Engineering and Testing for EMC and Safety Compliance

CERTIFICATION APPLICATION REPORT
FCC PART 90 CERTIFICATION & INDUSTRY CANADA CERTIFICATION

Test Lab:	Applicant Information:
Rhein Tech Laboratories, Inc. 360 Herndon Parkway Suite 1400 Herndon, VA 20170 E-Mail : ATCBINFO@rheintech.com Phone: 703-689-0368 Fax: 703-689-2056 Web Site: www.rheintech.com	MCT Inc. Contact: John Vagas 360 Industrial Pkwy South Unit 1 Aurora, Ontario L4G3V7 Canada E-Mail: sales@smoothtalker.com Phone: 905-726-3444 ext. 202 Fax: 905-726-4233

FCC ID:	OW5BST801	**GRANTEE FRN NUMBER:**	0007702509
PLAT FORM:	N/A	**RTL WORK ORDER NUMBER:**	2002165
MODEL(S):	BST801	**RTL QUOTE NUMBER:**	QRTL02-554
DATE OF TEST REPORT:	November 18, 2002		

American National Standard Institute:	ANSI C63.4: Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz
ANSI/TIA/EIA603- 1992	Land Mobile FM or PM Communications Equipment Measurement and Performance Standards
ANSI/TIA/EIA 603-1-1998	Addendum to ANSI/TIA/EIA 603-1992
TIA/EIA /IS-98-A	Recommended Minimum Performance standards for Dual-Mode Wideband Spectrum Cellular Mobile Stations
FCC Classification:	AMP - Amplifier
FCC Rule Part(s):	Part 90: Private Land Mobile Radio Services
Industry Canada Standard:	RSS-119: Land Mobile and Fixed Radio Transmitters and Receivers 27.41 to 960.0
Digital Interface Information	Digital Interface was found to be compliant
Receiver Information	Receiver was found to be compliant

Frequency Range (MHz)	Output Power (W)	Frequency Tolerance	Emission Designator
806-821	3	N/A	AMP

We, the undersigned, hereby declare that the equipment tested and referenced in this report conforms to the identified standard(s) as described in this test report. No modifications were made to the equipment during testing in order to achieve compliance with these standards.

Furthermore, there was no deviation from, additions to, or exclusions from the FCC Part 2, FCC Part 90, Industry Canada RSS-119, and ANSI C63.4.

Signature: _____ Date: November 18, 2002

Typed/Printed Name: Desmond A. Fraser Position: President

TABLE OF CONTENTS

FIGURE INDEX

TABLE INDEX

PLOT INDEX

APPENDIX INDEX

PHOTOGRAPH INDEX

1 GENERAL INFORMATION

The following Report of a Type Certification is prepared on behalf of **Mobile Communication Technologies, Inc.** in accordance with the Federal Communications Commission and Industry Canada Rules and Regulations. The Equipment Under Test (EUT) is the **3W Amplifier, FCC ID:** OW5BST801. The test results reported in this document relate only to the item that was tested.

All measurements contained in this application were conducted in accordance with FCC Rules and Regulations CFR 47, Industry Canada RSS-119, and ANSI C63.4 Methods of Measurement of Radio Noise Emissions, 1992. The instrumentation utilized for the measurements conforms to the ANSI C63.4 standard for EMI and Field Strength Instrumentation. Calibration checks are performed regularly on the instruments, and all accessories including high pass filter, coaxial attenuator, preamplifier and cables.

1.1 TEST FACILITY

The open area test site and conducted measurement facility used to collect the radiated data is located on the parking lot of Rhein Tech Laboratories, Inc. 360 Herndon Parkway, Suite 1400, Herndon, Virginia 20170. This site has been fully described in a report dated March 3, 1994, submitted to and approved by the Federal Communications Commission to perform AC line conducted and radiated emissions testing (ANSI C63.4 1992).

1.2 RELATED SUBMITTAL(S)/GRANT(S)

This is an original application report.

2 TESTED SYSTEM DETAILS

Listed below are the identifiers and descriptions of all equipment, cables, and internal devices used with the EUT for this test, as applicable.

2.1 COMPONENTS

PART	MANUFACTURER	MODEL	SERIAL NUMBER	FCC ID	CABLE DESCRIPTION	RTL BAR CODE
AMPLIFIER	MCT, INC.	BST801	N/A	OW5BST801	UNSHIELDED POWER	14764
MAGENTIC MOUNT 3 DB ANTENNA	MCT, INC.	SEM2MX	N/A	N/A	SHIELDED I/O	14692
GLASS MOUNT 3 DB ANTENNA	MCT, INC.	SEM2X	N/A	N/A	SHIELDED I/O	14693
MAGNETIC MOUNT 6 DB ANTENNA	MCT, INC.	SEM15MX	N/A	N/A	SHIELDED I/O	14694

2.2 CONFIGURATION OF TESTED SYSTEM

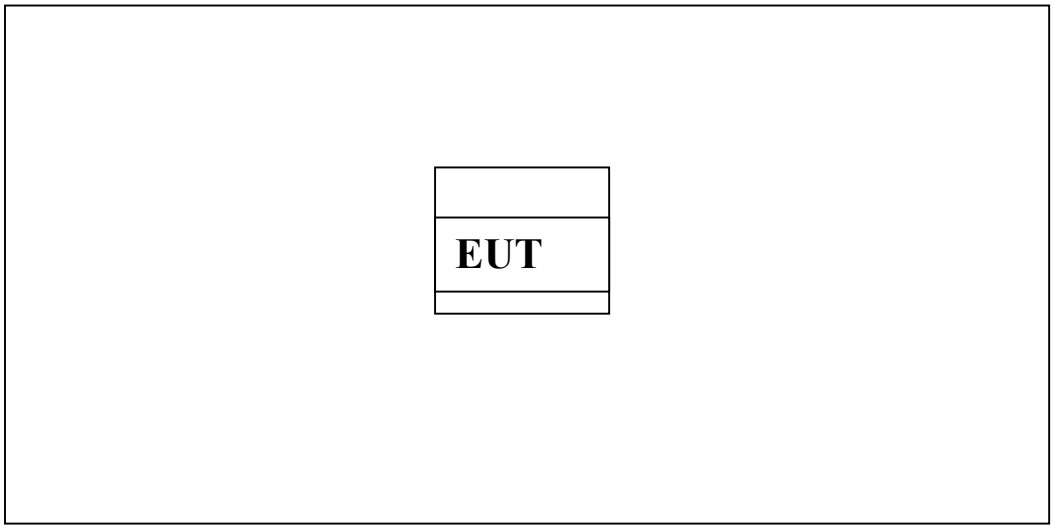


FIGURE 1: WORST CASE CONFIGURATION OF SYSTEM UNDER TEST

3 FCC PART 2.1033(C)(8); DC VOLTAGES AND CURRENTS

The DC voltages applied to and DC currents into the several elements of the final radio frequency amplifying device for normal operation over the power range.

13.8 volt ; 1 Amp

The DC voltage and total input current of the entire final power amplifier module is 13.8 VDC and 1A.

3.1 TEST EQUIPMENT

TABLE 3-1: TEST EQUIPMENT

RTL Asset #	Manufacturer	Model	Part Type	Serial Number	Calibration Due Date
901184/901186	Agilent	E4416A/E9323A	Power meter / Sensor	GB41050573/US40410380	07/19/03
900917	Hewlett Packard	8648C	Signal Generator, 100 KHz - 3200 MHz	3537A01741	4/19/03
900024	Amplifier Research	100W1000M1	Amplifier, 100 Watt, (80-1000 MHz)	14491	N/R
901124	Alinco	DM-33MVT 32A	Power Supply	0001638	N/R
900227	Wavetek	DM25XT	Multimeter	44FX-569	3/4/03

TEST PERSONNEL:

DANIEL BALTZELL — TEST ENGINEER | SIGNATURE | SEPTEMBER 26, 2002 — DATE OF TEST

4 FCC RULES AND REGULATIONS PART 2.1046 (A): RF POWER OUTPUT: CONDUCTED

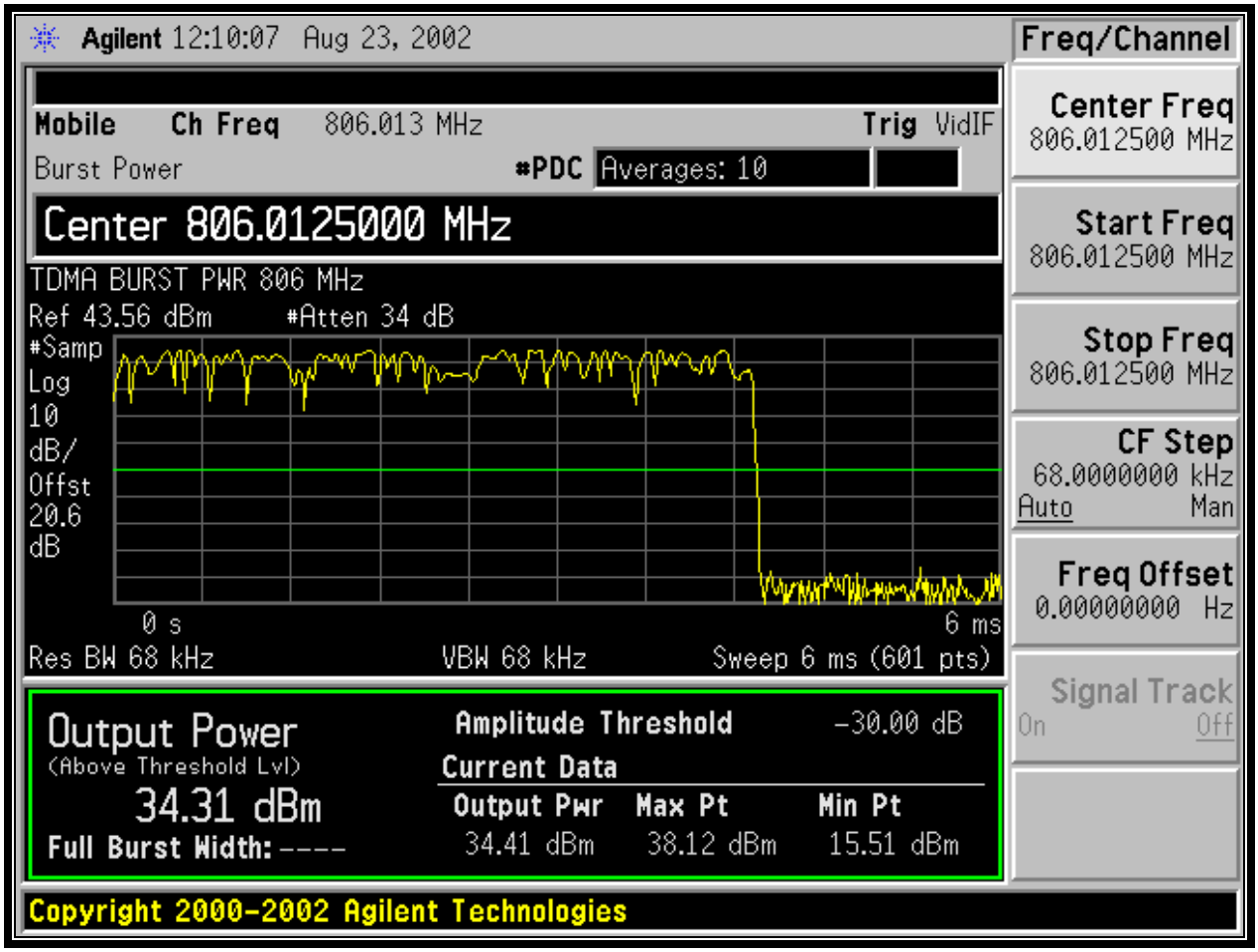
4.1 TEST PROCEDURE

ANSI/TIA/EIA-603-1992, section 2.2.1CFR 2.1046(a)

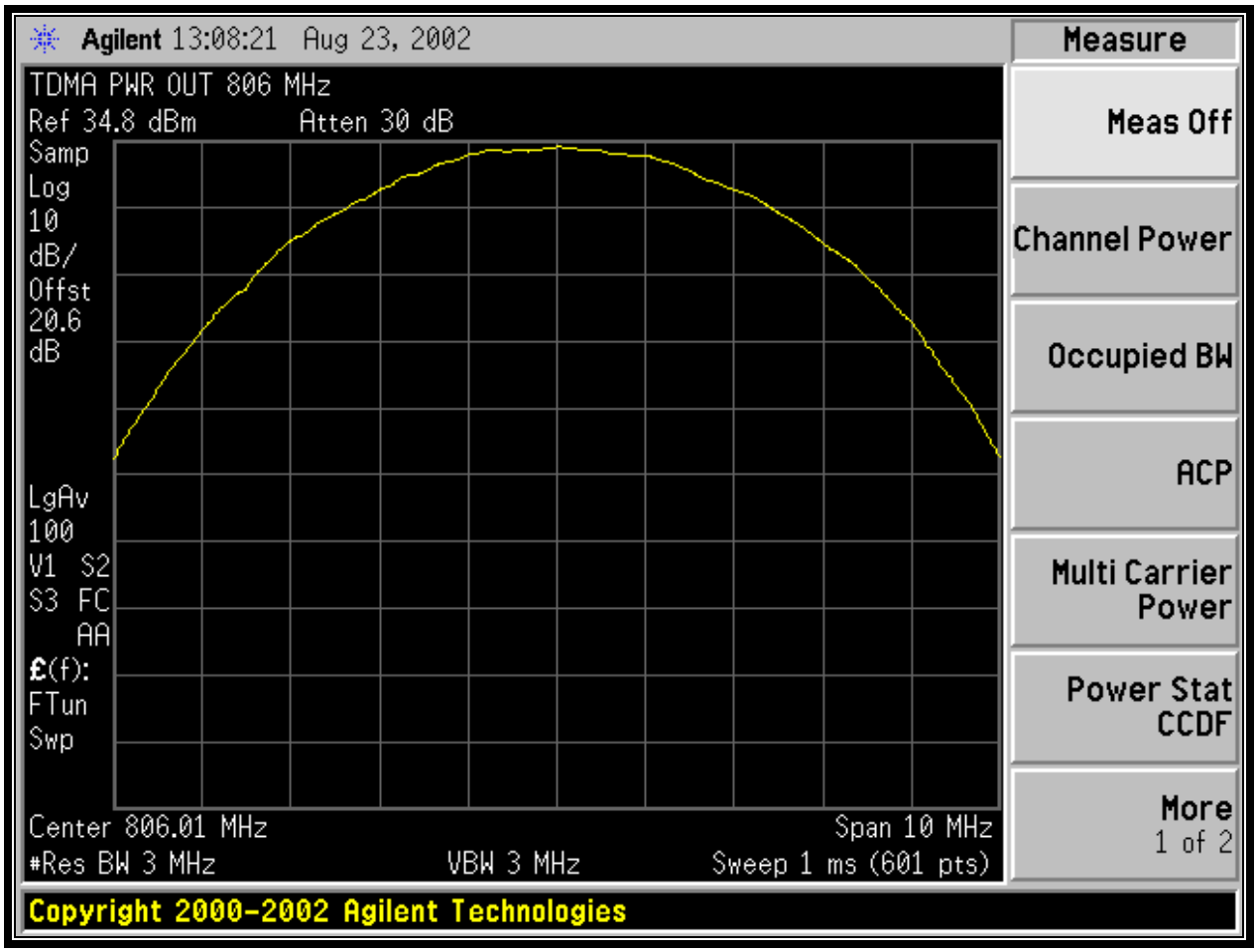
4.2 TEST DATA

TABLE 4-1: RF POWER OUTPUT: CARRIER OUTPUT POWER (TDMA)

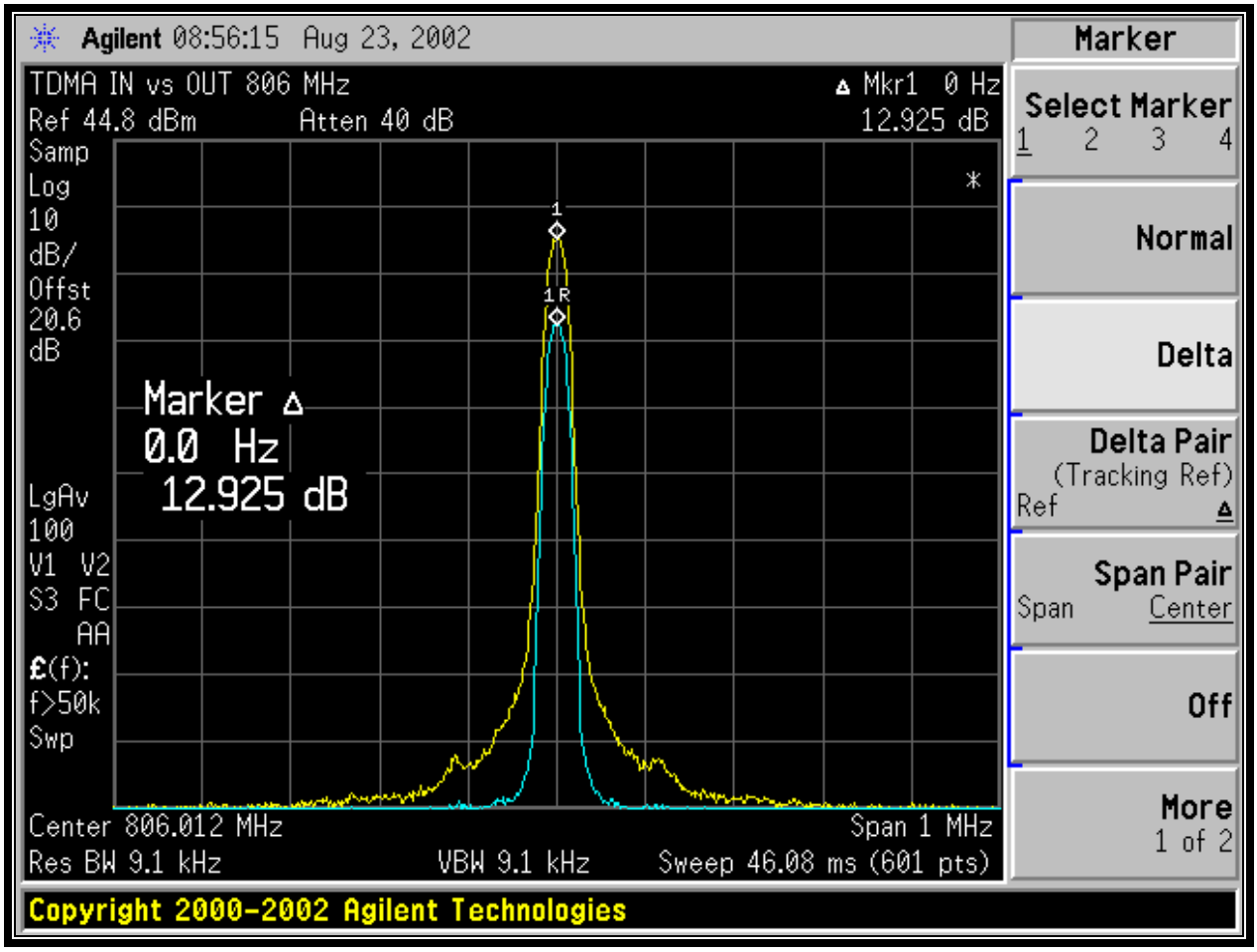
Frequency (MHz)	Power (dBm)	RF Power measured (Watt)
806.0	34.31	2.7
814.0	34.70	2.95
821.0	33.50	2.24



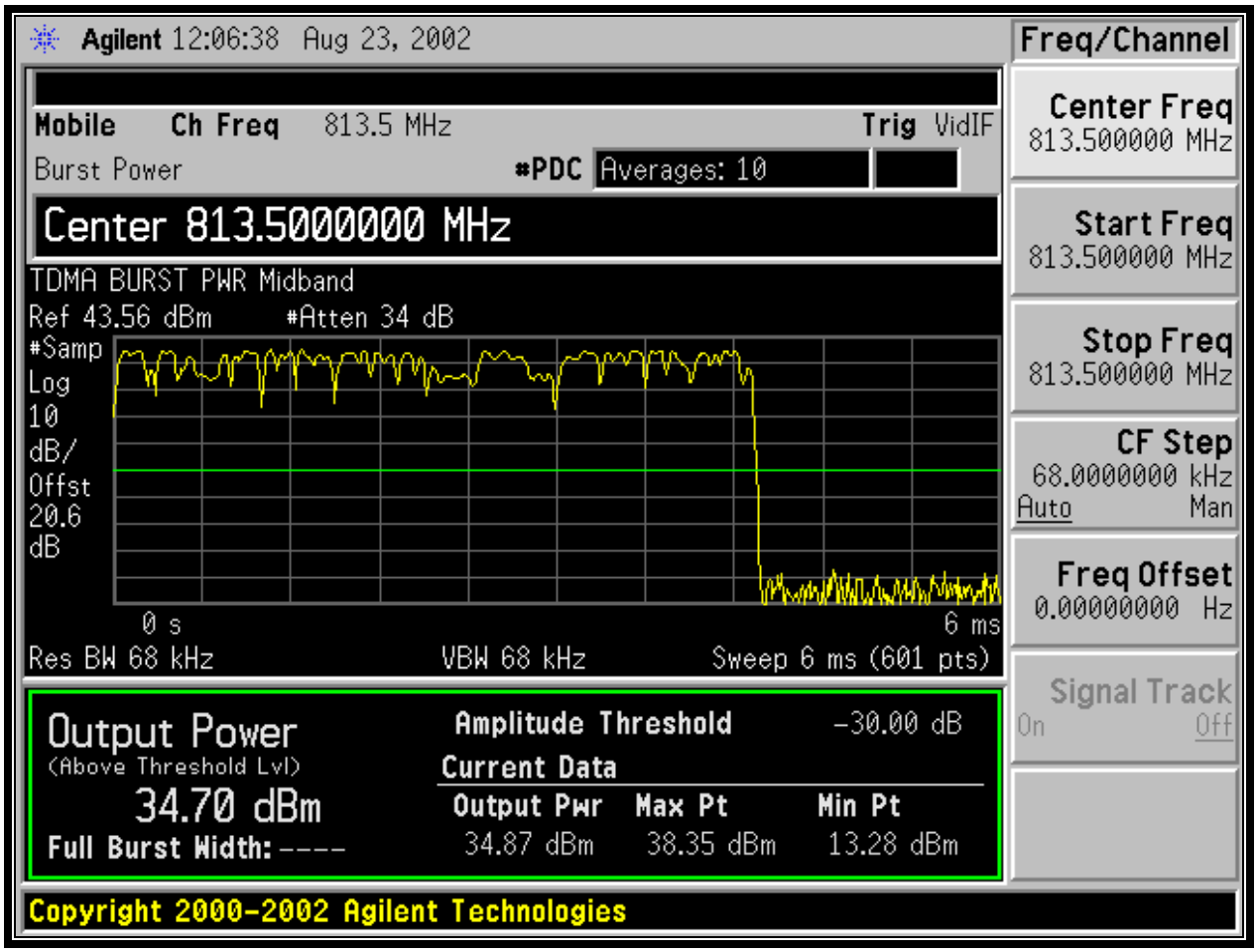
PLOT 4-1: TDMA; CHANNEL POWER (LOW CHANNEL 806 MHZ)



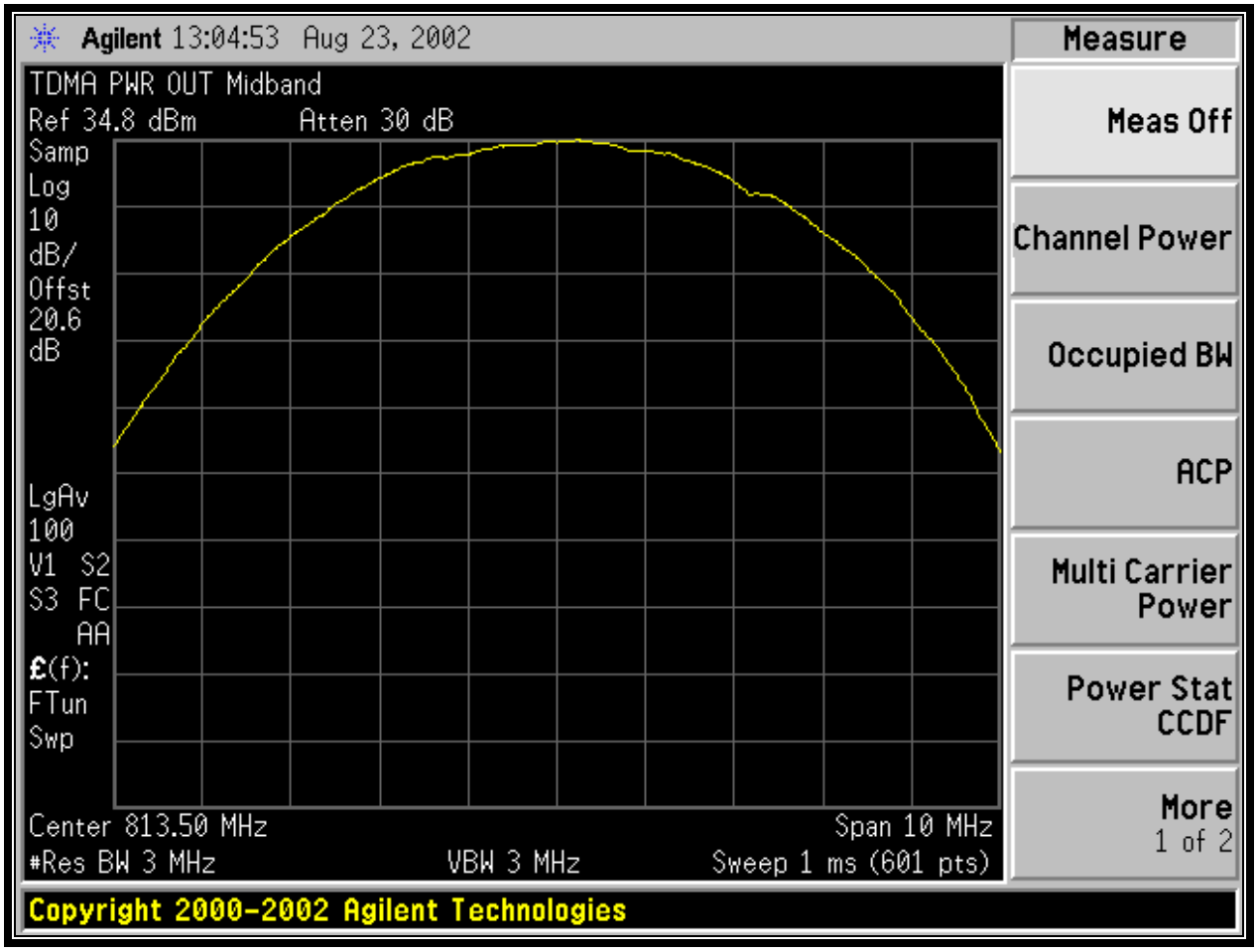
PLOT 4-2: TDMA; CHANNEL POWER (LOW CHANNEL 806 MHZ)



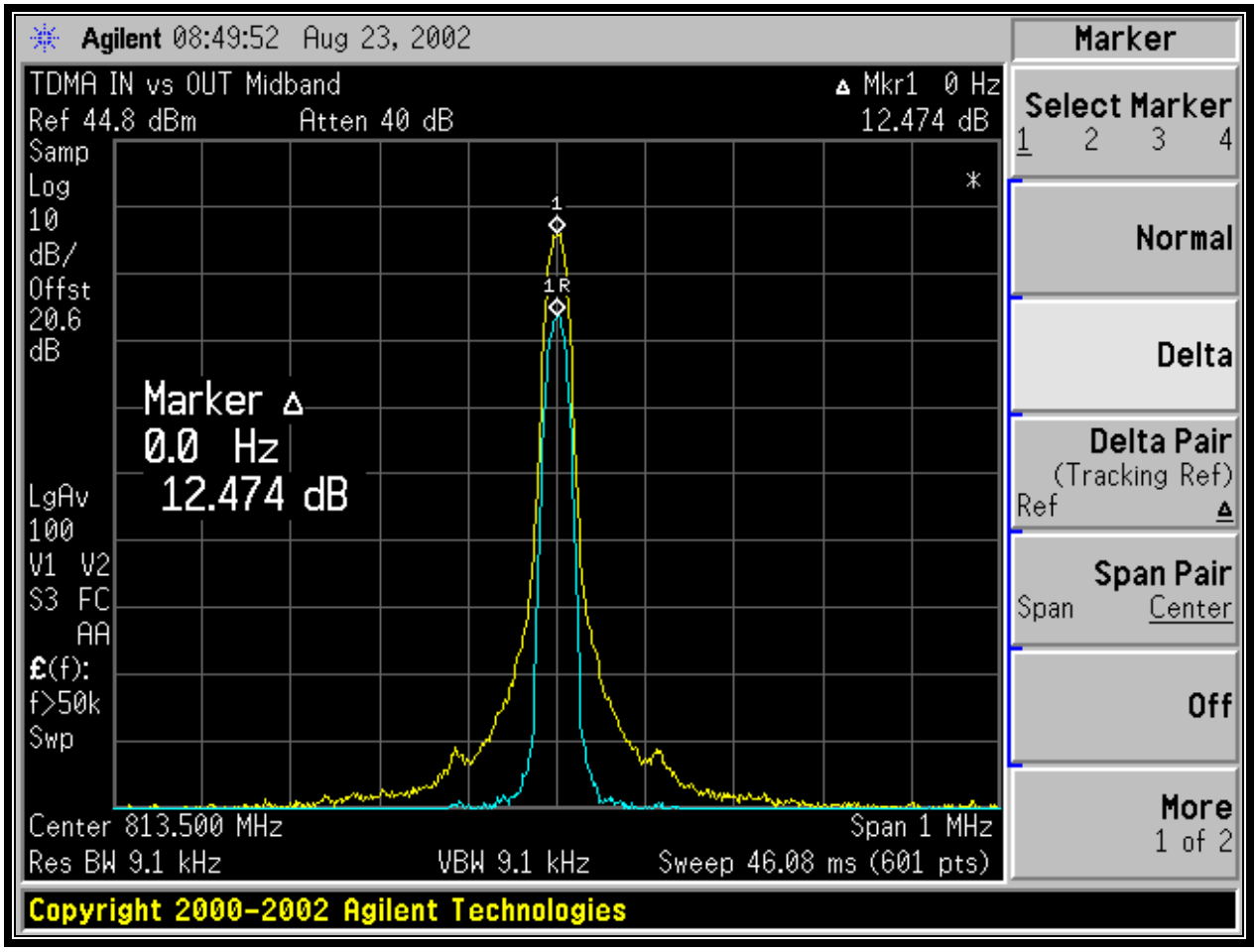
PLOT 4-3: TDMA; IN VS. OUT (LOW CHANNEL 806 MHZ)



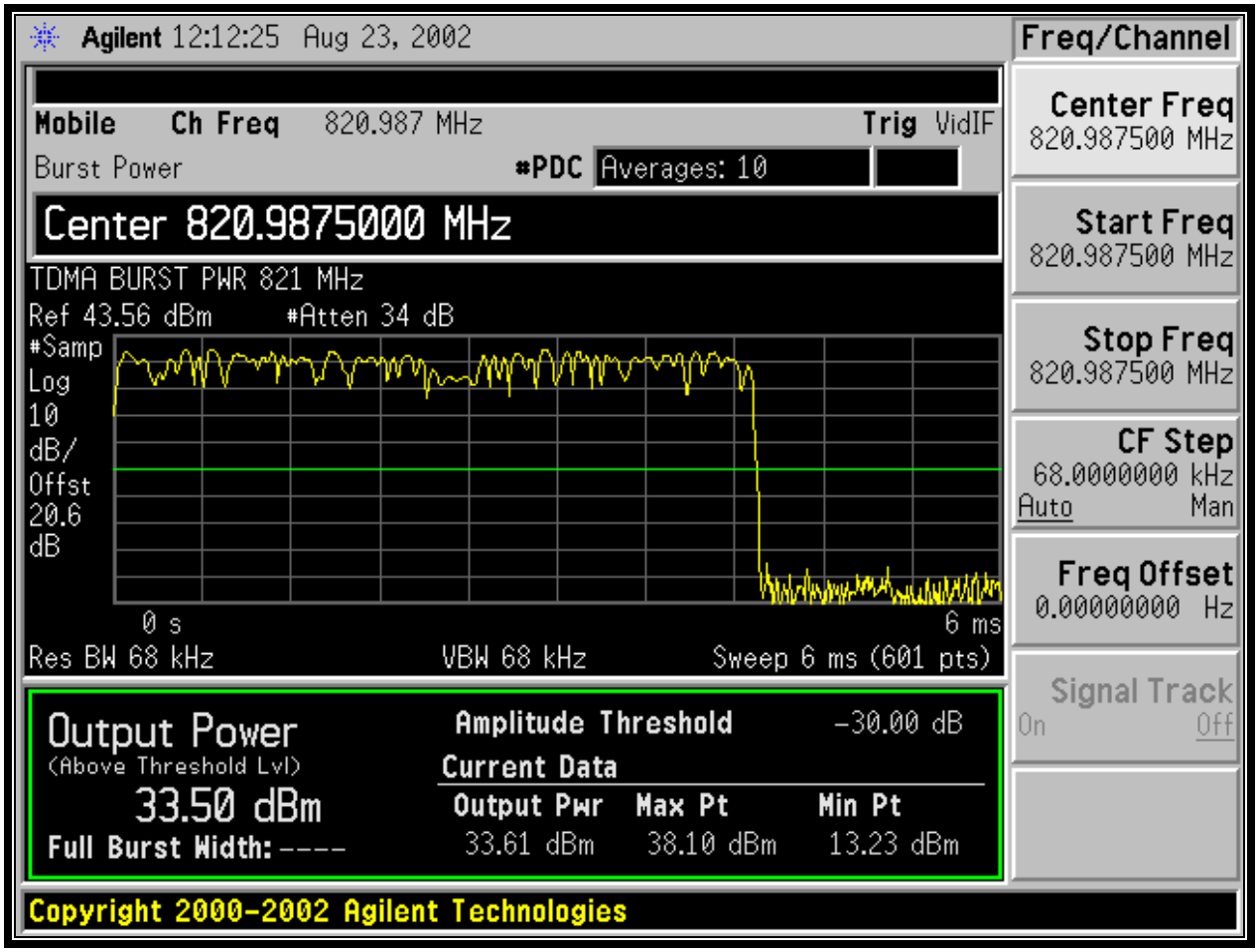
PLOT 4-4: TDMA; CHANNEL POWER (MID CHANNEL 813.5 MHZ)



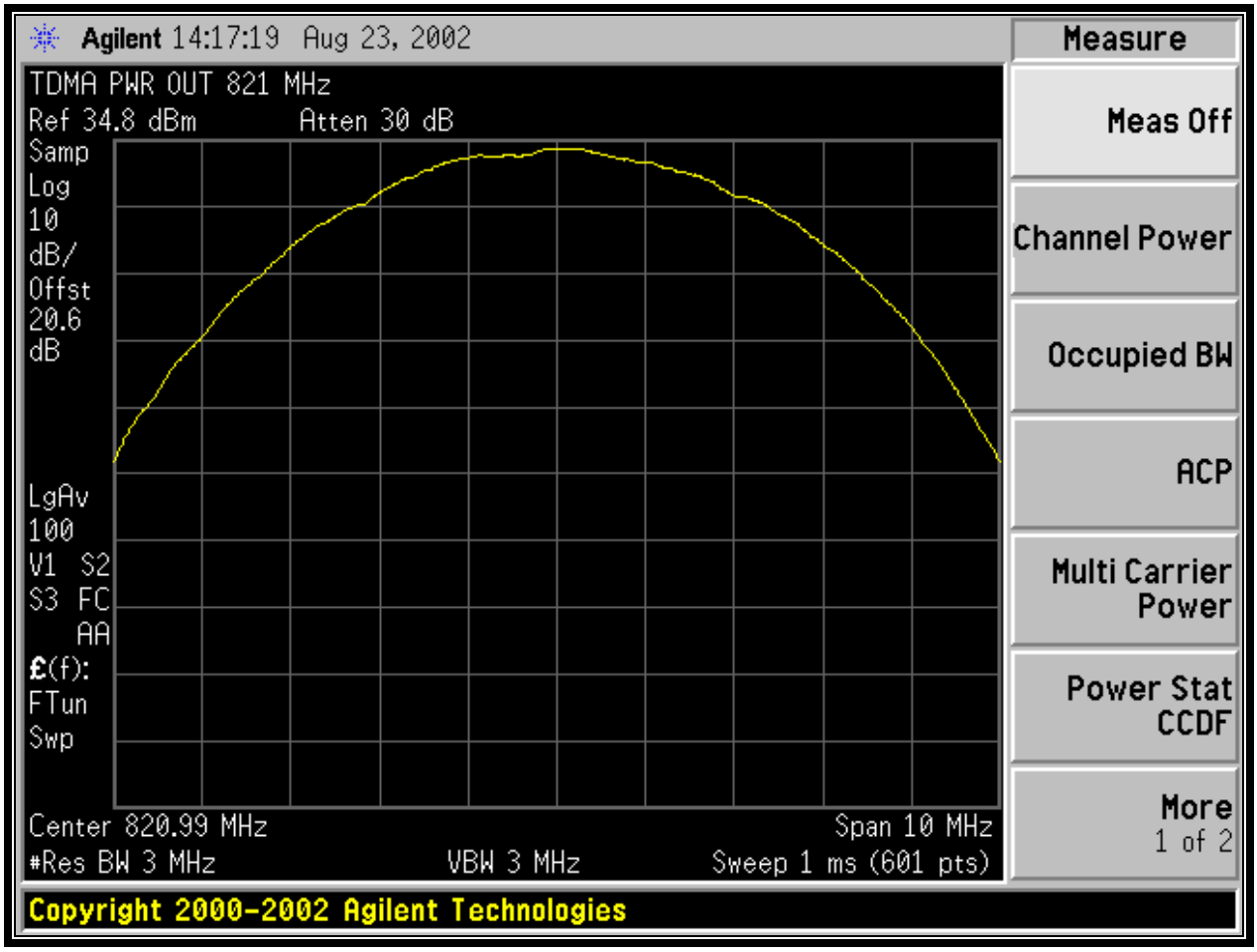
PLOT 4-5: TDMA; CHANNEL POWER (MID CHANNEL 813.5 MHZ)



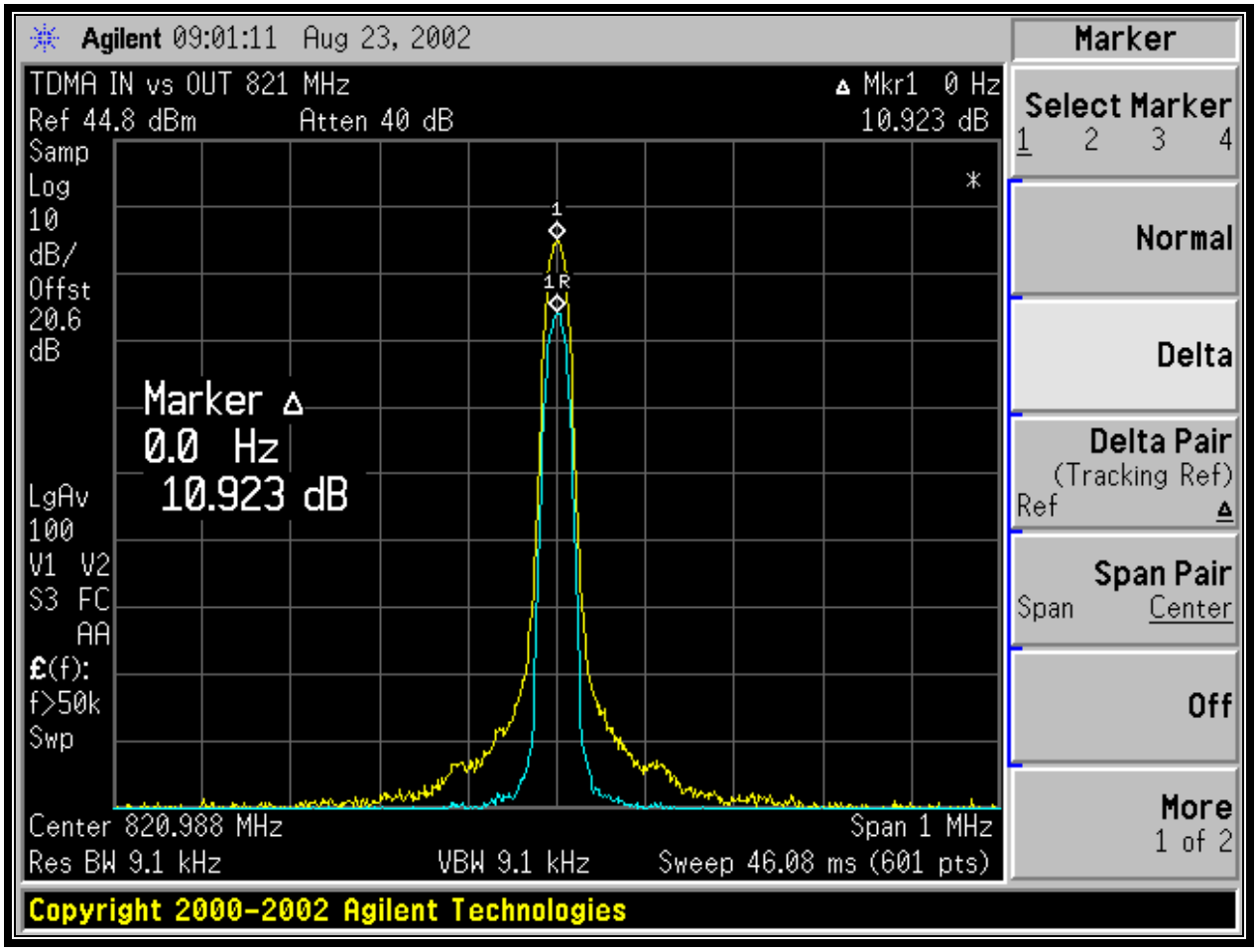
PLOT 4-6: TDMA; IN VS. OUT (MID CHANNEL 813.5 MHZ)



PLOT 4-7: TDMA; CHANNEL POWER (HIGH CHANNEL 821 MHZ)



PLOT 4-8: TDMA; CHANNEL POWER (HIGH CHANNEL 821 MHZ)



PLOT 4-9: TDMA; IN VS. OUT (HIGH CHANNEL 821 MHZ)

TABLE 4-2: RF POWER OUTPUT: CARRIER OUTPUT POWER (CW)

Frequency (MHz)	Input Power (dBm)	Power (dBm)	RF Power measured (Watt)
806.0	21.44	34.77	3.0
814.0	21.74	34.77	3.0
821.0	23.70	33.77	3.0

TABLE 4-3: RF POWER OUTPUT (RATED POWER)

Rated Power (W)
3.0

4.3 TEST EQUIPMENT

TABLE 4-4: TEST EQUIPMENT USED FOR TESTING (RF POWER OUTPUT - CONDUCTED)

RTL Asset #	Manufacturer	Model	Part Type	Serial Number	Calibration Due Date
901184/901186	Agilent	E4416A/E9323A	Power meter / Sensor	GB41050573/US40410380	07/19/03
900917	Hewlett Packard	8648C	Signal Generator, 100 KHz - 3200 MHz	3537A01741	4/19/03
900024	Amplifier Research	100W1000M1	Amplifier, 100 Watt, (80-1000 MHz)	14491	N/A
901124	Alinco	DM-33MVT 32A	Power Supply	0001638	N/A
N/A	Agilent	E4438C	Signal Generator	MY42080012	03/29/03
N/A	Agilent	E4440A	Spectrum Analyzer	US40420959	09/27/02

TEST PERSONNEL:

DANIEL BALTZELL — TEST ENGINEER | SIGNATURE | SEPTEMBER 26, 2002 — DATE OF TEST

5 FCC RULES AND REGULATIONS PART 2.1046 (A); RF POWER OUTPUT

5.1 TEST PROCEDURE

ANSI/TIA/EIA-603-1992, section 2.2.1

The EUT was connected to a coaxial attenuator having a 50Ω load impedance.

Substitution Method:

The EUT was setup at an antenna-to-EUT distance of 3 meters on an open area test site. The EUT was placed on a nonconductive turntable 1.0 meter above the ground plane. The physical arrangement of the EUT was varied through three orthogonal planes in order to determine the effect on the EUT's emissions in amplitude, direction and frequency. At each frequency, the EUT was rotated 360 degrees, and the antenna was raised and lowered from one to four meters in order to determine the maximum emission levels. Measurements were taken using both horizontal and vertical antenna polarizations.

The worst-case, maximum radiated emission was recorded and used as reference for the measurement. The EUT was then replaced with a ½ wave dipole antenna and polarized in accordance with the EUT's antenna polarization. The ½ wave dipole antenna was connected to an RF signal generator with a coaxial cable. The search antenna height and search antenna polarity was set to levels that produced the previously recorded maximum reading. The signal generator was adjusted to a level that produced this emission level. The signal generator level was recorded and corrected by the power loss in the cable between the generator and the antenna, and further corrected for the gain of the substitution antenna used relative to an ideal ½ wave dipole antenna. The signal generator corrected level is the ERP level.

5.2 TEST DATA

TABLE 5-1: RF POWER OUTPUT: RADIATED ERP 0DB MAGNETIC MOUNT ANTENNA

Frequency (MHz)	Signal Generator (dBm)	Cable Loss* (dB)	TX Antenna Gain (dBd)	Corrected Signal Generator (dBm)	ERP (W)	EIRP (W)	Cable Loss from Amplifier to Antenna (dB)
806.0	33.6	0.3	-1.3	32.0	1.6	2.6	2.3
814.0	32.7	0.3	-1.3	31.1	1.3	2.1	3.4
821.0	35.5	0.3	-1.2	34.0	2.5	4.1	4.1

TABLE 5-2: RF POWER OUTPUT: RADIATED ERP 0DB GLASS MOUNT ANTENNA

Frequency (MHz)	Signal Generator (dBm)	Cable Loss* (dB)	TX Antenna Gain (dBd)	Corrected Signal Generator (dBm)	ERP (W)	EIRP (W)	Cable Loss from Amplifier to Antenna (dB)
806.0	27.8	0.3	-1.3	26.2	0.417	0.684	2.8
814.0	27.4	0.3	-1.3	25.8	0.376	0.617	4.8
821.0	26.7	0.3	-1.2	25.2	0.330	0.542	4.6

TABLE 5-3: RF POWER OUTPUT: RADIATED ERP 6DB MAGNETIC MOUNT ANTENNA

Frequency (MHz)	Signal Generator (dBm)	Cable Loss* (dB)	TX Antenna Gain (dBd)	Corrected Signal Generator (dBm)	ERP (W)	EIRP (W)	Cable Loss from Amplifier to Antenna (dB)
806.0	33.8	0.3	-1.3	32.3	1.7	2.8	2.3
814.0	37.3	0.3	-1.3	35.7	3.7	6.1	3.4
821.0	34.2	0.3	-1.2	32.7	1.9	3.1	4.1

*cable loss from transmitting antenna to signal generator
Measurement accuracy is +/- .5 dB

5.3 TEST EQUIPMENT

TABLE 5-4: TEST EQUIPMENT

RTL Asset #	Manufacturer	Model	Part Type	Serial Number	Calibration Due Date
900878	Rhein Tech Labs	AM3-1197-0005	3 meter antenna mast, polarizing	Outdoor Range 1	N/A
900889	Hewlett Packard	85685A	RF Preselector for HP 8566B or 8568B (20Hz-2GHz)	3146A01309	11/21/02
900931	Hewlett Packard	8566B	Spectrum Analyzer (100 Hz - 22 GHz)	3138A07771	5/10/03
900969	Hewlett Packard	85650A	Quasi-Peak Adapter	2412A00414	5/10/03
901053	Schaffner Chase	CBL6112B	Bi-Log Antenna (20 MHz - 2 GHz)	2648	5/22/03
901242	Rhein Tech Labs	WRT-000-0003	Wood rotating table	N/A	N/A
900154	Compliance Design Inc,	Roberts Dipole	Adjustable Elements Dipole Antenna (30-1000MHz)	N/A	8/17/03
900917	Hewlett Packard	8648C	Signal Generator, 100 KHz - 3200 MHz	3537A01741	4/19/03
900024	Amplifier Research	100W1000M1	Amplifier, 100 Watt, (80-1000 MHz)	14491	N/A
901124	Alinco	DM-33MVT 32A	Power Supply	0001638	N/A

TEST PERSONNEL:

DANIEL W. BALTZELL — Test Engineer | Signature | NOVEMBER 6, 2002 — Date Of Test

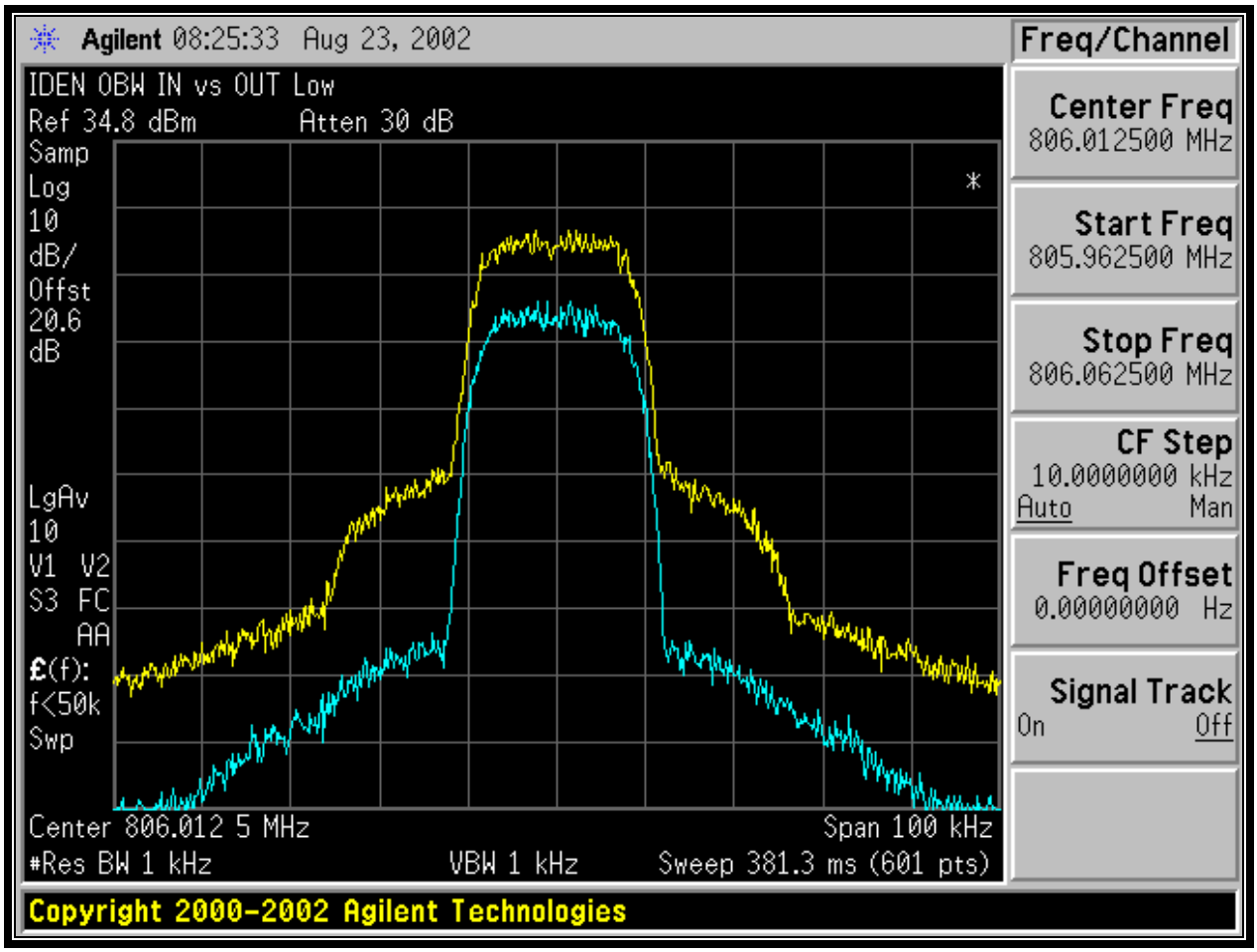
6 FCC RULES AND REGULATIONS PART 2.1049 (C) (1): OCCUPIED BANDWIDTH

OCCUPIED BANDWIDTH - COMPLIANCE WITH THE EMISSION MASKS

6.1 TEST PROCEDURE

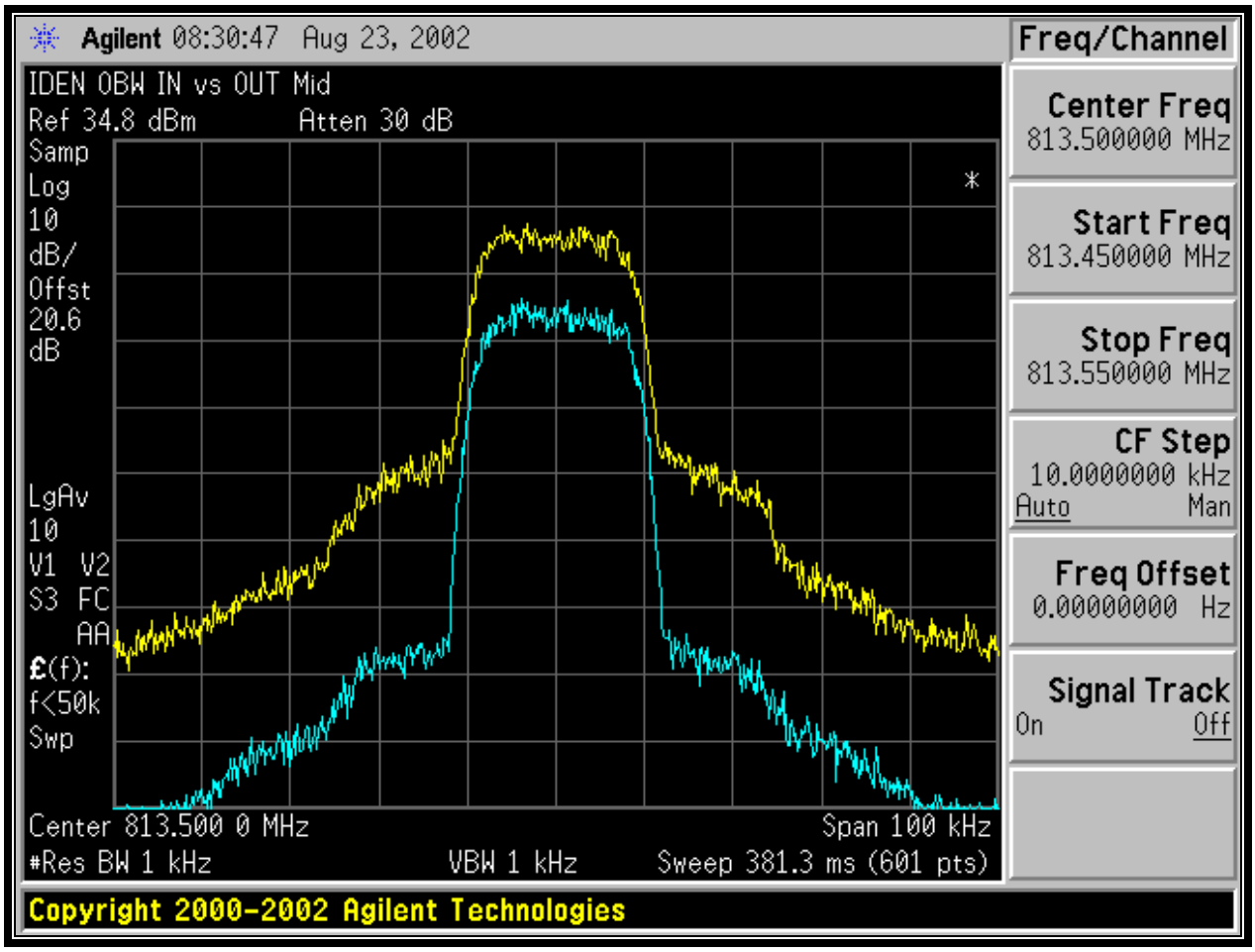
TIA/EIA/IS-98-A; peak levels were measured.

6.2 TEST DATA



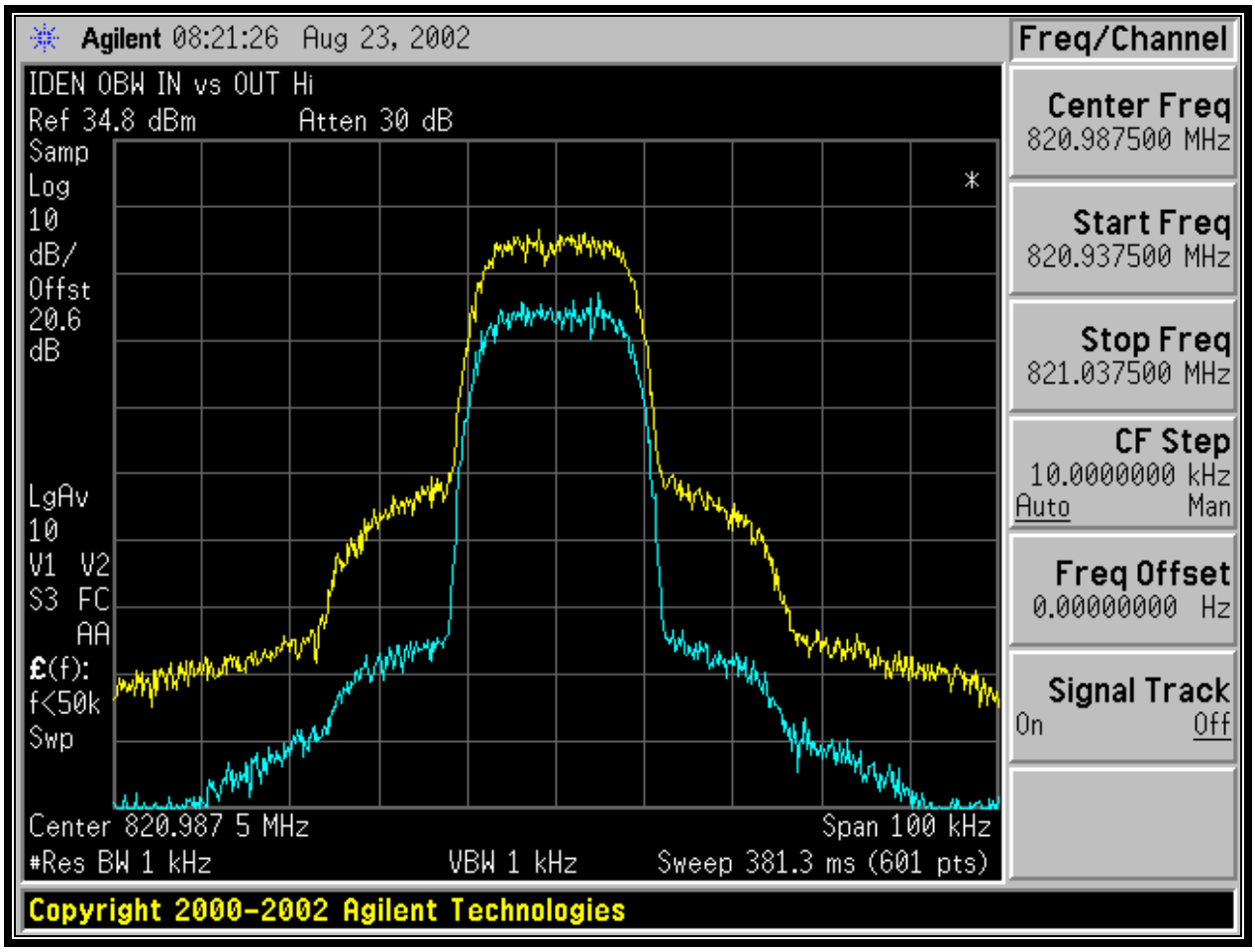
PLOT 6-1: IDEN OCCUPIED BANDWIDTH; 806.0125 MHZ

Output Level	22.0 dBm
Input Level	11.0 dBm
Amplification	11.0 dB



PLOT 6-2: IDEN OCCUPIED BANDWIDTH; 815.5 MHZ

Output Level	22.6 dBm
Input Level	11.8 dBm
Amplification	10.8 dB



PLOT 6-3: IDEN OCCUPIED BANDWIDTH; 821 MHZ

Output Level	21.6 dBm
Input Level	11.6 dBm
Amplification	10.0 dB

6.3 TEST EQUIPMENT

TABLE 6-1: TEST EQUIPMENT USED FOR TESTING (RF POWER OUTPUT - CONDUCTED)

RTL Asset #	Manufacturer	Model	Part Type	Serial Number	Calibration Due Date
N/A	Agilent	E4438C	Signal Generator	MY42080012	03/29/03
N/A	Agilent	E4440A	Spectrum Analyzer	US40420959	09/27/02

7 FCC RULES AND REGULATIONS PART 2.1051: SPURIOUS EMISSIONS AT ANTENNA TERMINALS

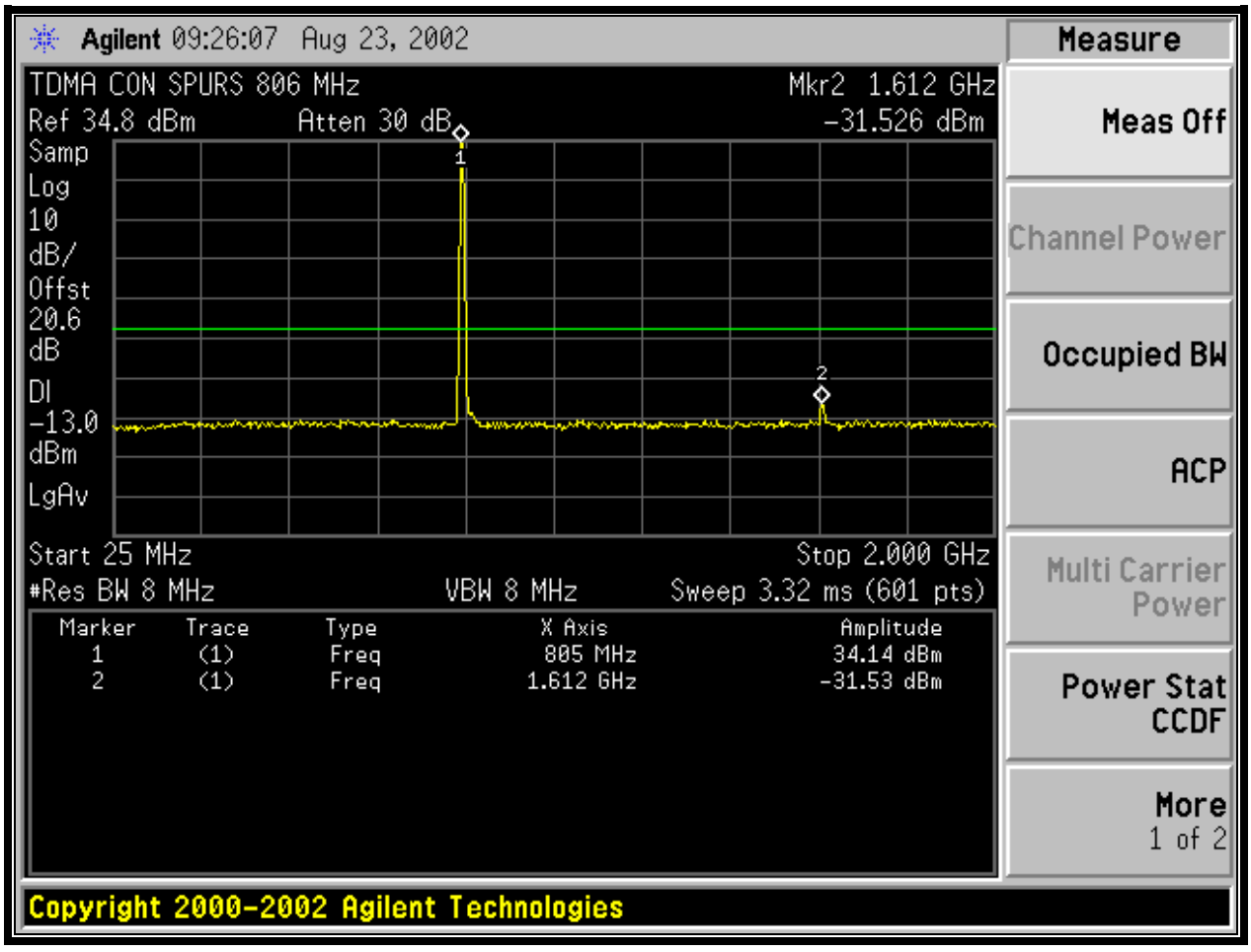
7.1 TEST PROCEDURE

ANSI/TIA/EIA-603-1992, Section 2.2.13

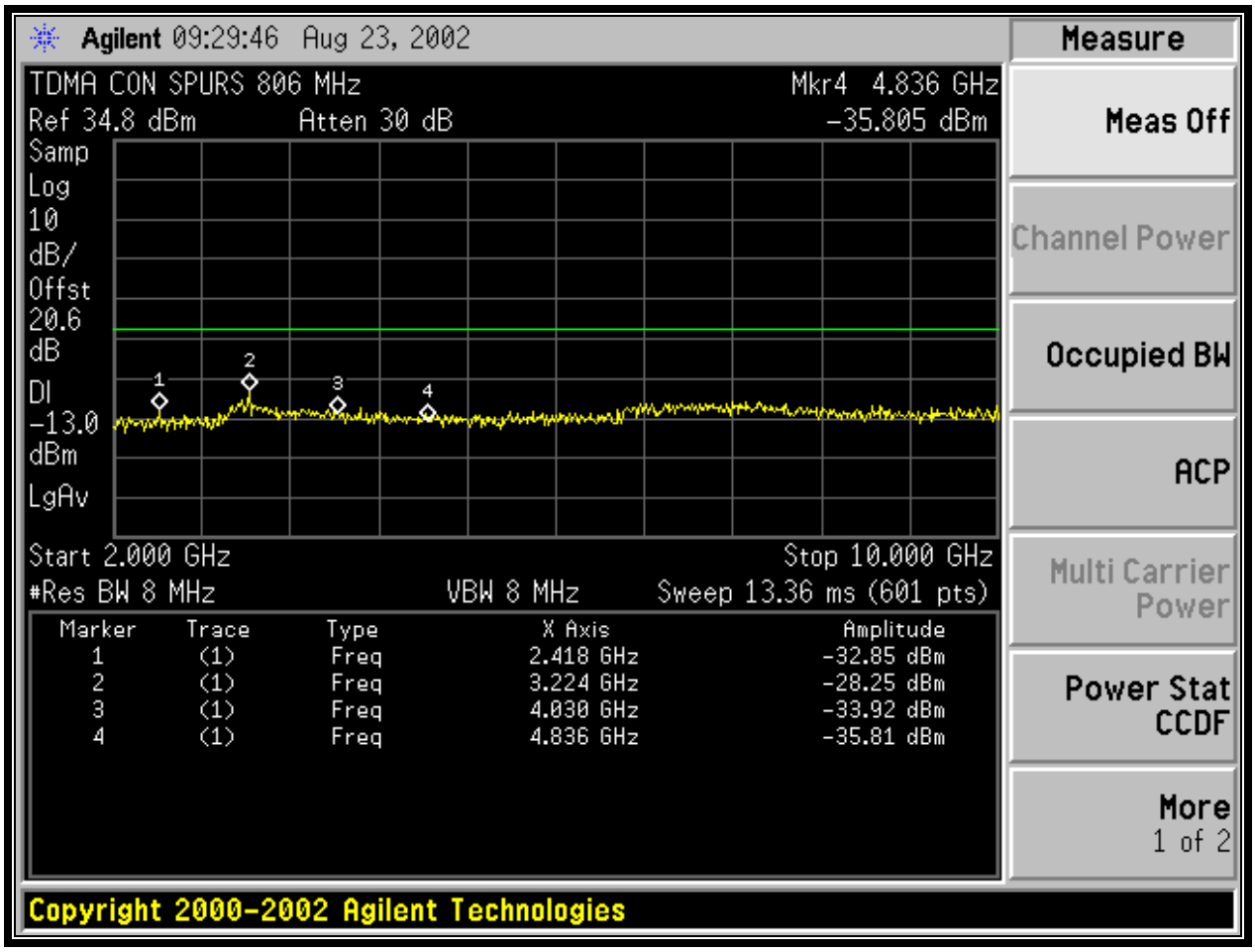
The transmitter is terminated with a 50 Ω load and interfaced with a spectrum analyzer.
The transmitter is modulated with a 2,500 Hz sine wave at an input level 16 dB greater than that required to produce 50% of the rated system deviation at 1000 Hz.

Digital Modulation: Modulated to its maximum extent using a pseudo random data sequence - 9600bps

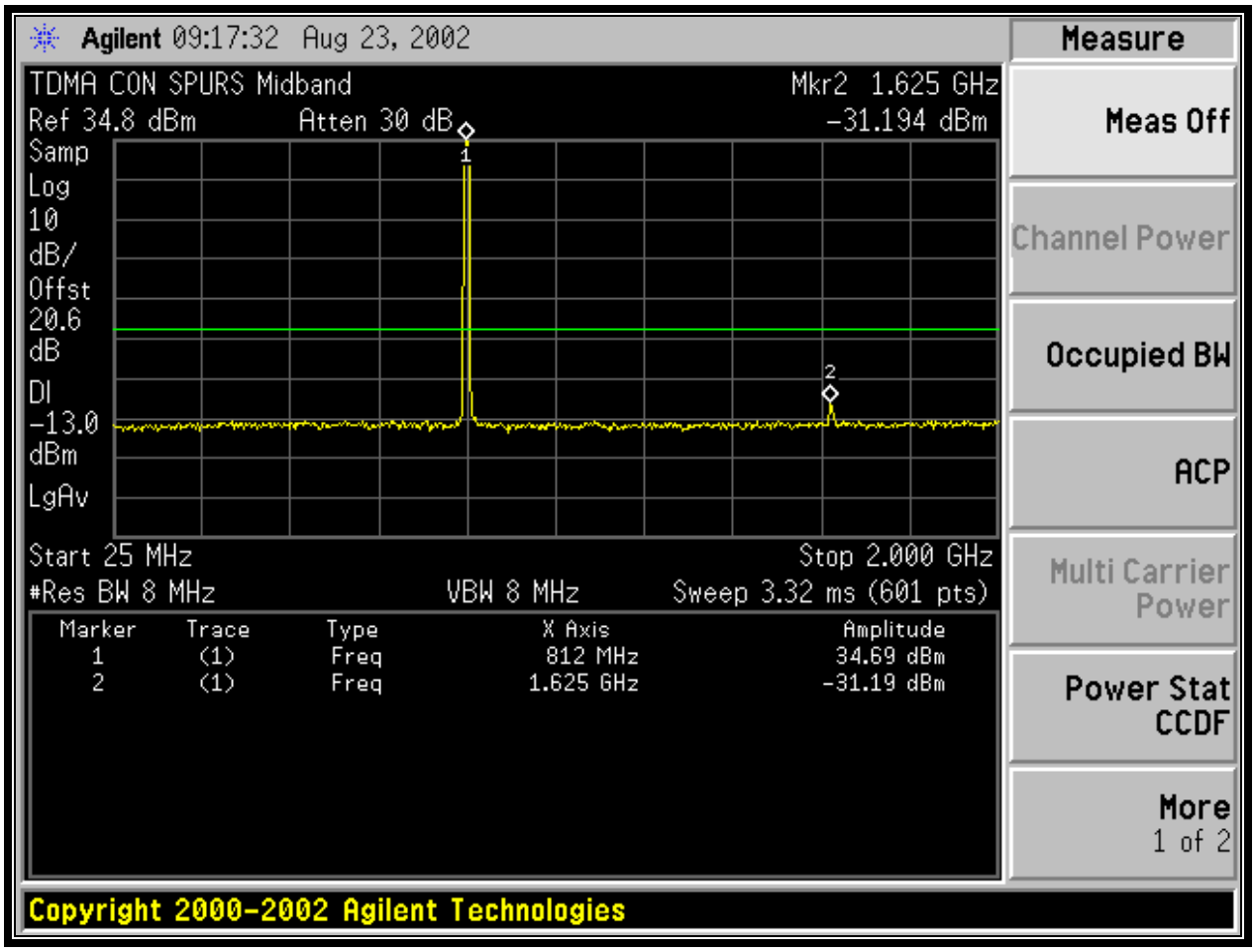
7.2 TEST DATA



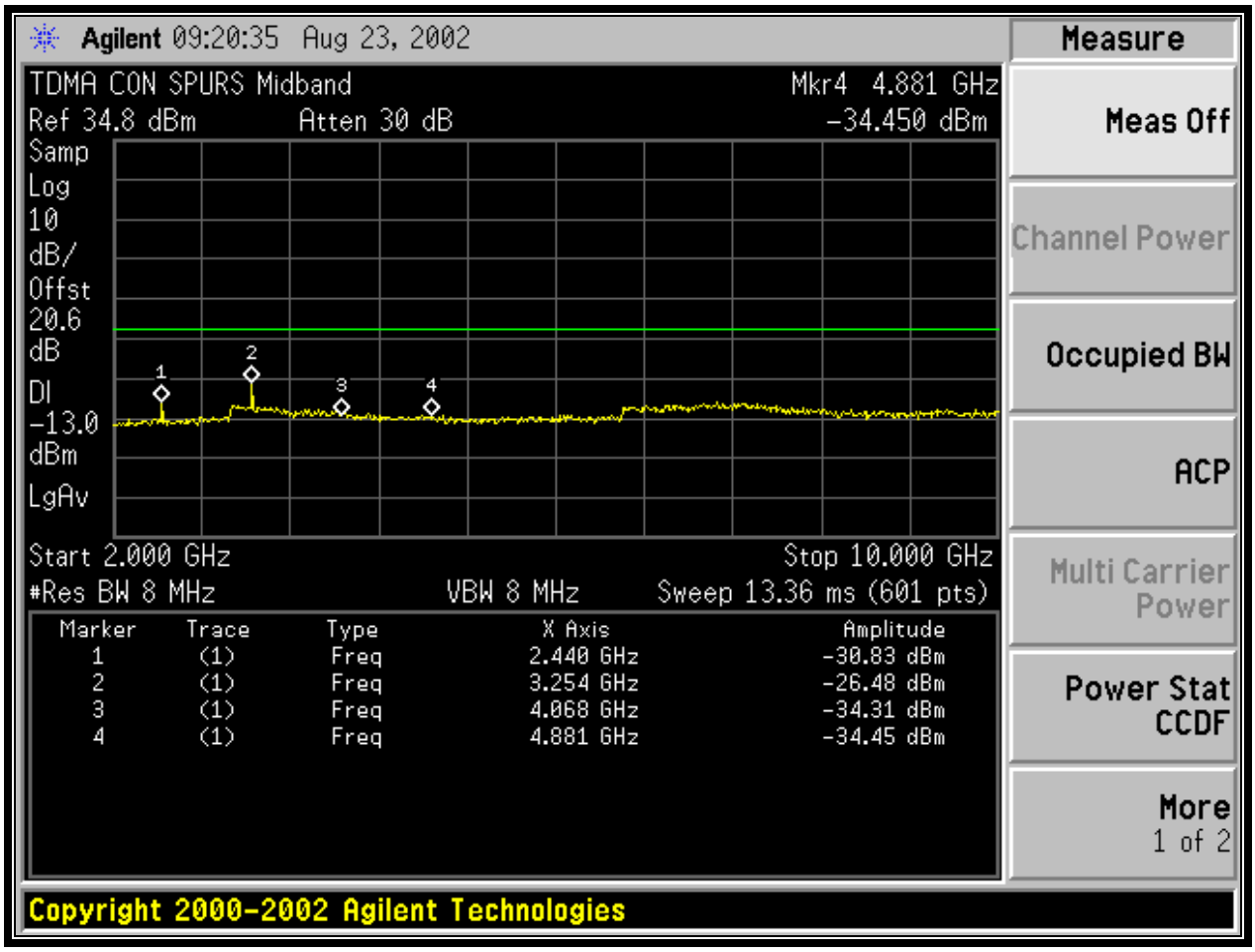
PLOT 7-1: TDMA CONDUCTED SPURIOUS 25 MHZ – 2 GHZ (806 MHZ)



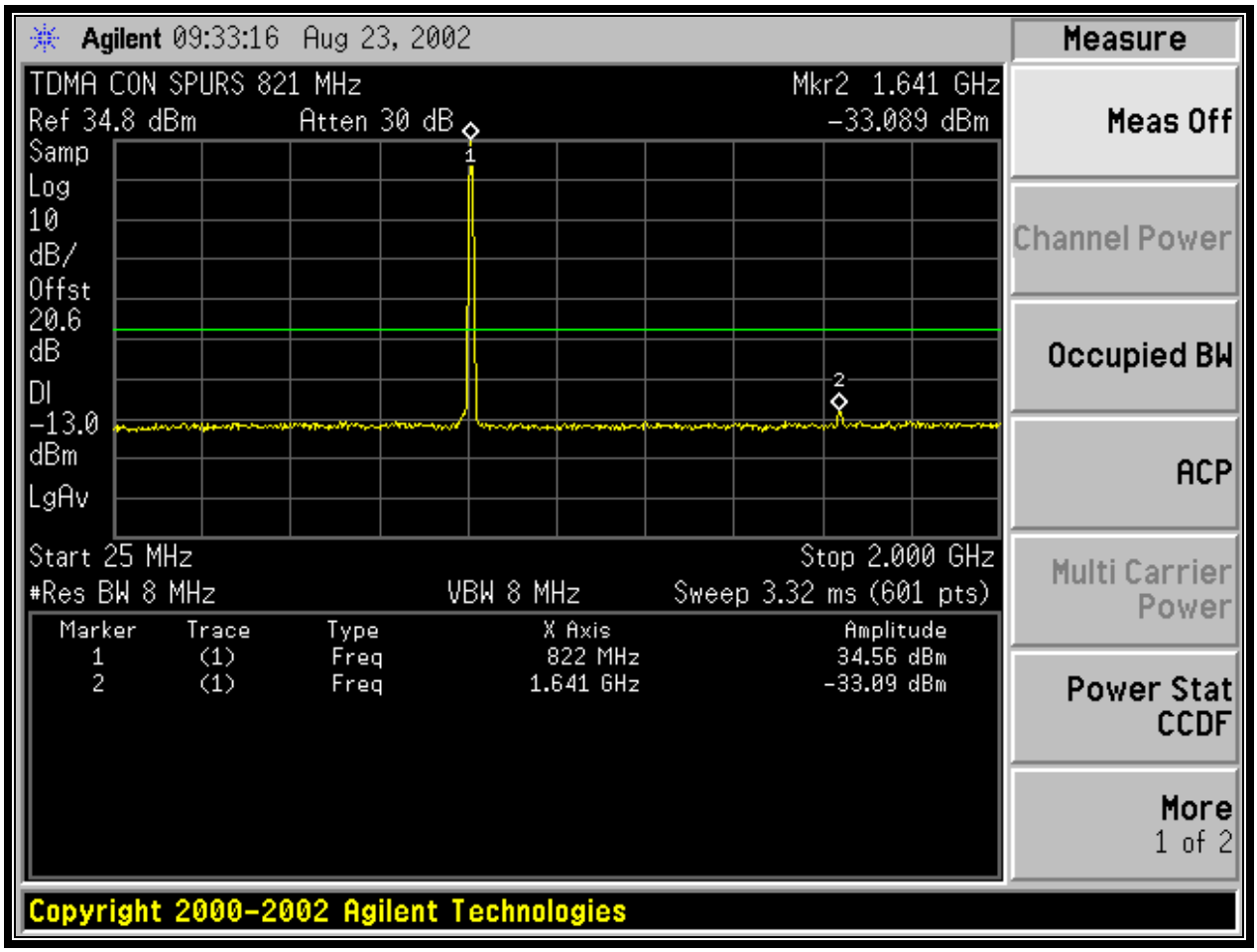
PLOT 7-2: TDMA CONDUCTED SPURIOUS 2 – 10 GHZ (806 MHZ)



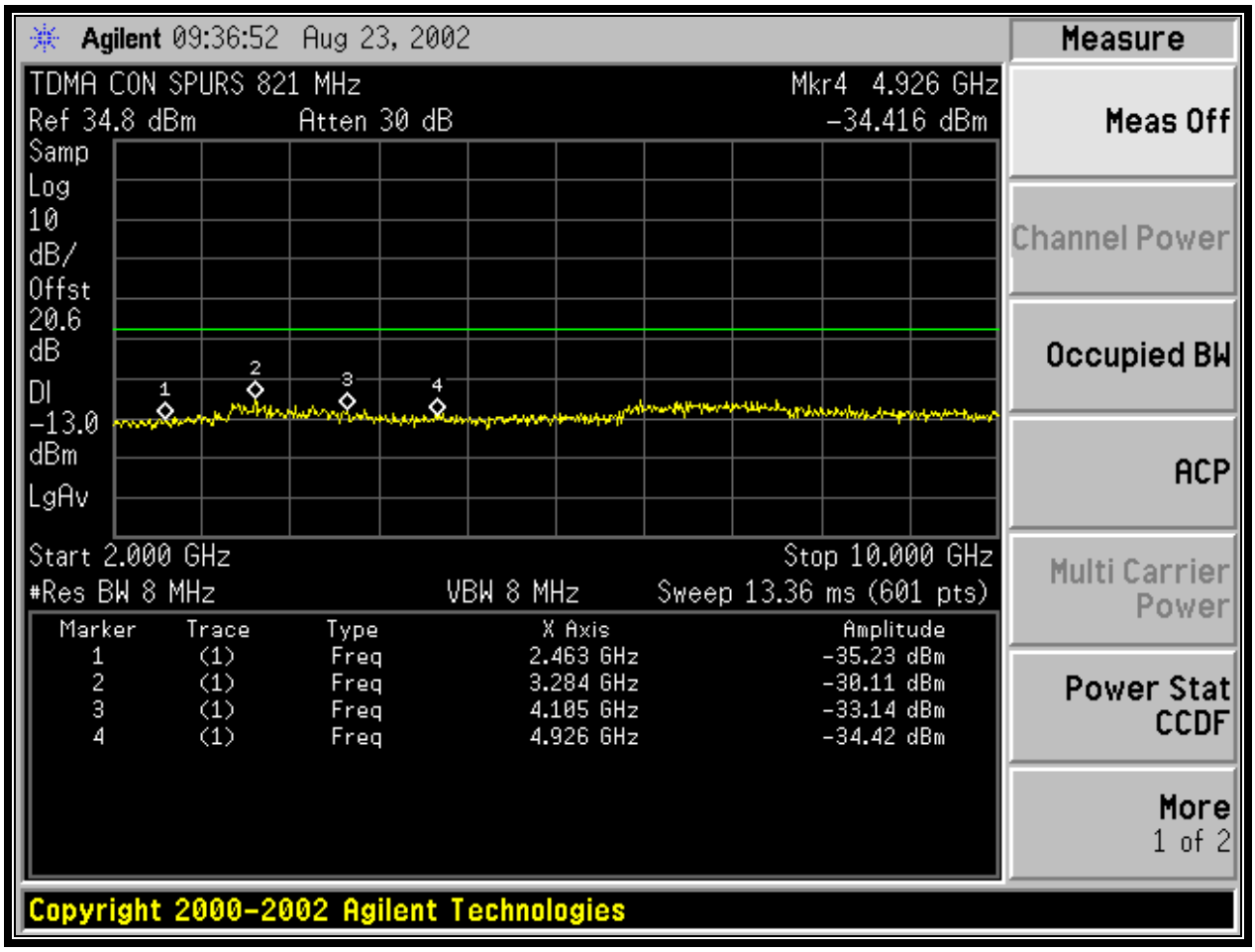
PLOT 7-3: TDMA CONDUCTED SPURIOUS 25 MHZ – 2 GHZ (MIDBAND)



PLOT 7-4: TDMA CONDUCTED SPURIOUS 2-10 GHZ (MIDBAND)



PLOT 7-5: TDMA CONDUCTED SPURIOUS 25 MHZ – 2 GHZ (821 MHZ)



PLOT 7-6: TDMA CONDUCTED SPURIOUS 2-10 GHZ (821 MHZ)

Frequency Range of Measurement per Part 2.1057: 9kHz to 10 x Fc

Limits: Mask B (dBm): P(dBm) – (43+10xLOG P(W))

The following channels (in MHz) were investigated: 806, 814 and 849 MHz. The worse case (unwanted emissions) channels are shown. The magnitude of emissions attenuated more than 20 dB below the FCC limit need not be recorded.

TABLE 7-1: CONDUCTED SPURIOUS EMISSIONS LOWER FREQUENCY – 806 MHZ

(806 MHz); Conducted power = 3 W

Frequency (MHz)	Spectrum Analyzer Level (dBm)	Notch Filter Insertion Loss (dB)	Corrected Level (dBc)	Limit (dBc)	Margin (dB)
1612.0	-46.1	-0.7	80.2	47.8	-32.4
2418.0	-71.9	-6.7	99.9	47.8	-52.1
3224.0	-72.6	-0.8	106.6	47.8	-58.8
4030.0	-73.6	-1.1	107.3	47.8	-59.5
4836.0	-59.8	-2.2	92.3	47.8	-44.5
5642.0	-53.5	-14.2	74.1	47.8	-26.3
6448.0	-71.7	-1.4	105.0	47.8	-57.2
7254.0	-74.3	-3.2	105.9	47.8	-58.2
8060.0	-56.3	-2.6	88.4	47.8	-40.7

TABLE 7-2: CONDUCTED SPURIOUS EMISSIONS MIDDLE FREQUENCY – 814 MHZ

(814 MHz); Conducted power = 3 W

Frequency (MHz)	Spectrum Analyzer Level (dBm)	Notch Filter Insertion Loss (dB)	Corrected Level (dBc)	Limit (dBc)	Margin (dB)
1628.0	-53.3	-0.9	87.1	47.8	-39.3
2442.0	-60.2	-6.5	88.5	47.8	-40.7
3256.0	-71.5	-0.6	105.7	47.8	-58.0
4070.0	-83.1	-1.3	116.6	47.8	-68.8
4884.0	-55.6	-1.5	88.9	47.8	-41.1
5698.0	-52.6	-9.9	77.5	47.8	-29.7
6512.0	-69.3	-1.6	102.5	47.8	-54.7
7326.0	-77.1	-4.0	107.9	47.8	-60.1
8140.0	-64.9	-2.5	97.1	47.8	-49.4

TABLE 7-3: CONDUCTED SPURIOUS EMISSIONS UPPER FREQUENCY – 821 MHZ

(821 MHz); Conducted power = 3 W

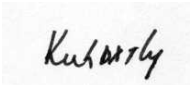
Frequency (MHz)	Spectrum Analyzer Level (dBm)	Notch Filter Insertion Loss (dB)	Corrected Level (dBc)	Limit (dBc)	Margin (dB)
1642.0	-44.5	-1.1	78.2	47.8	-30.4
2463.0	-51.3	-5.5	80.5	47.8	-32.8
3284.0	-75.5	-0.1	110.2	47.8	-62.4
4105.0	-93.6	-1.3	127.1	47.8	-79.4
4926.0	-55.5	-1.7	88.6	47.8	-40.9
5747.0	-64.8	-8.8	90.8	47.8	-43.0
6568.0	-67.0	-2.5	99.3	47.8	-51.5
7389.0	-81.4	-3.0	113.2	47.8	-65.4
8210.0	-55.2	-2.2	87.7	47.8	-39.9

7.3 TEST EQUIPMENT

TABLE 7-4: TEST EQUIPMENT USED FOR TESTING (CONDUCTED SPURIOUS EMISSIONS)

RTL Asset #	Manufacturer	Model	Part Type	Serial Number	Calibration Due Date
900889	Hewlett Packard	85685A	RF Preselector for HP 8566B or 8568B (20Hz-2GHz)	3146A01309	11/21/03
900931	Hewlett Packard	8566B	Spectrum Analyzer (100 Hz - 22 GHz)	3138A07771	5/10/03
900917	Hewlett Packard	8648C	Signal Generator, 100 KHz - 3200 MHz	3537A01741	4/19/03
900024	Amplifier Research	100W1000M1	Amplifier, 100 Watt, (80-1000 MHz)	14491	N/R
901124	Alinco	DM-33MVT 32A	Power Supply	0001638	N/R
N/A	Agilent	E4438C	Signal Generator	MY42080012	03/29/03
N/A	Agilent	E4440A	Spectrum Analyzer	US40420959	09/27/02

TEST PERSONNEL:



KINH LY — Test Engineer | Signature | SEPTEMBER 26, 2002 — Date Of Test

8 FCC RULES AND REGULATIONS PART 2.1053 (A): FIELD STRENGTH OF SPURIOUS RADIATION

8.1 TEST PROCEDURE

ANSI/TIA/EIA-603-1992, section 2.2.12

Substitution Method:

The EUT was setup at an antenna-to-EUT distance of 3 meters on an open area test site. The EUT was placed on a nonconductive turntable 1.0 meter above the ground plane.

The physical arrangement of the EUT was varied through three orthogonal planes in order to determine the effect on the EUT's emissions in amplitude, direction and frequency. At each frequency, the EUT was rotated 360 degrees, and the antenna was raised and lowered from one to four meters in order to determine the maximum emission levels. Measurements were taken using both horizontal and vertical antenna polarizations.

The worst-case, maximum radiated emission was recorded and used as reference for the measurement.

The EUT was then replaced by a ½ wave dipole antenna and polarized in accordance with the EUT's antenna polarization. The ½ wave dipole antenna was connected to a RF signal generator with a coaxial cable.

The search antenna height, and search antenna polarity was set to levels that produced the maximum reading obtained in step 3. The signal generator was adjusted to a level that produced the radiated emission level obtained in step 3.

The signal generator level was recorded and corrected by the power loss in the cable between the generator and the antenna and further corrected for the gain of the substitution antenna used relative to an ideal ½ wave dipole antenna. The signal generator corrected level is the spurious radiation emission level.

The transmitter is terminated with a 50 Ω load and interfaced with a spectrum analyzer.

Analog Modulation: The transmitter is modulated with a 2,500 Hz sine wave at an input level 16 dB greater than that required to produce 50% of the rated system deviation at 1000 Hz.

Digital Modulation: Modulated to its maximum extent using a pseudo random data sequence

8.2 TEST DATA

Frequency range of measurement per Part 2.1057: 9kHz to 10 x Fc

Limits: Mask B (dBm): P(dBm) – (43+10xLOG P(W))

The magnitude of emissions attenuated more than 20 dB below the FCC limit need not be recorded.

TABLE 8-1: RADIATED SPURIOUS EMISSIONS LOWER FREQUENCY – 806.0 MHZ

Frequency (MHz)	Signal Generator (dBm)	Cable Loss (dB)	Antenna Gain (dBd)	Corrected Signal Generator (dBc)	Limit (dBc)	Margin (dB)
1612.0	-42.0	0.5	4.7	72.6	47.8	-24.8
2418.0	-41.3	0.7	5.1	71.7	47.8	-23.9
3224.0	-52.2	0.8	6.1	81.7	47.8	-33.9
4030.0	-47.9	0.9	5.9	77.7	47.8	-29.9
4836.0	-54.5	1.0	7.0	83.3	47.8	-35.5
5642.0	-51.9	1.1	6.5	81.3	47.8	-33.5
6448.0	-40.1	1.4	7.6	68.6	47.8	-20.9
7254.0	-42.7	1.4	7.6	71.3	47.8	-23.5
8060.0	-35.9	1.3	8.4	63.5	47.8	-15.7

TABLE 8-2: RADIATED SPURIOUS EMISSIONS MIDDLE FREQUENCY – 814.0 MHZ

Frequency (MHz)	Signal Generator (dBm)	Cable Loss (dB)	Antenna Gain (dBd)	Corrected Signal Generator (dBc)	Limit (dBc)	Margin (dB)
1628.0	-43.6	0.5	4.7	74.2	47.8	-26.4
2442.0	-43.1	0.6	5.1	73.4	47.8	-25.6
3256.0	-48.4	0.8	6.1	77.9	47.8	-30.1
4070.0	-49.9	0.9	6.0	79.5	47.8	-31.8
4884.0	-52.3	1.0	7.0	81.1	47.8	-33.3
5698.0	-49.9	1.2	6.5	79.4	47.8	-31.6
6512.0	-35.6	1.5	7.8	64.1	47.8	-16.3
7326.0	-44.6	1.4	7.6	73.2	47.8	-25.4
8140.0	-28.9	1.4	8.4	56.7	47.8	-8.9

TABLE 8-3: RADIATED SPURIOUS EMISSIONS UPPER FREQUENCY – 821.0 MHZ

Frequency (MHz)	Signal Generator (dBm)	Cable Loss (dB)	Antenna Gain (dBd)	Corrected Signal Generator (dBc)	Limit (dBc)	Margin (dB)
1642.0	-46.3	0.5	4.7	76.9	47.8	-29.1
2463.0	-55.6	0.6	5.1	85.8	47.8	-38.1
3284.0	-50.5	0.8	6.1	80.0	47.8	-32.2
4105.0	-51.8	0.9	6.1	81.4	47.8	-33.6
4926.0	-51.5	1.0	7.0	80.4	47.8	-32.6
5747.0	-48.4	1.2	6.6	77.8	47.8	-30.0
6568.0	-33.7	1.5	7.7	62.2	47.8	-14.5
7389.0	-41.4	1.4	7.6	70.0	47.8	-22.2
8210.0	-32.8	1.4	8.4	60.6	47.8	-12.8

8.3 TEST EQUIPMENT

TABLE 8-4: TEST EQUIPMENT USED FOR TESTING (FIELD STRENGTH OF SPURIOUS RADIATION)

RTL Asset #	Manufacturer	Model	Part Type	Serial Number	Calibration Due Date
900791	Schaffner@Chase	CBL6112	Antenna (25MHz – 2GHz)	2099	08/23/02
900932	Hewlett Packard	8449B OPT H02	Preamplifier (1-26.5 GHz)	3008A00505	N/A
900917	Hewlett Packard	8648C	Synthesized. Signal Generator (9 KHz to 3200 MHz)	3537A01741	04/19/03
900928	Hewlett Packard	83752A	Synthesized Sweeper, 0.01 to 20 GHz	3610A00866	06/19/03
900889	Hewlett Packard	85685A	RF Preselector for HP 8566B or 8568B (20Hz-2GHz)	3146A01309	11/21/03
900931	Hewlett Packard	8566B	Spectrum Analyzer (100 Hz - 22 GHz)	3138A07771	5/10/03
900154	Compliance Design Inc,	Roberts Dipole	Adjustable Elements Dipole Antenna (30-1000MHz)		8/17/03
901218	EMCO	3301B	Horn Antenna (18-26 GHz)	960281-003	7/30/04
900772	EMCO	3161-02	Horn ANTENNA (2 - 4 GHz)	9804-1044	N/R
900323	EMCO	3160-07	HORN ANTENNA, 8.2-12.4 GHz	9605-1054	N/R
900321	EMCO	3161-03	Horn Antenna, 4.0-8.2 GHz	9508-1020	N/R
900917	Hewlett Packard	8648C	Signal Generator, 100 KHz - 3200 MHz	3537A01741	4/19/03
900024	Amplifier Research	100W1000M1	Amplifier, 100 Watt, (80-1000 MHz)	14491	N/R
901124	Alinco	DM-33MVT 32A	Power Supply	0001638	N/R

TEST PERSONNEL:

DANIEL BALTZELL		SEPTEMBER 9, 2002
Test Engineer	Signature	Date Of Test

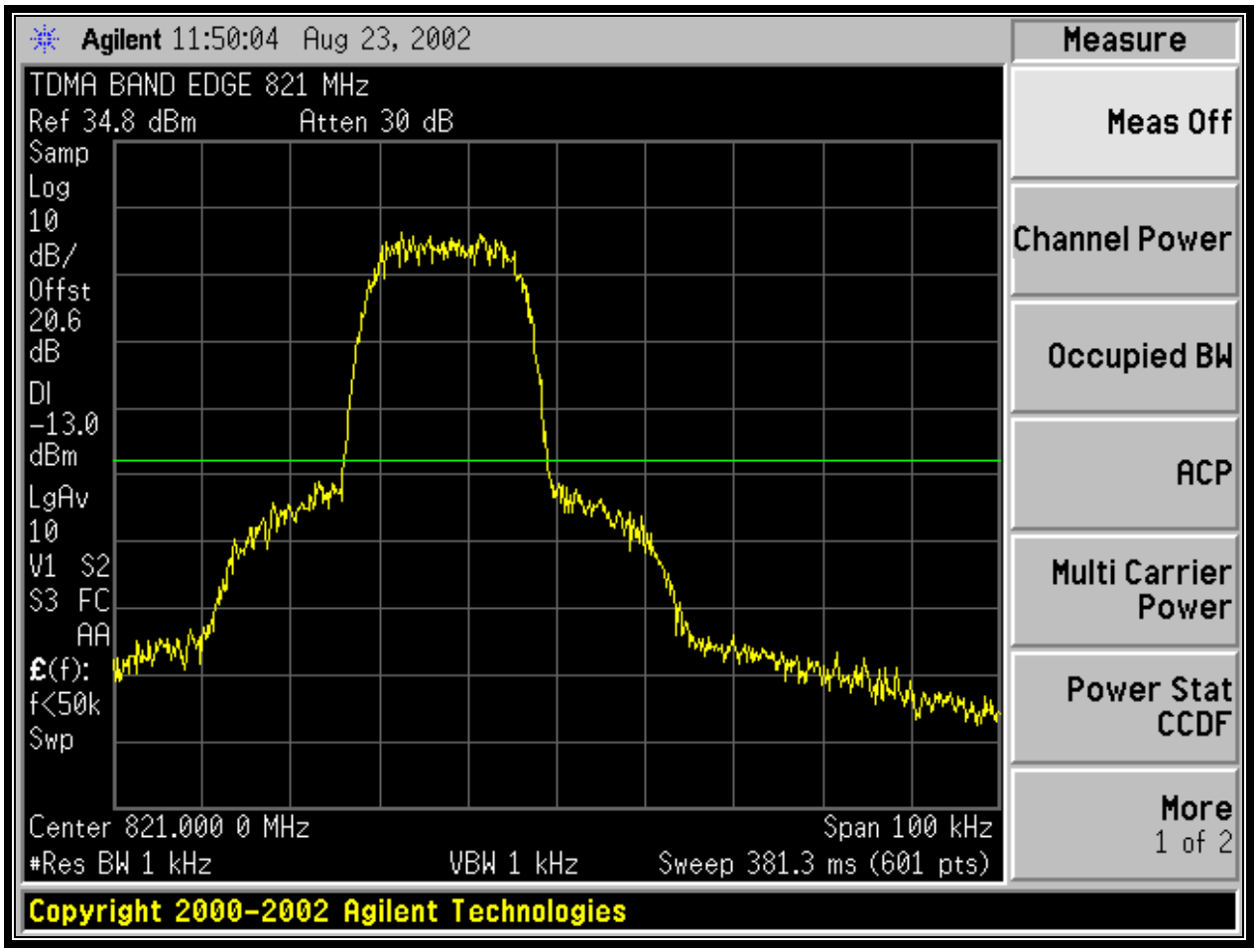
9 FCC RULES AND REGULATIONS: BAND-EDGE COMPLIANCE

9.1 TEST PROCEDURE

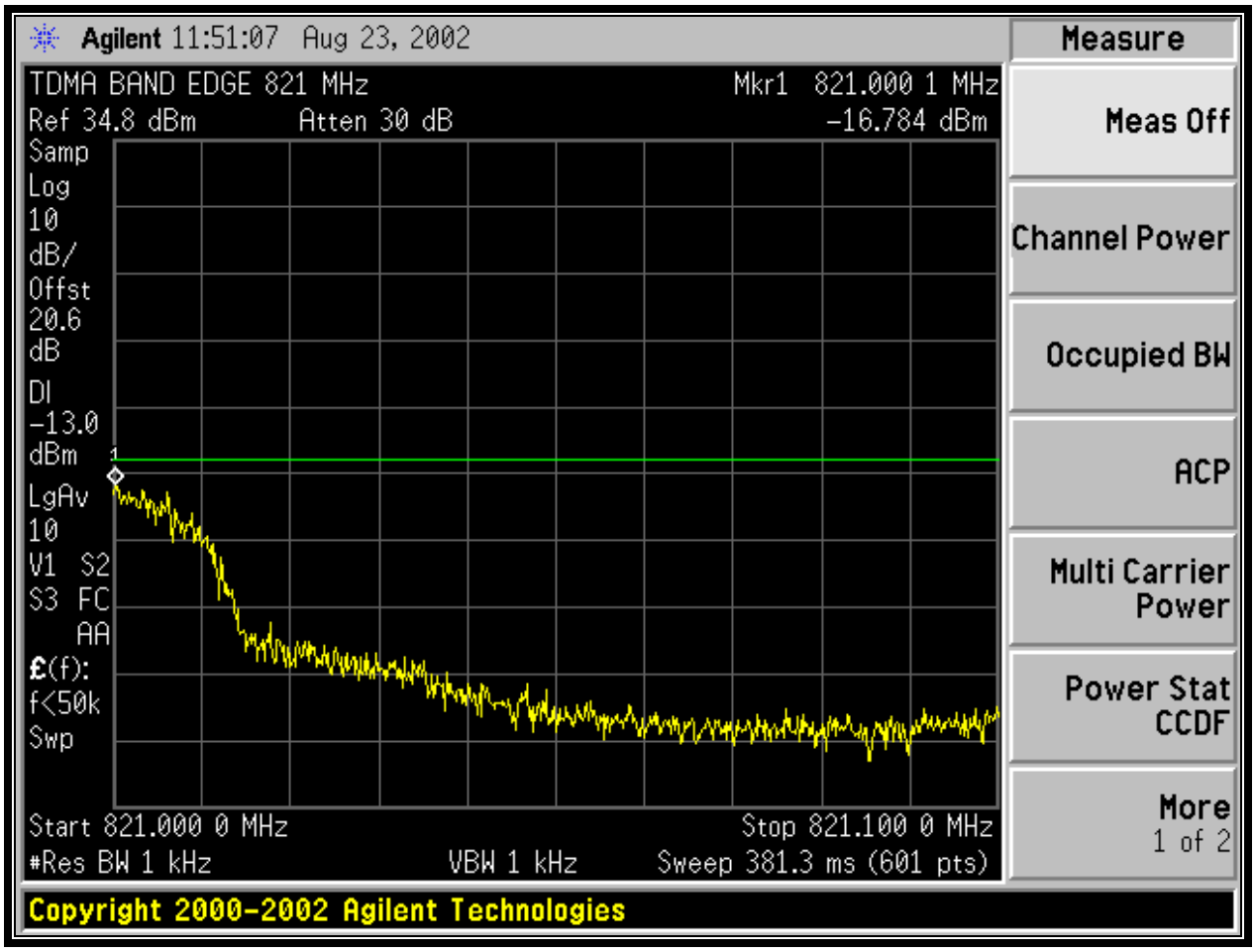
Compliance with the band edges was performed using the FCC's "Radiated Measurement at a Band Edge" guidance document.

9.2 TEST DATA

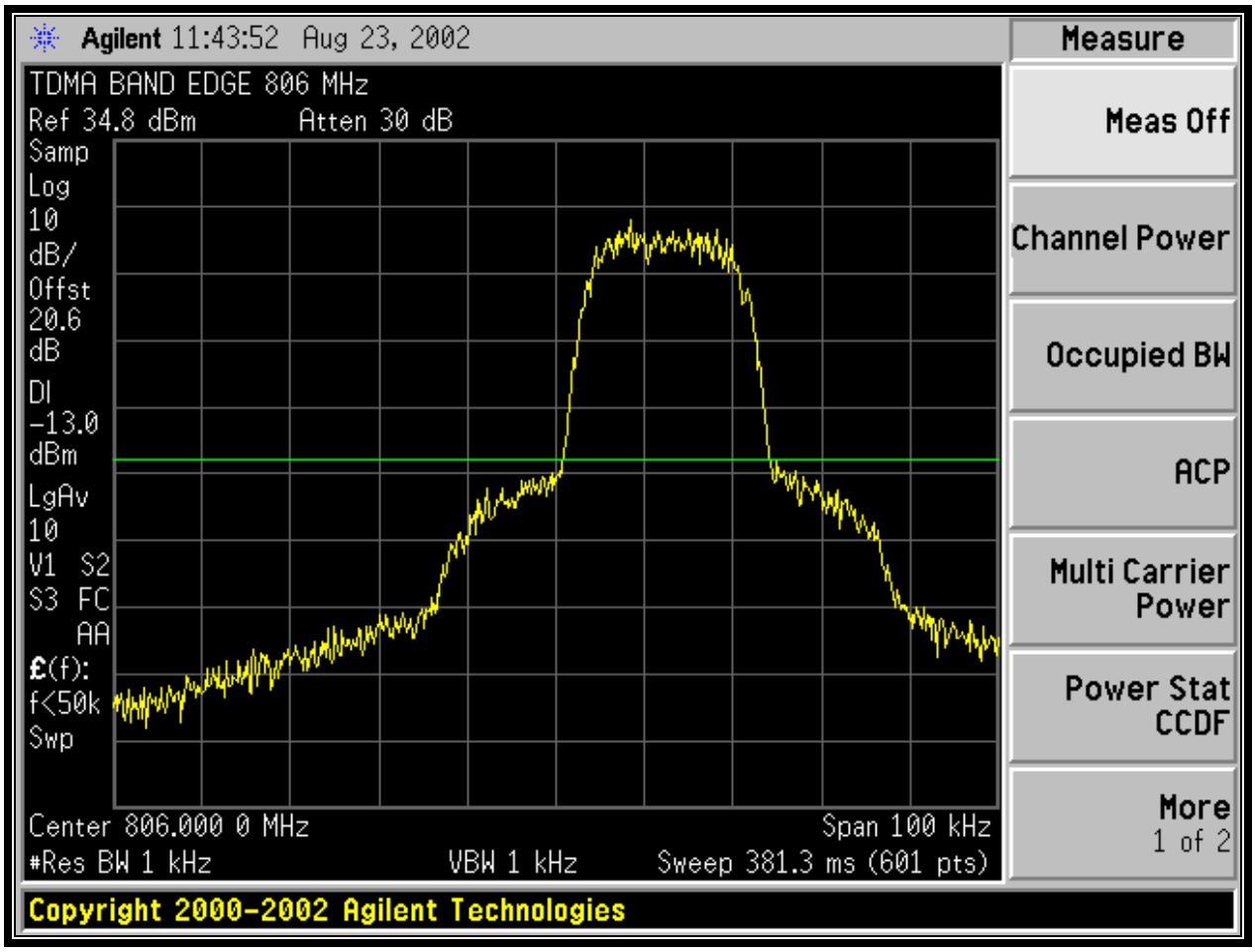
The following plots were made using radiated measurements. The center frequency of the spectrum analyzer display was set to 824MHz for the lower band-edge and 849MHz for the upper band-edge.



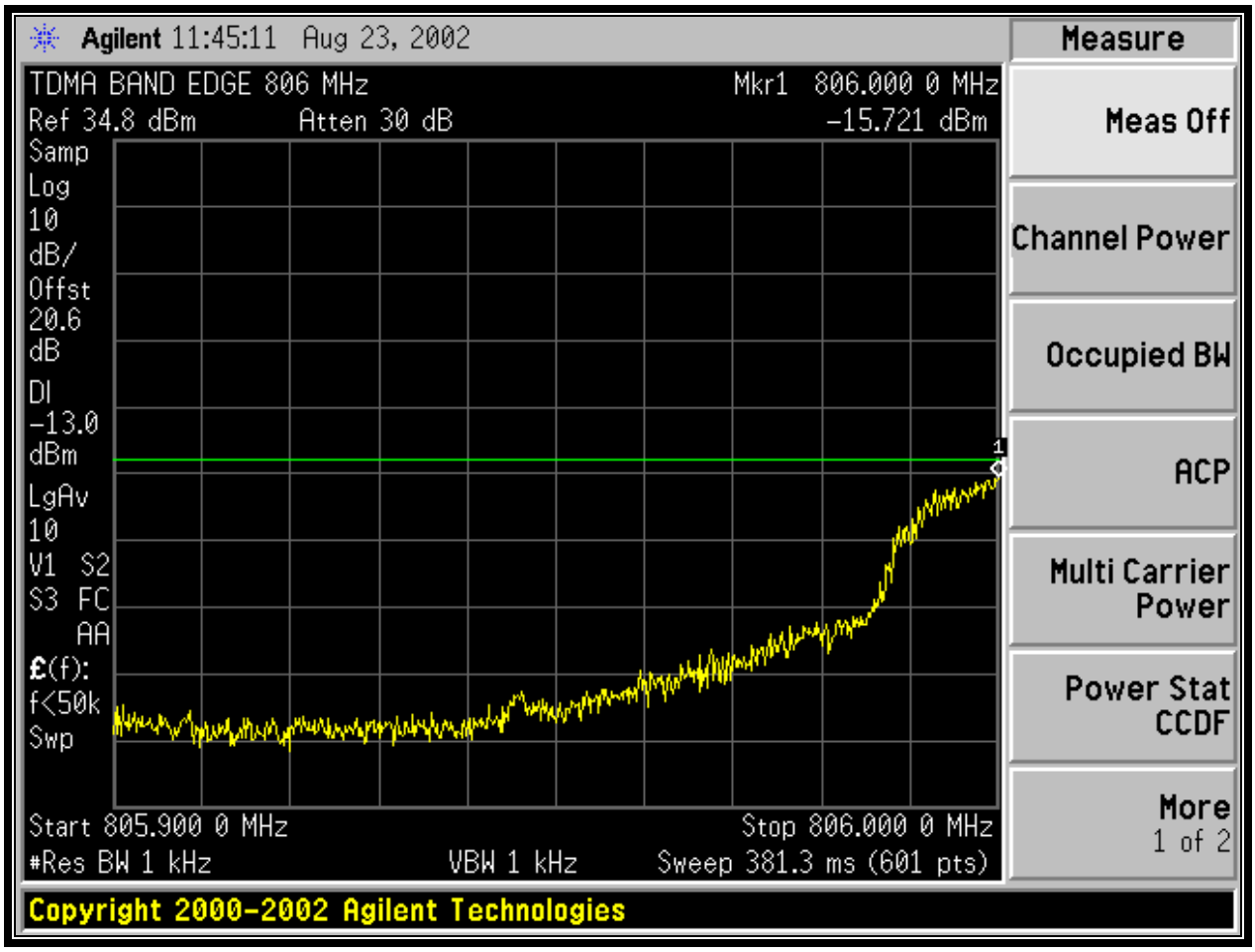
PLOT 9-1: TDMA UPPER BAND EDGE (821 MHZ)



PLOT 9-2: TDMA UPPER BAND EDGE (821 MHZ)



PLOT 9-3: TDMA LOWER BAND EDGE (806 MHZ)



PLOT 9-4: TDMA LOWER BAND EDGE (806 MHZ)

9.3 TEST EQUIPMENT

TABLE 9-1: TEST EQUIPMENT USED FOR TESTING (OCCUPIED BANDWIDTH)

RTL Asset #	Manufacturer	Model	Part Type	Serial Number	Calibration Due Date
N/A	Agilent	E4438C	Signal Generator	MY42080012	03/29/03
N/A	Agilent	E4440A	Spectrum Analyzer	US40420959	09/27/02

10 CONCLUSION

The data in this measurement report shows that the MCT, Inc. 3W Amplifier, FCC ID: OW5BST801, complies with all the requirements of Part 90 of the FCC Rules and Industry Canada RSS-119.