

Exhibit 6

Test Report Part 2r FCC Part 27

**EXHIBIT 6, PART 2
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Spurious Emissions At Antenna Terminals

Rule Part Number: 2.1051, 2.1049, 2.1057

Frequency Range = 9 kHz to 26.50 GHz

Attenuation (dB) below the power (W) supplied to the antenna transmission line

Attenuation = $43 + 10 \log P$, or 70 dBc, whichever is less stringent

Attenuation = $43 + 10 \log(2) = 46$ dBc 2 watt transmit level

(equates to absolute level of -13 dBm)

Standard: TIA-603-B

TIA Standard, Land Mobile FM or PM Communications Equipment, Measurement and Performance Standards

Test Procedure:

The Orthogonal Frequency Division Multiplexing (OFDM) modulated Time Division Duplex (TDD) RF signal from the test unit is applied to a spectrum analyzer thru 41.4 dB of attenuation (coax and attenuators), or through an attenuator, notch filter and coax that was calibrated for RF loss at each harmonic frequency being tested. The transmission is recorded from 9 kHz to 26.5 GHz. The transmitter is enabled in test mode with the attached computer. The RF loss of the attenuators and coax was measured and is included in the spectrum analyzer offset level for the specific measurement being recorded. Measurements are performed at frequencies across the band and channel bandwidths (5.5 MHz and 6 MHz). All measurements utilized 4-QAM modulation. One data plot from each channel bandwidth is included for tests below the BRS/EBS frequency band. All channels measured had similar looking spectral plots. The second harmonic of each tested frequency is shown for emissions. The worst-case channel for second harmonic was chosen to show compliance for harmonics three thru ten. The other channels tested have similar or lower harmonic levels.

Test Conditions:

Frequencies =

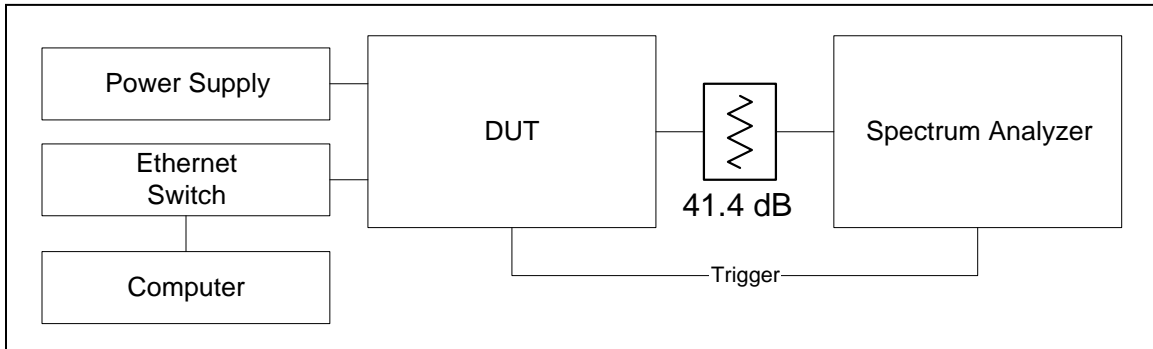
5.5 MHz channel: 2504.75, 2565.25, 2626.75, and 2687.25 MHz

6.0 MHz channel: 2499, 2575, and 2621 MHz

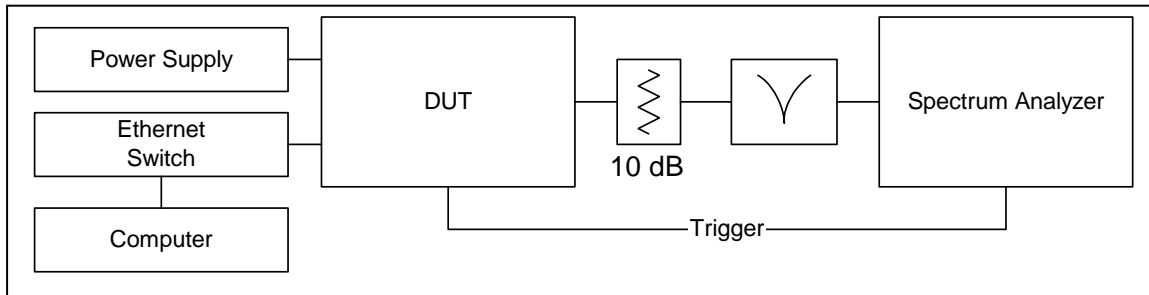
Second harmonic of all test frequencies included, 3rd thru 10th harmonics of 2504.75 MHz (worst case value) included at end. All other frequencies had similar results.

Temperature = 25 °C

Supply Voltage = 13.0 VDC nominal to RSU



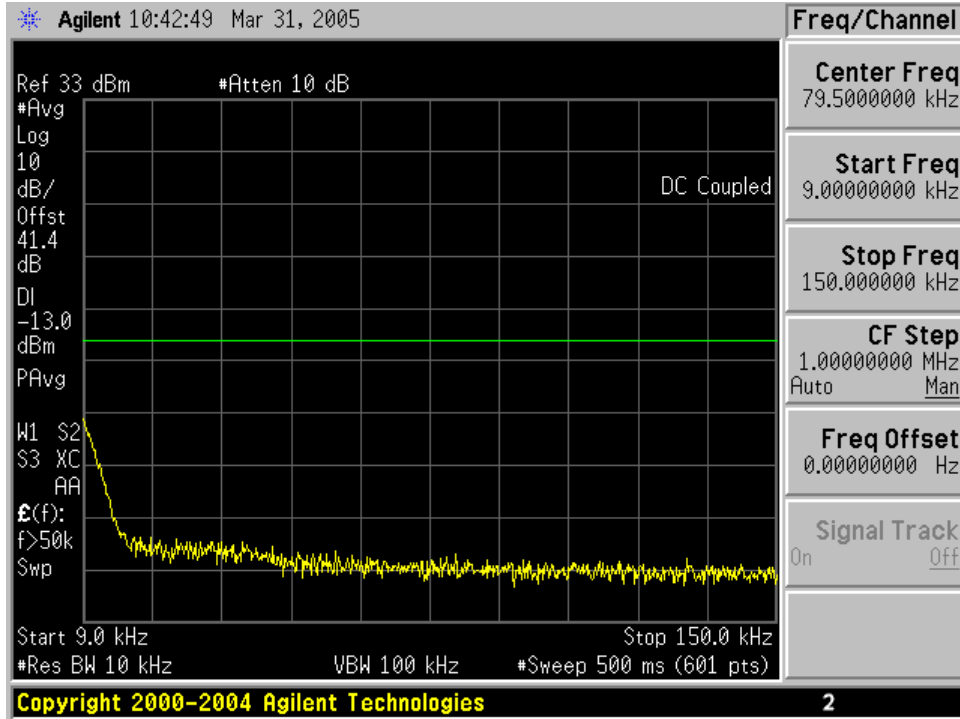
Generic Spurious Emissions Test Setup



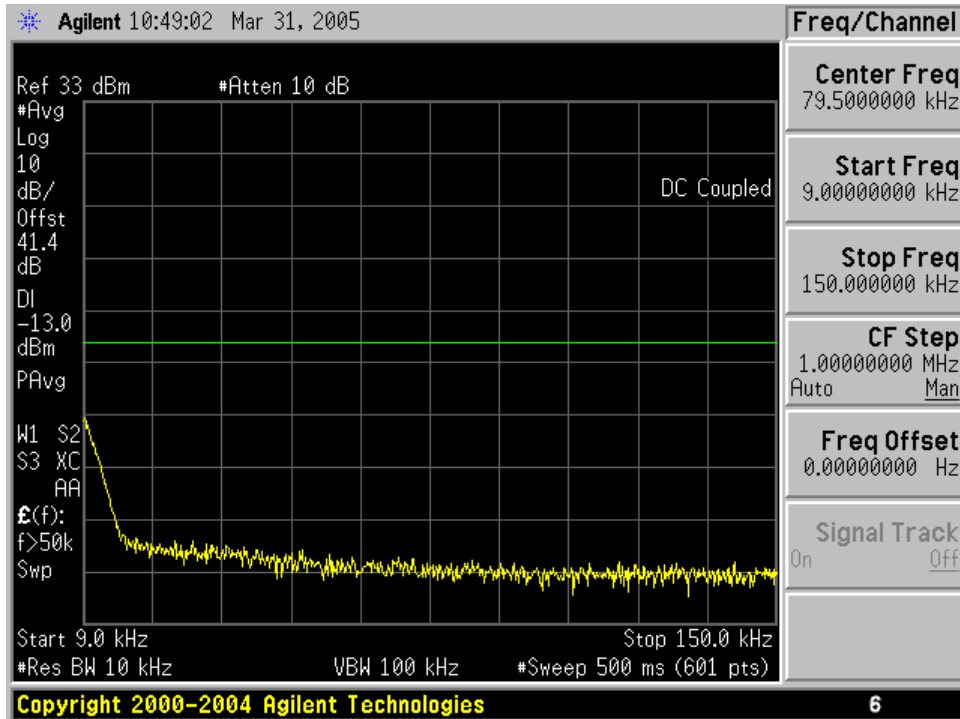
Harmonic Emissions Test Setup

Test Results: Passes conducted emissions from 9 kHz to 26.5 GHz.

Spurious Emissions At Antenna Terminals Spectrum Analyzer Plots

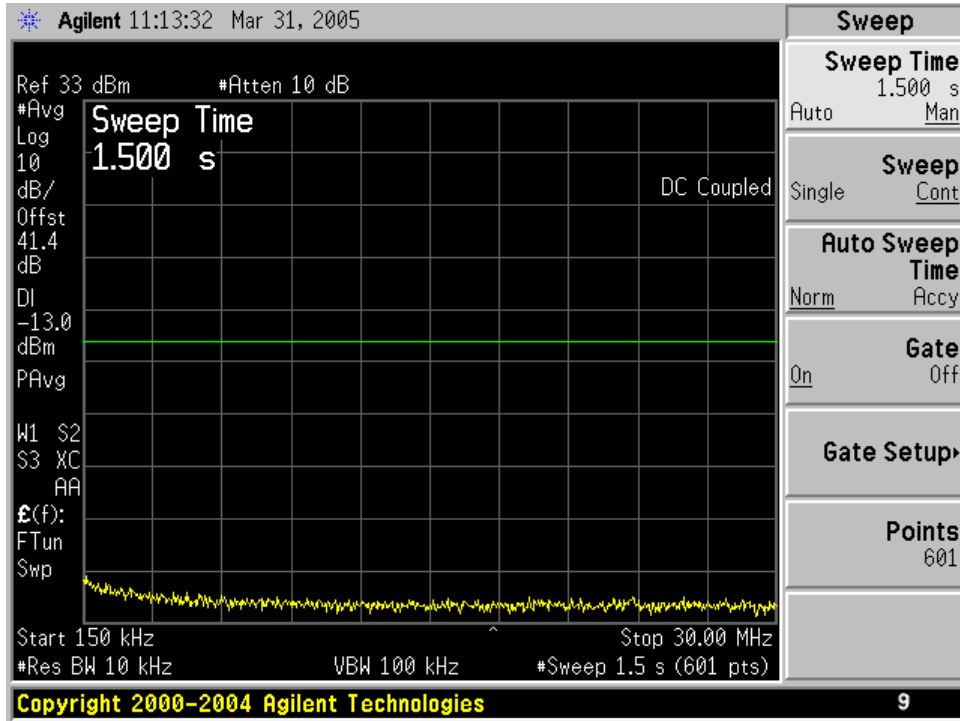


9 kHz – 150 kHz (2575 MHz / 6 MHz channel)

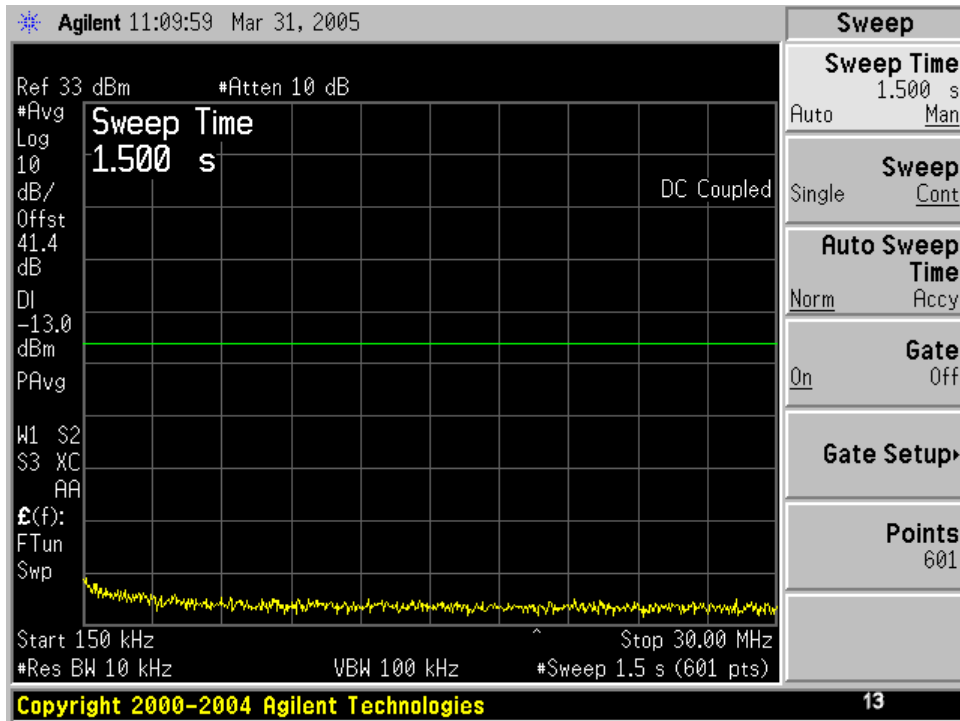


9 kHz – 150 kHz (2626.75 MHz / 5.5 MHz channel)

Spurious emissions at antenna terminals

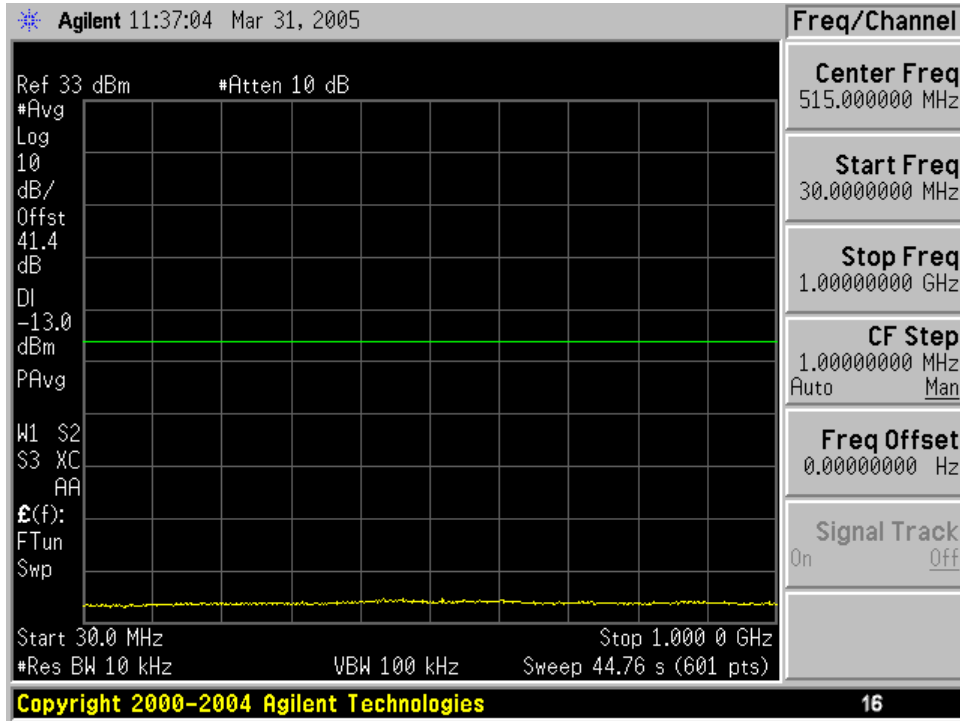


150 kHz – 30 MHz (2575 MHz / 6 MHz channel)

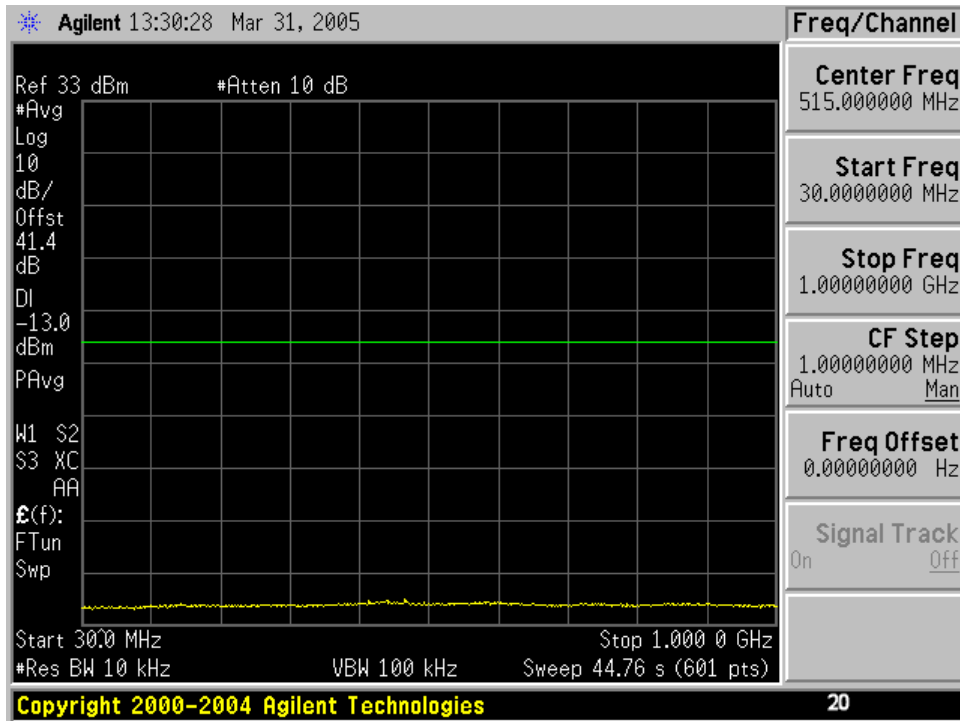


150 kHz – 30 MHz (2626.75 MHz / 5.5 MHz channel)

Spurious emissions at antenna terminals

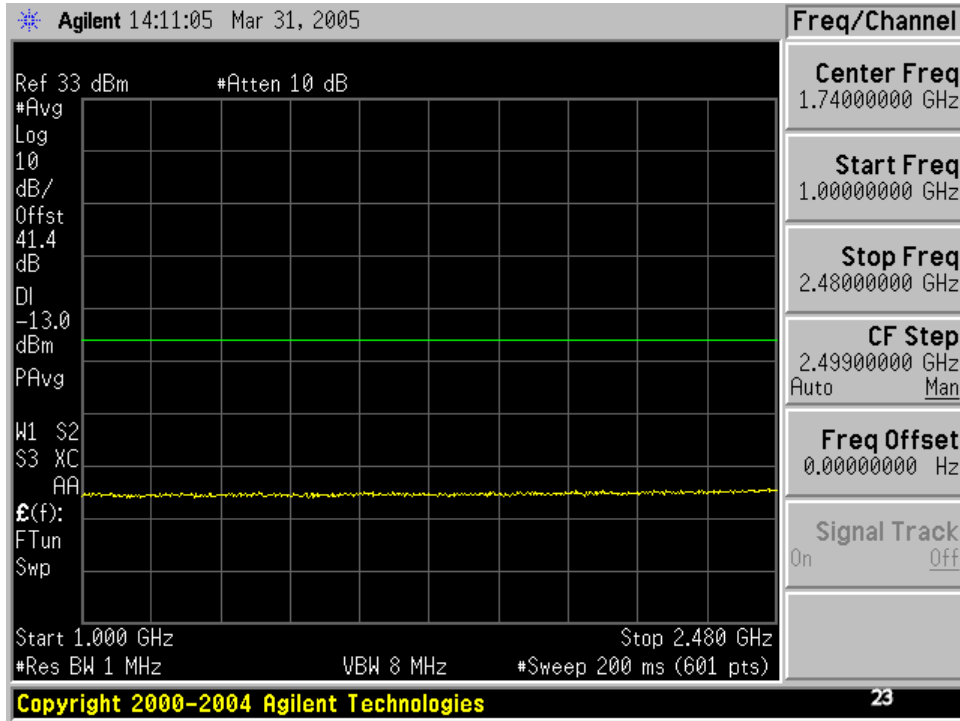


30 MHz – 1 GHz (2575 MHz / 6 MHz channel)

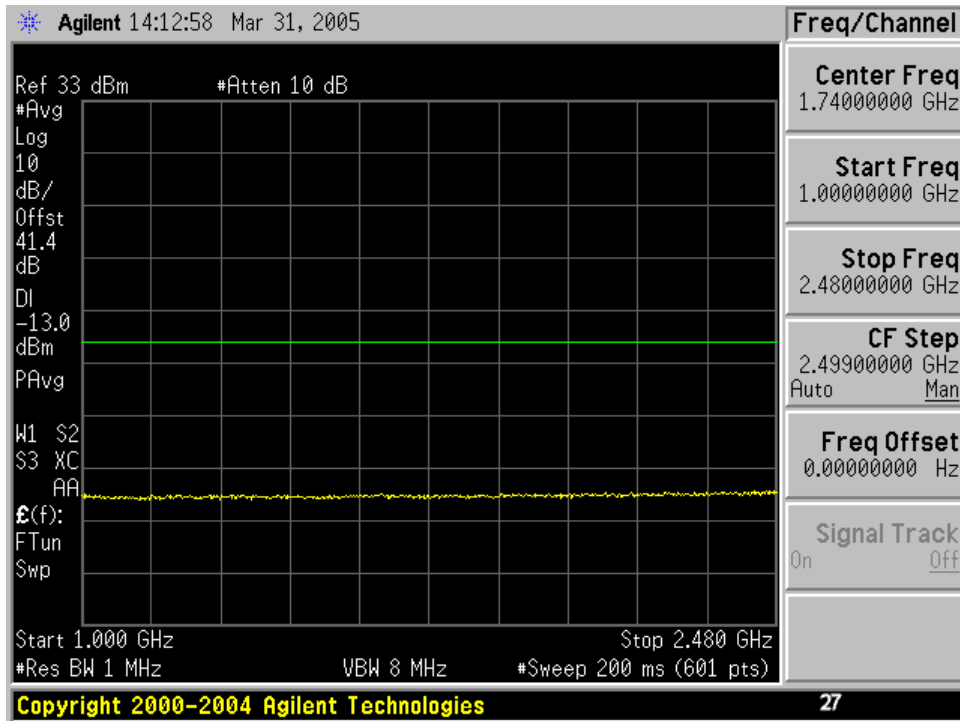


30 MHz – 1 GHz (2626.75 MHz / 5.5 MHz channel)

Spurious emissions at antenna terminals

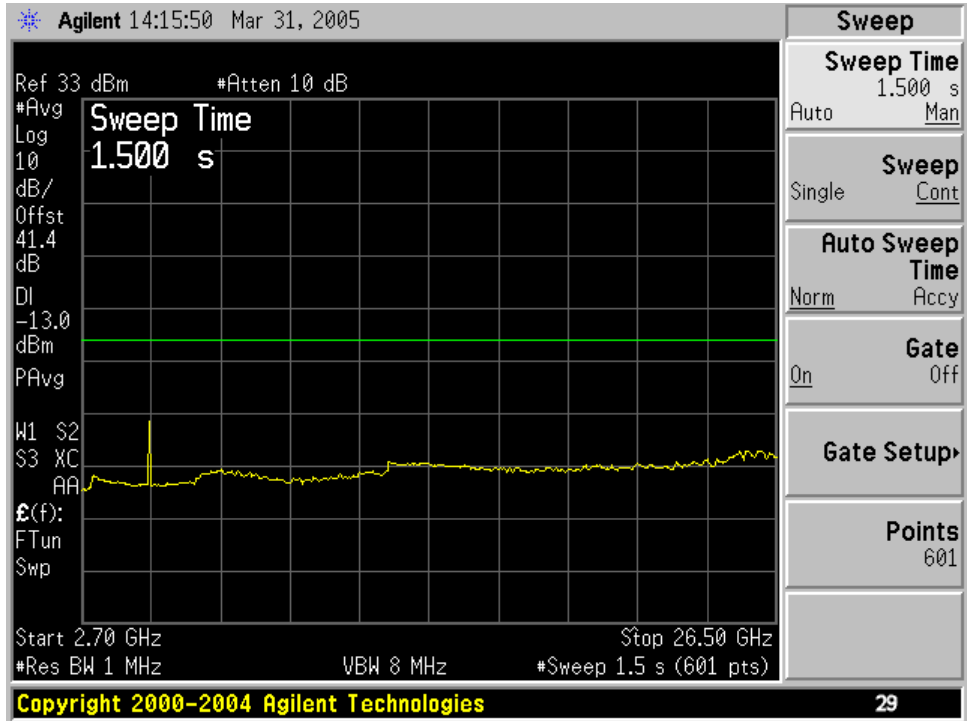


1 GHz – 2.48 GHz (2575 MHz / 6 MHz channel)

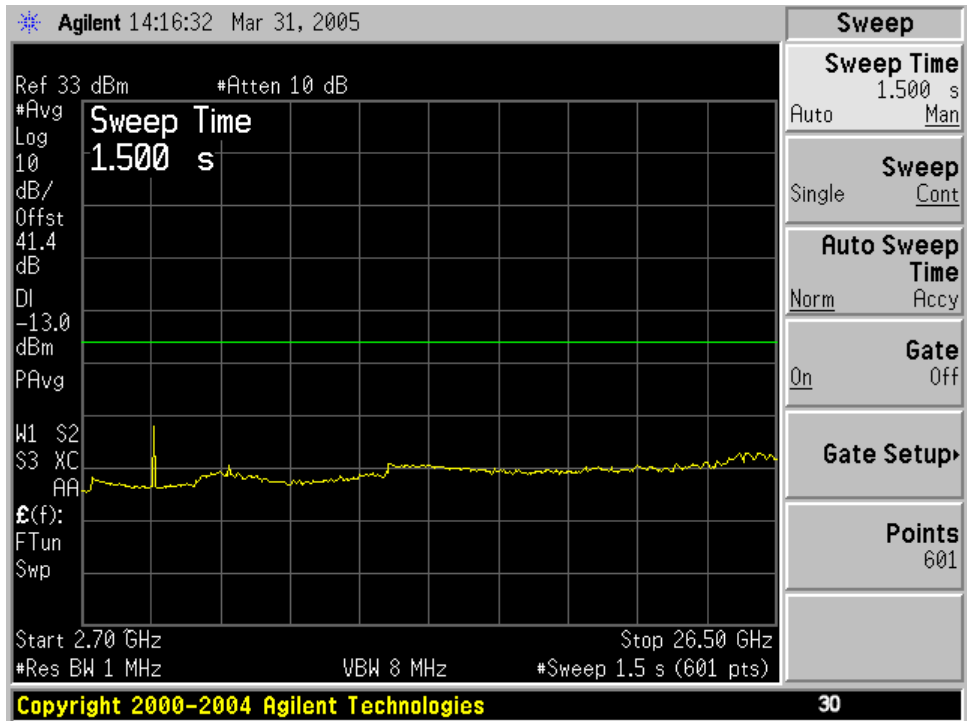


1 GHz – 2.48 GHz (2626.75 MHz / 5.5 MHz channel)

Spurious emissions at antenna terminals

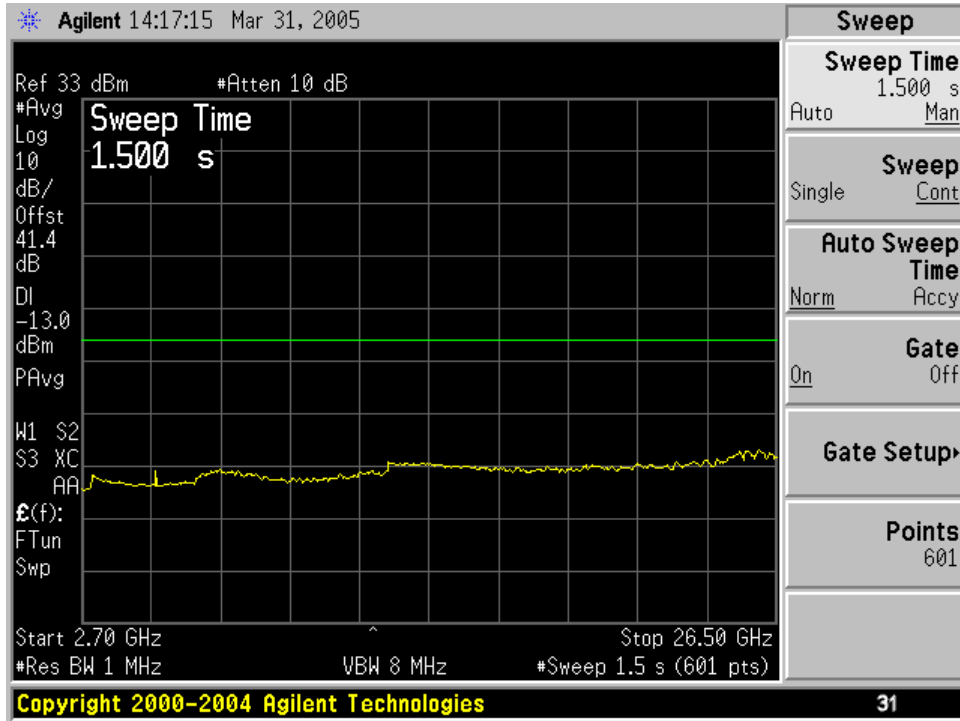


2.7 GHz – 26.5 GHz (2499 MHz / 6 MHz channel)



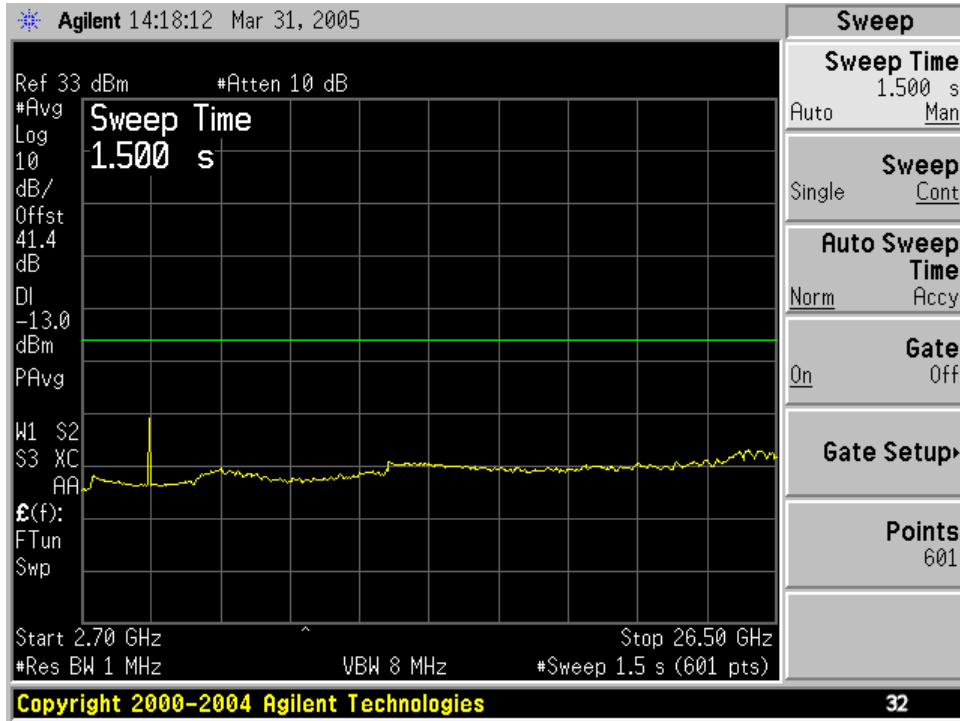
2.7 GHz – 26.5 GHz (2575 MHz / 6 MHz channel)

Spurious emissions at antenna terminals

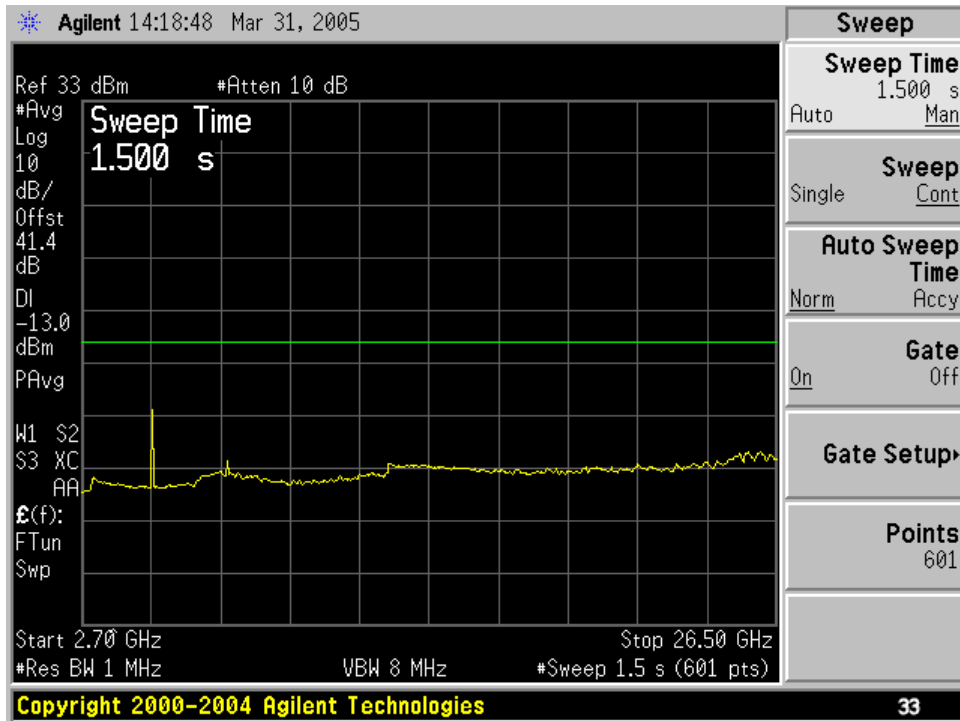


2.7 GHz – 26.5 GHz (2621 MHz / 6 MHz channel)

Spurious emissions at antenna terminals

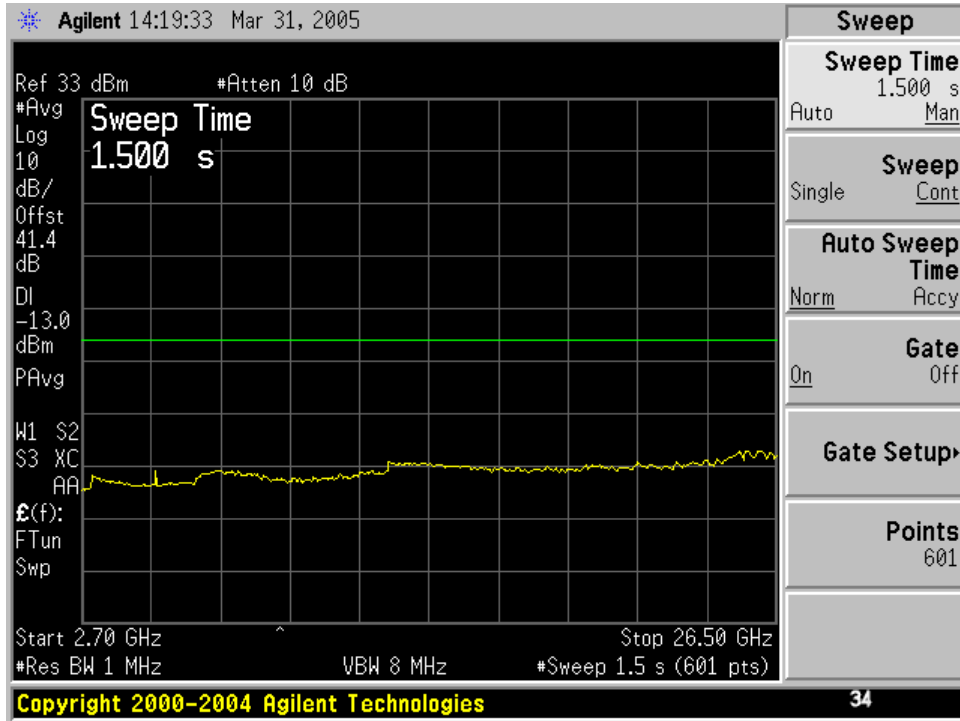


2.7 GHz – 26.5 GHz (2504.75 MHz / 5.5 MHz channel)

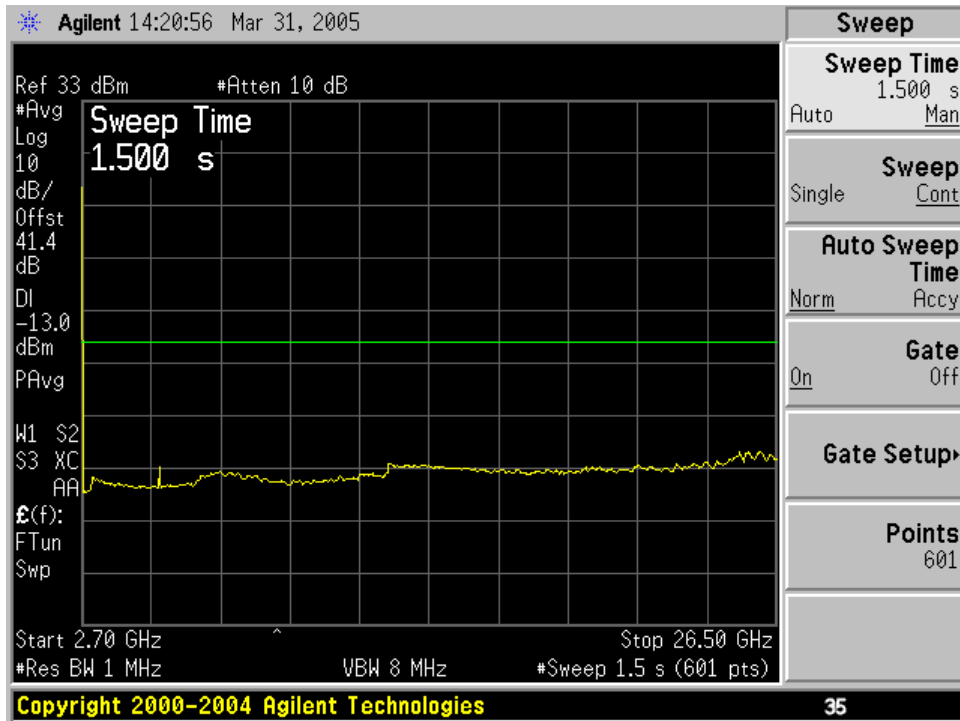


2.7 GHz – 26.5 GHz (2565.25 MHz / 5.5 MHz channel)

Spurious emissions at antenna terminals

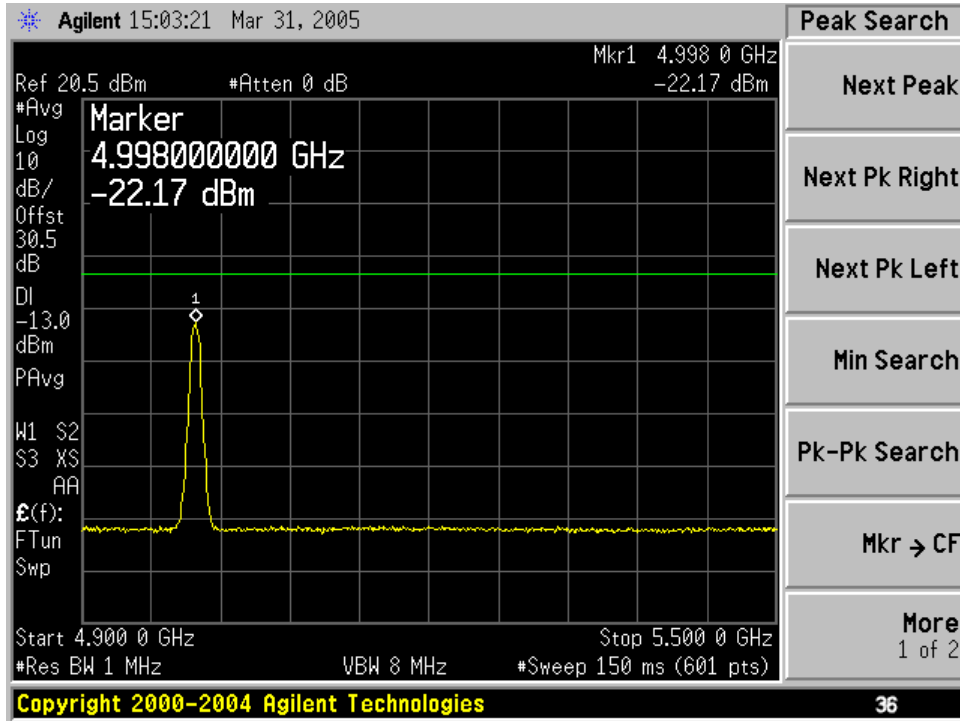


2.7 GHz – 26.5 GHz (2626.75 MHz / 5.5 MHz channel)

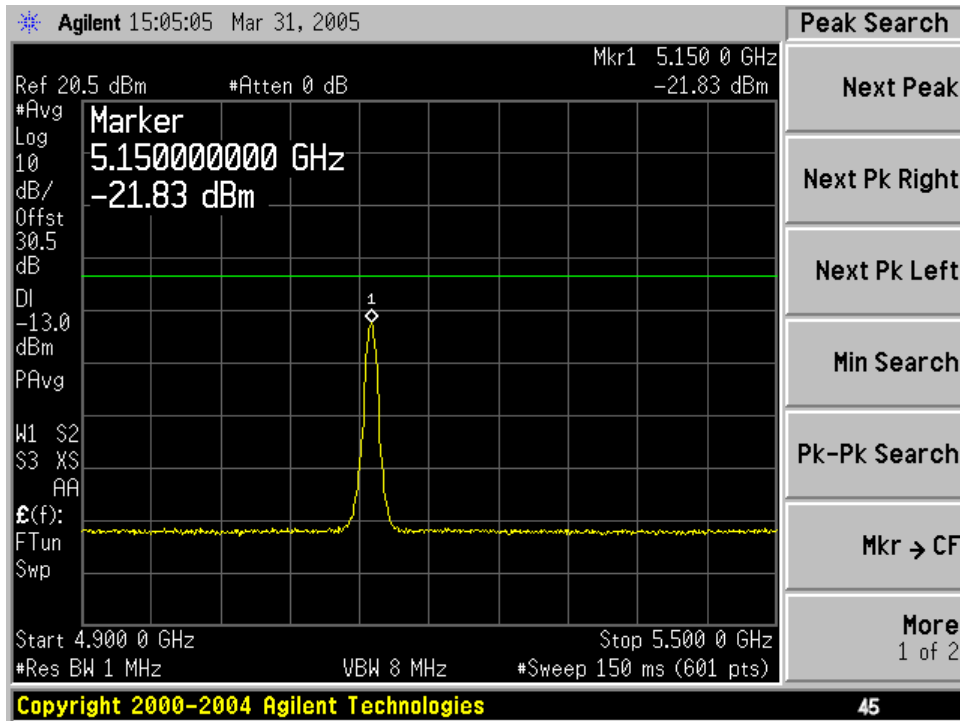


2.7 GHz – 26.5 GHz (2687.25 MHz / 5.5 MHz channel)

Spurious emissions at antenna terminals

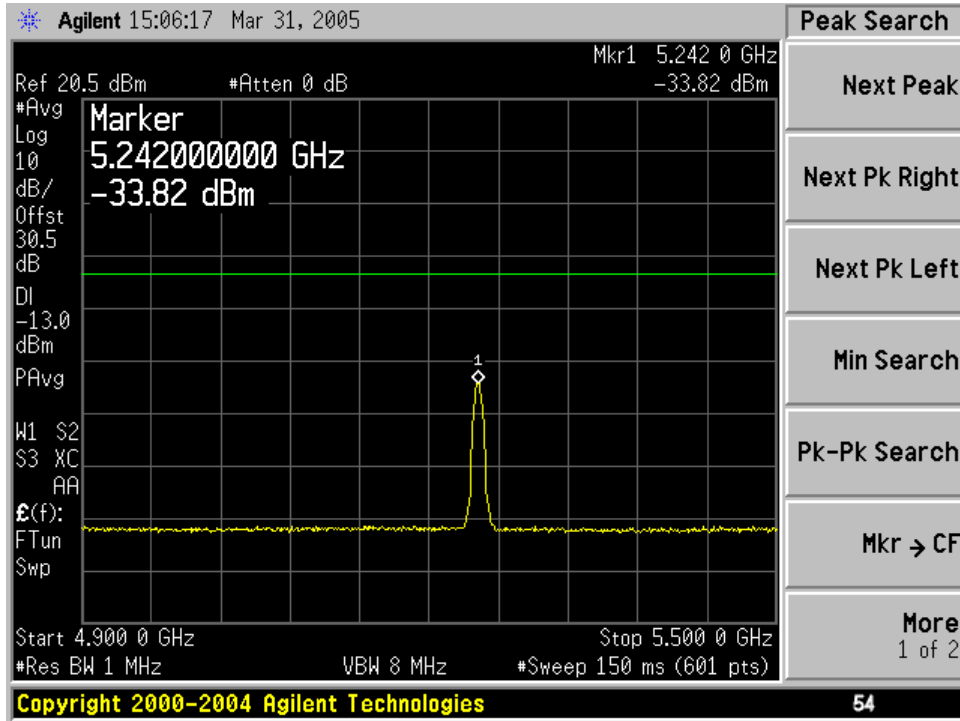


4.992 GHz – 5.38 GHz (2499 MHz / 6 MHz channel / 2nd harmonic)

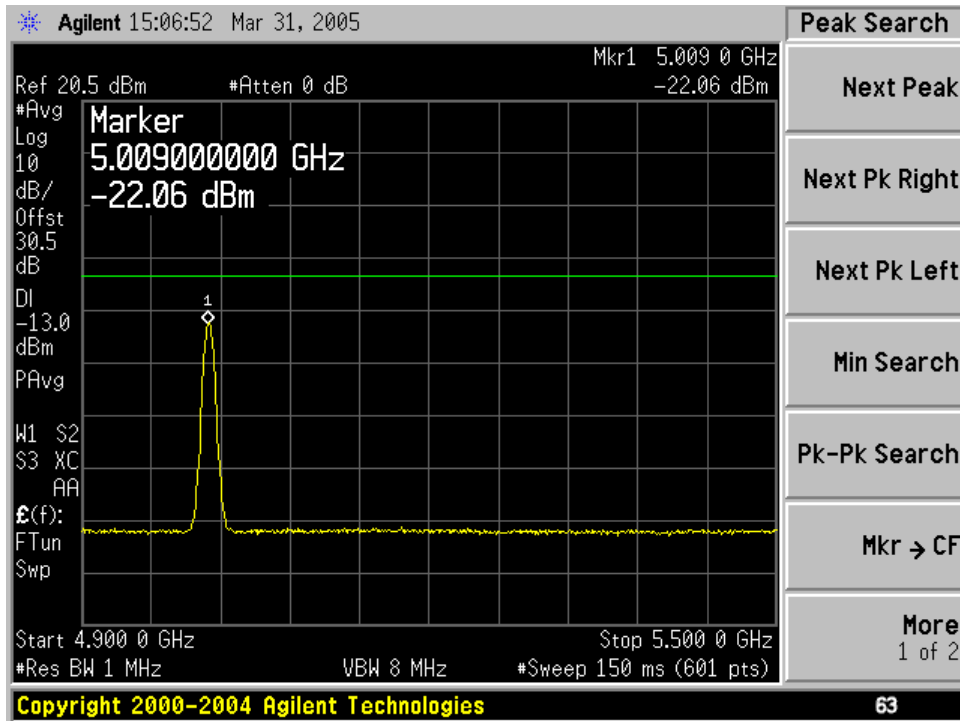


4.992 GHz – 5.38 GHz (2575 MHz / 6 MHz channel / 2nd harmonic)

Spurious emissions at antenna terminals

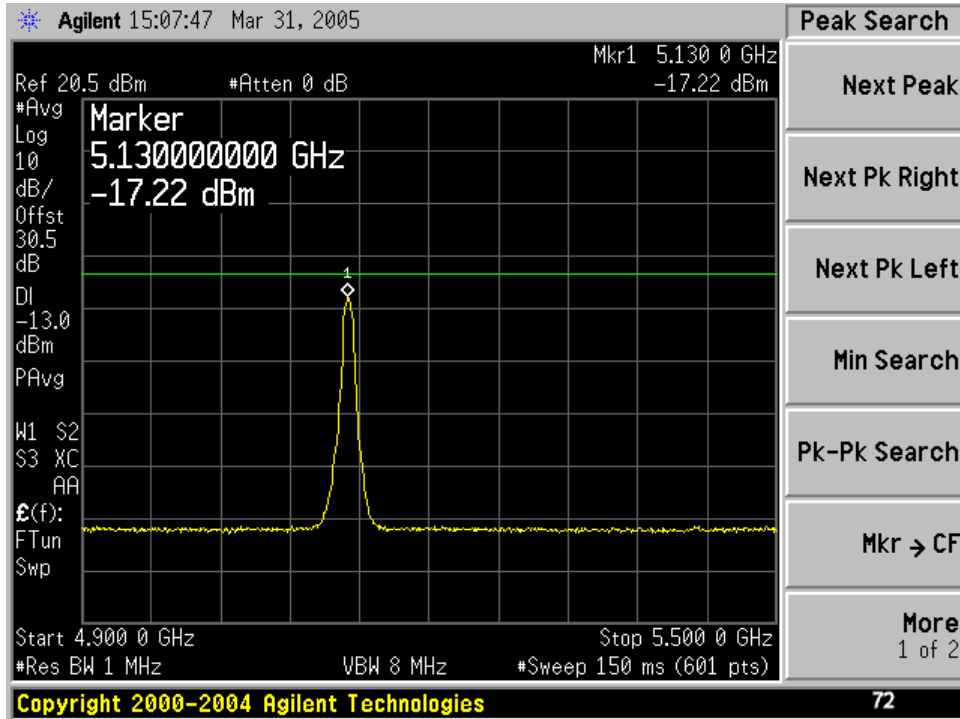


4.992 GHz – 5.38 GHz (2621 MHz / 6 MHz channel / 2nd harmonic)

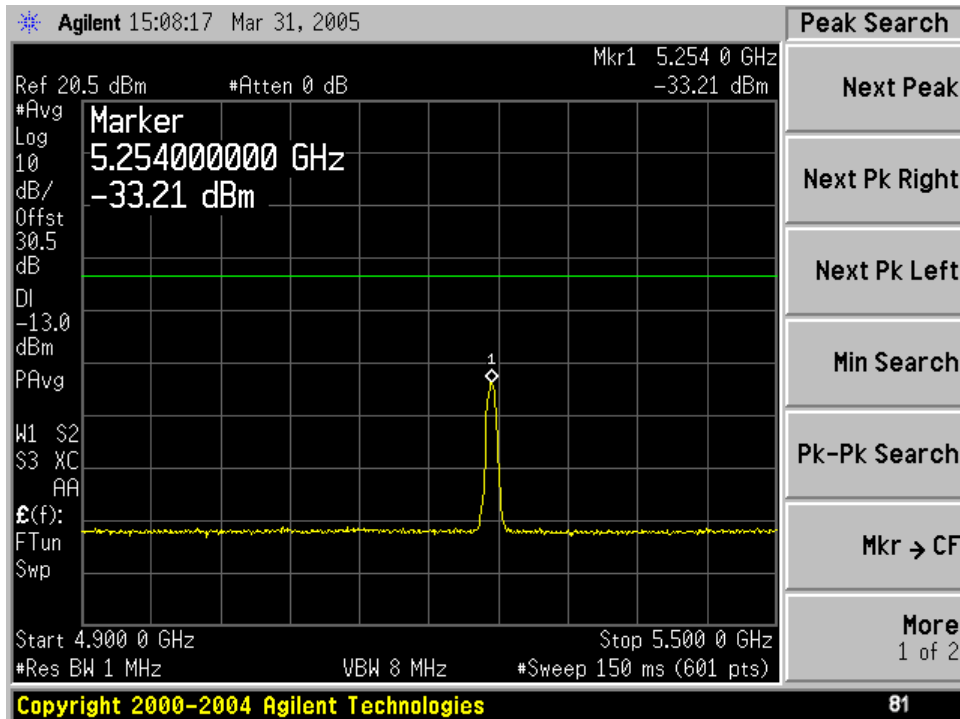


4.992 GHz – 5.38 GHz (2504.75 MHz / 5.5 MHz channel / 2nd harmonic)

Spurious emissions at antenna terminals

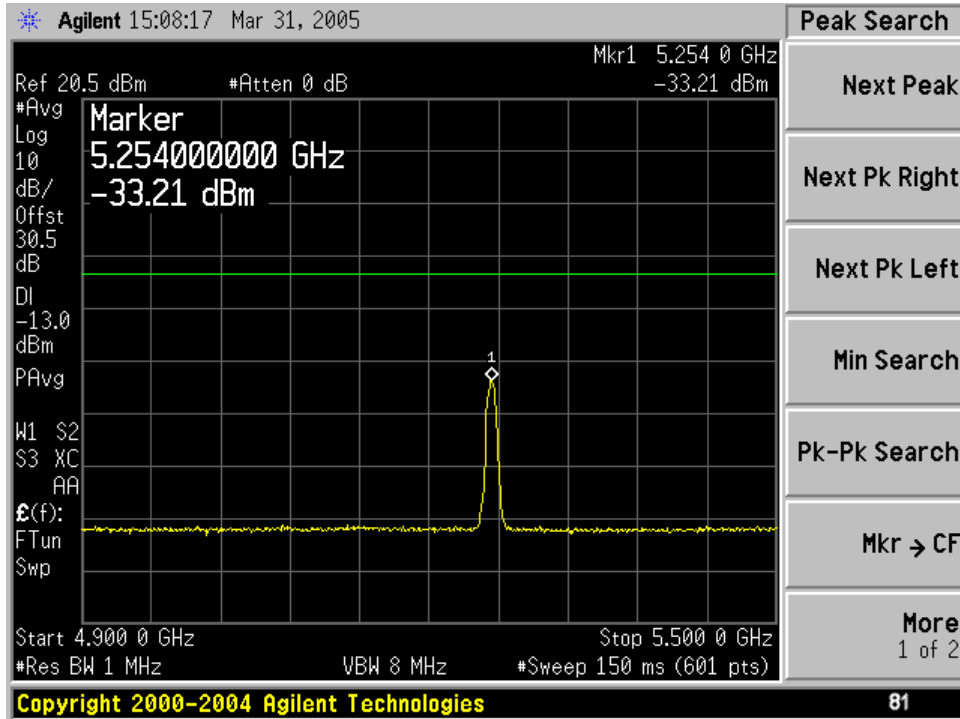


4.992 GHz – 5.38 GHz (2565.25 MHz / 5.5 MHz channel / 2nd harmonic)

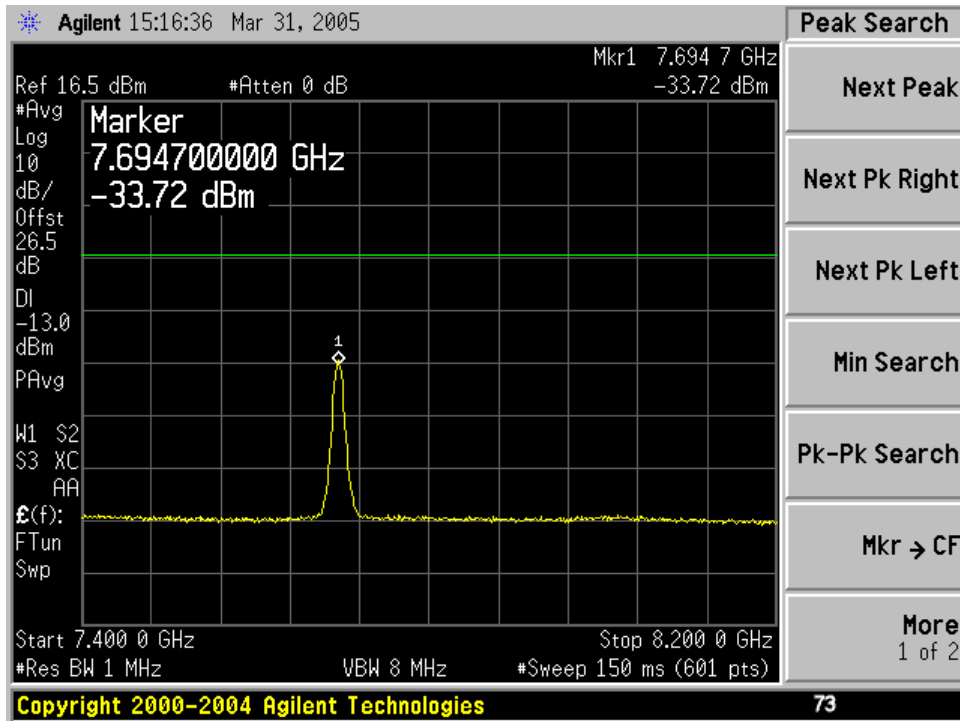


4.992 GHz – 5.38 GHz (2626.75 MHz / 5.5 MHz channel / 2nd harmonic)

Spurious emissions at antenna terminals

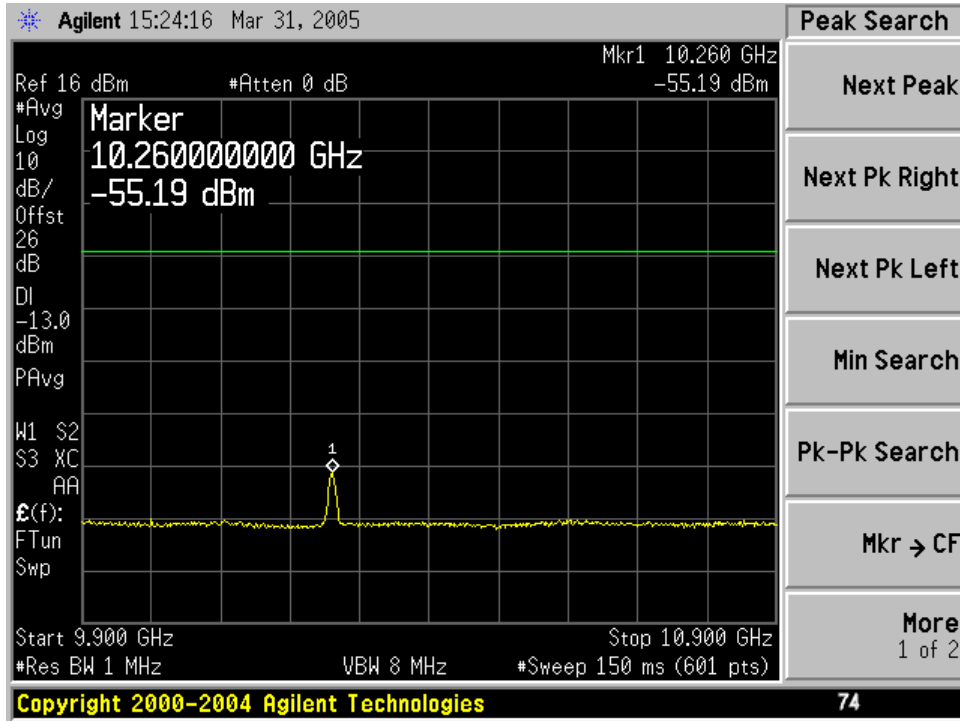


4.992 GHz – 5.38 GHz (2687.25 MHz / 5.5 MHz channel / 2nd harmonic)

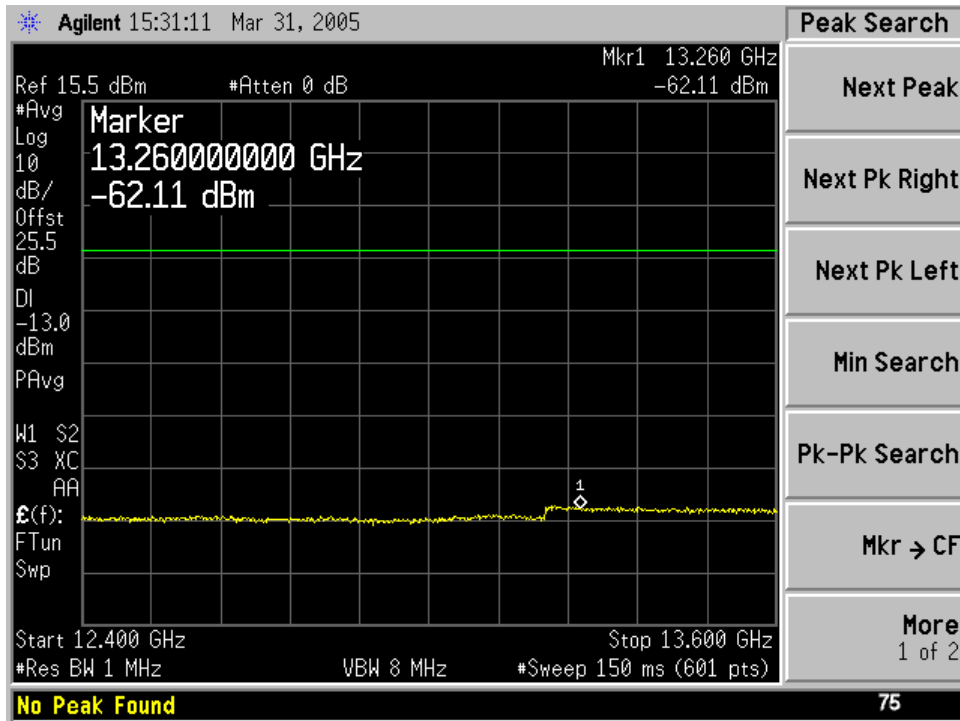


3rd harmonic of 2565.25 MHz

Spurious emissions at antenna terminals

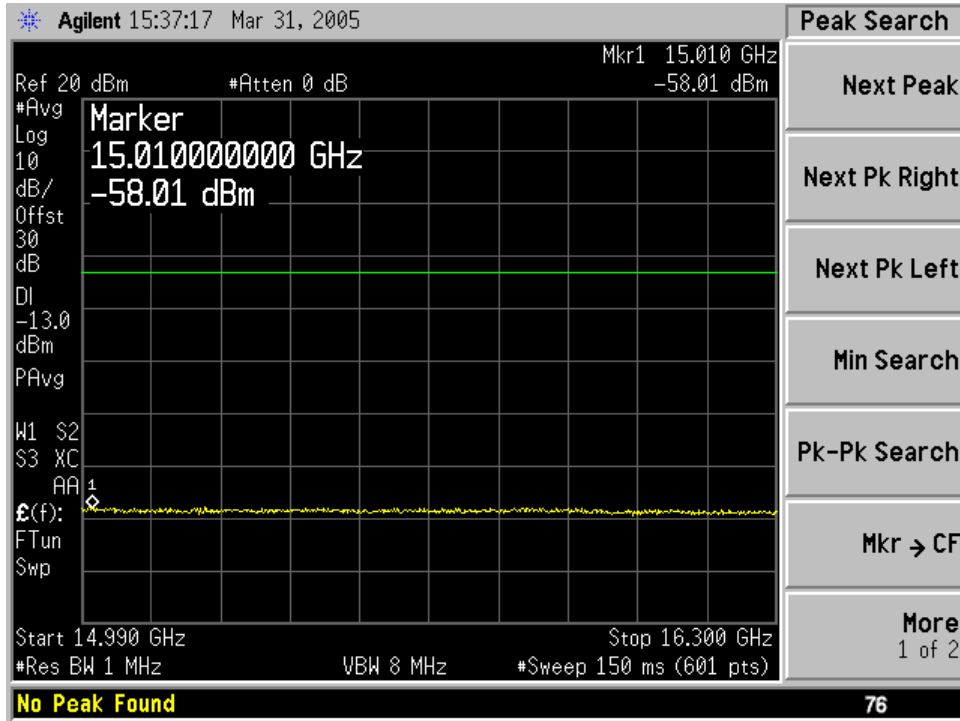


4th harmonic of 2565.25 MHz

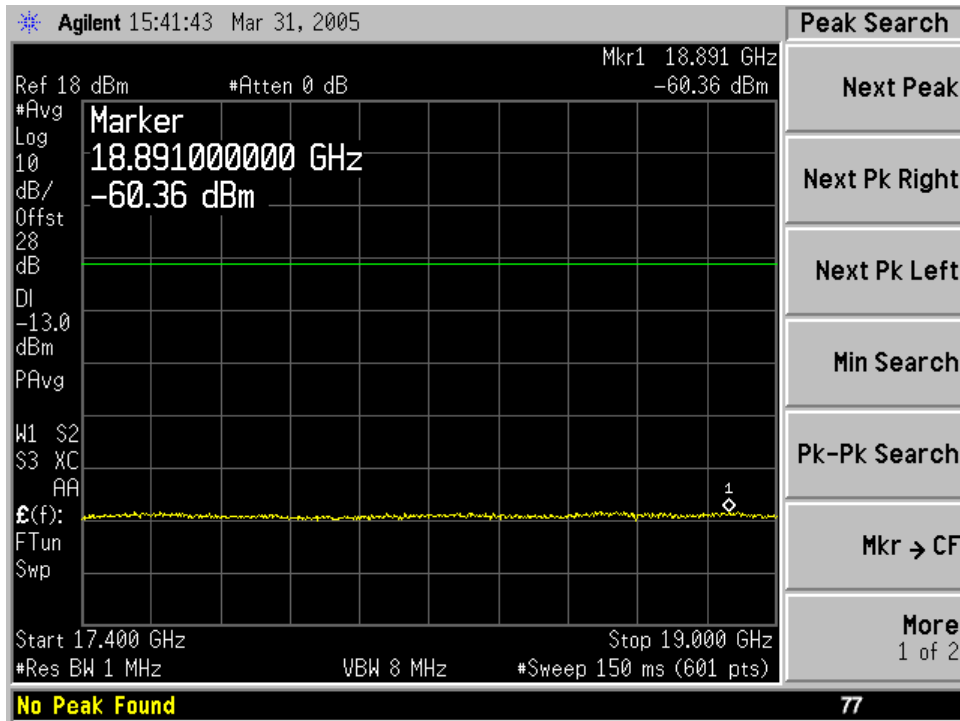


5th harmonic of 2565.25 MHz

Spurious emissions at antenna terminals

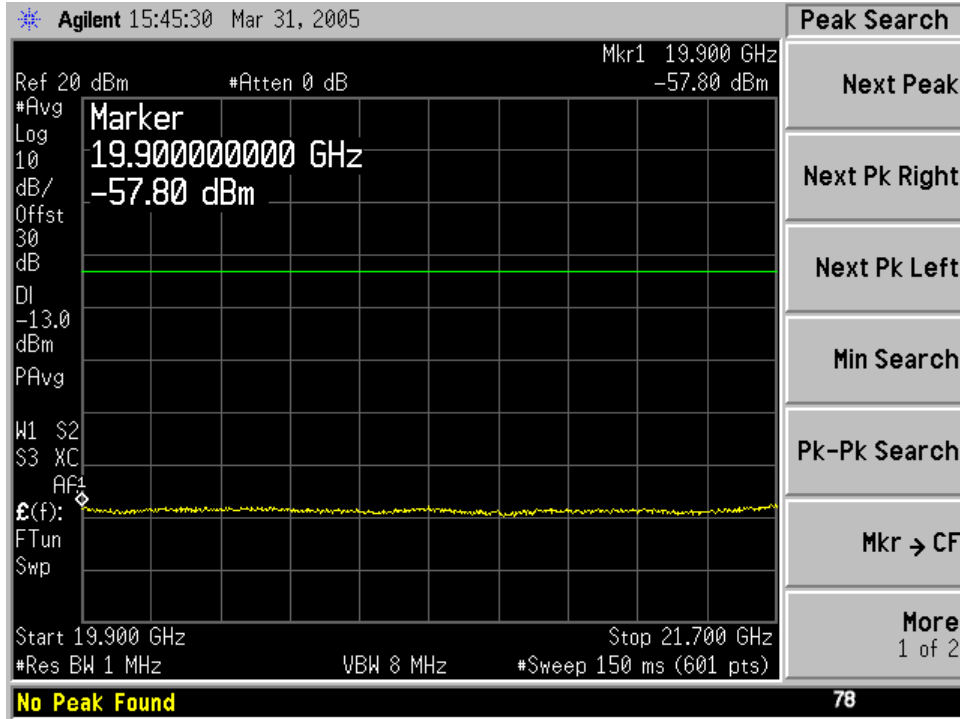


6th harmonic of 2565.25 MHz

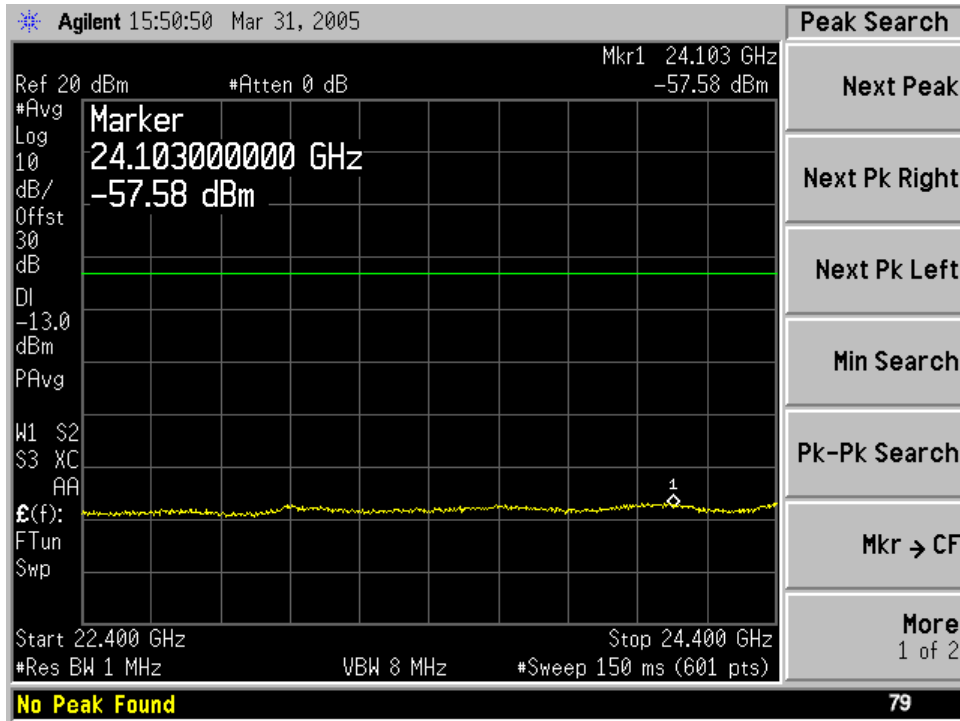


7th harmonic of 2565.25 MHz

Spurious emissions at antenna terminals

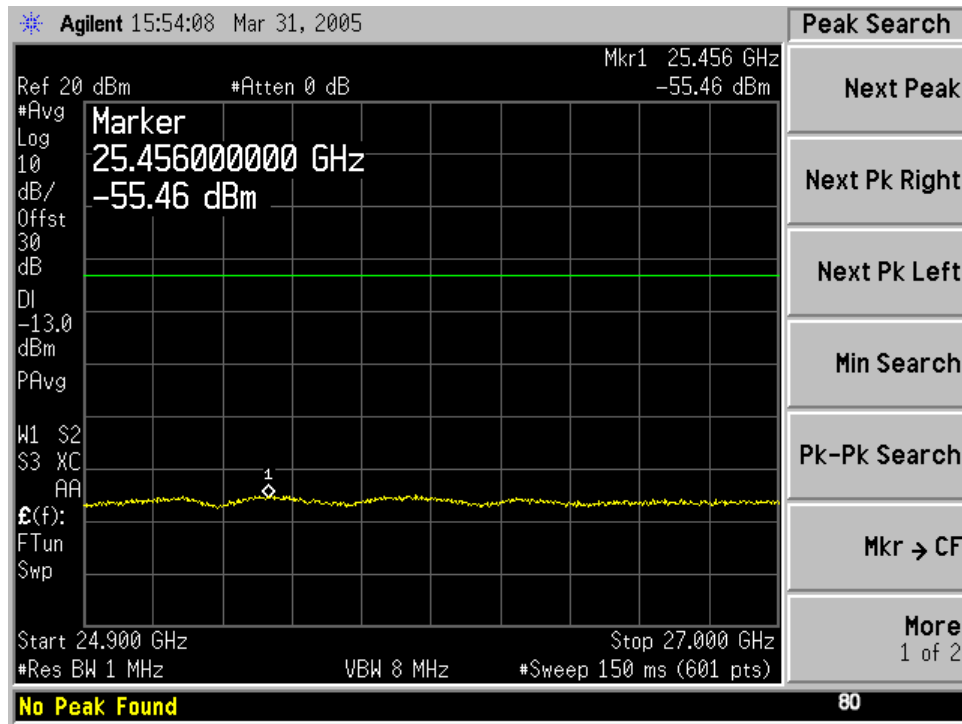


8th harmonic of 2565.25 MHz



9th harmonic of 2565.25 MHz

Spurious emissions at antenna terminals



10th harmonic of 2565.25 MHz

Field Strength Of Spurious Radiation

Rule Part Number: 2.1053, 2.1049, 2.1057

Frequency Range = 30 MHz to 26.86 GHz
Case Radiation Attenuation = $43+10\log P = -13$ dBm maximum

Standard: TIA-603-B
TIA Standard, Land Mobile FM or PM Communications
Equipment, Measurement and Performance Standards

ANSI C63.4-2001 clause 5.4 Radiated Emissions Tests.
American National Standard for Methods of Measurement of
Radio-Noise Emissions from Low-Voltage Electrical and
Electronic Equipment in the Range of 9 kHz to 40 GHz.

Test Procedure: The field strength of spurious radiation was measured at an open area test site with the applicable measurement antennas, low noise amplifiers, and spectrum analyzers. This test was performed with the transmitter connected to the integral antenna. Measurements were performed by TUV America located in Taylors Falls, Minnesota on March 28th and 29th, 2005. Spurious signals were maximized for peak level by rotation of the test unit and elevation of the measurement antenna. Verification of compliance to the emissions limit was accomplished by antenna substitution.

Test Conditions: Frequency = 2499, 2626.75, 2687.25 MHz
Temperature = 25 °C
Supply Voltage = 13.0 VDC nominal

Test Results: Passes Field Strength of Spurious Radiation

TUV Test Report



TEST RESULT SUMMARY

FCC PART 15 SUBPART B
Conducted Emissions - Class B Limit
FCC PART 2.1053

MANUFACTURER'S NAME	NextNet Wireless, Incorporated
NAME OF EQUIPMENT	Expedience Residential Subscriber Unit (RSU)
TYPE OF EQUIPMENT	Mobile Non-Line-of-Sight wireless data link
MODEL NUMBER	900-0060-XXXX
MANUFACTURER'S ADDRESS	9555 James Avenue South, Suite 270 Bloomington MN 55431
TEST REPORT NUMBER	WC501486 Rev A
TEST DATE	29 March 2005

According to testing performed at TÜV Product Service Inc, the above-mentioned unit is in compliance with the electromagnetic compatibility requirements defined in FCC Part 2.1053 and with the conducted emission electromagnetic compatibility requirements defined FCC Part 15.

It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical characteristics. Any modifications necessary for compliance made during testing on the above mentioned date(s) must be implemented in all production units for compliance to be maintained.

TÜV Product Service Inc, as an independent testing laboratory, declares that the equipment tested as specified above conforms to the requirements of FCC Part 2.1053 and with the conducted emission requirements of FCC Part 15.

Date: 05 May 2005

Location: Taylors Falls MN
USA

R. M. Johnson
Tested By

T. K. Swanson
Technical Writer

Not Transferable



EMC EMISSION - TEST REPORT

Test Report File No. : **WC501486 Rev A** Date of issue: 05 May 2005

Model / Serial No. : 900-0060-XXXX / Board #: 1223

Product Name : Expedience Residential Subscriber Unit (RSU)

Product Type : Mobile Non-Line-of-Sight wireless data link

Applicant : NextNet Wireless, Incorporated

Manufacturer : NextNet Wireless, Incorporated

License holder : NextNet Wireless, Incorporated

Address : 9555 James Avenue South, Suite 270
: Bloomington MN 55431

Test Result : Positive Negative

Test Project Number Reference(s) : WC501486 Rev A

Total pages including Appendices : 42

TÜV Product Service Inc is a subcontractor to TÜV Product Service, GmbH according to the principles outlined in ISO/IEC Guide 25 and EN 45001.

TÜV Product Service Inc reports apply only to the specific samples tested under stated test conditions. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. TÜV Product Service Inc shall have no liability for any deductions, inferences or generalizations drawn by the client or others from TÜV Product Service Inc issued reports.

This report is the confidential property of the client. As a mutual protection to our clients, the public and ourselves, extracts from the test report shall not be reproduced except in full without our written approval. This report shall not be used by the client to claim product endorsement by NVLAP or any agency of the US government.

TÜV Product Service Inc and its professional staff hold government and professional organization certifications and are members of AAMI, ACIL, AEA, ANSI, IEEE, NVLAP, and VCCI

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TÜV PRODUCT SERVICE INC 19333 Wild Mountain Road Taylors Falls MN 55084-1758 Tel: 651 638 0297 Fax: 651 638 0298 Rev.No 1.0



DIRECTORY - EMISSIONS

		Page(s)
A) Documentation		
Test report		<u>1 - 12</u>
Directory		<u>3</u>
Test Regulations		<u>4</u>
Deviations from standard / Summary		<u>11</u>
Test-setups (Photos)		<u>12 - 14</u>
Test-setup (drawing)		<u>Appendix A</u>
B) Test data		
Conducted emissions	10/150 kHz - 30 MHz	<u>6, 10</u>
Radiated emissions	10 kHz - 30 MHz	<u>6, 10</u>
Radiated emissions	30 MHz - 1000 MHz	<u>7, 10</u>
Interference power	30 MHz - 300 MHz	<u>7, 10</u>
Equivalent Radiated emissions	1 GHz - 26 GHz	<u>8, 10</u>
C) Appendix A		
Test Data Sheets and Test Setup Drawing(s)		<u>A2 – A18</u>
D) Appendix B		
Constructional Data Form		<u>B2 – B8</u>
Product Information Form(s)		<u>N/A</u>
E) Appendix C		
Measurement Protocol		<u>C1 - C2</u>

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TÜV PRODUCT SERVICE INC 19333 Wild Mountain Road Taylors Falls MN 55084-1758 Tel: 651 638 0297 Fax: 651 638 0298 Rev.No 1.0



EMISSIONS TEST REGULATIONS :

The emissions tests were performed according to following regulations:

- | | | |
|---|---|---|
| <input type="checkbox"/> - EN 50081-1 / 1991 | <input type="checkbox"/> - Group 1 | <input type="checkbox"/> - Group 2 |
| <input type="checkbox"/> - EN 55011 / 1991 | <input type="checkbox"/> - Class A | <input type="checkbox"/> - Class B |
| <input type="checkbox"/> - EN 55013 / 1990 | <input type="checkbox"/> - Household appliances and similar | |
| <input type="checkbox"/> - EN 55014 / 1987 | <input type="checkbox"/> - Portable tools | |
| | <input type="checkbox"/> - Semiconductor devices | |
| <input type="checkbox"/> - EN 55014 / A2:1990 | <input type="checkbox"/> - Household appliances and similar | |
| <input type="checkbox"/> - EN 55014 / 1993 | <input type="checkbox"/> - Portable tools | |
| | <input type="checkbox"/> - Semiconductor devices | |
| <input type="checkbox"/> - EN 55015 / 1987 | | |
| <input type="checkbox"/> - EN 55015 / A1:1990 | | |
| <input type="checkbox"/> - EN 55015 / 1993 | | |
| <input type="checkbox"/> - EN 55022 / 1987 | <input type="checkbox"/> - Class A | <input type="checkbox"/> - Class B |
| <input type="checkbox"/> - EN 55022 / 1994 | <input type="checkbox"/> - Class A | <input type="checkbox"/> - Class B |
| <input type="checkbox"/> - BS | | |
| <input type="checkbox"/> - VCCI | <input type="checkbox"/> - Class A | <input type="checkbox"/> - Class B |
| <input checked="" type="checkbox"/> - FCC Part 15 Subpart B – Conducted Emissions | <input type="checkbox"/> - Class A | <input checked="" type="checkbox"/> - Class B |
| <input checked="" type="checkbox"/> - FCC Part 2.1053 | | |
| <input type="checkbox"/> - AS 3548 (1992) | <input type="checkbox"/> - Class A | <input type="checkbox"/> - Class B |
| <input type="checkbox"/> - CISPR 11 (1990) | <input type="checkbox"/> - Group 1 | <input type="checkbox"/> - Group 2 |
| | <input type="checkbox"/> - Class A | <input type="checkbox"/> - Class B |
| <input type="checkbox"/> - CISPR 22 (1993) | <input type="checkbox"/> - Class A | <input type="checkbox"/> - Class B |

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Environmental conditions in the lab:

	<u>Actual</u>
Temperature:	: 23 °C
Relative Humidity	: 24 %
Atmospheric pressure	: 98.0 kPa
Power supply system	: 115 VAC / 60 Hz / 1-phase

Sign Explanations:

- not applicable
- applicable

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TÜV PRODUCT SERVICE INC 19333 Wild Mountain Road Taylors Falls MN 55084-1758 Tel: 651 638 0297 Fax: 651 638 0298 Rev.No 1.0



Emissions Test Conditions: CONDUCTED EMISSIONS (Interference Voltage)

The **CONDUCTED EMISSIONS (INTERFERENCE VOLTAGE)** measurements were performed at the following test location:

- Test not applicable

- Wild River Lab Large Test Site (Open Area Test Site)
- Wild River Lab Small Test Site (Open Area Test Site)
- Oakwood Lab (Open Area Test Site)
- Wild River Lab Screen Room
- New Brighton Lab Shielded Room

Test equipment used :

TUV ID	Model Number	Manufacturer	Description	Serial Number	Cal Due
■ - 2416	3825/2	Electro-Mechanics (EMCO)	50 Ω LISN	8812-1437	Code B 05-Jan-06
■ - 2417	3825/2	Electro-Mechanics (EMCO)	50 Ω LISN	8812-1439	Code B 10-Feb-06
■ - 2534	ESHS-20	Rhode & Schwarz	EMI Receiver	837055/003	14-Feb-06

Cal Code B = Calibration verification performed internally. Cal Code Y = Calibration not required when used with other calibrated equipment.

All measurement instrumentation is traceable to the National Institute of Standards and Technology (NIST) and is calibrated annually.

Emissions Test Conditions: RADIATED EMISSIONS (Magnetic Field)

The **RADIATED EMISSIONS (MAGNETIC FIELD)** measurements were performed at the following test location:

- Test not applicable

- Wild River Lab Large Test Site (Open Area Test Site)
- Wild River Lab Small Test Site (Open Area Test Site)
- Oakwood Lab (Open Area Test Site)

at a test distance of :

- 3 meters
- 30 meters



Emissions Test Conditions: RADIATED EMISSIONS (Electric Field)

The **RADIATED EMISSIONS (ELECTRIC FIELD)** measurements, in the frequency range of 30 MHz-1000 MHz, were tested in a horizontal and vertical polarization at the following test location:

- Test not applicable

- Wild River Lab Large Test Site (Open Area Test Site) – NSA measurements made 8-04, due 8-06.
- Wild River Lab Small Test Site (Open Area Test Site)
- Oakwood Lab (Open Area Test Site)

at a test distance of :

- 3 meters
- 10 meters
- 30 meters

Test equipment used :

TUV ID	Model Number	Manufacturer	Description	Serial Number	Cal Due
■ - 3204	EM-6917B	Electro-Metrics	Biconicalog Periodic	102	21-Oct-05
■ - 2682	85650A	Hewlett-Packard	Quasi-Peak Adapter	2811A01127	14-Aug-05
■ - 2689	8566B	Hewlett-Packard	Spectrum Analyzer	2416A00321	31-Jan-06
■ - 2674	85662A	Hewlett-Packard	Analyzer Display	2050A02007	31-Jan-06
■ - 2670	8447D	Electro-Mechanics (EMCO)	Preamplifier	2443A03954	Code B 17-Oct-05

Cal Code B = Calibration verification performed internally. Cal Code Y = Calibration not required when used with other calibrated equipment.

All measurement instrumentation is traceable to the National Institute of Standards and Technology (NIST) and is calibrated annually.

Emissions Test Conditions: INTERFERENCE POWER

The **INTERFERENCE POWER** measurements were performed by using the absorbing clamp on the mains and interface cables in the frequency range 30 MHz - 300 MHz at the following test location:

- Test not applicable

- Wild River Lab Large Test Site (Open Area Test Site)
- Wild River Lab Small Test Site (Open Area Test Site)
- Oakwood Lab (Open Area Test Site)
- Wild River Lab Screen Room
- New Brighton Lab Shielded Room

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TUV PRODUCT SERVICE INC 19333 Wild Mountain Road Taylors Falls MN 55084-1758 Tel: 651 638 0297 Fax: 651 638 0298 Rev.No 1.0



Emissions Test Conditions: RADIATED EMISSIONS (Electric Field)

The *EQUIVALENT RADIATED EMISSIONS* measurements in the frequency range 1 GHz – 26 GHz were performed in a horizontal and vertical polarization at the following test location:

- Test not applicable

- Wild River Lab Large Test Site (Open Area Test Site)
- Wild River Lab Small Test Site (Open Area Test Site)
- Oakwood Lab (Open Area Test Site)
- Wild River Lab Screen Room

at a test distance of:

- 1 meters
- 3 meters
- 10 meters

Test equipment used :

TUV ID	Model Number	Manufacturer	Description	Serial Number	Cal Due
■ - 2682	85650A	Hewlett-Packard	Quasi-Peak Adapter	2811A01127	14-Aug-05
■ - 2689	8566B	Hewlett-Packard	Spectrum Analyzer	2416A00321	31-Jan-06
■ - 2674	85662A	Hewlett-Packard	Analyzer Display	2050A02007	31-Jan-06
■ - 3957	SL18B4020	Phase One Microwave	Preamplifier 1 – 18 GHz	0001	Code B 17-Oct-05
■ - 2075	3115	Electro-Mechanics (EMCO)	Ridge Guide Ant. 1-18 GHz	9001-3275	24-Nov-05

Cal Code B = Calibration verification performed internally. Cal Code Y = Calibration not required when used with other calibrated equipment.

All measurement instrumentation is traceable to the National Institute of Standards and Technology (NIST) and is calibrated annually.



Equipment Under Test (EUT) Test Operation Mode - Emission tests :

The device under test was operated under the following conditions during emissions testing:

- Standby
- Test program (H - Pattern)
- Test program (color bar)
- Test program (customer specific)
- Practice operation
- Normal Operating Mode
- Customer Premise Equipment transmitter (vertical and horizontal antenna). Parts 2 and 27
Customer Premise Equipment receive. Part 15. DOC compliance

Configuration of the device under test:

- See Constructional Data Form in Appendix B - Pages B2
- See Product Information Form in Appendix B - beginning on Page B3

The following peripheral devices and interface cables were connected during the measurement:

- _____ Type : _____
- _____ Type : _____
- _____ Type : _____
- _____ Type : _____
- _____ Type : _____
- _____ Type : _____
- _____ Type : _____
- _____ Type : _____
- unshielded power cable
- unshielded cables
- shielded cables MPS.No.: _____
- customer specific cables
- _____
- _____

File No. WC501486 Rev A, Page 9 of 14

TÜV PRODUCT SERVICE INC 19333 Wild Mountain Road Taylors Falls MN 55084-1758 Tel: 651 638 0297 Fax: 651 638 0298 Rev.No 1.0



Emission Test Results:

Conducted emissions 10/150 kHz - 30 MHz – FCC Part 15 Subpart B

The requirements are - MET - NOT MET
 Minimum margin of compliance _____ 16 dB at _____ 196.9 kHz
 Maximum margin of non-compliance _____ dB at _____ MHz
 Remarks: _____

Radiated emissions (electric field) 30 MHz - 1000 MHz – FCC Part 15 Subpart B

The requirements are - MET - NOT MET
 Minimum margin of compliance _____ dB at _____ MHz
 Maximum margin of non-compliance _____ dB at _____ MHz
 Remarks: _____

Equivalent Radiated emissions 1 GHz - 27 GHz – FCC Part 15 Subpart B

The requirements are - MET - NOT MET
 Minimum margin of compliance _____ dB at _____ MHz
 Maximum margin of non-compliance _____ dB at _____ MHz
 Remarks: _____

Radiated emissions (electric field) 30 MHz - 1000 MHz – FCC Part 2.1053

The requirements are - MET - NOT MET
 Minimum margin of compliance _____ 47 dB at _____ 400.0 MHz
 Maximum margin of non-compliance _____ dB at _____ MHz
 Remarks: _____

Radiated emissions (electric field) 1 GHz - 27 GHz – FCC Part 2.1053

The requirements are - MET - NOT MET
 Minimum margin of compliance _____ 2 dB at _____ 5375.0 MHz
 Maximum margin of non-compliance _____ dB at _____ MHz
 Remarks: _____

File No. WC501486 Rev A, Page 10 of 14

TÜV PRODUCT SERVICE INC 19333 Wild Mountain Road Taylors Falls MN 55084-1758 Tel: 651 638 0297 Fax: 651 638 0298 Rev.No 1.0



DEVIATIONS FROM STANDARD:

None

GENERAL REMARKS:

SUMMARY:

The requirements according to the technical regulations are

- met
- not met.

The device under test does

- fulfill the general approval requirements mentioned on page 3.
- not fulfill the general approval requirements mentioned on page 3.

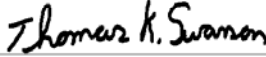
Testing Start Date: 29 March 2005

Testing End Date: 29 March 2005

- TÜV PRODUCT SERVICE INC -



Tested By:
R. M. Johnson



T. K. Swanson
Technical Writer

File No. WC501486 Rev A, Page 11 of 14

TÜV PRODUCT SERVICE INC 19333 Wild Mountain Road Taylors Falls MN 55084-1758 Tel: 651 638 0297 Fax: 651 638 0298 Rev.No 1.0

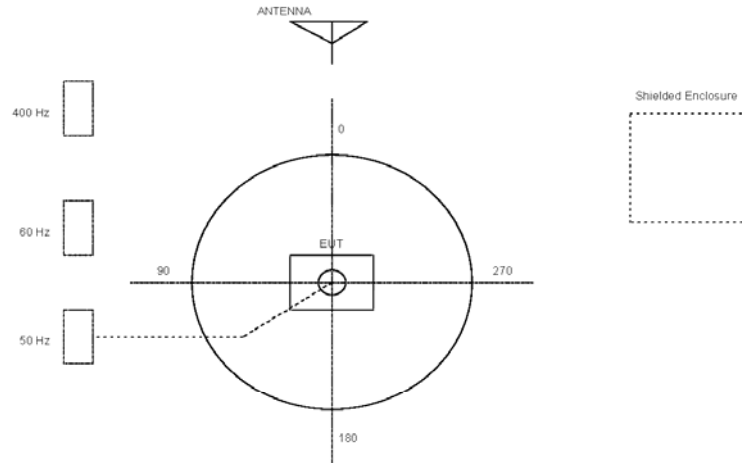


TEST SETUP FOR EMISSIONS TESTING

WILD RIVER LAB
Large Test Site

Notes:

1. Items shown in dotted lines are located on the floor below the test area. It is 5 meters vertically from the ground floor to the test area.
2. 50 Hz, 60 Hz, and 400 Hz are power panels for alternating current.
3. The antenna may be positioned horizontally 3, 10 or 30 meters from the center of the turntable.
4. The circle is a 6.7 meter diameter turntable.
5. A ground plane is in the plane of this sheet.
6. The test sample is shown in the azimuthal position representing zero degrees.



File No. WC501486 Rev A, Page A2 of A18

TÜV PRODUCT SERVICE INC 19333 Wild Mountain Road Taylors Falls MN 55084-1758 Tel: 651 638 0297 Fax: 651 638 0298 Rev.No 1.0

RADIATED EMISSIONS



Test Report #: WC501486 Run 1 Test Area: LTS
 EUT Model #: RSU2510F Date: 3/29/2005
 EUT Serial #: 1223 EUT Power: 60Hz/110VAC Temperature: 23.0 °C
 Test Method: FCC B Air Pressure: 98.0 kPa
 Customer: NEXNET WIRELESS Rel. Humidity: 24.0 %
 EUT Description: WIRELESS DATA MODEM
 Notes: VERTICAL TRANSMIT ANTENNA - TRANSMITTER SPURIOUS SCAN.
 Data File Name: 1486.dat Page: 1 of 9

List of measurements for run #: 1						
FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN+Substitution Factor (dB)	FINAL (dBm)	POL / HGT / AZ (m)(DEG)	DELTA1 -13 dBm QP (dB)	DELTA2 -13 dBm Ave (dB)
A substitution measurement was performed for the highest spurious emission (400 MHz), as described on page C2 of the test report, using a signal generator, a cable, and a dipole antenna.						
The cable between the signal generator and dipole antenna has a loss of 1.6 dB at 400 MHz. The Schwarzbeck dipole antenna has an additional 1.64 dB of gain over the 2.15 dB gain of a standard dipole. The Schwarzbeck dipole also has a 10 dB input attenuator. So the final or total gain of the dipole is 1.64 dB plus 2.15 dB minus 10 dB = -6.21 dB.						
The signal generator level was set to -53 dBm in order to match the measured EUT emission level of 36.66 dBuV/m. The signal generator level minus the cable loss from the signal generator to the substitute antenna plus the substitute antenna gain equals the spurious power level. -53 dBm - (1.6) + (-6.21) = -60.8 final dBm power level at 400 MHz.						
The difference between the final dBm substitution level (-60.8) and the final measured dBuV/m level (36.66) equals -97.46 dB and is used as a substitution factor to convert dBuV/m to dBm for spurious emissions in the frequency range of 30 MHz to 1 GHz.						
For most of the spurious emissions above 1 GHz an additional filter with a 10 dB attenuator was used on the input to result in a substitution factor -87.46 dB.						

Tested by: RMJ

 Printed Signature
Russell M. Johnson

Reviewed by: TKS

 Printed Signature
Thomas K. Swanson

File No. WC501486 Rev A, Page A7 of A18

RADIATED EMISSIONS



Test Report #: WC501486 Run 1 Test Area: LTS
 EUT Model #: RSU2510F Date: 3/29/2005
 EUT Serial #: 1223 EUT Power: 60Hz/110VAC Temperature: 23.0 °C
 Test Method: FCC B Air Pressure: 98.0 kPa
 Customer: NEXNET WIRELESS Rel. Humidity: 24.0 %

EUT Description: WIRELESS DATA MODEM

Notes: VERTICAL TRANSMIT ANTENNA - TRANSMITTER SPURIOUS SCAN.

Data File Name: 1486.dat

Page: 2 of 9

List of measurements for run #: 1						
FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN+Substitution Factor (dB)	FINAL (dBm)	POL / HGT / AZ (m)(DEG)	DELTA1 -13 dBm QP (dB)	DELTA2 -13 dBm Ave (dB)
* Denotes a peak measurement compared to an average limit.						
5.5MHz CHANNEL BANDWIDTH MAXIMIZED.						
LOW CHANNEL RF CHANNEL						
4.998 GHz	51.4 Av	6.5 / 33.39 / 40.59 / -87.26	-36.56	V / 1.24 / 203	n/a	-23.56
MID CHANNEL RF CHANNEL						
5.15 GHz	51.9 Av	6.59 / 33.6 / 40.21 / -87.26	-35.38	V / 1.15 / 230	n/a	-22.38
HI RF CHANNEL						
5.375 GHz	50.2 Av	6.72 / 33.91 / 40.28 / -87.36	-36.81	V / 1.30 / 183	n/a	-23.81
5.375 GHz	58.25 Pk	6.72 / 33.91 / 40.28 / -87.36	-28.76	V / 1.30 / 183	n/a	-15.76*
7.874 GHz	39.42 Av	8.28 / 36.83 / 40.29 / -87.36	-43.11	V / 1.30 / 183	n/a	-30.11
MID CHANNEL						
7.725 GHz	43.07 Av	8.23 / 36.74 / 41.09 / -87.36	-40.42	V / 1.00 / 217	n/a	-27.42
5.15 GHz	60.55 Pk	6.59 / 33.6 / 40.21 / -87.26	-26.73	V / 1.00 / 217	n/a	-13.73*
LOW CHANNEL						
4.998 GHz	65.3 Pk	6.5 / 33.39 / 40.59 / -87.26	-22.66	V / 1.00 / 217	n/a	-9.66*
7.497 GHz	40.63 Av	8.14 / 36.59 / 41.18 / -87.46	-43.28	V / 1.00 / 217	n/a	-30.28
NO EMISSIONS FOUND FROM 8 - 18GHz V OR H POLARIZATIONS AT ALL AZIMUTHS.						

Tested by: RMJ

Printed

Signature

Reviewed by: TKS

Printed

Signature

File No. WC501486 Rev A, Page A8 of A18

RADIATED EMISSIONS



Test Report #: WC501486 Run 1 Test Area: LTS
 EUT Model #: RSU2510F Date: 3/29/2005
 EUT Serial #: 1223 EUT Power: 60Hz/110VAC Temperature: 23.0 °C
 Test Method: FCC B Air Pressure: 98.0 kPa
 Customer: NEXNET WIRELESS Rel. Humidity: 24.0 %

EUT Description: WIRELESS DATA MODEM

Notes: VERTICAL TRANSMIT ANTENNA - TRANSMITTER SPURIOUS SCAN.

Data File Name: 1486.dat

Page: 3 of 9

List of measurements for run #: 1						
FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN+Substitution Factor (dB)	FINAL (dBm)	POL / HGT / AZ (m)(DEG)	DELTA1 -13 dBm QP (dB)	DELTA2 -13 dBm Ave (dB)
NOISE FLOOR READINGS BELOW.						
8.0 GHz	45.44 Av	8.43 / 36.91 / 46.14 / -97.46	-52.82	V / 1.00 / 217	n/a	-39.82
18.0 GHz	44.49 Av	13.5 / 47.44 / 44.3 / -97.46	-36.33	V / 1.00 / 217	n/a	-23.33
END OF SCAN > 1GHz.						
LOW CHANNEL						
33.185 MHz	35.05 Qp	0.45 / 19.39 / 25.16 / -97.46	-67.73	V / 1.00 / 0	-54.73	n/a
60.092 MHz	41.1 Qp	0.6 / 11.5 / 25.2 / -97.46	-69.47	V / 1.00 / 0	-56.47	n/a
66.455 MHz	30.8 Qp	0.7 / 9.99 / 25.25 / -97.46	-81.22	V / 1.00 / 0	-68.22	n/a
106.098 MHz	36.9 Qp	0.81 / 9.23 / 25.3 / -97.46	-75.83	V / 1.00 / 0	-62.83	n/a
170.185 MHz	39.55 Qp	1.09 / 8.89 / 25.29 / -97.46	-73.23	V / 1.00 / 0	-60.23	n/a
174.82 MHz	32.45 Qp	1.1 / 9.07 / 25.22 / -97.46	-80.05	V / 1.00 / 0	-67.05	n/a
180.226 MHz	34.7 Qp	1.1 / 9.47 / 25.13 / -97.46	-77.31	V / 1.00 / 0	-64.31	n/a
249.328 MHz	35.8 Qp	1.34 / 11.8 / 24.6 / -97.46	-73.12	V / 1.00 / 0	-60.12	n/a
250.282 MHz	36.8 Qp	1.34 / 11.89 / 24.6 / -97.46	-72.03	V / 1.00 / 0	-59.03	n/a
294.92 MHz	29.75 Qp	1.5 / 13.04 / 24.6 / -97.46	-77.78	V / 1.00 / 0	-64.78	n/a
330.423 MHz	34.55 Qp	1.55 / 14.02 / 24.5 / -97.46	-71.84	V / 1.00 / 0	-58.84	n/a
370.48 MHz	33.1 Qp	1.61 / 15.02 / 24.37 / -97.46	-72.11	V / 1.00 / 0	-59.11	n/a
60.092 MHz	41.95 Qp	0.6 / 11.5 / 25.2 / -97.46	-68.62	V / 1.00 / 90	-55.62	n/a
66.455 MHz	34.9 Qp	0.7 / 9.99 / 25.25 / -97.46	-77.12	V / 1.00 / 90	-64.12	n/a
180.226 MHz	35.95 Qp	1.1 / 9.47 / 25.13 / -97.46	-76.06	V / 1.00 / 90	-63.06	n/a
113.05 MHz	37.75 Qp	0.9 / 9.44 / 25.33 / -97.46	-74.7	V / 1.00 / 90	-61.7	n/a
159.973 MHz	39.5 Qp	1.0 / 8.7 / 25.39 / -97.46	-73.65	V / 1.00 / 90	-60.65	n/a

Tested by: RMJ

Printed

Signature

Reviewed by: TKS

Printed

Signature

File No. WC501486 Rev A, Page A9 of A18

RADIATED EMISSIONS



Test Report #: WC501486 Run 1 Test Area: LTS
 EUT Model #: RSU2510F Date: 3/29/2005
 EUT Serial #: 1223 EUT Power: 60Hz/110VAC Temperature: 23.0 °C
 Test Method: FCC B Air Pressure: 98.0 kPa
 Customer: NEXNET WIRELESS Rel. Humidity: 24.0 %
 EUT Description: WIRELESS DATA MODEM

Notes: VERTICAL TRANSMIT ANTENNA - TRANSMITTER SPURIOUS SCAN.

Data File Name: 1486.dat

Page: 4 of 9

List of measurements for run #: 1						
FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN+Substitution Factor (dB)	FINAL (dBm)	POL / HGT / AZ (m)(DEG)	DELTA1 -13 dBm QP (dB)	DELTA2 -13 dBm Ave (dB)
160.489 MHz	39.0 Qp	1.0 / 8.7 / 25.38 / -97.46	-74.14	V / 1.00 / 90	-61.14	n/a
179.983 MHz	37.05 Qp	1.1 / 9.45 / 25.13 / -97.46	-74.99	V / 1.00 / 90	-61.99	n/a
180.614 MHz	36.75 Qp	1.1 / 9.5 / 25.12 / -97.46	-75.23	V / 1.00 / 90	-62.23	n/a
190.001 MHz	40.75 Qp	1.15 / 10.34 / 25.04 / -97.46	-70.26	V / 1.00 / 90	-57.26	n/a
200.003 MHz	42.5 Qp	1.2 / 10.68 / 24.96 / -97.46	-68.04	V / 1.00 / 90	-55.04	n/a
210.024 MHz	38.3 Qp	1.2 / 10.53 / 24.89 / -97.46	-72.32	V / 1.00 / 90	-59.32	n/a
210.738 MHz	38.5 Qp	1.2 / 10.55 / 24.89 / -97.46	-72.1	V / 1.00 / 90	-59.1	n/a
230.054 MHz	42.15 Qp	1.3 / 11.03 / 24.72 / -97.46	-67.71	V / 1.00 / 90	-54.71	n/a
240.026 MHz	41.9 Qp	1.3 / 11.32 / 24.6 / -97.46	-67.54	V / 1.00 / 90	-54.54	n/a
400.017 MHz	41.95 Qp	1.7 / 16.07 / 24.41 / -97.46	-62.15	V / 1.00 / 90	-49.15	n/a
700.041 MHz	32.9 Qp	2.3 / 20.33 / 24.48 / -97.46	-66.41	V / 1.00 / 90	-53.41	n/a
60.092 MHz	43.6 Qp	0.6 / 11.5 / 25.2 / -97.46	-66.97	V / 1.00 / 180	-53.97	n/a
113.05 MHz	39.55 Qp	0.9 / 9.44 / 25.33 / -97.46	-72.9	V / 1.00 / 180	-59.9	n/a
180.226 MHz	36.75 Qp	1.1 / 9.47 / 25.13 / -97.46	-75.26	V / 1.00 / 180	-62.26	n/a
190.001 MHz	42.0 Qp	1.15 / 10.34 / 25.04 / -97.46	-69.01	V / 1.00 / 180	-56.01	n/a
200.003 MHz	42.8 Qp	1.2 / 10.68 / 24.96 / -97.46	-67.74	V / 1.00 / 180	-54.74	n/a
210.024 MHz	39.5 Qp	1.2 / 10.53 / 24.89 / -97.46	-71.12	V / 1.00 / 180	-58.12	n/a
330.423 MHz	37.7 Qp	1.55 / 14.02 / 24.5 / -97.46	-68.69	V / 1.00 / 180	-55.69	n/a
370.48 MHz	38.55 Qp	1.61 / 15.02 / 24.37 / -97.46	-66.66	V / 1.00 / 180	-53.66	n/a
400.017 MHz	43.3 Qp	1.7 / 16.07 / 24.41 / -97.46	-60.8	V / 1.00 / 180	-47.8	n/a
60.092 MHz	44.85 Qp	0.6 / 11.5 / 25.2 / -97.46	-65.72	V / 1.00 / 270	-52.72	n/a
MAXIMIZED.						
60.092 MHz	45.9 Qp	0.6 / 11.5 / 25.2 / -97.46	-64.67	V / 1.00 / 282	-51.67	n/a

Tested by: RMJ

 Printed Signature
 Reviewed by: TKS

 Printed Signature

File No. WC501486 Rev A, Page A10 of A18

RADIATED EMISSIONS



Test Report #: WC501486 Run 1 Test Area: LTS
 EUT Model #: RSU2510F Date: 3/29/2005
 EUT Serial #: 1223 EUT Power: 60Hz/110VAC Temperature: 23.0 °C
 Test Method: FCC B Air Pressure: 98.0 kPa
 Customer: NEXNET WIRELESS Rel. Humidity: 24.0 %

EUT Description: WIRELESS DATA MODEM

Notes: VERTICAL TRANSMIT ANTENNA - TRANSMITTER SPURIOUS SCAN.

Data File Name: 1486.dat

Page: 5 of 9

List of measurements for run #: 1						
FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN+Substitution Factor (dB)	FINAL (dBm)	POL / HGT / AZ (m)(DEG)	DELTA1 -13 dBm QP (dB)	DELTA2 -13 dBm Ave (dB)
END OF VERTICAL SCAN < 1GHz.						
180.226 MHz	38.6 Qp	1.1 / 9.47 / 25.13 / -97.46	-73.41	H / 3.00 / 90	-60.41	n/a
170.185 MHz	44.05 Qp	1.09 / 8.89 / 25.29 / -97.46	-68.73	H / 3.00 / 270	-55.73	n/a
180.226 MHz	40.5 Qp	1.1 / 9.47 / 25.13 / -97.46	-71.51	H / 3.00 / 270	-58.51	n/a
MAXIMIZED.						
170.185 MHz	46.5 Qp	1.09 / 8.89 / 25.29 / -97.46	-66.28	H / 1.50 / 260	-53.28	n/a
SWITCHED TO 6MHz CHANNEL BANDWIDTH						
168.0 MHz	40.8 Qp	1.07 / 8.8 / 25.32 / -97.46	-72.11	V / 1.00 / 0	-59.11	n/a
196.0 MHz	39.5 Qp	1.19 / 10.88 / 24.99 / -97.46	-70.88	V / 1.00 / 0	-57.88	n/a
252.0 MHz	34.9 Qp	1.35 / 12.04 / 24.6 / -97.46	-73.76	V / 1.00 / 0	-60.76	n/a
280.0 MHz	34.1 Qp	1.5 / 12.36 / 24.68 / -97.46	-74.18	V / 1.00 / 0	-61.18	n/a
308.0 MHz	34.45 Qp	1.5 / 13.45 / 24.54 / -97.46	-72.6	V / 1.00 / 0	-59.6	n/a
315.0 MHz	30.55 Qp	1.5 / 13.66 / 24.51 / -97.46	-76.26	V / 1.00 / 0	-63.26	n/a
392.0 MHz	32.1 Qp	1.69 / 15.77 / 24.32 / -97.46	-72.22	V / 1.00 / 0	-59.22	n/a
420.0 MHz	30.3 Qp	1.7 / 16.19 / 24.56 / -97.46	-73.83	V / 1.00 / 0	-60.83	n/a
560.0 MHz	29.1 Qp	2.01 / 18.38 / 24.28 / -97.46	-72.25	V / 1.00 / 0	-59.25	n/a
140.0 MHz	35.65 Qp	1.0 / 9.09 / 25.38 / -97.46	-77.1	V / 1.00 / 0	-64.1	n/a
420.0 MHz	36.95 Qp	1.7 / 16.19 / 24.56 / -97.46	-67.18	V / 1.00 / 90	-54.18	n/a
560.0 MHz	30.45 Qp	2.01 / 18.38 / 24.28 / -97.46	-70.9	V / 1.00 / 90	-57.9	n/a

Tested by: RMJ

Printed

Signature

Reviewed by: TKS

Printed

Signature

File No. WC501486 Rev A, Page A11 of A18

RADIATED EMISSIONS



Test Report #: WC501486 Run 1 Test Area: LTS
 EUT Model #: RSU2510F Date: 3/29/2005
 EUT Serial #: 1223 EUT Power: 60Hz/110VAC Temperature: 23.0 °C
 Test Method: FCC B Air Pressure: 98.0 kPa
 Customer: NEXNET WIRELESS Rel. Humidity: 24.0 %

EUT Description: WIRELESS DATA MODEM

Notes: VERTICAL TRANSMIT ANTENNA - TRANSMITTER SPURIOUS SCAN.

Data File Name: 1486.dat

Page: 6 of 9

List of measurements for run #: 1						
FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN+Substitution Factor (dB)	FINAL (dBm)	POL / HGT / AZ (m)(DEG)	DELTA1 -13 dBm QP (dB)	DELTA2 -13 dBm Ave (dB)
140.0 MHz	40.15 Qp	1.0 / 9.09 / 25.38 / -97.46	-72.6	V / 1.00 / 180	-59.6	n/a
168.0 MHz	47.3 Qp	1.07 / 8.8 / 25.32 / -97.46	-65.61	V / 1.00 / 180	-52.61	n/a
196.0 MHz	40.6 Qp	1.19 / 10.88 / 24.99 / -97.46	-69.78	V / 1.00 / 180	-56.78	n/a
280.0 MHz	36.5 Qp	1.5 / 12.36 / 24.68 / -97.46	-71.78	V / 1.00 / 180	-58.78	n/a
392.0 MHz	39.75 Qp	1.69 / 15.77 / 24.32 / -97.46	-64.57	V / 1.00 / 180	-51.57	n/a
420.0 MHz	38.65 Qp	1.7 / 16.19 / 24.56 / -97.46	-65.48	V / 1.00 / 180	-52.48	n/a
560.0 MHz	33.2 Qp	2.01 / 18.38 / 24.28 / -97.46	-68.15	V / 1.00 / 180	-55.15	n/a
MAXIMIZED.						
168.0 MHz	47.75 Qp	1.07 / 8.8 / 25.32 / -97.46	-65.16	V / 1.00 / 153	-52.16	n/a
END OF VERTICAL SCAN < 1GHz.						
179.983 MHz	39.2 Qp	1.1 / 9.45 / 25.13 / -97.46	-72.84	H / 3.00 / 90	-59.84	n/a
130.146 MHz	43.55 Qp	1.0 / 8.45 / 25.48 / -97.46	-69.94	H / 3.00 / 270	-56.94	n/a
MAXIMIZED.						
130.146 MHz	43.55 Qp	1.0 / 8.45 / 25.48 / -97.46	-69.94	H / 2.70 / 270	-56.94	n/a
NO NEW OR HIGHER EMISSIONS FOUND WITH MIDDLE AND HIGH RF CHANNELS AT ALL AZIMUTHS						
END OF SCAN 30 - 26000MHz.						

Tested by: RMJ

Printed

Signature

Reviewed by: TKS

Printed

Signature

File No. WC501486 Rev A, Page A12 of A18

RADIATED EMISSIONS



Test Report #: WC501486 Run 1 Test Area: LTS
 EUT Model #: RSU2510F Date: 3/29/2005
 EUT Serial #: 1223 EUT Power: 60Hz/110VAC Temperature: 23.0 °C
 Test Method: FCC B Air Pressure: 98.0 kPa
 Customer: NEXNET WIRELESS Rel. Humidity: 24.0 %
 EUT Description: WIRELESS DATA MODEM

Notes: VERTICAL TRANSMIT ANTENNA - TRANSMITTER SPURIOUS SCAN.

Data File Name: 1486.dat Page: 7 of 9

Measurement summary for limit1: -13 dBm QP (Qp)					
FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN+Substitution Factor (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 -13 dBm QP (dB)
400.017 MHz	43.3 Qp	1.7 / 16.07 / 24.41 / -97.46	-60.8	V / 1.00 / 180	-47.8
392.0 MHz	39.75 Qp	1.69 / 15.77 / 24.32 / -97.46	-64.57	V / 1.00 / 180	-51.57
60.092 MHz	45.9 Qp	0.6 / 11.5 / 25.2 / -97.46	-64.67	V / 1.00 / 282	-51.67
168.0 MHz	47.75 Qp	1.07 / 8.8 / 25.32 / -97.46	-65.16	V / 1.00 / 153	-52.16
420.0 MHz	38.65 Qp	1.7 / 16.19 / 24.56 / -97.46	-65.48	V / 1.00 / 180	-52.48
170.185 MHz	46.5 Qp	1.09 / 8.89 / 25.29 / -97.46	-66.28	H / 1.50 / 260	-53.28
700.041 MHz	32.9 Qp	2.3 / 20.33 / 24.48 / -97.46	-66.41	V / 1.00 / 90	-53.41
370.48 MHz	38.55 Qp	1.61 / 15.02 / 24.37 / -97.46	-66.66	V / 1.00 / 180	-53.66
240.026 MHz	41.9 Qp	1.3 / 11.32 / 24.6 / -97.46	-67.54	V / 1.00 / 90	-54.54
230.054 MHz	42.15 Qp	1.3 / 11.03 / 24.72 / -97.46	-67.71	V / 1.00 / 90	-54.71
33.185 MHz	35.05 Qp	0.45 / 19.39 / 25.16 / -97.46	-67.73	V / 1.00 / 0	-54.73
200.003 MHz	42.8 Qp	1.2 / 10.68 / 24.96 / -97.46	-67.74	V / 1.00 / 180	-54.74
560.0 MHz	33.2 Qp	2.01 / 18.38 / 24.28 / -97.46	-68.15	V / 1.00 / 180	-55.15
330.423 MHz	37.7 Qp	1.55 / 14.02 / 24.5 / -97.46	-68.69	V / 1.00 / 180	-55.69
190.001 MHz	42.0 Qp	1.15 / 10.34 / 25.04 / -97.46	-69.01	V / 1.00 / 180	-56.01
196.0 MHz	40.6 Qp	1.19 / 10.88 / 24.99 / -97.46	-69.78	V / 1.00 / 180	-56.78
130.146 MHz	43.55 Qp	1.0 / 8.45 / 25.48 / -97.46	-69.94	H / 3.00 / 270	-56.94
210.024 MHz	39.5 Qp	1.2 / 10.53 / 24.89 / -97.46	-71.12	V / 1.00 / 180	-58.12
180.226 MHz	40.5 Qp	1.1 / 9.47 / 25.13 / -97.46	-71.51	H / 3.00 / 270	-58.51
280.0 MHz	36.5 Qp	1.5 / 12.36 / 24.68 / -97.46	-71.78	V / 1.00 / 180	-58.78
250.282 MHz	36.8 Qp	1.34 / 11.89 / 24.6 / -97.46	-72.03	V / 1.00 / 0	-59.03
210.738 MHz	38.5 Qp	1.2 / 10.55 / 24.89 / -97.46	-72.1	V / 1.00 / 90	-59.1
308.0 MHz	34.45 Qp	1.5 / 13.45 / 24.54 / -97.46	-72.6	V / 1.00 / 0	-59.6
140.0 MHz	40.15 Qp	1.0 / 9.09 / 25.38 / -97.46	-72.6	V / 1.00 / 180	-59.6
179.983 MHz	39.2 Qp	1.1 / 9.45 / 25.13 / -97.46	-72.84	H / 3.00 / 90	-59.84

Tested by: RMJ
 Printed: _____ Signature: *Ron M. Johnson*
 Reviewed by: TKS
 Printed: _____ Signature: *Thomas K. Swanson*

File No. WC501486 Rev A, Page A13 of A18

RADIATED EMISSIONS



Test Report #: WC501486 Run 1 Test Area: LTS
 EUT Model #: RSU2510F Date: 3/29/2005
 EUT Serial #: 1223 EUT Power: 60Hz/110VAC Temperature: 23.0 °C
 Test Method: FCC B Air Pressure: 98.0 kPa
 Customer: NEXNET WIRELESS Rel. Humidity: 24.0 %
 EUT Description: WIRELESS DATA MODEM

Notes: VERTICAL TRANSMIT ANTENNA - TRANSMITTER SPURIOUS SCAN.

Data File Name: 1486.dat Page: 8 of 9

Measurement summary for limit1: -13 dBm QP (Qp)					
FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN+Substitution Factor (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 -13 dBm QP (dB)
113.05 MHz	39.55 Qp	0.9 / 9.44 / 25.33 / -97.46	-72.9	V / 1.00 / 180	-59.9
249.328 MHz	35.8 Qp	1.34 / 11.8 / 24.6 / -97.46	-73.12	V / 1.00 / 0	-60.12
159.973 MHz	39.5 Qp	1.0 / 8.7 / 25.39 / -97.46	-73.65	V / 1.00 / 90	-60.65
252.0 MHz	34.9 Qp	1.35 / 12.04 / 24.6 / -97.46	-73.76	V / 1.00 / 0	-60.76
160.489 MHz	39.0 Qp	1.0 / 8.7 / 25.38 / -97.46	-74.14	V / 1.00 / 90	-61.14
180.614 MHz	36.75 Qp	1.1 / 9.5 / 25.12 / -97.46	-75.23	V / 1.00 / 90	-62.23
106.098 MHz	36.9 Qp	0.81 / 9.23 / 25.3 / -97.46	-75.83	V / 1.00 / 0	-62.83
315.0 MHz	30.55 Qp	1.5 / 13.66 / 24.51 / -97.46	-76.26	V / 1.00 / 0	-63.26
66.455 MHz	34.9 Qp	0.7 / 9.99 / 25.25 / -97.46	-77.12	V / 1.00 / 90	-64.12
294.92 MHz	29.75 Qp	1.5 / 13.04 / 24.6 / -97.46	-77.78	V / 1.00 / 0	-64.78
174.82 MHz	32.45 Qp	1.1 / 9.07 / 25.22 / -97.46	-80.05	V / 1.00 / 0	-67.05

Tested by: RMJ

 Printed Signature
Richard M. Johnson

Reviewed by: TKS

 Printed Signature
Thomas K. Swanson

File No. WC501486 Rev A, Page A14 of A18

RADIATED EMISSIONS



Test Report #: WC501486 Run 1 Test Area: LTS
 EUT Model #: RSU2510F Date: 3/29/2005
 EUT Serial #: 1223 EUT Power: 60Hz/110VAC Temperature: 23.0 °C
 Test Method: FCC B Air Pressure: 98.0 kPa
 Customer: NEXNET WIRELESS Rel. Humidity: 24.0 %
 EUT Description: WIRELESS DATA MODEM
 Notes: VERTICAL TRANSMIT ANTENNA - TRANSMITTER SPURIOUS SCAN.
 Data File Name: 1486.dat Page: 9 of 9

Measurement summary for limit2: -13 dBm Ave (Av)					
FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN+Substitution Factor (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA2 -13 dBm Ave(dB)
5.15 GHz	51.9 Av	6.59 / 33.6 / 40.21 / -87.26	-35.38	V / 1.15 / 230	-22.38
18.0 GHz	44.49 Av	13.5 / 47.44 / 44.3 / -97.46	-36.33	V / 1.00 / 217	-23.33
4.998 GHz	51.4 Av	6.5 / 33.39 / 40.59 / -87.26	-36.56	V / 1.24 / 203	-23.56
5.375 GHz	50.2 Av	6.72 / 33.91 / 40.28 / -87.36	-36.81	V / 1.30 / 183	-23.81
7.725 GHz	43.07 Av	8.23 / 36.74 / 41.09 / -87.36	-40.42	V / 1.00 / 217	-27.42
7.874 GHz	39.42 Av	8.28 / 36.83 / 40.29 / -87.36	-43.11	V / 1.30 / 183	-30.11
7.497 GHz	40.63 Av	8.14 / 36.59 / 41.18 / -87.46	-43.28	V / 1.00 / 217	-30.28
8.0 GHz	45.44 Av	8.43 / 36.91 / 46.14 / -97.46	-52.82	V / 1.00 / 217	-39.82
5.375 GHz	58.25 Pk	6.72 / 33.91 / 40.28 / -87.36	-28.76	V / 1.30 / 183	-15.76*
5.15 GHz	60.55 Pk	6.59 / 33.6 / 40.21 / -87.26	-26.73	V / 1.00 / 217	-13.73*
4.998 GHz	65.3 Pk	6.5 / 33.39 / 40.59 / -87.26	-22.66	V / 1.00 / 217	-9.66*

* Denotes a peak measurement compared to an average limit.

Tested by: RMJ
 Printed: _____ Signature: *RMJ*
 Reviewed by: TKS
 Printed: _____ Signature: *Thomas K. Swanson*

File No. WC501486 Rev A, Page A15 of A18

RADIATED EMISSIONS



Test Report #: WC501486 Run 3 Test Area: LTS
 EUT Model #: RSU2510F Date: 3/29/2005
 EUT Serial #: 1223 EUT Power: 60Hz/110VAC Temperature: 23.0 °C
 Test Method: FCC 2.1053 Air Pressure: 98.0 kPa
 Customer: NEXNET WIRELESS Rel. Humidity: 24.0 %
 EUT Description: WIRELESS DATA MODEM

Notes: HORIZONTAL TRANSMIT ANTENNA - TRANSMITTER SPURIOUS SCAN.

Data File Name: 1486.dat Page: 1 of 3

List of measurements for run #: 3						
FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN+Substitution Factor (dB)	FINAL (dBm)	POL / HGT / AZ (m)(DEG)	DELTA1 -13 dBm Ave (dB)	DELTA2
* Denotes a peak measurement compared to average limit.						
LOW RF CHANNEL						
MAXIMIZED.						
4.998 GHz	51.82 Av	6.5 / 33.29 / 44.64 / -87.26	-40.3	H / 1.80 / 211	-27.3	n/a
4.998 GHz	68.15 Pk	6.5 / 33.29 / 44.64 / -87.26	-23.96	H / 1.80 / 211	-10.96*	n/a
7.497 GHz	46.21 Av	8.14 / 36.45 / 45.65 / -87.46	-42.31	H / 1.28 / 166	-29.31	n/a
7.497 GHz	52.6 Pk	8.14 / 36.45 / 45.65 / -87.46	-35.92	H / 1.28 / 166	-22.92*	n/a
MIDDLE RF CHANNEL						
5.149 GHz	45.17 Av	6.59 / 33.53 / 44.65 / -87.26	-46.62	H / 1.00 / 69	-33.62	n/a
5.149 GHz	70.15 Pk	6.59 / 33.53 / 44.65 / -87.26	-21.64	H / 1.74 / 0	-8.64*	n/a
7.724 GHz	44.69 Av	8.23 / 36.53 / 44.94 / -87.36	-42.85	H / 1.23 / 161	-29.85	n/a
7.725 GHz	57.95 Pk	8.23 / 36.53 / 44.95 / -87.36	-29.6	H / 1.74 / 161	-16.6*	n/a
HI RF CHANNEL.						
5.375 GHz	52.39 Av	6.72 / 33.88 / 44.78 / -87.36	-39.14	H / 1.30 / 60	-26.14	n/a
5.375 GHz	75.8 Pk	6.72 / 33.88 / 44.78 / -87.36	-15.73	H / 1.30 / 60	-2.73*	n/a
8.062 GHz	50.76 Av	8.53 / 36.72 / 45.79 / -87.26	-37.03	H / 1.84 / 135	-24.03	n/a
8.062 GHz	58.3 Pk	8.53 / 36.72 / 45.78 / -87.26	-29.49	H / 1.84 / 135	-16.49*	n/a
10.749 GHz	50.79 Av	9.98 / 37.99 / 44.78 / -97.46	-43.48	H / 1.00 / 1	-30.48	n/a
10.749 GHz	55.0 Pk	9.98 / 37.99 / 44.78 / -97.46	-39.27	H / 1.00 / 1	-26.27*	n/a
MIDDLE RF CHANNEL						
10.3 GHz	51.0 Av	9.84 / 37.93 / 44.95 / -97.46	-43.64	H / 1.00 / 158	-30.64	n/a

Tested by: RMJ

 Printed Signature

Reviewed by: TKS

 Printed Signature

File No. WC501486 Rev A, Page A16 of A18

RADIATED EMISSIONS



Test Report #: WC501486 Run 3 Test Area: LTS

EUT Model #: RSU2510F Date: 3/29/2005

EUT Serial #: 1223 EUT Power: 60Hz/110VAC Temperature: 23.0 °C

Test Method: FCC 2.1053 Air Pressure: 98.0 kPa

Customer: NEXNET WIRELESS Rel. Humidity: 24.0 %

EUT Description: WIRELESS DATA MODEM

Notes: HORIZONTAL TRANSMIT ANTENNA - TRANSMITTER SPURIOUS SCAN.

Data File Name: 1486.dat Page: 2 of 3

List of measurements for run #: 3						
FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN+Substitution Factor (dB)	FINAL (dBm)	POL / HGT / AZ (m)(DEG)	DELTA1 -13 dBm Ave (dB)	DELTA2
10.3 GHz	54.1 Pk	9.84 / 37.93 / 44.95 / -97.46	-40.54	H / 1.00 / 158	-27.54*	n/a
NOISEFLOOR MEASUREMENT.						
18.0 GHz	43.51 Av	13.5 / 45.42 / 45.08 / -97.46	-40.11	H / 1.00 / 0	-27.11	n/a
END OF SCAN 30 - 26000MHz.						

Tested by: RMJ

 Printed Signature

Reviewed by: TKS

 Printed Signature

File No. WC501486 Rev A, Page A17 of A18



Appendix C

MEASUREMENT PROTOCOL FOR FCC

GENERAL INFORMATION

Conducted and radiated emission testing is performed according to the procedures in T1A-603-B.

Measurement Uncertainty

The test system for conducted emissions is defined as the LISN, tuned receiver or spectrum analyzer, and coaxial cable. The test system for radiated emissions is defined as the antenna, the pre-amplifier, the spectrum analyzer and the coaxial cable. These test systems have a measurement uncertainty of ±4.8 dB. The equipment comprising the test systems are calibrated on an annual basis.

Justification

The Equipment Under Test (EUT) is configured in a typical user arrangement in accordance with the manufacturer's instructions. A cable is connected to each available port and either terminated with a peripheral into it's characteristic impedance or left unterminated. When appropriate, the cables are manually manipulated with respect to each other to obtain maximum emissions from the unit.

CONDUCTED EMISSIONS

The final level, expressed in dBµV, is arrived at by taking the reading directly from the EMI receiver. This level is compared directly to the FCC limit. Conducted and radiated emission testing is performed according to the procedures in ANSI C.63.4-2001.

To convert between dBµV and µV, the following conversions apply:

$$dB\mu V = 20(\log \mu V)$$

$$\mu V = \text{Inverse log}(dB\mu V/20)$$

RADIATED EMISSIONS

The final level, expressed in dBµV/m, is arrived at by taking the reading from the spectrum analyzer (Level dBµV), adding the antenna correction factor and cable loss factor (Factor dB) to it, then subtracting the preamp gain. This result then has the FCC limit subtracted from it to provide the Delta which gives the tabular data as shown in the data sheets in Attachment A.

Example:

FREQ (MHz)	LEVEL (dBµV)	CABLE/ANT/PREAMP (dB)	FINAL (dB)	FINAL (dBµV/m)	POL/HGT/AZ (m) (deg)	DELTA1 FCC
60.80	42.5Qp	+ 1.2 + 10.9 - 25.5 =	29.1		V 1.0 0.0	-10.9

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TÜV PRODUCT SERVICE INC 19333 Wild Mountain Road Taylors Falls MN 55084-1758 Tel: 651 638 0297 Fax: 651 638 0298 Rev.No 1.0



DETAILS OF TEST PROCEDURES

General Standard Information

The test methods used comply with TIA-603-B.

Conducted Emissions

Conducted emissions on the 60 Hz power interface of the EUT are measured in the frequency range of 450 kHz to 30 MHz. The measurements are performed using a receiver, which has CISPR characteristic bandwidth and quasi-peak detection, and a Line Impedance Stabilization Network (LISN), with 50 Ω /50 μ H (CISPR 16) characteristics. Table top equipment is placed on a non-conducting table 80 centimeters above the floor and is positioned 40 centimeters from the vertical ground plane (wall) of the screen room. In some cases, a pre-scan using a spectrum analyzer is initially performed on the units comprising the system under test to locate the highest emissions. If the minimum passing margin appears to be less than 20 dB with a peak mode measurement, the emissions are re-measured using a tuned receiver or spectrum analyzer with quasi-peak and average detection and recorded on the data sheets.

Radiated Emissions

Radiated emissions from the EUT are measured in the frequency range of 30 to 26000 MHz using a spectrum analyzer and appropriate broadband linearly polarized antennas. Table top equipment is placed on a 1.0 X 1.5 meter non-conducting table 80 centimeters above the ground plane. Floor standing equipment is placed directly on the turntable/ground plane. Interface cables that are closer than 40 centimeters to the ground plane are bundled in the center in a serpentine fashion so they are at least 40 centimeters from the ground plane. Cables to simulators/testers (if used in this test) are routed through the center of the table and to a screen room located outside the test area. The antenna is positioned 3 meters horizontally from the EUT. To locate maximum emissions from the test sample the antenna is varied in height from 1 to 4 meters, measurement scans are made with both horizontal and vertical antenna polarizations and the EUT are rotated 360 degrees. The EUT is then replaced with a tuned dipole antenna (below 1 GHz) or horn antenna (above 1 GHz). The substitute antenna was placed in the same polarization as the test antenna. A signal generator was used to generate a signal level that matched the level measured from the EUT. The signal level minus the cable loss from the signal generator to the substitute antenna plus the substitute antenna gain equals the spurious power level.

SUBSTITUTION ANTENNA

The substitution antenna is used to replace the EUT for tests in which a transmitting parameter (i.e. frequency error, effective radiated power, spurious emissions and adjacent channel power) is being measured. The substitution antenna is connected to a calibrated signal generator. The frequency of the calibrated signal generator is set to the frequency of the emission component detected. The test antenna is raised and lowered through the specified range of height to ensure the maximum signal is received. The input signal to the substitution antenna shall be adjusted to the level that produces a level detected by the measuring receiver, that is equal to the level noted while the emission component was measured, corrected for any change of input attenuator setting of the measuring receiver. The input level to the substitution antenna is recorded as power level, corrected for any change of input attenuator setting of the measuring receiver.

File No. WC501486 Rev A, Page C2 of C2

TÜV PRODUCT SERVICE INC 19333 Wild Mountain Road Taylors Falls MN 55084-1758 Tel: 651 638 0297 Fax: 651 638 0298 Rev.No 1.0

Frequency Stability Test

FCC Rule Part(s):

2.1055

Measurements required: Frequency stability:

(a) The frequency stability shall be measured with variation of ambient temperature as follows: (1) From -30° to $+50^{\circ}$ centigrade for all equipment except that specified in paragraphs (a) (2) and (3) of this section.

(b) Frequency measurements shall be made at the extremes of the specified temperature range and at intervals of not more than 10° centigrade through the range. A period of time sufficient to stabilize all of the components of the oscillator circuit at each temperature level shall be allowed prior to frequency measurement. The short term transient effects on the frequency of the transmitter due to keying (except for broadcast transmitters) and any heating element cycling normally occurring at each ambient temperature level also shall be shown.

(d) The frequency stability shall be measured with variation of primary supply voltage as follows: (1) Vary primary supply voltage from 85 to 115 percent of the nominal value for other than hand carried battery equipment. (3) The supply voltage shall be measured at the input to the cable normally provided with the equipment, or at the power supply terminals if cables are not normally provided. Effects on frequency of transmitter keying (except for broadcast transmitters) and any heating element cycling at the nominal supply voltage and at each extreme also shall be shown.

27.54

Frequency Stability:

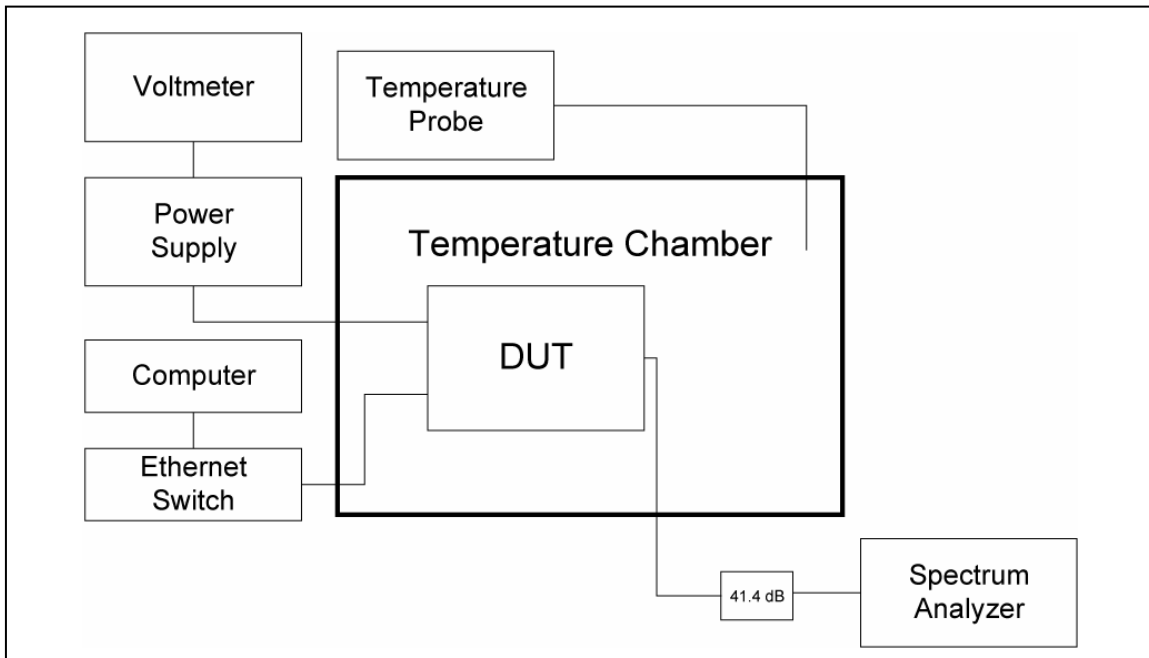
The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

Standard:

47CFR27.53(1)(3)

Test Procedure: The frequency stability of the NextNet Wireless Mobile Subscriber Unit fundamental oscillator is derived from the on board 20 MHz TCXO. Since each radio channel operating frequency is synthesized and referenced to the 20 MHz TCXO, only one channel will be reported for frequency stability as all channels will have the same frequency characteristics. The emissions 1 MHz above and below the channel band were recorded to show compliance to the emission limit of 47CFR27.53(1)(3). The emission power 1 MHz above and below the channel edge was measured by utilizing the adjacent channel power function in the spectrum analyzer. The transmitted signal was recorded for frequency changes due to temperature variation and input voltage.

Test Set-Up:



Frequency Stability Test Setup

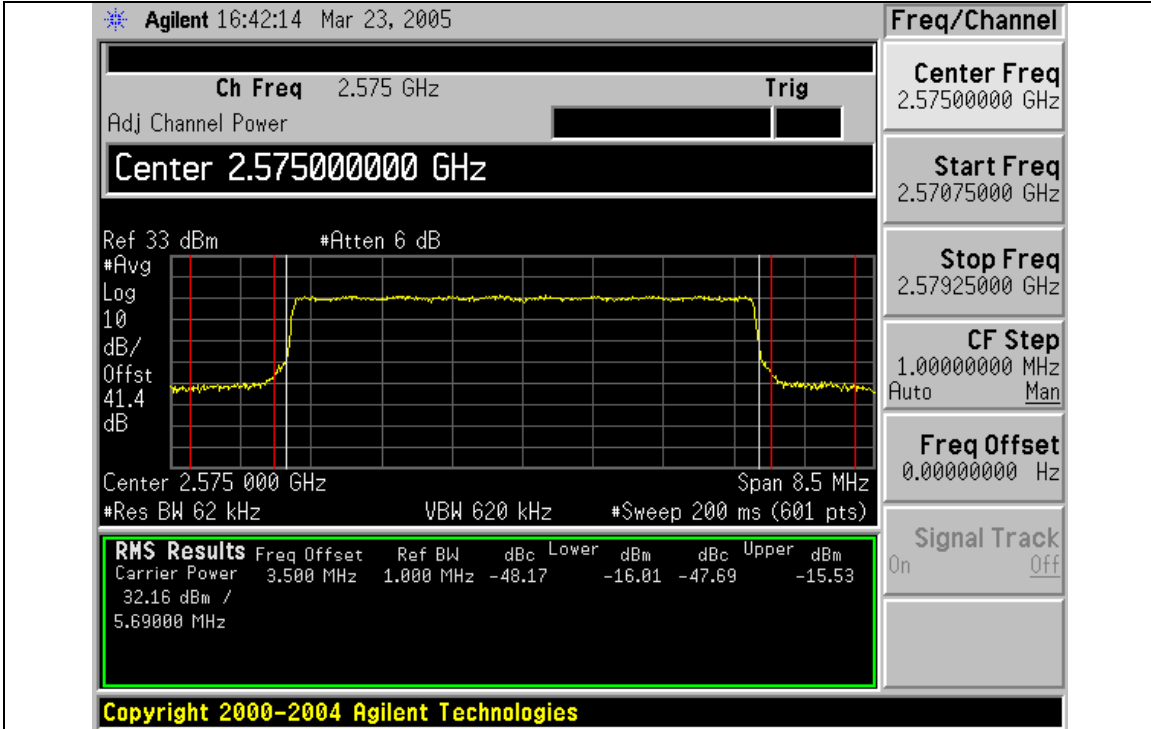
Frequency Stability Temperature Variation Test Results

Test Conditions: Frequency = 2575 MHz
 Supply Voltage: 13.0 VDC Nominal
 Temperature: -30° C to +50° C in 10° C increments

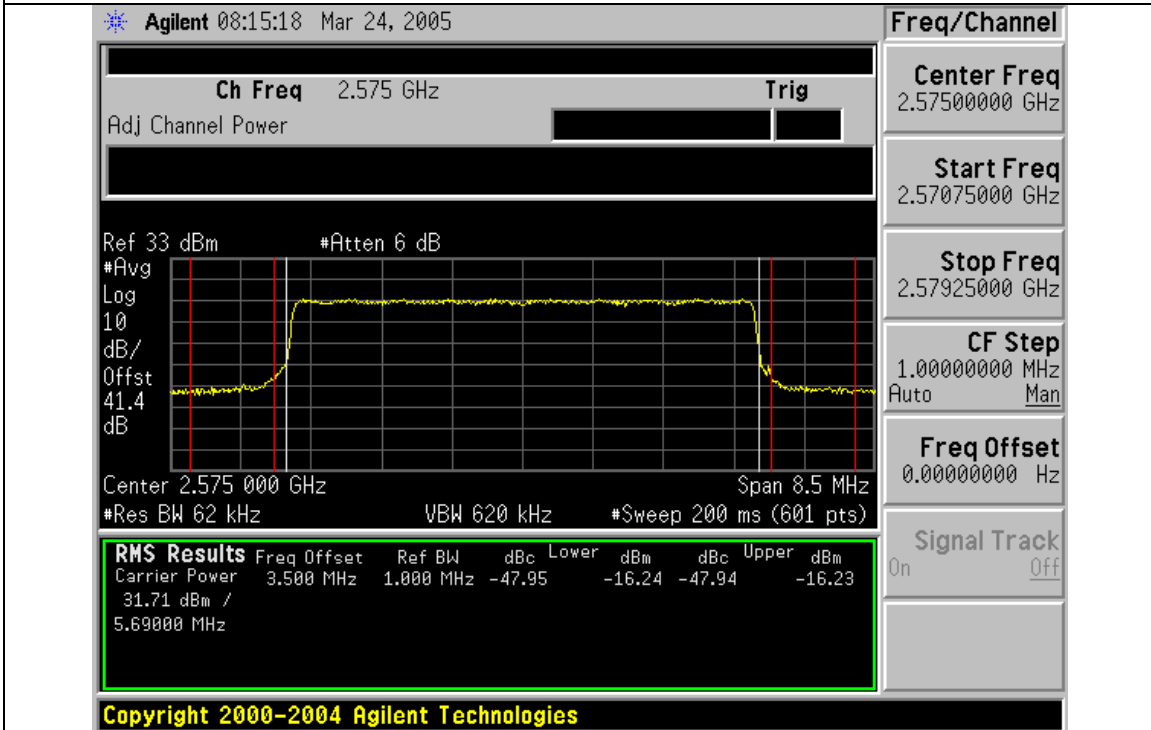
Adjacent Channel Power Method (2575 MHz)							
Temp ° C	Lower Adjacent 1 MHz Bin Power (dBm)	Upper Adjacent 1 MHz Bin Power (dBm)	Spec (dBm/MHz)	Lower Margin (dB)	Upper Margin (dB)	Result: Lower Adjacent 1 MHz Bin	Result: Upper Adjacent 1 MHz Bin
-30	-16.01	-15.53	-13	-3.01	-2.53	Complies	Complies
-20	-16.24	-16.23	-13	-3.24	-3.23	Complies	Complies
-10	-16.62	-16.31	-13	-3.62	-3.31	Complies	Complies
0	-15.85	-15.78	-13	-2.85	-2.78	Complies	Complies
10	-15.21	-15.06	-13	-2.21	-2.06	Complies	Complies
20	-16.14	-15.81	-13	-3.14	-2.81	Complies	Complies
30	-15.72	-15.68	-13	-2.72	-2.68	Complies	Complies
40	-14.95	-15.11	-13	-1.95	-2.11	Complies	Complies
50	-15.86	-15.73	-13	-2.86	-2.73	Complies	Complies

Test Results: Pass Frequency Stability - Temperature Variation

Frequency Stability Temperature Variation Spectrum Analyzer Plots

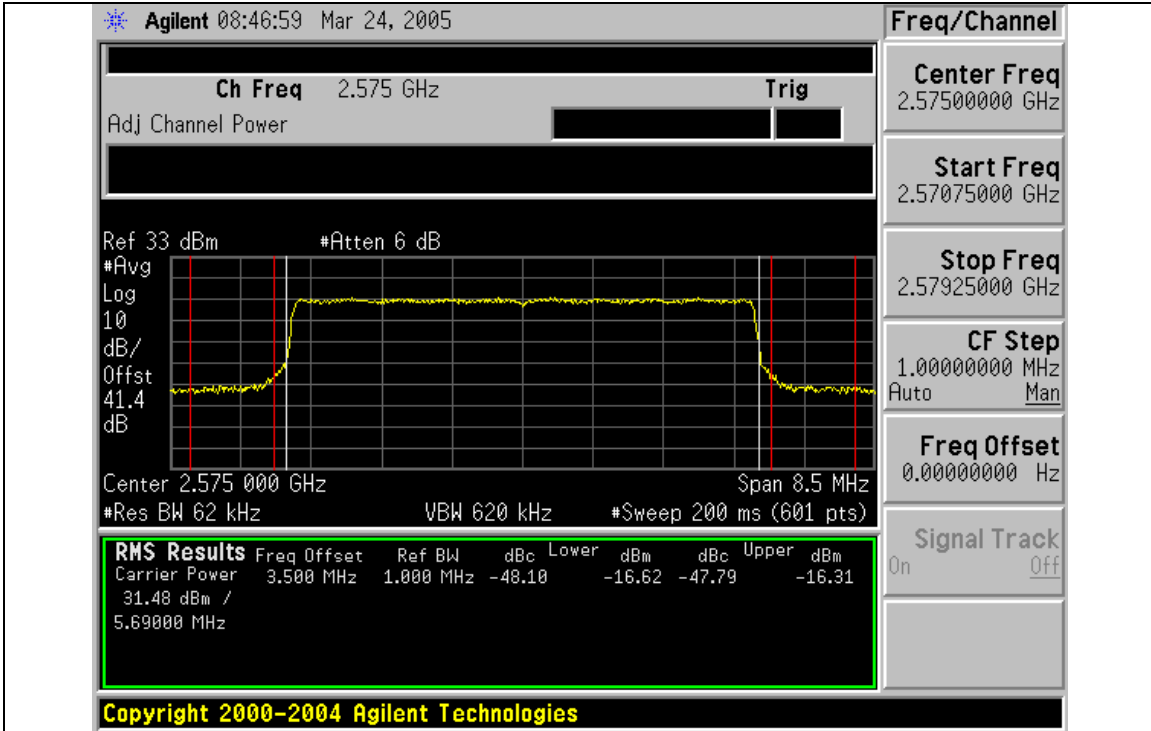


-30° C

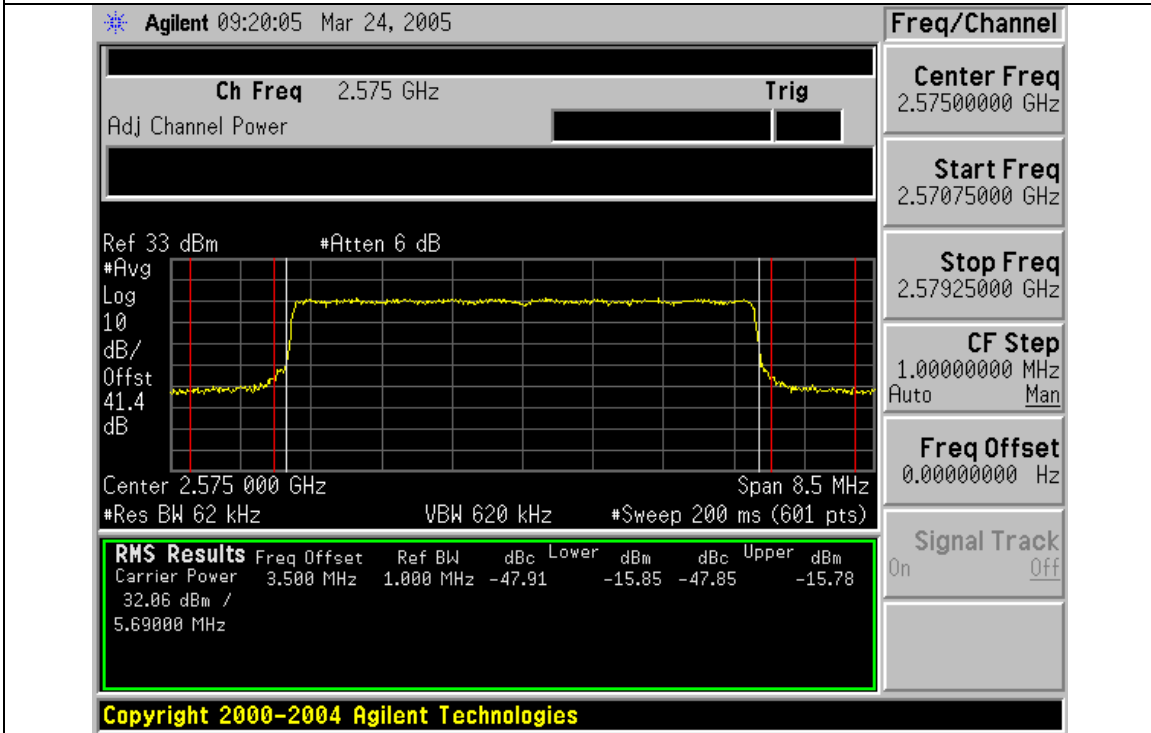


-20° C

Frequency Stability (Cont'd)

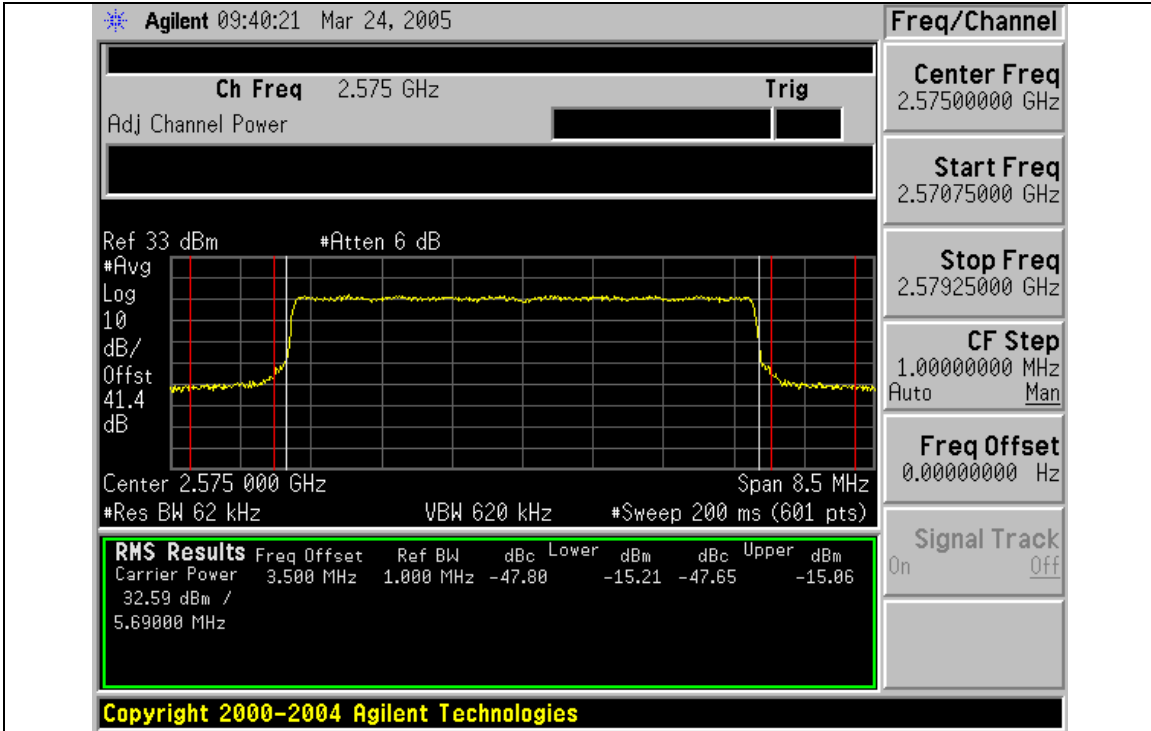


-10° C

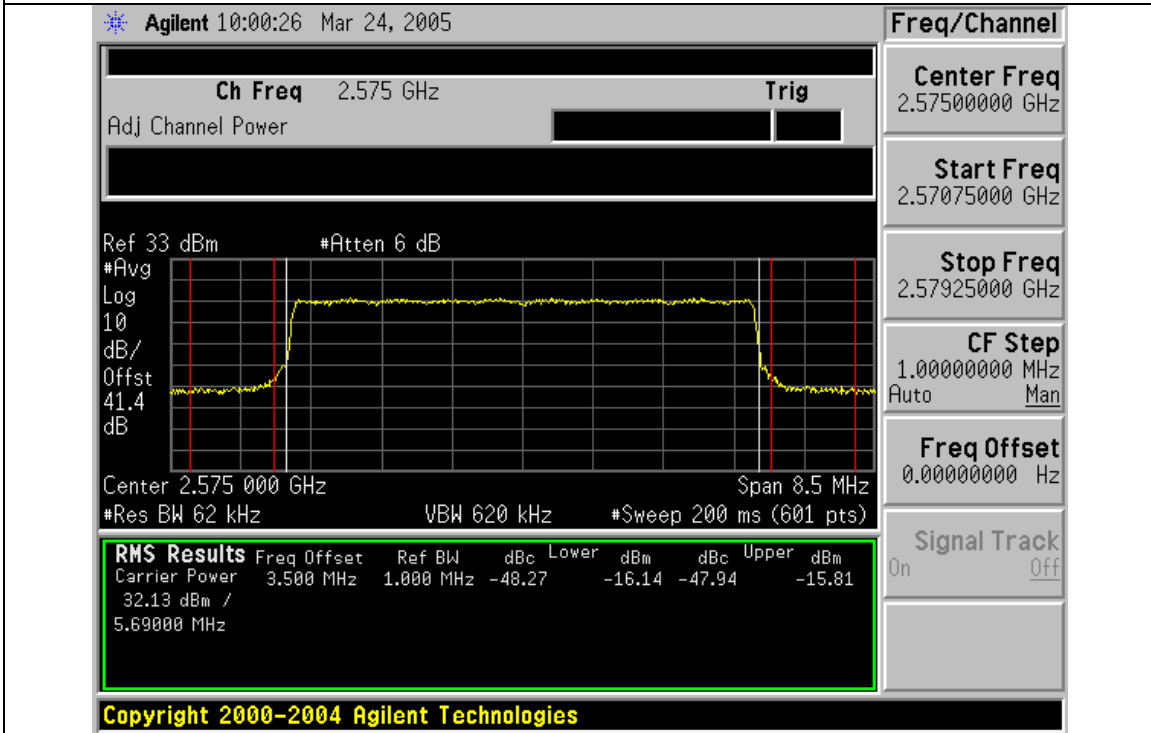


0 C

Frequency Stability (Cont'd)

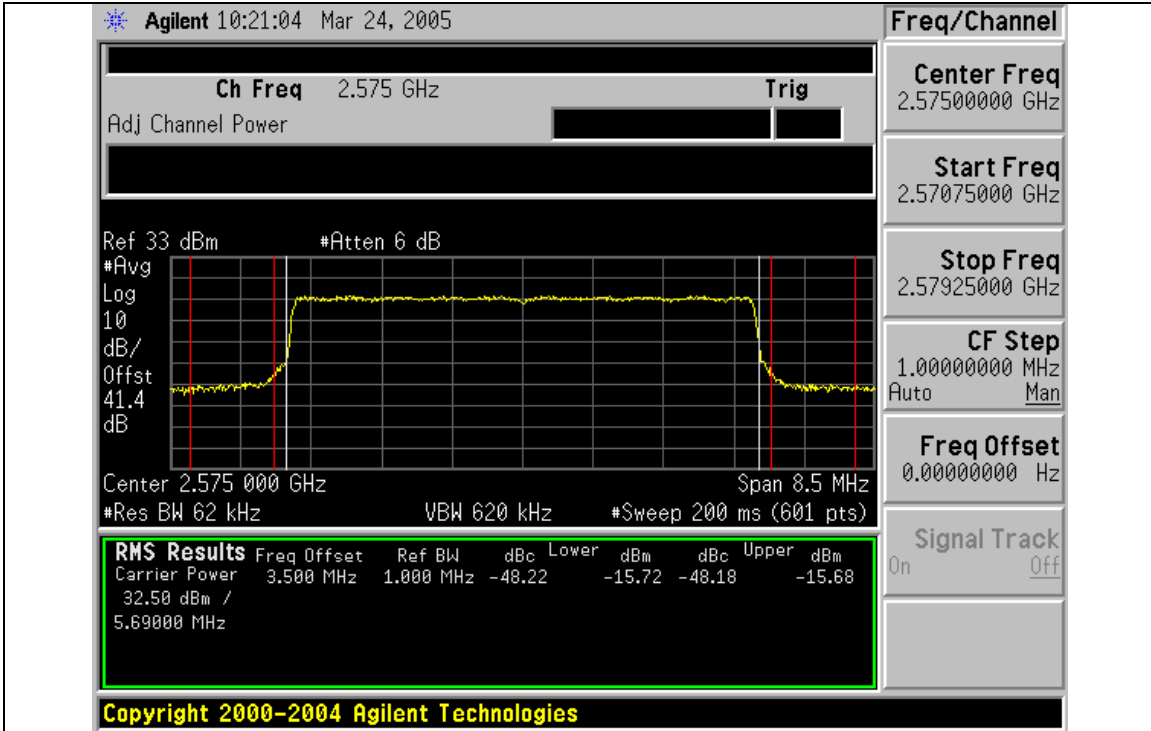


+10° C

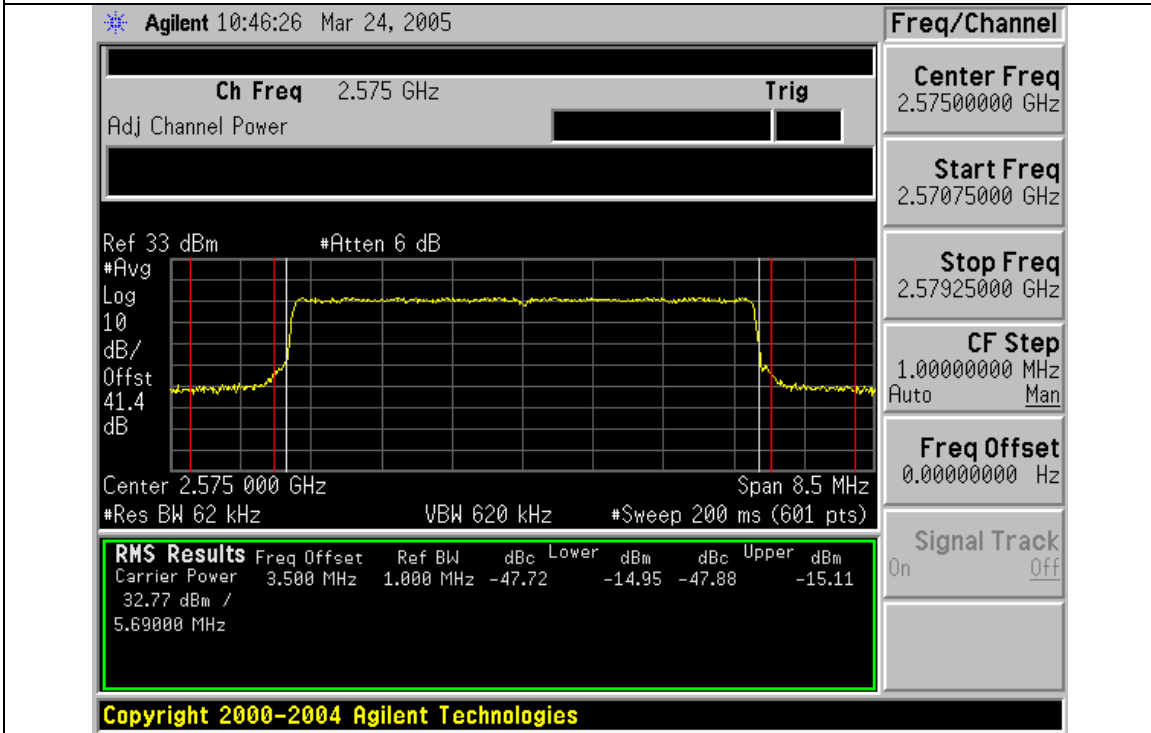


+20° C

Frequency Stability (Cont'd)

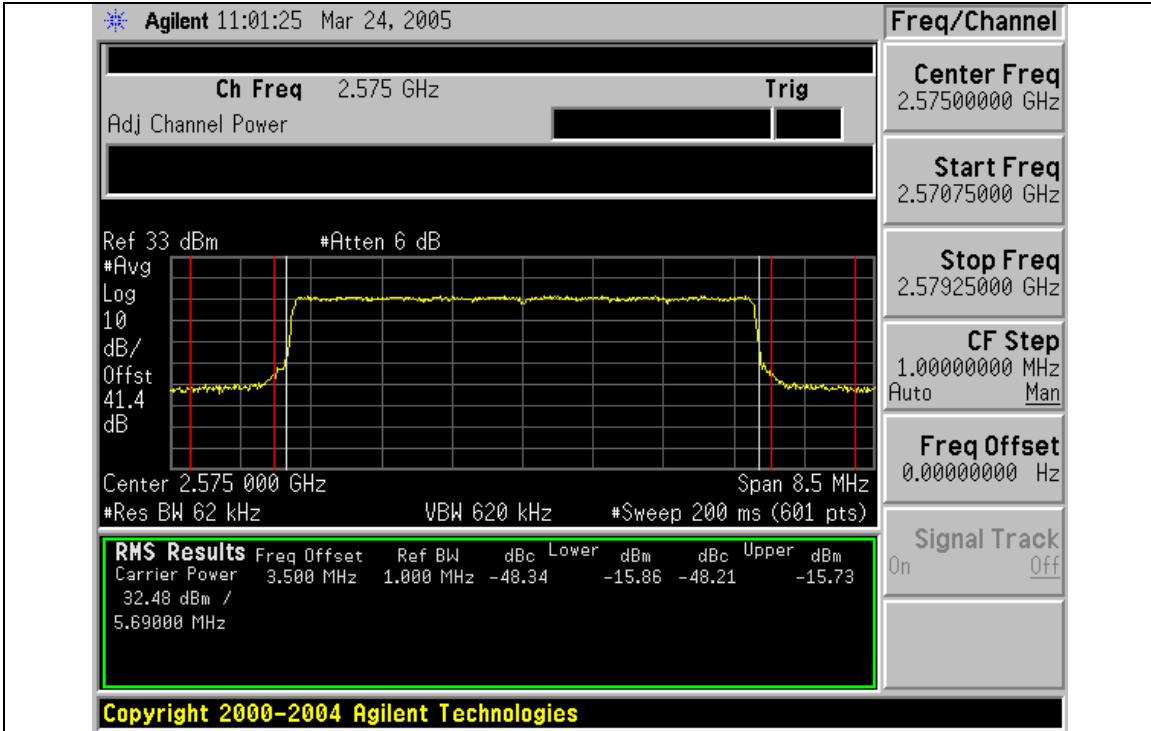


+30° C

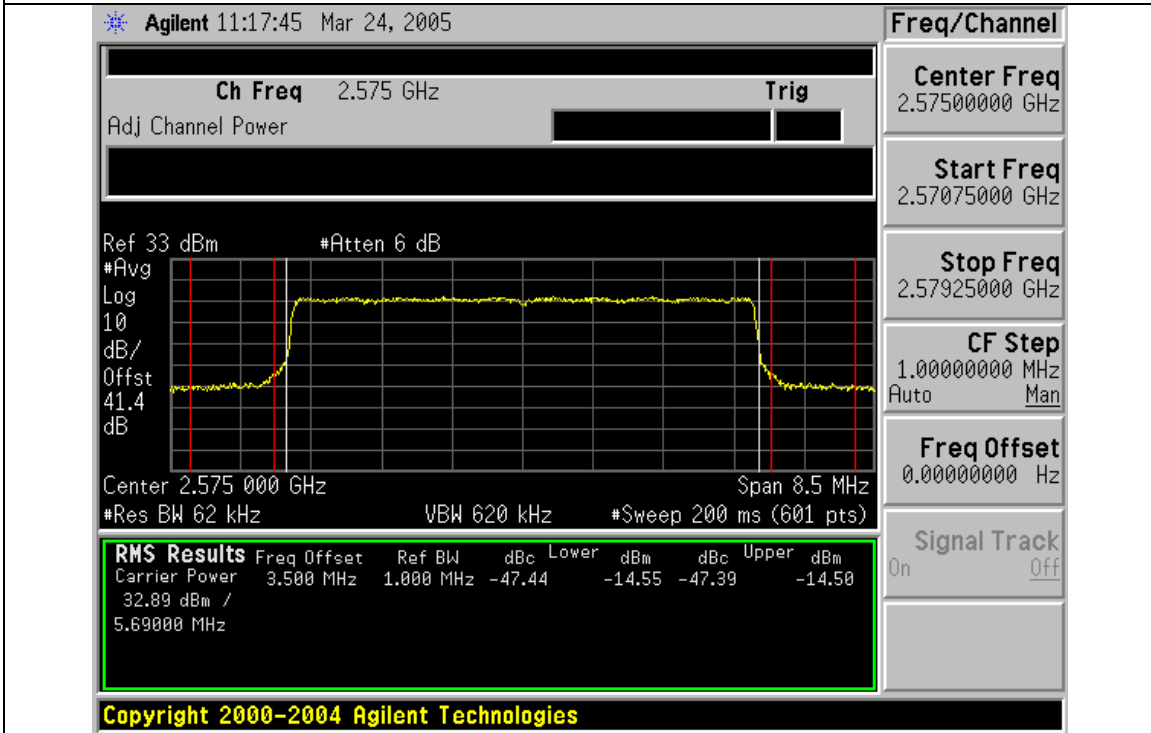


+40° C

Frequency Stability (Cont'd)



+50° C



+60° C

Frequency Stability Supply Voltage Variation Test Results

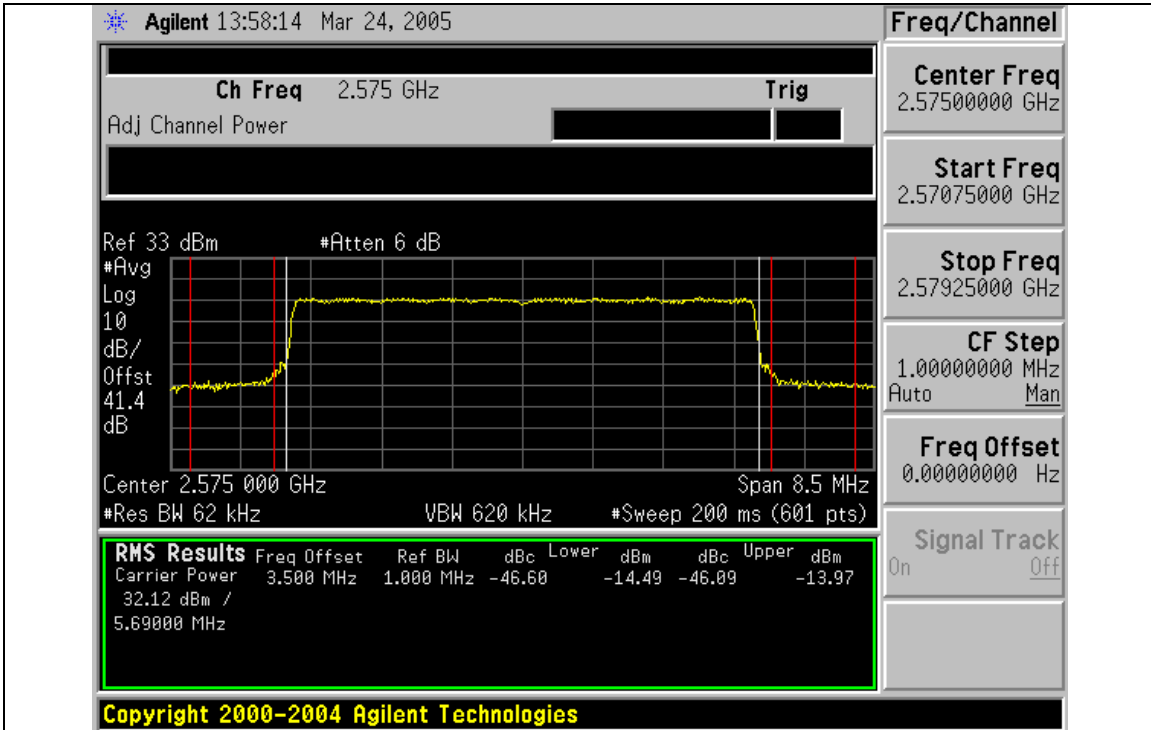
Test Conditions: Frequency = 2575 MHz
 Temperature = 20 °C

Source Input Voltage Specification: 13.0 VDC nominal
Test Voltage Range = $0.85 * 13.0 = 11.05$ VDC lower limit
 $1.15 * 13.0 = 14.95$ VDC upper limit

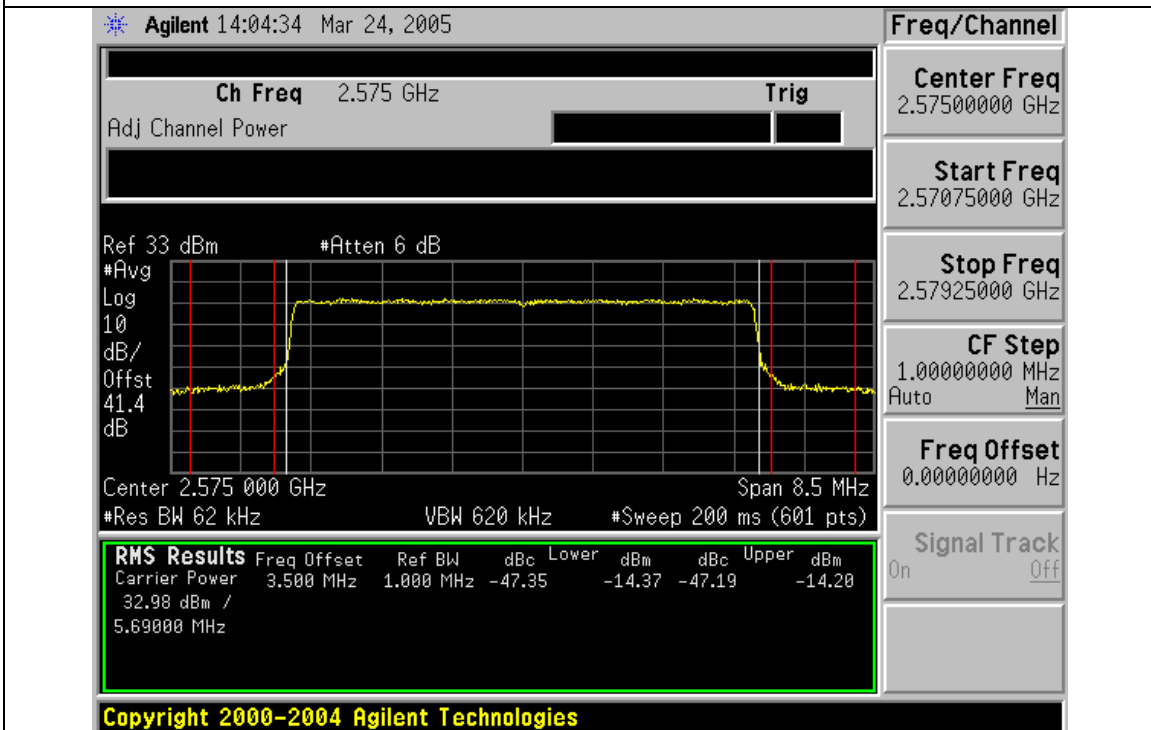
Adjacent Channel Power Method 20° C (2575 MHz)							
Source Voltage (Vdc)	Lower Adjacent 1 MHz Bin Power (dBm)	Upper Adjacent 1 MHz Bin Power (dBm)	Spec (dBm/MHz)	Lower Margin (dB)	Upper Margin (dB)	Result: Lower Adjacent 1 MHz Bin	Result: Upper Adjacent 1 MHz Bin
11.05	-14.49	-13.97	-13	-1.49	-0.97	Complies	Complies
13	-14.37	-14.2	-13	-1.37	-1.2	Complies	Complies
14.95	-14.51	-14.52	-13	-1.51	-1.52	Complies	Complies

Test Results: Pass Temperature Stability - Supply Voltage Variation

Frequency Stability Voltage Variation Spectrum Analyzer Plots



11.05 VDC/20° C



13.0 VDC/20° C

Frequency Stability (Cont'd)

