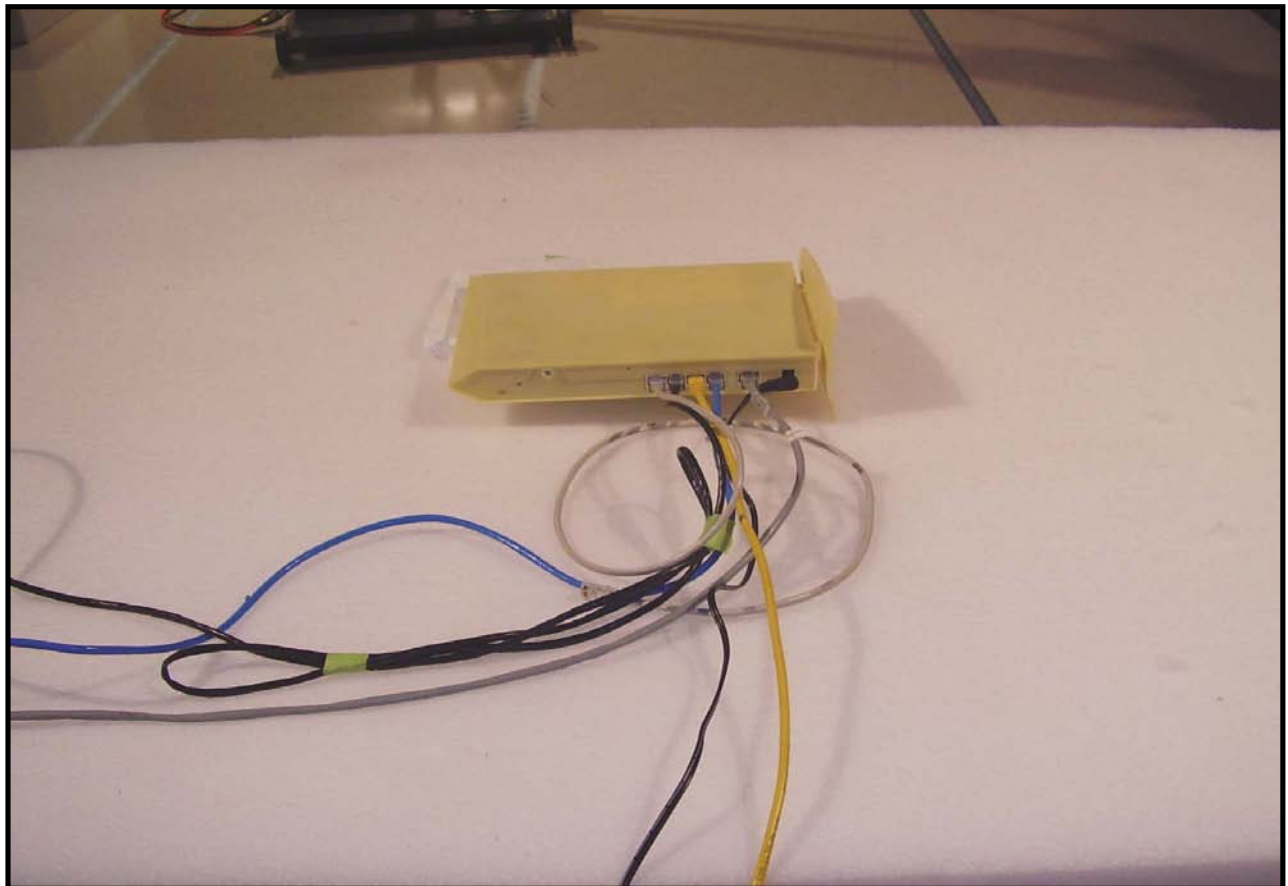
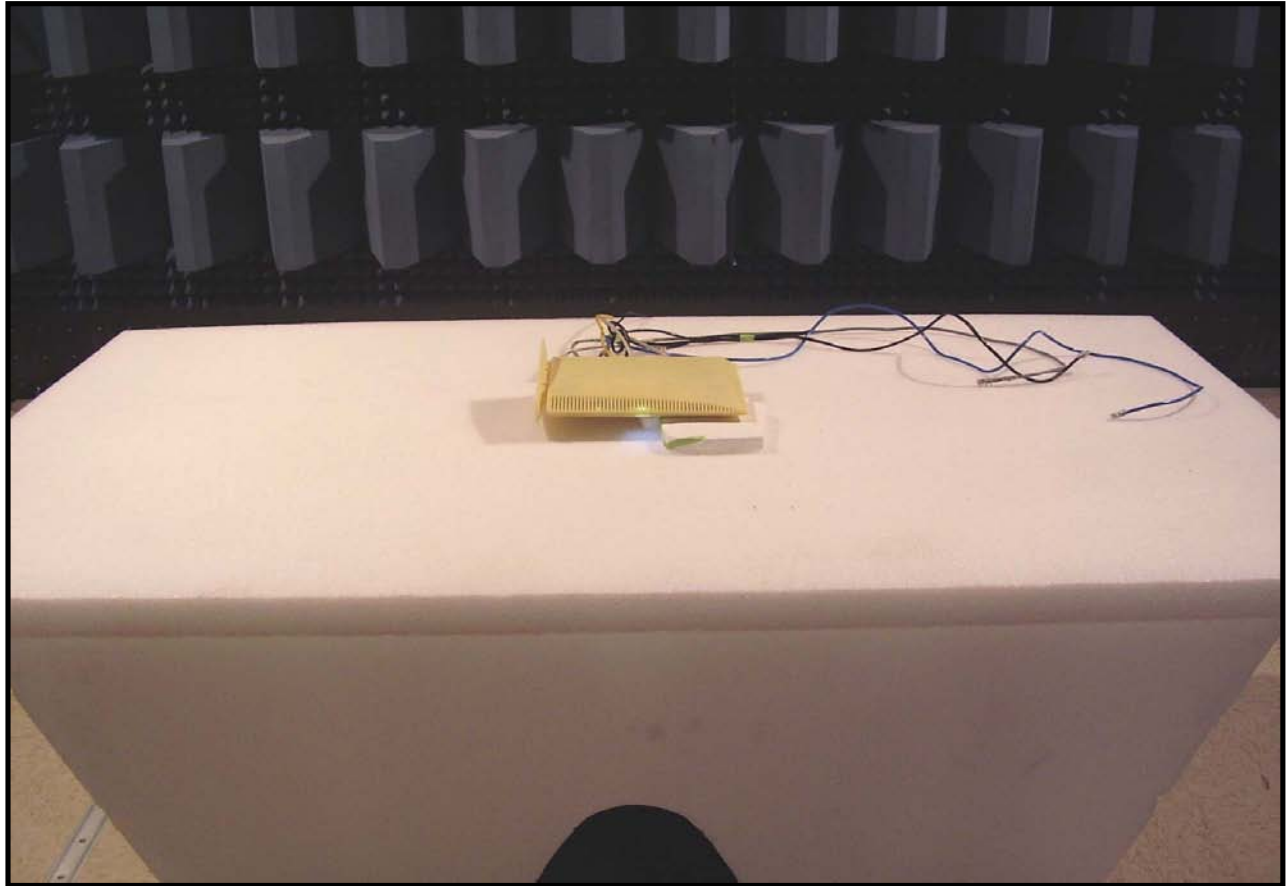
Run #	1
Configuration #	1
Results	Pass

Signature *Holly Ashkannejhad*



Freq (MHz)	Azimuth (degrees)	Height (meters)	Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
1930.200	167.0	1.5	V-Horn	PK	2.33E-01	23.7	33.0	-9.3	GPRS, Low channel, EUT on side
1930.200	54.0	1.5	H-Horn	PK	1.86E-01	22.7	33.0	-10.3	GPRS, Low channel, EUT horizontal
1960.000	152.0	1.4	V-Horn	PK	1.85E-01	22.7	33.0	-10.3	GPRS, Mid channel, EUT on side
1930.200	66.0	1.5	V-Horn	PK	1.57E-01	22.0	33.0	-11.0	GSM, Low channel, EUT on side
1930.200	48.0	1.5	H-Horn	PK	1.55E-01	21.9	33.0	-11.1	GPRS, Low channel, EUT vertical
1960.000	284.0	1.5	H-Horn	PK	1.53E-01	21.8	33.0	-11.2	GPRS, Mid channel, EUT vertical
1960.000	60.0	1.0	H-Horn	PK	1.24E-01	20.9	33.0	-12.1	GSM, Low channel, EUT vertical
1930.200	69.0	1.9	V-Horn	PK	1.19E-01	20.8	33.0	-12.2	GPRS, Low channel, EUT vertical
1960.000	60.0	1.0	V-Horn	PK	1.09E-01	20.4	33.0	-12.6	GSM, Low channel, EUT on side
1989.800	339.0	1.5	V-Horn	PK	9.96E-02	20.0	33.0	-13.0	GSM, High channel, EUT on side
1930.200	262.0	1.5	V-Horn	PK	9.93E-02	20.0	33.0	-13.0	GPRS, Low channel, EUT horizontal
1930.200	342.0	1.0	V-Horn	PK	9.70E-02	19.9	33.0	-13.1	GSM, Low channel, EUT horizontal
1930.200	271.0	1.0	V-Horn	PK	9.70E-02	19.9	33.0	-13.1	GSM, Low channel, EUT vertical
1930.200	291.0	1.2	H-Horn	PK	9.55E-02	19.8	33.0	-13.2	GSM, Low channel, EUT on side
1989.800	336.0	1.4	V-Horn	PK	9.51E-02	19.8	33.0	-13.2	GPRS, High channel, EUT on side
1930.200	208.0	1.5	H-Horn	PK	9.12E-02	19.6	33.0	-13.4	GPRS, Low channel, EUT on side
1989.800	278.0	1.4	H-Horn	PK	8.54E-02	19.3	33.0	-13.7	GPRS, High channel, EUT vertical
1989.800	86.0	1.5	H-Horn	PK	8.34E-02	19.2	33.0	-13.8	GSM, High channel, EUT vertical
1989.800	260.0	1.4	H-Horn	PK	8.15E-02	19.1	33.0	-13.9	GPRS, High channel, EUT horizontal
1930.200	360.0	1.2	H-Horn	PK	6.16E-02	17.9	33.0	-15.1	GSM, Low channel, EUT horizontal
1989.800	332.0	1.1	H-Horn	PK	5.77E-02	17.6	33.0	-15.4	GPRS, High channel, EUT on side
1960.000	275.0	1.5	H-Horn	PK	5.17E-02	17.1	33.0	-15.9	GPRS, Mid channel, EUT on side
1960.000	62.0	2.3	V-Horn	PK	5.09E-02	17.1	33.0	-15.9	GPRS, Mid channel, EUT vertical
1960.000	273.0	1.0	V-Horn	PK	4.86E-02	16.9	33.0	-16.1	GSM, Low channel, EUT vertical
1960.000	48.0	2.3	V-Horn	PK	4.86E-02	16.9	33.0	-16.1	GPRS, Mid channel, EUT horizontal
1989.800	264.0	2.3	V-Horn	PK	4.45E-02	16.5	33.0	-16.5	GSM, High channel, EUT horizontal
1930.200	243.0	1.5	H-Horn	PK	4.26E-02	16.3	33.0	-16.7	GSM, Low channel, EUT vertical
1989.800	254.0	1.5	V-Horn	PK	3.97E-02	16.0	33.0	-17.0	GSM, High channel, EUT vertical
1989.800	62.0	1.9	V-Horn	PK	3.70E-02	15.7	33.0	-17.3	GPRS, High channel, EUT vertical
1960.000	329.0	1.7	V-Horn	PK	3.60E-02	15.6	33.0	-17.4	GSM, Mid channel, EUT horizontal
1989.800	284.0	1.4	H-Horn	PK	3.56E-02	15.5	33.0	-17.5	GSM, High channel, EUT on side
1960.000	334.0	1.0	H-Horn	PK	3.42E-02	15.3	33.0	-17.7	GSM, Low channel, EUT on side
1989.800	57.0	1.9	V-Horn	PK	3.15E-02	15.0	33.0	-18.0	GPRS, High channel, EUT horizontal
1989.800	359.0	1.1	H-Horn	PK	2.52E-02	14.0	33.0	-19.0	GSM, High channel, EUT horizontal
1960.000	255.0	1.0	H-Horn	PK	2.11E-02	13.2	33.0	-19.8	GSM, Mid channel, EUT horizontal
1960.000	296.0	1.0	H-Horn	PK	9.63E-03	9.8	33.0	-23.2	GPRS, Mid channel, EUT horizontal





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

Cell band, GSM

Cell band, GPRS

CHANNELS TESTED

Low channel, 869.2 MHz

Mid channel, 881.4 MHz

High channel, 893.8 MHz

POWER SETTINGS INVESTIGATED

120VAC/60Hz

FREQUENCY RANGE INVESTIGATED

Start Frequency	869 MHz	Stop Frequency	894 MHz
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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	AAT	12/7/2007	13
Antenna, Biconilog	EMCO	3141	AXE	1/15/2008	24
EV01 Cables		Bilog Cables	EVA	10/23/2007	13
Antenna, Dipole (part of ADA)	ETS	3121C-DB4	ADAA	NCR	0
Power Meter	Gigatronics	8651A	SPM	12/7/2007	13
Power Sensor	Gigatronics	80701A	SPL	12/7/2007	13
Signal Generator	Agilent	E8257D	TGX	12/7/2007	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

The fundamental emissions from the EUT were maximized by rotating the EUT, adjusting the measurement antenna height (1-4 meters) and polarization. The amplitude and frequency of the highest emission were noted. The EUT was then replaced with a ½ wave dipole that was successively tuned to the highest emission. A signal generator was connected to the dipole, and its output was adjusted to match the level previously noted for each frequency. The output of the signal generator was recorded. The signal generator, amplifier, and cable were then connected to an analyzer and the power output was recorded. By factoring in the dipole antenna gain (dBi), the effective radiated power for the maximum fundamental emission was determined.

EUT: OmniCell@Home	Work Order: RAFN0085
Serial Number: None	Date: 07/21/08
Customer: Radioframe Networks, Inc.	Temperature: 21
Attendees: None	Humidity: 29%
Project: None	Barometric Pres.: 30.05
Tested by: Rod Peloquin	Power: 120VAC/60Hz
	Job Site: EV01

TEST SPECIFICATIONS	Test Method
FCC 22.913:2007	TIA/EIA-603-B:2002

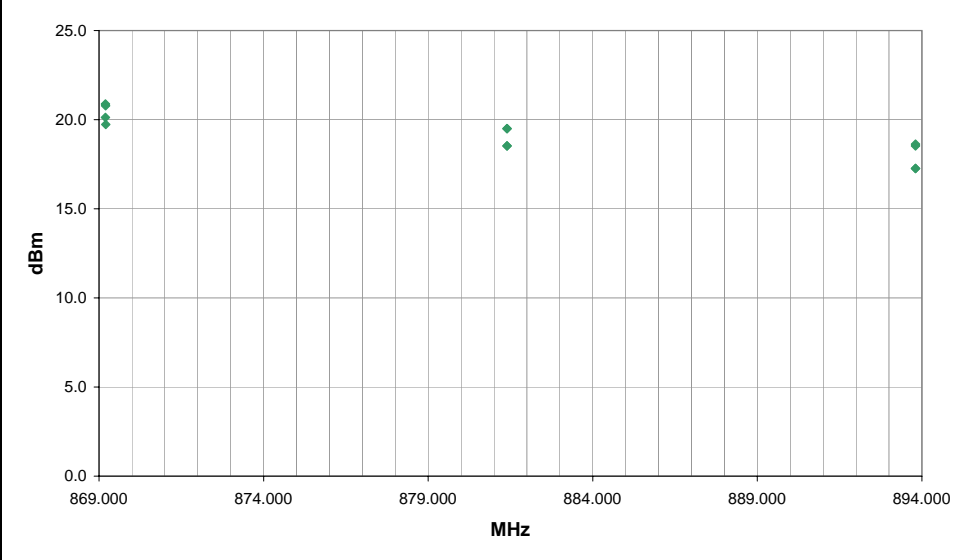
TEST PARAMETERS	
Antenna Height(s) (m)	1 - 4
Test Distance (m)	3

COMMENTS
None

EUT OPERATING MODES
Cell band, maximum output power, see comments for mode and channel

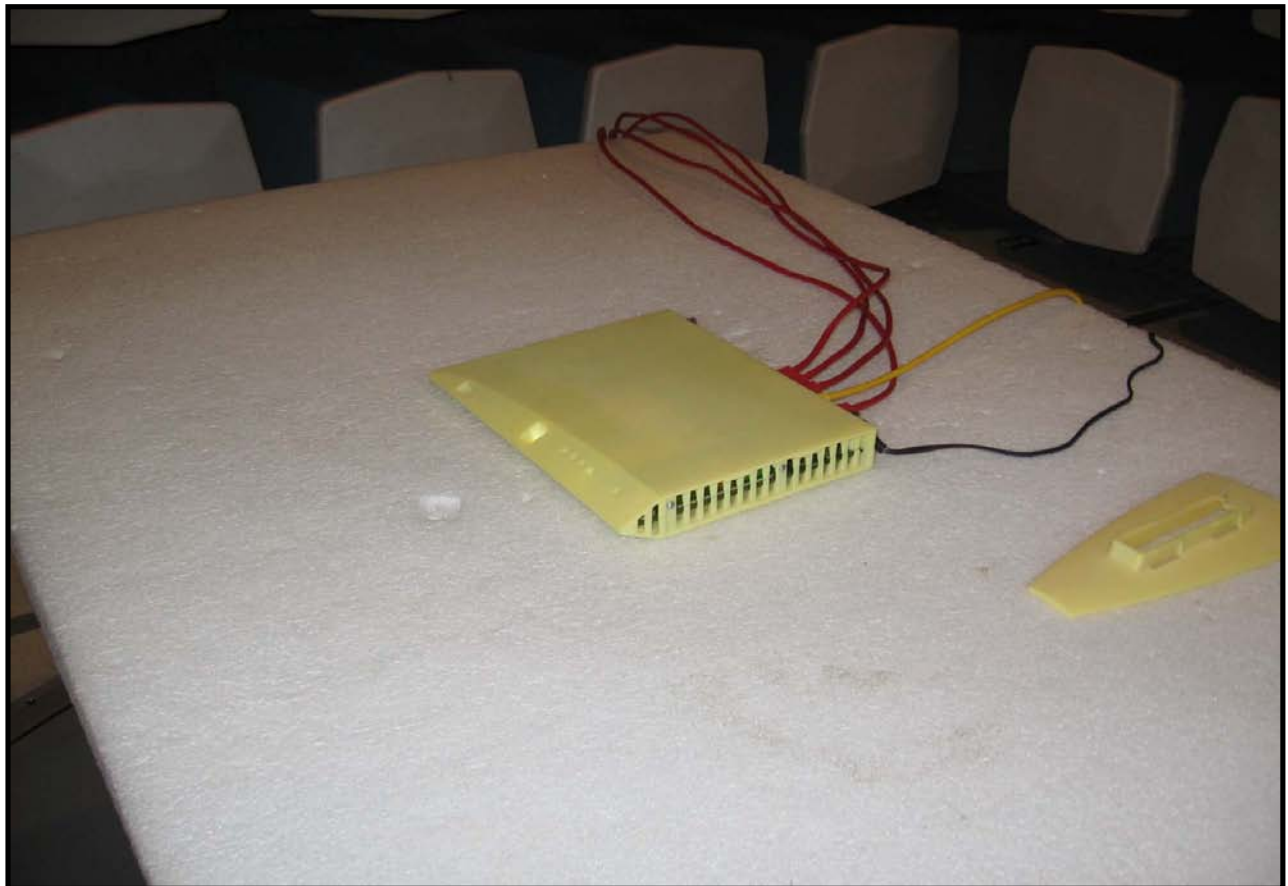
DEVIATIONS FROM TEST STANDARD
No deviations.

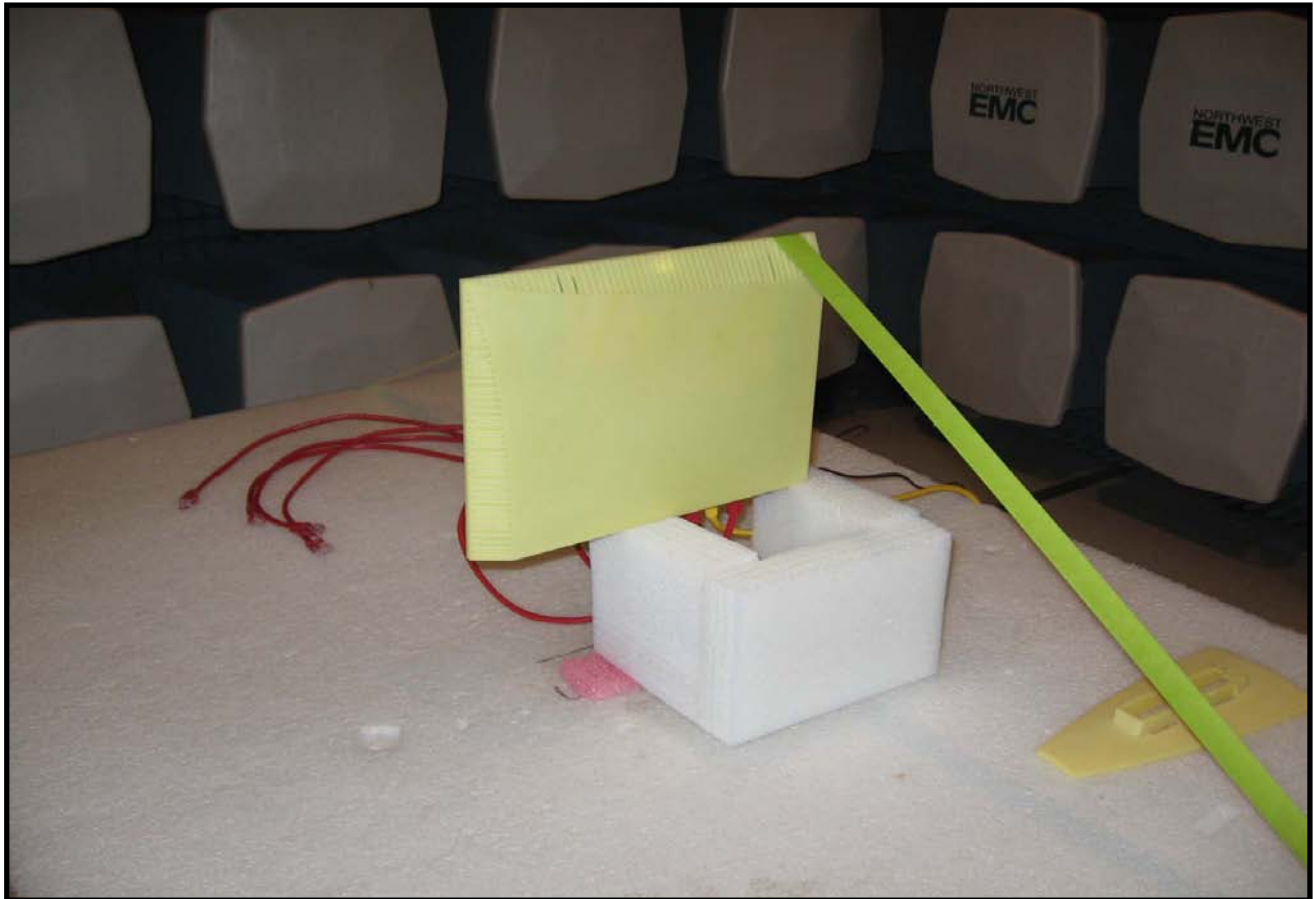
Run #	14	 Signature
Configuration #	1	
Results	Pass	



Freq (MHz)	Azimuth (degrees)	Height (meters)	Polarity	Detector	ERP (Watts)	ERP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
869.193	295.0	1.1	V-Bilog	PK	1.22E-01	20.9	38.5	-17.6	GPRS, Low Channel, EUT on side
869.198	298.0	1.1	V-Bilog	PK	1.20E-01	20.8	38.5	-17.7	GSM, Low Channel, EUT on side
869.196	63.0	1.0	H-Bilog	PK	1.03E-01	20.1	38.5	-18.4	GSM, Low Channel, EUT horizontal
869.202	67.0	1.0	H-Bilog	PK	9.40E-02	19.7	38.5	-18.8	GPRS, Low Channel, EUT horizontal
881.395	69.0	1.0	H-Bilog	PK	8.91E-02	19.5	38.5	-19.0	GSM, Mid Channel, EUT horizontal
881.395	65.0	1.0	H-Bilog	PK	8.91E-02	19.5	38.5	-19.0	GPRS, Mid Channel, EUT horizontal
893.806	67.0	1.0	H-Bilog	PK	7.29E-02	18.6	38.5	-19.9	GPRS, High Channel, EUT horizontal
893.805	66.0	1.0	H-Bilog	PK	7.13E-02	18.5	38.5	-20.0	GSM, High Channel, EUT horizontal
881.396	296.0	1.1	V-Bilog	PK	7.13E-02	18.5	38.5	-20.0	GSM, Mid Channel, EUT on side
881.398	296.0	1.1	V-Bilog	PK	7.13E-02	18.5	38.5	-20.0	GPRS, Mid Channel, EUT on side
893.804	332.0	1.1	V-Bilog	PK	5.32E-02	17.3	38.5	-21.2	GSM, High Channel, EUT on side
893.804	332.0	1.1	V-Bilog	PK	5.32E-02	17.3	38.5	-21.2	GPRS, High Channel, EUT on side







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

TEST EQUIPMENT					
Description	Manufacturer	Model	ID	Last Cal.	Interval
AC Power Source	Instek	APS-9050	TPK	NCR	0
Attenuator 20 dB, SMA M/F 26GHz	S.M. Electronics	SA26B-20	AUY	6/8/2007	13
Spectrum Analyzer	Agilent	E4407B	AAU	12/7/2007	13
Chamber, Temp./Humidity Chamber	Cincinnati Sub Zero (CSZ)	ZH-32-2-2-H/AC	TBA	8/7/2007	12

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

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 AC lab supply was used to vary the supply voltage from 115% to 85% of 120 V, 60 Hz.


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 using a direct connection between the EUT and a spectrum analyzer. The spectrum analyzer is equipped with a precision frequency reference that exceeds the stability requirement of the EUT.

EMC

Frequency Stability

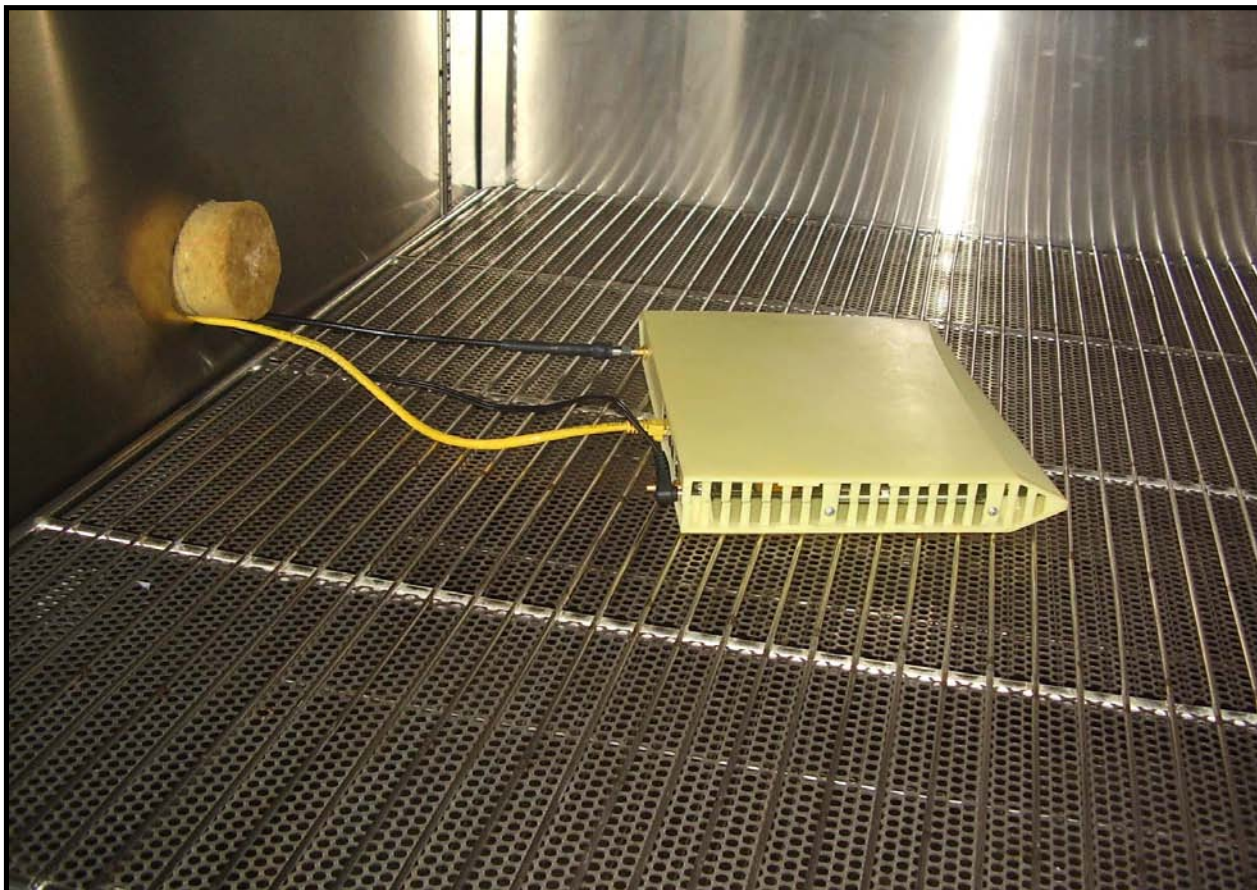
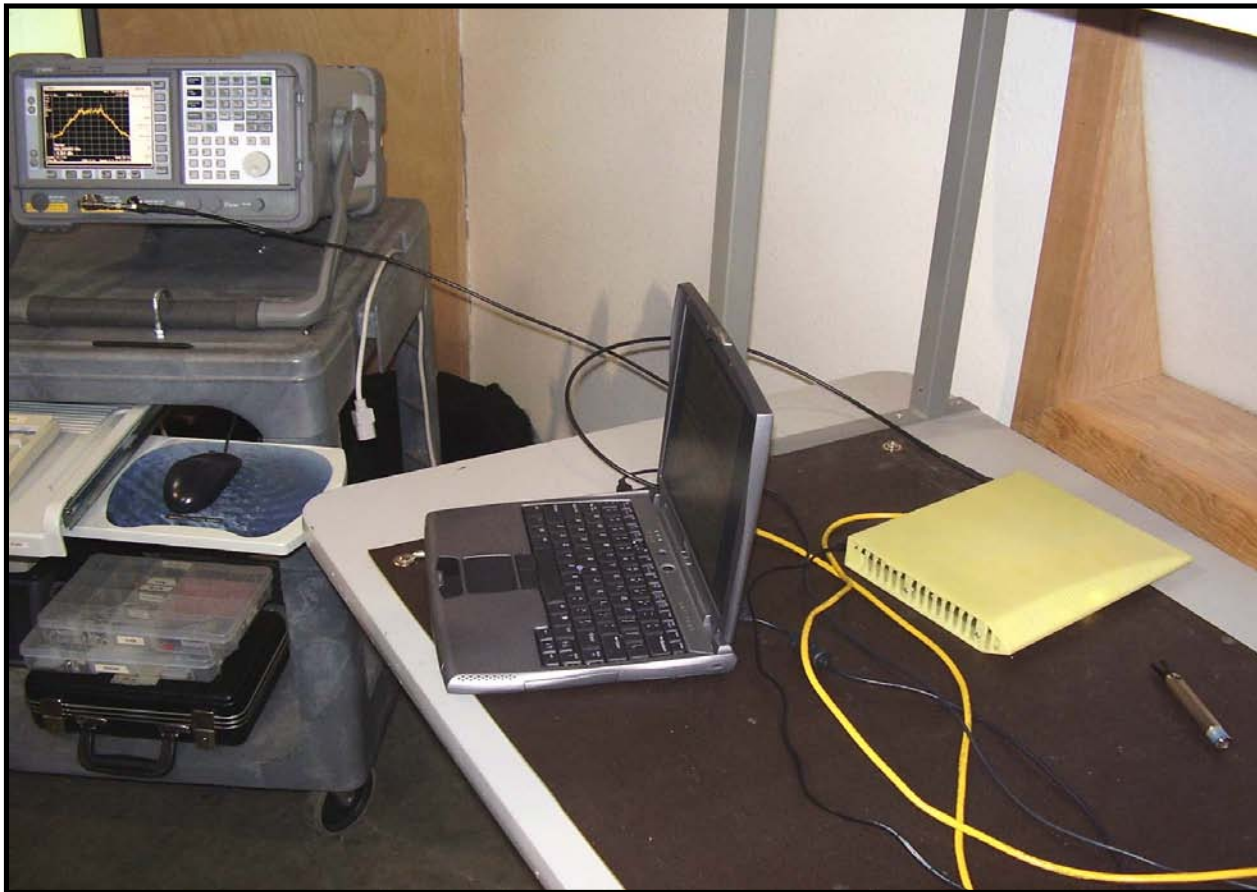
EUT:	OmniCell@Home	Work Order:	RAFN0085
Serial Number:	None	Date:	05/15/08
Customer:	Radioframe Networks, Inc.	Temperature:	25°C
Attendees:	Nha Tran	Humidity:	40%
Project:	None	Barometric Pres.:	1025 mb
Tested by:	Holly Ashkannejhad	Power:	120VAC/60Hz nominal
			Job Site: EV06
TEST SPECIFICATIONS		Test Method	
FCC 22H:2007		ANSI/TIA/EIA-603-B-2002	
COMMENTS			
Cellular Band, Maximum output power, Mid channel			
DEVIATIONS FROM TEST STANDARD			
No Deviations			
Configuration #	2	Signature	

Frequency Stability with Variation of Ambient Temperature (Primary Supply = 120VAC, 60 Hz)

Temp (°C)	Assigned Frequency (MHz)	Measured Frequency (MHz)	Tolerance (ppm)	Specification (ppm)
50	881.40000	881.400790	0.90	1
40	881.40000	881.400760	0.86	1
30	881.40000	881.399470	0.60	1
20	881.40000	881.400580	0.66	1
10	881.40000	881.400150	0.17	1
0	881.40000	881.400370	0.42	1
-10	881.40000	881.400760	0.86	1
-20	881.40000	881.400790	0.90	1
-30	881.40000	881.400820	0.93	1

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

Voltage (VAC, 60 Hz)	Assigned Frequency (MHz)	Measured Frequency (MHz)	Tolerance (ppm)	Specification (ppm)
138 (115%)	881.40000	881.400670	0.76	1
132 (110%)	881.40000	881.400780	0.88	1
126 (105%)	881.40000	881.400390	0.44	1
120 (100%)	881.40000	881.400840	0.95	1
114 (95%)	881.40000	881.399470	0.60	1
108 (90%)	881.40000	881.400780	0.88	1
102 (85%)	881.40000	881.400830	0.94	1



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

TEST EQUIPMENT					
Description	Manufacturer	Model	ID	Last Cal.	Interval
AC Power Source	Instek	APS-9050	TPK	NCR	0
Attenuator 20 dB, SMA M/F 26GHz	S.M. Electronics	SA26B-20	AUY	6/8/2007	13
Spectrum Analyzer	Agilent	E4407B	AAU	12/7/2007	13
Chamber, Temp./Humidity Chamber	Cincinnati Sub Zero (CSZ)	ZH-32-2-2-H/AC	TBA	8/7/2007	12

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

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 AC lab supply was used to vary the supply voltage from 115% to 85% of 120 V, 60 Hz.

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 using a direct connection between the EUT and a spectrum analyzer. The spectrum analyzer is equipped with a precision frequency reference that exceeds the stability requirement of the EUT.

EMC**Frequency Stability**

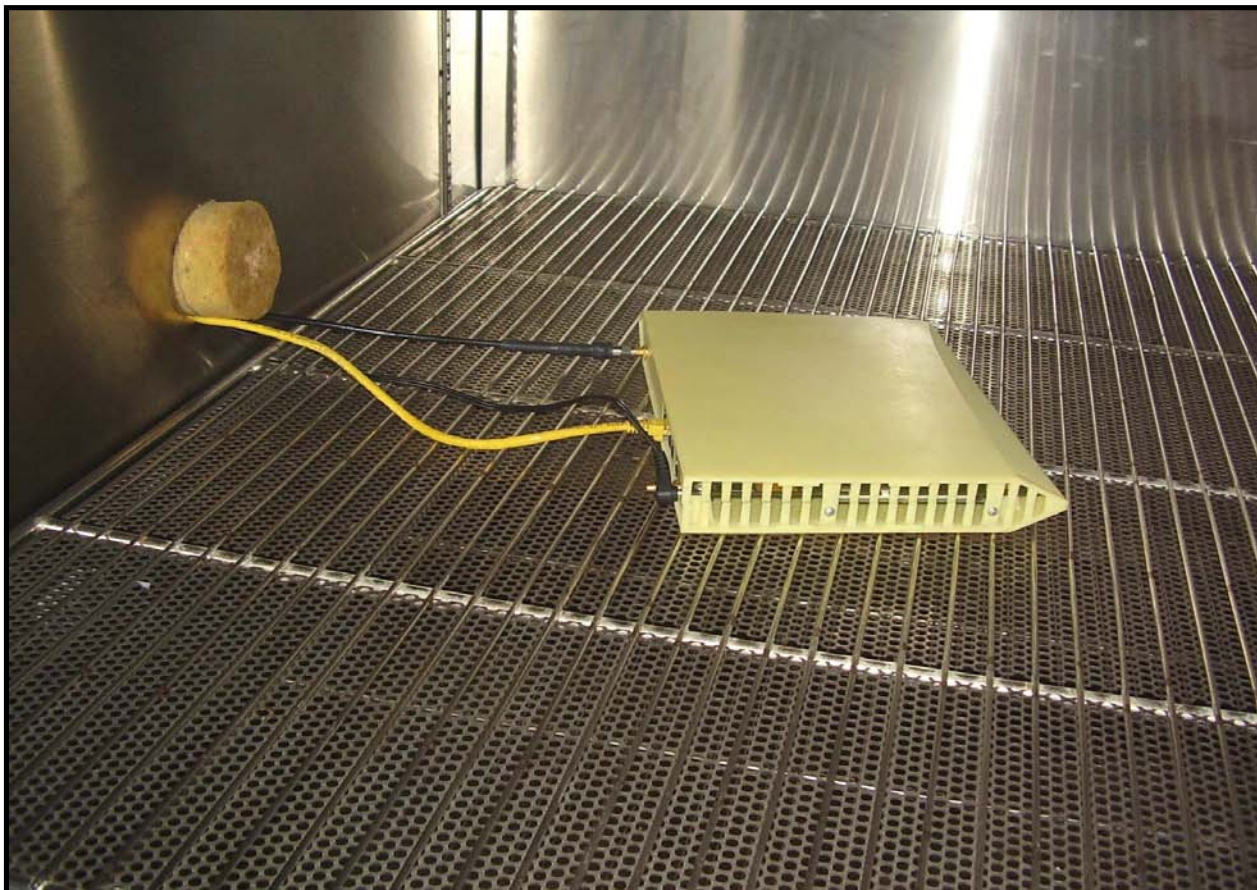
EUT: OmniCell@Home	Work Order: RAFN0085
Serial Number: None	Date: 05/15/08
Customer: Radioframe Networks, Inc.	Temperature: 25°C
Attendees: Nha Tran	Humidity: 40%
Project: None	Barometric Pres.: 1025 mb
Tested by: Holly Ashkannejhad	Power: 120VAC/60Hz nominal
Job Site: EV06	
TEST SPECIFICATIONS	
FCC 24E:2007	Test Method
	ANSI/TIA/EIA-603-B-2002
COMMENTS	
PCS Band, Maximum Output Power, Mid channel	
DEVIATIONS FROM TEST STANDARD	
No deviations	
Configuration #	2
Signature	<i>Holly Ashkannejhad</i>

Frequency Stability with Variation of Ambient Temperature (Primary Supply = 120VAC, 60 Hz)

Temp (°C)	Assigned Frequency (MHz)	Measured Frequency (MHz)	Tolerance (ppm)	Specification (ppm)
50	1960.00000	1960.000900	0.46	1
40	1960.00000	1960.000760	0.39	1
30	1960.00000	1960.000880	0.45	1
20	1960.00000	1960.000300	0.15	1
10	1960.00000	1960.000980	0.50	1
0	1960.00000	1960.000430	0.22	1
-10	1960.00000	1960.000850	0.43	1
-20	1960.00000	1960.000730	0.37	1
-30	1960.00000	1960.000700	0.36	1

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

Voltage (VAC, 60 Hz)	Assigned Frequency (MHz)	Measured Frequency (MHz)	Tolerance (ppm)	Specification (ppm)
138 (115%)	1960.00000	1960.000920	0.47	1
132 (110%)	1960.00000	1960.000870	0.44	1
126 (105%)	1960.00000	1960.000450	0.23	1
120 (100%)	1960.00000	1960.000910	0.46	1
114 (95%)	1960.00000	1960.000730	0.37	1
108 (90%)	1960.00000	1960.000580	0.30	1
102 (85%)	1960.00000	1959.999050	0.48	1



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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Signal Generator	Hewlett-Packard	8648D	TGC	12/7/2007	13
Power Meter	Gigatronics	8651A	SPM	12/7/2007	13
Power Sensor	Gigatronics	80701A	SPL	12/7/2007	13
Attenuator 20 dB, SMA M/F 26GHz	S.M. Electronics	SA26B-20	AUY	6/8/2007	13
Spectrum Analyzer	Agilent	E4407B	AAU	12/7/2007	13

MEASUREMENT UNCERTAINTY

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

TEST DESCRIPTION

The 99% bandwidth was measured utilizing the analyzer's peak detector and measuring the carrier's 26 dB occupied bandwidth based on the peak output power level measured. A plot was taken to show the occupied bandwidth is contained within the allowable transmit band.

A direct connection was made between the EUT and a spectrum analyzer. At 3 kHz the spectrum analyzer's resolution bandwidth was sufficiently narrow to plot the actual bandwidth of the signal and not the filter response curve of the spectrum analyzer. The resolution bandwidth was approximately equal to 1% of the 20dB bandwidth and the video bandwidth was greater than or equal to the resolution bandwidth.

The occupied bandwidth was measured with the EUT configured in the modes called out in the data sheets.

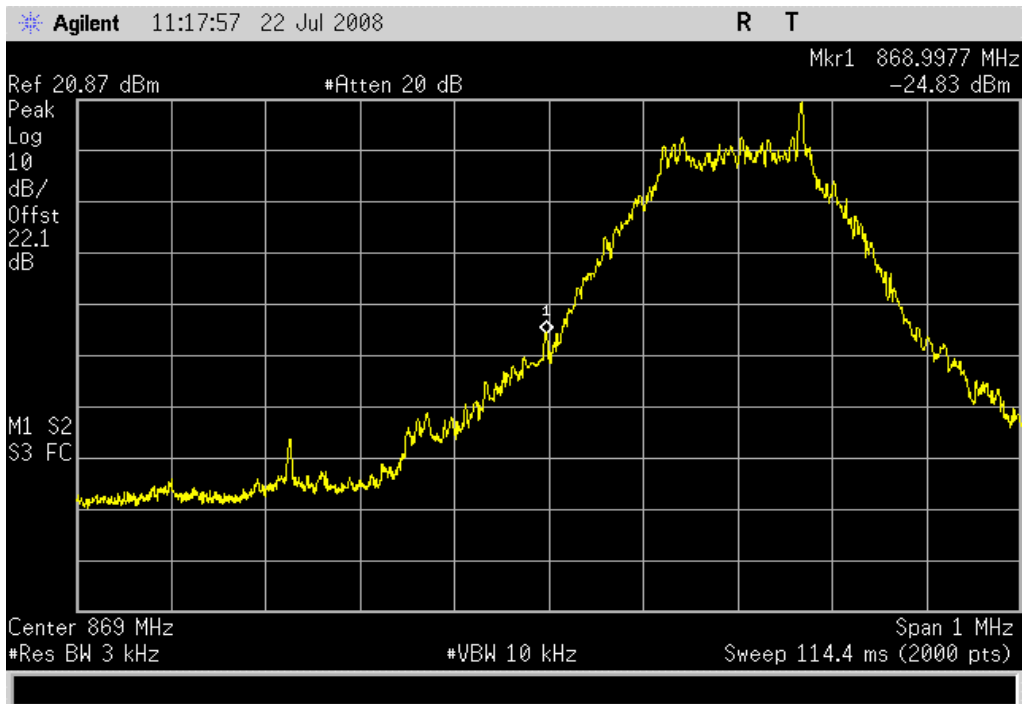
EUT:	OmniCell@Home	Work Order:	RAFN0085
Serial Number:	None	Date:	5/14/2008 & 7-22-08
Customer:	Radioframe Networks, Inc.	Temperature:	25°C
Attendees:	Nha Tran	Humidity:	35%
Project:	None	Barometric Pres.:	1030.8 mB
Tested by:	Holly Ashkannejhad & Rod Peloquin	Power:	120VAC/60Hz
		Job Site:	EV06
TEST SPECIFICATIONS		Test Method	
FCC 22H:2007		ANSI/TIA/EIA-603-B-2002	
COMMENTS			
Cellular Band			
DEVIATIONS FROM TEST STANDARD			
No deviations			
Configuration #	2	Signature <i>Holly Ashkannejhad</i>	

		Value	Limit	Results
GSM modulation				
High power, Atten = 0				
Low channel, 869.2MHz				
	Reference Level Plot	20.87 dBm	N/A	N/A
	Occupied Bandwidth	268.1 kHz	N/A	N/A
	Band Edge	-24.8 dBm	≤ -13 dBm	Pass
Mid channel, 881.4MHz				
	Reference Level Plot	20.11 dBm	N/A	N/A
	Occupied Bandwidth	262.6 kHz	N/A	N/A
High channel, 893.8MHz				
	Reference Level Plot	20.24 dBm	N/A	N/A
	Occupied Bandwidth	263.6 kHz	N/A	N/A
	Band Edge	-26.4 dBm	≤ -13 dBm	Pass
Mid power, Atten = 3				
Low channel, 869.2MHz				
	Reference Level Plot	12.7 dBm	N/A	N/A
	Occupied Bandwidth	263.6 kHz	N/A	N/A
	Band Edge	-37.38 dBm	≤ -13 dBm	Pass
Mid channel, 881.4MHz				
	Reference Level Plot	12.5 dBm	N/A	N/A
	Occupied Bandwidth	263.8 kHz	N/A	N/A
High channel, 893.8MHz				
	Reference Level Plot	12.5 dBm	N/A	N/A
	Occupied Bandwidth	263.6 kHz	N/A	N/A
	Band Edge	-33.5 dBm	≤ -13 dBm	Pass
Low power, Atten = 6				
Low channel, 869.2MHz				
	Reference Level Plot	6.5 dBm	N/A	N/A
	Occupied Bandwidth	264.132 kHz	N/A	N/A
	Band Edge	-41.19 dBm	≤ -13 dBm	Pass
Mid channel, 881.4MHz				
	Reference Level Plot	6.4 dBm	N/A	N/A
	Occupied Bandwidth	268.1 kHz	N/A	N/A
High channel, 893.8MHz				
	Reference Level Plot	6.4 dBm	N/A	N/A
	Occupied Bandwidth	263.1 kHz	N/A	N/A
	Band Edge	-39.4 dBm	≤ -13 dBm	Pass
GPRS modulation				
High power, Atten = 0				
Low channel, 869.2MHz				
	Reference Level Plot	20.79 dBm	N/A	N/A
	Occupied Bandwidth	263.1 kHz	N/A	N/A
	Band Edge	-25.4 dBm	≤ -13 dBm	Pass
Mid channel, 881.4MHz				
	Reference Level Plot	20.06 dBm	N/A	N/A
	Occupied Bandwidth	264.1 kHz	N/A	N/A
High channel, 893.8MHz				
	Reference Level Plot	20.19 dBm	N/A	N/A
	Occupied Bandwidth	263.1 kHz	N/A	N/A
	Band Edge	-26.17 dBm	≤ -13 dBm	Pass
Mid power, Atten = 3				
Low channel, 869.2MHz				
	Reference Level Plot	12.7 dBm	N/A	N/A
	Occupied Bandwidth	272.6 kHz	N/A	N/A
	Band Edge	-34.99 dBm	≤ -13 dBm	Pass
Mid channel, 881.4MHz				
	Reference Level Plot	12.7 dBm	N/A	N/A
	Occupied Bandwidth	263.1 kHz	N/A	N/A
High channel, 893.8MHz				
	Reference Level Plot	12.4 dBm	N/A	N/A
	Occupied Bandwidth	264.1 kHz	N/A	N/A
	Band Edge	-33.11 dBm	≤ -13 dBm	Pass
Low power, Atten = 6				
Low channel, 869.2MHz				
	Reference Level Plot	6.4 dBm	N/A	N/A
	Occupied Bandwidth	264.1 kHz	N/A	N/A
	Band Edge	-42.75 dBm	≤ -13 dBm	Pass
Mid channel, 881.4MHz				
	Reference Level Plot	6.5 dBm	N/A	N/A
	Occupied Bandwidth	264.1 kHz	N/A	N/A
High channel, 893.8MHz				
	Reference Level Plot	6.4 dBm	N/A	N/A
	Occupied Bandwidth	272.1 kHz	N/A	N/A
	Band Edge	-38.9 dBm	≤ -13 dBm	Pass

Occupied Bandwidth

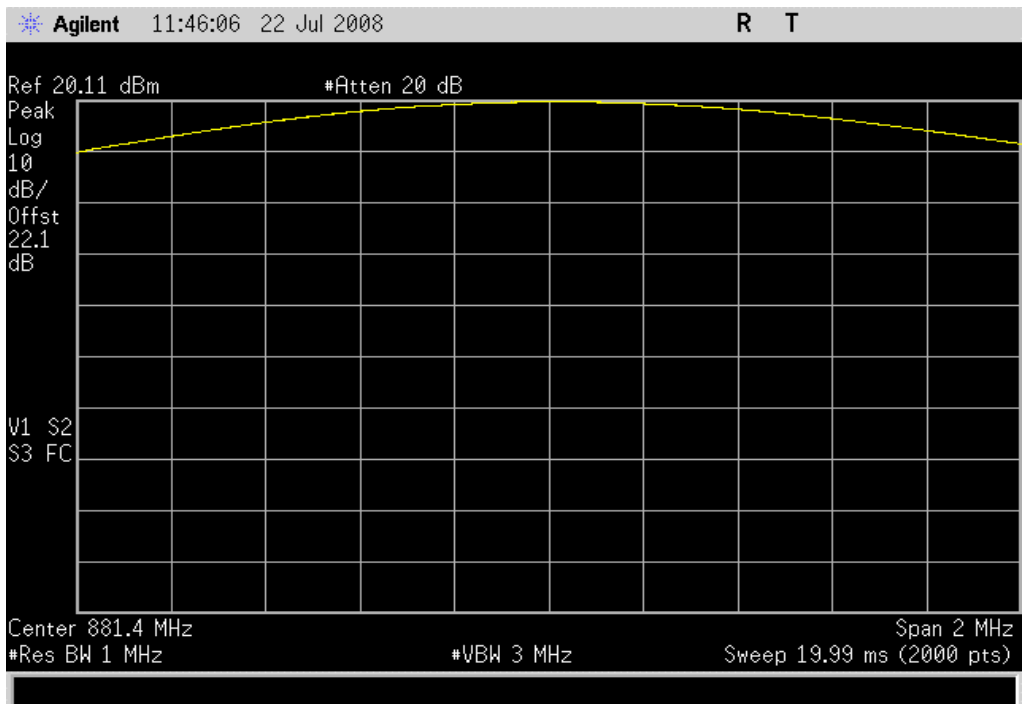
GSM modulation , High power, Atten = 0, Low channel, 869.2MHz, Band Edge

Result: Pass **Value:** -24.8 dBm **Limit:** ≤ -13 dBm



GSM modulation , High power, Atten = 0, Mid channel, 881.4MHz, Reference Level Plot

Result: N/A **Value:** 20.11 dBm **Limit:** N/A



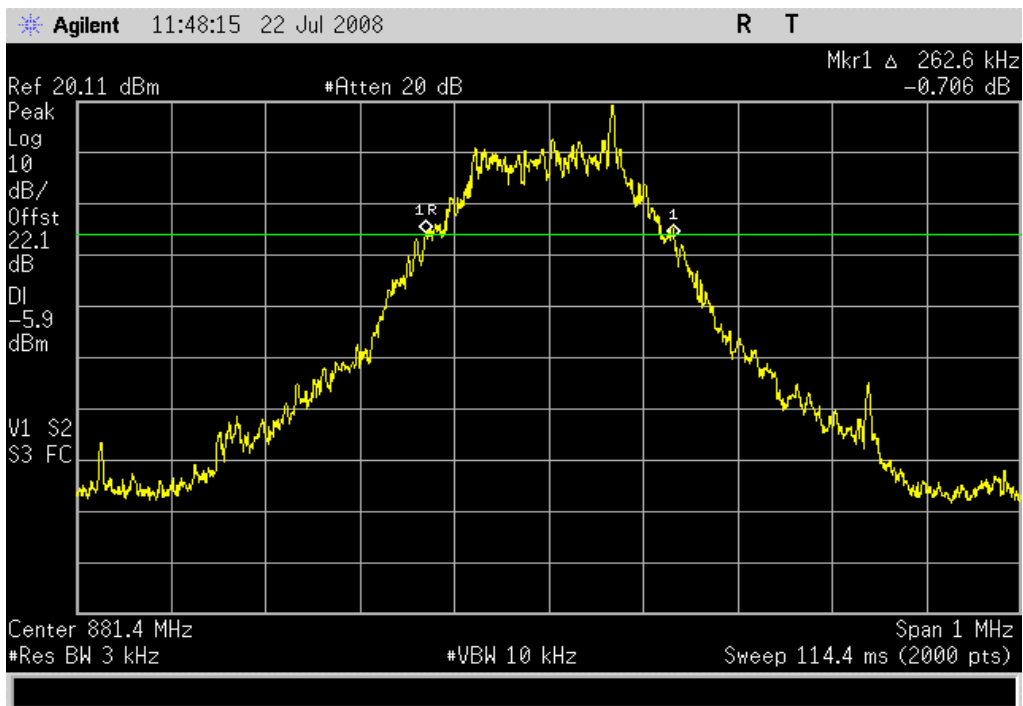
Occupied Bandwidth

GSM modulation , High power, Atten = 0, Mid channel, 881.4MHz, Occupied Bandwidth

Result: N/A

Value: 262.6 kHz

Limit: N/A

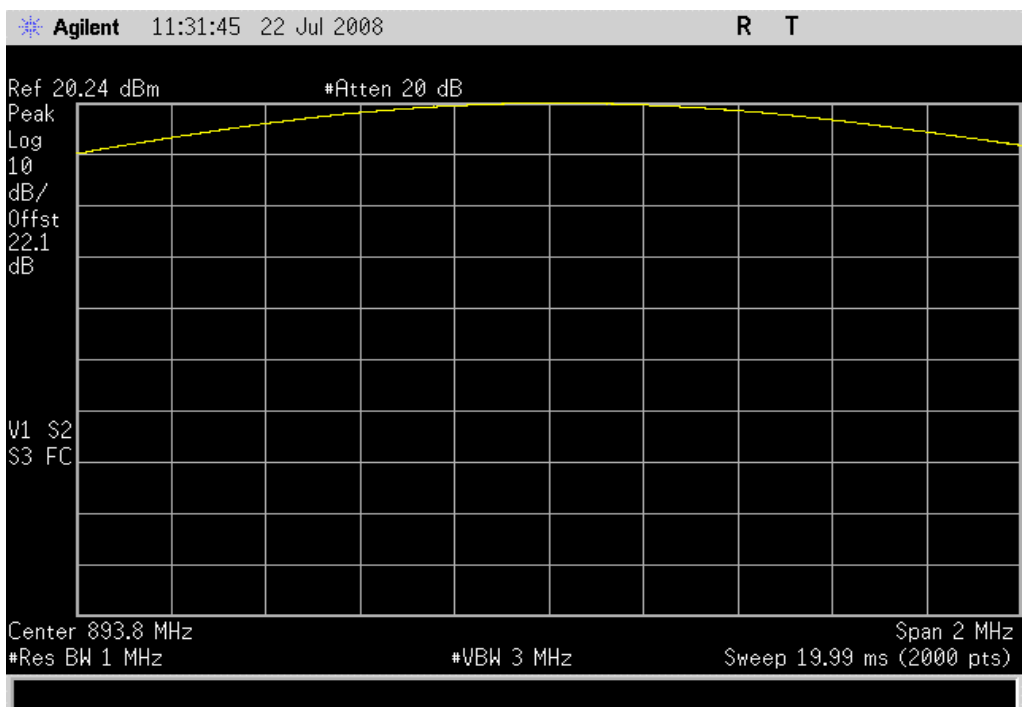


GSM modulation , High power, Atten = 0, High channel, 893.8MHz, Reference Level Plot

Result: N/A

Value: 20.24 dBm

Limit: N/A



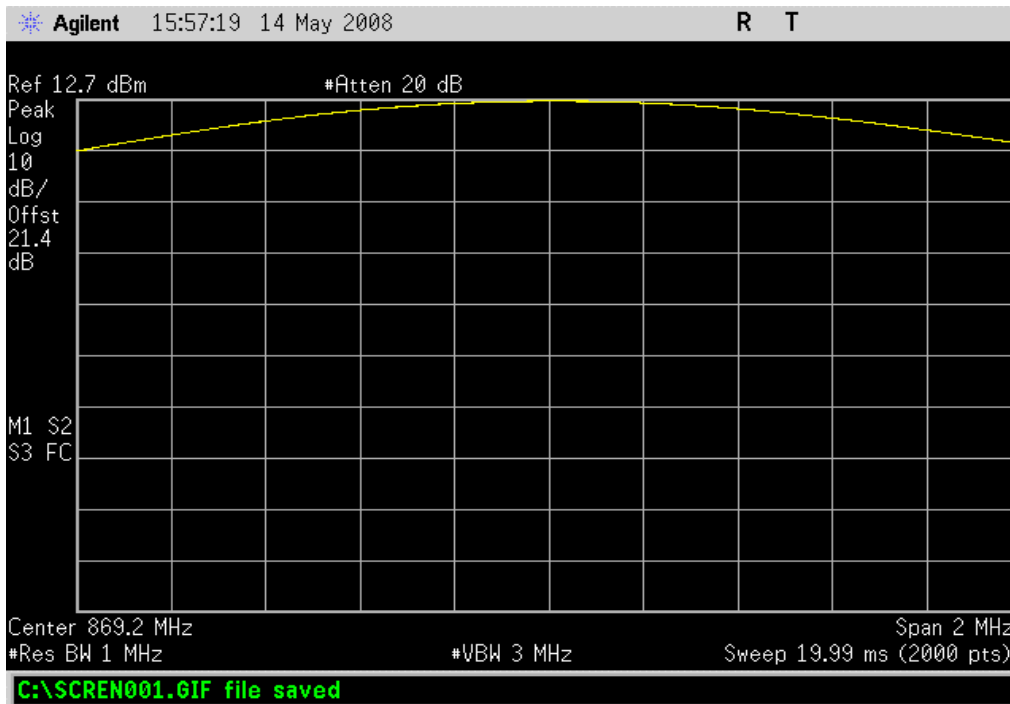
Occupied Bandwidth

GSM modulation , Mid power, Atten = 3, Low channel, 869.2MHz, Reference Level Plot

Result: N/A

Value: 12.7 dBm

Limit: N/A

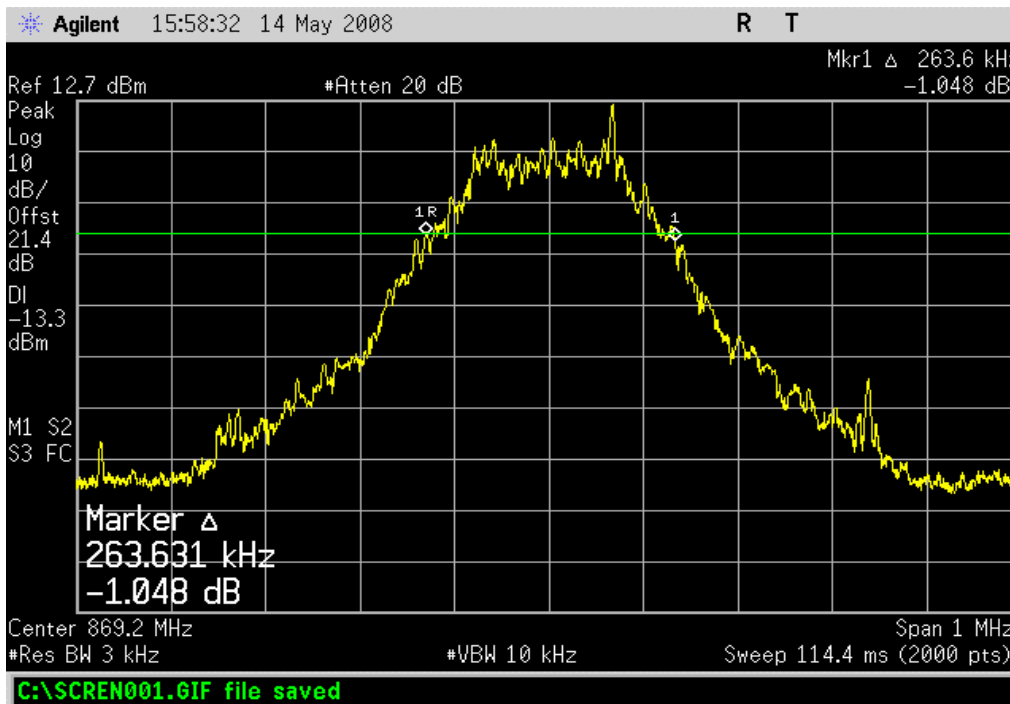


GSM modulation , Mid power, Atten = 3, Low channel, 869.2MHz, Occupied Bandwidth

Result: N/A

Value: 263.6 kHz

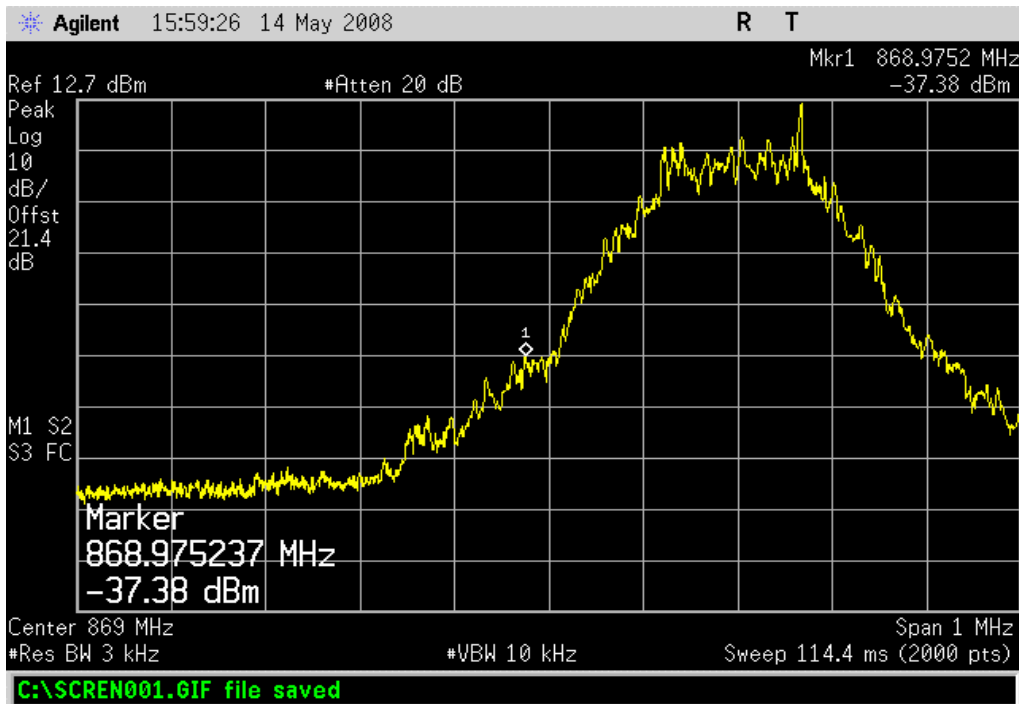
Limit: N/A



Occupied Bandwidth

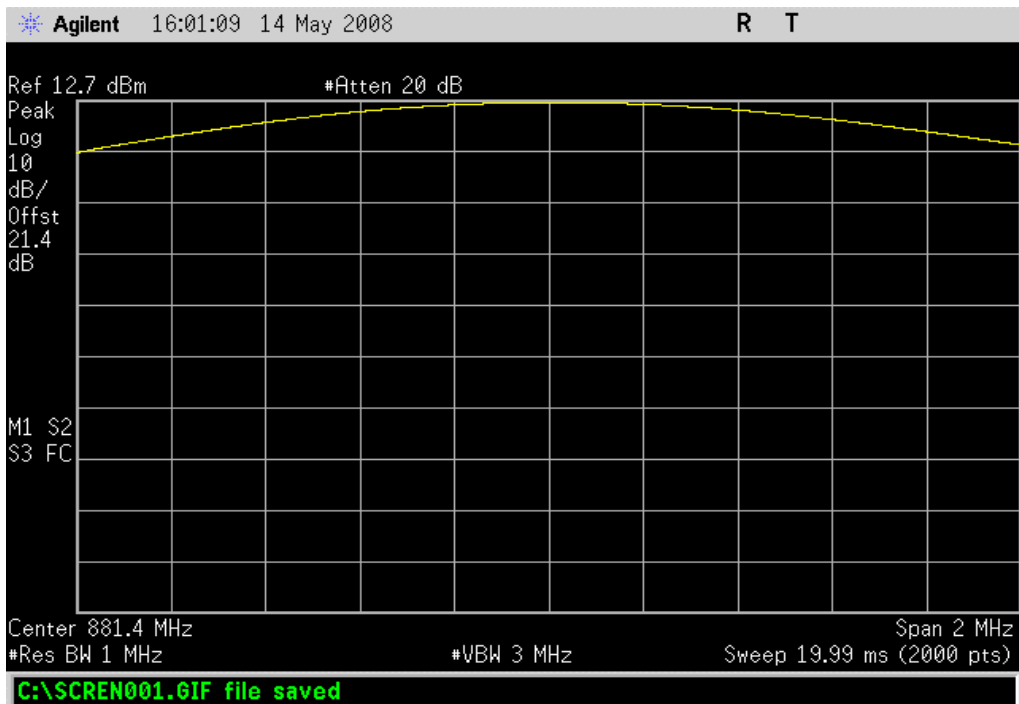
GSM modulation , Mid power, Atten = 3, Low channel, 869.2MHz, Band Edge

Result: Pass **Value:** -37.38 dBm **Limit:** ≤ -13 dBm



GSM modulation , Mid power, Atten = 3, Mid channel, 881.4MHz, Reference Level Plot

Result: N/A **Value:** 12.5 dBm **Limit:** N/A



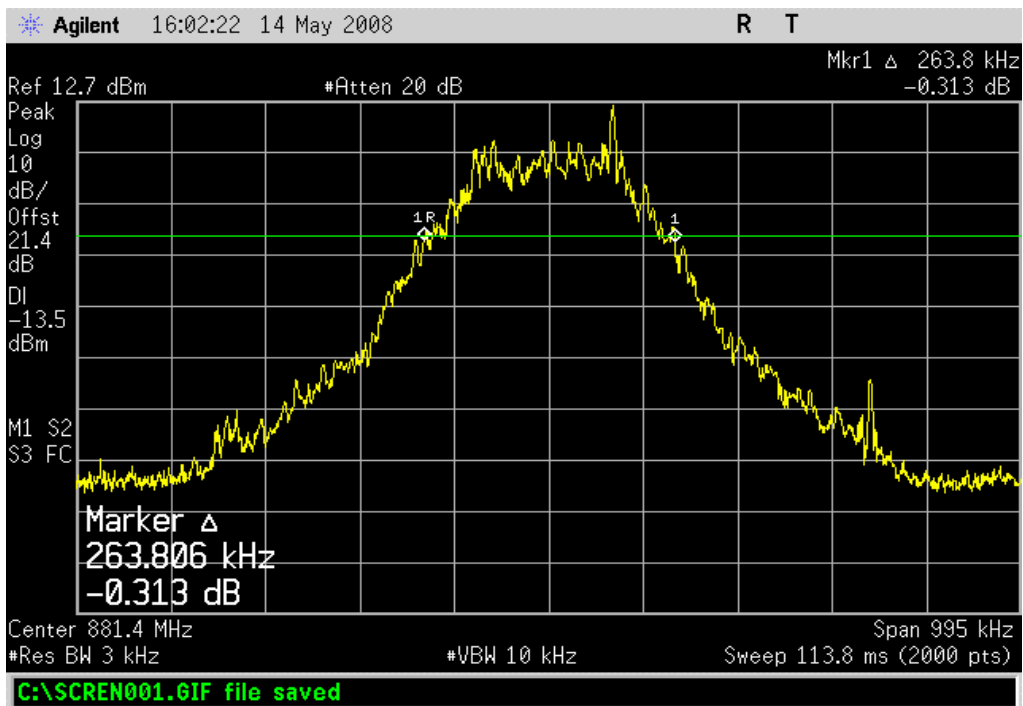
Occupied Bandwidth

GSM modulation , Mid power, Atten = 3, Mid channel, 881.4MHz, Occupied Bandwidth

Result: N/A

Value: 263.8 kHz

Limit: N/A

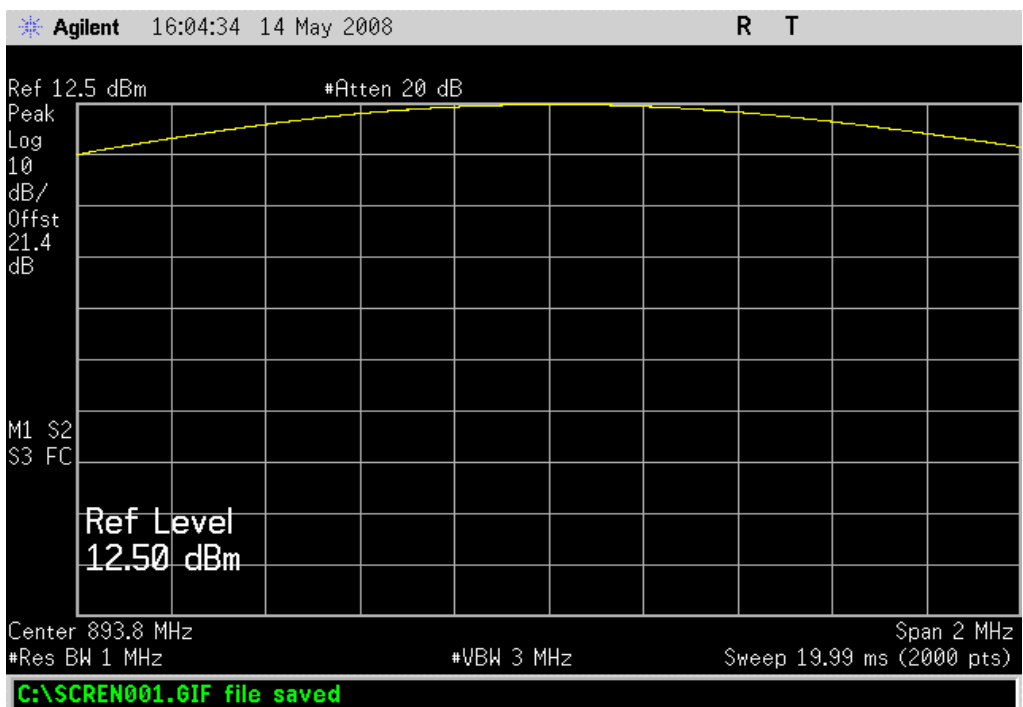


GSM modulation , Mid power, Atten = 3, High channel, 893.8MHz, Reference Level Plot

Result: N/A

Value: 12.5 dBm

Limit: N/A



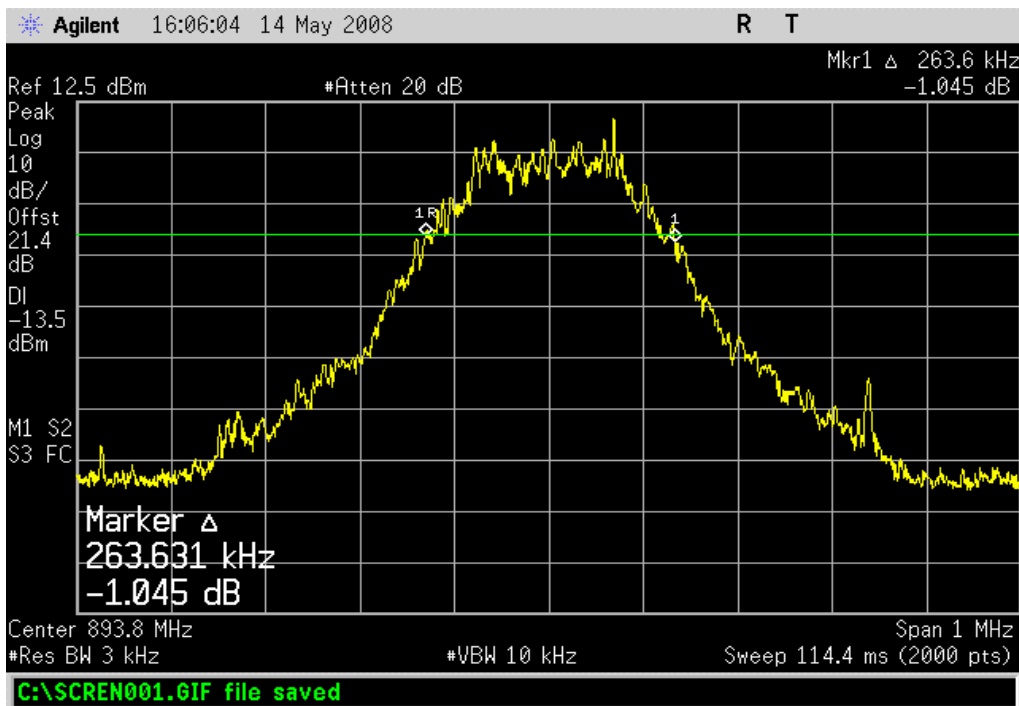
Occupied Bandwidth

GSM modulation , Mid power, Atten = 3, High channel, 893.8MHz, Occupied Bandwidth

Result: N/A

Value: 263.6 kHz

Limit: N/A

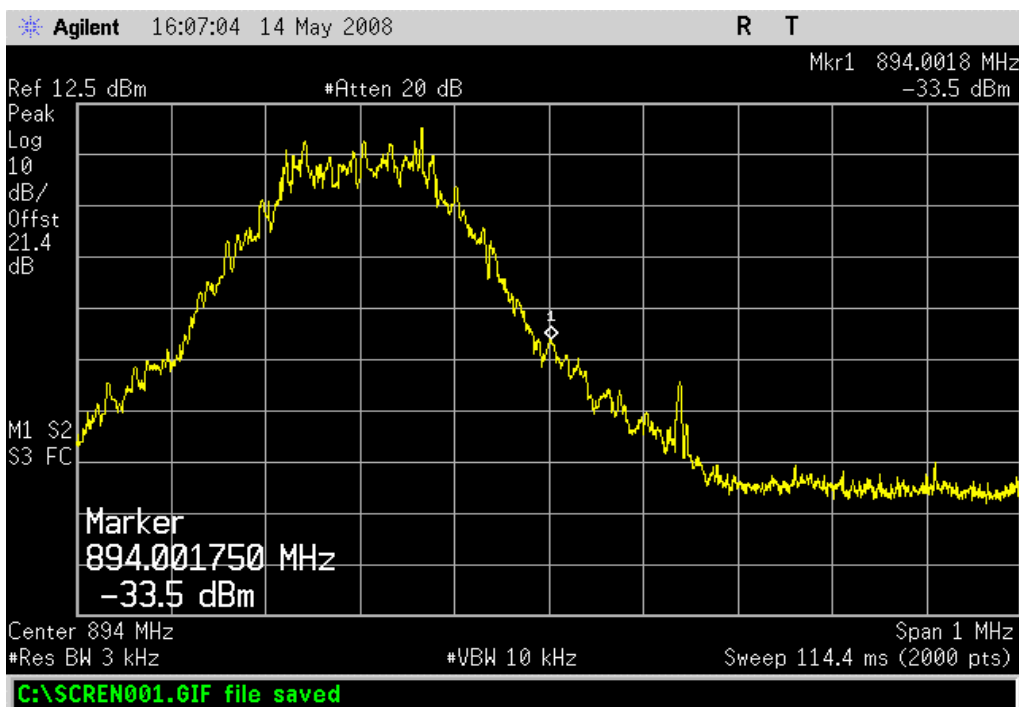


GSM modulation , Mid power, Atten = 3, High channel, 893.8MHz, Band Edge

Result: Pass

Value: -33.5 dBm

Limit: ≤ -13 dBm



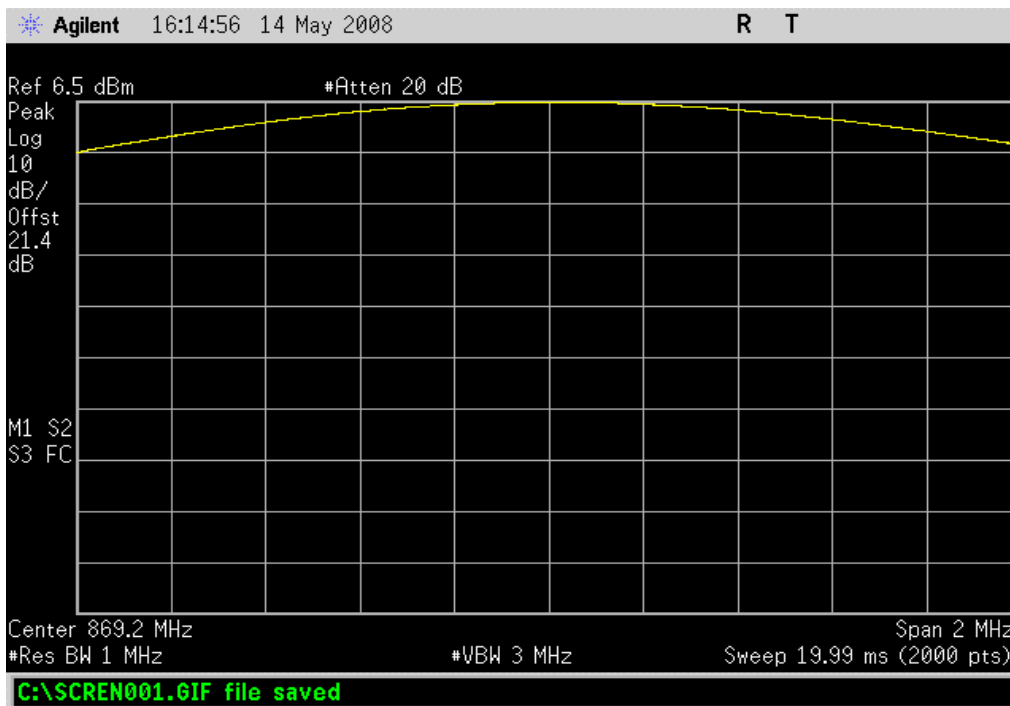
Occupied Bandwidth

GSM modulation , Low power, Atten = 6, Low channel, 869.2MHz, Reference Level Plot

Result: N/A

Value: 6.5 dBm

Limit: N/A

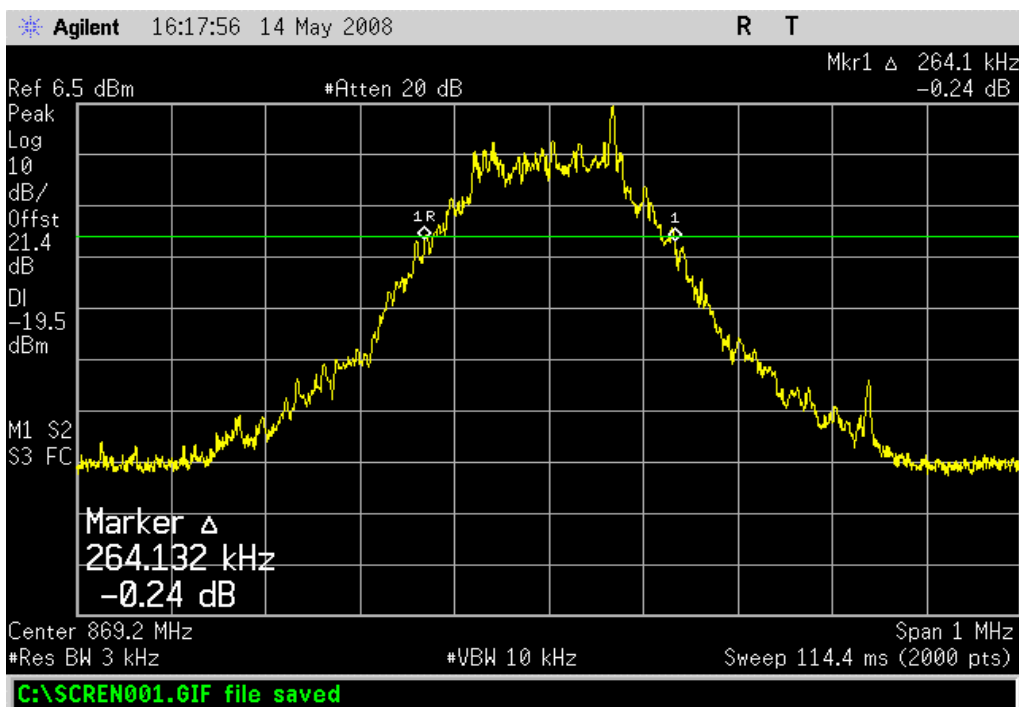


GSM modulation , Low power, Atten = 6, Low channel, 869.2MHz, Occupied Bandwidth

Result: N/A

Value: 264.132 kHz

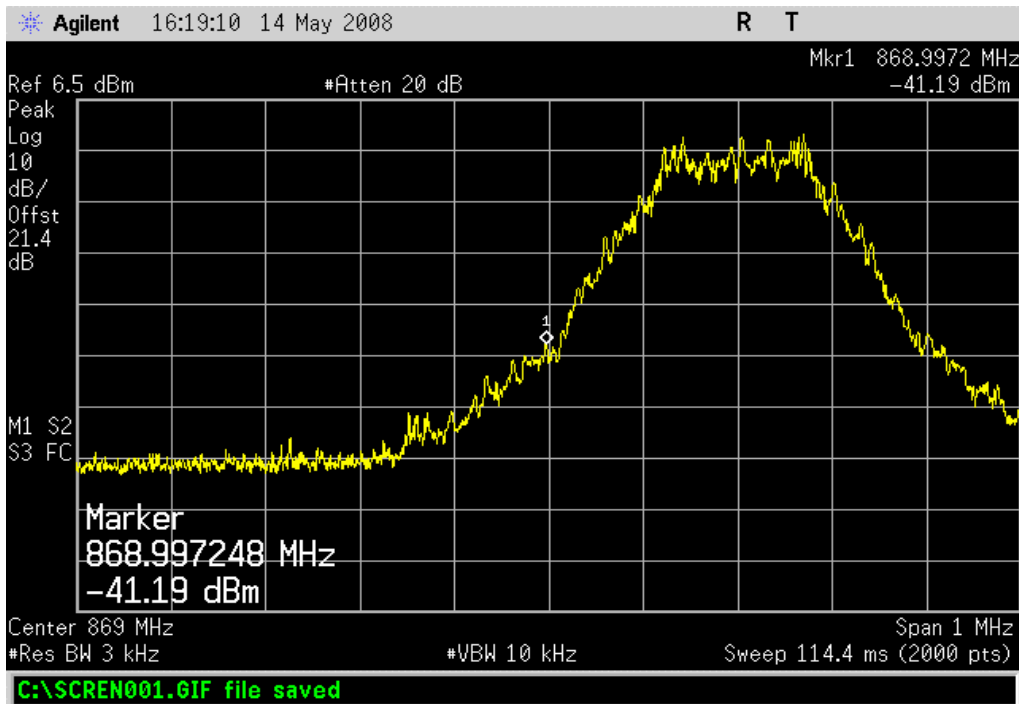
Limit: N/A



Occupied Bandwidth

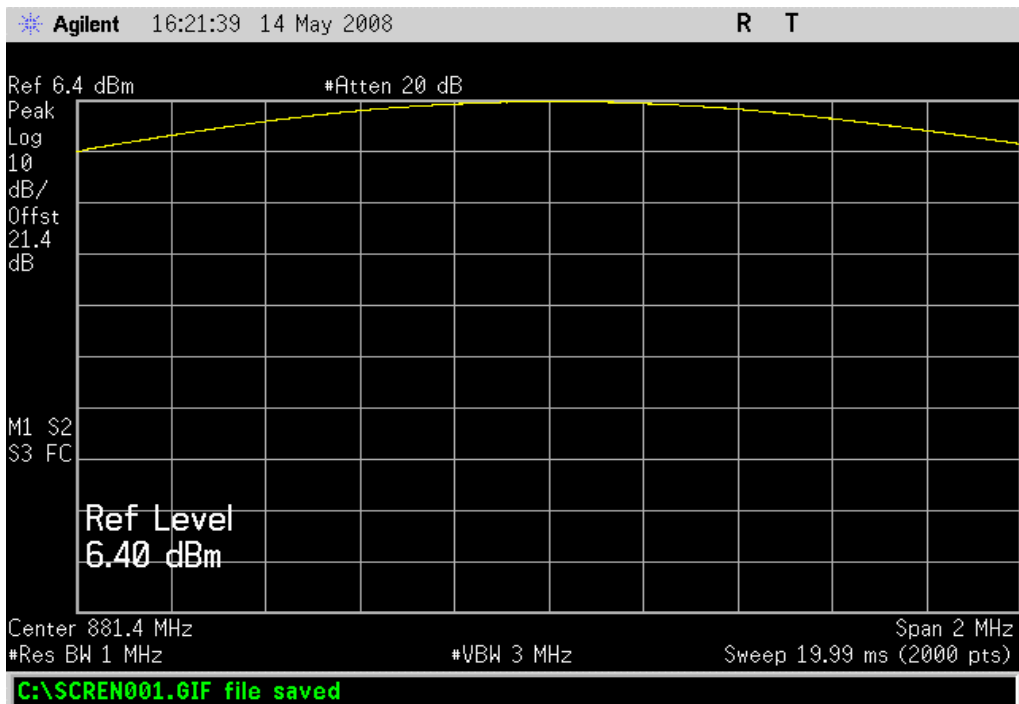
GSM modulation , Low power, Atten = 6, Low channel, 869.2MHz, Band Edge

Result: Pass **Value:** -41.19 dBm **Limit:** ≤ -13 dBm



GSM modulation , Low power, Atten = 6, Mid channel, 881.4MHz, Reference Level Plot

Result: N/A **Value:** 6.4 dBm **Limit:** N/A



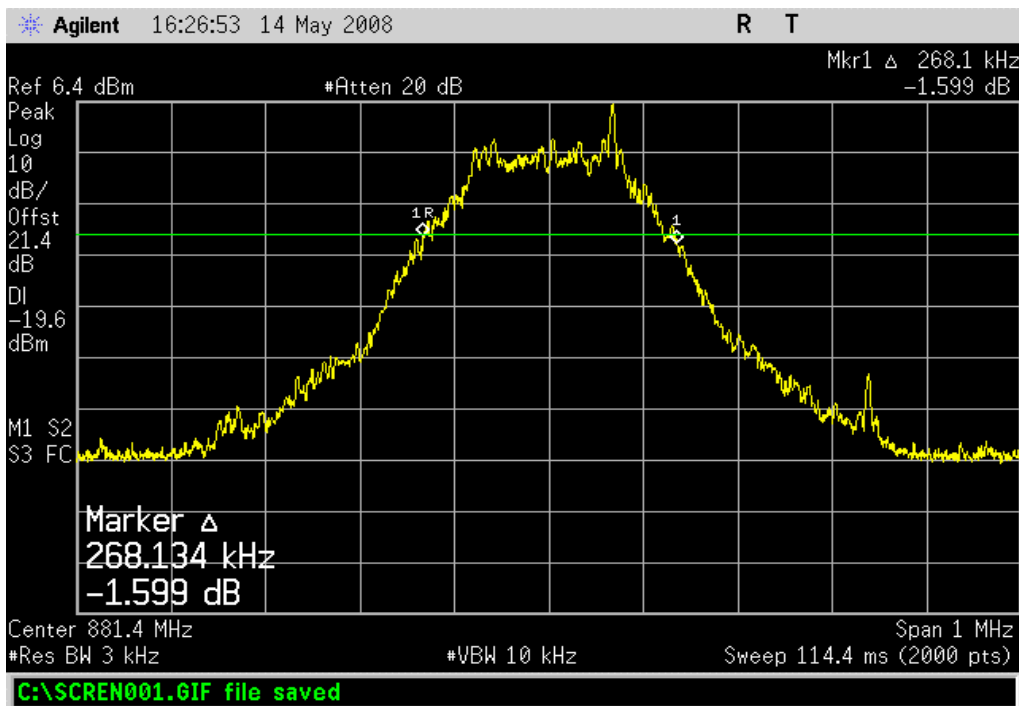
Occupied Bandwidth

GSM modulation , Low power, Atten = 6, Mid channel, 881.4MHz, Occupied Bandwidth

Result: N/A

Value: 268.1 kHz

Limit: N/A

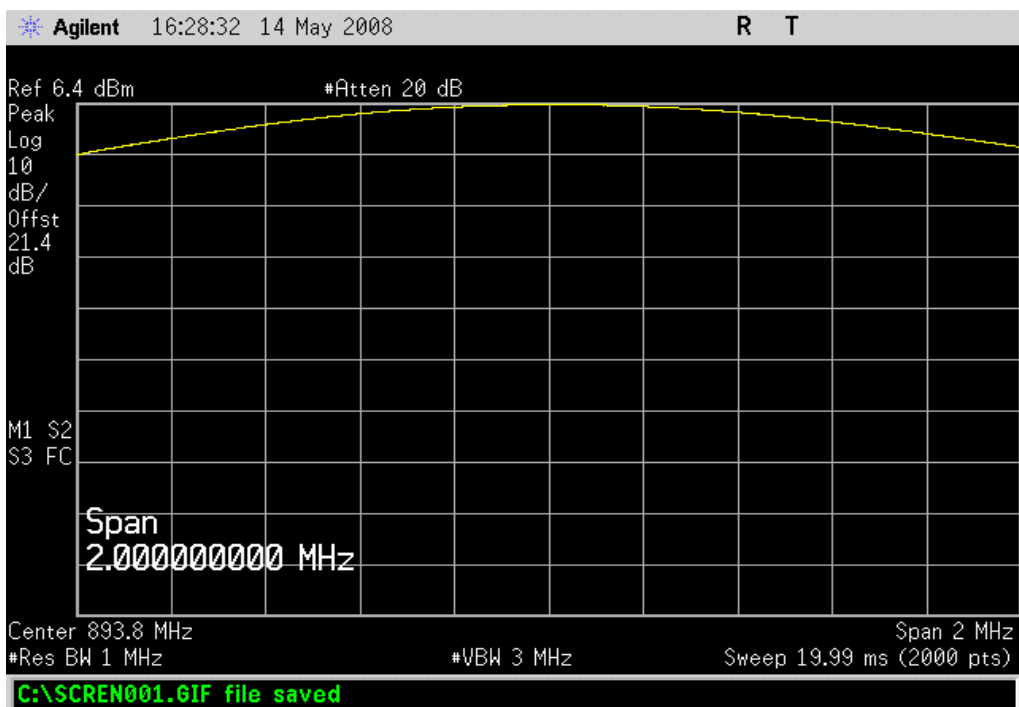


GSM modulation , Low power, Atten = 6, High channel, 893.8MHz, Reference Level Plot

Result: N/A

Value: 6.4 dBm

Limit: N/A



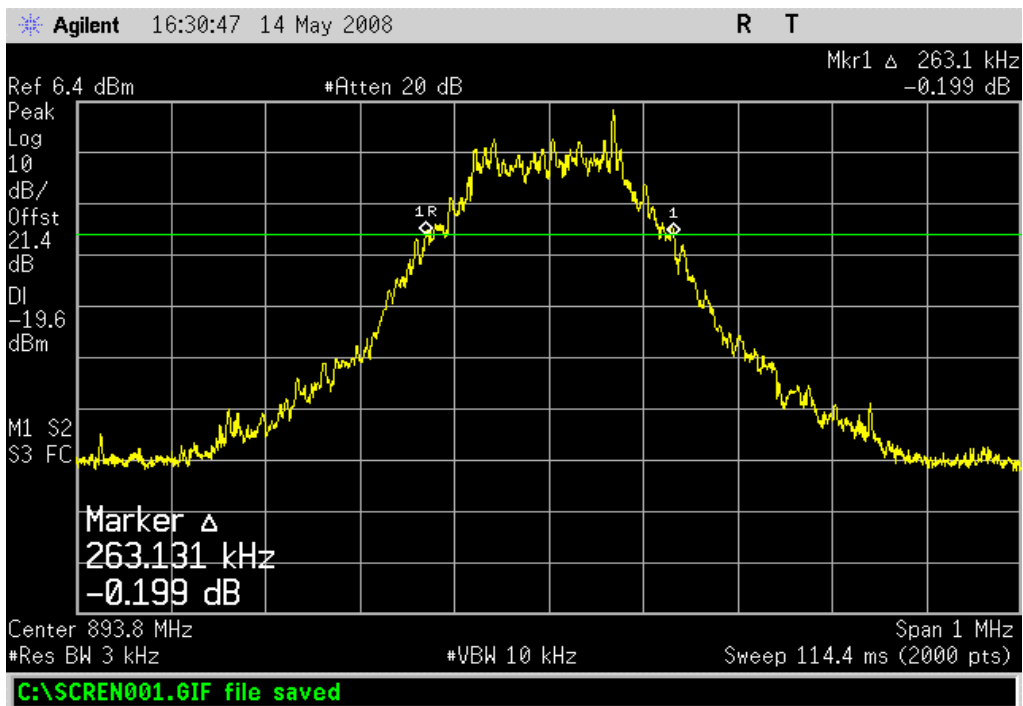
Occupied Bandwidth

GSM modulation , Low power, Atten = 6, High channel, 893.8MHz, Occupied Bandwidth

Result: N/A

Value: 263.1 kHz

Limit: N/A

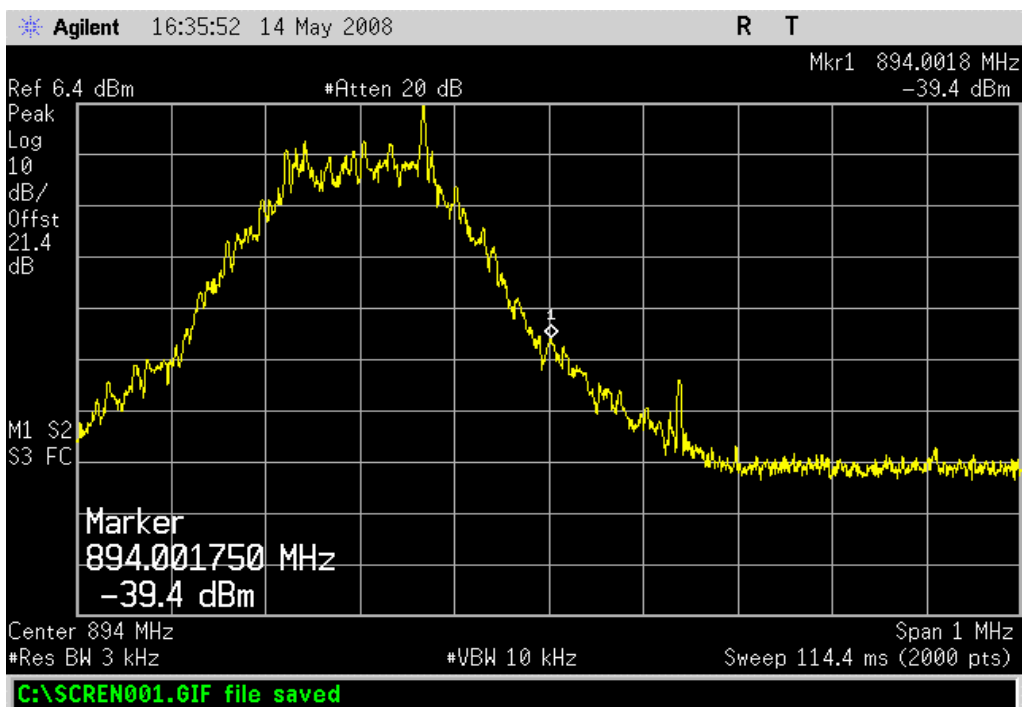


GSM modulation , Low power, Atten = 6, High channel, 893.8MHz, Band Edge

Result: Pass

Value: -39.4 dBm

Limit: ≤ -13 dBm



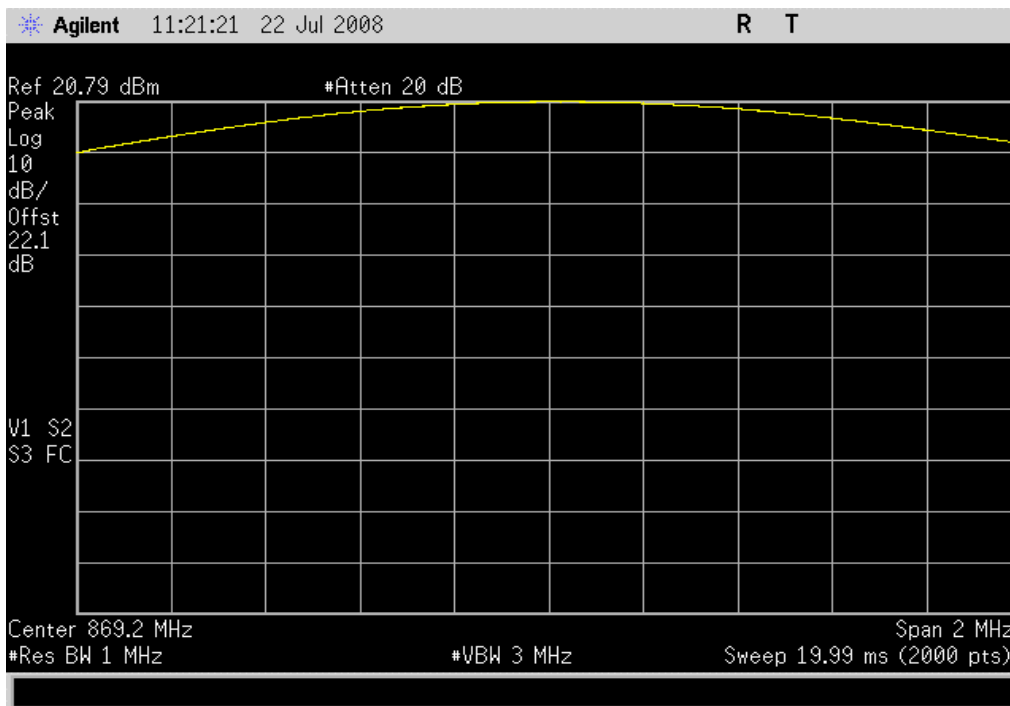
Occupied Bandwidth

GPRS modulation, High power, Atten = 0, Low channel, 869.2MHz, Reference Level Plot

Result: N/A

Value: 20.79 dBm

Limit: N/A

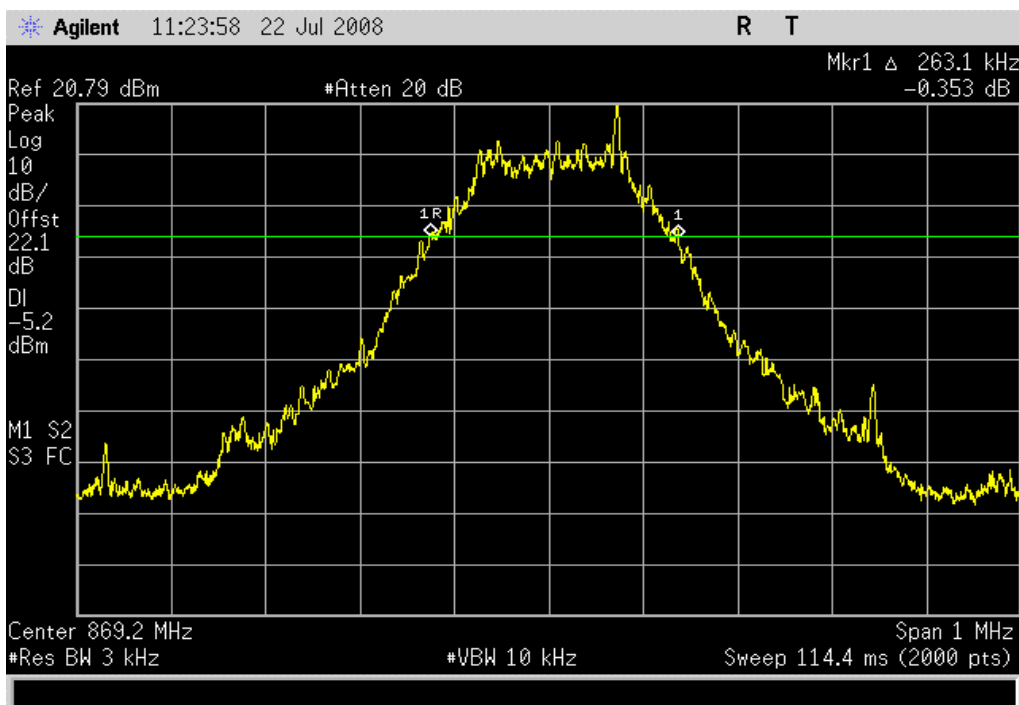


GPRS modulation, High power, Atten = 0, Low channel, 869.2MHz, Occupied Bandwidth

Result: N/A

Value: 263.1 kHz

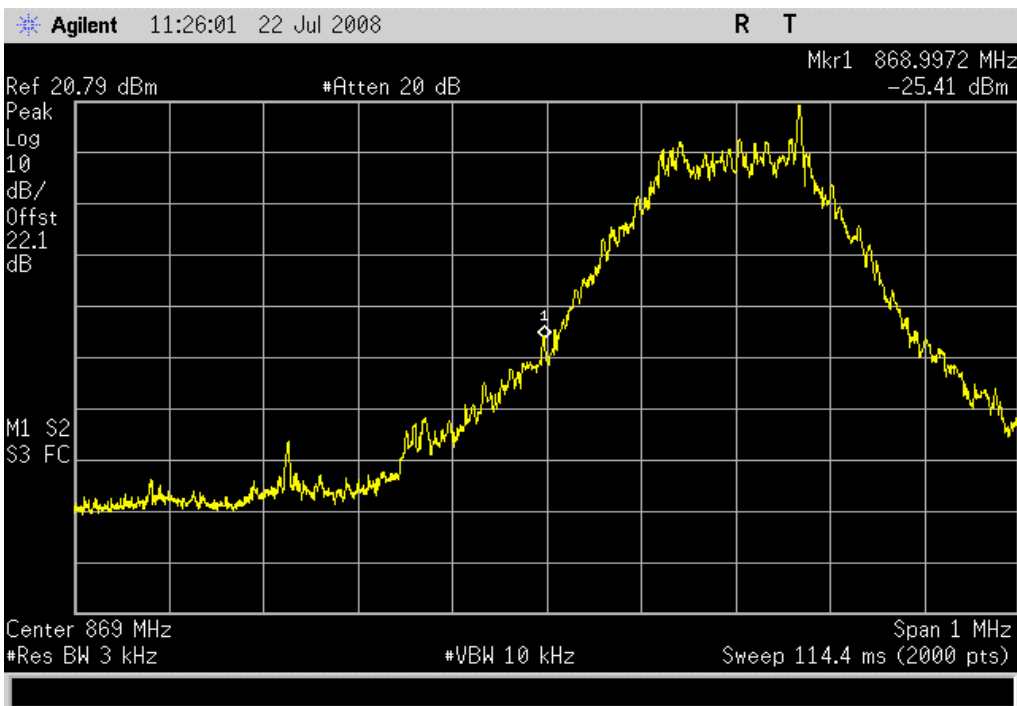
Limit: N/A



Occupied Bandwidth

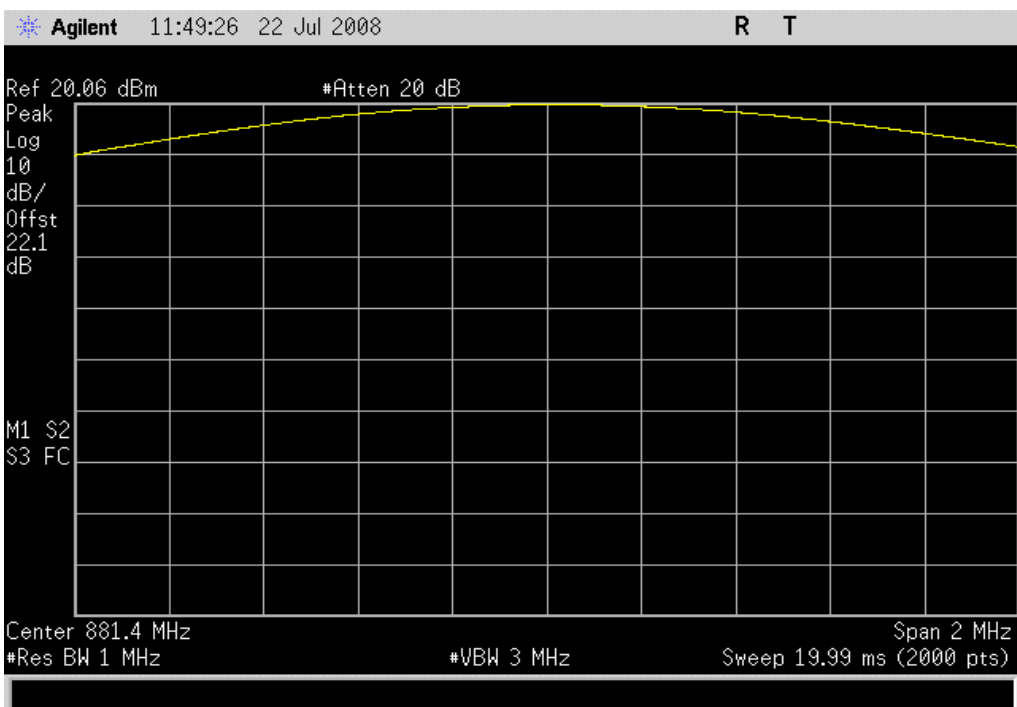
GPRS modulation, High power, Atten = 0, Low channel, 869.2MHz, Band Edge

Result: Pass **Value:** -25.4 dBm **Limit:** ≤ -13 dBm



GPRS modulation, High power, Atten = 0, Mid channel, 881.4MHz, Reference Level Plot

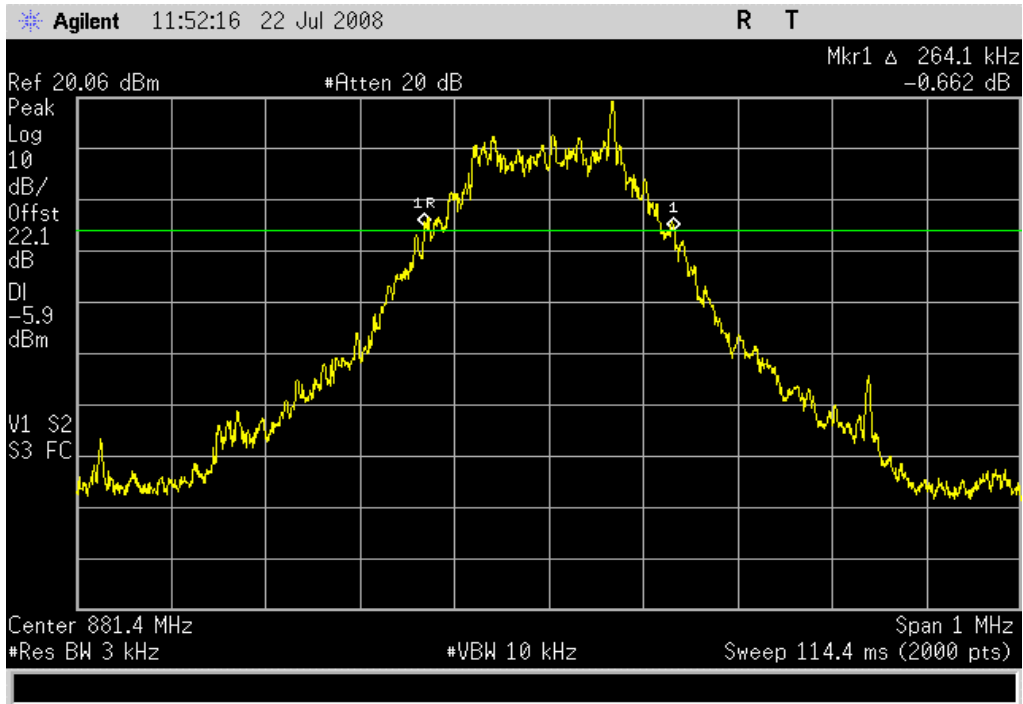
Result: N/A **Value:** 20.06 dBm **Limit:** N/A



Occupied Bandwidth

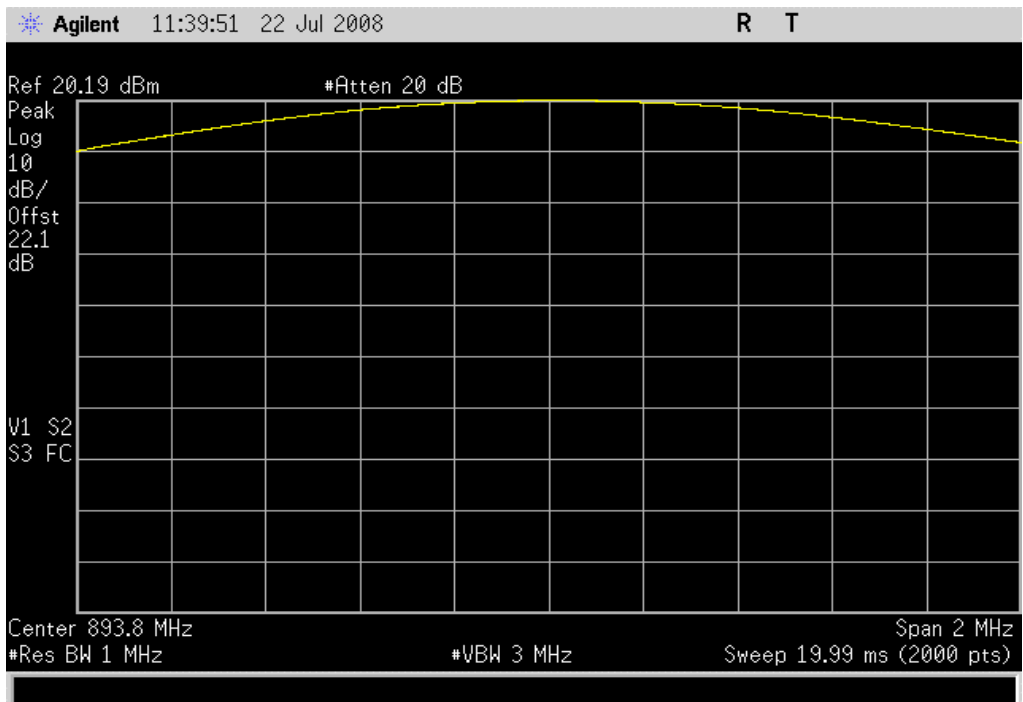
GPRS modulation, High power, Atten = 0, Mid channel, 881.4MHz, Occupied Bandwidth

Result: N/A **Value:** 264.1 kHz **Limit:** N/A



GPRS modulation, High power, Atten = 0, High channel, 893.8MHz, Reference Level Plot

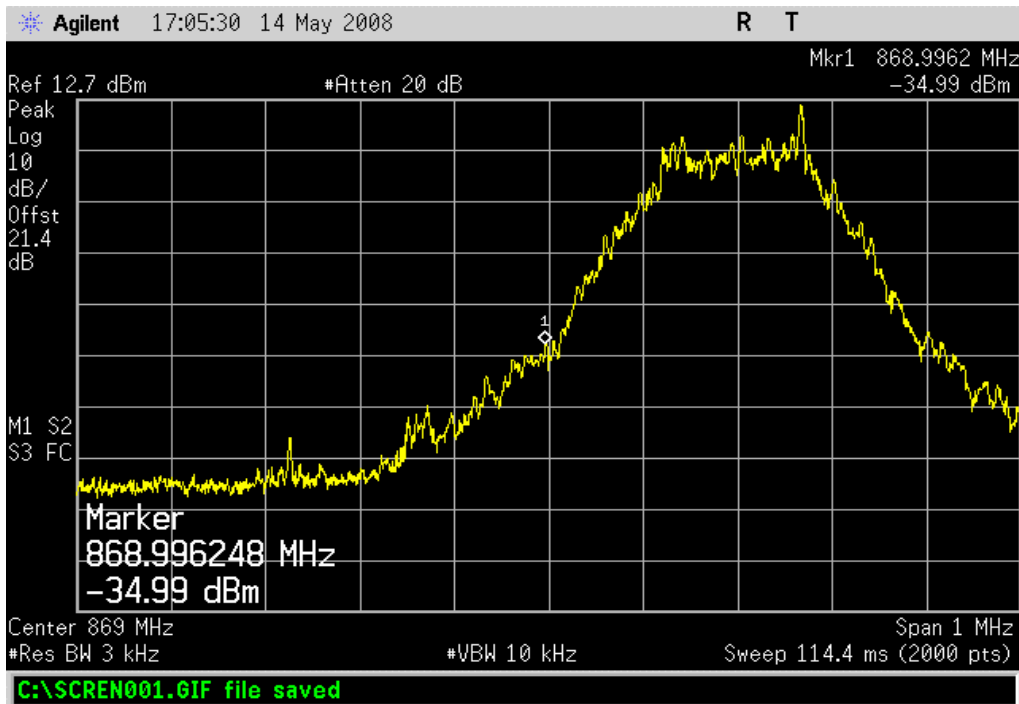
Result: N/A **Value:** 20.19 dBm **Limit:** N/A



Occupied Bandwidth

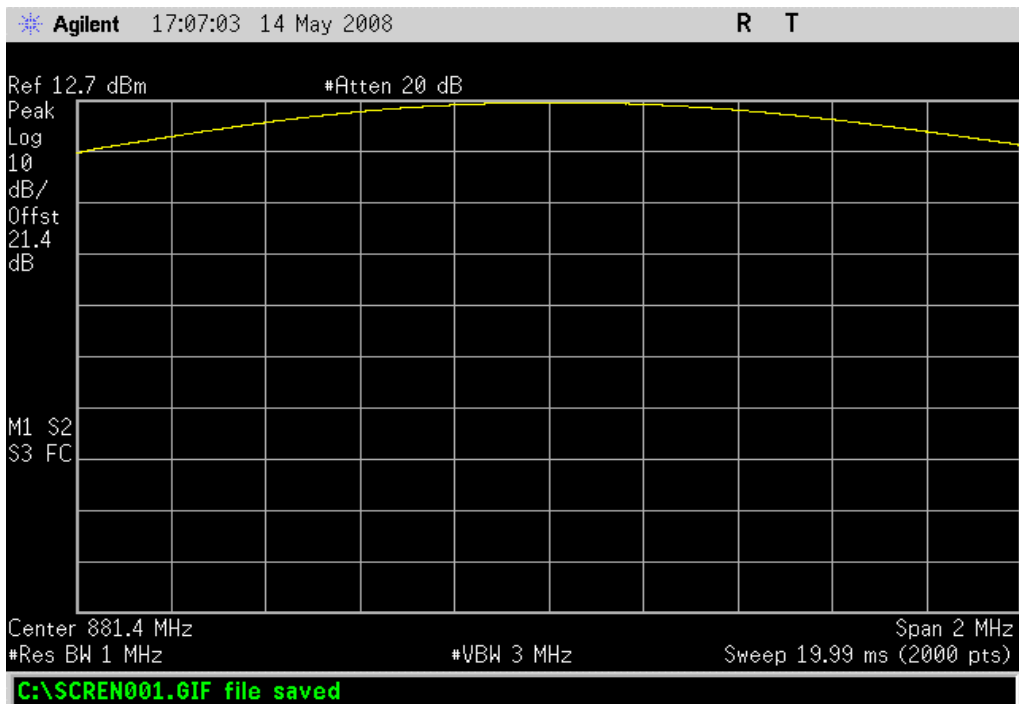
GPRS modulation, Mid power, Atten = 3, Low channel, 869.2MHz, Band Edge

Result: Pass **Value:** -34.99 dBm **Limit:** ≤ -13 dBm



GPRS modulation, Mid power, Atten = 3, Mid channel, 881.4MHz, Reference Level Plot

Result: N/A **Value:** 12.7 dBm **Limit:** N/A



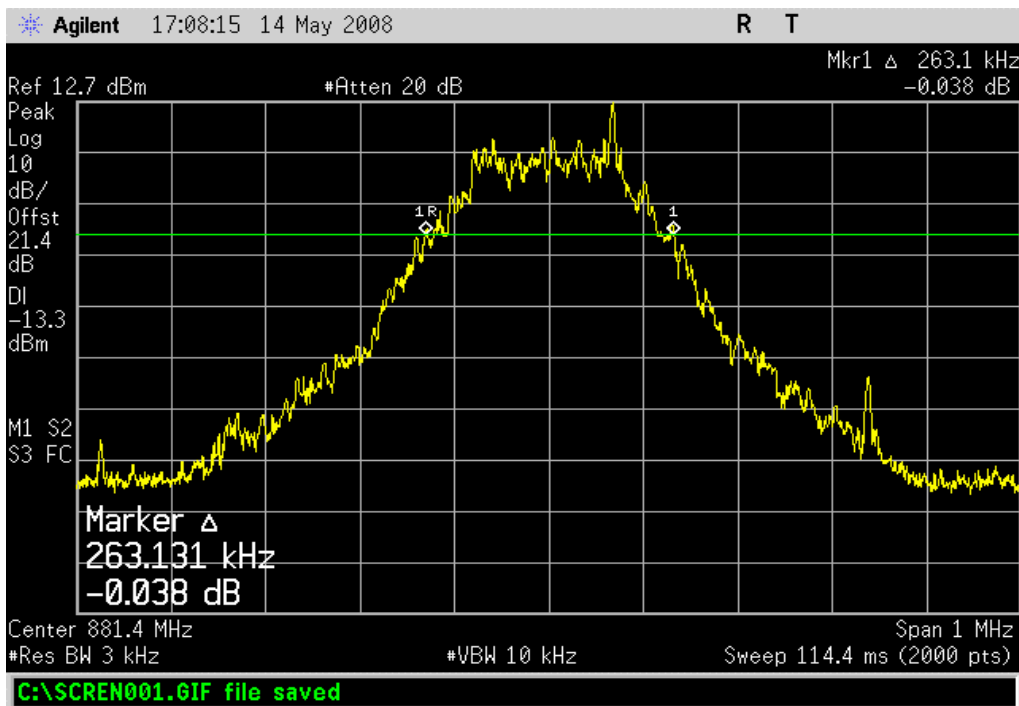
Occupied Bandwidth

GPRS modulation, Mid power, Atten = 3, Mid channel, 881.4MHz, Occupied Bandwidth

Result: N/A

Value: 263.1 kHz

Limit: N/A

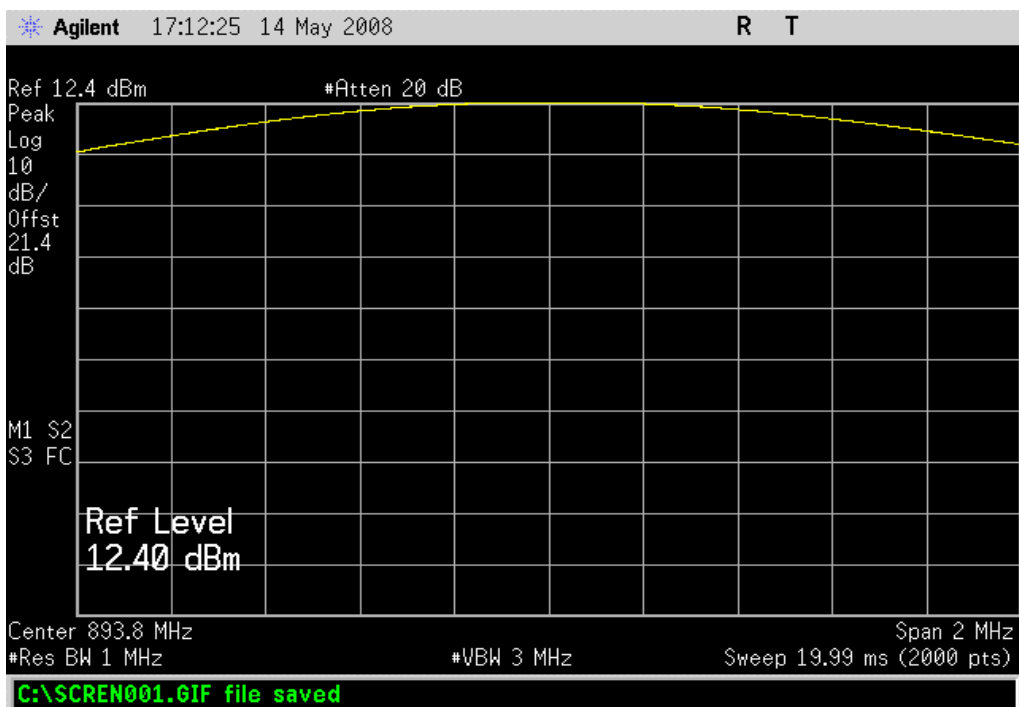


GPRS modulation, Mid power, Atten = 3, High channel, 893.8MHz, Reference Level Plot

Result: N/A

Value: 12.4 dBm

Limit: N/A



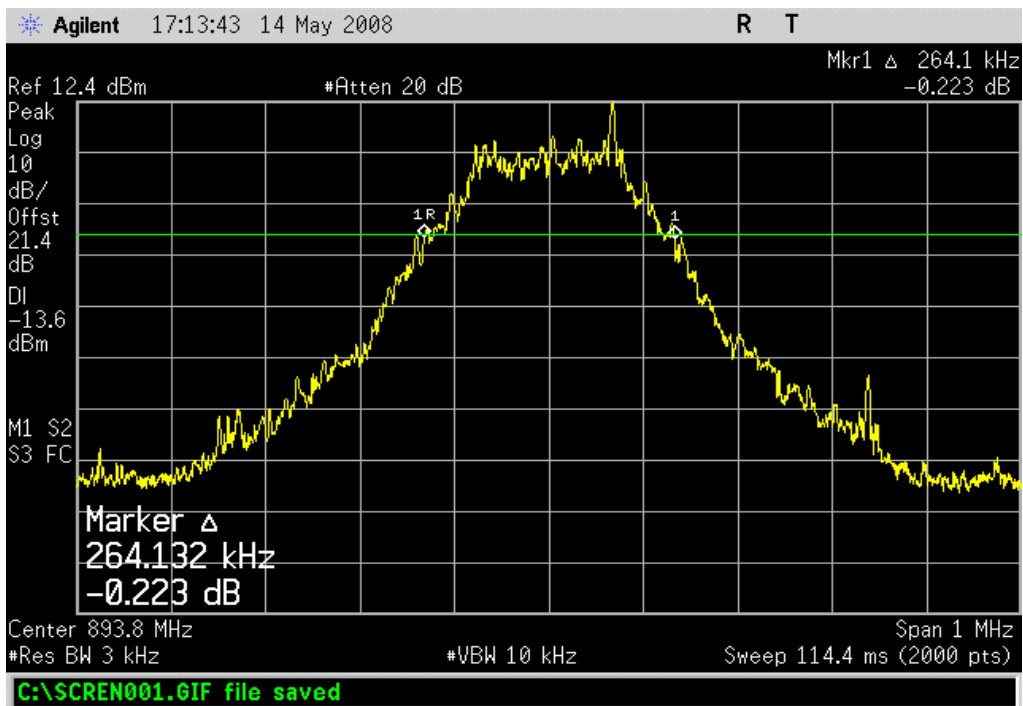
Occupied Bandwidth

GPRS modulation, Mid power, Atten = 3, High channel, 893.8MHz, Occupied Bandwidth

Result: N/A

Value: 264.1 kHz

Limit: N/A

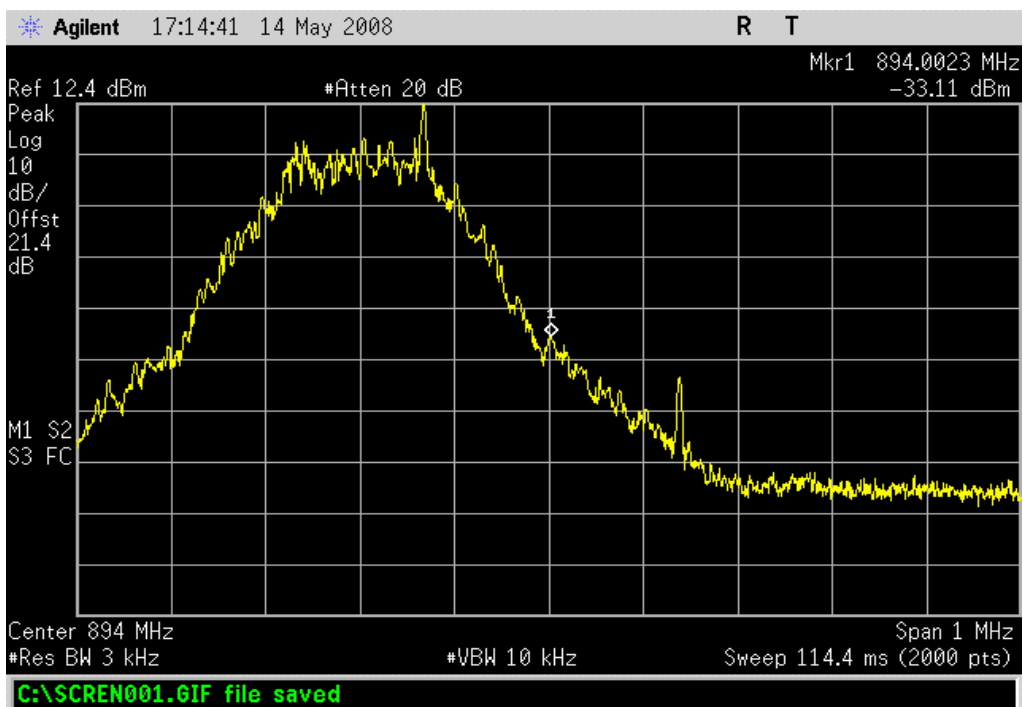


GPRS modulation, Mid power, Atten = 3, High channel, 893.8MHz, Band Edge

Result: Pass

Value: -33.11 dBm

Limit: ≤ -13 dBm



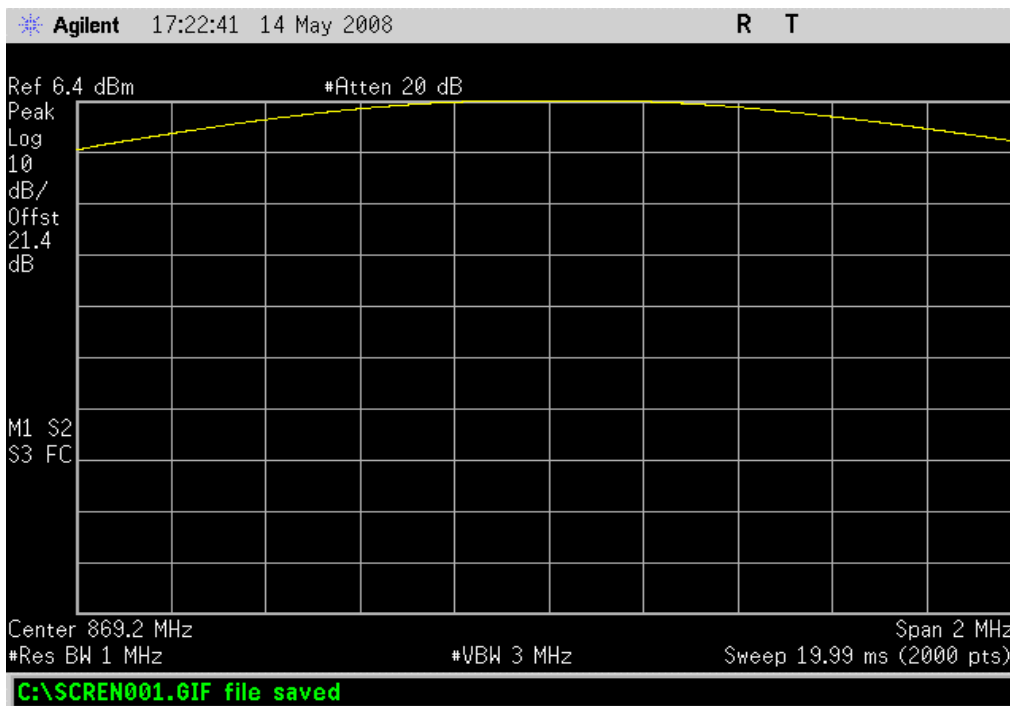
Occupied Bandwidth

GPRS modulation, Low power, Atten = 6, Low channel, 869.2MHz, Reference Level Plot

Result: N/A

Value: 6.4 dBm

Limit: N/A

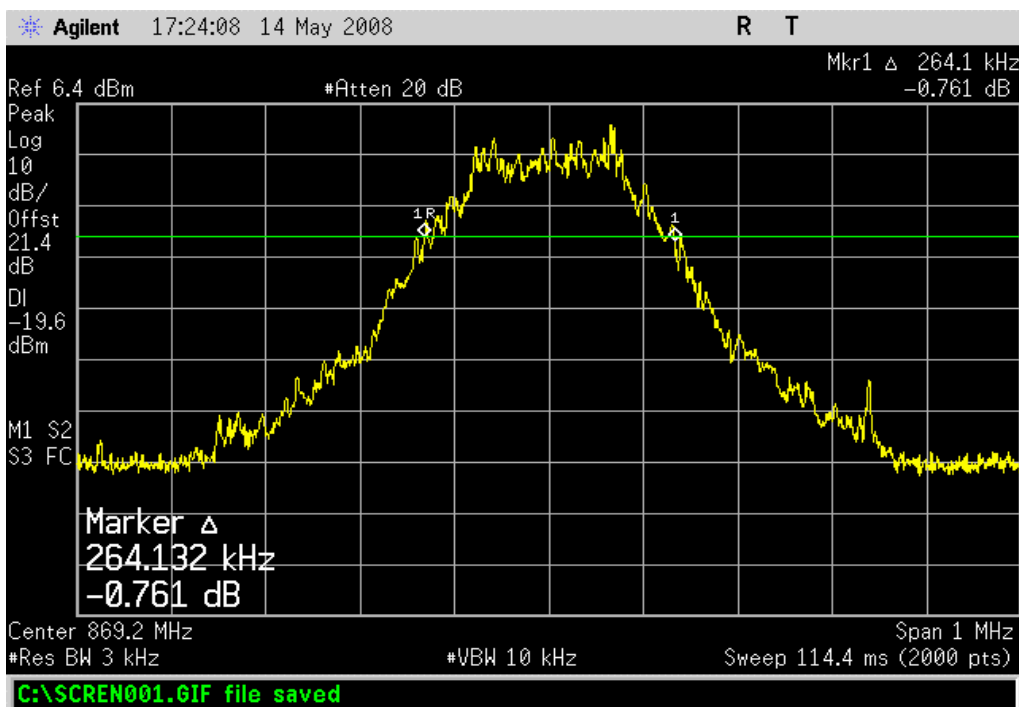


GPRS modulation, Low power, Atten = 6, Low channel, 869.2MHz, Occupied Bandwidth

Result: N/A

Value: 264.1 kHz

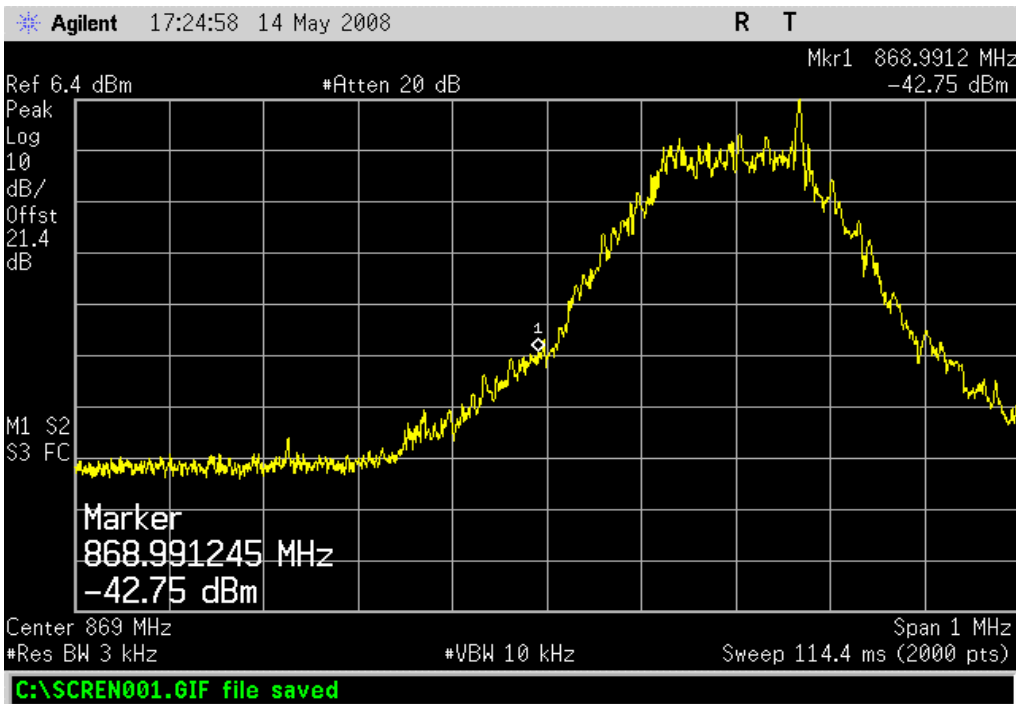
Limit: N/A



Occupied Bandwidth

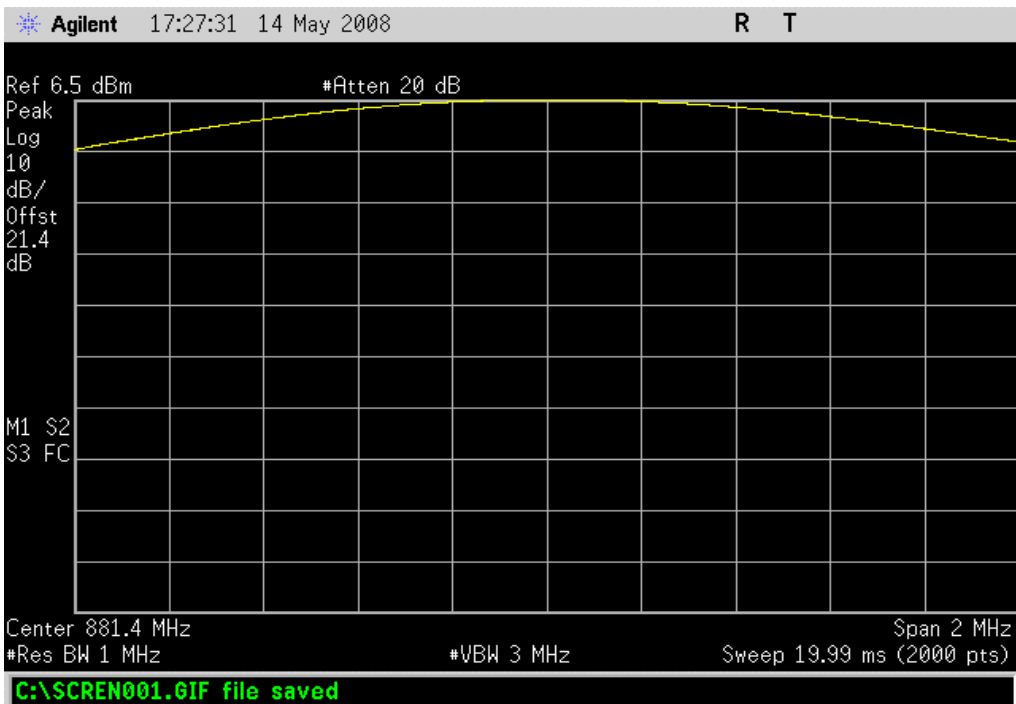
GPRS modulation, Low power, Atten = 6, Low channel, 869.2MHz, Band Edge

Result: Pass **Value:** -42.75 dBm **Limit:** ≤ -13 dBm



GPRS modulation, Low power, Atten = 6, Mid channel, 881.4MHz, Reference Level Plot

Result: N/A **Value:** 6.5 dBm **Limit:** N/A



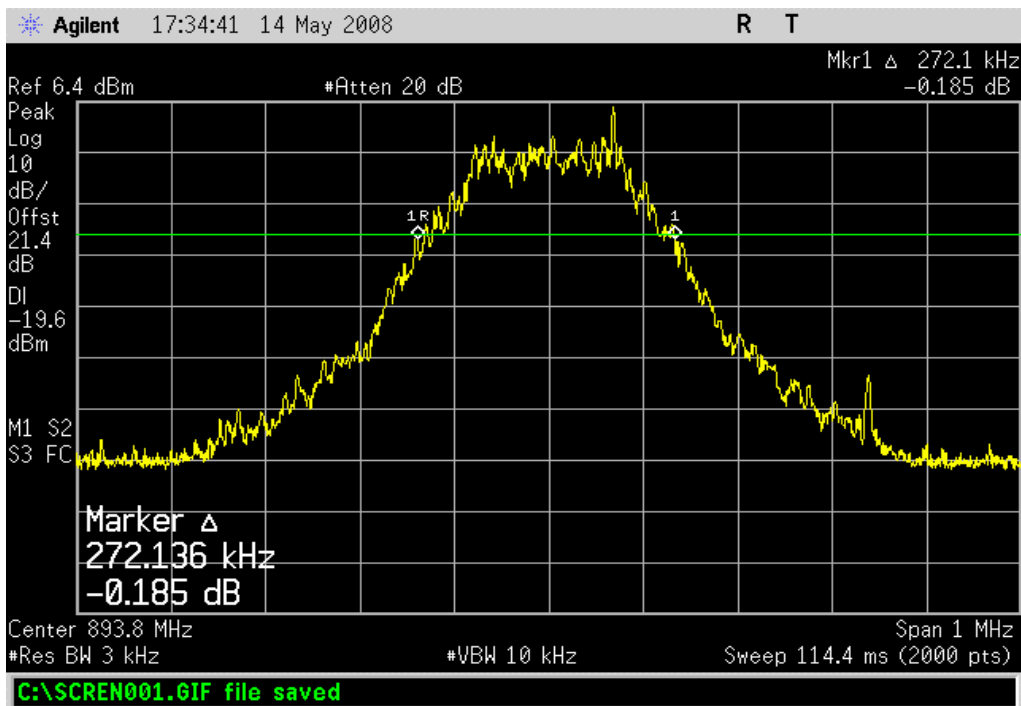
Occupied Bandwidth

GPRS modulation, Low power, Atten = 6, High channel, 893.8MHz, Occupied Bandwidth

Result: N/A

Value: 272.1 kHz

Limit: N/A

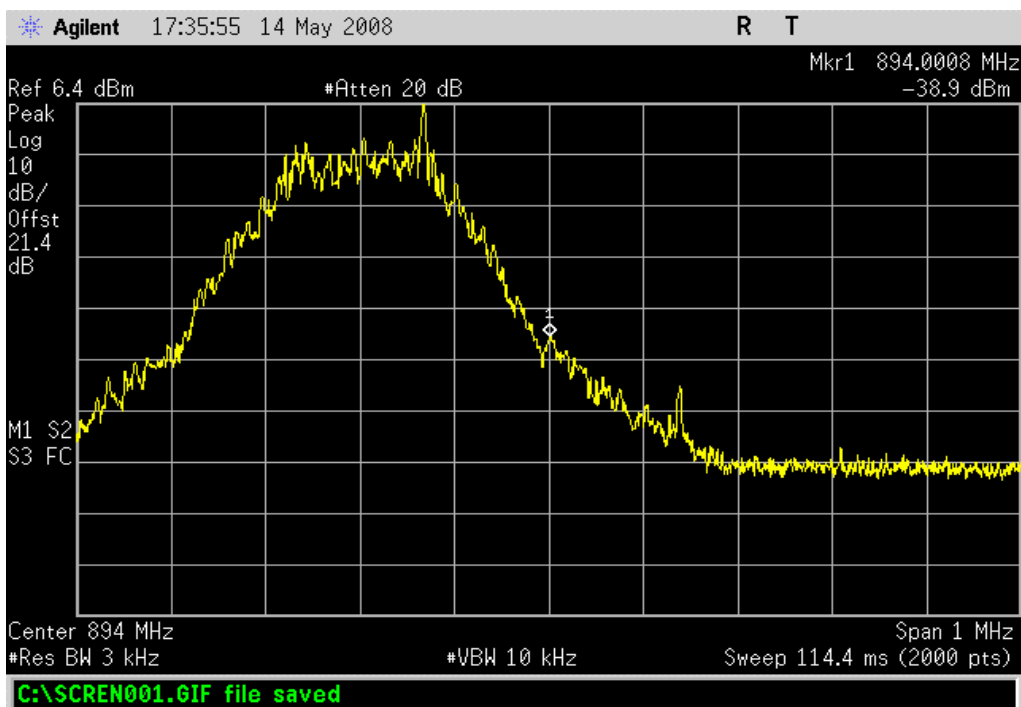


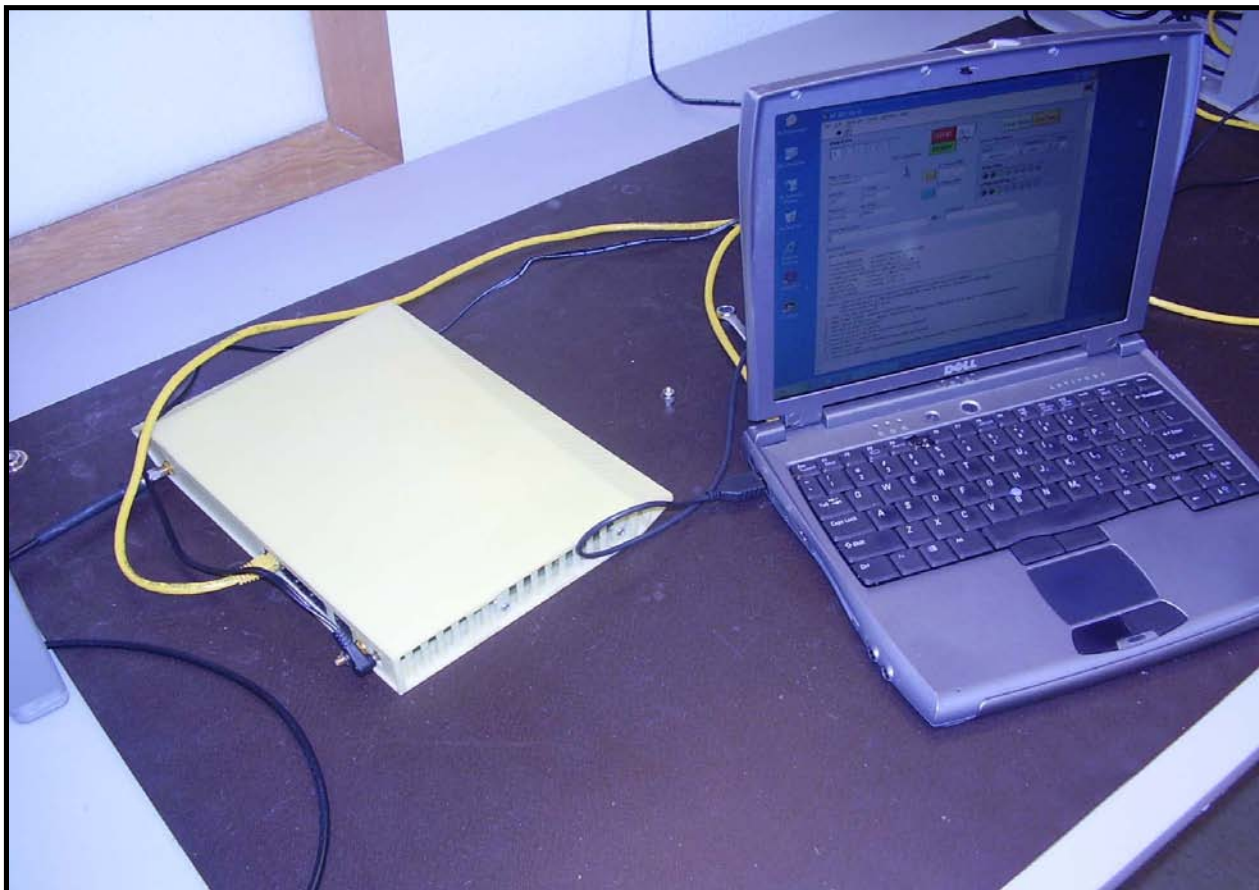
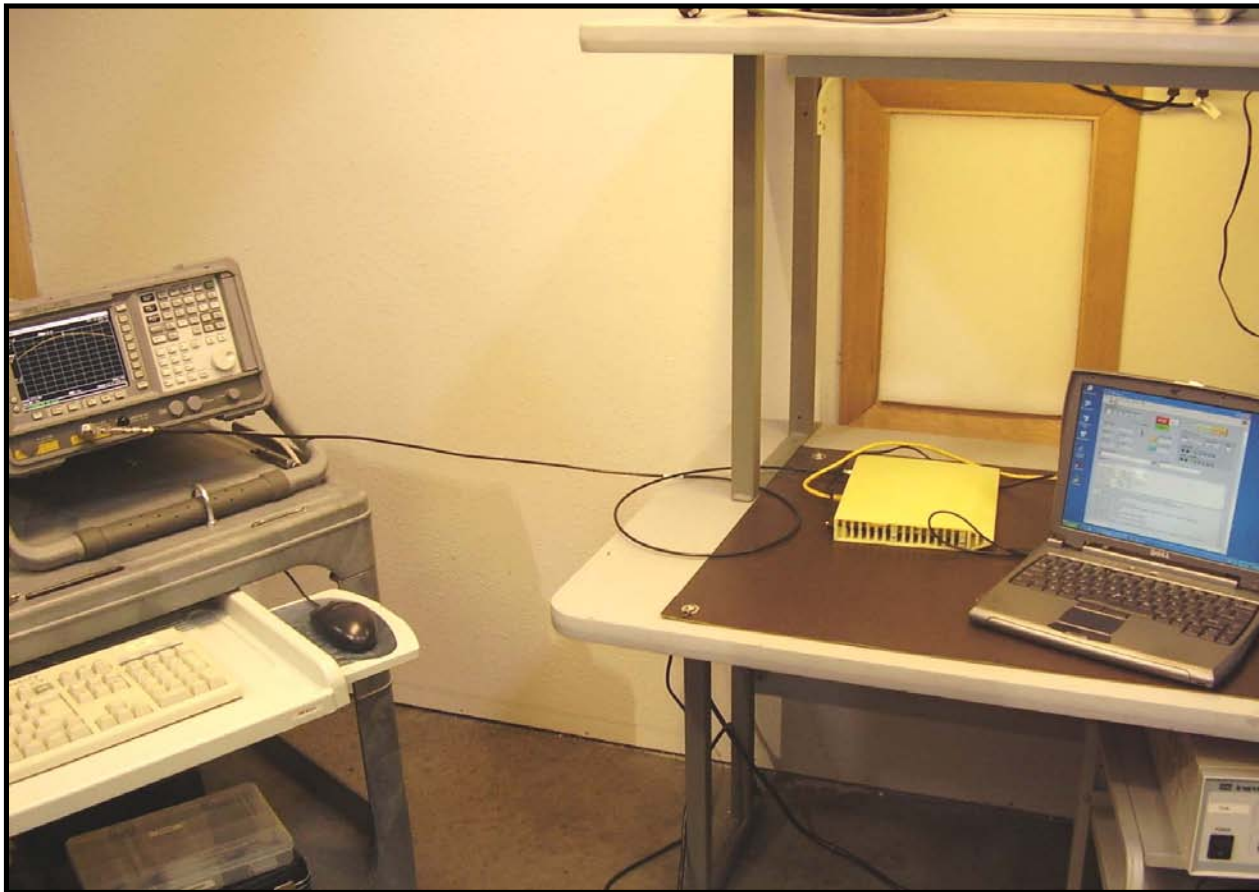
GPRS modulation, Low power, Atten = 6, High channel, 893.8MHz, Band Edge

Result: Pass

Value: -38.9 dBm

Limit: ≤ -13 dBm





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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Attenuator 20 dB, SMA M/F 26GHz	S.M. Electronics	SA26B-20	AUY	6/8/2007	13
Spectrum Analyzer	Agilent	E4407B	AAU	12/7/2007	13

MEASUREMENT UNCERTAINTY

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

TEST DESCRIPTION

The 99% bandwidth was measured utilizing the analyzer's peak detector and measuring the carrier's 26 dB occupied bandwidth based on the peak output power level measured. A plot was taken to show the occupied bandwidth is contained within the allowable transmit band.

A direct connection was made between the EUT and a spectrum analyzer. At 3 kHz the spectrum analyzer's resolution bandwidth was sufficiently narrow to plot the actual bandwidth of the signal and not the filter response curve of the spectrum analyzer. The resolution bandwidth was approximately equal to 1% of the 20dB bandwidth and the video bandwidth was greater than or equal to the resolution bandwidth.

The occupied bandwidth was measured with the EUT configured in the modes called out in the data sheets.

EMC

Occupied Bandwidth

EUT:	OmniCell@Home	Work Order:	RAFN0085
Serial Number:	None	Date:	07/23/08
Customer:	Radioframe Networks, Inc.	Temperature:	23.39
Attendees:	Nha Tran	Humidity:	34%
Project:	None	Barometric Pres.:	1023.5mb
Tested by:	Holly Ashkannejhad	Power:	120VAC/60Hz
		Job Site:	EV06
TEST SPECIFICATIONS		Test Method	
FCC 24E:2007		ANSI/TIA/EIA-603-B-2002	
COMMENTS			
PCS Band			
DEVIATIONS FROM TEST STANDARD			
No Deviations			
Configuration #	2	Signature <i>Holly Ashkannejhad</i>	

		Value	Limit	Results
GSM modulation				
High power, Atten = 0				
Low channel, 1930.2MHz				
	Reference level plot	22.7 dBm	N/A	N/A
	Occupied Bandwidth	264.3 kHz	N/A	N/A
	Band Edge	-26.96 dBm	≤ -13 dBm	Pass
Mid channel, 1960MHz				
	Reference level plot	22.5 dBm	N/A	N/A
	Occupied Bandwidth	264.3 kHz	N/A	N/A
High channel, 1989.8MHz				
	Reference level plot	22.6 dBm	N/A	N/A
	Occupied Bandwidth	272.3 kHz	N/A	N/A
	Band Edge	-23.24 dBm	≤ -13 dBm	Pass
Mid power, Atten = 3				
Low channel, 1930.2MHz				
	Reference level plot	14.6 dBm	N/A	N/A
	Occupied Bandwidth	264.6 kHz	N/A	N/A
	Band Edge	-33.54 dBm	≤ -13 dBm	Pass
Mid channel, 1960MHz				
	Reference level plot	14.9 dBm	N/A	N/A
	Occupied Bandwidth	263.1 kHz	N/A	N/A
High channel, 1989.8MHz				
	Reference level plot	14.5 dBm	N/A	N/A
	Occupied Bandwidth	264.1 kHz	N/A	N/A
	Band Edge	-29.82 dBm	≤ -13 dBm	Pass
Low power, Atten = 6				
Low channel, 1930.2MHz				
	Reference level plot	8.3 dBm	N/A	N/A
	Occupied Bandwidth	264.6 kHz	N/A	N/A
	Band Edge	-39.9 dBm	≤ -13 dBm	Pass
Mid channel, 1960MHz				
	Reference level plot	8.9 dBm	N/A	N/A
	Occupied Bandwidth	264.6 kHz	N/A	N/A
High channel, 1989.8MHz				
	Reference level plot	8.6 dBm	N/A	N/A
	Occupied Bandwidth	264.1 kHz	N/A	N/A
	Band Edge	-36.02 dBm	≤ -13 dBm	Pass
GPRS modulation				
High power, Atten = 0				
Low channel, 1930.2MHz				
	Reference level plot	22.5 dBm	N/A	N/A
	Occupied Bandwidth	263.6 kHz	N/A	N/A
	Band Edge	-26.96 dBm	≤ -13 dBm	Pass
Mid channel, 1960MHz				
	Reference level plot	22.34 dBm	N/A	N/A
	Occupied Bandwidth	274.3 kHz	N/A	N/A
High channel, 1989.8MHz				
	Reference level plot	22.4 dBm	N/A	N/A
	Occupied Bandwidth	272.3 kHz	N/A	N/A
	Band Edge	-23.2 dBm	≤ -13 dBm	Pass
Mid power, Atten = 3				
Low channel, 1930.2MHz				
	Reference level plot	14.5 dBm	N/A	N/A
	Occupied Bandwidth	264.6 kHz	N/A	N/A
	Band Edge	-33.73 dBm	≤ -13 dBm	Pass
Mid channel, 1960MHz				
	Reference level plot	15.0 dBm	N/A	N/A
	Occupied Bandwidth	264.3 kHz	N/A	N/A
High channel, 1989.8MHz				
	Reference level plot	14.5 dBm	N/A	N/A
	Occupied Bandwidth	264.6 kHz	N/A	N/A
	Band Edge	-29.88 dBm	≤ -13 dBm	Pass
Low power, Atten = 6				
Low channel, 1930.2MHz				
	Reference level plot	8.2 dBm	N/A	N/A
	Occupied Bandwidth	273.1 kHz	N/A	N/A
	Band Edge	-39.58 dBm	≤ -13 dBm	Pass
Mid channel, 1960MHz				
	Reference level plot	8.9 dBm	N/A	N/A
	Occupied Bandwidth	263.6 kHz	N/A	N/A
High channel, 1989.8MHz				
	Reference level plot	8.5 dBm	N/A	N/A
	Occupied Bandwidth	273.1 kHz	N/A	N/A
	Band Edge	-36.05 dBm	≤ -13 dBm	Pass

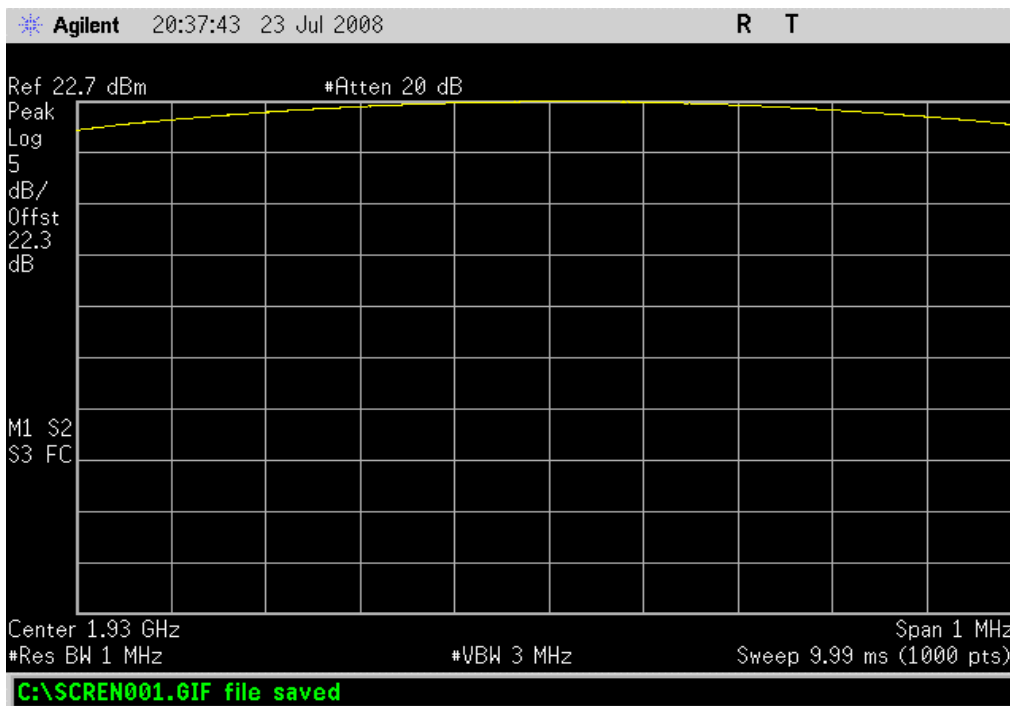
Occupied Bandwidth

GSM modulation, High power, Atten = 0, Low channel, 1930.2MHz, Reference level plot

Result: N/A

Value: 22.7 dBm

Limit: N/A



GSM modulation, High power, Atten = 0, Low channel, 1930.2MHz, Occupied Bandwidth

Result: N/A

Value: 264.3 kHz

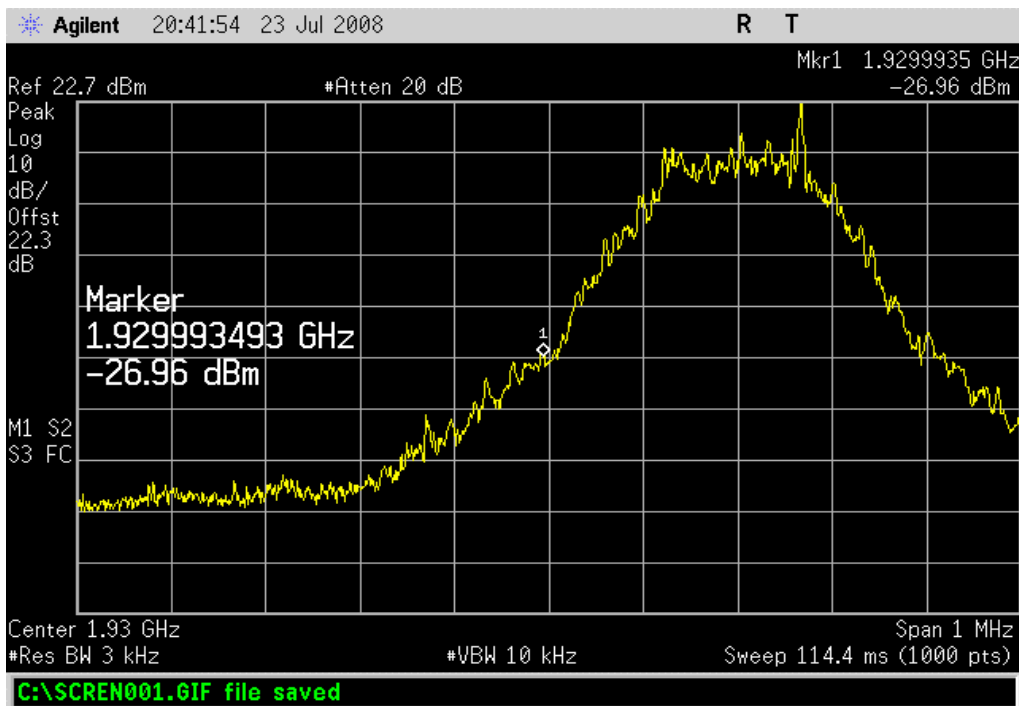
Limit: N/A



Occupied Bandwidth

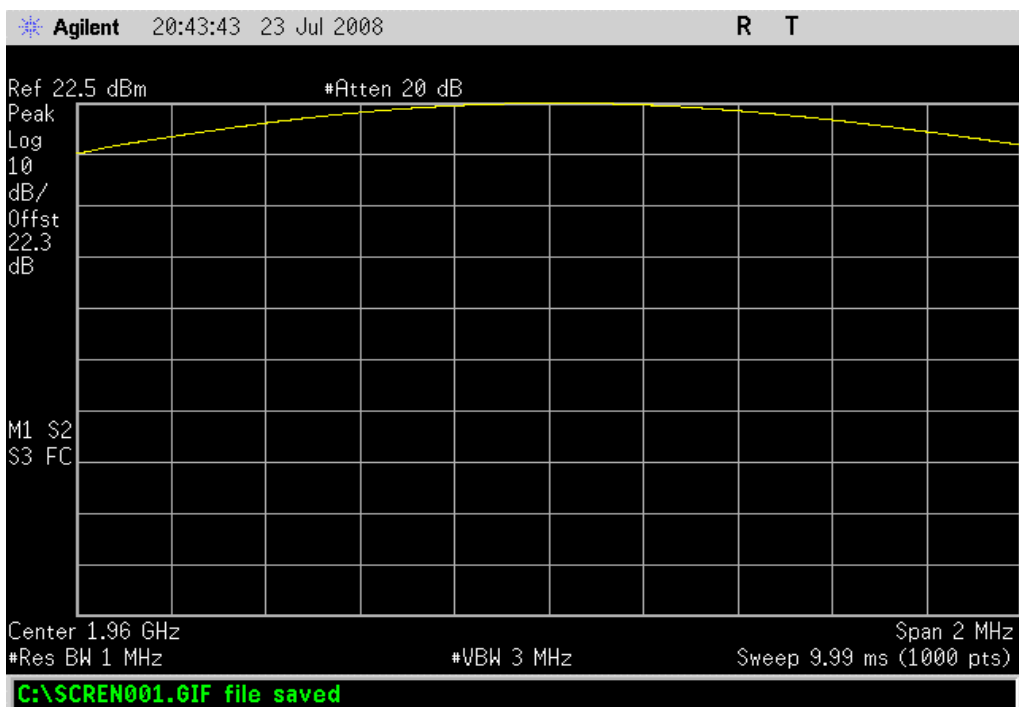
GSM modulation, High power, Atten = 0, Low channel, 1930.2MHz, Band Edge

Result: Pass **Value:** -26.96 dBm **Limit:** ≤ -13 dBm



GSM modulation, High power, Atten = 0, Mid channel, 1960MHz, Reference level plot

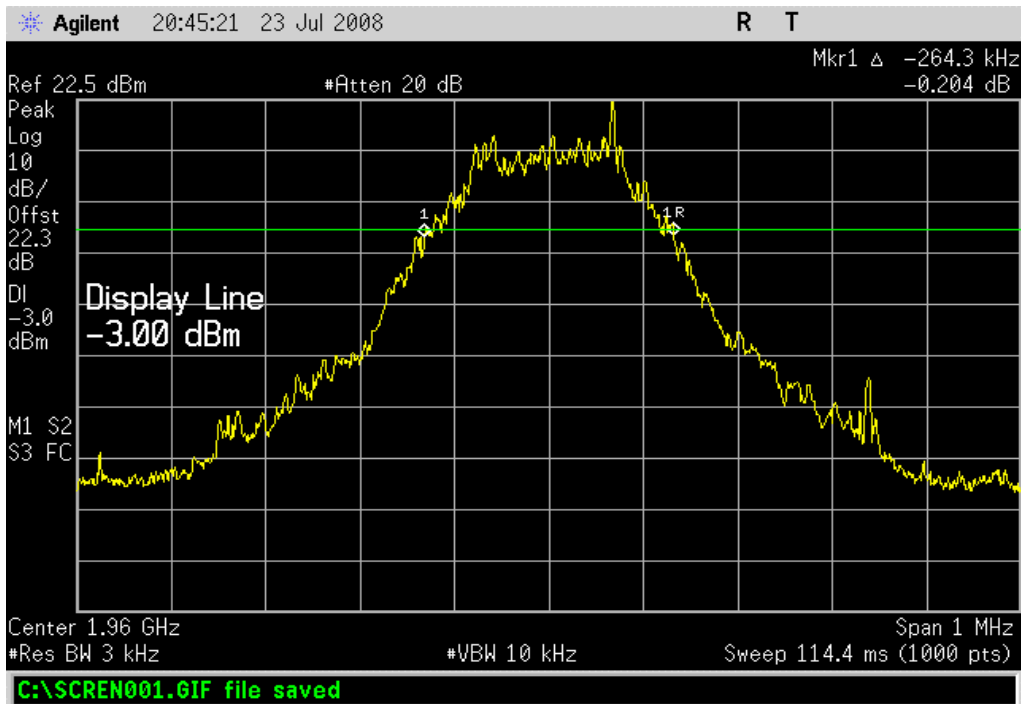
Result: N/A **Value:** 22.5 dBm **Limit:** N/A



Occupied Bandwidth

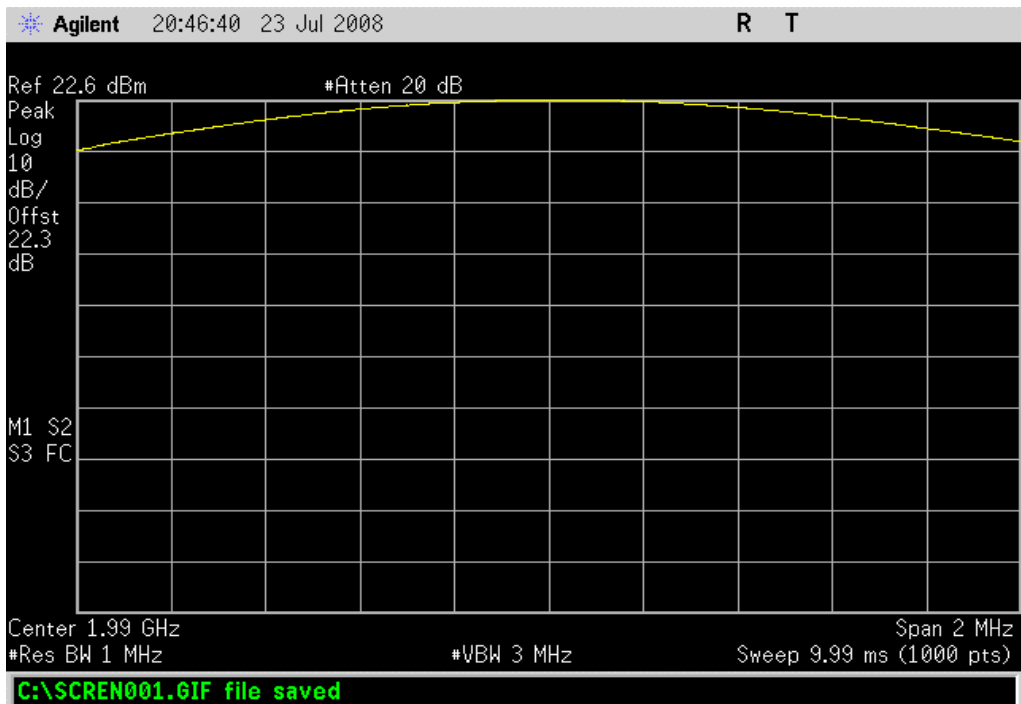
GSM modulation, High power, Atten = 0, Mid channel, 1960MHz, Occupied Bandwidth

Result: N/A **Value:** 264.3 kHz **Limit:** N/A



GSM modulation, High power, Atten = 0, High channel, 1989.8MHz, Reference level plot

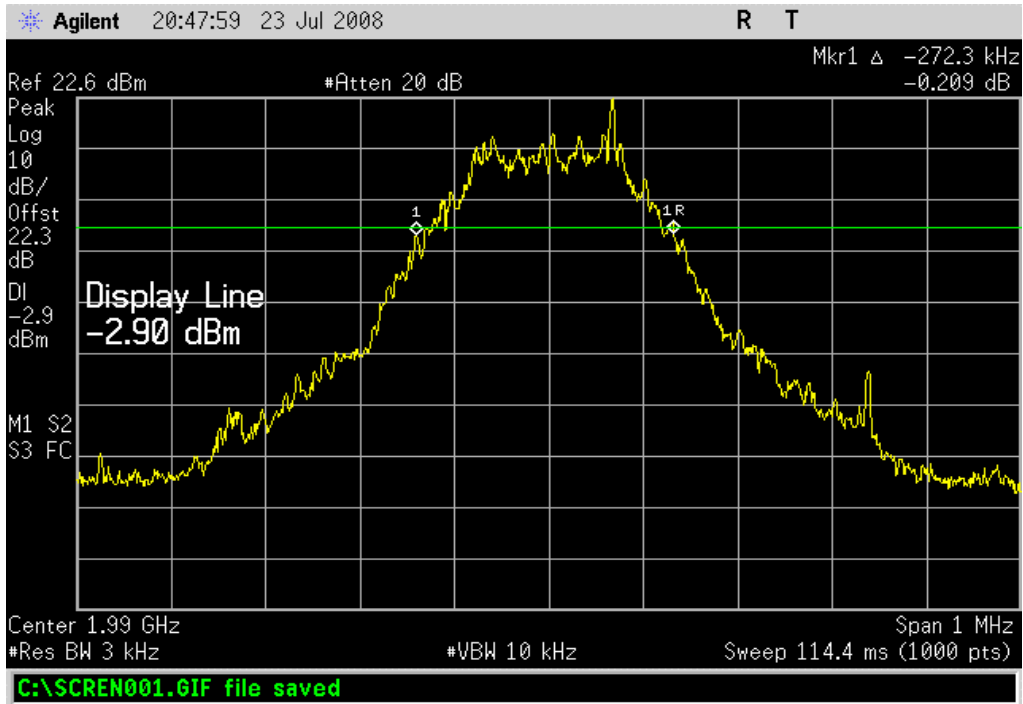
Result: N/A **Value:** 22.6 dBm **Limit:** N/A



Occupied Bandwidth

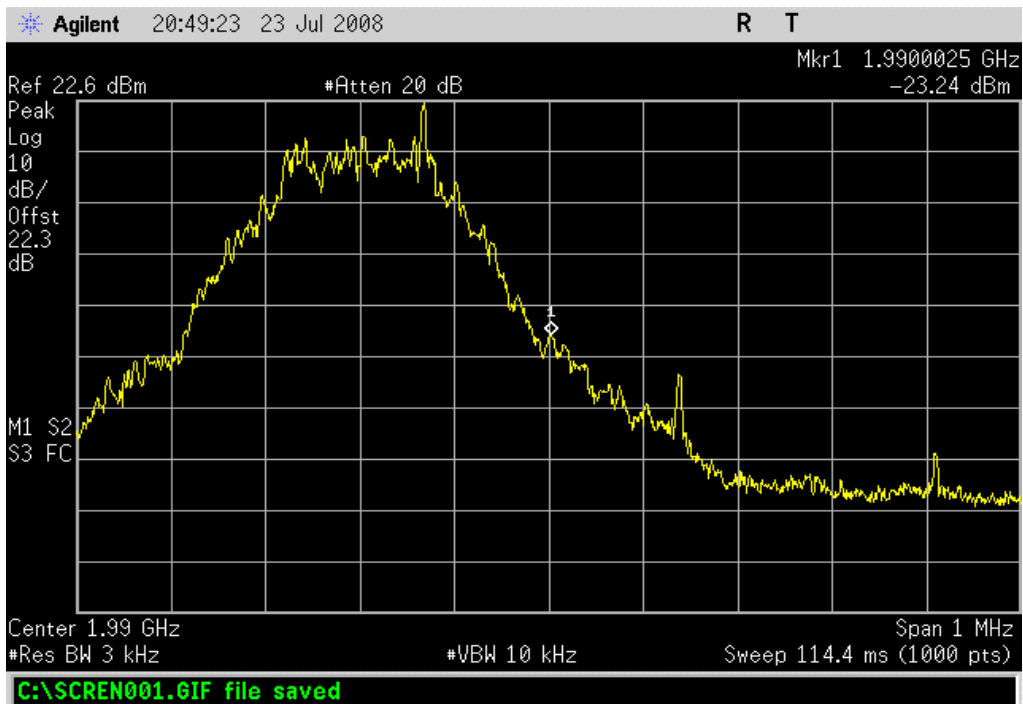
GSM modulation, High power, Atten = 0, High channel, 1989.8MHz, Occupied Bandwidth

Result: N/A **Value:** 272.3 kHz **Limit:** N/A



GSM modulation, High power, Atten = 0, High channel, 1989.8MHz, Band Edge

Result: Pass **Value:** -23.24 dBm **Limit:** ≤ -13 dBm



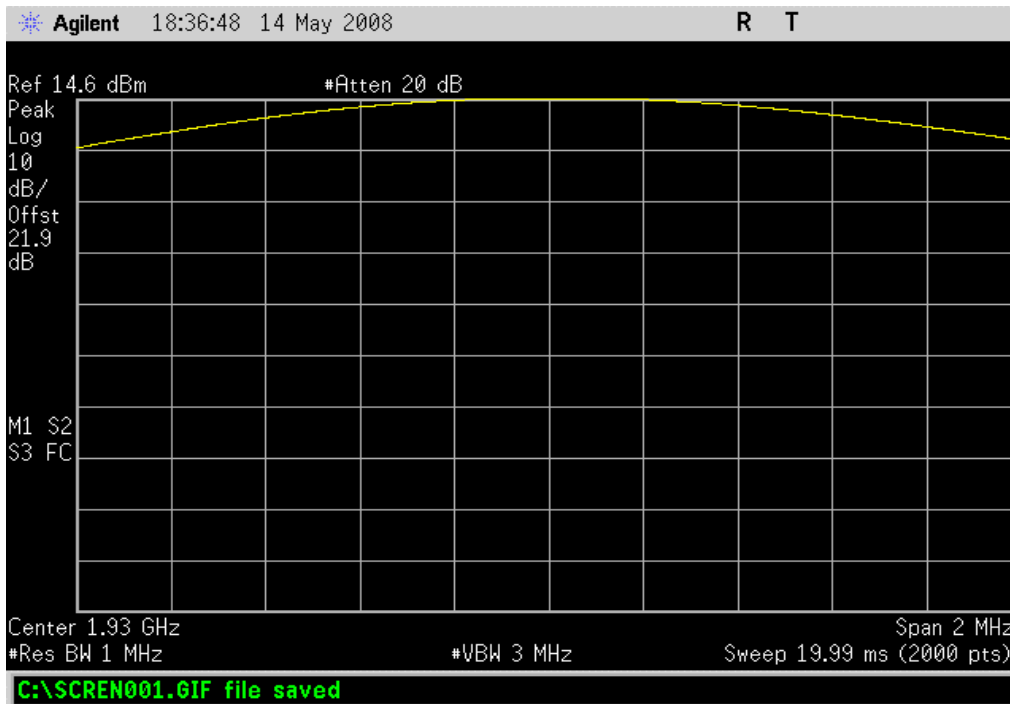
Occupied Bandwidth

GSM modulation, Mid power, Atten = 3, Low channel, 1930.2MHz, Reference level plot

Result: N/A

Value: 14.6 dBm

Limit: N/A

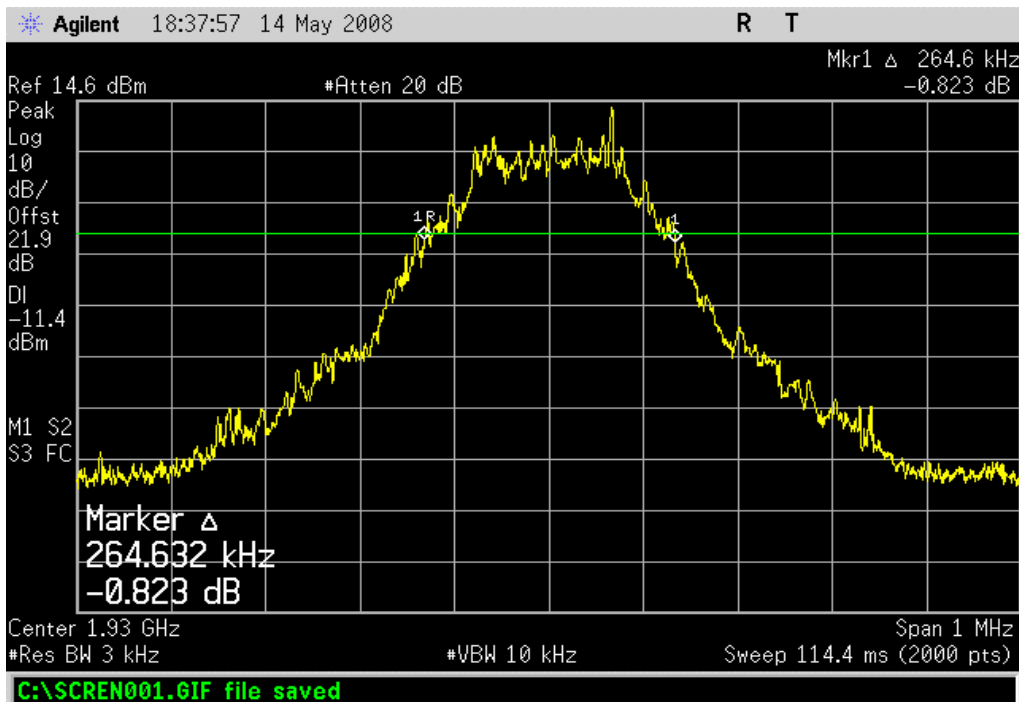


GSM modulation, Mid power, Atten = 3, Low channel, 1930.2MHz, Occupied Bandwidth

Result: N/A

Value: 264.6 kHz

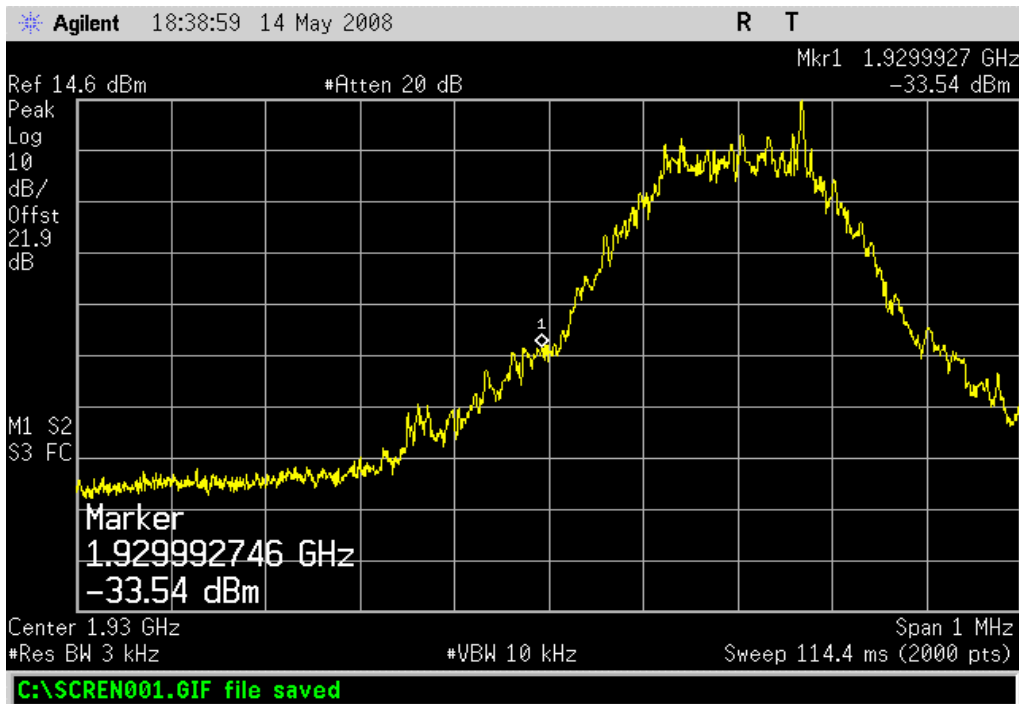
Limit: N/A



Occupied Bandwidth

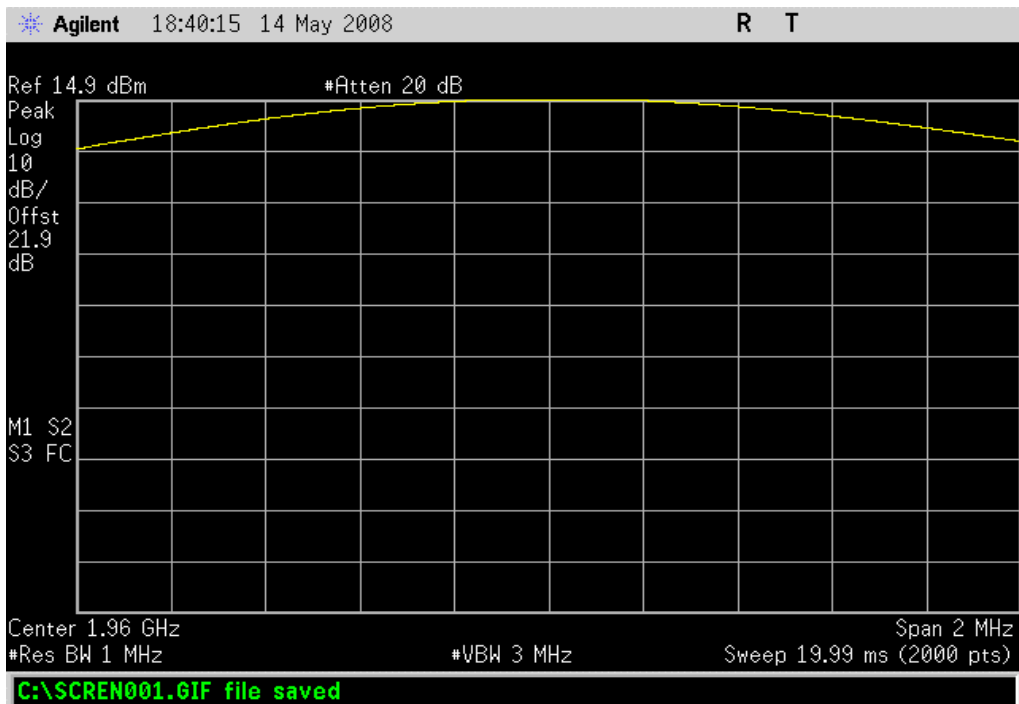
GSM modulation, Mid power, Atten = 3, Low channel, 1930.2MHz, Band Edge

Result: Pass **Value:** -33.54 dBm **Limit:** ≤ -13 dBm



GSM modulation, Mid power, Atten = 3, Mid channel, 1960MHz, Reference level plot

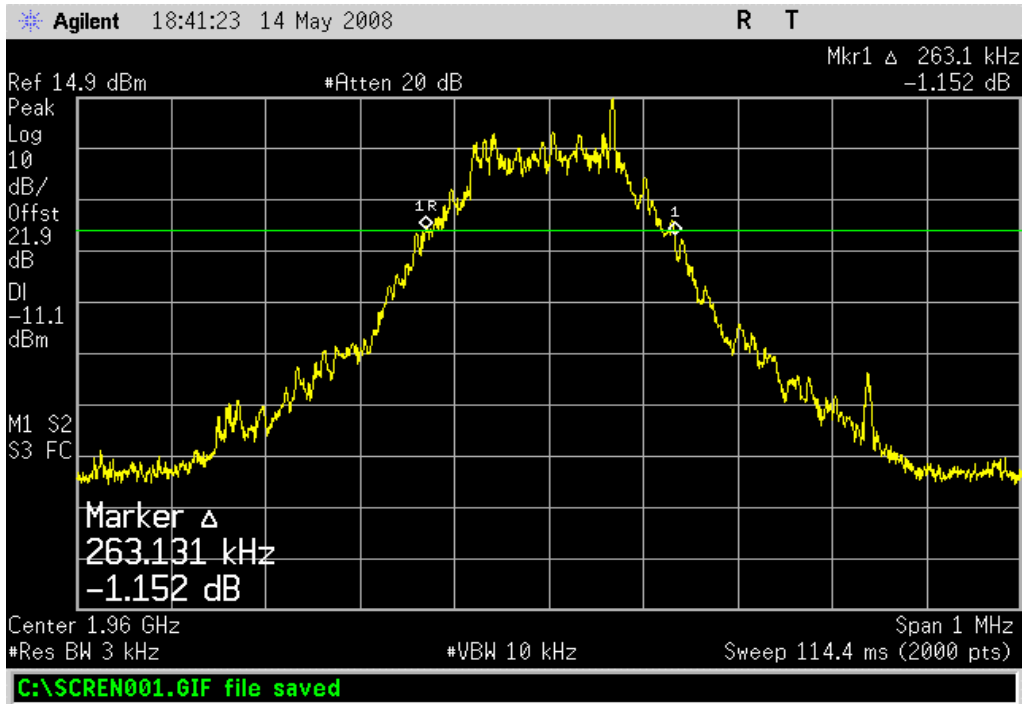
Result: N/A **Value:** 14.9 dBm **Limit:** N/A



Occupied Bandwidth

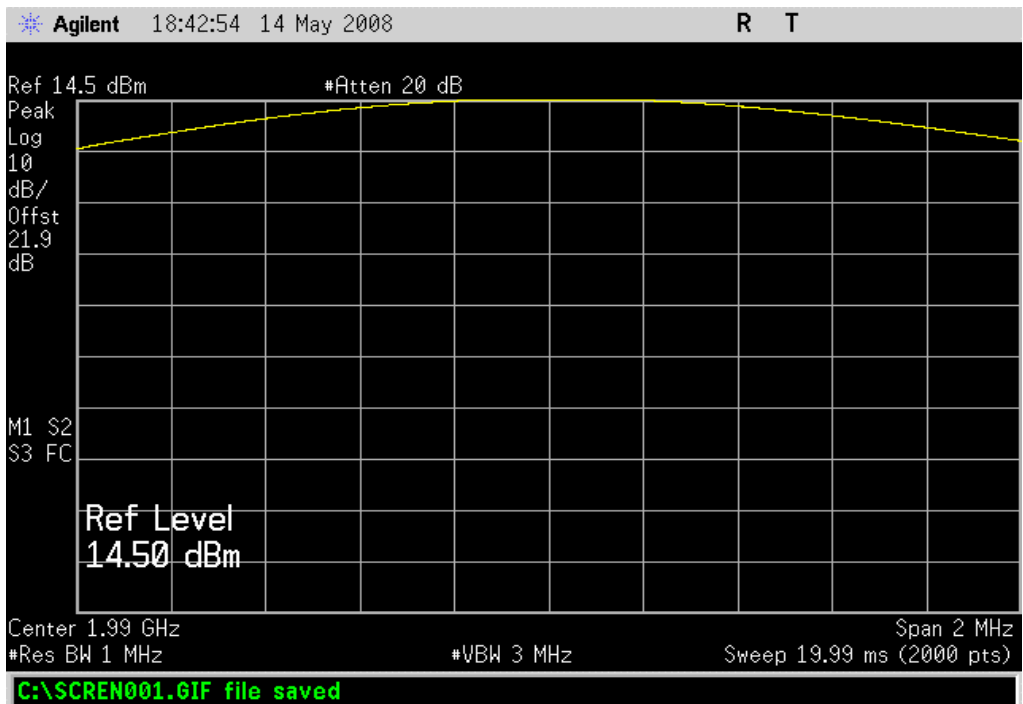
GSM modulation, Mid power, Atten = 3, Mid channel, 1960MHz, Occupied Bandwidth

Result: N/A **Value:** 263.1 kHz **Limit:** N/A



GSM modulation, Mid power, Atten = 3, High channel, 1989.8MHz, Reference level plot

Result: N/A **Value:** 14.5 dBm **Limit:** N/A



Occupied Bandwidth

GSM modulation, Mid power, Atten = 3, High channel, 1989.8MHz, Occupied Bandwidth

Result: N/A

Value: 264.1 kHz

Limit: N/A

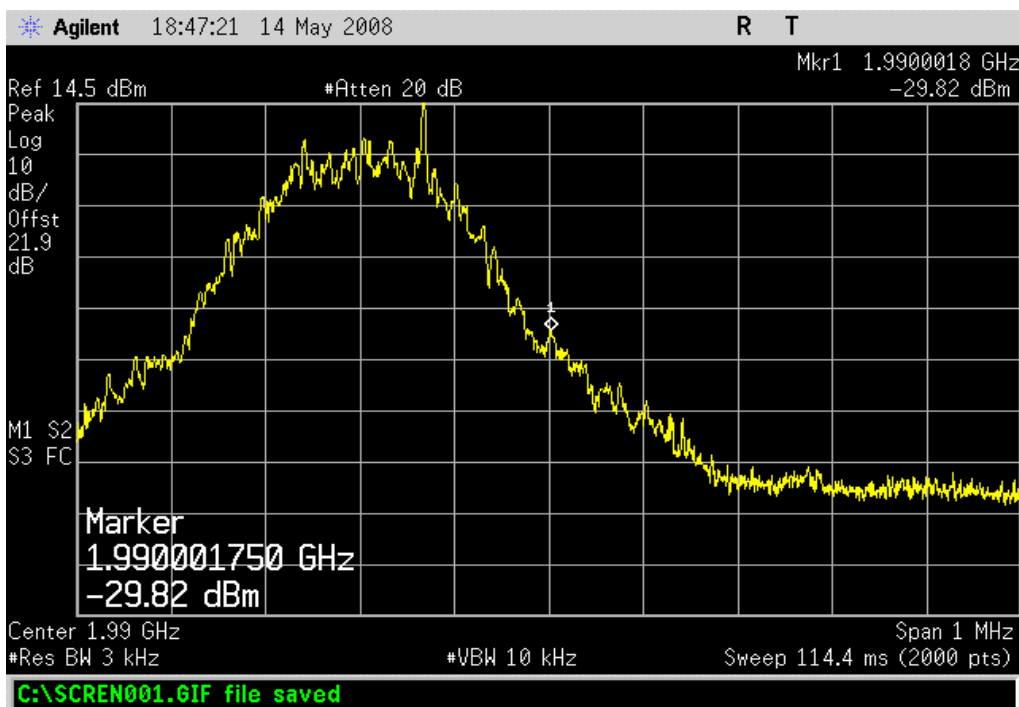


GSM modulation, Mid power, Atten = 3, High channel, 1989.8MHz, Band Edge

Result: Pass

Value: -29.82 dBm

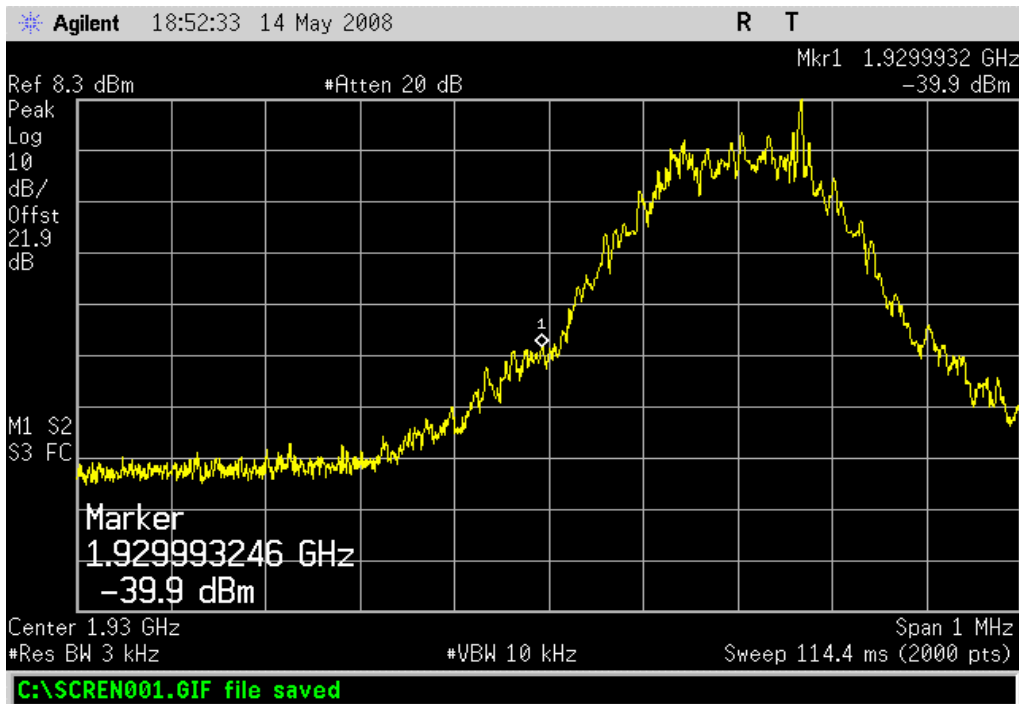
Limit: ≤ -13 dBm



Occupied Bandwidth

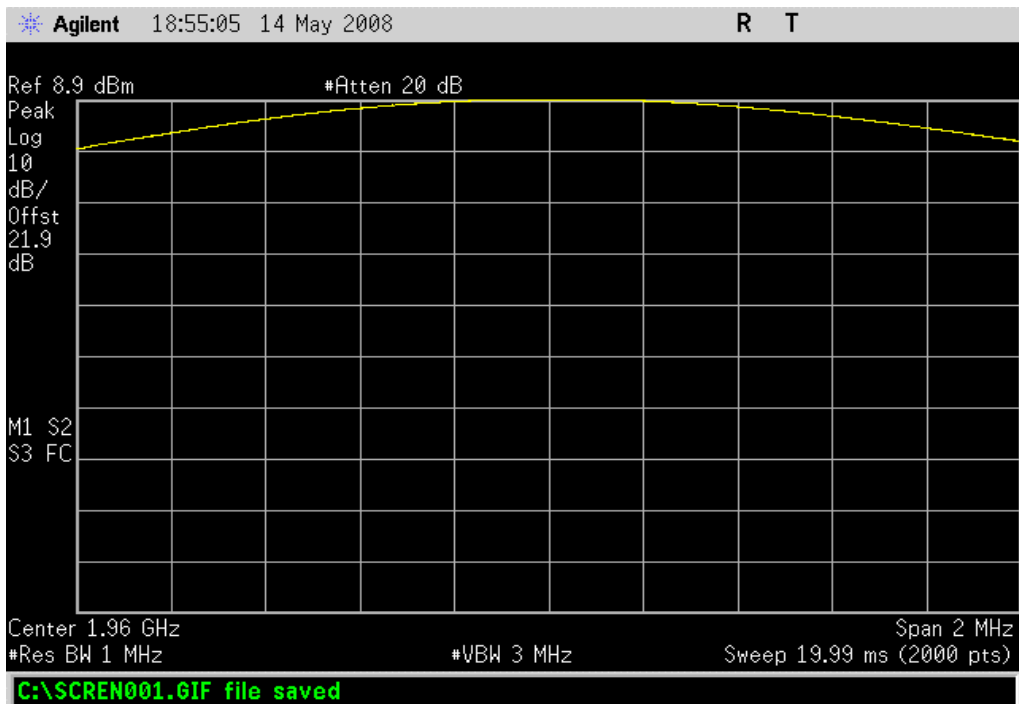
GSM modulation, Low power, Atten = 6, Low channel, 1930.2MHz, Band Edge

Result: Pass **Value:** -39.9 dBm **Limit:** ≤ -13 dBm



GSM modulation, Low power, Atten = 6, Mid channel, 1960MHz, Reference level plot

Result: N/A **Value:** 8.9 dBm **Limit:** N/A



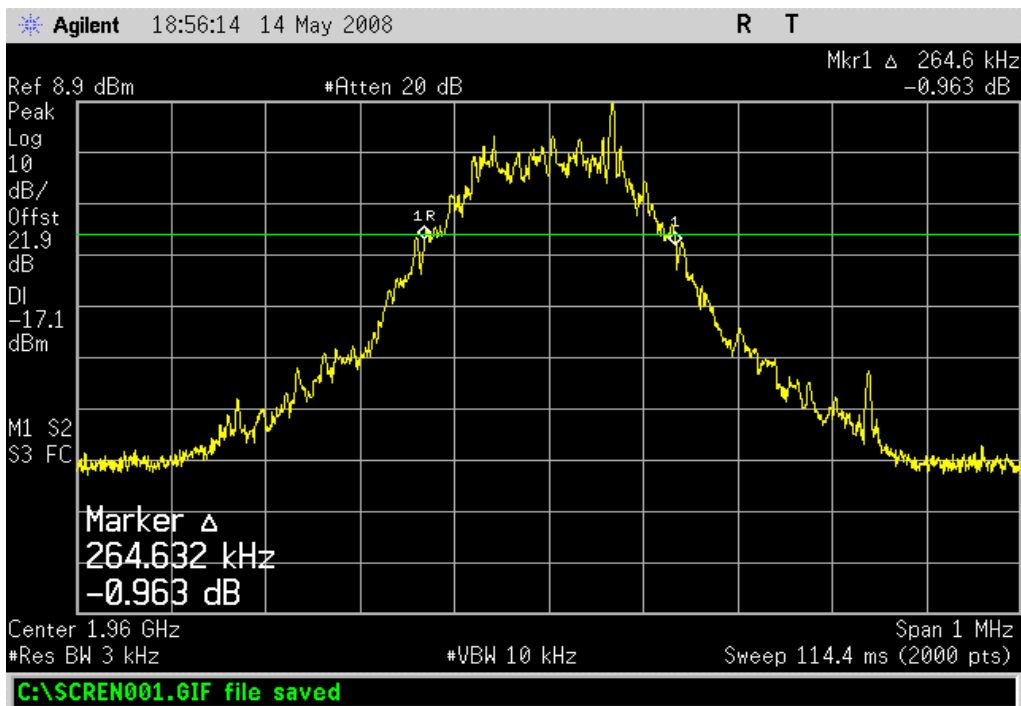
Occupied Bandwidth

GSM modulation, Low power, Atten = 6, Mid channel, 1960MHz, Occupied Bandwidth

Result: N/A

Value: 264.6 kHz

Limit: N/A

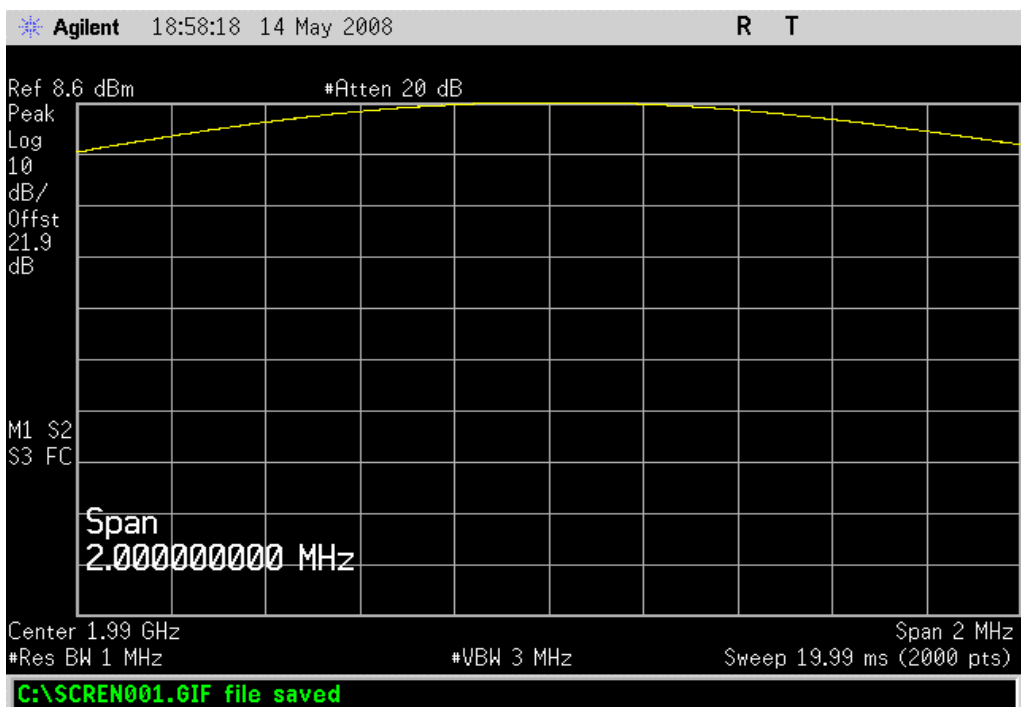


GSM modulation, Low power, Atten = 6, High channel, 1989.8MHz, Reference level plot

Result: N/A

Value: 8.6 dBm

Limit: N/A



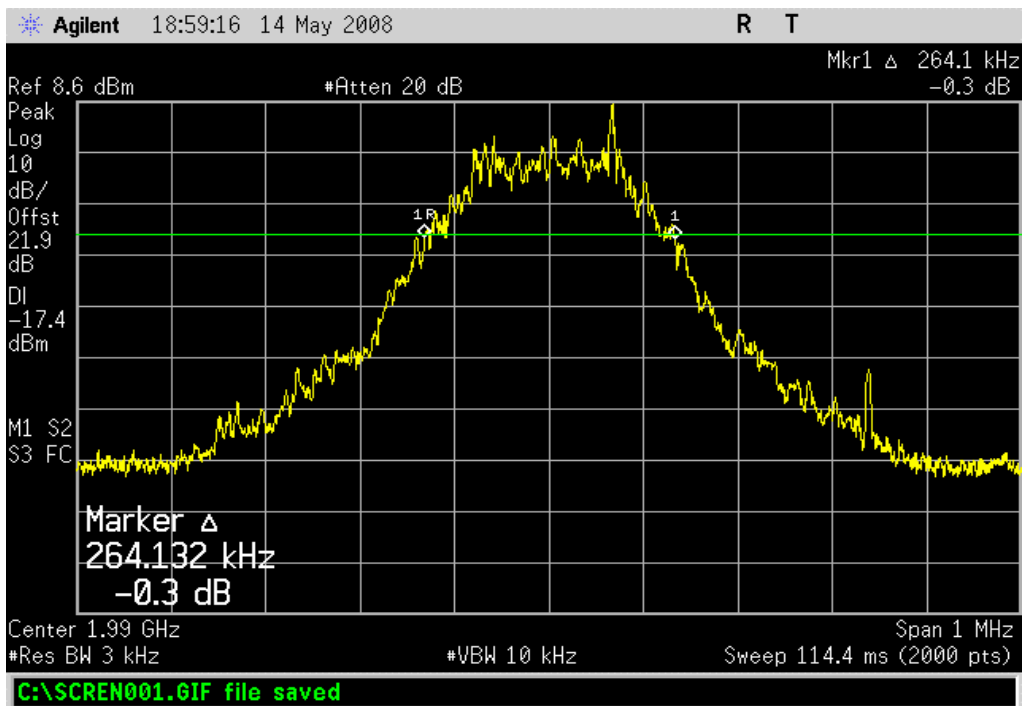
Occupied Bandwidth

GSM modulation, Low power, Atten = 6, High channel, 1989.8MHz, Occupied Bandwidth

Result: N/A

Value: 264.1 kHz

Limit: N/A

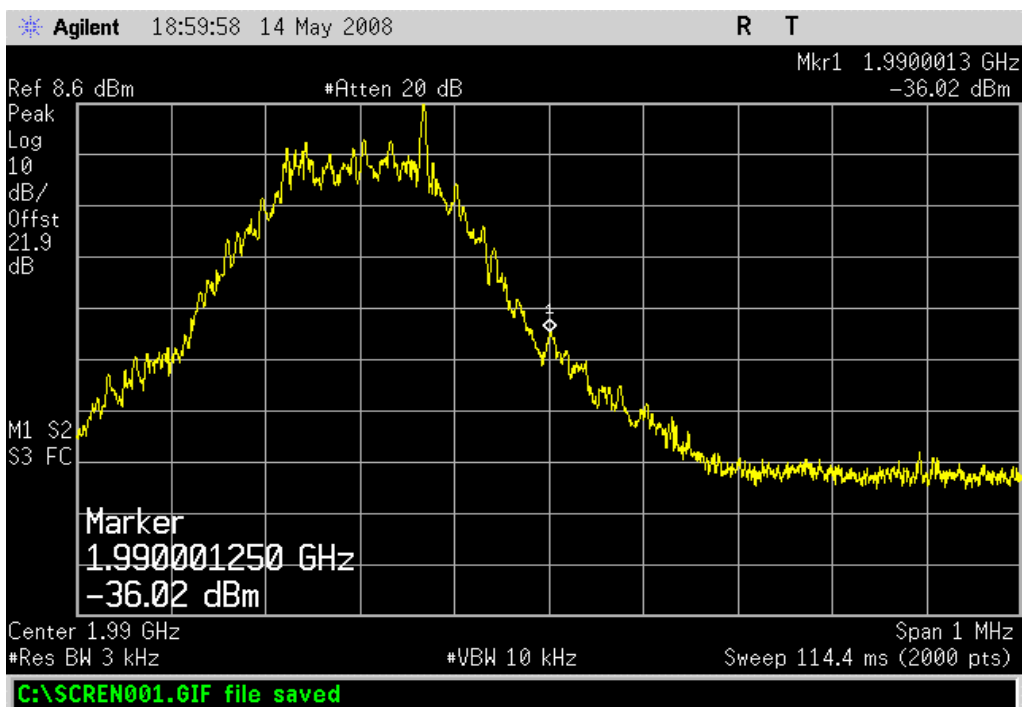


GSM modulation, Low power, Atten = 6, High channel, 1989.8MHz, Band Edge

Result: Pass

Value: -36.02 dBm

Limit: ≤ -13 dBm



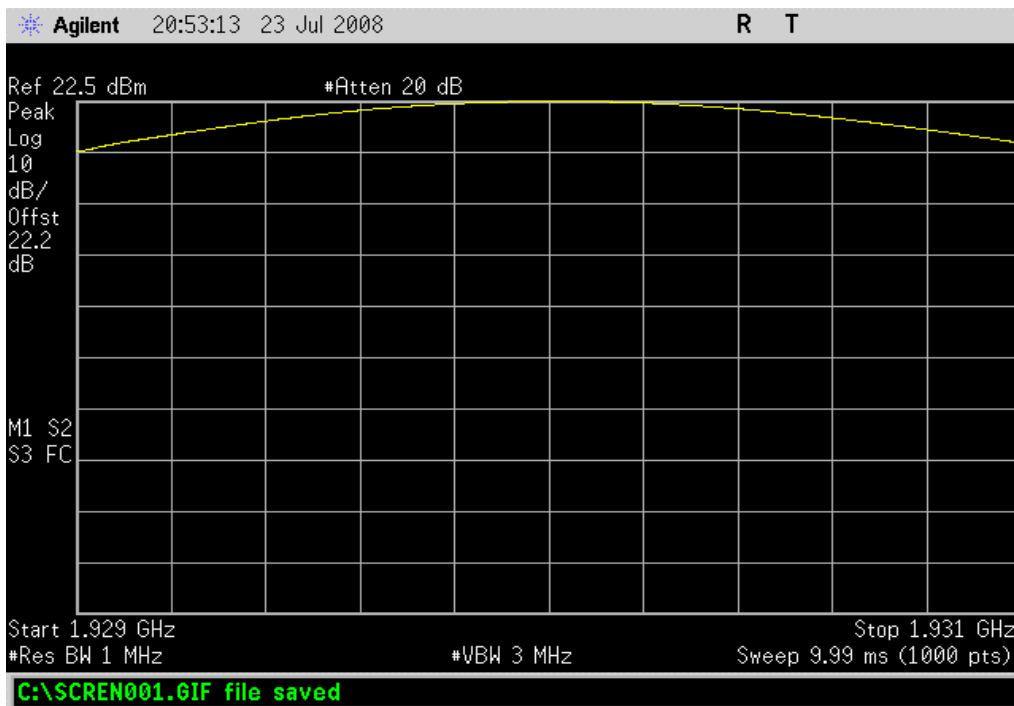
Occupied Bandwidth

GPRS modulation, High power, Atten = 0, Low channel, 1930.2MHz, Reference level plot

Result: N/A

Value: 22.5 dBm

Limit: N/A

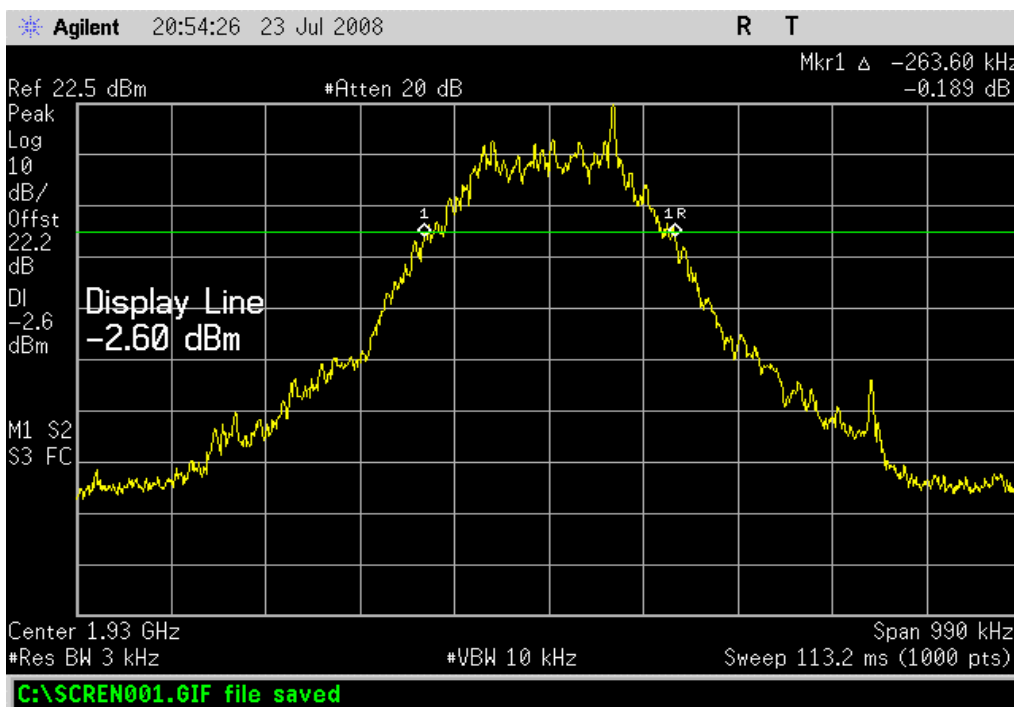


GPRS modulation, High power, Atten = 0, Low channel, 1930.2MHz, Occupied Bandwidth

Result: N/A

Value: 263.6 kHz

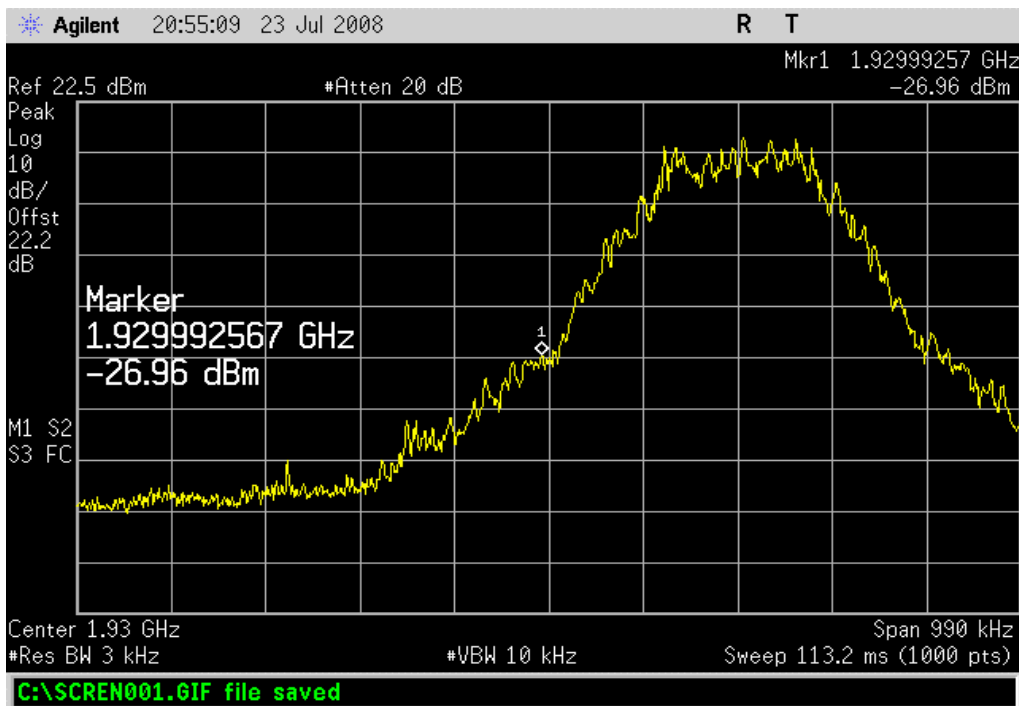
Limit: N/A



Occupied Bandwidth

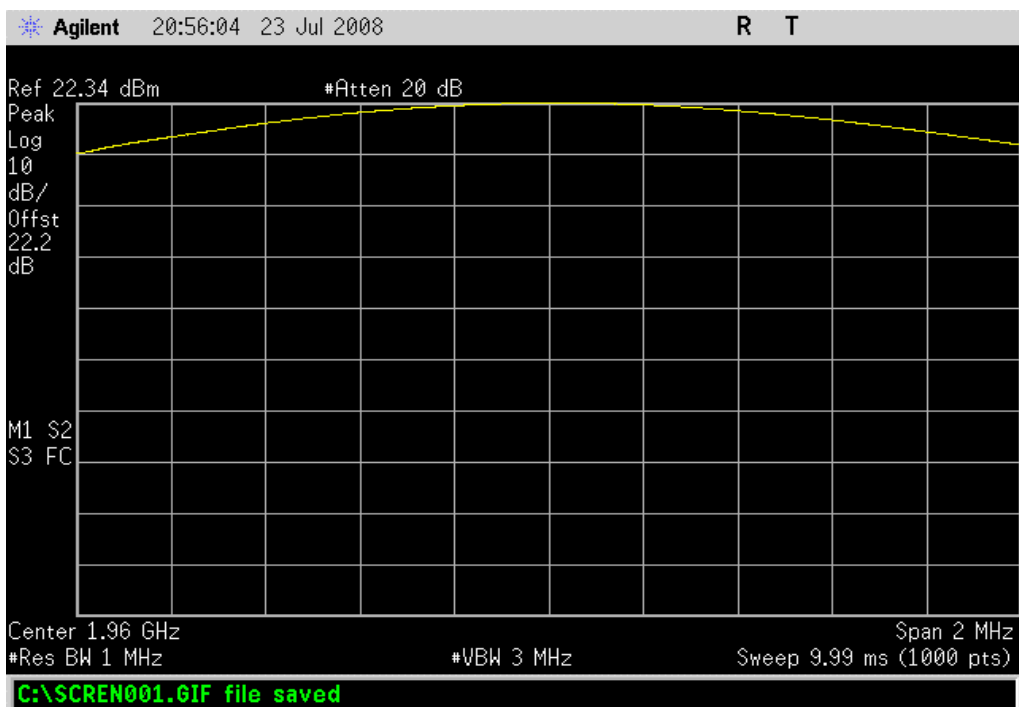
GPRS modulation, High power, Atten = 0, Low channel, 1930.2MHz, Band Edge

Result: Pass **Value:** -26.96 dBm **Limit:** ≤ -13 dBm



GPRS modulation, High power, Atten = 0, Mid channel, 1960MHz, Reference level plot

Result: N/A **Value:** 22.34 dBm **Limit:** N/A



Occupied Bandwidth

GPRS modulation, High power, Atten = 0, Mid channel, 1960MHz, Occupied Bandwidth

Result: N/A

Value: 274.3 kHz

Limit: N/A

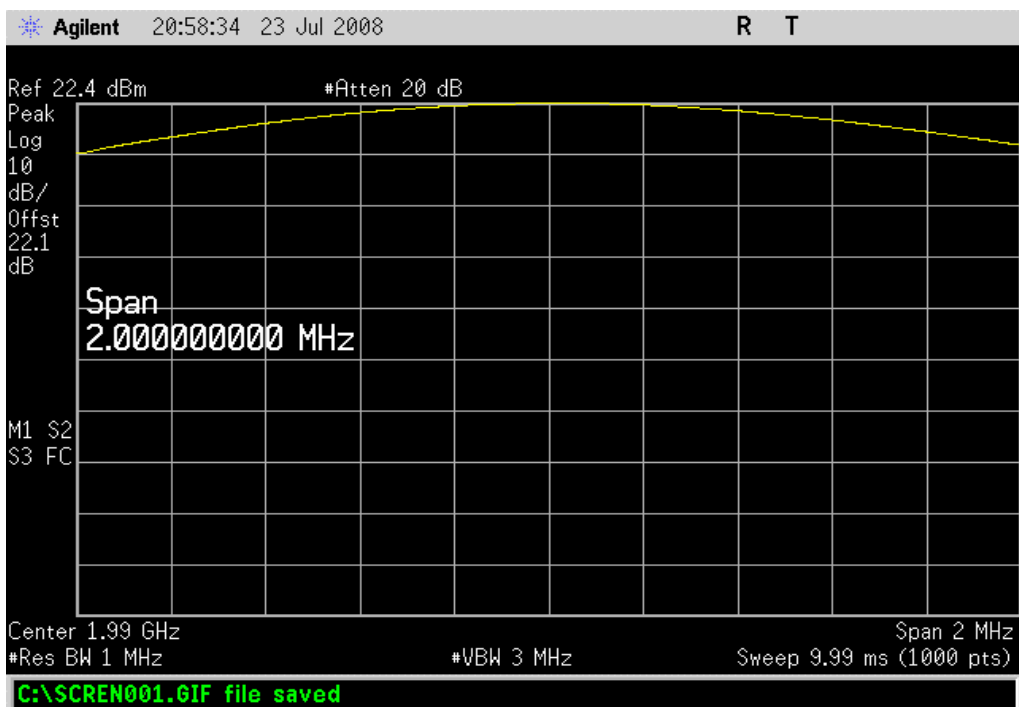


GPRS modulation, High power, Atten = 0, High channel, 1989.8MHz, Reference level plot

Result: N/A

Value: 22.4 dBm

Limit: N/A



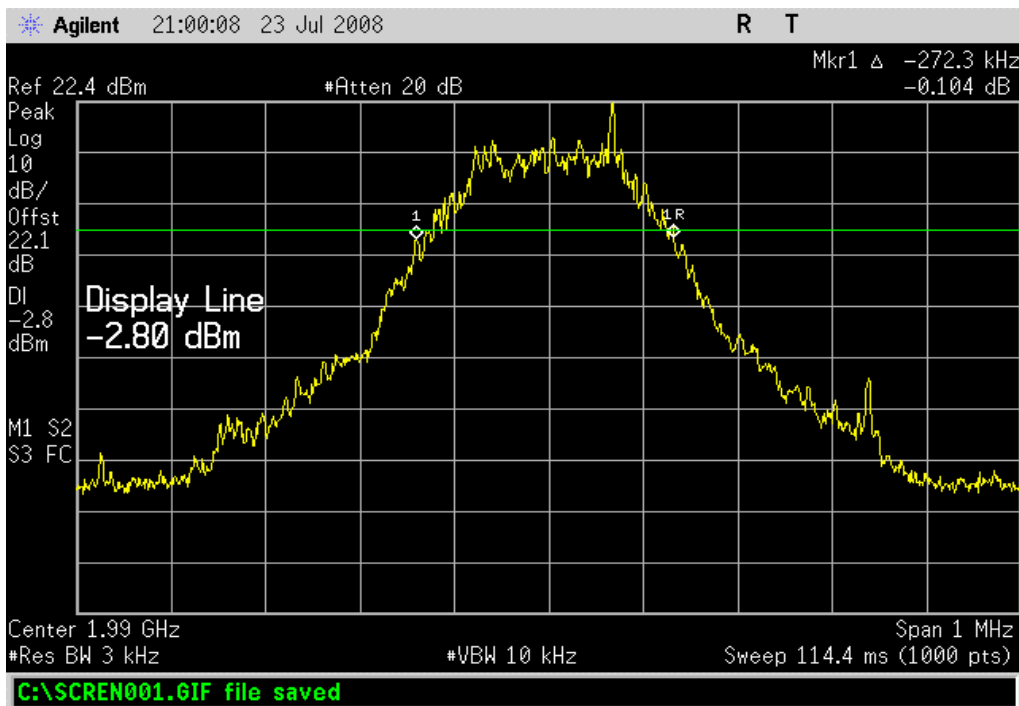
Occupied Bandwidth

GPRS modulation, High power, Atten = 0, High channel, 1989.8MHz, Occupied Bandwidth

Result: N/A

Value: 272.3 kHz

Limit: N/A



GPRS modulation, High power, Atten = 0, High channel, 1989.8MHz, Band Edge

Result: Pass

Value: -23.2 dBm

Limit: ≤ -13 dBm



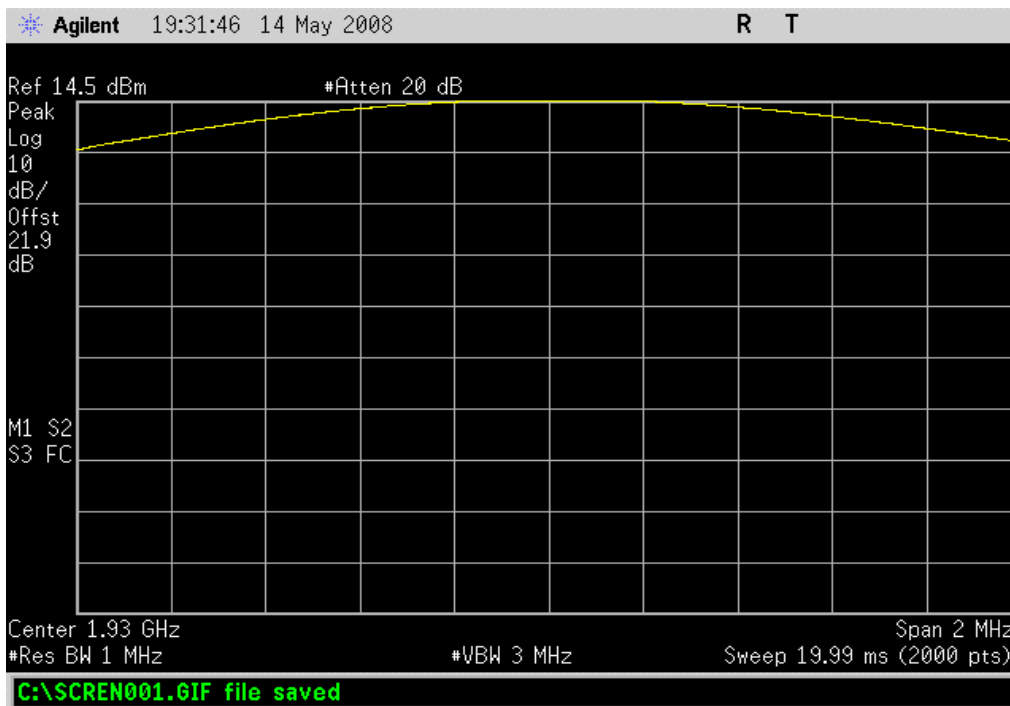
Occupied Bandwidth

GPRS modulation, Mid power, Atten = 3, Low channel, 1930.2MHz, Reference level plot

Result: N/A

Value: 14.5 dBm

Limit: N/A

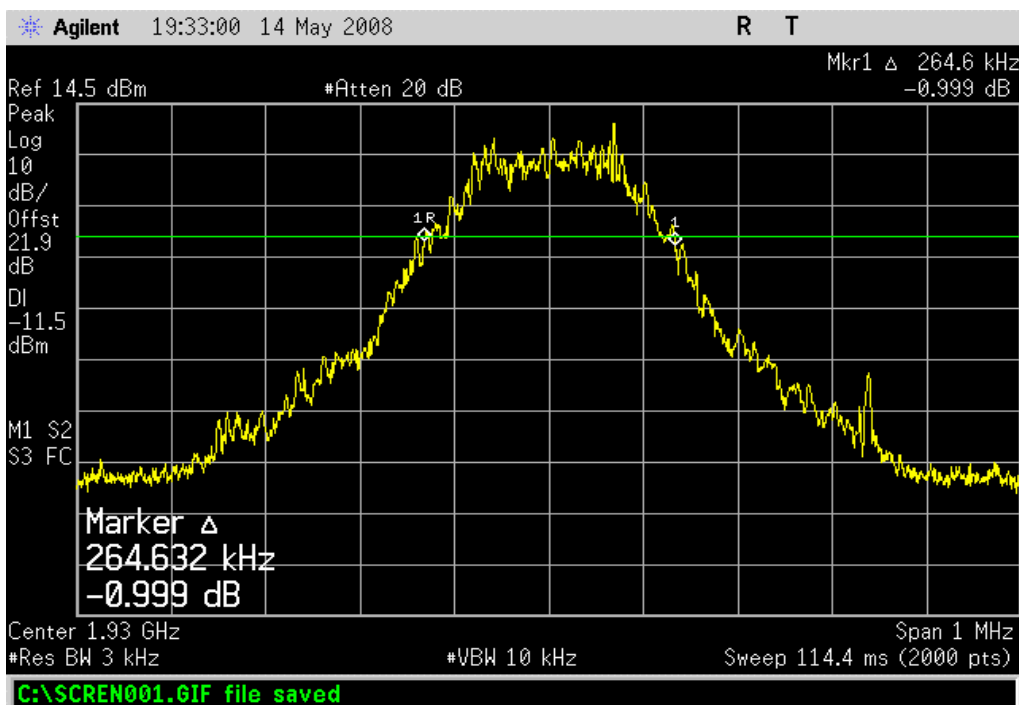


GPRS modulation, Mid power, Atten = 3, Low channel, 1930.2MHz, Occupied Bandwidth

Result: N/A

Value: 264.6 kHz

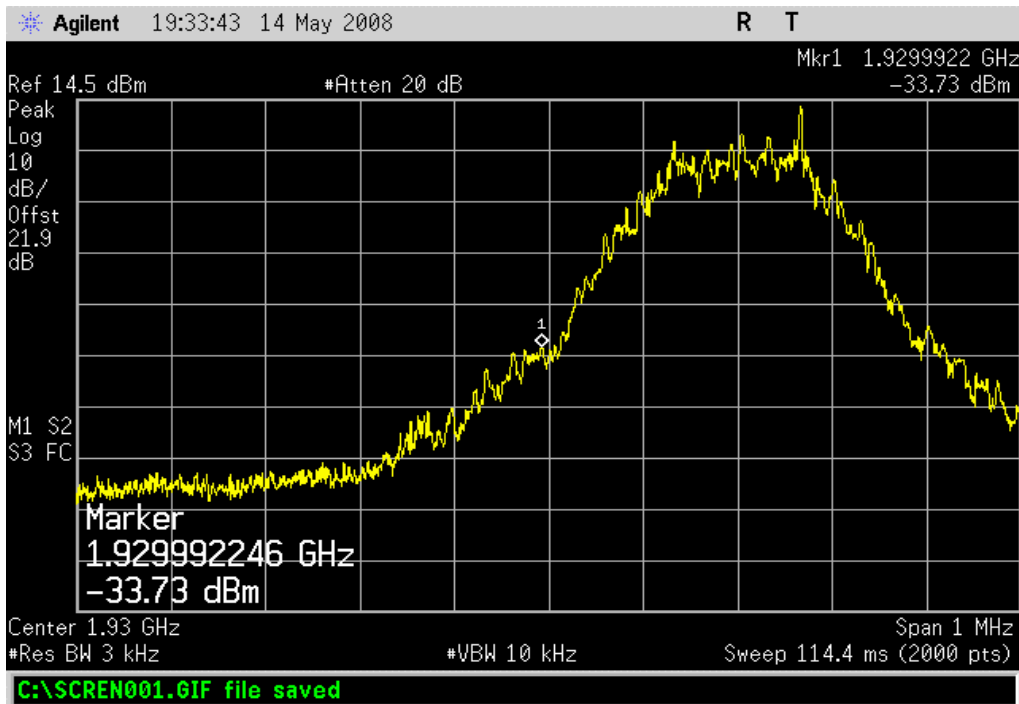
Limit: N/A



Occupied Bandwidth

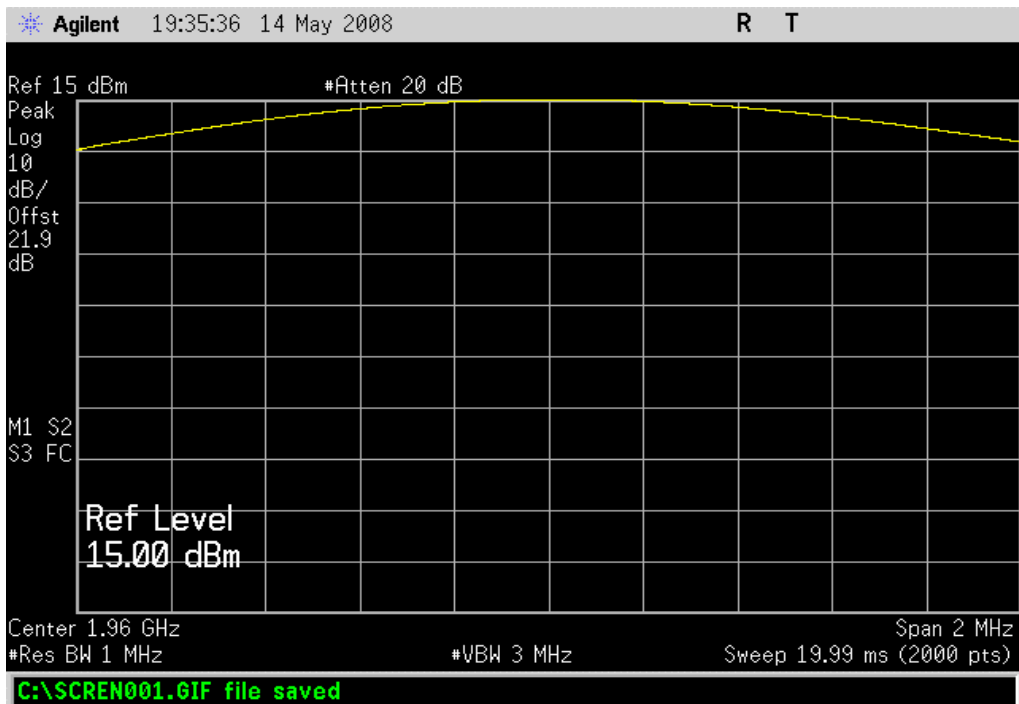
GPRS modulation, Mid power, Atten = 3, Low channel, 1930.2MHz, Band Edge

Result: Pass **Value:** -33.73 dBm **Limit:** ≤ -13 dBm



GPRS modulation, Mid power, Atten = 3, Mid channel, 1960MHz, Reference level plot

Result: N/A **Value:** 15.0 dBm **Limit:** N/A



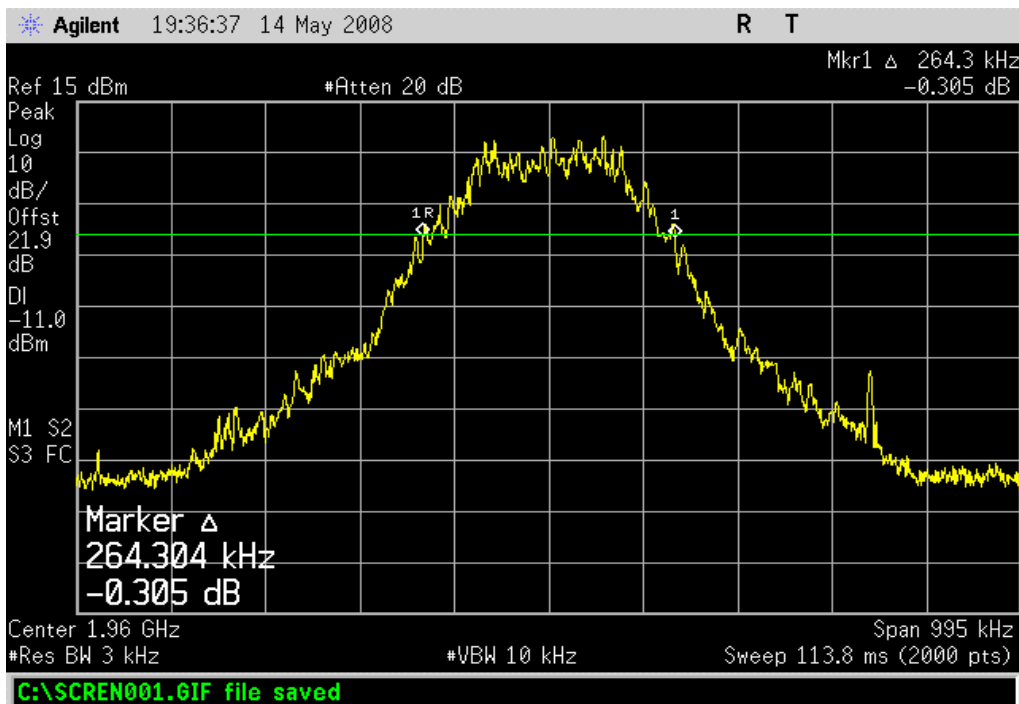
Occupied Bandwidth

GPRS modulation, Mid power, Atten = 3, Mid channel, 1960MHz, Occupied Bandwidth

Result: N/A

Value: 264.3 kHz

Limit: N/A

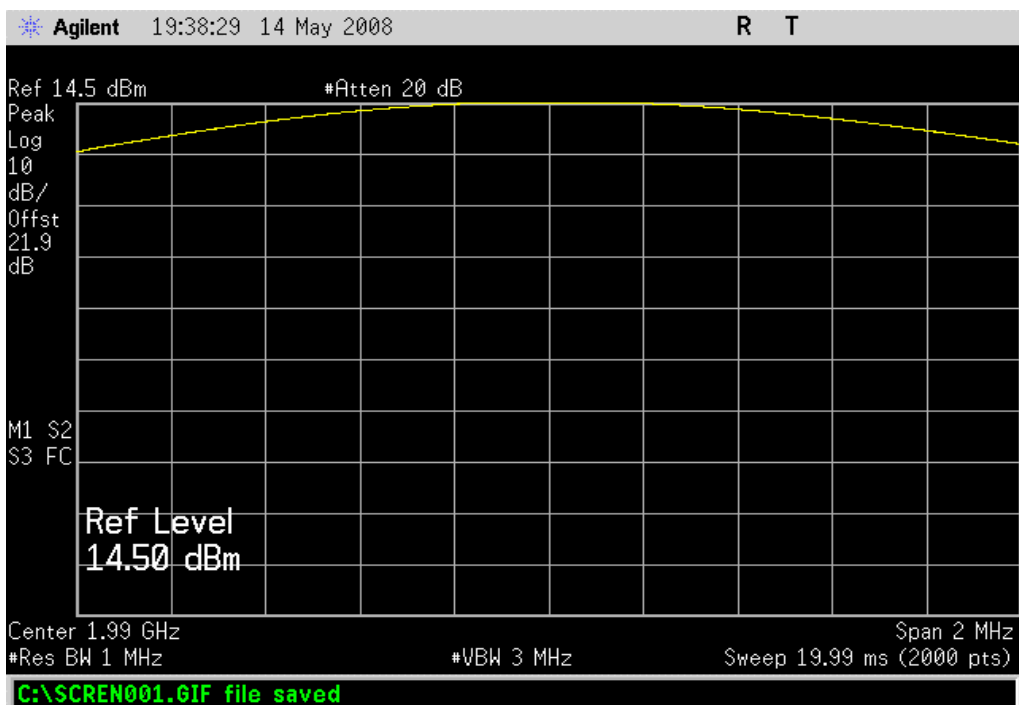


GPRS modulation, Mid power, Atten = 3, High channel, 1989.8MHz, Reference level plot

Result: N/A

Value: 14.5 dBm

Limit: N/A



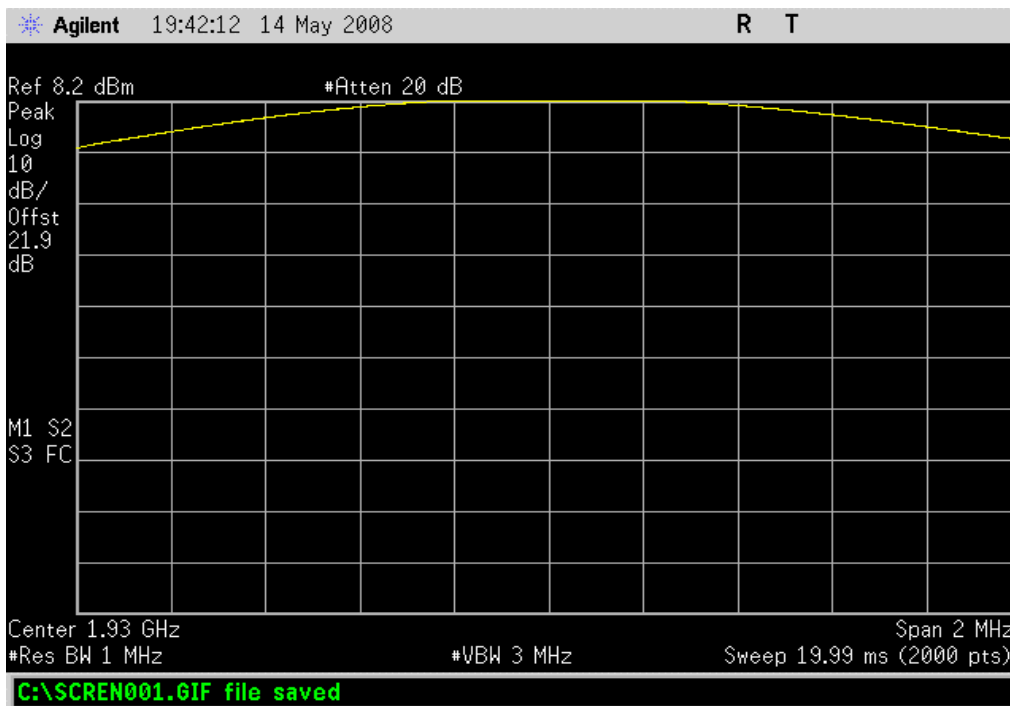
Occupied Bandwidth

GPRS modulation, Low power, Atten = 6, Low channel, 1930.2MHz, Reference level plot

Result: N/A

Value: 8.2 dBm

Limit: N/A



GPRS modulation, Low power, Atten = 6, Low channel, 1930.2MHz, Occupied Bandwidth

Result: N/A

Value: 273.1 kHz

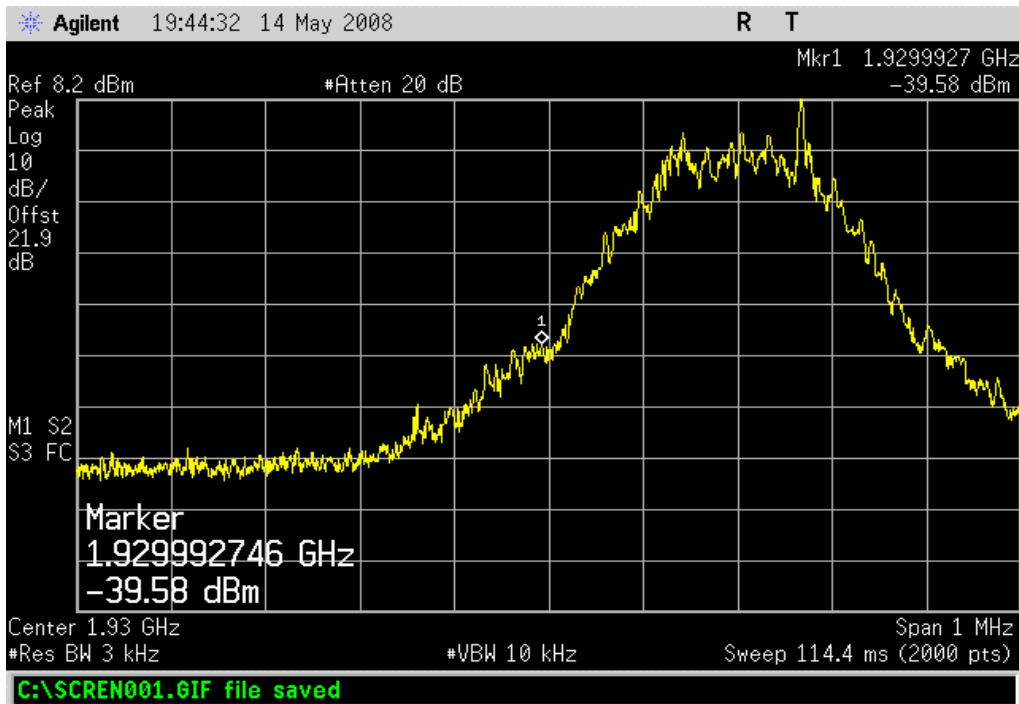
Limit: N/A



Occupied Bandwidth

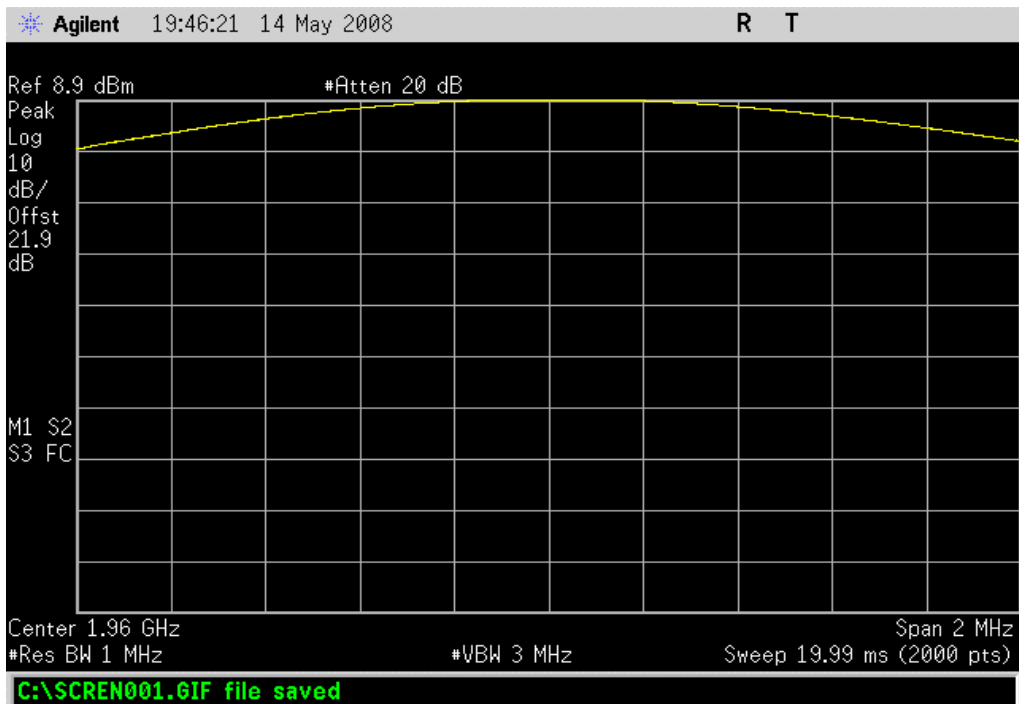
GPRS modulation, Low power, Atten = 6, Low channel, 1930.2MHz, Band Edge

Result: Pass **Value:** -39.58 dBm **Limit:** ≤ -13 dBm



GPRS modulation, Low power, Atten = 6, Mid channel, 1960MHz, Reference level plot

Result: N/A **Value:** 8.9 dBm **Limit:** N/A



Occupied Bandwidth

GPRS modulation, Low power, Atten = 6, Mid channel, 1960MHz, Occupied Bandwidth

Result: N/A

Value: 263.6 kHz

Limit: N/A

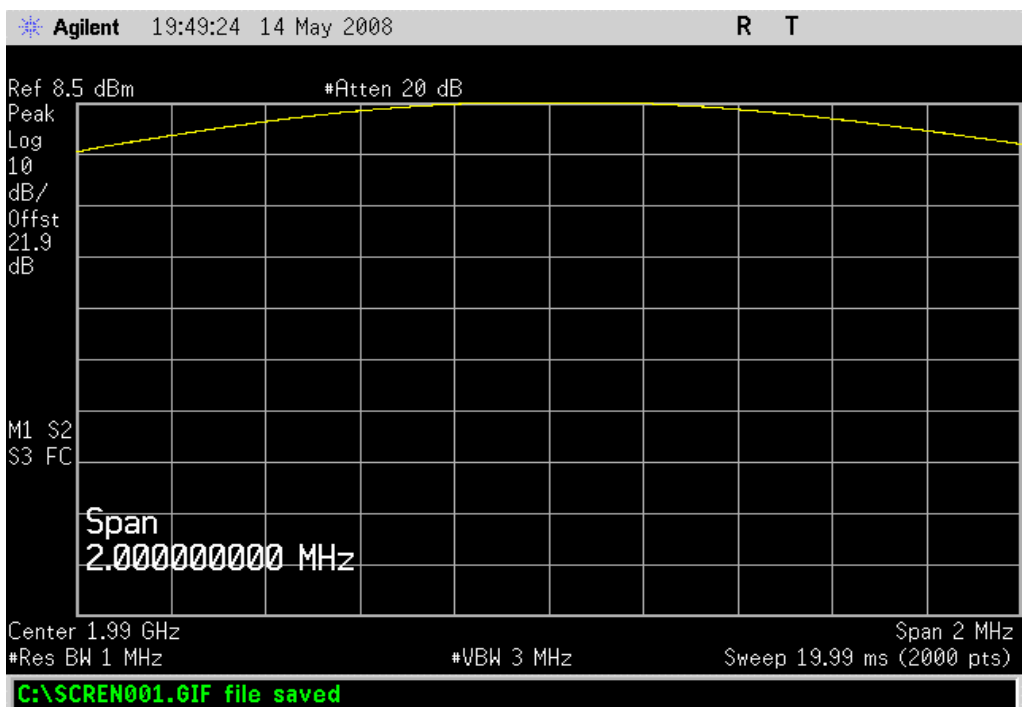


GPRS modulation, Low power, Atten = 6, High channel, 1989.8MHz, Reference level plot

Result: N/A

Value: 8.5 dBm

Limit: N/A



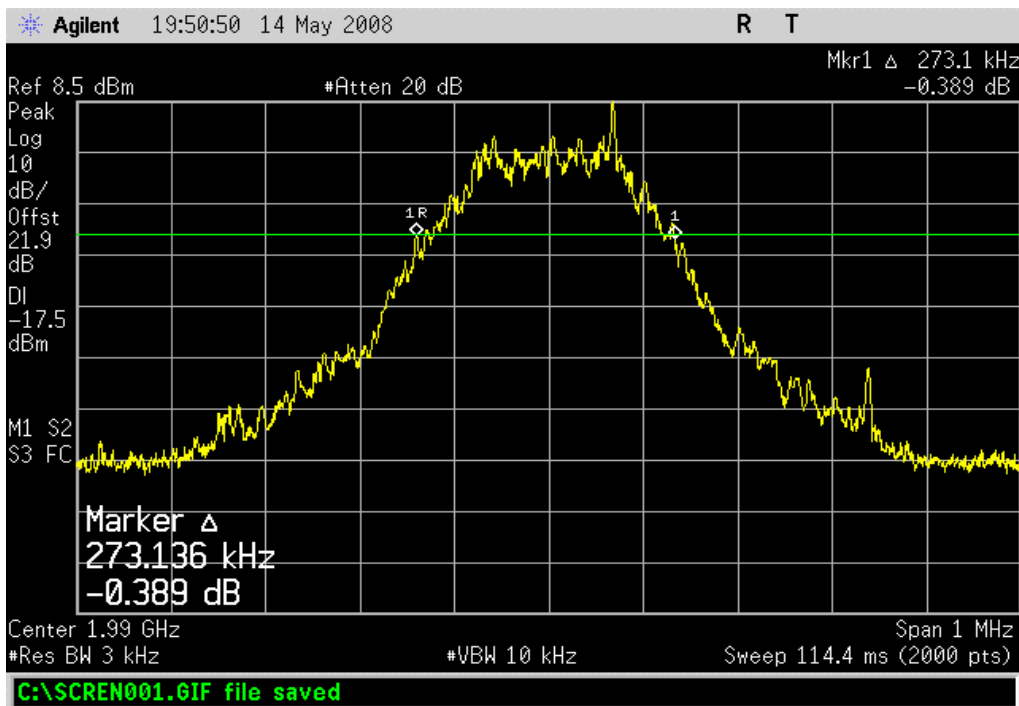
Occupied Bandwidth

GPRS modulation, Low power, Atten = 6, High channel, 1989.8MHz, Occupied Bandwidth

Result: N/A

Value: 273.1 kHz

Limit: N/A

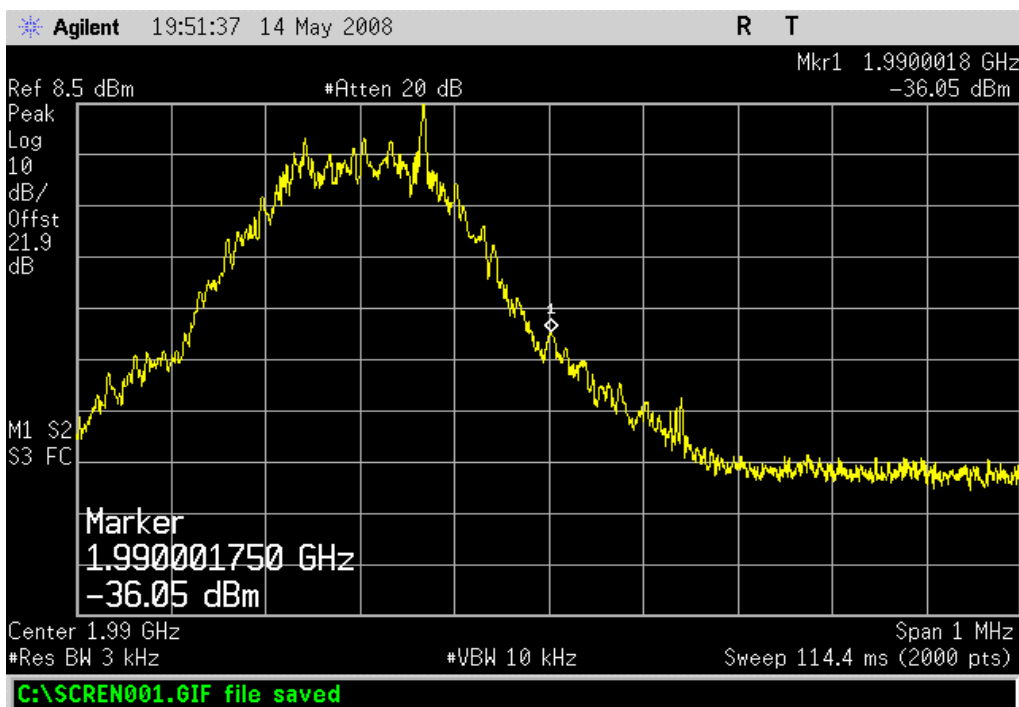


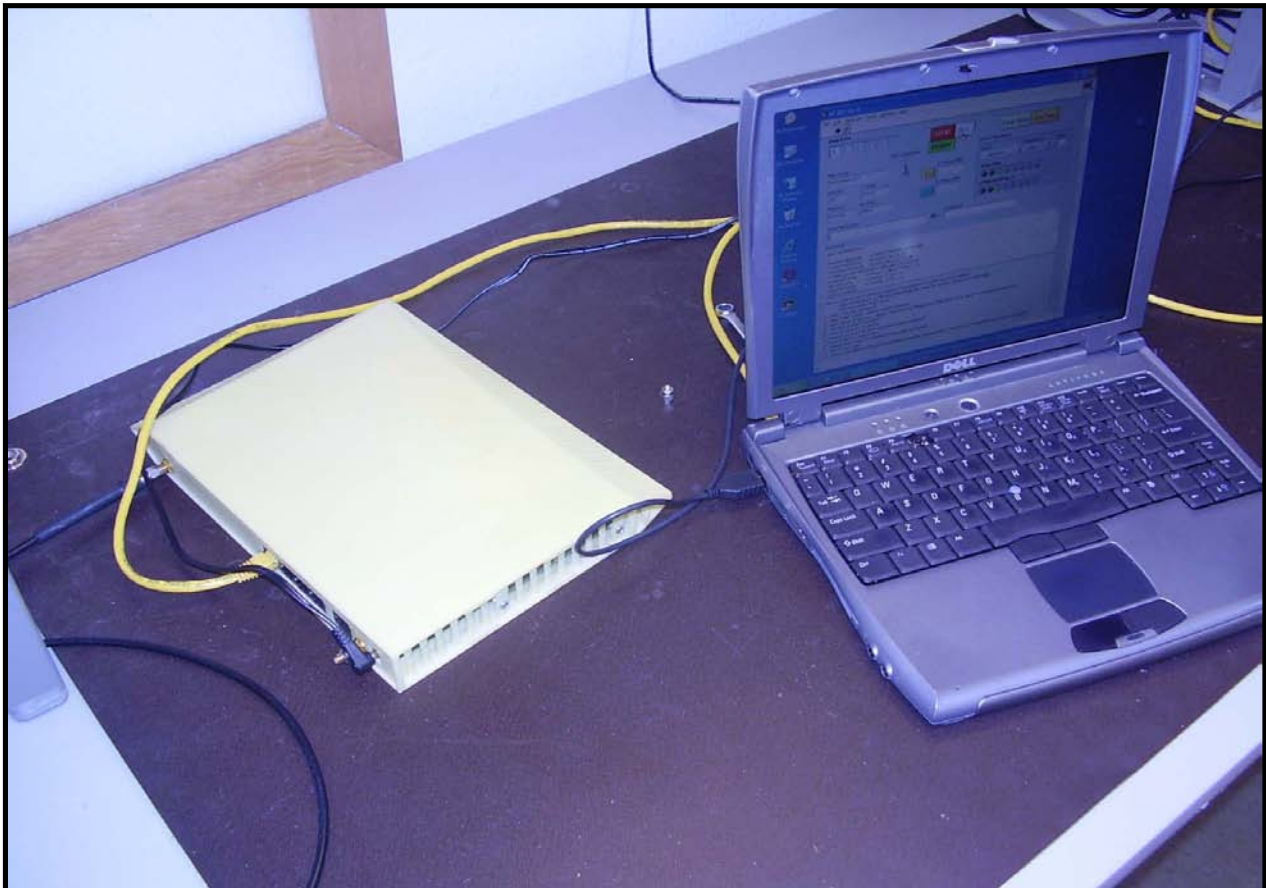
GPRS modulation, Low power, Atten = 6, High channel, 1989.8MHz, Band Edge

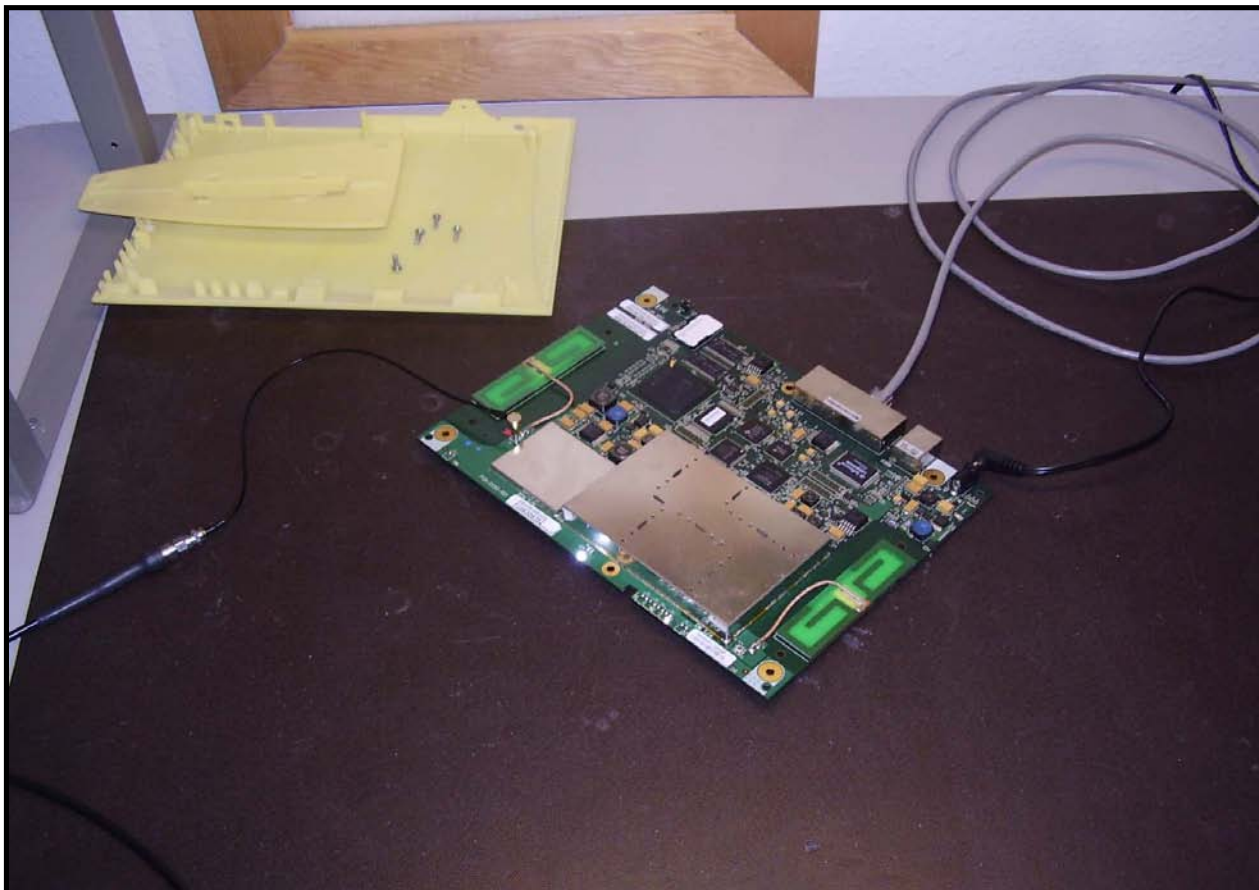
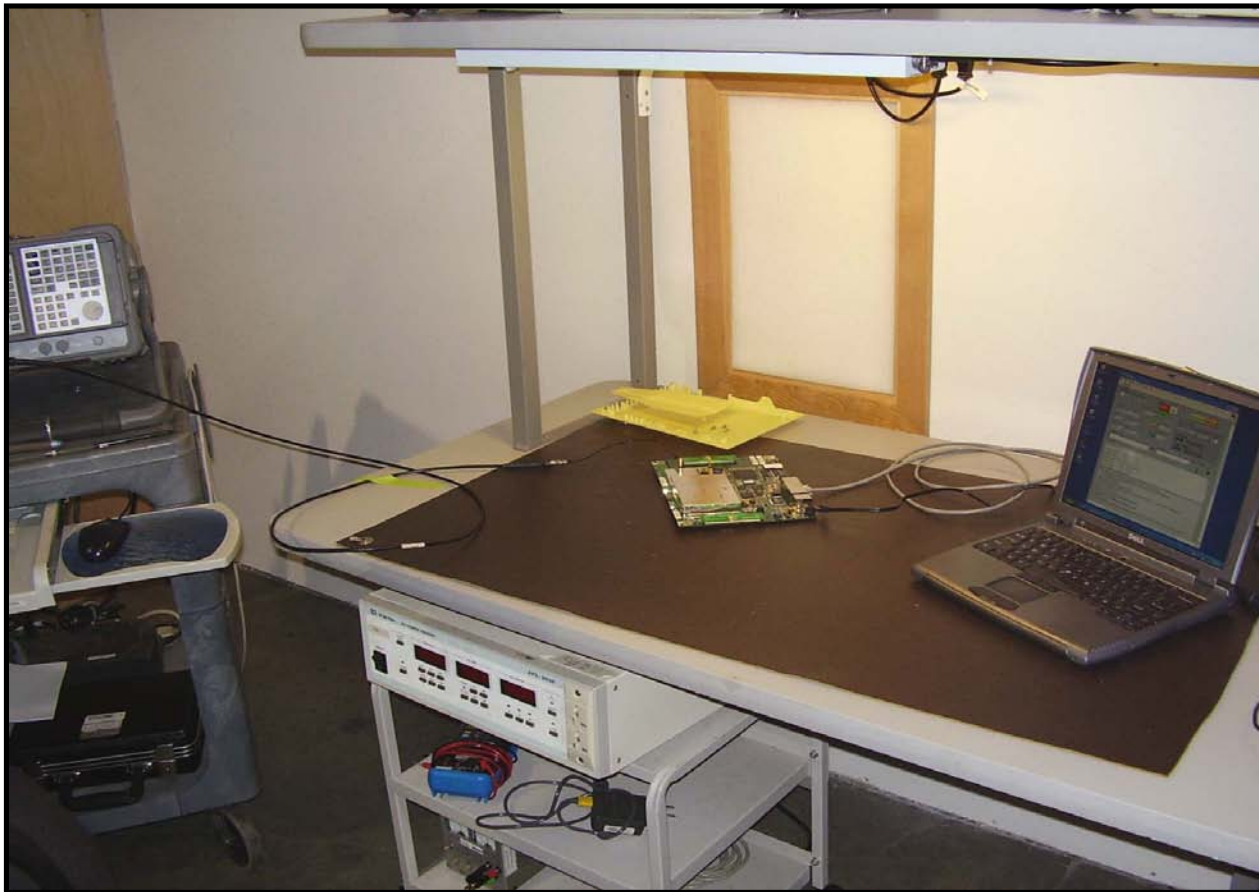
Result: Pass

Value: -36.05 dBm

Limit: ≤ -13 dBm







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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Attenuator 20 dB, SMA M/F 26GHz	S.M. Electronics	SA26B-20	AUY	6/8/2007	13
Spectrum Analyzer	Agilent	E4407B	AAU	12/7/2007	13

MEASUREMENT UNCERTAINTY

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

TEST DESCRIPTION

The peak output power was measured with the EUT set to the parameters called out in the data sheets. The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. Prior to making the measurements the setup including cables and attenuator was calibrated with a signal generator and a power meter.

EMC

Output Power

EUT:	OmniCell@Home	Work Order:	RAFNO085
Serial Number:	None	Date:	5/14/2008 & 7-22-08
Customer:	Radioframe Networks, Inc.	Temperature:	24°C
Attendees:	Nha Tran	Humidity:	35%
Project:	None	Barometric Pres.:	30.44
Tested by:	Holly Ashkannejhad & Rod Peloquin	Power:	120VAC/60Hz
		Job Site:	EV06

TEST SPECIFICATIONS		Test Method
FCC 22H:2007		ANSI/TIA/EIA-603-B-2002

COMMENTS
Cellular Band

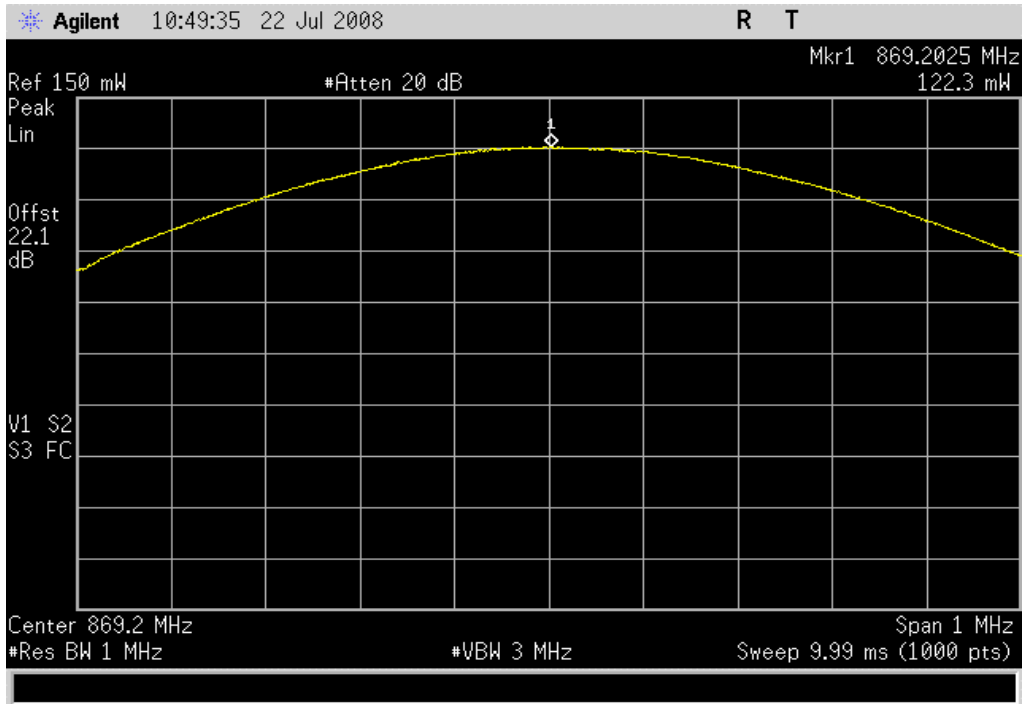
DEVIATIONS FROM TEST STANDARD
No deviations

Configuration #	2	Signature <i>Holly Ashkannejhad</i>
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		Value	Limit	Results
GSM modulation				
	High power, Atten= 0			
	Low channel, 869.2MHz	122.3 mW	7 W	Pass
	Mid channel, 881.4MHz	102.5 mW	7 W	Pass
	High channel, 893.8MHz	105.8 mW	7 W	Pass
	Mid power, Atten = 3			
	Low channel, 869.2MHz	18.43 mW	7 W	Pass
	Mid channel, 881.4MHz	17.93 mW	7 W	Pass
	High channel, 893.8MHz	17.78 mW	7 W	Pass
	Low power, Atten = 6			
	Low channel, 869.2MHz	4.512 mW	7 W	Pass
	Mid channel, 881.4MHz	4.363 mW	7 W	Pass
	High channel, 893.8MHz	4.372 mW	7 W	Pass
GPRS modulation				
	High power, Atten= 0			
	Low channel, 869.2MHz	119.9 mW	7 W	Pass
	Mid channel, 881.4MHz	101.5 mW	7 W	Pass
	High channel, 893.8MHz	104.4 mW	7 W	Pass
	Mid power, Atten = 3			
	Low channel, 869.2MHz	18.53 mW	7 W	Pass
	Mid channel, 881.4MHz	18.66 mW	7 W	Pass
	High channel, 893.8MHz	17.56 mW	7 W	Pass
	Low power, Atten = 6			
	Low channel, 869.2MHz	4.414 mW	7 W	Pass
	Mid channel, 881.4MHz	4.436 mW	7 W	Pass
	High channel, 893.8MHz	4.363 mW	7 W	Pass

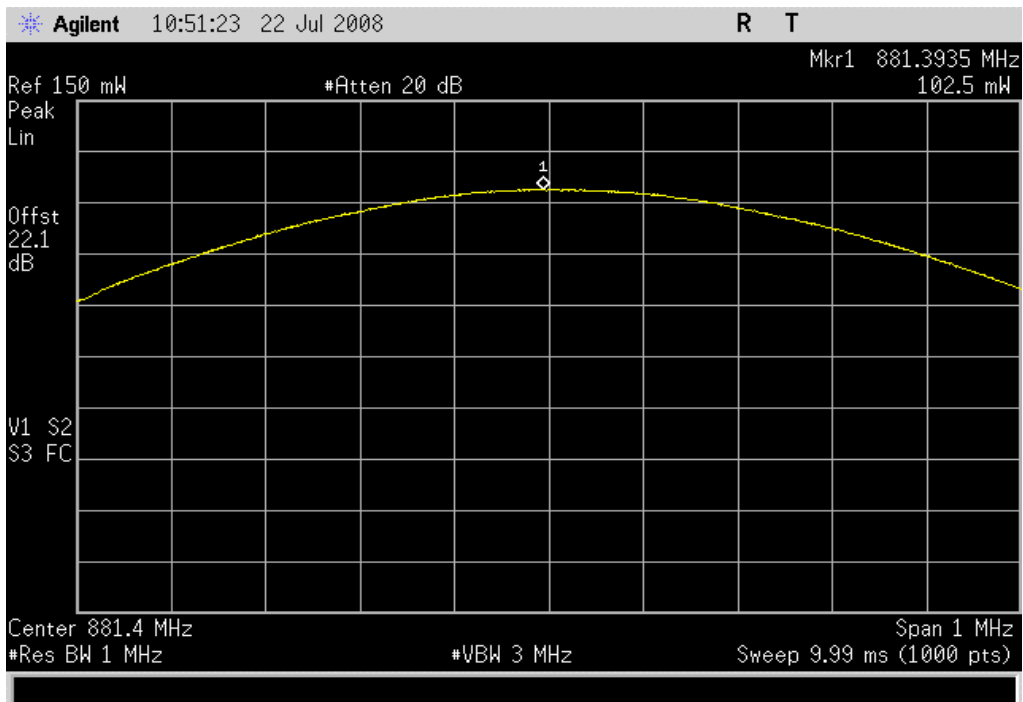
GSM modulation, High power, Atten= 0, Low channel, 869.2MHz

Result: Pass **Value:** 122.3 mW **Limit:** 7 W



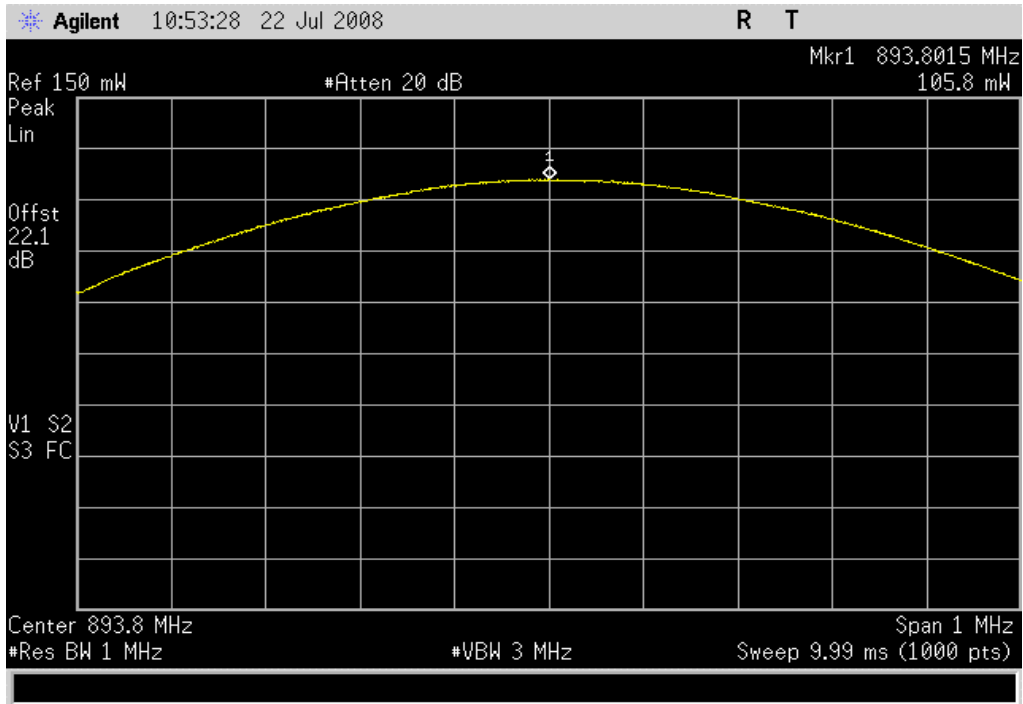
GSM modulation, High power, Atten= 0, Mid channel, 881.4MHz

Result: Pass **Value:** 102.5 mW **Limit:** 7 W



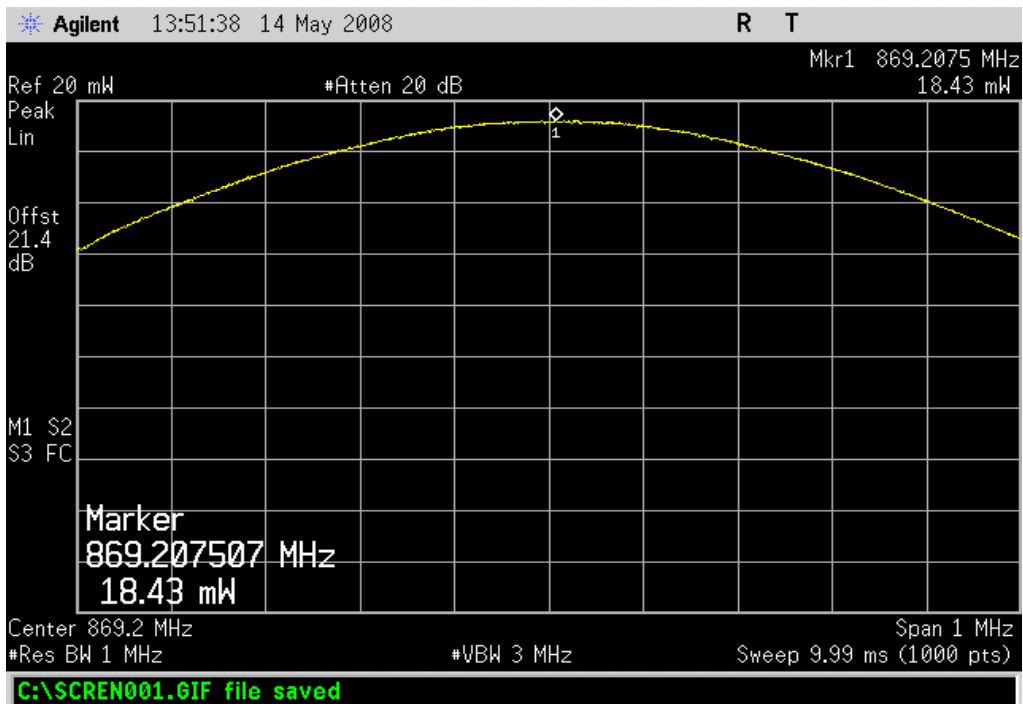
GSM modulation, High power, Atten= 0, High channel, 893.8MHz

Result: Pass **Value:** 105.8 mW **Limit:** 7 W



GSM modulation, Mid power, Atten = 3, Low channel, 869.2MHz

Result: Pass **Value:** 18.43 mW **Limit:** 7 W

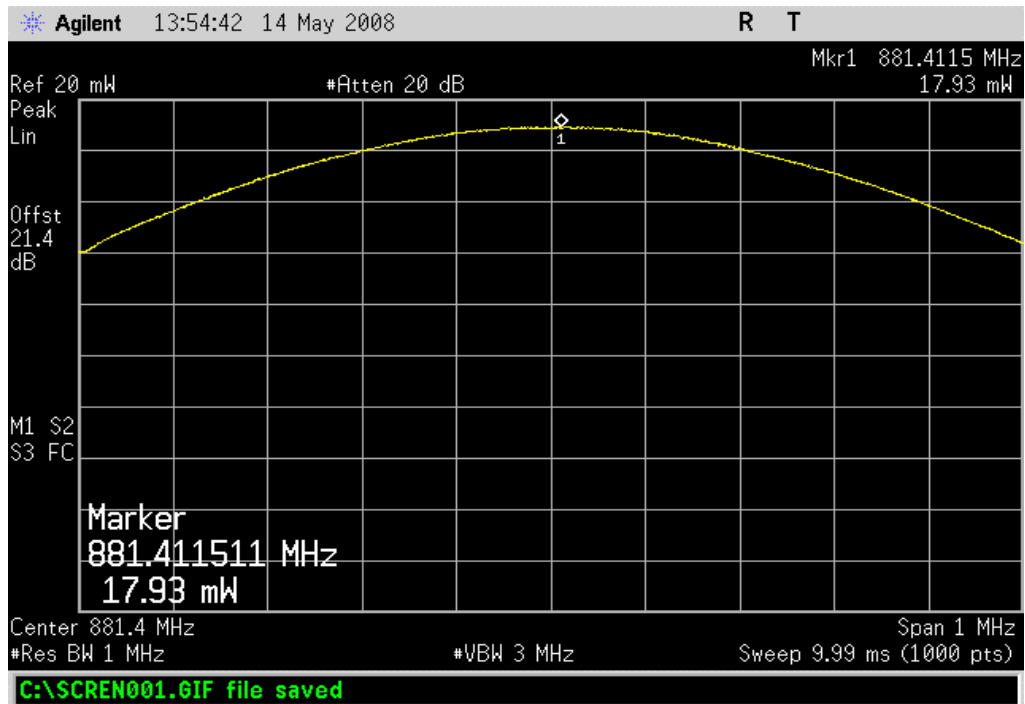


GSM modulation, Mid power, Atten = 3, Mid channel, 881.4MHz

Result: Pass

Value: 17.93 mW

Limit: 7 W

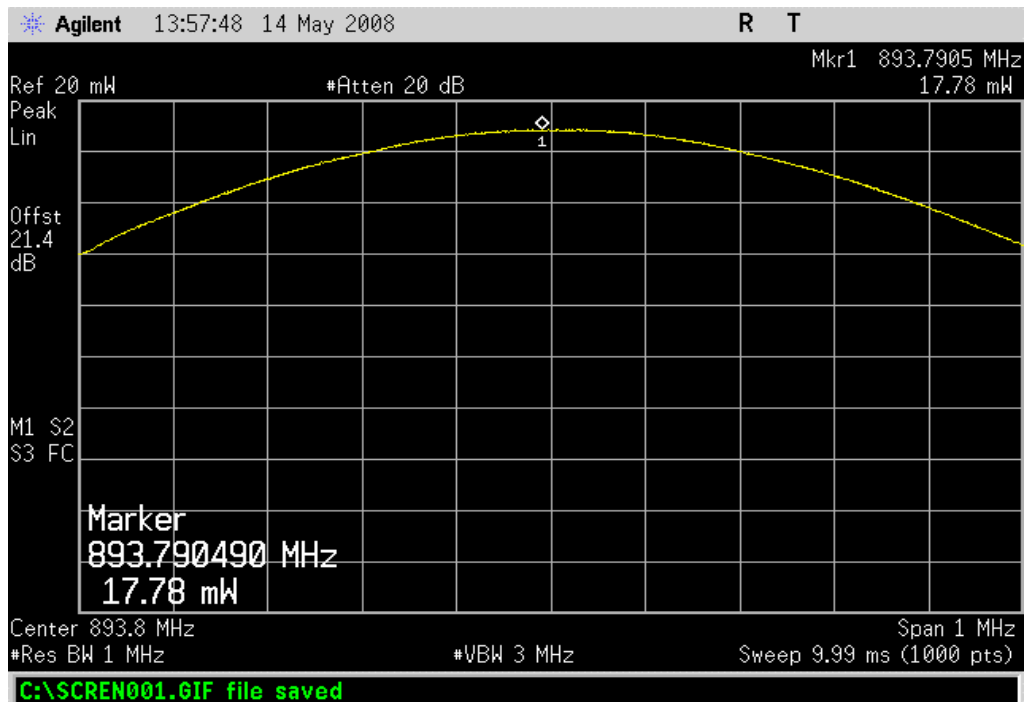


GSM modulation, Mid power, Atten = 3, High channel, 893.8MHz

Result: Pass

Value: 17.78 mW

Limit: 7 W

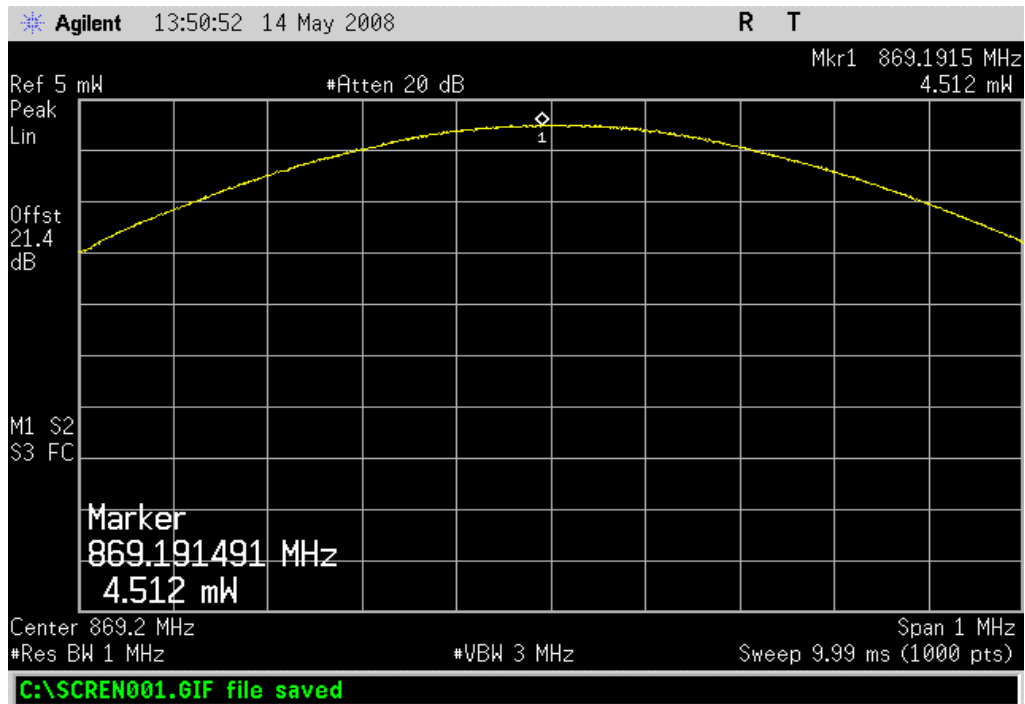


GSM modulation, Low power, Atten = 6, Low channel, 869.2MHz

Result: Pass

Value: 4.512 mW

Limit: 7 W

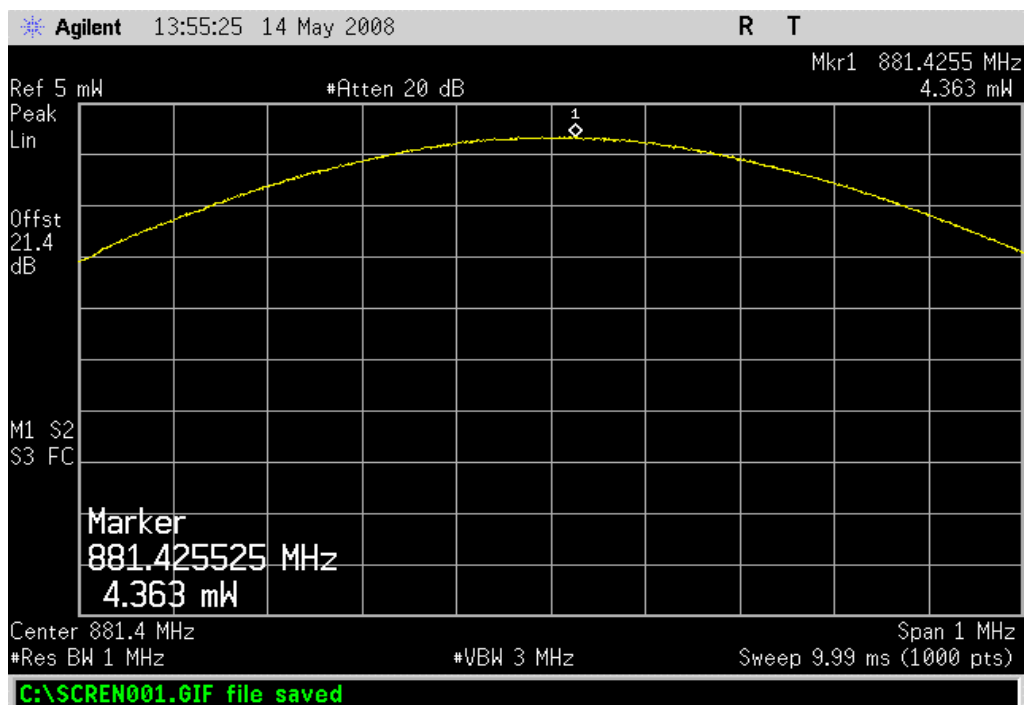


GSM modulation, Low power, Atten = 6, Mid channel, 881.4MHz

Result: Pass

Value: 4.363 mW

Limit: 7 W

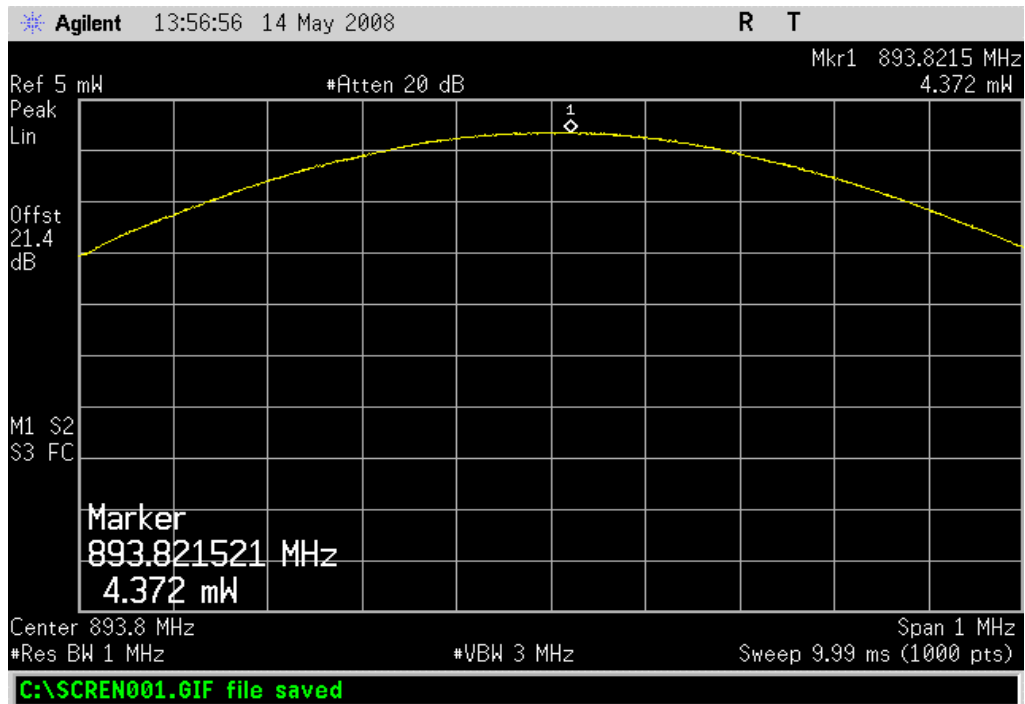


GSM modulation, Low power, Atten = 6, High channel, 893.8MHz

Result: Pass

Value: 4.372 mW

Limit: 7 W

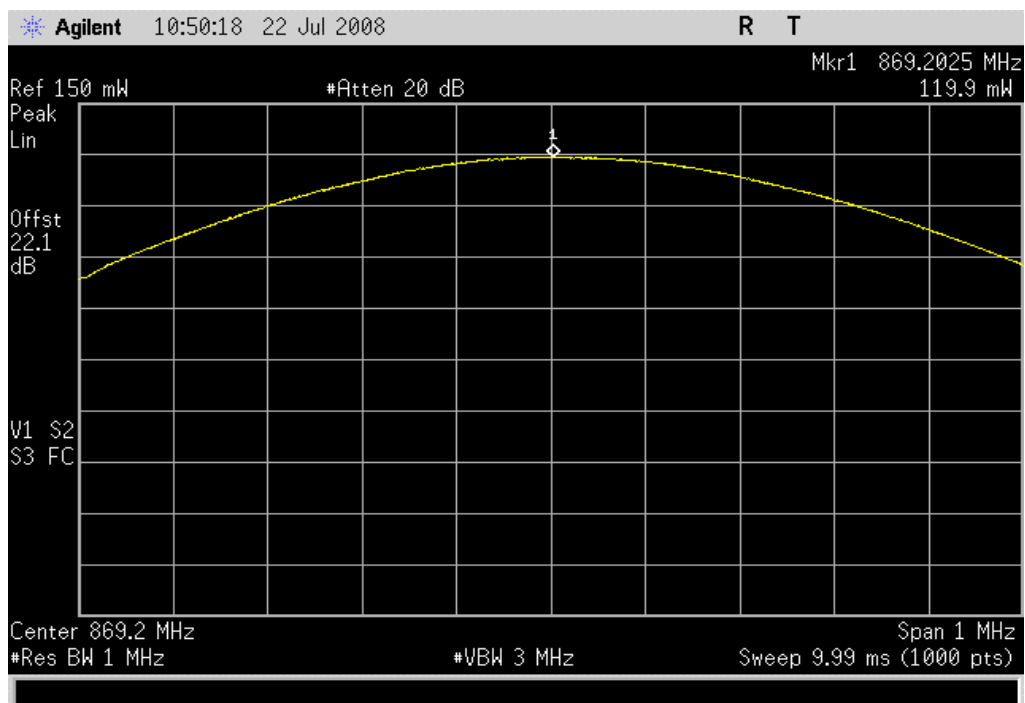


GPRS modulation, High power, Atten= 0, Low channel, 869.2MHz

Result: Pass

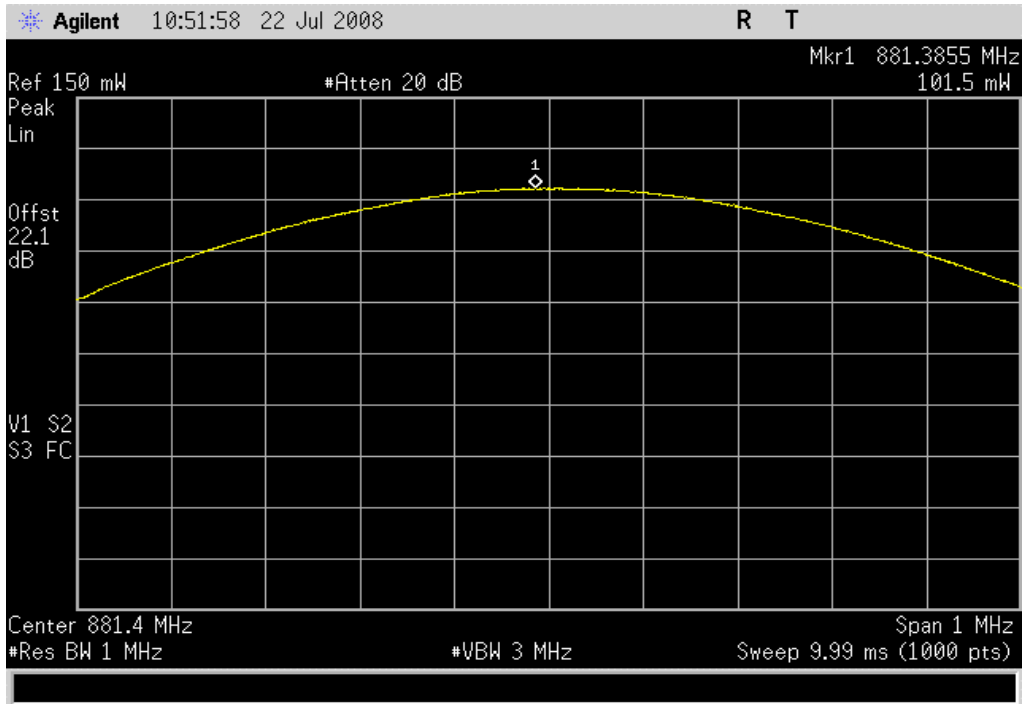
Value: 119.9 mW

Limit: 7 W



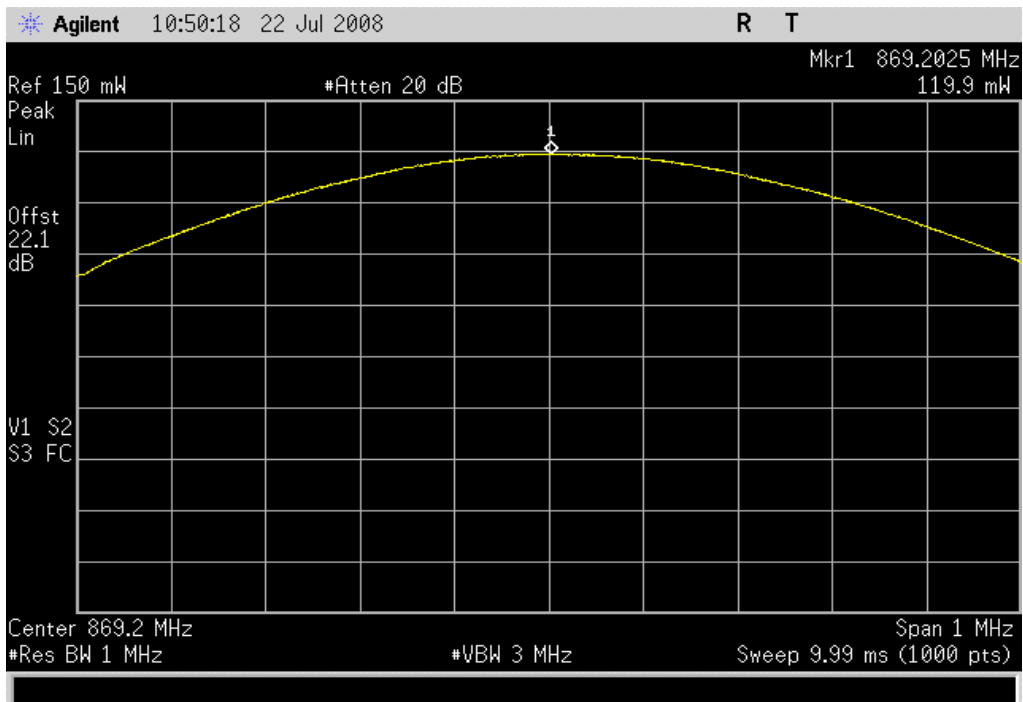
GPRS modulation, High power, Atten= 0, Mid channel, 881.4MHz

Result: Pass **Value:** 101.5 mW **Limit:** 7 W



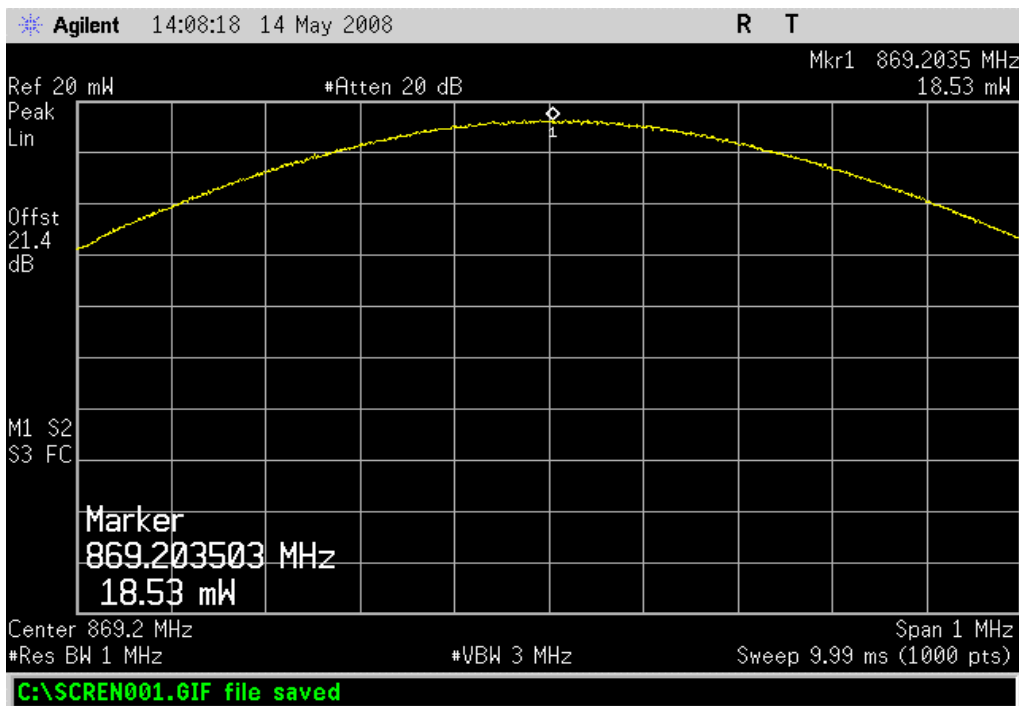
GPRS modulation, High power, Atten= 0, High channel, 893.8MHz

Result: Pass **Value:** 104.4 mW **Limit:** 7 W



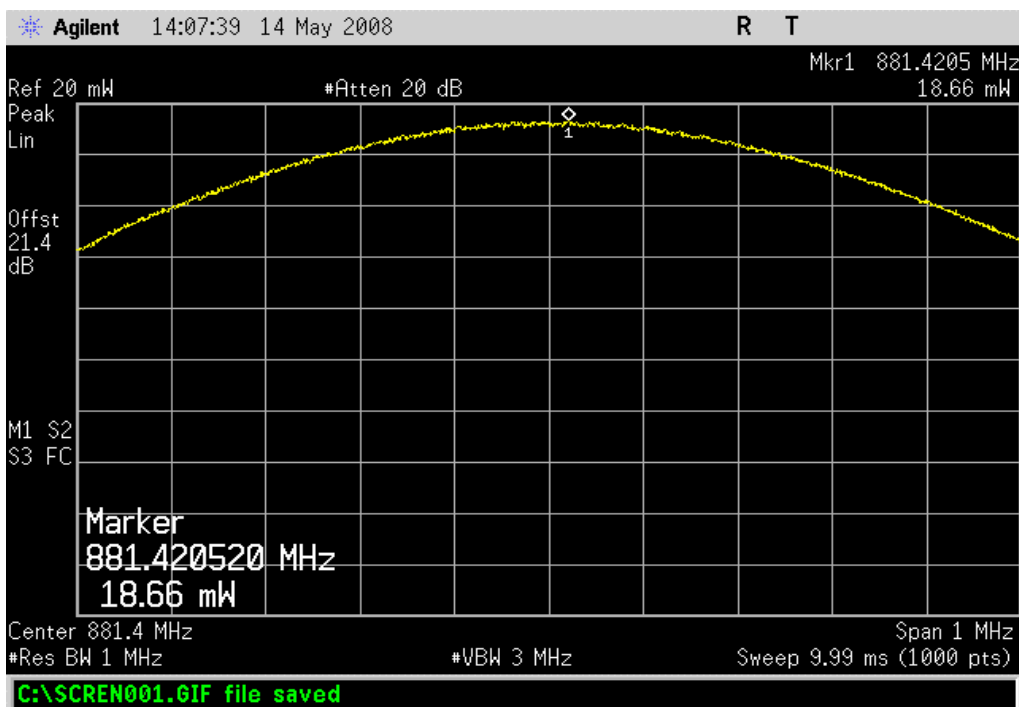
GPRS modulation, Mid power, Atten = 3, Low channel, 869.2MHz

Result: Pass **Value:** 18.53 mW **Limit:** 7 W



GPRS modulation, Mid power, Atten = 3, Mid channel, 881.4MHz

Result: Pass **Value:** 18.66 mW **Limit:** 7 W

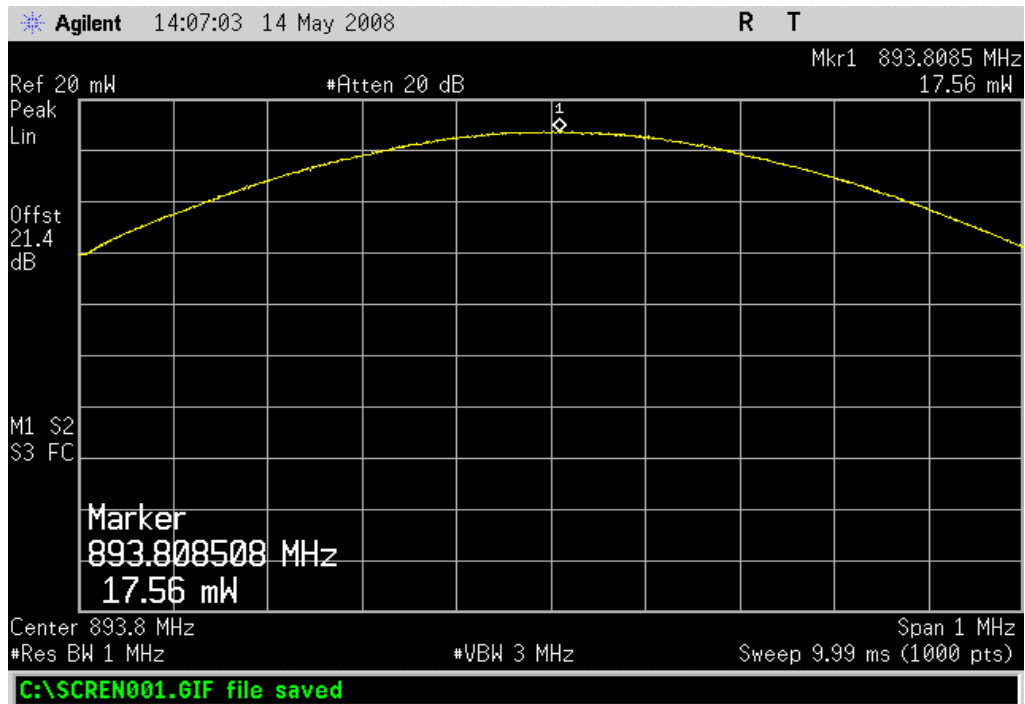


GPRS modulation, Mid power, Atten = 3, High channel, 893.8MHz

Result: Pass

Value: 17.56 mW

Limit: 7 W

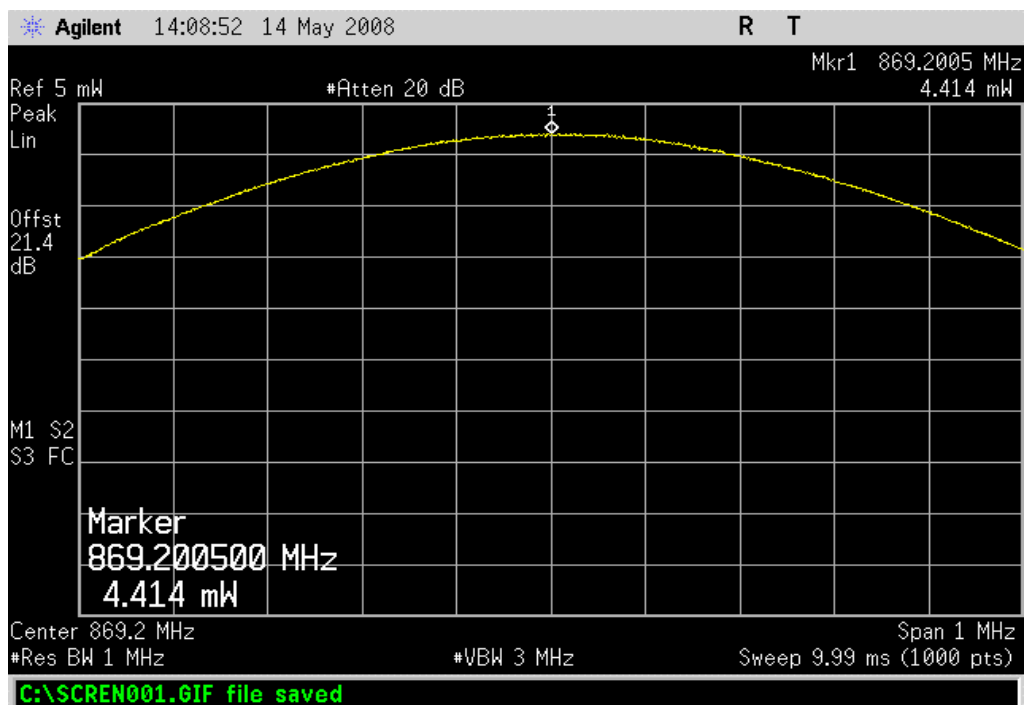


GPRS modulation, Low power, Atten = 6, Low channel, 869.2MHz

Result: Pass

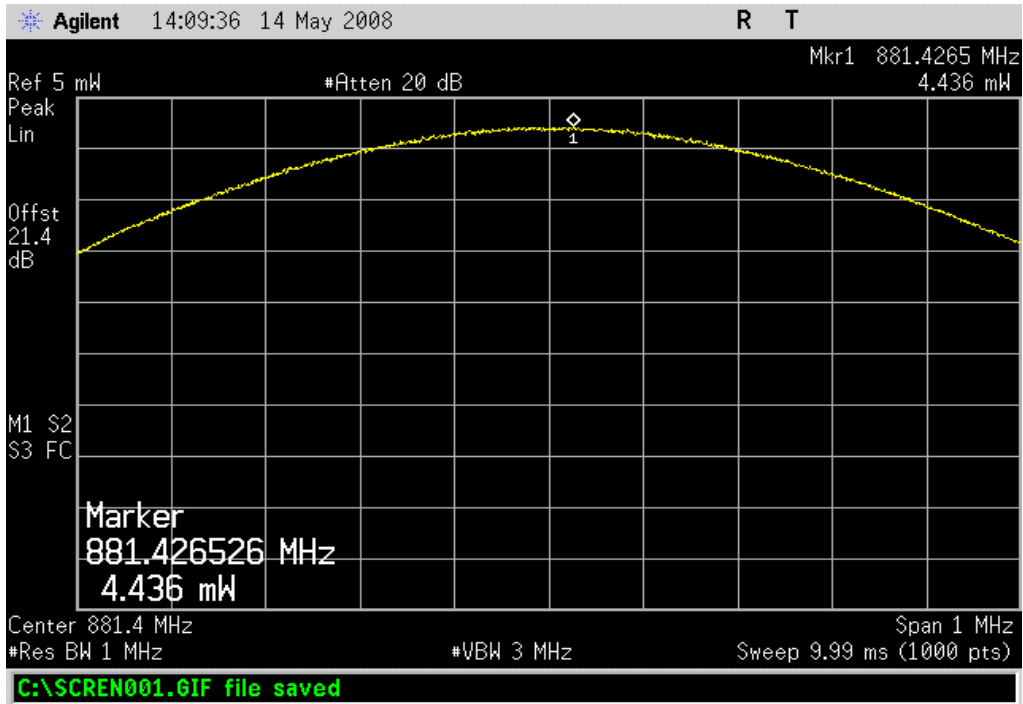
Value: 4.414 mW

Limit: 7 W



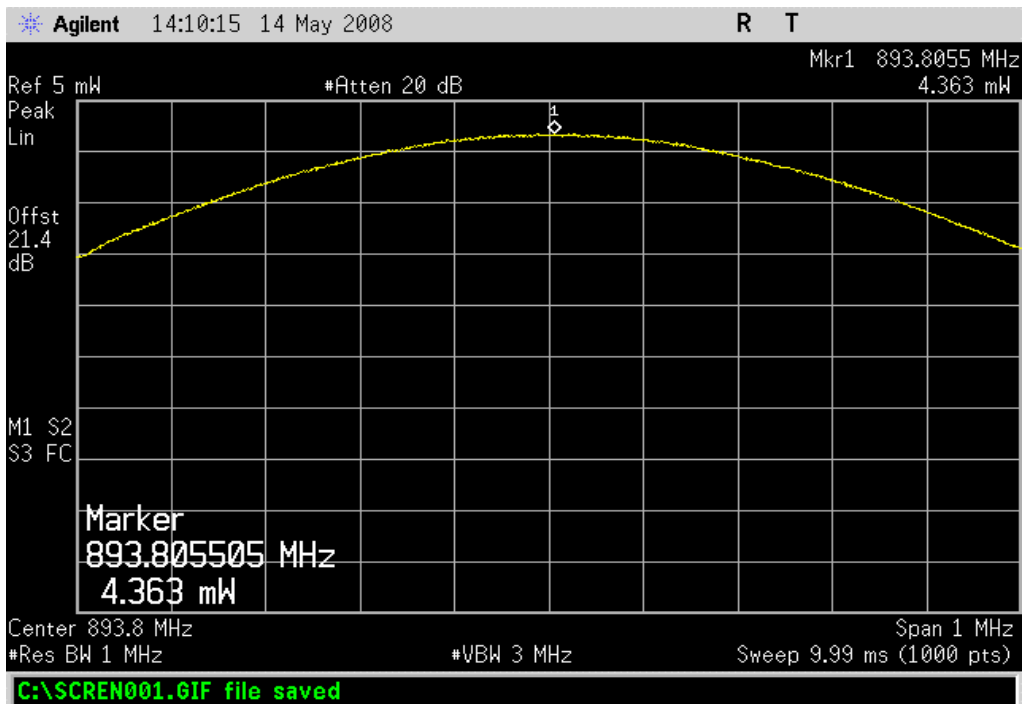
GPRS modulation, Low power, Atten = 6, Mid channel, 881.4MHz

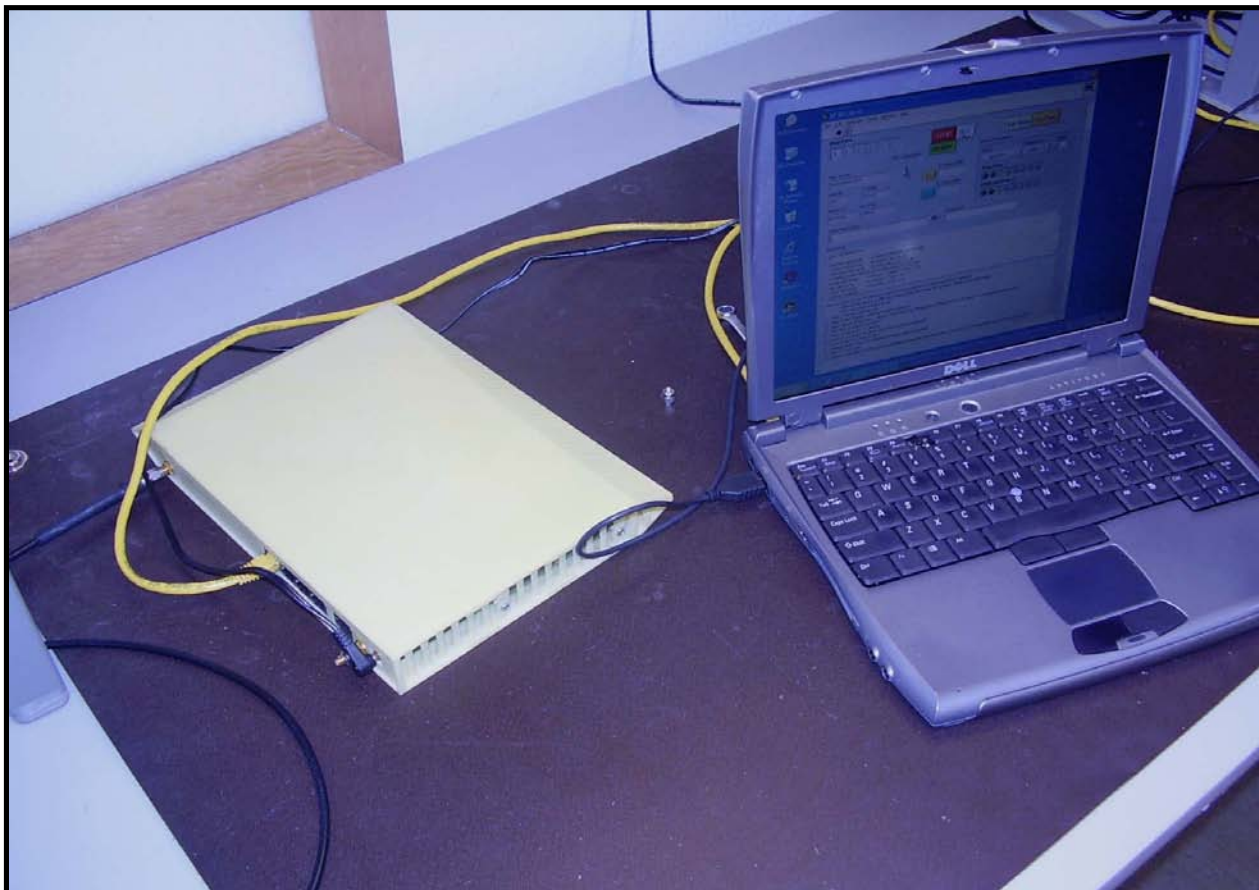
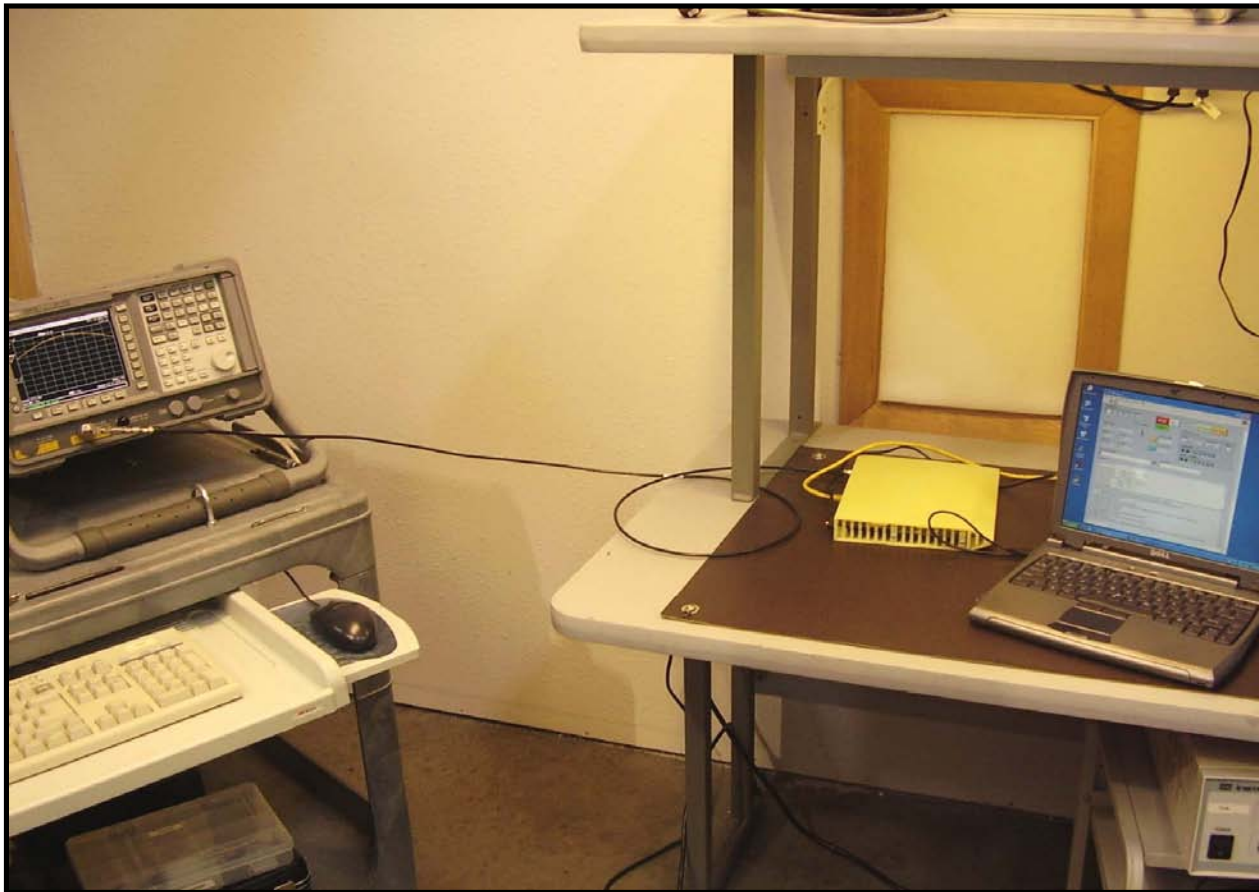
Result: Pass **Value:** 4.436 mW **Limit:** 7 W



GPRS modulation, Low power, Atten = 6, High channel, 893.8MHz

Result: Pass **Value:** 4.363 mW **Limit:** 7 W





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

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Attenuator 20 dB, SMA M/F 26GHz	S.M. Electronics	SA26B-20	AUY	6/8/2007	13
Spectrum Analyzer	Agilent	E4407B	AAU	12/7/2007	13

MEASUREMENT UNCERTAINTY

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

TEST DESCRIPTION

The peak output power was measured with the EUT set to the parameters called out in the data sheets. The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. Prior to making the measurements the setup including cables and attenuator was calibrated with a signal generator and a power meter.

EMC

Output Power

EUT:	OmniCell@Home	Work Order:	RAFNO085
Serial Number:	None	Date:	07/23/08
Customer:	Radioframe Networks, Inc.	Temperature:	23.39
Attendees:	None	Humidity:	34%
Project:	None	Barometric Pres.:	1023.5mb
Tested by:	Holly Ashkannejhad	Power:	120VAC/60Hz
		Job Site:	EV06

TEST SPECIFICATIONS		Test Method
FCC 24E:2007		ANSI/TIA/EIA-603-B-2002

COMMENTS
PCS band

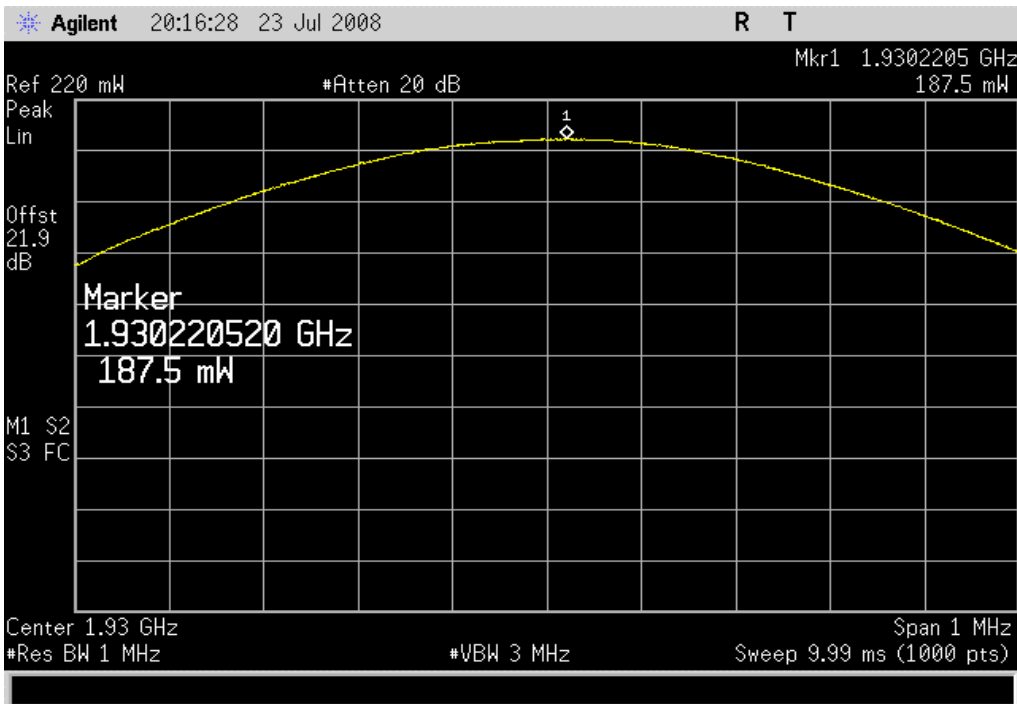
DEVIATIONS FROM TEST STANDARD
No deviations

Configuration #	2	Signature <i>Holly Ashkannejhad</i>
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		Value	Limit	Results
GSM modulation				
	High power, Atten = 0			
	Low channel, 1930.2MHz	187.5 mW	2 W	Pass
	Mid channel, 1960MHz	175.9 mW	2 W	Pass
	High channel, 1989.8MHz	181.6 mW	2 W	Pass
	Mid power, Atten = 3			
	Low channel, 1930.2MHz	28.75 mW	2 W	Pass
	Mid channel, 1960MHz	30.76 mW	2 W	Pass
	High channel, 1989.8MHz	28.16 mW	2 W	Pass
	Low power, Atten = 6			
	Low channel, 1930.2MHz	6.691 mW	2 W	Pass
	Mid channel, 1960MHz	7.823 mW	2 W	Pass
	High channel, 1989.8MHz	7.315 mW	2 W	Pass
GPRS modulation				
	High power, Atten = 0			
	Low channel, 1930.2MHz	176.3 mW	2 W	Pass
	Mid channel, 1960MHz	171.2 mW	2 W	Pass
	High channel, 1989.8MHz	174.1 mW	2 W	Pass
	Mid power, Atten = 3			
	Low channel, 1930.2MHz	27.94 mW	2 W	Pass
	Mid channel, 1960MHz	31.77 mW	2 W	Pass
	High channel, 1989.8MHz	28.29 mW	2 W	Pass
	Low power, Atten = 6			
	Low channel, 1930.2MHz	6.624 mW	2 W	Pass
	Mid channel, 1960MHz	7.741 mW	2 W	Pass
	High channel, 1989.8MHz	7.076 mW	2 W	Pass

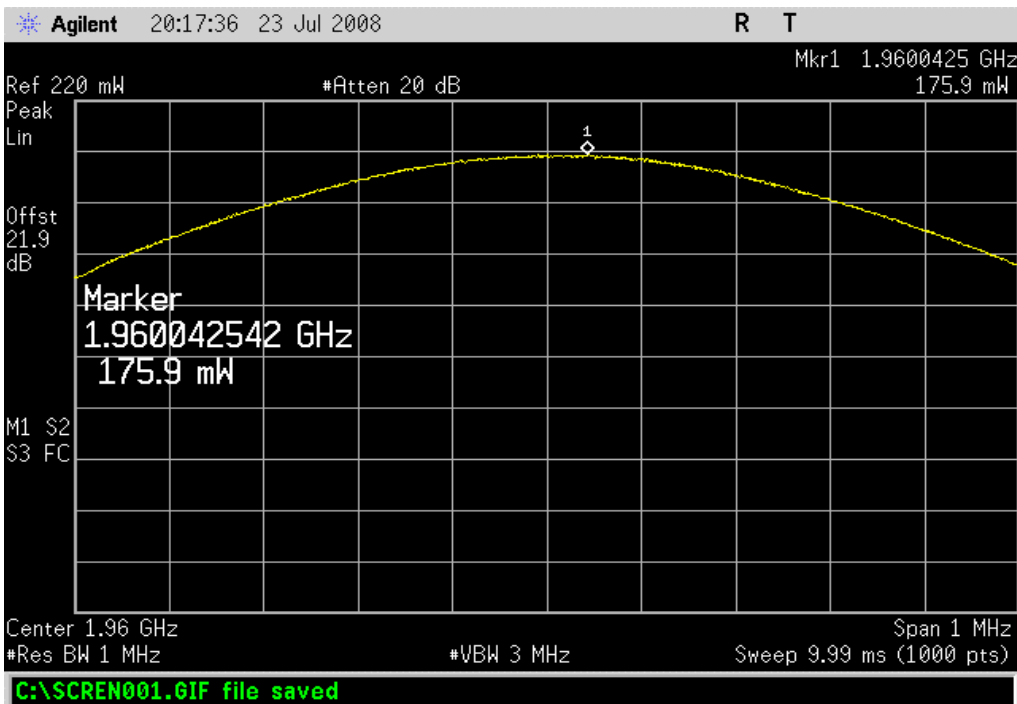
GSM modulation, High power, Atten = 0, Low channel, 1930.2MHz

Result: Pass **Value:** 187.5 mW **Limit:** 2 W



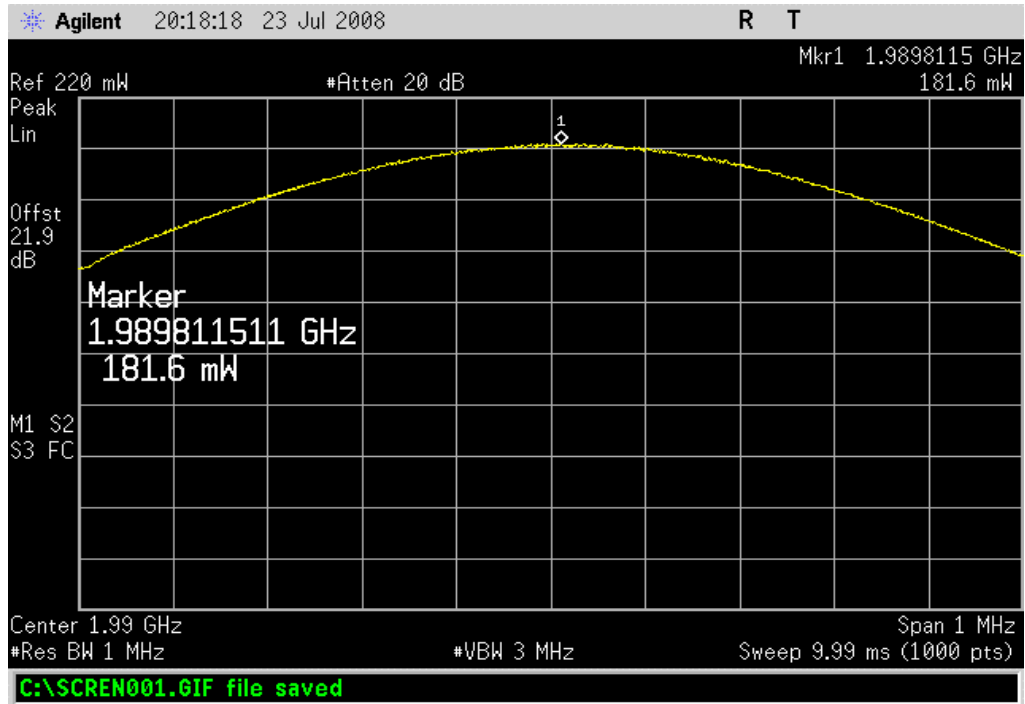
GSM modulation, High power, Atten = 0, Mid channel, 1960MHz

Result: Pass **Value:** 175.9 mW **Limit:** 2 W



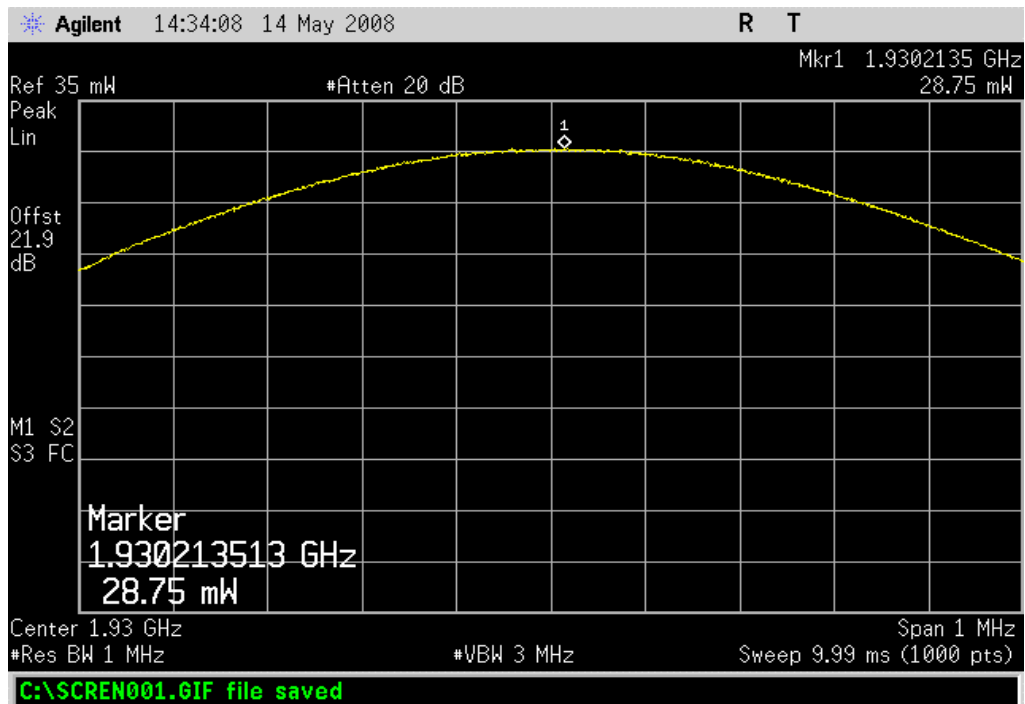
GSM modulation, High power, Atten = 0, High channel, 1989.8MHz

Result: Pass **Value:** 181.6 mW **Limit:** 2 W



GSM modulation, Mid power, Atten = 3, Low channel, 1930.2MHz

Result: Pass **Value:** 28.75 mW **Limit:** 2 W

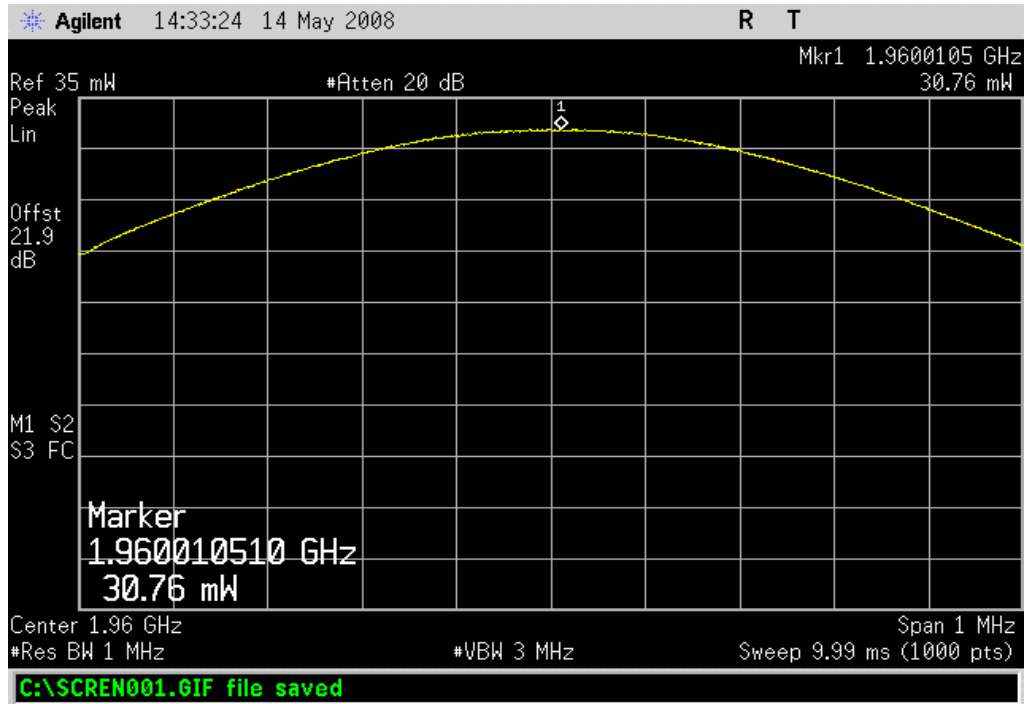


GSM modulation, Mid power, Atten = 3, Mid channel, 1960MHz

Result: Pass

Value: 30.76 mW

Limit: 2 W

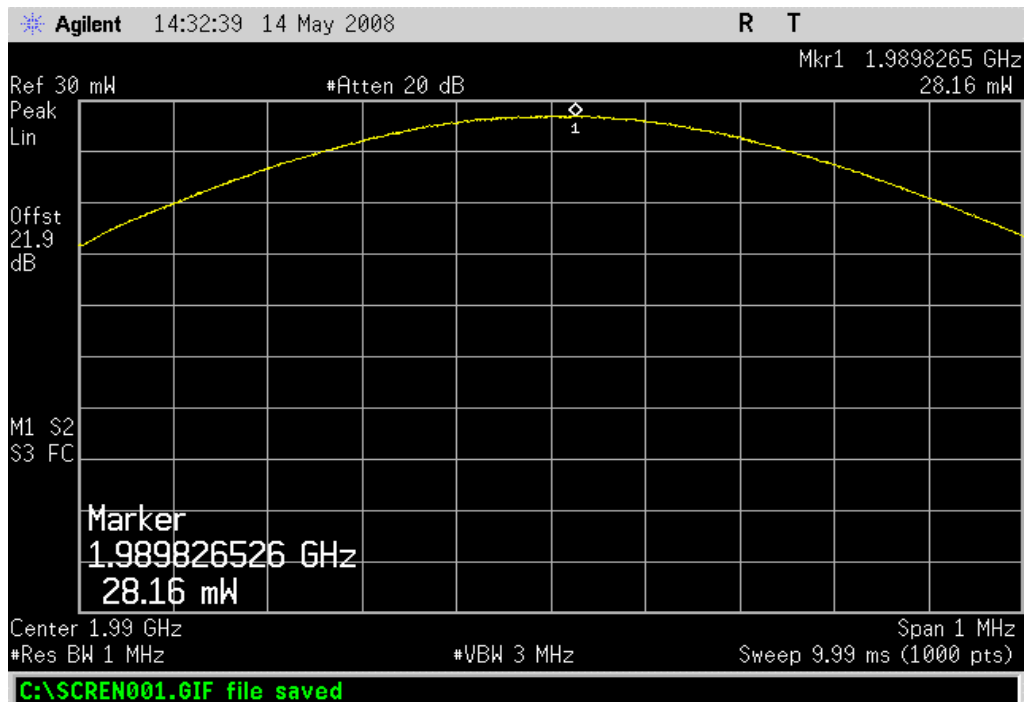


GSM modulation, Mid power, Atten = 3, High channel, 1989.8MHz

Result: Pass

Value: 28.16 mW

Limit: 2 W

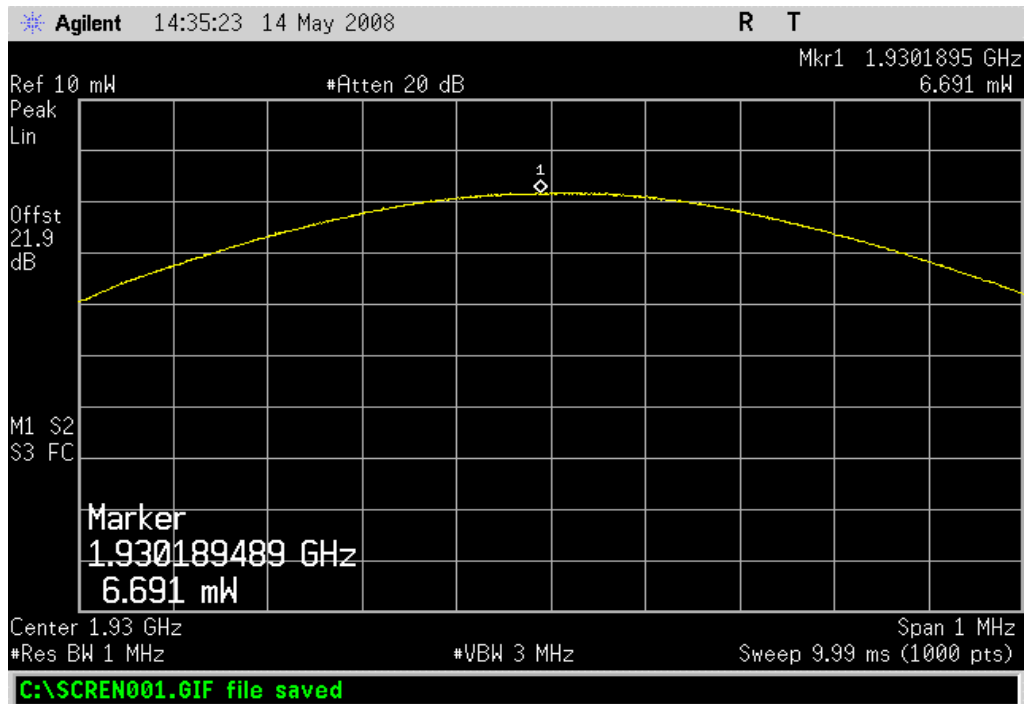


GSM modulation, Low power, Atten = 6, Low channel, 1930.2MHz

Result: Pass

Value: 6.691 mW

Limit: 2 W

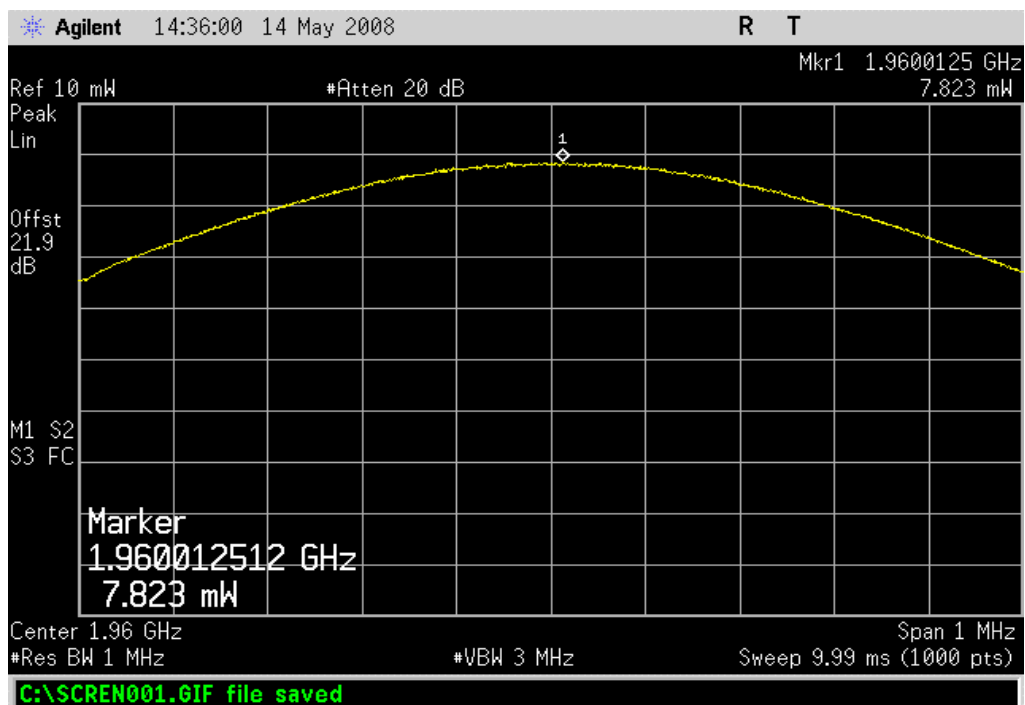


GSM modulation, Low power, Atten = 6, Mid channel, 1960MHz

Result: Pass

Value: 7.823 mW

Limit: 2 W

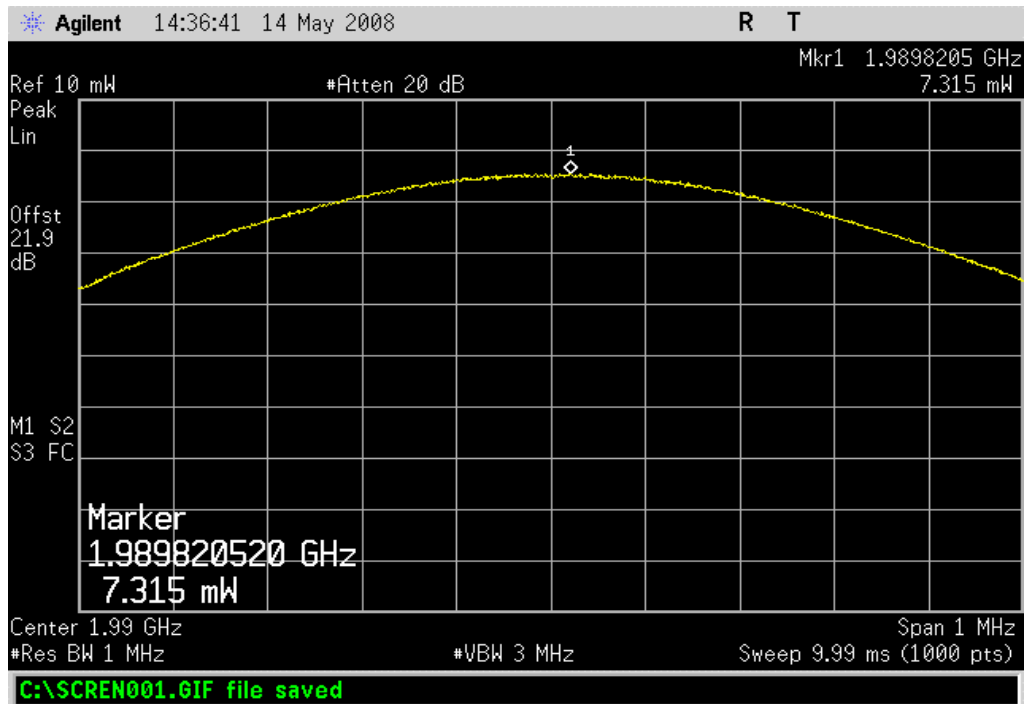


GSM modulation, Low power, Atten = 6, High channel, 1989.8MHz

Result: Pass

Value: 7.315 mW

Limit: 2 W

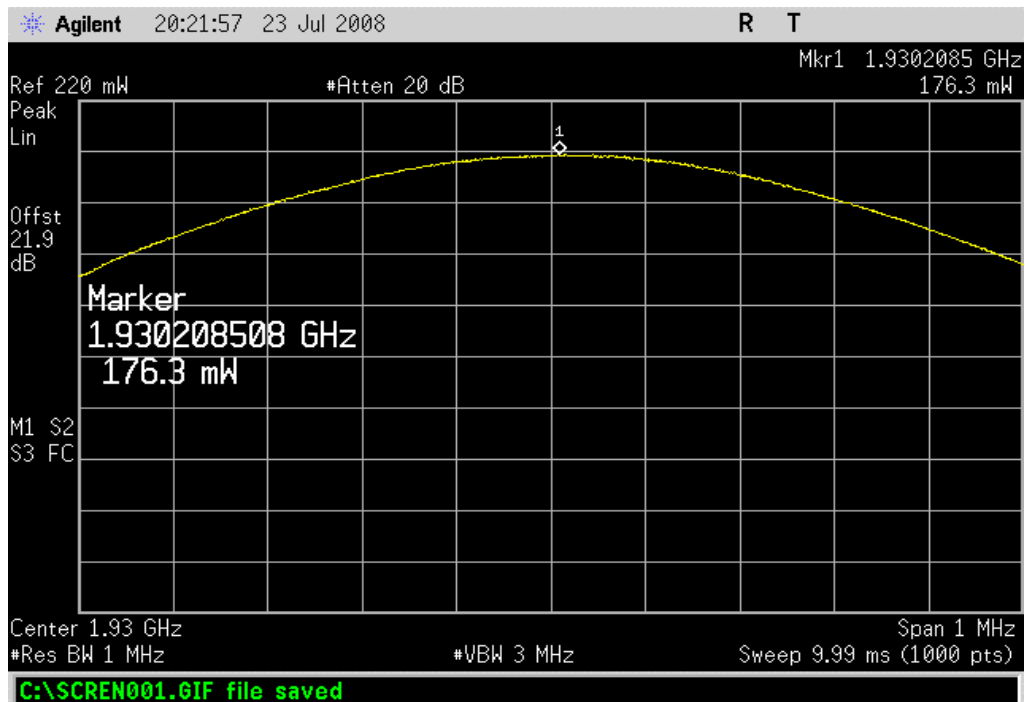


GPRS modulation, High power, Atten = 0, Low channel, 1930.2MHz

Result: Pass

Value: 176.3 mW

Limit: 2 W

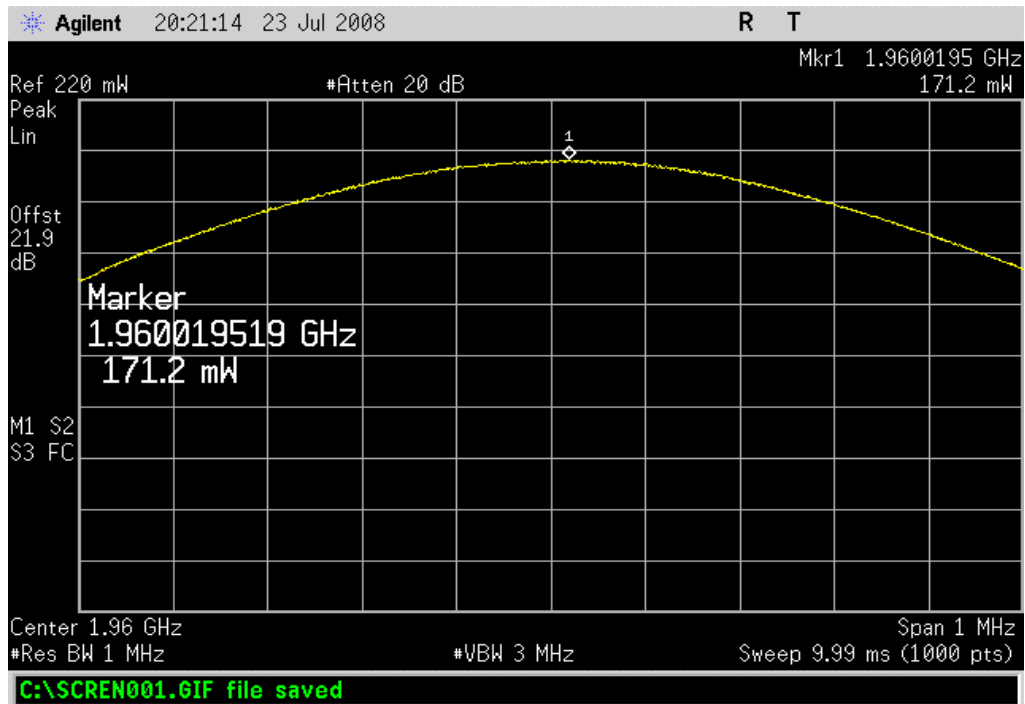


GPRS modulation, High power, Atten = 0, Mid channel, 1960MHz

Result: Pass

Value: 171.2 mW

Limit: 2 W

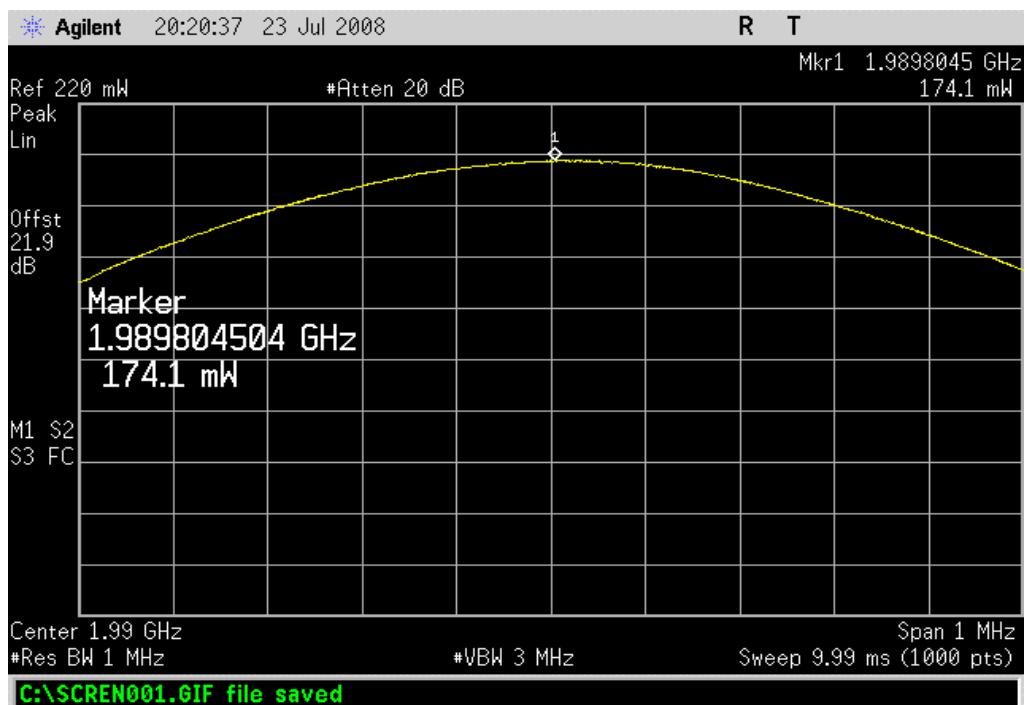


GPRS modulation, High power, Atten = 0, High channel, 1989.8MHz

Result: Pass

Value: 174.1 mW

Limit: 2 W

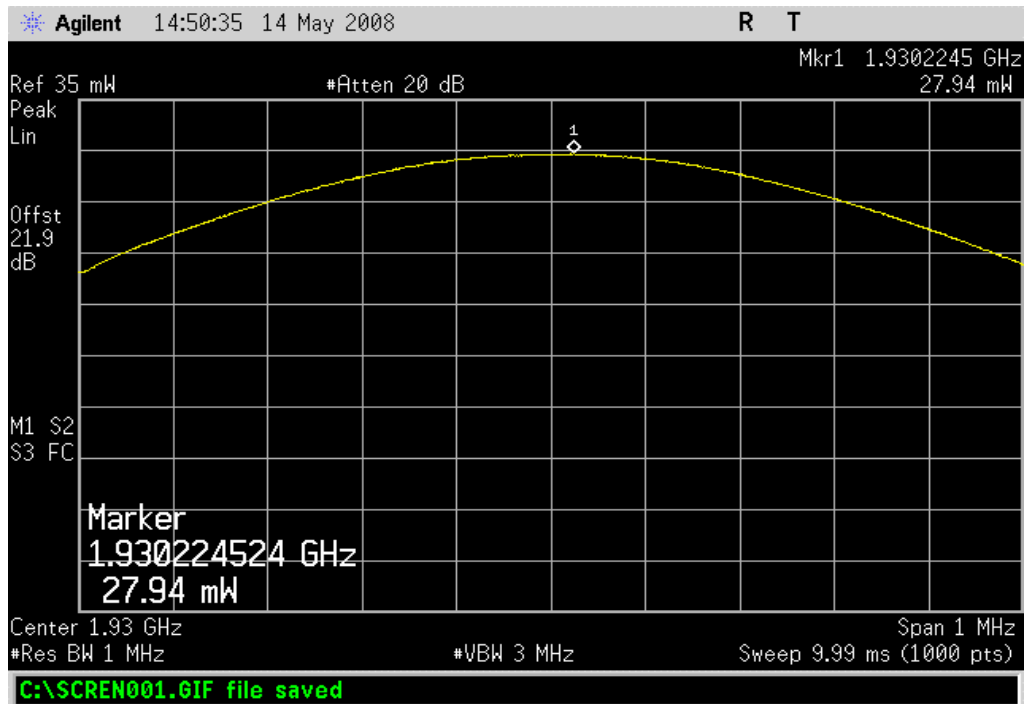


GPRS modulation, Mid power, Atten = 3, Low channel, 1930.2MHz

Result: Pass

Value: 27.94 mW

Limit: 2 W

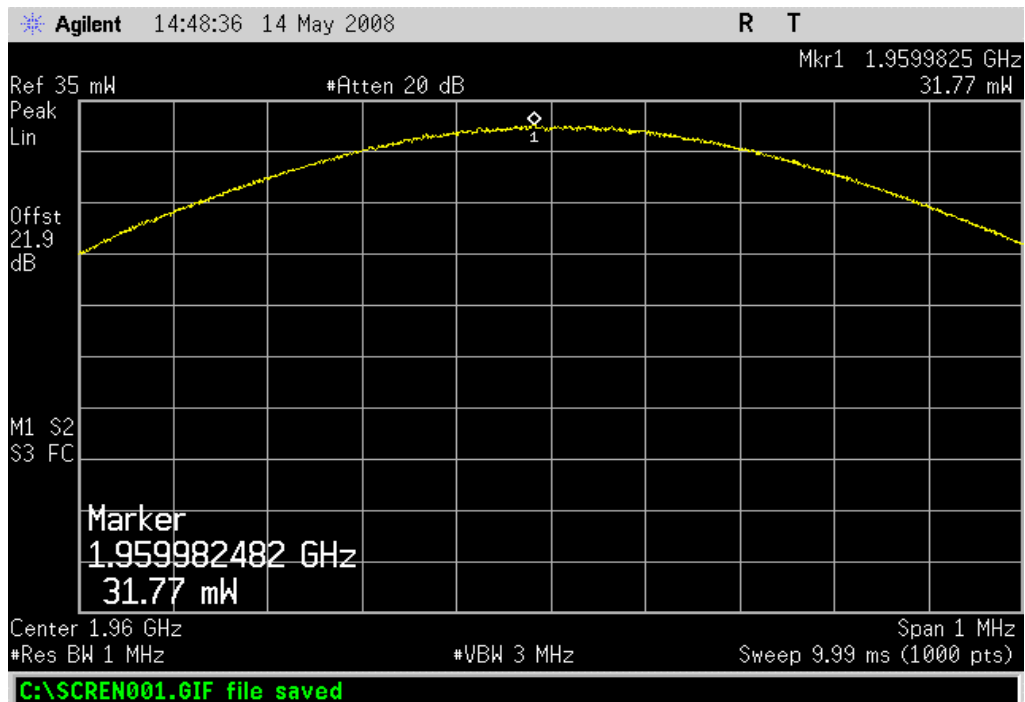


GPRS modulation, Mid power, Atten = 3, Mid channel, 1960MHz

Result: Pass

Value: 31.77 mW

Limit: 2 W

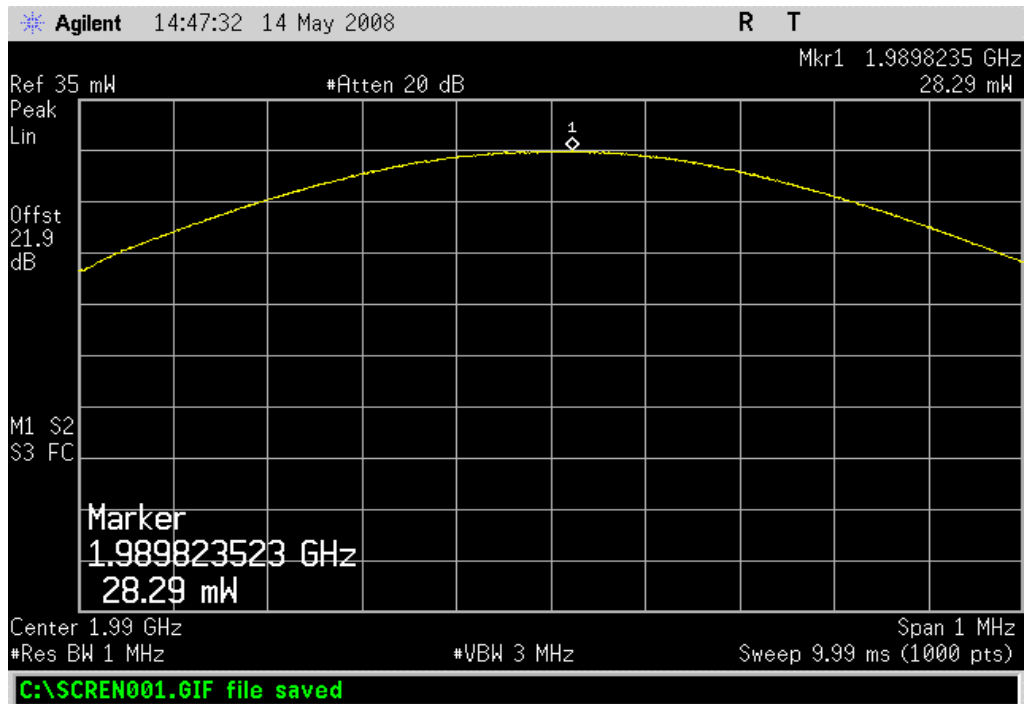


GPRS modulation, Mid power, Atten = 3, High channel, 1989.8MHz

Result: Pass

Value: 28.29 mW

Limit: 2 W

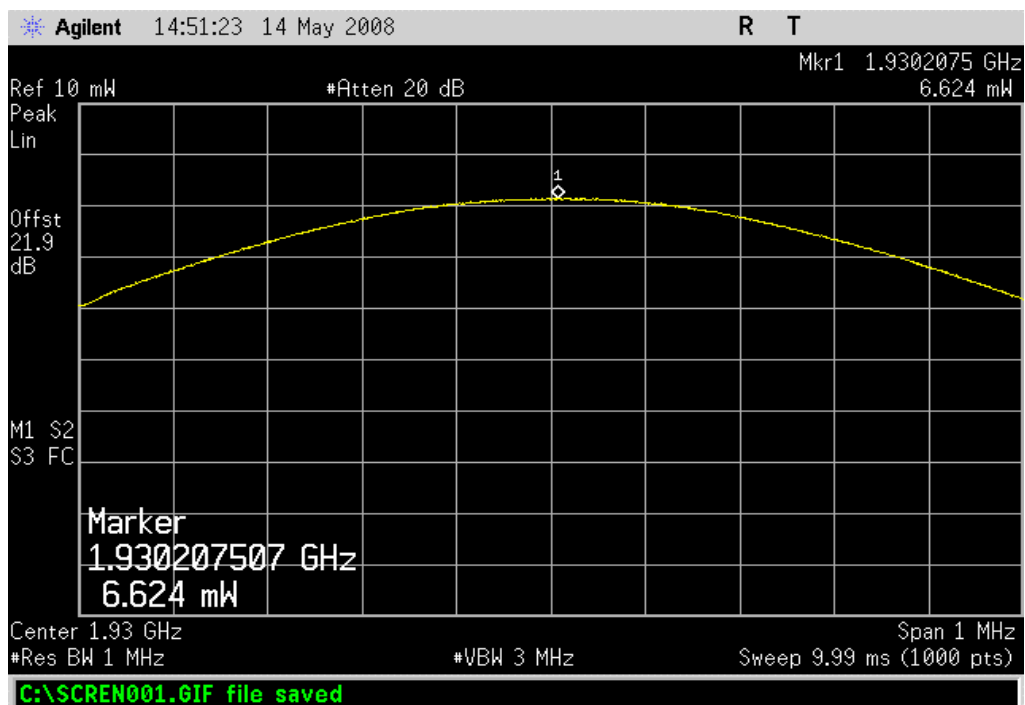


GPRS modulation, Low power, Atten = 6, Low channel, 1930.2MHz

Result: Pass

Value: 6.624 mW

Limit: 2 W

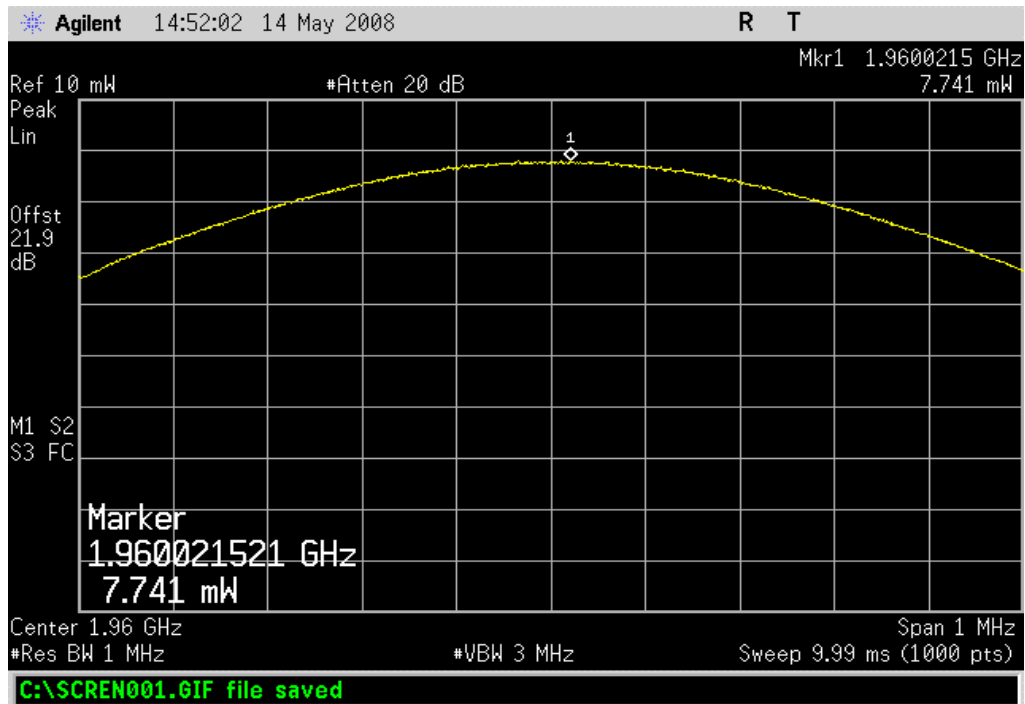


GPRS modulation, Low power, Atten = 6, Mid channel, 1960MHz

Result: Pass

Value: 7.741 mW

Limit: 2 W

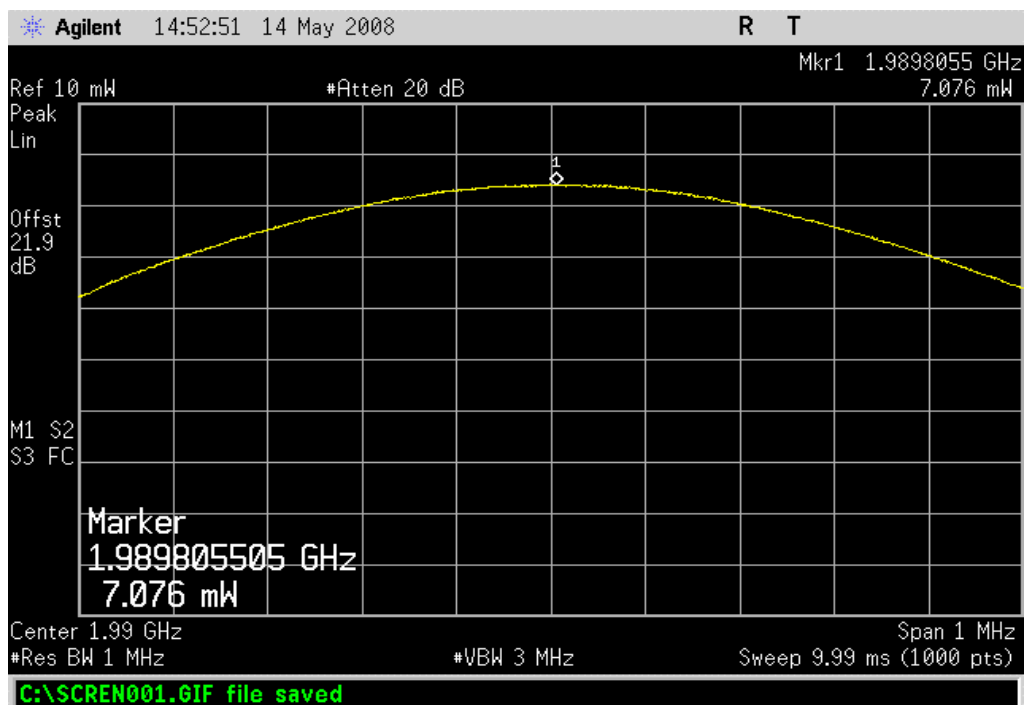


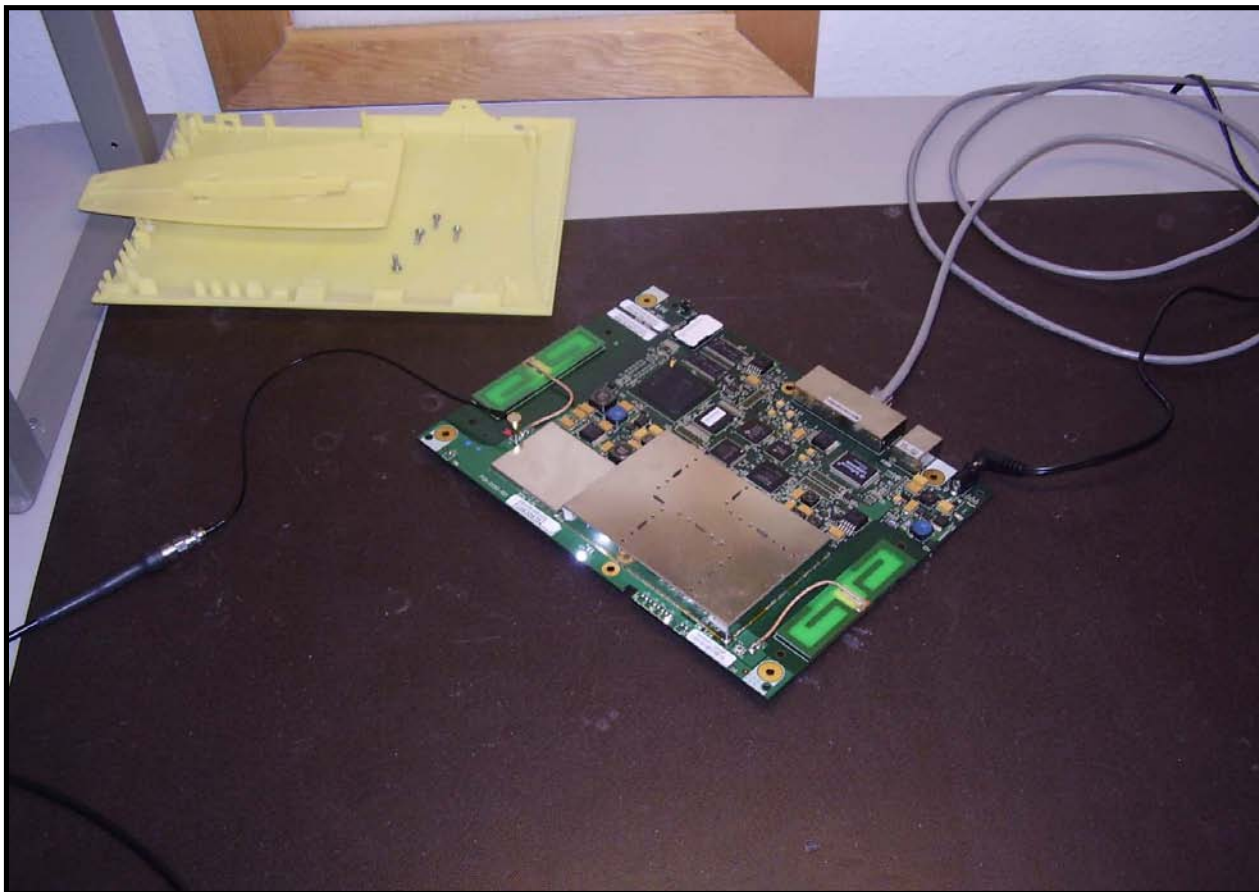
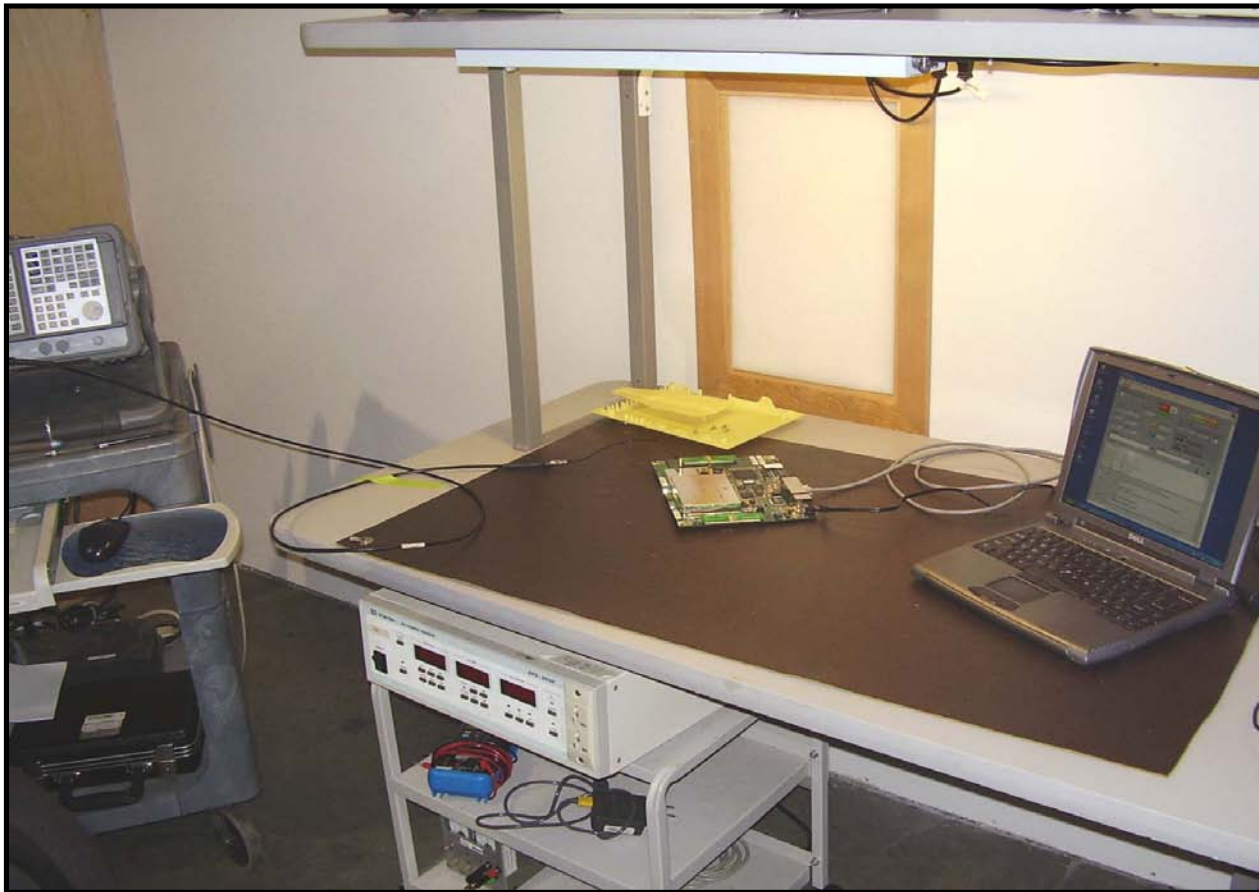
GPRS modulation, Low power, Atten = 6, High channel, 1989.8MHz

Result: Pass

Value: 7.076 mW

Limit: 2 W





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

Transmitting, GSM, Cell band, high power, low channel
Transmitting, GSM, Cell band, high power, mid channel
Transmitting, GSM, Cell band, high power, high channel
Transmitting, GPRS, Cell band, high power, low channel
Transmitting, GPRS, Cell band, high power, mid channel
Transmitting, GPRS, Cell band, high power, high channel

POWER SETTINGS INVESTIGATED

120VAC/60Hz

FREQUENCY RANGE INVESTIGATED

Start Frequency	30 MHz	Stop Frequency	10 GHz
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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	AAT	12/7/2007	13
Pre-Amplifier	Miteq	AM-1616-1000	AOL	12/29/2006	19
Antenna, Biconilog	EMCO	3141	AXE	1/15/2008	24
EV01 Cables		Bilog Cables	EVA	10/23/2007	13
Pre-Amplifier	Miteq	AMF-4D-010100-24-10P	APW	1/3/2008	13
Antenna, Horn	EMCO	3115	AHC	8/24/2006	24
EV01 Cables		Double Ridge Horn Cables	EVB	1/3/2008	13
High Pass Filter 1.2 - 18 GHz	Micro-Tronics	HPM50108	HFV	12/29/2006	18
Antenna, Horn	EMCO	3115	AHJ	5/24/2007	24
Power Meter	Gigatronics	8651A	SPM	12/7/2007	13
Power Sensor	Gigatronics	80701A	SPL	12/7/2007	13
Signal Generator	Agilent	E8257D	TGX	12/7/2007	13

MEASUREMENT BANDWIDTHS

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

Measurements were made using the bandwidths and detectors specified. No video filter was used.

MEASUREMENT UNCERTAINTY

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

TEST DESCRIPTION

The highest gain antenna to be used with the EUT was tested for final measurements. The EUT was configured for the lowest, a middle, and the highest transmit frequency in each operational band. For each configuration, the spectrum was scanned throughout the specified range. While scanning, emissions from the EUT were maximized by rotating the EUT on a turntable, adjusting the position of the EUT and EUT antenna in three orthogonal axis, and adjusting the measurement antenna height and polarization (per ANSI C63.4:2003). A preamp and high pass filter (and notch filter) were used for this test in order to provide sufficient measurement sensitivity.

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 placed 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 for emissions below 1 GHz, and a horn antenna for emissions above 1 GHz. 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 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.

EUT: OmniCell@Home	Work Order: RAFN0085
Serial Number: None	Date: 05/14/08
Customer: Radioframe Networks, Inc.	Temperature: 21
Attendees: None	Humidity: 29%
Project: None	Barometric Pres.: 30.05
Tested by: Rod Peloquin	Power: 120VAC/60Hz
	Job Site: EV01

TEST SPECIFICATIONS	
FCC 22H:2007	Test Method ANSI/TIA/EIA-603-B-2002

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

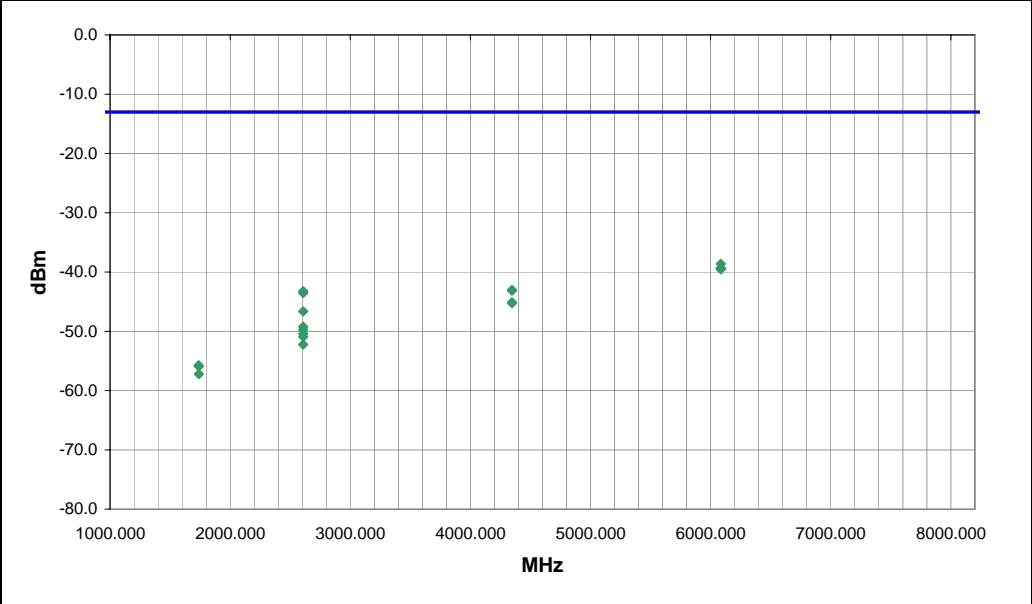
COMMENTS
Antenna ports terminated

EUT OPERATING MODES
Transmitting, Cell band, high power, low channel

DEVIATIONS FROM TEST STANDARD
No deviations.

Run #	10
Configuration #	1
Results	Pass

Rod Peloquin
Signature



Freq (MHz)	Azimuth (degrees)	Height (meters)	Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
6084.506	344.0	1.0	H-Horn	PK	1.37E-07	-38.6	-13.0	-25.6	GPRS - EUT on back side
6084.494	111.0	1.0	V-Horn	PK	1.17E-07	-39.3	-13.0	-26.3	GSM - EUT vertical
6084.291	346.0	1.0	H-Horn	PK	1.14E-07	-39.4	-13.0	-26.4	GSM - EUT on back side
6084.391	109.0	1.0	V-Horn	PK	1.11E-07	-39.5	-13.0	-26.5	GPRS - EUT vertical
4346.025	344.0	1.0	H-Horn	PK	4.98E-08	-43.0	-13.0	-30.0	GSM - EUT on back side
4346.070	10.0	1.0	H-Horn	PK	4.87E-08	-43.1	-13.0	-30.1	GPRS - EUT on back side
2607.618	319.0	1.3	H-Horn	PK	4.75E-08	-43.2	-13.0	-30.2	GSM - EUT on back side
2607.604	310.0	1.3	H-Horn	PK	4.44E-08	-43.5	-13.0	-30.5	GPRS - EUT on back side
4346.038	135.0	1.0	V-Horn	PK	3.07E-08	-45.1	-13.0	-32.1	GSM - EUT vertical
4346.152	134.0	1.0	V-Horn	PK	3.00E-08	-45.2	-13.0	-32.2	GPRS - EUT vertical
2607.504	138.0	1.0	V-Horn	PK	2.17E-08	-46.6	-13.0	-33.6	GSM - EUT vertical
2607.514	68.0	1.1	V-Horn	PK	1.19E-08	-49.2	-13.0	-36.2	GPRS - EUT vertical
2607.558	116.0	1.0	V-Horn	PK	1.06E-08	-49.7	-13.0	-36.7	GSM - EUT horizontal
2607.566	344.0	1.6	H-Horn	PK	9.06E-09	-50.4	-13.0	-37.4	GSM - EUT horizontal
2607.504	171.0	1.5	H-Horn	PK	8.07E-09	-50.9	-13.0	-37.9	GSM - EUT vertical
2607.774	64.0	1.7	V-Horn	PK	5.99E-09	-52.2	-13.0	-39.2	GSM - EUT on back side
1738.108	244.0	1.0	H-Horn	PK	2.67E-09	-55.7	-13.0	-42.7	GSM - EUT on back side
1739.114	112.0	1.0	V-Horn	PK	2.55E-09	-55.9	-13.0	-42.9	GPRS - EUT vertical
1738.918	118.0	1.0	V-Horn	PK	1.89E-09	-57.2	-13.0	-44.2	GSM - EUT vertical

EMC

OUT OF BAND EMISSIONS

EUT: OmniCell@Home	Work Order: RAFN0085
Serial Number: None	Date: 05/14/08
Customer: Radioframe Networks, Inc.	Temperature: 21
Attendees: None	Humidity: 29%
Project: None	Barometric Pres.: 30.05
Tested by: Rod Peloquin	Power: 120VAC/60Hz
	Job Site: EV01

TEST SPECIFICATIONS	
FCC 22H:2007	Test Method ANSI/TIA/EIA-603-B-2002

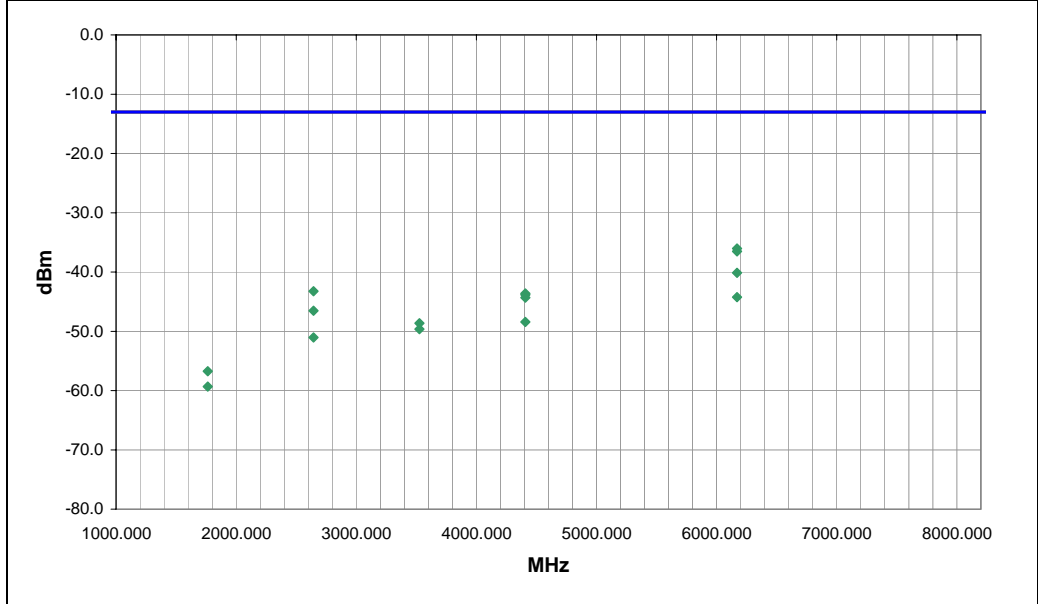
TEST PARAMETERS			
Antenna Height(s) (m)	1 - 4	Test Distance (m)	3

COMMENTS
Antenna ports terminated

EUT OPERATING MODES
Transmitting, Cell band, high power, mid channel

DEVIATIONS FROM TEST STANDARD
No deviations.

Run #	11	 Signature
Configuration #	1	
Results	Pass	



Freq (MHz)	Azimuth (degrees)	Height (meters)	Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
6169.792	331.0	1.0	H-Horn	PK	2.50E-07	-36.0	-13.0	-23.0	GSM - EUT on back side
6169.785	331.0	1.0	H-Horn	PK	2.22E-07	-36.5	-13.0	-23.5	GPRS - EUT on back side
6169.810	158.0	1.0	V-Horn	PK	9.71E-08	-40.1	-13.0	-27.1	GSM - EUT vertical
2644.235	300.0	1.3	H-Horn	PK	4.75E-08	-43.2	-13.0	-30.2	GPRS - EUT on back side
4407.095	130.0	1.0	V-Horn	PK	4.34E-08	-43.6	-13.0	-30.6	GSM - EUT vertical
4406.928	354.0	1.0	H-Horn	PK	4.14E-08	-43.8	-13.0	-30.8	GPRS - EUT on back side
6169.795	108.0	1.0	V-Horn	PK	3.78E-08	-44.2	-13.0	-31.2	GPRS - EUT vertical
4407.072	352.0	1.0	H-Horn	PK	3.69E-08	-44.3	-13.0	-31.3	GSM - EUT on back side
2644.352	252.0	1.3	H-Horn	PK	2.22E-08	-46.5	-13.0	-33.5	GSM - EUT on back side
4407.005	132.0	1.0	V-Horn	PK	1.44E-08	-48.4	-13.0	-35.4	GPRS - EUT vertical
3525.835	342.0	1.3	H-Horn	PK	1.37E-08	-48.6	-13.0	-35.6	GSM - EUT on back side
3525.568	114.0	1.0	V-Horn	PK	1.09E-08	-49.6	-13.0	-36.6	GSM - EUT vertical
2644.128	155.0	1.2	V-Horn	PK	7.89E-09	-51.0	-13.0	-38.0	GSM - EUT vertical
1762.812	255.0	1.3	H-Horn	PK	2.12E-09	-56.7	-13.0	-43.7	GSM - EUT on back side
1762.800	109.0	1.1	V-Horn	PK	1.17E-09	-59.3	-13.0	-46.3	GSM - EUT vertical

OUT OF BAND EMISSIONS

EMC

EUT: OmniCell@Home	Work Order: RAFN0085
Serial Number: None	Date: 05/14/08
Customer: Radioframe Networks, Inc.	Temperature: 21
Attendees: Nha Tran	Humidity: 29%
Project: None	Barometric Pres.: 30.05
Tested by: Rod Peloquin	Power: 120VAC/60Hz
	Job Site: EV01

TEST SPECIFICATIONS	
FCC 22H:2007	Test Method ANSI/TIA/EIA-603-B-2002

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

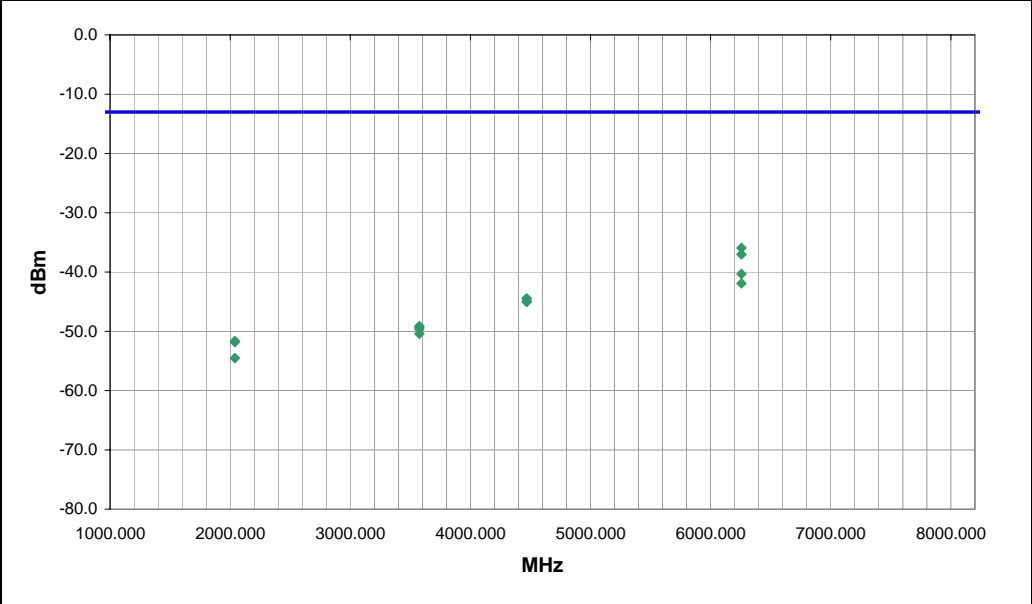
COMMENTS
Antenna ports terminated

EUT OPERATING MODES
Transmitting, Cell band, high power, high channel

DEVIATIONS FROM TEST STANDARD
No deviations.

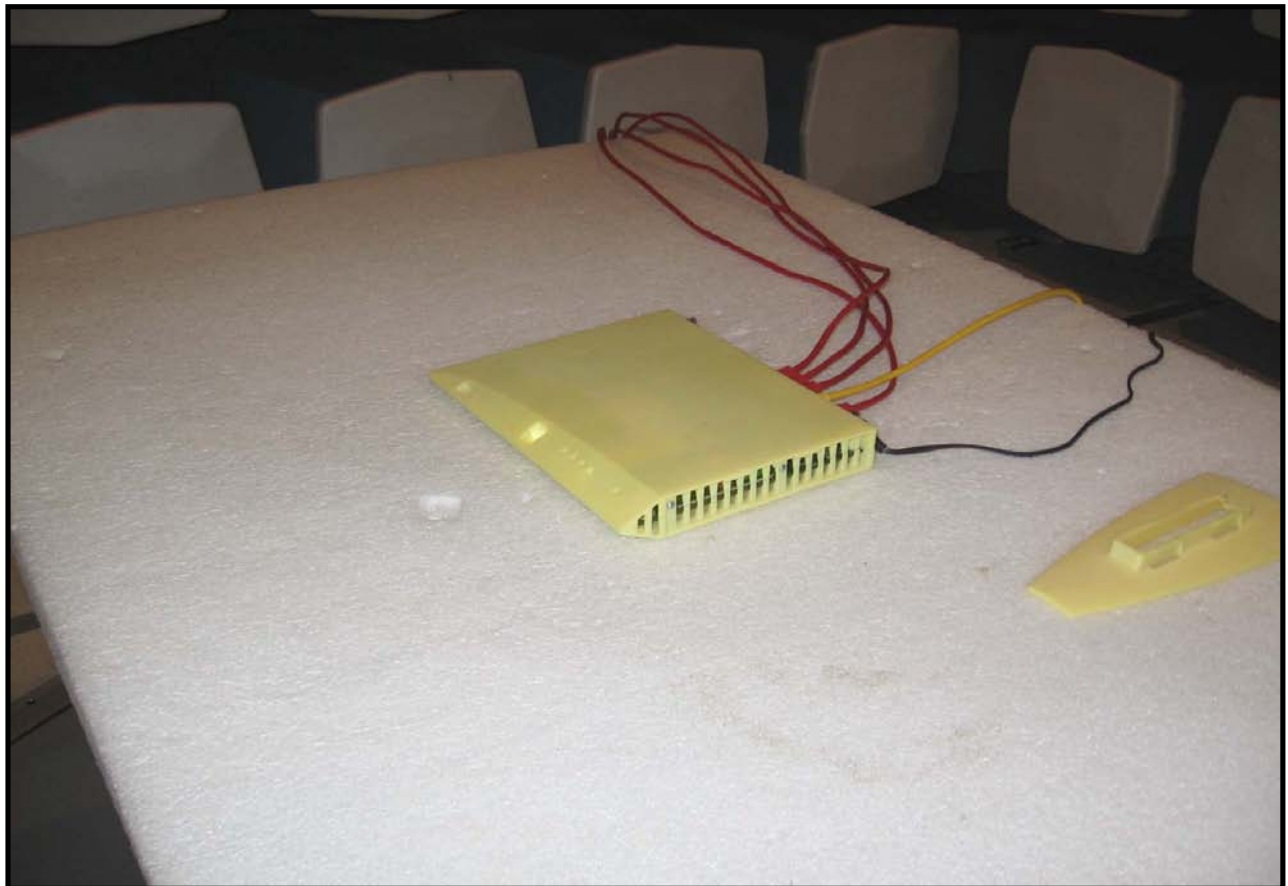
Run #	12
Configuration #	1
Results	Pass

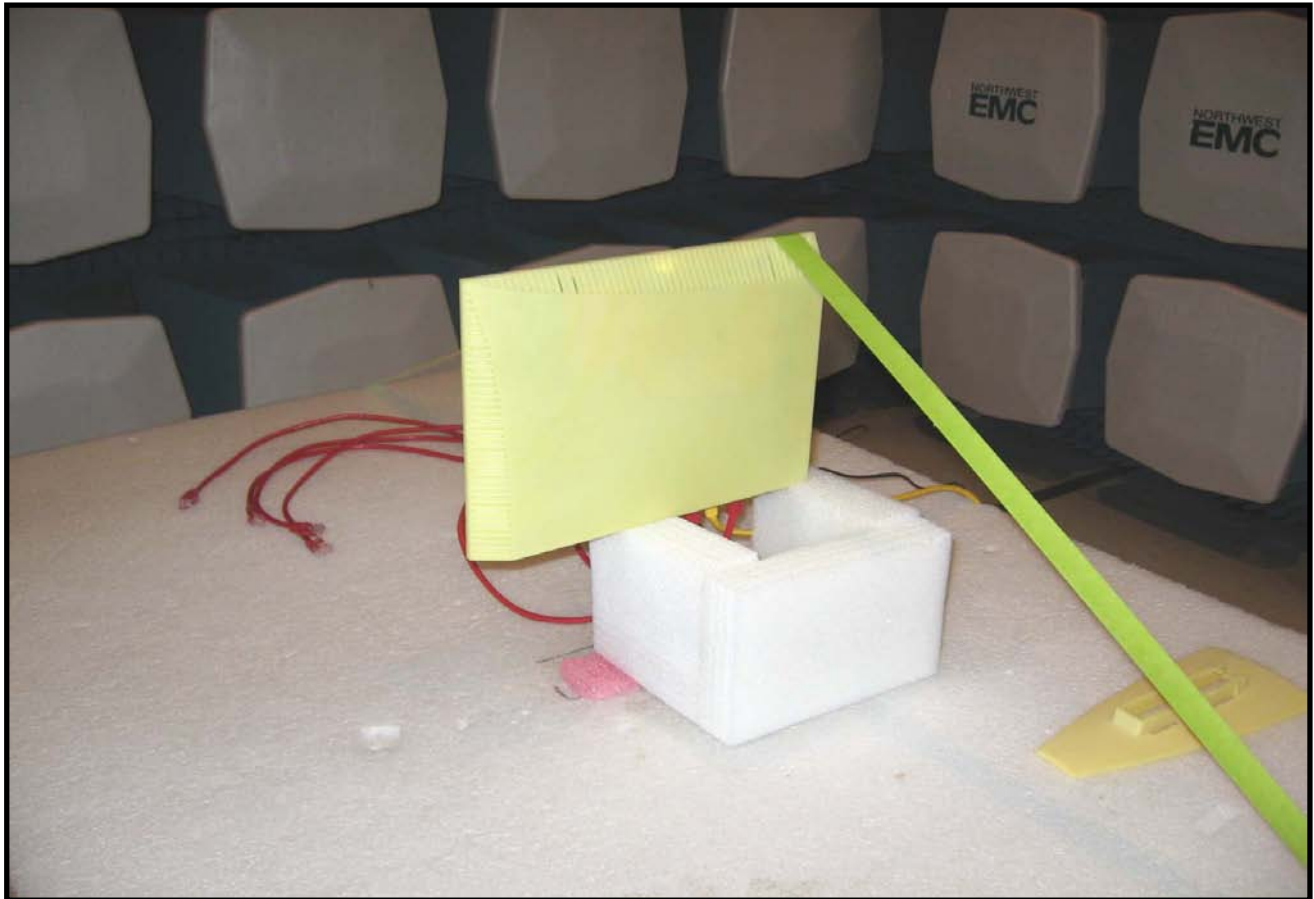
Rod Peloquin
Signature



Freq (MHz)	Azimuth (degrees)	Height (meters)	Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
6256.530	334.0	1.0	H-Horn	PK	2.55E-07	-35.9	-13.0	-22.9	GSM - EUT on back side
6256.532	333.0	1.0	H-Horn	PK	1.98E-07	-37.0	-13.0	-24.0	GPRS - EUT on back side
6256.652	163.0	1.0	V-Horn	PK	9.27E-08	-40.3	-13.0	-27.3	GSM - EUT vertical
6256.542	61.0	1.2	V-Horn	PK	6.41E-08	-41.9	-13.0	-28.9	GPRS - EUT on back side
4468.932	66.0	1.1	V-Horn	PK	3.61E-08	-44.4	-13.0	-31.4	GPRS - EUT on back side
4469.005	353.0	1.3	H-Horn	PK	3.52E-08	-44.5	-13.0	-31.5	GPRS - EUT on back side
4468.798	131.0	1.1	V-Horn	PK	3.14E-08	-45.0	-13.0	-32.0	GSM - EUT vertical
4469.010	345.0	1.3	H-Horn	PK	3.14E-08	-45.0	-13.0	-32.0	GSM - EUT on back side
3575.198	304.0	1.2	H-Horn	PK	1.22E-08	-49.1	-13.0	-36.1	GSM - EUT on back side
3575.235	315.0	1.2	H-Horn	PK	1.17E-08	-49.3	-13.0	-36.3	GPRS - EUT on back side
3575.198	113.0	1.1	V-Horn	PK	1.09E-08	-49.6	-13.0	-36.6	GSM - EUT vertical
3575.288	106.0	1.1	V-Horn	PK	9.06E-09	-50.4	-13.0	-37.4	GPRS - EUT on back side
2038.790	198.0	1.1	V-Horn	PK	6.87E-09	-51.6	-13.0	-38.6	GPRS - EUT on back side
2038.928	199.0	1.1	V-Horn	PK	6.56E-09	-51.8	-13.0	-38.8	GSM - EUT vertical
2038.804	-1.0	1.9	H-Horn	PK	3.52E-09	-54.5	-13.0	-41.5	GSM - EUT on back side







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

Transmitting GSM, PCS band, high power, low channel
Transmitting GSM, PCS band, high power, mid channel
Transmitting GSM, PCS band, high power, high channel
Transmitting GPRS, PCS band, high power, low channel
Transmitting GPRS, PCS band, high power, mid channel
Transmitting GPRS, PCS band, high power, high channel

POWER SETTINGS INVESTIGATED

120VAC/60Hz

FREQUENCY RANGE INVESTIGATED

Start Frequency	30 MHz	Stop Frequency	20 GHz
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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	AAT	12/7/2007	13
Pre-Amplifier	Miteq	AM-1616-1000	AOL	12/29/2006	19
Antenna, Biconilog	EMCO	3141	AXE	1/15/2008	24
EV01 Cables		Bilog Cables	EVA	10/23/2007	13
Pre-Amplifier	Miteq	AMF-4D-010100-24-10P	APW	1/3/2008	13
Antenna, Horn	EMCO	3115	AHC	8/24/2006	24
EV01 Cables		Double Ridge Horn Cables	EVB	1/3/2008	13
Pre-Amplifier	Miteq	AMF-6F-08001200-30-10P	AVC	6/22/2007	13
Antenna, Horn	ETS	3160-07	AHU	NCR	0
EV01 Cables		Standard Gain Horns Cables	EVF	10/23/2007	13
Pre-Amplifier	Miteq	AMF-6F-12001800-30-10P	AVD	6/22/2007	13
Antenna, Horn	ETS	3160-08	AHV	NCR	0
EV01 Cables		Standard Gain Horns Cables	EVF	10/23/2007	13
Pre-Amplifier	Miteq	JSD4-18002600-26-8P	APU	7/25/2007	13
Antenna, Horn	EMCO	3160-09	AHG	NCR	0
EV01 Cables		18-26GHz Standard Gain Horn Cable	EVD	7/25/2007	13
High Pass Filter	Micro-Tronics	HPM50111	HFO	1/16/2008	13
Antenna, Horn	EMCO	3115	AHJ	5/24/2007	24
Power Meter	Gigatronics	8651A	SPM	12/7/2007	13
Power Sensor	Gigatronics	80701A	SPL	12/7/2007	13
Signal Generator	Agilent	E8257D	TGX	12/7/2007	13

MEASUREMENT BANDWIDTHS

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

Measurements were made using the bandwidths and detectors specified. No video filter was used.

MEASUREMENT UNCERTAINTY

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

TEST DESCRIPTION

The highest gain antenna to be used with the EUT was tested for final measurements. The EUT was configured for the lowest, a middle, and the highest transmit frequency in each operational band. For each configuration, the spectrum was scanned throughout the specified range. While scanning, emissions from the EUT were maximized by rotating the EUT on a turntable, adjusting the position of the EUT and EUT antenna in three orthogonal axis, and adjusting the measurement antenna height and polarization (per ANSI C63.4:2003). A preamp and high pass filter (and notch filter) were used for this test in order to provide sufficient measurement sensitivity.

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 placed 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 for frequencies below 1 GHz, and a horn antenna for emissions above 1 GHz. 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 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.

OUT OF BAND EMISSIONS

EMC

EUT: OmniCell@Home	Work Order: RAFN0085
Serial Number: None	Date: 05/13/08
Customer: Radioframe Networks, Inc.	Temperature: 21
Attendees: Nha Tran	Humidity: 29%
Project: None	Barometric Pres.: 30.05
Tested by: Rod Peloquin	Power: 120VAC/60Hz
	Job Site: EV01

TEST SPECIFICATIONS	Test Method
FCC 24E:2007	ANSI/TIA/EIA-603-B-2002

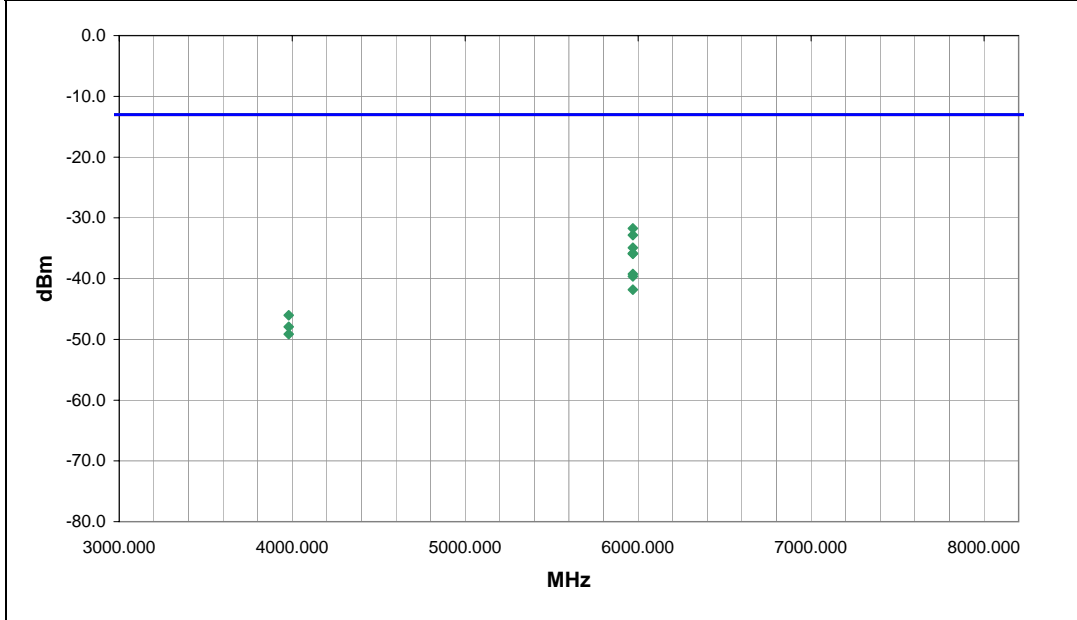
TEST PARAMETERS	
Antenna Height(s) (m) 1 - 4	Test Distance (m) 3

COMMENTS
Antenna ports terminated

EUT OPERATING MODES
Transmitting GSM, PCS band, high power, high channel

DEVIATIONS FROM TEST STANDARD
No deviations.

Run #	3	 Signature
Configuration #	1	
Results	Pass	



Freq (MHz)	Azimuth (degrees)	Height (meters)	Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
5969.375	344.0	1.2	H-Horn	PK	6.72E-07	-31.7	-13.0	-18.7	GSM - EUT on side
5969.365	328.0	1.1	H-Horn	PK	5.21E-07	-32.8	-13.0	-19.8	GPRS - EUT on side
5969.298	287.0	1.9	V-Horn	PK	3.21E-07	-34.9	-13.0	-21.9	GSM - EUT horizontal
5969.367	70.0	1.0	V-Horn	PK	2.61E-07	-35.8	-13.0	-22.8	GSM - EUT vertical
5969.355	276.0	1.4	V-Horn	PK	2.55E-07	-35.9	-13.0	-22.9	GPRS - EUT horizontal
5969.395	235.0	1.2	V-Horn	PK	1.19E-07	-39.2	-13.0	-26.2	GSM - EUT on side
5969.428	249.0	1.6	H-Horn	PK	1.09E-07	-39.6	-13.0	-26.6	GSM - EUT horizontal
5969.316	130.0	1.0	H-Horn	PK	6.56E-08	-41.8	-13.0	-28.8	GSM - EUT vertical
3979.533	288.0	1.2	H-Horn	PK	2.50E-08	-46.0	-13.0	-33.0	GSM - EUT on side
3979.507	324.0	1.4	H-Horn	PK	1.61E-08	-47.9	-13.0	-34.9	GPRS - EUT on side
3979.407	159.0	1.0	V-Horn	PK	1.22E-08	-49.1	-13.0	-36.1	GPRS - EUT horizontal

OUT OF BAND EMISSIONS

EMC

EUT: OmniCell@Home	Work Order: RAFN0085
Serial Number: None	Date: 05/13/08
Customer: Radioframe Networks, Inc.	Temperature: 21
Attendees: Nha Tran	Humidity: 29%
Project: None	Barometric Pres.: 30.05
Tested by: Rod Peloquin	Power: 120VAC/60Hz
	Job Site: EV01

TEST SPECIFICATIONS	Test Method
FCC 24E:2007	ANSI/TIA/EIA-603-B-2002

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

COMMENTS
Antenna ports terminated

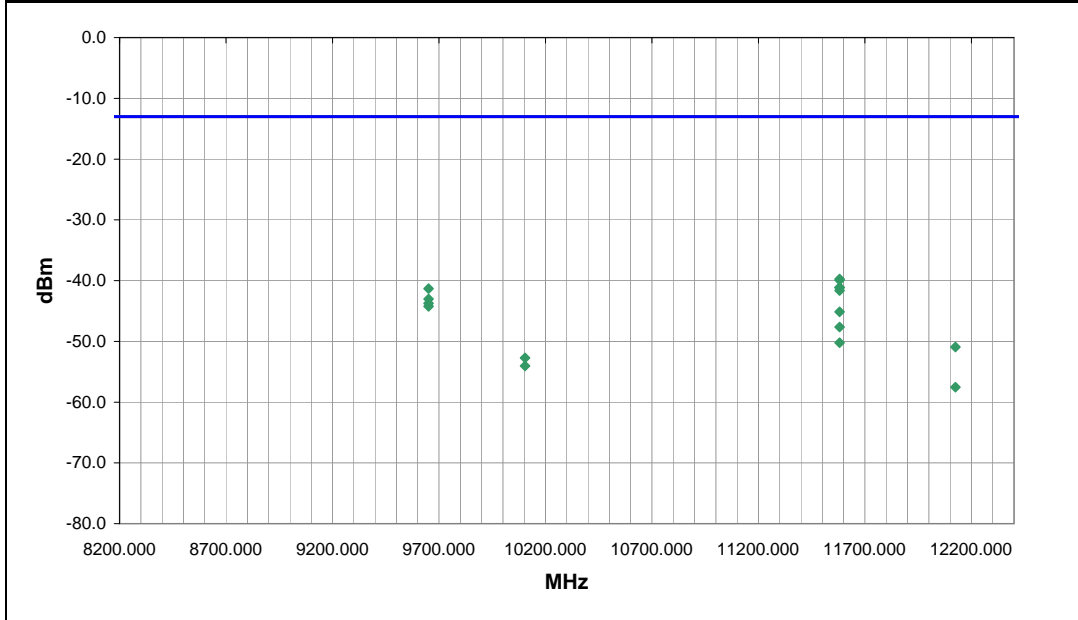
EUT OPERATING MODES
Transmitting, PCS band, high power, low channel

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	4
Configuration #	1
Results	Pass

Rod Peloquin
Signature



Freq (MHz)	Azimuth (degrees)	Height (meters)	Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
11581.290	278.0	1.0	H-Horn	PK	1.06E-07	-39.7	-13.0	-26.7	GSM - EUT on side
11581.180	110.0	1.0	V-Horn	PK	1.02E-07	-39.9	-13.0	-26.9	GSM - EUT vertical
11581.220	258.0	1.0	H-Horn	PK	7.71E-08	-41.1	-13.0	-28.1	GPRS - EUT on side
11581.300	87.0	1.1	V-Horn	PK	7.71E-08	-41.1	-13.0	-28.1	GPRS - EUT vertical
9651.122	345.0	1.0	H-Horn	PK	7.36E-08	-41.3	-13.0	-28.3	GSM - EUT on side
11581.180	300.0	1.0	V-Horn	PK	6.87E-08	-41.6	-13.0	-28.6	GSM - EUT horizontal
9650.962	339.0	1.0	H-Horn	PK	4.98E-08	-43.0	-13.0	-30.0	GPRS - EUT on side
9650.980	99.0	1.0	V-Horn	PK	4.24E-08	-43.7	-13.0	-30.7	GPRS - EUT vertical
9651.155	110.0	1.0	V-Horn	PK	3.78E-08	-44.2	-13.0	-31.2	GSM - EUT vertical
11581.240	179.0	1.0	H-Horn	PK	3.07E-08	-45.1	-13.0	-32.1	GSM - EUT vertical
11581.340	301.0	1.1	V-Horn	PK	1.73E-08	-47.6	-13.0	-34.6	GSM - EUT on side
11581.220	-1.0	1.1	H-Horn	PK	9.49E-09	-50.2	-13.0	-37.2	GSM - EUT horizontal
12124.750	168.0	1.0	H-Horn	PK	8.07E-09	-50.9	-13.0	-37.9	GSM - EUT on side
10104.120	360.0	1.0	H-Horn	PK	5.33E-09	-52.7	-13.0	-39.7	GSM - EUT on side
10103.950	61.0	1.0	V-Horn	PK	3.95E-09	-54.0	-13.0	-41.0	GSM - EUT vertical
12124.780	82.0	1.3	V-Horn	PK	1.77E-09	-57.5	-13.0	-44.5	GSM - EUT vertical

EUT:	OmniCell@Home	Work Order:	RAFN0085
Serial Number:	None	Date:	05/13/08
Customer:	Radioframe Networks, Inc.	Temperature:	21
Attendees:	Nha Tran	Humidity:	29%
Project:	None	Barometric Pres.:	30.05
Tested by:	Rod Peloquin	Power:	120VAC/60Hz
		Job Site:	EV01

TEST SPECIFICATIONS		Test Method	
FCC 24E:2007		ANSI/TIA/EIA-603-B-2002	

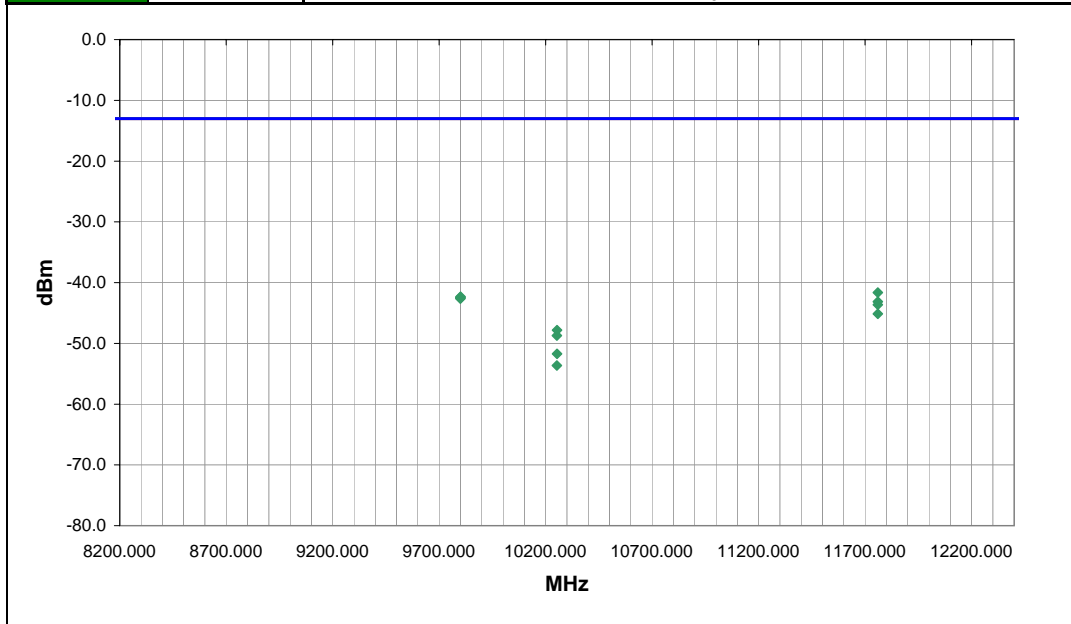
TEST PARAMETERS			
Antenna Height(s) (m)	1 - 4	Test Distance (m)	3

COMMENTS
Antenna ports terminated

EUT OPERATING MODES
Transmitting GSM_PCS band, high power, mid channel

DEVIATIONS FROM TEST STANDARD
No deviations.

Run #	5	 Signature
Configuration #	1	
Results	Pass	



Freq (MHz)	Azimuth (degrees)	Height (meters)	Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
11760.050	102.0	1.0	V-Horn	PK	6.87E-08	-41.6	-13.0	-28.6	GSM - EUT vertical
9800.041	99.0	1.0	V-Horn	PK	5.85E-08	-42.3	-13.0	-29.3	GPRS - EUT vertical
9799.934	268.0	1.0	H-Horn	PK	5.72E-08	-42.4	-13.0	-29.4	GPRS - EUT on side
9799.961	100.0	1.0	V-Horn	PK	5.59E-08	-42.5	-13.0	-29.5	GSM - EUT vertical
9799.920	270.0	1.0	H-Horn	PK	5.46E-08	-42.6	-13.0	-29.6	GSM - EUT on side
11759.920	259.0	1.0	H-Horn	PK	4.87E-08	-43.1	-13.0	-30.1	GSM - EUT on side
11760.010	259.0	1.0	H-Horn	PK	4.34E-08	-43.6	-13.0	-30.6	GPRS - EUT on side
11759.950	100.0	1.0	V-Horn	PK	3.07E-08	-45.1	-13.0	-32.1	GPRS - EUT vertical
10253.050	312.0	1.0	H-Horn	PK	1.65E-08	-47.8	-13.0	-34.8	GSM - EUT on side
10252.870	314.0	1.0	H-Horn	PK	1.34E-08	-48.7	-13.0	-35.7	GPRS - EUT on side
10253.170	60.0	1.1	V-Horn	PK	6.72E-09	-51.7	-13.0	-38.7	GSM - EUT vertical
10252.670	50.0	1.1	V-Horn	PK	4.34E-09	-53.6	-13.0	-40.6	GPRS - EUT vertical

EUT:	OmniCell@Home	Work Order:	RAFN0085
Serial Number:	None	Date:	05/13/08
Customer:	Radioframe Networks, Inc.	Temperature:	21
Attendees:	Nha Tran	Humidity:	29%
Project:	None	Barometric Pres.:	30.05
Tested by:	Rod Peloquin	Power:	120VAC/60Hz
		Job Site:	EV01

TEST SPECIFICATIONS		Test Method	
FCC 24E:2007		ANSI/TIA/EIA-603-B-2002	

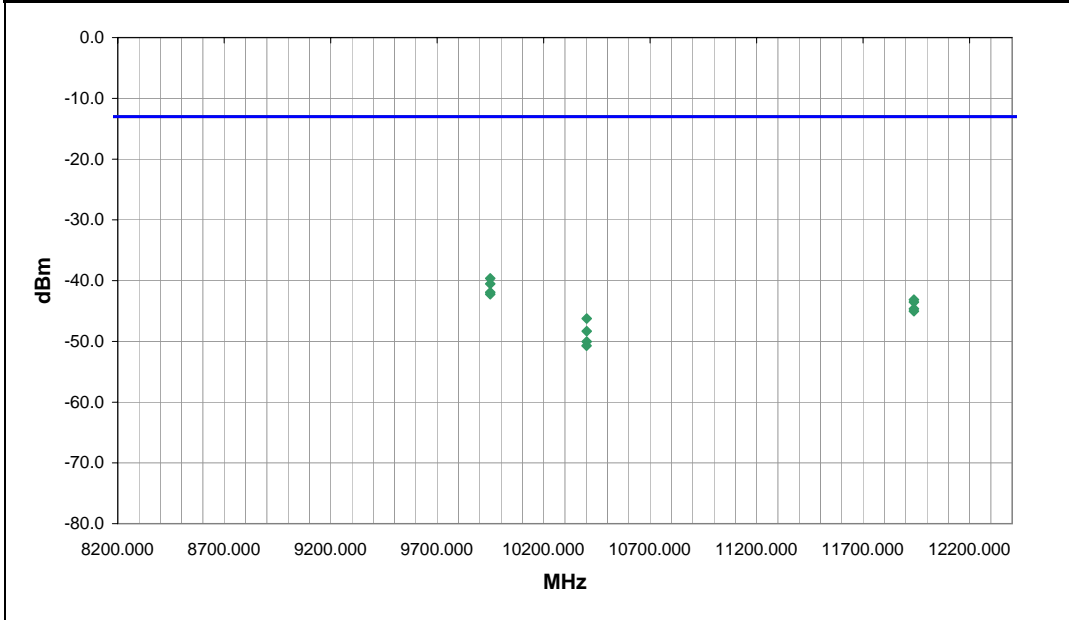
TEST PARAMETERS			
Antenna Height(s) (m)	1 - 4	Test Distance (m)	3

COMMENTS
Antenna ports terminated

EUT OPERATING MODES
Transmitting, PCS band, high power, high channel

DEVIATIONS FROM TEST STANDARD
No deviations.

Run #	6	 Signature
Configuration #	1	
Results	Pass	



Freq (MHz)	Azimuth (degrees)	Height (meters)	Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
9948.941	341.0	1.0	H-Horn	PK	1.09E-07	-39.6	-13.0	-26.6	GSM - EUT on side
9949.191	322.0	1.0	H-Horn	PK	8.85E-08	-40.5	-13.0	-27.5	GPRS - EUT on side
9949.058	106.0	1.0	V-Horn	PK	6.41E-08	-41.9	-13.0	-28.9	GSM - EUT vertical
9949.215	104.0	1.0	V-Horn	PK	5.99E-08	-42.2	-13.0	-29.2	GPRS - EUT vertical
11938.900	331.0	1.0	H-Horn	PK	4.87E-08	-43.1	-13.0	-30.1	GSM - EUT on side
11938.950	334.0	1.0	H-Horn	PK	4.44E-08	-43.5	-13.0	-30.5	GPRS - EUT on side
11938.740	97.0	1.0	V-Horn	PK	3.44E-08	-44.6	-13.0	-31.6	GPRS - EUT vertical
11938.830	44.0	1.0	V-Horn	PK	3.14E-08	-45.0	-13.0	-32.0	GSM - EUT vertical
10402.010	236.0	1.0	H-Horn	PK	2.38E-08	-46.2	-13.0	-33.2	GSM - EUT on side
10401.900	351.0	1.0	H-Horn	PK	1.47E-08	-48.3	-13.0	-35.3	GPRS - EUT on side
10401.850	53.0	1.1	V-Horn	PK	9.93E-09	-50.0	-13.0	-37.0	GSM - EUT vertical
10401.710	52.0	1.1	V-Horn	PK	8.46E-09	-50.7	-13.0	-37.7	GPRS - EUT vertical

EUT:	OmniCell@Home	Work Order:	RAFN0085
Serial Number:	None	Date:	05/13/08
Customer:	Radioframe Networks, Inc.	Temperature:	21
Attendees:	Nha Tran	Humidity:	29%
Project:	None	Barometric Pres.:	30.05
Tested by:	Rod Peloquin	Power:	120VAC/60Hz
		Job Site:	EV01

TEST SPECIFICATIONS		Test Method	
FCC 24E:2007		ANSI/TIA/EIA-603-B-2002	

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

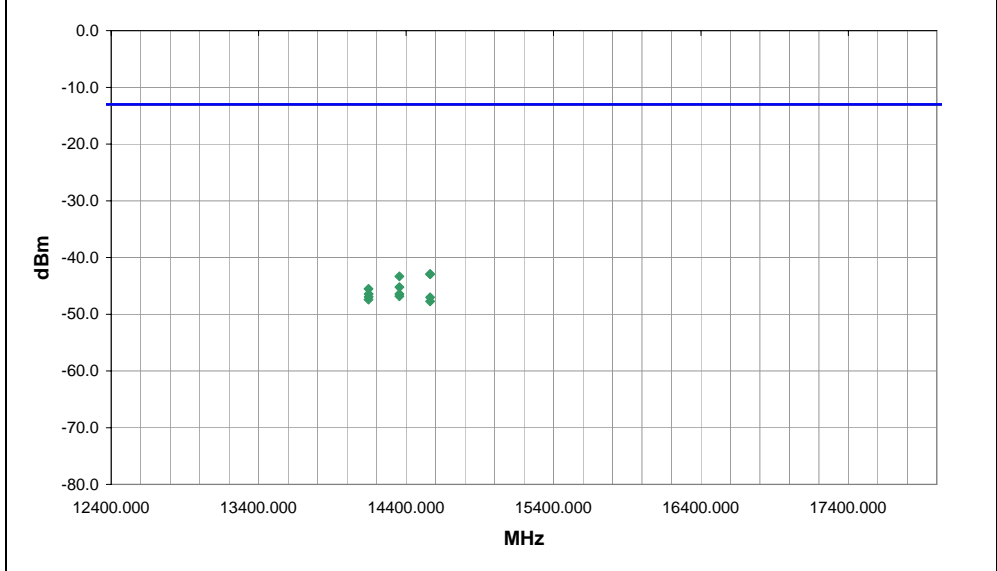
COMMENTS
Antenna ports terminated

EUT OPERATING MODES
Transmitting GSM, PCS band, high power

DEVIATIONS FROM TEST STANDARD

No deviations.

Run #	7	<i>Rod Peloquin</i> Signature
Configuration #	1	
Results	Pass	



Freq (MHz)	Azimuth (degrees)	Height (meters)	Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
14562.890	327.0	1.0	H-Horn	PK	5.09E-08	-42.9	-13.0	-29.9	High Channel, GSM - EUT on side
14562.990	327.0	1.0	H-Horn	PK	5.09E-08	-42.9	-13.0	-29.9	High Channel, GPRS - EUT on side
14354.180	183.0	1.0	H-Horn	PK	4.65E-08	-43.3	-13.0	-30.3	Mid Channel, GSM - EUT on side
14354.380	182.0	1.0	H-Horn	PK	3.00E-08	-45.2	-13.0	-32.2	Mid Channel, GPRS - EUT on side
14145.550	194.0	1.0	H-Horn	PK	2.80E-08	-45.5	-13.0	-32.5	Low Channel, GSM - EUT on side
14145.720	316.0	1.0	H-Horn	PK	2.28E-08	-46.4	-13.0	-33.4	Low Channel, GPRS - EUT on side
14354.210	70.0	1.1	V-Horn	PK	2.28E-08	-46.4	-13.0	-33.4	Mid Channel, GSM - EUT vertical
14354.120	147.0	1.1	V-Horn	PK	2.08E-08	-46.8	-13.0	-33.8	Mid Channel, GPRS - EUT vertical
14145.810	111.0	1.3	V-Horn	PK	2.03E-08	-46.9	-13.0	-33.9	Low Channel, GSM - EUT vertical
14562.600	65.0	1.1	V-Horn	PK	1.98E-08	-47.0	-13.0	-34.0	High Channel, GPRS - EUT vertical
14145.370	33.0	1.3	V-Horn	PK	1.81E-08	-47.4	-13.0	-34.4	Low Channel, GPRS - EUT vertical
14562.710	41.0	1.0	V-Horn	PK	1.69E-08	-47.7	-13.0	-34.7	High Channel, GSM - EUT vertical

OUT OF BAND EMISSIONS

EMC

EUT: OmniCell@Home	Work Order: RAFN0085
Serial Number: None	Date: 05/13/08
Customer: Radioframe Networks, Inc.	Temperature: 21
Attendees: None	Humidity: 29%
Project: None	Barometric Pres.: 30.05
Tested by: David Divergigelis	Power: 120VAC/60Hz
	Job Site: EV01

TEST SPECIFICATIONS	Test Method
FCC 24E:2007	ANSI/TIA/EIA-603-B-2002

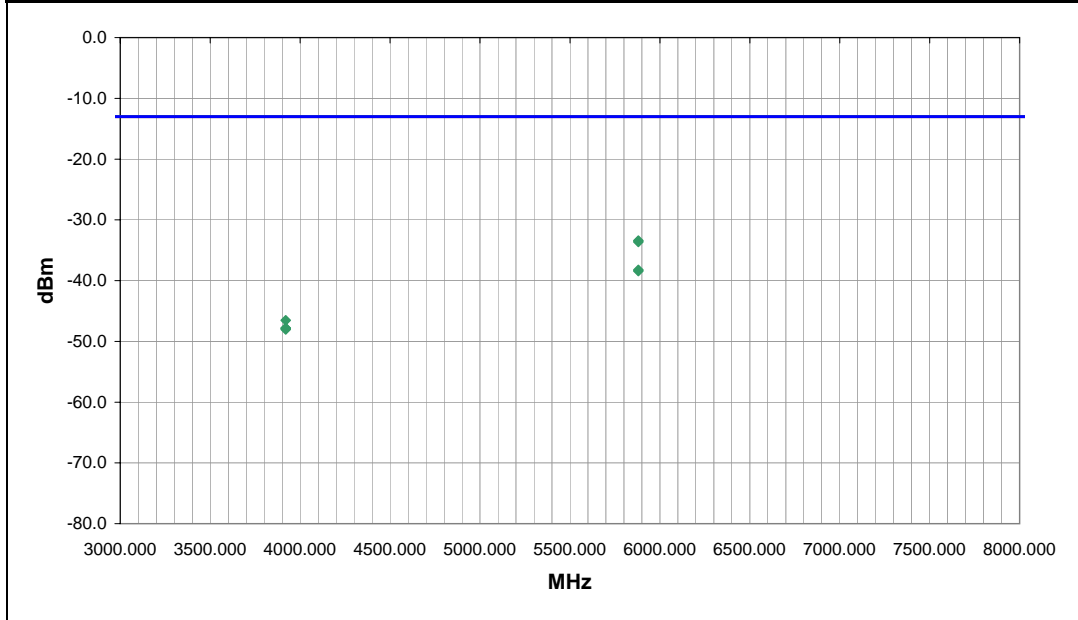
TEST PARAMETERS	
Antenna Height(s) (m)	1 - 4
Test Distance (m)	3

COMMENTS
Antenna ports terminated

EUT OPERATING MODES
Transmitting PCS band, high power, mid channel

DEVIATIONS FROM TEST STANDARD
No deviations.

Run #	8	Signature <i>David Divergigelis</i>
Configuration #	1	
Results	Pass	



Freq (MHz)	Azimuth (degrees)	Height (meters)	Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
5880.053	327.0	1.0	H-Horn	PK	4.54E-07	-33.4	-13.0	-20.4	GPRS - EUT on side
5880.140	327.0	1.0	H-Horn	PK	4.34E-07	-33.6	-13.0	-20.6	GSM - EUT on side
5879.861	360.0	1.5	V-Horn	PK	1.50E-07	-38.2	-13.0	-25.2	GPRS - EUT horizontal
5879.994	19.0	1.1	V-Horn	PK	1.44E-07	-38.4	-13.0	-25.4	GSM - EUT horizontal
3919.913	330.0	1.0	H-Horn	PK	2.22E-08	-46.5	-13.0	-33.5	GSM - EUT on side
3919.777	333.0	1.0	H-Horn	PK	1.65E-08	-47.8	-13.0	-34.8	GPRS - EUT on side
3920.093	255.0	1.0	V-Horn	PK	1.65E-08	-47.8	-13.0	-34.8	GSM - EUT horizontal
3920.170	259.0	1.0	V-Horn	PK	1.57E-08	-48.0	-13.0	-35.0	GPRS - EUT horizontal

OUT OF BAND EMISSIONS

EMC

EUT: OmniCell@Home	Work Order: RAFN0085
Serial Number: None	Date: 05/13/08
Customer: Radioframe Networks, Inc.	Temperature: 21
Attendees: None	Humidity: 29%
Project: None	Barometric Pres.: 30.05
Tested by: David Divergigelis	Power: 120VAC/60Hz
	Job Site: EV01

TEST SPECIFICATIONS	Test Method
FCC 24E:2007	ANSI/TIA/EIA-603-B-2002

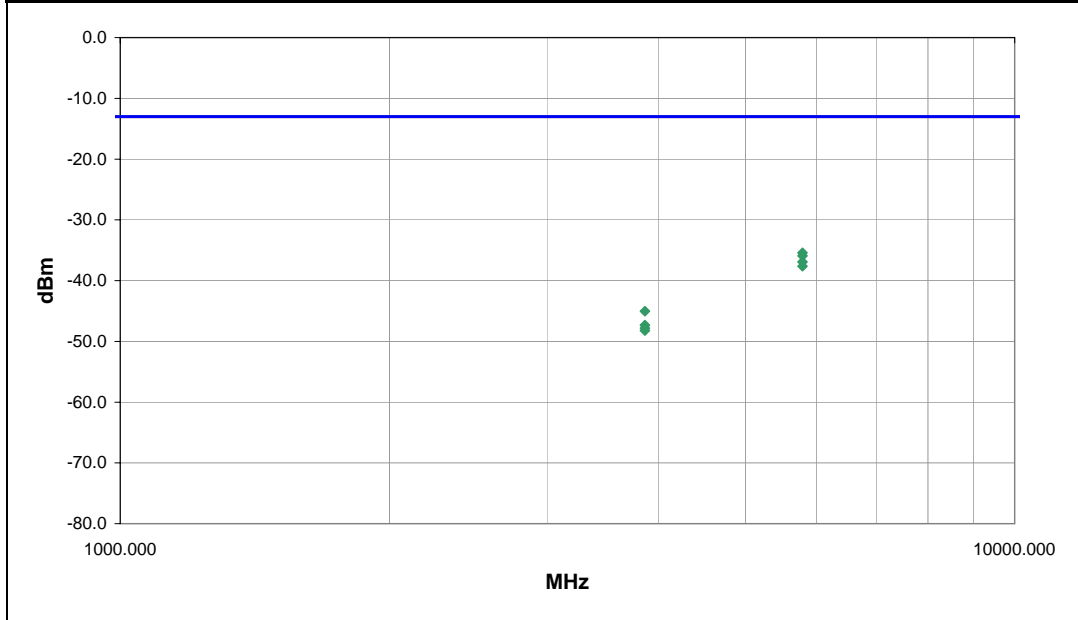
TEST PARAMETERS	
Antenna Height(s) (m) 1 - 4	Test Distance (m) 3

COMMENTS
Antenna ports terminated

EUT OPERATING MODES
Transmitting, PCS band, high power, low channel

DEVIATIONS FROM TEST STANDARD
No deviations.

Run #	9	Signature <i>David Divergigelis</i>
Configuration #	1	
Results	Pass	



Freq (MHz)	Azimuth (degrees)	Height (meters)	Polarity	Detector	EIRP (Watts)	EIRP (dBm)	Spec. Limit (dBm)	Compared to Spec. (dB)	Comments
5790.613	322.0	1.0	H-Horn	PK	2.86E-07	-35.4	-13.0	-22.4	GPRS - EUT on side
5790.633	321.0	1.0	H-Horn	PK	2.55E-07	-35.9	-13.0	-22.9	GSM - EUT on side
5790.630	29.0	1.0	V-Horn	PK	2.03E-07	-36.9	-13.0	-23.9	GPRS - EUT horizontal
5790.587	28.0	1.0	V-Horn	PK	1.73E-07	-37.6	-13.0	-24.6	GSM - EUT horizontal
3860.577	320.0	1.0	H-Horn	PK	3.14E-08	-45.0	-13.0	-32.0	GSM - EUT on side
3860.233	322.0	1.0	H-Horn	PK	1.85E-08	-47.3	-13.0	-34.3	GPRS - EUT on side
3860.243	294.0	1.0	V-Horn	PK	1.65E-08	-47.8	-13.0	-34.8	GSM - EUT horizontal
3860.377	297.0	1.0	V-Horn	PK	1.50E-08	-48.2	-13.0	-35.2	GPRS - EUT horizontal



