



WILSON ELECTRONICS TEST REPORT

FOR THE

BIDIRECTIONAL AMPLIFIER REPEATER, 801101

FCC PART 22 AND RSS 131

COMPLIANCE

DATE OF ISSUE: MARCH 5, 2004

PREPARED FOR:

Wilson Electronics
3301 East Deseret Drive
St. George, UT 84790

P.O. No.: PW0824WV-2-11-04
W.O. No.: 81892

PREPARED BY:

Mary Ellen Clayton
CKC Laboratories, Inc.
5473A Clouds Rest
Mariposa, CA 95338

Date of test: February 16-26, 2004

Report No.: FC04-019

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ADMINISTRATIVE INFORMATION

DATE OF TEST: February 16-26, 2004

DATE OF RECEIPT: February 16, 2004

PURPOSE OF TEST: To demonstrate the compliance of the Bidirectional Amplifier Repeater, 801101 with the requirements for FCC Part 22 and RSS 131 devices.

TEST METHOD: FCC Part 22 and RSS 131

FREQUENCY RANGE TESTED: 30 MHz-10 GHz

MANUFACTURER: Wilson Electronics
3301 East Deseret Drive
St. George, UT 84790

REPRESENTATIVE: Patrick Cook

TEST LOCATION: CKC Laboratories, Inc.
5473A Clouds Rest
Mariposa, CA 95338

SUMMARY OF RESULTS

As received, the Wilson Electronics Bidirectional Amplifier Repeater, 801101 was found to be fully compliant with the following standards and specifications:

United States

- FCC Part 22

Canada

- RSS-131 using:
- FCC Part 22

CONDITIONS FOR COMPLIANCE

No modifications to the EUT were necessary to comply. Conducted emissions not required for this device.

APPROVALS

Steve Behm, Director of Engineering Services

QUALITY ASSURANCE:



Joyce Walker, Quality Assurance Administrative Manager

TEST PERSONNEL:



Mike Wilkinson, Lab Manager

EQUIPMENT UNDER TEST (EUT) DESCRIPTION

The EUT tested by CKC Laboratories was a production unit

EQUIPMENT UNDER TEST

Bidirectional Amplifier Repeater

Manuf: Wilson Electronics
Model: 801101
Serial: AV3-009920
FCC ID: pending

Amplifier Power Supply

Manuf: Wilson Electronics
Model: JOD-48U-36
Serial: NA
FCC ID: NA

PERIPHERAL DEVICES

The EUT was tested with the following peripheral device(s):

Signal Generator

Manuf: HP
Model: E4432B
Serial: US40052283 & US38330168
FCC ID: DoC

RF Combiner

Manuf: Motorola
Model: NA
Serial: P1314
FCC ID: DoC

Signal Generator

Manuf: HP
Model: 8656A
Serial: 2245A04338
FCC ID: DoC

Signal Generator (CDMA Adapter)

Manuf: HP
Model: 83295A
Serial: US37461985
FCC ID: DoC

Signal Generator

Manuf: HP
Model: 8921A
Serial: 3519A01796
FCC ID: DoC

MEASUREMENT UNCERTAINTY

TEST	HIGHEST UNCERTAINTY
Radiated Emissions	+/- 2.94 dB

Note: Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k=2. Statements of compliance are based on the nominal values only.

TEMPERATURE AND HUMIDITY DURING TESTING

The temperature during testing was within +15°C and + 35°C.
The relative humidity was between 20% and 75%.

FCC 2.1033(c)(3) USER'S MANUAL

The necessary information is contained in a separate document.

FCC 2.1033 (c)(4) TYPE OF EMISSIONS

F1D, G7W, GXW, F9W

FCC 2.1033 (c)(5) FREQUENCY RANGE

Downlink 869.28-893.97, Uplink 824.03-848.97

FCC 2.1033 (c)(6) OPERATING POWER

Downlink 8.7 mW, Uplink 3 Watts.

FCC 2.1033 (c)(7) MAXIMUM POWER RATING

The effective radiated power (ERP) of base transmitters and cellular repeaters must not exceed 500 Watts. The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

FCC 2.1033 (c)(8) DC VOLTAGES

The necessary information is contained in a separate document.

FCC 2.1033 (c)(9) TUNE-UP PROCEDURE

The necessary information is contained in a separate document.

FCC 2.1033(c)(10) SCHEMATICS AND CIRCUITRY DESCRIPTION

The necessary information is contained in a separate document.

FCC 2.1033(c)(11) LABEL AND PLACEMENT

The necessary information is contained in a separate document.

FCC 2.1033(c)(12) SUBMITTAL PHOTOS

The necessary information is contained in a separate document.

FCC 2.1033 (c)(13) MODULATION INFORMATION

AMPS, CDMA, TDMA (EDGE & GSM)

FCC 2.1033(c)(14)/2.1046/22.913 - RF POWER OUTPUT

EUT is a bidirectional amplifier repeater for the 824 to 894 MHz band. Uplink frequency range 824 - 849 MHz. Downlink frequency range 869 - 894 MHz

RF Power Output Test:

Only one signal is input to the amplifier. The input from the signal generator is set such that the maximum output is provided at the antenna terminals. The internal ALC of the amplifier limits the maximum power output to a factory set level. Power output is continuously variable and directly proportional to the supplied RF input. Minimum RF output power of 0.00 Watts is achieved with a 0.00 Watt RF input signal.

Uplink Output Ratings:

CDMA and TDMA (EDGE & GSM) formats: 3Watts
AMPS: 1Watt

Downlink Output Ratings:

All: 10mW

RF power output of the amplifier is routed to a spectrum analyzer through suitable attenuation.

Downlink

<i>Frequency (MHz)</i>	<i>Modulation</i>	<i>Power Output (milliWatts)</i>
870.25	CDMA	7.23
881.5	CDMA	8.31
892.75	CDMA	5.37
869.28	GSM	5.75
881.5	GSM	8.70
893.72	GSM	5.49
869.28	EDGE	6.03
881.5	EDGE	8.70
893.72	EDGE	5.75
869.03	AMPS	3.24
881.5	AMPS	7.76
893.97	AMPS	6.03

Uplink

<i>Frequency (MHz)</i>	<i>Modulation</i>	<i>Power Output (Watts)</i>
825.25	CDMA	2.69
836.5	CDMA	3.00
847.75	CDMA	2.63
824.28	GSM	2.29
836.5	GSM	2.75
848.72	GSM	2.00
824.28	EDGE	2.14
836.5	EDGE	2.69
848.72	EDGE	2.09
824.03	AMPS	.794
836.5	AMPS	.977
848.97	AMPS	.776

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8566B SA	2209A01404	02/26/2003	02/26/2005	00490
HP 8566B SA Display	2403A08241	02/26/2003	02/26/2005	00489
HP 85650A QPA	2811A01267	02/26/2003	02/26/2005	00478
Bird Attenuator, 25A-MFN-30	9724	05/08/2003	05/08/2005	P01577

**FCC 2.1033(c)(14)/2.1047(a) - MODULATION CHARACTERISTICS - AUDIO
FREQUENCY RESPONSE**

Not applicable to this unit.

**FCC 2.1033(c)(14)/2.1047(b) MODULATION CHARACTERISTICS- Modulation
Limiting Response**

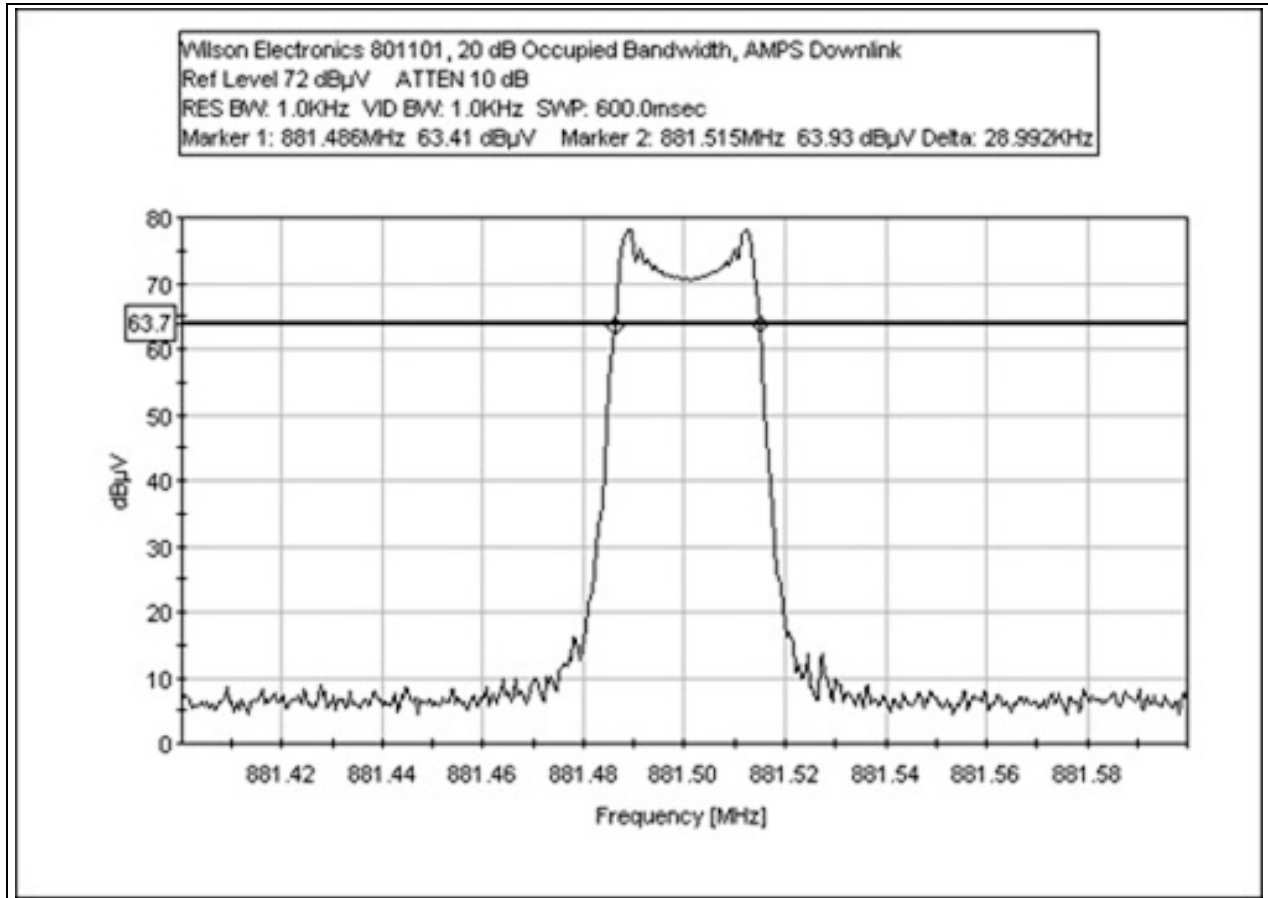
Not applicable to this unit.

FCC 2.1033(c)(14)/2.1049(i)- OCCUPIED BANDWIDTH

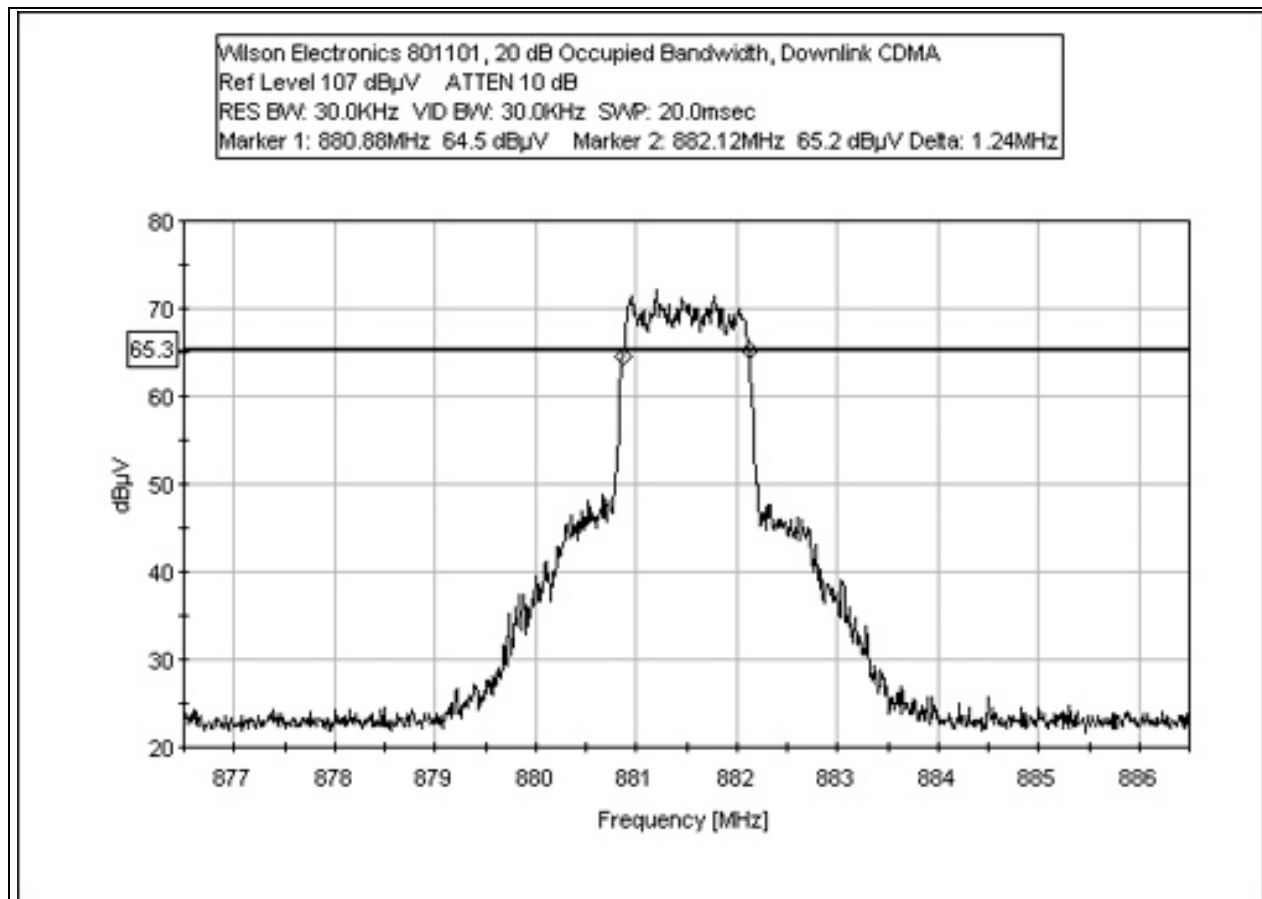
Test Conditions / Notes:

EUT is a bidirectional amplifier repeater for the 824 to 894 MHz band. Uplink frequency range 824 - 849 MHz. Downlink frequency range 869 - 894 MHz. Spurious Emissions Test: One signal is input to the amplifier. The input signal is set such that the maximum output is provided at the antenna terminals. The internal ALC of the amplifier limits the maximum power output to a factory set level. Power output is continuously variable and directly proportional to the supplied RF input.

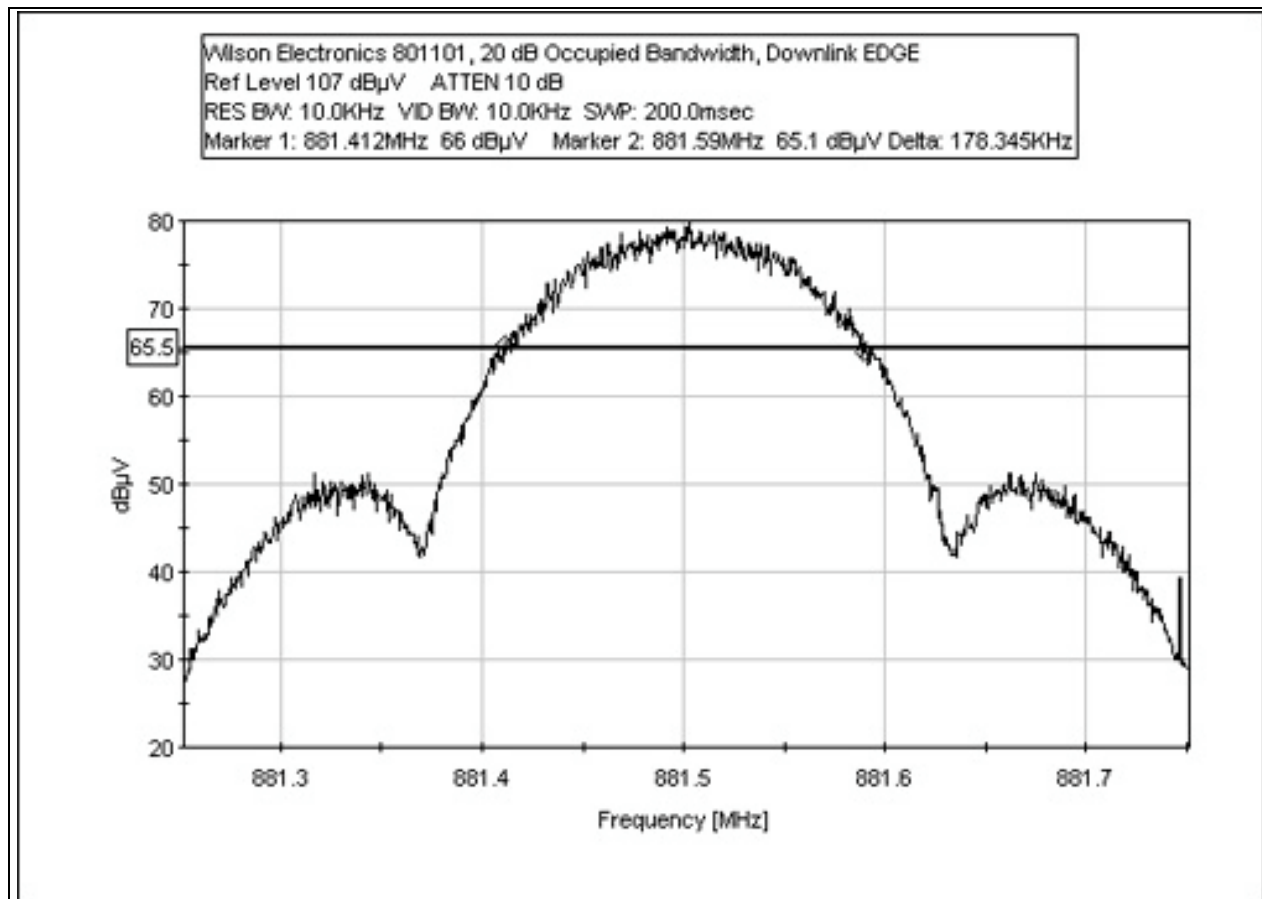
20dB Bandwidth Downlink AMPS



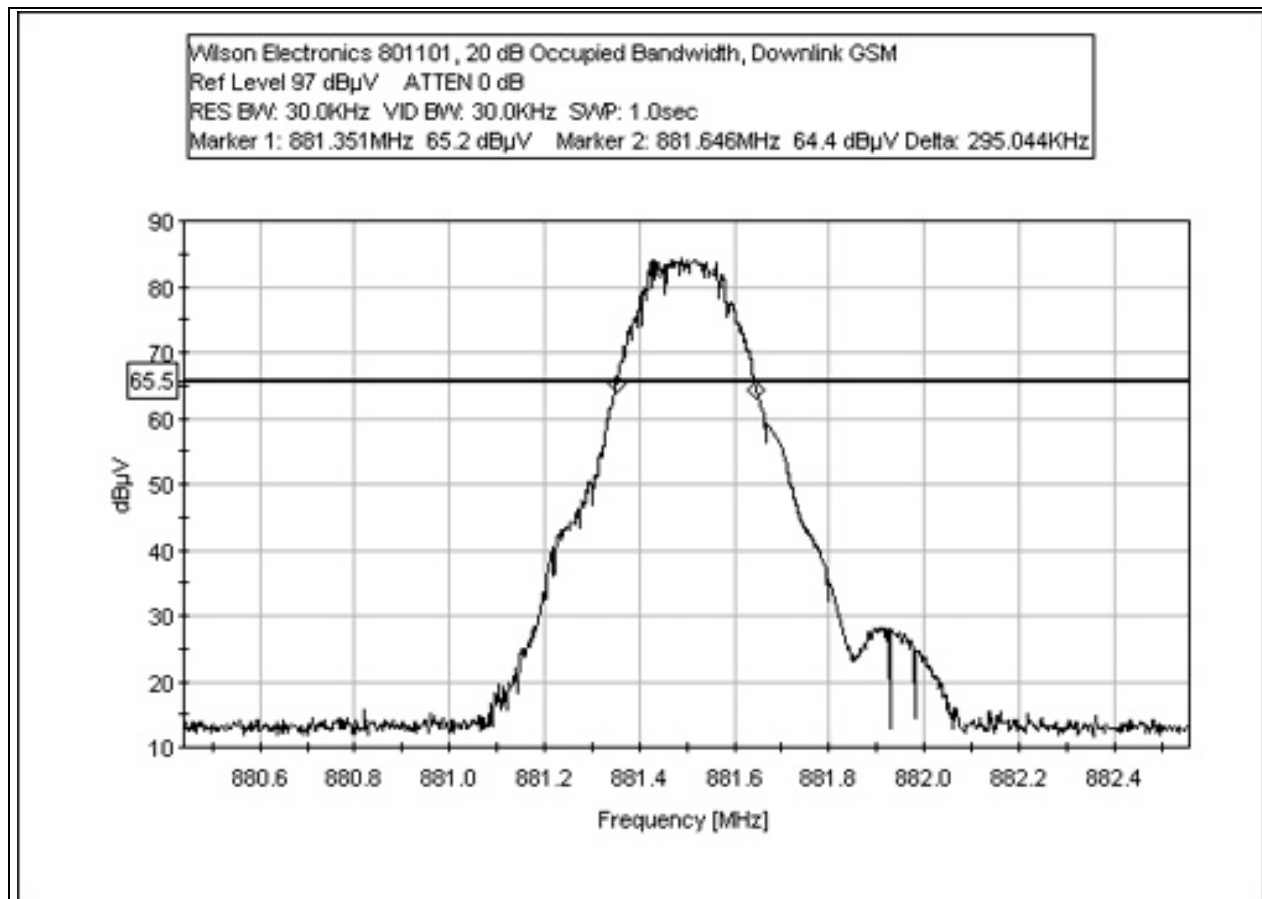
20dB Bandwidth Downlink CDMA



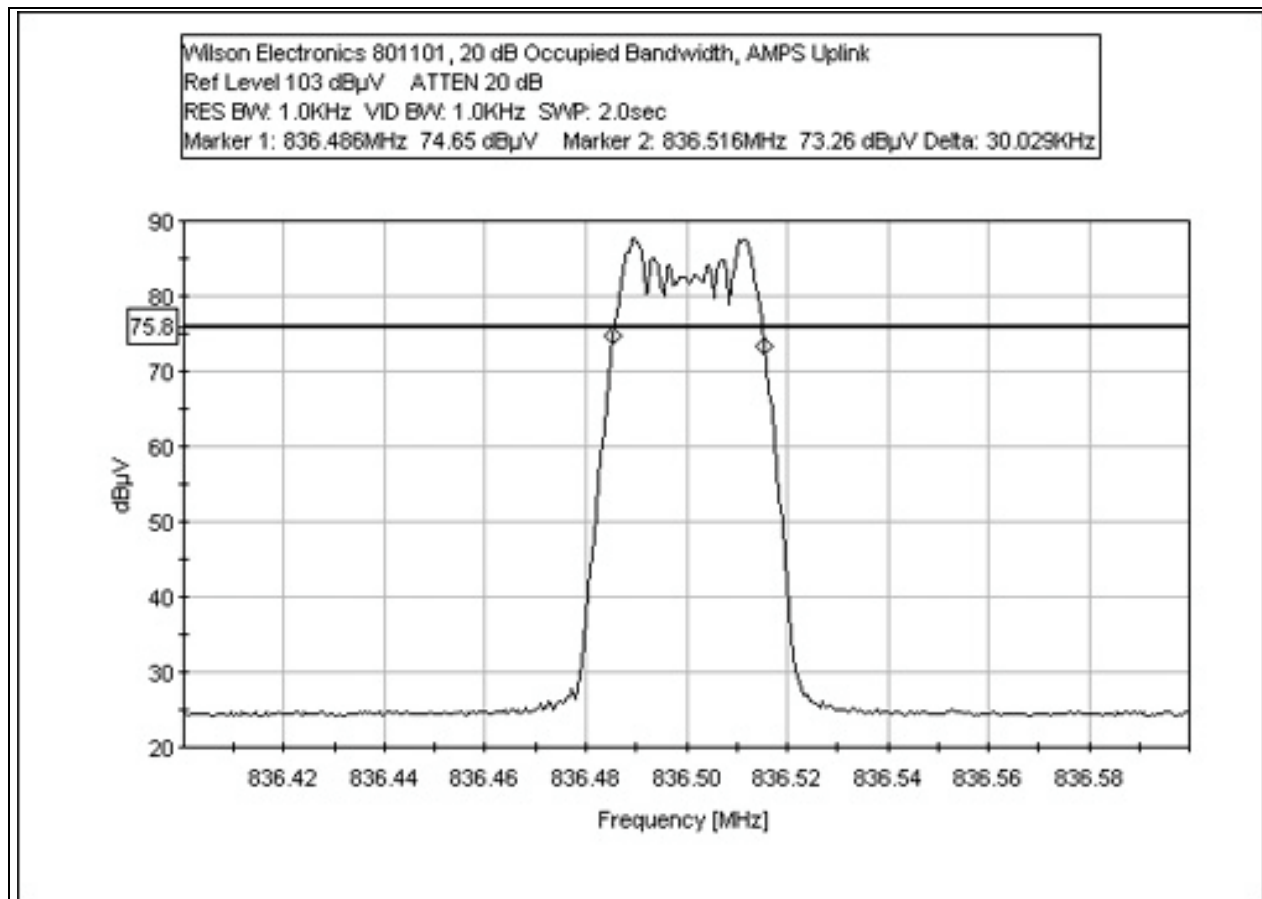
20dB Bandwidth Downlink EDGE



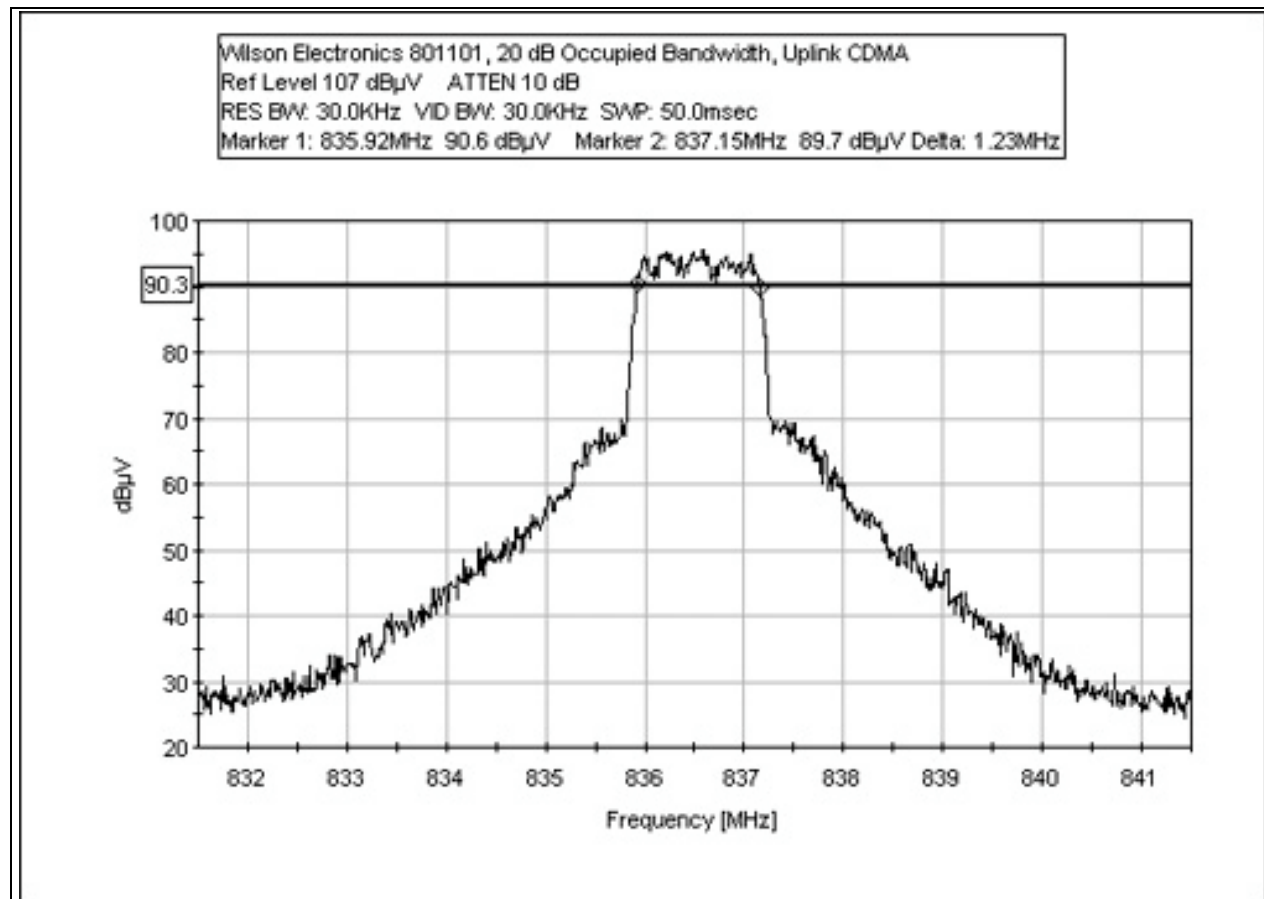
20dB Bandwidth Downlink GSM



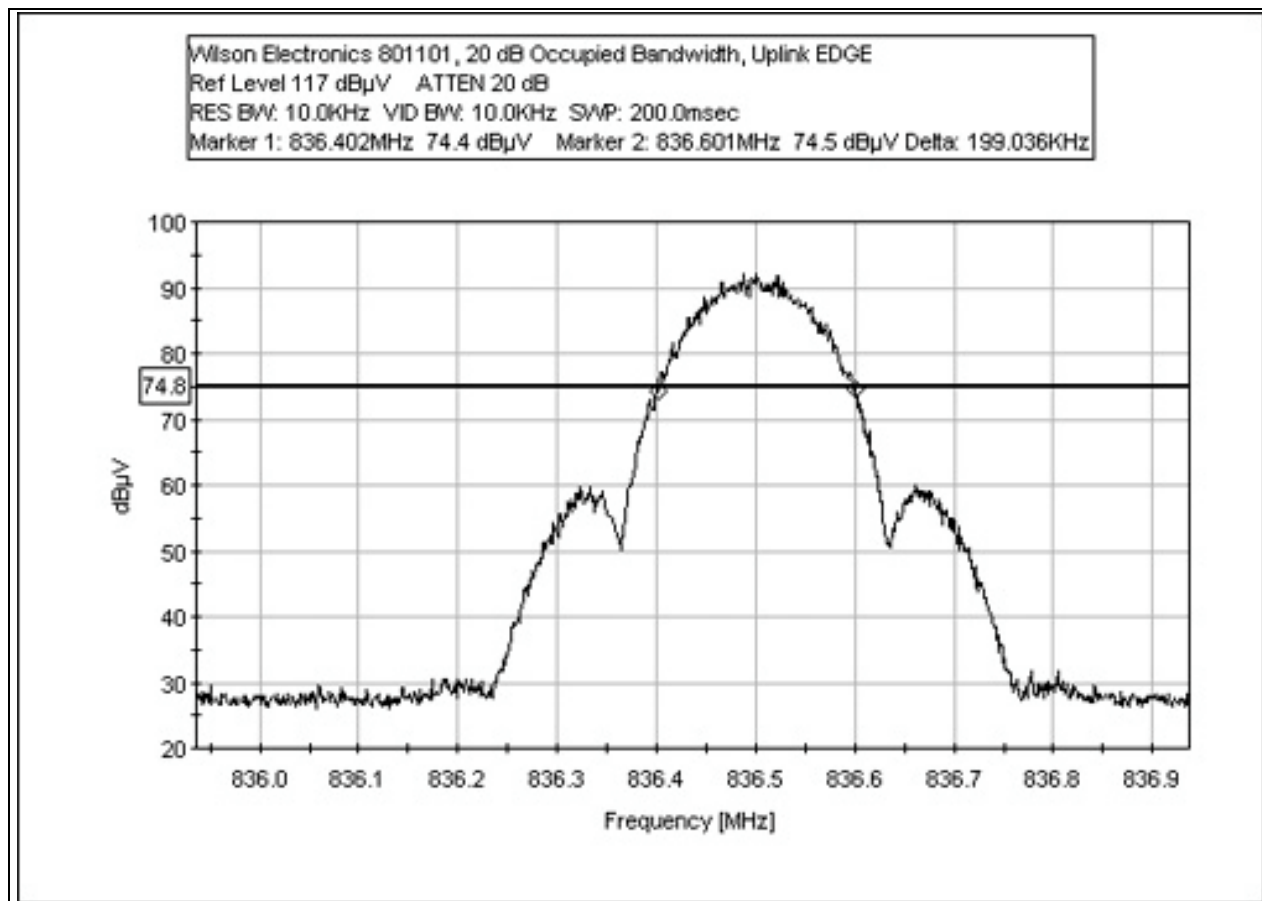
20dB Bandwidth Uplink AMPS



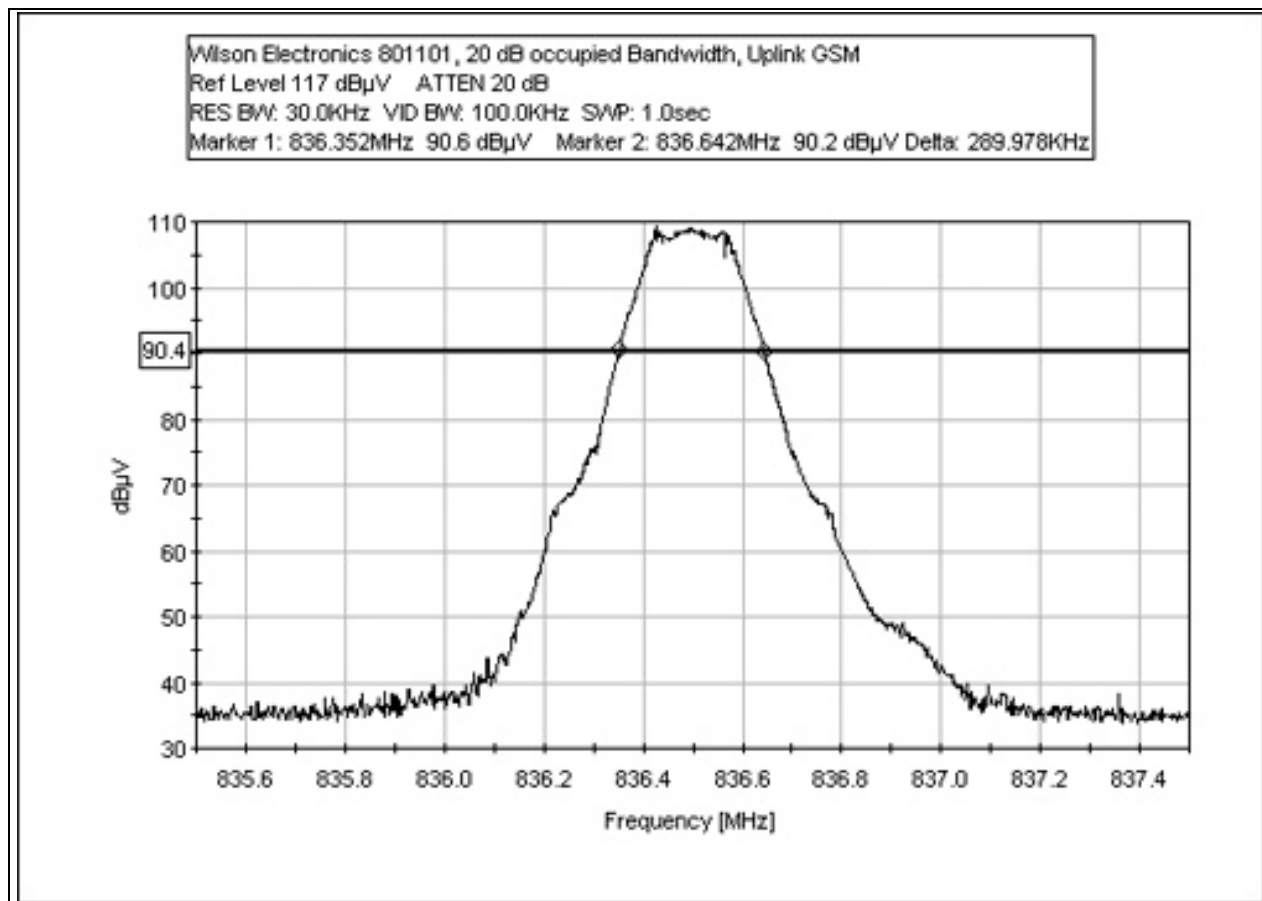
20dB Bandwidth Uplink CDMA



20dB Bandwidth Uplink EDGE



20dB Bandwidth Uplink GSM



Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8566B SA	2209A01404	02/26/2003	02/26/2005	00490
HP 8566B SA Display	2403A08241	02/26/2003	02/26/2005	00489
HP 85650A QPA	2811A01267	02/26/2003	02/26/2005	00478
Bird Attenuator, 25A-MFN-30	9724	05/08/2003	05/08/2005	P01577

FCC 2.1033(c)(14)/2.1051/22.917 - SPURIOUS EMISSIONS AT ANTENNA TERMINAL

Bandwidth settings used: Fundamental = 3MHz (CDMA) & 100kHz (GSM, EDGE & AMPS),
Spurious = 100MHz to 1000MHz – RBW=VBW=10kHz, 1000MHz to 10000MHz
RBW=VBW=100kHz.

Test Location: CKC Laboratories •5473A Clouds Rest • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **Wilson Electronics**
 Specification: **FCC 22.917**
 Work Order #: **81892** Date: 02/25/2004
 Test Type: **Antenna Terminals** Time: 15:14:16
 Equipment: **Bidirectional Amplifier Repeater** Sequence#: 38
 Manufacturer: Wilson Electronics Tested By: Mike Wilkinson
 Model: 801101
 S/N: AV3-009920

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8566B SA	2209A01404	02/26/2003	02/26/2005	00490
HP 8566B SA	2403A08241	02/26/2003	02/26/2005	00489
Display				
HP 85650A QPA	2811A01267	02/26/2003	02/26/2005	00478
Bird Attenuator, 25A- MFN-30	9724	05/08/2003	05/08/2005	P01577

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Bidirectional Amplifier Repeater*	Wilson Electronics	801101	AV3-009920
Amplifier Power Supply	Wilson Electronics	JOD-48U-36	NA

Support Devices:

Function	Manufacturer	Model #	S/N
Signal Generator	HP	E4432B	US40052283

Test Conditions / Notes:

EUT is a bidirectional amplifier repeater for the 824 to 894 MHz band. Uplink frequency range 824 - 849 MHz. Downlink frequency range 869 - 894 MHz. Spurious Emissions Test: One signal is input to the amplifier. The input signal is set such that the maximum output is provided at the antenna terminals. The internal ALC of the amplifier limits the maximum power output to a factory set level. Power output is continuously variable and directly proportional to the supplied RF input. Input Modulation: AMPS. Frequencies Tested: Downlink Low - 869.03 MHz. Frequency Range Investigated: 30 MHz to 10 GHz.

Transducer Legend:

T1=Pad 30dB	T2=Wilson Cable
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Measurement Data: Reading listed by margin. Test Distance: None

#	Freq MHz	Rdng dB μ V	T1 dB	T2 dB	dB	dB	Dist Table	Corr dB μ V	Spec dB μ V	Margin dB	Polar Ant
1	869.042M	81.2	+30.3	+0.6			+0.0	112.1	117.0	-4.9	None
Fundamental											

2	84.800M	21.2	+30.5	+0.6	+0.0	52.3	94.0	-41.7	None
3	2607.055M	19.0	+29.9	+0.6	+0.0	49.5	94.0	-44.5	None
4	1738.072M	6.9	+30.3	+0.6	+0.0	37.8	94.0	-56.2	None
5	3476.084M	6.0	+29.8	+0.6	+0.0	36.4	94.0	-57.6	None
6	4345.115M	6.1	+29.0	+0.6	+0.0	35.7	94.0	-58.3	None
7	5214.145M	6.1	+28.1	+0.6	+0.0	34.8	94.0	-59.2	None
8	6083.174M	6.4	+27.7	+0.6	+0.0	34.7	94.0	-59.3	None

Test Location: CKC Laboratories •5473A Clouds Rest • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **Wilson Electronics**
 Specification: **FCC 22.917**
 Work Order #: **81892** Date: 02/25/2004
 Test Type: **Antenna Terminals** Time: 15:22:16
 Equipment: **Bidirectional Amplifier Repeater** Sequence#: 39
 Manufacturer: Wilson Electronics Tested By: Mike Wilkinson
 Model: 801101
 S/N: AV3-009920

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8566B SA	2209A01404	02/26/2003	02/26/2005	00490
HP 8566B SA	2403A08241	02/26/2003	02/26/2005	00489
Display				
HP 85650A QPA	2811A01267	02/26/2003	02/26/2005	00478
Bird Attenuator, 25A- MFN-30	9724	05/08/2003	05/08/2005	P01577

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Bidirectional Amplifier Repeater*	Wilson Electronics	801101	AV3-009920
Amplifier Power Supply	Wilson Electronics	JOD-48U-36	NA

Support Devices:

Function	Manufacturer	Model #	S/N
Signal Generator	HP	E4432B	US40052283

Test Conditions / Notes:

EUT is a bidirectional amplifier repeater for the 824 to 894 MHz band. Uplink frequency range 824 - 849 MHz. Downlink frequency range 869 - 894 MHz. Spurious Emissions Test: One signal is input to the amplifier. The input signal is set such that the maximum output is provided at the antenna terminals. The internal ALC of the amplifier limits the maximum power output to a factory set level. Power output is continuously variable and directly proportional to the supplied RF input. Input Modulation: AMPS. Frequencies Tested: Downlink Mid - 881.5 MHz. Frequency Range Investigated: 30 MHz to 10 GHz.

Transducer Legend:

T1=Pad 30dB	T2=Wilson Cable
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Measurement Data:

Reading listed by margin.

Test Distance: None

#	Freq MHz	Rdng dBμV	T1 dB	T2 dB	Dist Table	Corr dBμV	Spec dBμV	Margin dB	Polar Ant
1	881.495M	85.0	+30.3	+0.6	+0.0	115.9	117.0	-1.1	None
								Fundamental	
2	2644.495M	28.2	+29.9	+0.6	+0.0	58.7	94.0	-35.3	None
3	1762.995M	22.3	+30.3	+0.6	+0.0	53.2	94.0	-40.8	None
4	55.800M	20.6	+30.5	+0.6	+0.0	51.7	94.0	-42.3	None

5	3525.995M	21.1	+29.8	+0.6	+0.0	51.5	94.0	-42.5	None
6	4407.300M	21.7	+28.9	+0.6	+0.0	51.2	94.0	-42.8	None
7	6170.300M	19.2	+27.6	+0.6	+0.0	47.4	94.0	-46.6	None
8	5288.800M	18.0	+28.1	+0.6	+0.0	46.7	94.0	-47.3	None

Test Location: CKC Laboratories •5473A Clouds Rest • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **Wilson Electronics**
 Specification: **FCC 22.917**
 Work Order #: **81892** Date: 02/25/2004
 Test Type: **Antenna Terminals** Time: 15:31:18
 Equipment: **Bidirectional Amplifier Repeater** Sequence#: 40
 Manufacturer: Wilson Electronics Tested By: Mike Wilkinson
 Model: 801101
 S/N: AV3-009920

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8566B SA	2209A01404	02/26/2003	02/26/2005	00490
HP 8566B SA	2403A08241	02/26/2003	02/26/2005	00489
Display				
HP 85650A QPA	2811A01267	02/26/2003	02/26/2005	00478
Bird Attenuator, 25A- MFN-30	9724	05/08/2003	05/08/2005	P01577

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Bidirectional Amplifier Repeater*	Wilson Electronics	801101	AV3-009920
Amplifier Power Supply	Wilson Electronics	JOD-48U-36	NA

Support Devices:

Function	Manufacturer	Model #	S/N
Signal Generator	HP	E4432B	US40052283

Test Conditions / Notes:

EUT is a bidirectional amplifier repeater for the 824 to 894 MHz band. Uplink frequency range 824 - 849 MHz. Downlink frequency range 869 - 894 MHz. Spurious Emissions Test: One signal is input to the amplifier. The input signal is set such that the maximum output is provided at the antenna terminals. The internal ALC of the amplifier limits the maximum power output to a factory set level. Power output is continuously variable and directly proportional to the supplied RF input. Input Modulation: AMPS. Frequencies Tested: Downlink High - 893.97 MHz. Frequency Range Investigated: 30 MHz to 10 GHz.

Transducer Legend:

T1=Pad 30dB	T2=Wilson Cable
-------------	-----------------

Measurement Data:

Reading listed by margin.

Test Distance: None

#	Freq MHz	Rdng dBμV	T1 dB	T2 dB	Dist dB	Corr dB	Spec dBμV	Margin dB	Polar Ant
1	893.957M	82.0	+30.3	+0.6	+0.0	112.9	117.0	-4.1	None
2	8045.780M	32.3	+24.3	+0.6	+0.0	57.2	94.0	-36.8	None
3	2681.898M	25.1	+29.8	+0.6	+0.0	55.5	94.0	-38.5	None
4	3575.583M	23.9	+29.8	+0.6	+0.0	54.3	94.0	-39.7	None

5	120.308M	23.1	+30.5	+0.6	+0.0	54.2	94.0	-39.8	None
6	1787.928M	23.3	+30.3	+0.6	+0.0	54.2	94.0	-39.8	None
7	4469.910M	24.1	+28.8	+0.6	+0.0	53.5	94.0	-40.5	None
8	5363.370M	24.7	+28.0	+0.6	+0.0	53.3	94.0	-40.7	None

Test Location: CKC Laboratories •5473A Clouds Rest • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **Wilson Electronics**
 Specification: **FCC 22.917**
 Work Order #: **81892** Date: 02/18/2004
 Test Type: **Antenna Terminals** Time: 16:10:27
 Equipment: **Bidirectional Amplifier Repeater** Sequence#: 6
 Manufacturer: Wilson Electronics Tested By: Mike Wilkinson
 Model: 801101
 S/N: AV3-009920

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8566B SA	2209A01404	02/26/2003	02/26/2005	00490
HP 8566B SA	2403A08241	02/26/2003	02/26/2005	00489
Display				
HP 85650A QPA	2811A01267	02/26/2003	02/26/2005	00478
Bird Attenuator, 25A- MFN-30	9724	05/08/2003	05/08/2005	P01577

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Bidirectional Amplifier Repeater*	Wilson Electronics	801101	AV3-009920
Amplifier Power Supply	Wilson Electronics	JOD-48U-36	NA

Support Devices:

Function	Manufacturer	Model #	S/N
Signal Generator	HP	E4432B	US40052283

Test Conditions / Notes:

EUT is a bidirectional amplifier repeater for the 824 to 894 MHz band. Uplink frequency range 824 - 849 MHz. Downlink frequency range 869 - 894 MHz. Spurious Emissions Test: One signal is input to the amplifier. The input signal is set such that the maximum output is provided at the antenna terminals. The internal ALC of the amplifier limits the maximum power output to a factory set level. Power output is continuously variable and directly proportional to the supplied RF input. Input Modulation: CDMA. Frequencies Tested: Downlink Low - 870.25 MHz. Frequency Range Investigated: 30 MHz to 10 GHz.

Transducer Legend:

T1=Pad 30dB

Measurement Data: Reading listed by margin. Test Distance: None

#	Freq MHz	Rdng dBμV	T1 dB	dB	dB	dB	Dist Table	Corr dBμV	Spec dBμV	Margin dB	Polar Ant
1	870.250M	84.7	+30.3				+0.0	115.0	117.0	-2.0	None
Fundamental											
2	1740.520M	22.0	+30.3				+0.0	52.3	94.0	-41.7	None
3	349.800M	21.7	+30.4				+0.0	52.1	94.0	-41.9	None
4	3481.020M	20.5	+29.8				+0.0	50.3	94.0	-43.7	None

5	65.210M	19.5	+30.5	+0.0	50.0	94.0	-44.0	None
6	8702.516M	24.9	+24.1	+0.0	49.0	94.0	-45.0	None
7	5221.520M	20.8	+28.1	+0.0	48.9	94.0	-45.1	None

Test Location: CKC Laboratories •5473A Clouds Rest • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **Wilson Electronics**
 Specification: **FCC 22.917**
 Work Order #: **81892** Date: 02/18/2004
 Test Type: **Antenna Terminals** Time: 16:25:48
 Equipment: **Bidirectional Amplifier Repeater** Sequence#: 7
 Manufacturer: Wilson Electronics Tested By: Mike Wilkinson
 Model: 801101
 S/N: AV3-009920

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8566B SA	2209A01404	02/26/2003	02/26/2005	00490
HP 8566B SA	2403A08241	02/26/2003	02/26/2005	00489
Display				
HP 85650A QPA	2811A01267	02/26/2003	02/26/2005	00478
Bird Attenuator, 25A- MFN-30	9724	05/08/2003	05/08/2005	P01577

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Bidirectional Amplifier Repeater*	Wilson Electronics	801101	AV3-009920
Amplifier Power Supply	Wilson Electronics	JOD-48U-36	NA

Support Devices:

Function	Manufacturer	Model #	S/N
Signal Generator	HP	E4432B	US40052283

Test Conditions / Notes:

EUT is a bidirectional amplifier repeater for the 824 to 894 MHz band. Uplink frequency range 824 - 849 MHz. Downlink frequency range 869 - 894 MHz. Spurious Emissions Test: One signal is input to the amplifier. The input signal is set such that the maximum output is provided at the antenna terminals. The internal ALC of the amplifier limits the maximum power output to a factory set level. Power output is continuously variable and directly proportional to the supplied RF input. Input Modulation: CDMA. Frequencies Tested: Downlink Mid - 881.5 MHz. Frequency Range Investigated: 30 MHz to 10 GHz.

Transducer Legend:

T1=Pad 30dB

Measurement Data: Reading listed by margin. Test Distance: None

#	Freq MHz	Rdng dBμV	T1 dB	dB	dB	dB	Dist Table	Corr dBμV	Spec dBμV	Margin dB	Polar Ant
1	881.500M	85.3	+30.3				+0.0	115.6	117.0	-1.4	None
Fundamental											
2	412.800M	21.3	+30.3				+0.0	51.6	94.0	-42.4	None
3	2622.000M	21.0	+29.9				+0.0	50.9	94.0	-43.1	None
4	163.400M	20.3	+30.5				+0.0	50.8	94.0	-43.2	None

5	8713.720M	25.4	+24.2	+0.0	49.6	94.0	-44.4	None
6	5232.720M	21.4	+28.1	+0.0	49.5	94.0	-44.5	None
7	1751.750M	18.9	+30.3	+0.0	49.2	94.0	-44.8	None
8	3492.250M	19.3	+29.8	+0.0	49.1	94.0	-44.9	None

Test Location: CKC Laboratories •5473A Clouds Rest • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **Wilson Electronics**
 Specification: **FCC 22.917**
 Work Order #: **81892** Date: 02/18/2004
 Test Type: **Antenna Terminals** Time: 16:50:22
 Equipment: **Bidirectional Amplifier Repeater** Sequence#: 8
 Manufacturer: Wilson Electronics Tested By: Mike Wilkinson
 Model: 801101
 S/N: AV3-009920

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8566B SA	2209A01404	02/26/2003	02/26/2005	00490
HP 8566B SA	2403A08241	02/26/2003	02/26/2005	00489
Display				
HP 85650A QPA	2811A01267	02/26/2003	02/26/2005	00478
Bird Attenuator, 25A- MFN-30	9724	05/08/2003	05/08/2005	P01577

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Bidirectional Amplifier Repeater*	Wilson Electronics	801101	AV3-009920
Amplifier Power Supply	Wilson Electronics	JOD-48U-36	NA

Support Devices:

Function	Manufacturer	Model #	S/N
Signal Generator	HP	E4432B	US40052283

Test Conditions / Notes:

EUT is a bidirectional amplifier repeater for the 824 to 894 MHz band. Uplink frequency range 824 - 849 MHz. Downlink frequency range 869 - 894 MHz. Spurious Emissions Test: One signal is input to the amplifier. The input signal is set such that the maximum output is provided at the antenna terminals. The internal ALC of the amplifier limits the maximum power output to a factory set level. Power output is continuously variable and directly proportional to the supplied RF input. Input Modulation: CDMA. Frequencies Tested: Downlink High - 892.75 MHz. Frequency Range Investigated: 30 MHz to 10 GHz.

Transducer Legend:

T1=Pad 30dB

Measurement Data: Reading listed by margin. Test Distance: None

#	Freq MHz	Rdng dBμV	T1 dB	dB	dB	dB	Dist Table	Corr dBμV	Spec dBμV	Margin dB	Polar Ant
1	892.795M	83.4	+30.3				+0.0	113.7	117.0	-3.3	None
Fundamental											
2	335.100M	21.8	+30.4				+0.0	52.2	94.0	-41.8	None
3	115.500M	20.4	+30.5				+0.0	50.9	94.0	-43.1	None
4	4463.755M	21.4	+28.8				+0.0	50.2	94.0	-43.8	None

5	3571.030M	20.0	+29.8	+0.0	49.8	94.0	-44.2	None
6	1785.545M	19.5	+30.3	+0.0	49.8	94.0	-44.2	None
7	2678.295M	19.5	+29.8	+0.0	49.3	94.0	-44.7	None
8	8034.710M	23.4	+24.3	+0.0	47.7	94.0	-46.3	None

Test Location: CKC Laboratories • 5473A Clouds Rest • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **Wilson Electronics**
 Specification: **FCC 22.917**
 Work Order #: **81892** Date: 02/19/2004
 Test Type: **Antenna Terminals** Time: 13:55:03
 Equipment: **Bidirectional Amplifier Repeater** Sequence#: 10
 Manufacturer: Wilson Electronics Tested By: Mike Wilkinson
 Model: 801101
 S/N: AV3-009920

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8566B SA	2209A01404	02/26/2003	02/26/2005	00490
HP 8566B SA	2403A08241	02/26/2003	02/26/2005	00489
Display				
HP 85650A QPA	2811A01267	02/26/2003	02/26/2005	00478
Bird Attenuator, 25A- MFN-30	9724	05/08/2003	05/08/2005	P01577

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Bidirectional Amplifier Repeater*	Wilson Electronics	801101	AV3-009920
Amplifier Power Supply	Wilson Electronics	JOD-48U-36	NA

Support Devices:

Function	Manufacturer	Model #	S/N
Signal Generator	HP	E4432B	US40052283

Test Conditions / Notes:

EUT is a bidirectional amplifier repeater for the 824 to 894 MHz band. Uplink frequency range 824 - 849 MHz. Downlink frequency range 869 - 894 MHz. Spurious Emissions Test: One signal is input to the amplifier. The input signal is set such that the maximum output is provided at the antenna terminals. The internal ALC of the amplifier limits the maximum power output to a factory set level. Power output is continuously variable and directly proportional to the supplied RF input. Input Modulation: GSM. Frequencies Tested: Downlink Low - 870.25 MHz. Frequency Range Investigated: 30 MHz to 10 GHz.

Transducer Legend:

T1=Pad 30dB	T2=Wilson Cable
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Measurement Data:

Reading listed by margin.

Test Distance: None

#	Freq MHz	Rdng dB μ V	T1 dB	T2 dB	Dist dB	Corr dB	Spec dB μ V	Margin dB	Polar Ant
1	870.252M	83.7	+30.3	+0.6	+0.0	114.6	117.0	-2.4	None
								Fundamental	
2	631.600M	15.4	+30.4	+0.6	+0.0	46.4	94.0	-47.6	None
3	2610.845M	15.3	+29.9	+0.6	+0.0	45.8	94.0	-48.2	None
4	3481.095M	15.0	+29.8	+0.6	+0.0	45.4	94.0	-48.6	None

5	8702.521M	20.6	+24.1	+0.6	+0.0	45.3	94.0	-48.7	None
6	1740.502M	13.3	+30.3	+0.6	+0.0	44.2	94.0	-49.8	None
7	4351.345M	13.8	+29.0	+0.6	+0.0	43.4	94.0	-50.6	None
8	116.700M	12.0	+30.5	+0.6	+0.0	43.1	94.0	-50.9	None

Test Location: CKC Laboratories •5473A Clouds Rest • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **Wilson Electronics**
 Specification: **FCC 22.917**
 Work Order #: **81892** Date: 02/19/2004
 Test Type: **Antenna Terminals** Time: 14:27:02
 Equipment: **Bidirectional Amplifier Repeater** Sequence#: 11
 Manufacturer: Wilson Electronics Tested By: Mike Wilkinson
 Model: 801101
 S/N: AV3-009920

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8566B SA	2209A01404	02/26/2003	02/26/2005	00490
HP 8566B SA	2403A08241	02/26/2003	02/26/2005	00489
Display				
HP 85650A QPA	2811A01267	02/26/2003	02/26/2005	00478
Bird Attenuator, 25A- MFN-30	9724	05/08/2003	05/08/2005	P01577

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Bidirectional Amplifier Repeater*	Wilson Electronics	801101	AV3-009920
Amplifier Power Supply	Wilson Electronics	JOD-48U-36	NA

Support Devices:

Function	Manufacturer	Model #	S/N
Signal Generator	HP	E4432B	US40052283

Test Conditions / Notes:

EUT is a bidirectional amplifier repeater for the 824 to 894 MHz band. Uplink frequency range 824 - 849 MHz. Downlink frequency range 869 - 894 MHz. Spurious Emissions Test: One signal is input to the amplifier. The input signal is set such that the maximum output is provided at the antenna terminals. The internal ALC of the amplifier limits the maximum power output to a factory set level. Power output is continuously variable and directly proportional to the supplied RF input. Input Modulation: GSM. Frequencies Tested: Downlink Mid - 881.5 MHz. Frequency Range Investigated: 30 MHz to 10 GHz.

Transducer Legend:

T1=Pad 30dB	T2=Wilson Cable
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Measurement Data:

Reading listed by margin.

Test Distance: None

#	Freq MHz	Rdng dBμV	T1 dB	T2 dB	Dist dB	Corr dB	Spec dBμV	Margin dB	Polar Ant
1	881.420M	85.5	+30.3	+0.6	+0.0	116.4	117.0	-0.6	None
								Fundamental	
2	2644.500M	25.0	+29.9	+0.6	+0.0	55.5	94.0	-38.5	None
3	6170.490M	18.8	+27.6	+0.6	+0.0	47.0	94.0	-47.0	None
4	1762.865M	16.1	+30.3	+0.6	+0.0	47.0	94.0	-47.0	None

5	8814.990M	20.5	+24.5	+0.6	+0.0	45.6	94.0	-48.4	None
6	652.800M	14.4	+30.4	+0.6	+0.0	45.4	94.0	-48.6	None
7	175.300M	14.2	+30.4	+0.6	+0.0	45.2	94.0	-48.8	None
8	4407.490M	14.4	+28.9	+0.6	+0.0	43.9	94.0	-50.1	None

Test Location: CKC Laboratories •5473A Clouds Rest • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **Wilson Electronics**
 Specification: **FCC 22.917**
 Work Order #: **81892** Date: 02/19/2004
 Test Type: **Antenna Terminals** Time: 14:35:00
 Equipment: **Bidirectional Amplifier Repeater** Sequence#: 12
 Manufacturer: Wilson Electronics Tested By: Mike Wilkinson
 Model: 801101
 S/N: AV3-009920

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8566B SA	2209A01404	02/26/2003	02/26/2005	00490
HP 8566B SA	2403A08241	02/26/2003	02/26/2005	00489
Display				
HP 85650A QPA	2811A01267	02/26/2003	02/26/2005	00478
Bird Attenuator, 25A- MFN-30	9724	05/08/2003	05/08/2005	P01577

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Bidirectional Amplifier Repeater*	Wilson Electronics	801101	AV3-009920
Amplifier Power Supply	Wilson Electronics	JOD-48U-36	NA

Support Devices:

Function	Manufacturer	Model #	S/N
Signal Generator	HP	E4432B	US40052283

Test Conditions / Notes:

EUT is a bidirectional amplifier repeater for the 824 to 894 MHz band. Uplink frequency range 824 - 849 MHz. Downlink frequency range 869 - 894 MHz. Spurious Emissions Test: One signal is input to the amplifier. The input signal is set such that the maximum output is provided at the antenna terminals. The internal ALC of the amplifier limits the maximum power output to a factory set level. Power output is continuously variable and directly proportional to the supplied RF input. Input Modulation: GSM. Frequencies Tested: Downlink High - 892.75 MHz. Frequency Range Investigated: 30 MHz to 10 GHz.

Transducer Legend:

T1=Pad 30dB	T2=Wilson Cable
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Measurement Data:

Reading listed by margin.

Test Distance: None

#	Freq MHz	Rdng dB μ V	T1 dB	T2 dB	Dist dB	Corr dB	Spec dB μ V	Margin dB	Polar Ant
1	892.710M	83.5	+30.3	+0.6	+0.0	114.4	117.0	-2.6	None
								Fundamental	
2	6249.270M	20.1	+27.5	+0.6	+0.0	48.2	94.0	-45.8	None
3	552.800M	14.8	+30.4	+0.6	+0.0	45.8	94.0	-48.2	None
4	3571.055M	14.9	+29.8	+0.6	+0.0	45.3	94.0	-48.7	None

5	4463.760M	15.3	+28.8	+0.6	+0.0	44.7	94.0	-49.3	None
6	1785.465M	13.8	+30.3	+0.6	+0.0	44.7	94.0	-49.3	None
7	117.400M	13.5	+30.5	+0.6	+0.0	44.6	94.0	-49.4	None
8	2678.255M	14.2	+29.8	+0.6	+0.0	44.6	94.0	-49.4	None
9	8034.820M	19.4	+24.3	+0.6	+0.0	44.3	94.0	-49.7	None

Test Location: CKC Laboratories • 5473A Clouds Rest • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **Wilson Electronics**
 Specification: **FCC 22.917**
 Work Order #: **81892** Date: 02/24/2004
 Test Type: **Antenna Terminals** Time: 11:47:58
 Equipment: **Bidirectional Amplifier Repeater** Sequence#: 22
 Manufacturer: Wilson Electronics Tested By: Mike Wilkinson
 Model: 801101
 S/N: AV3-009920

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8566B SA	2209A01404	02/26/2003	02/26/2005	00490
HP 8566B SA	2403A08241	02/26/2003	02/26/2005	00489
Display				
HP 85650A QPA	2811A01267	02/26/2003	02/26/2005	00478
Bird Attenuator, 25A- MFN-30	9724	05/08/2003	05/08/2005	P01577

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Bidirectional Amplifier Repeater*	Wilson Electronics	801101	AV3-009920
Amplifier Power Supply	Wilson Electronics	JOD-48U-36	NA

Support Devices:

Function	Manufacturer	Model #	S/N
Signal Generator	HP	E4432B	US40052283

Test Conditions / Notes:

EUT is a bidirectional amplifier repeater for the 824 to 894 MHz band. Uplink frequency range 824 - 849 MHz. Downlink frequency range 869 - 894 MHz. Spurious Emissions Test: One signal is input to the amplifier. The input signal is set such that the maximum output is provided at the antenna terminals. The internal ALC of the amplifier limits the maximum power output to a factory set level. Power output is continuously variable and directly proportional to the supplied RF input. Input Modulation: EDGE. Frequencies Tested: Downlink Low - 869.28 MHz. Frequency Range Investigated: 30 MHz to 10 GHz.

Transducer Legend:

T1=Pad 30dB	T2=Wilson Cable
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Measurement Data:

Reading listed by margin.

Test Distance: None

#	Freq MHz	Rdng dBμV	T1 dB	T2 dB	Dist dB	Corr dB	Spec dBμV	Margin dB	Polar Ant
1	869.280M	83.9	+30.3	+0.6	+0.0	114.8	117.0	-2.2	None
								Fundamental	
2	6085.381M	21.7	+27.7	+0.6	+0.0	50.0	94.0	-44.0	None
3	2607.839M	19.1	+29.9	+0.6	+0.0	49.6	94.0	-44.4	None
4	8692.868M	22.5	+24.1	+0.6	+0.0	47.2	94.0	-46.8	None

5	1738.542M	15.0	+30.3	+0.6	+0.0	45.9	94.0	-48.1	None
6	3477.266M	15.0	+29.8	+0.6	+0.0	45.4	94.0	-48.6	None
7	680.400M	14.3	+30.4	+0.6	+0.0	45.3	94.0	-48.7	None
8	180.100M	13.9	+30.4	+0.6	+0.0	44.9	94.0	-49.1	None

Test Location: CKC Laboratories •5473A Clouds Rest • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **Wilson Electronics**
 Specification: **FCC 22.917**
 Work Order #: **81892** Date: 02/24/2004
 Test Type: **Antenna Terminals** Time: 12:03:37
 Equipment: **Bidirectional Amplifier Repeater** Sequence#: 23
 Manufacturer: Wilson Electronics Tested By: Mike Wilkinson
 Model: 801101
 S/N: AV3-009920

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8566B SA	2209A01404	02/26/2003	02/26/2005	00490
HP 8566B SA	2403A08241	02/26/2003	02/26/2005	00489
Display				
HP 85650A QPA	2811A01267	02/26/2003	02/26/2005	00478
Bird Attenuator, 25A- MFN-30	9724	05/08/2003	05/08/2005	P01577

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Bidirectional Amplifier Repeater*	Wilson Electronics	801101	AV3-009920
Amplifier Power Supply	Wilson Electronics	JOD-48U-36	NA

Support Devices:

Function	Manufacturer	Model #	S/N
Signal Generator	HP	E4432B	US40052283

Test Conditions / Notes:

EUT is a bidirectional amplifier repeater for the 824 to 894 MHz band. Uplink frequency range 824 - 849 MHz. Downlink frequency range 869 - 894 MHz. Spurious Emissions Test: One signal is input to the amplifier. The input signal is set such that the maximum output is provided at the antenna terminals. The internal ALC of the amplifier limits the maximum power output to a factory set level. Power output is continuously variable and directly proportional to the supplied RF input. Input Modulation: EDGE. Frequencies Tested: Downlink Mid - 881.5 MHz. Frequency Range Investigated: 30 MHz to 10 GHz.

Transducer Legend:

T1=Pad 30dB	T2=Wilson Cable
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Measurement Data:

Reading listed by margin.

Test Distance: None

#	Freq MHz	Rdng dB μ V	T1 dB	T2 dB	Dist dB	Corr dB	Spec dB μ V	Margin dB	Polar Ant
1	881.499M	85.5	+30.3	+0.6	+0.0	116.4	117.0	-0.6	None
Fundamental									
2	2644.540M	21.5	+29.9	+0.6	+0.0	52.0	94.0	-42.0	None
3	6170.435M	21.5	+27.6	+0.6	+0.0	49.7	94.0	-44.3	None
4	1763.016M	15.6	+30.3	+0.6	+0.0	46.5	94.0	-47.5	None
5	4407.601M	15.9	+28.9	+0.6	+0.0	45.4	94.0	-48.6	None

6	3525.966M	15.0	+29.8	+0.6	+0.0	45.4	94.0	-48.6	None
7	787.600M	14.3	+30.4	+0.6	+0.0	45.3	94.0	-48.7	None
8	164.600M	14.2	+30.5	+0.6	+0.0	45.3	94.0	-48.7	None
9	5288.971M	16.1	+28.1	+0.6	+0.0	44.8	94.0	-49.2	None

Test Location: CKC Laboratories •5473A Clouds Rest • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **Wilson Electronics**
 Specification: **FCC 22.917**
 Work Order #: **81892** Date: 02/24/2004
 Test Type: **Antenna Terminals** Time: 12:09:09
 Equipment: **Bidirectional Amplifier Repeater** Sequence#: 24
 Manufacturer: Wilson Electronics Tested By: Mike Wilkinson
 Model: 801101
 S/N: AV3-009920

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8566B SA	2209A01404	02/26/2003	02/26/2005	00490
HP 8566B SA	2403A08241	02/26/2003	02/26/2005	00489
Display				
HP 85650A QPA	2811A01267	02/26/2003	02/26/2005	00478
Bird Attenuator, 25A- MFN-30	9724	05/08/2003	05/08/2005	P01577

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Bidirectional Amplifier Repeater*	Wilson Electronics	801101	AV3-009920
Amplifier Power Supply	Wilson Electronics	JOD-48U-36	NA

Support Devices:

Function	Manufacturer	Model #	S/N
Signal Generator	HP	E4432B	US40052283

Test Conditions / Notes:

EUT is a bidirectional amplifier repeater for the 824 to 894 MHz band. Uplink frequency range 824 - 849 MHz. Downlink frequency range 869 - 894 MHz. Spurious Emissions Test: One signal is input to the amplifier. The input signal is set such that the maximum output is provided at the antenna terminals. The internal ALC of the amplifier limits the maximum power output to a factory set level. Power output is continuously variable and directly proportional to the supplied RF input. Input Modulation: EDGE. Frequencies Tested: Downlink High - 893.72 MHz. Frequency Range Investigated: 30 MHz to 10 GHz.

Transducer Legend:

T1=Pad 30dB	T2=Wilson Cable
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Measurement Data:

Reading listed by margin.

Test Distance: None

#	Freq MHz	Rdng dBμV	T1 dB	T2 dB	Dist dB	Corr dB	Spec dBμV	Margin dB	Polar Ant
1	893.710M	83.7	+30.3	+0.6	+0.0	114.6	117.0	-2.4	None
								Fundamental	
2	6256.140M	21.3	+27.5	+0.6	+0.0	49.4	94.0	-44.6	None
3	2681.156M	18.7	+29.8	+0.6	+0.0	49.1	94.0	-44.9	None
4	3574.900M	15.2	+29.8	+0.6	+0.0	45.6	94.0	-48.4	None
5	8043.332M	20.6	+24.3	+0.6	+0.0	45.5	94.0	-48.5	None

6	685.800M	14.3	+30.4	+0.6	+0.0	45.3	94.0	-48.7	None
7	63.180M	14.2	+30.5	+0.6	+0.0	45.3	94.0	-48.7	None
8	1787.447M	14.4	+30.3	+0.6	+0.0	45.3	94.0	-48.7	None
9	4468.620M	13.1	+28.8	+0.6	+0.0	42.5	94.0	-51.5	None

Test Location: CKC Laboratories •5473A Clouds Rest • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **Wilson Electronics**
 Specification: **FCC 22.917**
 Work Order #: **81892** Date: 02/25/2004
 Test Type: **Antenna Terminals** Time: 10:54:31
 Equipment: **Bidirectional Amplifier Repeater** Sequence#: 34
 Manufacturer: Wilson Electronics Tested By: Mike Wilkinson
 Model: 801101
 S/N: AV3-009920

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8566B SA	2209A01404	02/26/2003	02/26/2005	00490
HP 8566B SA	2403A08241	02/26/2003	02/26/2005	00489
Display				
HP 85650A QPA	2811A01267	02/26/2003	02/26/2005	00478
Bird Attenuator, 25A- MFN-30	9724	05/08/2003	05/08/2005	P01577

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Bidirectional Amplifier Repeater*	Wilson Electronics	801101	AV3-009920
Amplifier Power Supply	Wilson Electronics	JOD-48U-36	NA

Support Devices:

Function	Manufacturer	Model #	S/N
Signal Generator	HP	E4432B	US40052283

Test Conditions / Notes:

EUT is a bidirectional amplifier repeater for the 824 to 894 MHz band. Uplink frequency range 824 - 849 MHz. Downlink frequency range 869 - 894 MHz. Spurious Emissions Test: One signal is input to the amplifier. The input signal is set such that the maximum output is provided at the antenna terminals. The internal ALC of the amplifier limits the maximum power output to a factory set level. Power output is continuously variable and directly proportional to the supplied RF input. Input Modulation: EDGE. Frequencies Tested: Uplink Low - 824.03 MHz. Frequency Range Investigated: 30 MHz to 10 GHz.

Transducer Legend:

T1=Pad 30dB	T2=Wilson Cable
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Measurement Data:

Reading listed by margin.

Test Distance: None

#	Freq MHz	Rdng dB μ V	T1 dB	T2 dB	Dist dB	Corr dB	Spec dB μ V	Margin dB	Polar Ant
1	824.043M	105.0	+30.4	+0.6	+0.0	136.0	137.0	-1.0	None
								Fundamental	
2	1648.073M	45.9	+30.2	+0.6	+0.0	76.7	94.0	-17.3	None
3	8240.281M	38.4	+23.9	+0.6	+0.0	62.9	94.0	-31.1	None
4	4120.208M	30.8	+29.4	+0.6	+0.0	60.8	94.0	-33.2	None
5	3296.022M	30.5	+29.6	+0.6	+0.0	60.7	94.0	-33.3	None

6	2472.103M	29.3	+30.1	+0.6	+0.0	60.0	94.0	-34.0	None
7	99.300M	27.5	+30.5	+0.6	+0.0	58.6	94.0	-35.4	None
8	806.110M	27.4	+30.4	+0.6	+0.0	58.4	94.0	-35.6	None
9	4944.239M	27.4	+28.3	+0.6	+0.0	56.3	94.0	-37.7	None

Test Location: CKC Laboratories •5473A Clouds Rest • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **Wilson Electronics**
 Specification: **FCC 22.917**
 Work Order #: **81892** Date: 02/25/2004
 Test Type: **Antenna Terminals** Time: 11:08:05
 Equipment: **Bidirectional Amplifier Repeater** Sequence#: 35
 Manufacturer: Wilson Electronics Tested By: Mike Wilkinson
 Model: 801101
 S/N: AV3-009920

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8566B SA	2209A01404	02/26/2003	02/26/2005	00490
HP 8566B SA	2403A08241	02/26/2003	02/26/2005	00489
Display				
HP 85650A QPA	2811A01267	02/26/2003	02/26/2005	00478
Bird Attenuator, 25A- MFN-30	9724	05/08/2003	05/08/2005	P01577

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Bidirectional Amplifier Repeater*	Wilson Electronics	801101	AV3-009920
Amplifier Power Supply	Wilson Electronics	JOD-48U-36	NA

Support Devices:

Function	Manufacturer	Model #	S/N
Signal Generator	HP	E4432B	US40052283

Test Conditions / Notes:

EUT is a bidirectional amplifier repeater for the 824 to 894 MHz band. Uplink frequency range 824 - 849 MHz. Downlink frequency range 869 - 894 MHz. Spurious Emissions Test: One signal is input to the amplifier. The input signal is set such that the maximum output is provided at the antenna terminals. The internal ALC of the amplifier limits the maximum power output to a factory set level. Power output is continuously variable and directly proportional to the supplied RF input. Input Modulation: EDGE. Frequencies Tested: Uplink Mid - 836.5 MHz. Frequency Range Investigated: 30 MHz to 10 GHz.

Transducer Legend:

T1=Pad 30dB	T2=Wilson Cable
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Measurement Data:

Reading listed by margin.

Test Distance: None

#	Freq MHz	Rdng dBμV	T1 dB	T2 dB	Dist dB	Corr dB	Spec dBμV	Margin dB	Polar Ant
1	836.501M	105.9	+30.4	+0.6	+0.0	136.9	137.0	-0.1	None
								Fundamental	
2	1672.981M	45.9	+30.2	+0.6	+0.0	76.7	94.0	-17.3	None
3	8365.179M	37.0	+23.7	+0.6	+0.0	61.3	94.0	-32.7	None
4	4182.519M	29.9	+29.3	+0.6	+0.0	59.8	94.0	-34.2	None
5	175.800M	28.5	+30.4	+0.6	+0.0	59.5	94.0	-34.5	None

6	5018.843M	29.8	+28.3	+0.6	+0.0	58.7	94.0	-35.3	None
7	2509.481M	27.5	+30.1	+0.6	+0.0	58.2	94.0	-35.8	None
8	3345.981M	26.1	+29.7	+0.6	+0.0	56.4	94.0	-37.6	None
9	5855.343M	27.4	+27.8	+0.6	+0.0	55.8	94.0	-38.2	None

Test Location: CKC Laboratories •5473A Clouds Rest • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **Wilson Electronics**
 Specification: **FCC 22.917**
 Work Order #: **81892** Date: 02/25/2004
 Test Type: **Antenna Terminals** Time: 11:14:20
 Equipment: **Bidirectional Amplifier Repeater** Sequence#: 36
 Manufacturer: Wilson Electronics Tested By: Mike Wilkinson
 Model: 801101
 S/N: AV3-009920

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8566B SA	2209A01404	02/26/2003	02/26/2005	00490
HP 8566B SA	2403A08241	02/26/2003	02/26/2005	00489
Display				
HP 85650A QPA	2811A01267	02/26/2003	02/26/2005	00478
Bird Attenuator, 25A- MFN-30	9724	05/08/2003	05/08/2005	P01577

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Bidirectional Amplifier Repeater*	Wilson Electronics	801101	AV3-009920
Amplifier Power Supply	Wilson Electronics	JOD-48U-36	NA

Support Devices:

Function	Manufacturer	Model #	S/N
Signal Generator	HP	E4432B	US40052283

Test Conditions / Notes:

EUT is a bidirectional amplifier repeater for the 824 to 894 MHz band. Uplink frequency range 824 - 849 MHz. Downlink frequency range 869 - 894 MHz. Spurious Emissions Test: One signal is input to the amplifier. The input signal is set such that the maximum output is provided at the antenna terminals. The internal ALC of the amplifier limits the maximum power output to a factory set level. Power output is continuously variable and directly proportional to the supplied RF input. Input Modulation: EDGE. Frequencies Tested: Uplink High - 848.97 MHz. Frequency Range Investigated: 30 MHz to 10 GHz.

Transducer Legend:

T1=Pad 30dB	T2=Wilson Cable
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Measurement Data:

Reading listed by margin.

Test Distance: None

#	Freq MHz	Rdng dBμV	T1 dB	T2 dB	Dist dB	Corr dB	Spec dBμV	Margin dB	Polar Ant
1	848.970M	105.0	+30.3	+0.6	+0.0	135.9	137.0	-1.1	None
								Fundamental	
2	1697.963M	43.6	+30.2	+0.6	+0.0	74.4	94.0	-19.6	None
3	2546.876M	33.4	+30.0	+0.6	+0.0	64.0	94.0	-30.0	None
4	3395.898M	30.7	+29.7	+0.6	+0.0	61.0	94.0	-33.0	None
5	8489.677M	35.2	+23.4	+0.6	+0.0	59.2	94.0	-34.8	None

6	4244.827M	28.6	+29.1	+0.6	+0.0	58.3	94.0	-35.7	None
7	4244.827M	26.5	+29.1	+0.6	+0.0	56.2	94.0	-37.8	None
8	5093.796M	26.5	+28.2	+0.6	+0.0	55.3	94.0	-38.7	None
9	5942.767M	25.8	+27.8	+0.6	+0.0	54.2	94.0	-39.8	None

Test Location: CKC Laboratories •5473A Clouds Rest • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **Wilson Electronics**
 Specification: **FCC 22.917**
 Work Order #: **81892** Date: 02/17/2004
 Test Type: **Antenna Terminals** Time: 15:36:12
 Equipment: **Bidirectional Amplifier Repeater** Sequence#: 2
 Manufacturer: Wilson Electronics Tested By: Mike Wilkinson
 Model: 801101
 S/N: AV3-009920

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8566B SA	2209A01404	02/26/2003	02/26/2005	00490
HP 8566B SA	2403A08241	02/26/2003	02/26/2005	00489
Display				
HP 85650A QPA	2811A01267	02/26/2003	02/26/2005	00478
Bird Attenuator, 25A- MFN-30	9724	05/08/2003	05/08/2005	P01577

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Bidirectional Amplifier Repeater*	Wilson Electronics	801101	AV3-009920
Amplifier Power Supply	Wilson Electronics	JOD-48U-36	NA

Support Devices:

Function	Manufacturer	Model #	S/N
Signal Generator	HP	E4432B	US40052283

Test Conditions / Notes:

EUT is a bidirectional amplifier repeater for the 824 to 894 MHz band. Uplink frequency range 824 - 849 MHz. Downlink frequency range 869 - 894 MHz. Spurious Emissions Test: One signal is input to the amplifier. The input signal is set such that the maximum output is provided at the antenna terminals. The internal ALC of the amplifier limits the maximum power output to a factory set level. Power output is continuously variable and directly proportional to the supplied RF input. Input Modulation: CDMA. Frequencies Tested: Uplink Low - 825.25 MHz. Frequency Range Investigated: 30 MHz to 10 GHz.

Transducer Legend:

T1=Pad 30dB	T2=Wilson Cable
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Measurement Data:

Reading listed by margin.

Test Distance: None

#	Freq MHz	Rdng dBμV	T1 dB	T2 dB	Dist dB	Corr dB	Spec dBμV	Margin dB	Polar Ant
1	825.300M	110.3	+30.4	+0.6	+0.0	141.3	141.7	-0.4	None
Fundamental									
2	1650.450M	53.9	+30.2	+0.6	+0.0	84.7	94.0	-9.3	None
3	2475.640M	50.9	+30.1	+0.6	+0.0	81.6	94.0	-12.4	None
4	217.000M	30.7	+30.4	+0.6	+0.0	61.7	94.0	-32.3	None
5	61.580M	29.7	+30.5	+0.6	+0.0	60.8	94.0	-33.2	None

6	4126.680M	24.0	+29.4	+0.6	+0.0	54.0	94.0	-40.0	None
7	6601.965M	25.9	+27.2	+0.6	+0.0	53.7	94.0	-40.3	None
8	8252.600M	26.3	+23.9	+0.6	+0.0	50.8	94.0	-43.2	None
9	4127.520M	14.1	+29.4	+0.6	+0.0	44.1	94.0	-49.9	None
10	3301.010M	13.7	+29.6	+0.6	+0.0	43.9	94.0	-50.1	None

Test Location: CKC Laboratories •5473A Clouds Rest • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **Wilson Electronics**
 Specification: **FCC 22.917**
 Work Order #: **81892** Date: 02/17/2004
 Test Type: **Antenna Terminals** Time: 15:49:32
 Equipment: **Bidirectional Amplifier Repeater** Sequence#: 3
 Manufacturer: Wilson Electronics Tested By: Mike Wilkinson
 Model: 801101
 S/N: AV3-009920

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8566B SA	2209A01404	02/26/2003	02/26/2005	00490
HP 8566B SA	2403A08241	02/26/2003	02/26/2005	00489
Display				
HP 85650A QPA	2811A01267	02/26/2003	02/26/2005	00478
Bird Attenuator, 25A- MFN-30	9724	05/08/2003	05/08/2005	P01577

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Bidirectional Amplifier Repeater*	Wilson Electronics	801101	AV3-009920
Amplifier Power Supply	Wilson Electronics	JOD-48U-36	NA

Support Devices:

Function	Manufacturer	Model #	S/N
Signal Generator	HP	E4432B	US40052283

Test Conditions / Notes:

EUT is a bidirectional amplifier repeater for the 824 to 894 MHz band. Uplink frequency range 824 - 849 MHz. Downlink frequency range 869 - 894 MHz. Spurious Emissions Test: One signal is input to the amplifier. The input signal is set such that the maximum output is provided at the antenna terminals. The internal ALC of the amplifier limits the maximum power output to a factory set level. Power output is continuously variable and directly proportional to the supplied RF input. Input Modulation: CDMA. Frequencies Tested: Uplink High - 847.75 MHz. Frequency Range Investigated: 30 MHz to 10 GHz.

Transducer Legend:

T1=Pad 30dB	T2=Wilson Cable
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Measurement Data:

Reading listed by margin.

Test Distance: None

#	Freq MHz	Rdng dBμV	T1 dB	T2 dB	Dist dB	Corr dB	Spec dBμV	Margin dB	Polar Ant
1	847.765M	110.2	+30.4	+0.6	+0.0	141.2	141.7	-0.5	None
Fundamental									
2	1695.190M	55.2	+30.2	+0.6	+0.0	86.0	94.0	-8.0	None
3	308.700M	37.7	+30.5	+0.6	+0.0	68.8	94.0	-25.2	None
4	129.400M	24.1	+30.5	+0.6	+0.0	55.2	94.0	-38.8	None
5	6782.065M	27.1	+27.1	+0.6	+0.0	54.8	94.0	-39.2	None

6	3390.995M	23.2	+29.7	+0.6	+0.0	53.5	94.0	-40.5	None
7	653.000M	22.1	+30.4	+0.6	+0.0	53.1	94.0	-40.9	None
8	2543.290M	20.7	+30.0	+0.6	+0.0	51.3	94.0	-42.7	None
9	72.560M	20.0	+30.5	+0.6	+0.0	51.1	94.0	-42.9	None
10	8477.660M	26.7	+23.4	+0.6	+0.0	50.7	94.0	-43.3	None
11	4238.745M	19.4	+29.2	+0.6	+0.0	49.2	94.0	-44.8	None

Test Location: CKC Laboratories • 5473A Clouds Rest • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **Wilson Electronics**
 Specification: **FCC 22.917**
 Work Order #: **81892** Date: 02/17/2004
 Test Type: **Antenna Terminals** Time: 16:01:00
 Equipment: **Bidirectional Amplifier Repeater** Sequence#: 4
 Manufacturer: Wilson Electronics Tested By: Mike Wilkinson
 Model: 801101
 S/N: AV3-009920

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8566B SA	2209A01404	02/26/2003	02/26/2005	00490
HP 8566B SA	2403A08241	02/26/2003	02/26/2005	00489
Display				
HP 85650A QPA	2811A01267	02/26/2003	02/26/2005	00478
Bird Attenuator, 25A- MFN-30	9724	05/08/2003	05/08/2005	P01577

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Bidirectional Amplifier Repeater*	Wilson Electronics	801101	AV3-009920
Amplifier Power Supply	Wilson Electronics	JOD-48U-36	NA

Support Devices:

Function	Manufacturer	Model #	S/N
Signal Generator	HP	E4432B	US40052283

Test Conditions / Notes:

EUT is a bidirectional amplifier repeater for the 824 to 894 MHz band. Uplink frequency range 824 - 849 MHz. Downlink frequency range 869 - 894 MHz. Spurious Emissions Test: One signal is input to the amplifier. The input signal is set such that the maximum output is provided at the antenna terminals. The internal ALC of the amplifier limits the maximum power output to a factory set level. Power output is continuously variable and directly proportional to the supplied RF input. Input Modulation: CDMA. Frequencies Tested: Uplink Mid - 836.5 MHz. Frequency Range Investigated: 30 MHz to 10 GHz.

Transducer Legend:

T1=Pad 30dB	T2=Wilson Cable
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Measurement Data:

Reading listed by margin.

Test Distance: None

#	Freq MHz	Rdng dBμV	T1 dB	T2 dB	Dist dB	Corr dB	Spec dBμV	Margin dB	Polar Ant
1	836.535M	111.1	+30.4	+0.6	+0.0	142.1	141.7	+0.4	None
								Fundamental	
2	1672.655M	54.4	+30.2	+0.6	+0.0	85.2	94.0	-8.8	None
3	95.440M	32.1	+30.5	+0.6	+0.0	63.2	94.0	-30.8	None
4	534.300M	30.0	+30.4	+0.6	+0.0	61.0	94.0	-33.0	None
5	6692.128M	29.5	+27.2	+0.6	+0.0	57.3	94.0	-36.7	None

6	3346.000M	24.9	+29.7	+0.6	+0.0	55.2	94.0	-38.8	None
7	2510.240M	21.9	+30.1	+0.6	+0.0	52.6	94.0	-41.4	None
8	8364.964M	26.3	+23.7	+0.6	+0.0	50.6	94.0	-43.4	None
9	5019.058M	21.2	+28.3	+0.6	+0.0	50.1	94.0	-43.9	None

Test Location: CKC Laboratories •5473A Clouds Rest • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **Wilson Electronics**
 Specification: **FCC 22.917**
 Work Order #: **81892** Date: 02/20/2004
 Test Type: **Antenna Terminals** Time: 11:59:01
 Equipment: **Bidirectional Amplifier Repeater** Sequence#: 16
 Manufacturer: Wilson Electronics Tested By: Mike Wilkinson
 Model: 801101
 S/N: AV3-009920

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8566B SA	2209A01404	02/26/2003	02/26/2005	00490
HP 8566B SA	2403A08241	02/26/2003	02/26/2005	00489
Display				
HP 85650A QPA	2811A01267	02/26/2003	02/26/2005	00478
Bird Attenuator, 25A-MFN-30	9724	05/08/2003	05/08/2005	P01577

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Bidirectional Amplifier Repeater*	Wilson Electronics	801101	AV3-009920
Amplifier Power Supply	Wilson Electronics	JOD-48U-36	NA

Support Devices:

Function	Manufacturer	Model #	S/N
Signal Generator	HP	E4432B	US40052283

Test Conditions / Notes:

EUT is a bidirectional amplifier repeater for the 824 to 894 MHz band. Uplink frequency range 824 - 849 MHz. Downlink frequency range 869 - 894 MHz. Spurious Emissions Test: One signal is input to the amplifier. The input signal is set such that the maximum output is provided at the antenna terminals. The internal ALC of the amplifier limits the maximum power output to a factory set level. Power output is continuously variable and directly proportional to the supplied RF input. Input Modulation: GSM. Frequencies Tested: Uplink Low - 824.28 MHz. Frequency Range Investigated: 30 MHz to 10 GHz.

Transducer Legend:

T1=Pad 30dB	T2=Wilson Cable
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Measurement Data:

Reading listed by margin.

Test Distance: None

#	Freq MHz	Rdng dBμV	T1 dB	T2 dB	dB	Dist Table	Corr dBμV	Spec dBμV	Margin dB	Polar Ant
1	824.274M	109.6	+30.4	+0.6		+0.0	140.6	141.7	-1.1	None
									Fundamental	
2	1648.694M	47.1	+30.2	+0.6		+0.0	77.9	94.0	-16.1	None
3	2472.652M	43.9	+30.1	+0.6		+0.0	74.6	94.0	-19.4	None
4	6594.170M	36.1	+27.2	+0.6		+0.0	63.9	94.0	-30.1	None
5	4121.396M	31.4	+29.4	+0.6		+0.0	61.4	94.0	-32.6	None

6	283.000M	29.7	+30.5	+0.6	+0.0	60.8	94.0	-33.2	None
7	8243.012M	36.0	+23.9	+0.6	+0.0	60.5	94.0	-33.5	None
8	721.200M	28.6	+30.4	+0.6	+0.0	59.6	94.0	-34.4	None
9	110.200M	28.4	+30.5	+0.6	+0.0	59.5	94.0	-34.5	None

Test Location: CKC Laboratories •5473A Clouds Rest • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **Wilson Electronics**
 Specification: **FCC 22.917**
 Work Order #: **81892** Date: 02/20/2004
 Test Type: **Antenna Terminals** Time: 13:08:43
 Equipment: **Bidirectional Amplifier Repeater** Sequence#: 17
 Manufacturer: Wilson Electronics Tested By: Mike Wilkinson
 Model: 801101
 S/N: AV3-009920

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8566B SA	2209A01404	02/26/2003	02/26/2005	00490
HP 8566B SA	2403A08241	02/26/2003	02/26/2005	00489
Display				
HP 85650A QPA	2811A01267	02/26/2003	02/26/2005	00478
Bird Attenuator, 25A- MFN-30	9724	05/08/2003	05/08/2005	P01577

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Bidirectional Amplifier Repeater*	Wilson Electronics	801101	AV3-009920
Amplifier Power Supply	Wilson Electronics	JOD-48U-36	NA

Support Devices:

Function	Manufacturer	Model #	S/N
Signal Generator	HP	E4432B	US40052283

Test Conditions / Notes:

EUT is a bidirectional amplifier repeater for the 824 to 894 MHz band. Uplink frequency range 824 - 849 MHz. Downlink frequency range 869 - 894 MHz. Spurious Emissions Test: One signal is input to the amplifier. The input signal is set such that the maximum output is provided at the antenna terminals. The internal ALC of the amplifier limits the maximum power output to a factory set level. Power output is continuously variable and directly proportional to the supplied RF input. Input Modulation: GSM. Frequencies Tested: Uplink Mid - 836.5 MHz. Frequency Range Investigated: 30 MHz to 10 GHz.

Transducer Legend:

T1=Pad 30dB	T2=Wilson Cable
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Measurement Data:

Reading listed by margin.

Test Distance: None

#	Freq MHz	Rdng dBμV	T1 dB	T2 dB	Dist dB	Corr dB	Spec dBμV	Margin dB	Polar Ant
1	836.475M	110.4	+30.4	+0.6	+0.0	141.4	141.7	-0.3	None
Fundamental									
2	1672.840M	50.9	+30.2	+0.6	+0.0	81.7	94.0	-12.3	None
3	4182.150M	43.2	+29.3	+0.6	+0.0	73.1	94.0	-20.9	None
4	3346.340M	42.0	+29.7	+0.6	+0.0	72.3	94.0	-21.7	None
5	2509.670M	40.7	+30.1	+0.6	+0.0	71.4	94.0	-22.6	None

6	8365.360M	46.0	+23.7	+0.6	+0.0	70.3	94.0	-23.7	None
7	5019.200M	40.8	+28.3	+0.6	+0.0	69.7	94.0	-24.3	None
8	314.400M	38.5	+30.5	+0.6	+0.0	69.6	94.0	-24.4	None
9	127.200M	38.5	+30.5	+0.6	+0.0	69.6	94.0	-24.4	None

Test Location: CKC Laboratories •5473A Clouds Rest • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **Wilson Electronics**
 Specification: **FCC 22.917**
 Work Order #: **81892** Date: 02/20/2004
 Test Type: **Antenna Terminals** Time: 13:16:45
 Equipment: **Bidirectional Amplifier Repeater** Sequence#: 18
 Manufacturer: Wilson Electronics Tested By: Mike Wilkinson
 Model: 801101
 S/N: AV3-009920

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8566B SA	2209A01404	02/26/2003	02/26/2005	00490
HP 8566B SA	2403A08241	02/26/2003	02/26/2005	00489
Display				
HP 85650A QPA	2811A01267	02/26/2003	02/26/2005	00478
Bird Attenuator, 25A-MFN-30	9724	05/08/2003	05/08/2005	P01577

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Bidirectional Amplifier Repeater*	Wilson Electronics	801101	AV3-009920
Amplifier Power Supply	Wilson Electronics	JOD-48U-36	NA

Support Devices:

Function	Manufacturer	Model #	S/N
Signal Generator	HP	E4432B	US40052283

Test Conditions / Notes:

EUT is a bidirectional amplifier repeater for the 824 to 894 MHz band. Uplink frequency range 824 - 849 MHz. Downlink frequency range 869 - 894 MHz. Spurious Emissions Test: One signal is input to the amplifier. The input signal is set such that the maximum output is provided at the antenna terminals. The internal ALC of the amplifier limits the maximum power output to a factory set level. Power output is continuously variable and directly proportional to the supplied RF input. Input Modulation: GSM. Frequencies Tested: Uplink High - 848.72 MHz. Frequency Range Investigated: 30 MHz to 10 GHz.

Transducer Legend:

T1=Pad 30dB	T2=Wilson Cable
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Measurement Data:

Reading listed by margin.

Test Distance: None

#	Freq MHz	Rdng dBμV	T1 dB	T2 dB	Dist Table	Corr dBμV	Spec dBμV	Margin dB	Polar Ant
1	848.645M	109.1	+30.3	+0.6	+0.0	140.0	141.7	-1.7	None
								Fundamental	
2	1697.560M	47.8	+30.2	+0.6	+0.0	78.6	94.0	-15.4	None
3	5941.809M	47.3	+27.8	+0.6	+0.0	75.7	94.0	-18.3	None
4	6789.720M	47.0	+27.1	+0.6	+0.0	74.7	94.0	-19.3	None
5	2546.360M	43.0	+30.0	+0.6	+0.0	73.6	94.0	-20.4	None

6	3395.140M	42.9	+29.7	+0.6	+0.0	73.2	94.0	-20.8	None
7	399.600M	42.1	+30.3	+0.6	+0.0	73.0	94.0	-21.0	None
8	45.000M	41.5	+30.5	+0.6	+0.0	72.6	94.0	-21.4	None
9	4243.779M	41.8	+29.1	+0.6	+0.0	71.5	94.0	-22.5	None
10	8487.160M	44.0	+23.4	+0.6	+0.0	68.0	94.0	-26.0	None

Test Location: CKC Laboratories •5473A Clouds Rest • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **Wilson Electronics**
 Specification: **FCC 22.917**
 Work Order #: **81892** Date: 02/24/2004
 Test Type: **Antenna Terminals** Time: 15:14:37
 Equipment: **Bidirectional Amplifier Repeater** Sequence#: 28
 Manufacturer: Wilson Electronics Tested By: Mike Wilkinson
 Model: 801101
 S/N: AV3-009920

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8566B SA	2209A01404	02/26/2003	02/26/2005	00490
HP 8566B SA	2403A08241	02/26/2003	02/26/2005	00489
Display				
HP 85650A QPA	2811A01267	02/26/2003	02/26/2005	00478
Bird Attenuator, 25A- MFN-30	9724	05/08/2003	05/08/2005	P01577

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Bidirectional Amplifier Repeater*	Wilson Electronics	801101	AV3-009920
Amplifier Power Supply	Wilson Electronics	JOD-48U-36	NA

Support Devices:

Function	Manufacturer	Model #	S/N
Signal Generator	HP	E4432B	US40052283

Test Conditions / Notes:

EUT is a bidirectional amplifier repeater for the 824 to 894 MHz band. Uplink frequency range 824 - 849 MHz. Downlink frequency range 869 - 894 MHz. Spurious Emissions Test: One signal is input to the amplifier. The input signal is set such that the maximum output is provided at the antenna terminals. The internal ALC of the amplifier limits the maximum power output to a factory set level. Power output is continuously variable and directly proportional to the supplied RF input. Input Modulation: EDGE. Frequencies Tested: Uplink Low - 824.28 MHz. Frequency Range Investigated: 30 MHz to 10 GHz.

Transducer Legend:

T1=Pad 30dB	T2=Wilson Cable
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Measurement Data:

Reading listed by margin.

Test Distance: None

#	Freq MHz	Rdng dBμV	T1 dB	T2 dB	Dist dB	Corr dB	Spec dBμV	Margin dB	Polar Ant
1	824.278M	110.3	+30.4	+0.6	+0.0	141.3	141.7	-0.4	None
								Fundamental	
2	1648.580M	40.3	+30.2	+0.6	+0.0	71.1	94.0	-22.9	None
3	6594.001M	35.4	+27.2	+0.6	+0.0	63.2	94.0	-30.8	None
4	321.900M	30.8	+30.5	+0.6	+0.0	61.9	94.0	-32.1	None
5	95.380M	29.6	+30.5	+0.6	+0.0	60.7	94.0	-33.3	None

6	2472.816M	29.8	+30.1	+0.6	+0.0	60.5	94.0	-33.5	None
7	5769.721M	29.5	+27.8	+0.6	+0.0	57.9	94.0	-36.1	None
8	4945.682M	28.6	+28.3	+0.6	+0.0	57.5	94.0	-36.5	None
9	3297.096M	26.1	+29.6	+0.6	+0.0	56.3	94.0	-37.7	None

Test Location: CKC Laboratories •5473A Clouds Rest • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **Wilson Electronics**
 Specification: **FCC 22.917**
 Work Order #: **81892** Date: 02/24/2004
 Test Type: **Antenna Terminals** Time: 15:31:28
 Equipment: **Bidirectional Amplifier Repeater** Sequence#: 29
 Manufacturer: Wilson Electronics Tested By: Mike Wilkinson
 Model: 801101
 S/N: AV3-009920

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8566B SA	2209A01404	02/26/2003	02/26/2005	00490
HP 8566B SA	2403A08241	02/26/2003	02/26/2005	00489
Display				
HP 85650A QPA	2811A01267	02/26/2003	02/26/2005	00478
Bird Attenuator, 25A- MFN-30	9724	05/08/2003	05/08/2005	P01577

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Bidirectional Amplifier Repeater*	Wilson Electronics	801101	AV3-009920
Amplifier Power Supply	Wilson Electronics	JOD-48U-36	NA

Support Devices:

Function	Manufacturer	Model #	S/N
Signal Generator	HP	E4432B	US40052283

Test Conditions / Notes:

EUT is a bidirectional amplifier repeater for the 824 to 894 MHz band. Uplink frequency range 824 - 849 MHz. Downlink frequency range 869 - 894 MHz. Spurious Emissions Test: One signal is input to the amplifier. The input signal is set such that the maximum output is provided at the antenna terminals. The internal ALC of the amplifier limits the maximum power output to a factory set level. Power output is continuously variable and directly proportional to the supplied RF input. Input Modulation: EDGE. Frequencies Tested: Uplink Mid - 836.5 MHz. Frequency Range Investigated: 30 MHz to 10 GHz.

Transducer Legend:

T1=Pad 30dB	T2=Wilson Cable
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Measurement Data:

Reading listed by margin.

Test Distance: None

#	Freq MHz	Rdng dB μ V	T1 dB	T2 dB	Dist dB	Corr dB	Spec dB μ V	Margin dB	Polar Ant
1	836.496M	110.3	+30.4	+0.6	+0.0	141.3	141.7	-0.4	None
								Fundamental	
2	6691.646M	39.4	+27.2	+0.6	+0.0	67.2	94.0	-26.8	None
3	1672.968M	34.8	+30.2	+0.6	+0.0	65.6	94.0	-28.4	None
4	5854.782M	36.5	+27.8	+0.6	+0.0	64.9	94.0	-29.1	None
5	558.200M	29.2	+30.4	+0.6	+0.0	60.2	94.0	-33.8	None

6	4183.202M	30.0	+29.3	+0.6	+0.0	59.9	94.0	-34.1	None
7	2509.502M	27.4	+30.1	+0.6	+0.0	58.1	94.0	-35.9	None
8	3346.002M	27.0	+29.7	+0.6	+0.0	57.3	94.0	-36.7	None

Test Location: CKC Laboratories •5473A Clouds Rest • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **Wilson Electronics**
 Specification: **FCC 22.917**
 Work Order #: **81892** Date: 02/24/2004
 Test Type: **Antenna Terminals** Time: 15:37:17
 Equipment: **Bidirectional Amplifier Repeater** Sequence#: 30
 Manufacturer: Wilson Electronics Tested By: Mike Wilkinson
 Model: 801101
 S/N: AV3-009920

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8566B SA	2209A01404	02/26/2003	02/26/2005	00490
HP 8566B SA	2403A08241	02/26/2003	02/26/2005	00489
Display				
HP 85650A QPA	2811A01267	02/26/2003	02/26/2005	00478
Bird Attenuator, 25A- MFN-30	9724	05/08/2003	05/08/2005	P01577

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Bidirectional Amplifier Repeater*	Wilson Electronics	801101	AV3-009920
Amplifier Power Supply	Wilson Electronics	JOD-48U-36	NA

Support Devices:

Function	Manufacturer	Model #	S/N
Signal Generator	HP	E4432B	US40052283

Test Conditions / Notes:

EUT is a bidirectional amplifier repeater for the 824 to 894 MHz band. Uplink frequency range 824 - 849 MHz. Downlink frequency range 869 - 894 MHz. Spurious Emissions Test: One signal is input to the amplifier. The input signal is set such that the maximum output is provided at the antenna terminals. The internal ALC of the amplifier limits the maximum power output to a factory set level. Power output is continuously variable and directly proportional to the supplied RF input. Input Modulation: EDGE. Frequencies Tested: Uplink High - 848.72 MHz. Frequency Range Investigated: 30 MHz to 10 GHz.

Transducer Legend:

T1=Pad 30dB	T2=Wilson Cable
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Measurement Data:

Reading listed by margin.

Test Distance: None

#	Freq MHz	Rdng dBμV	T1 dB	T2 dB	Dist dB	Corr dB	Spec dBμV	Margin dB	Polar Ant
1	848.701M	109.3	+30.3	+0.6	+0.0	140.2	141.7	-1.5	None
								Fundamental	
2	1697.437M	39.0	+30.2	+0.6	+0.0	69.8	94.0	-24.2	None
3	5940.735M	35.5	+27.8	+0.6	+0.0	63.9	94.0	-30.1	None
4	3395.184M	31.0	+29.7	+0.6	+0.0	61.3	94.0	-32.7	None
5	2545.795M	30.7	+30.0	+0.6	+0.0	61.3	94.0	-32.7	None

6	4243.278M	30.3	+29.1	+0.6	+0.0	60.0	94.0	-34.0	None
7	8487.105M	35.1	+23.4	+0.6	+0.0	59.1	94.0	-34.9	None
8	5092.230M	30.2	+28.2	+0.6	+0.0	59.0	94.0	-35.0	None
9	365.905M	24.1	+30.4	+0.6	+0.0	55.1	94.0	-38.9	None

PHOTOGRAPH SHOWING DIRECT CONNECT TEST SETUP



This photo represents testing of RF power, spurious emissions at antenna terminal, occupied bandwidth, input and output plots, intermodulation attenuation and RSS 131 plots.

FCC 2.1033(c)(14)/2.1053/22.917 - FIELD STRENGTH OF SPURIOUS RADIATION

Test Location: CKC Laboratories, Inc. • 5473A Clouds Rest • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **Wilson Electronics**
 Specification: **FCC 22.917**
 Work Order #: **81892** Date: 02/26/2004
 Test Type: **Maximized Emissions** Time: 08:10:30
 Equipment: **Bidirectional Amplifier Repeater** Sequence#: 42
 Manufacturer: Wilson Electronics Tested By: Mike Wilkinson
 Model: 804003
 S/N: NB5-008909

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8566B SA	2209A01404	02/26/2003	02/26/2004	00490
HP 8566B SA Display	2403A08241	02/26/2003	02/26/2004	00489
HP 85650A QPA	2811A01267	02/26/2003	02/26/2004	00478
HP 8447D Preamp	1937A02604	03/07/2003	03/07/2004	00099
HP 8449B Preamp	3008A00301	10/21/2002	10/18/2004	2010
Chase CBL6111C Bilog	2456	12/13/2002	12/13/2004	01991
EMCO 3115 Horn Antenna	9006-3413	04/15/2003	04/25/2005	327

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Amplifier Power Supply	Wilson Electronics	JOD-48U-36	NA
Bidirectional Amplifier Repeater	Wilson Electronics	801101	AV3-009920

Support Devices:

Function	Manufacturer	Model #	S/N
Signal Generator	HP	E4432B	US40052283
RF Combiner	Motorola	None	P1314

Test Conditions / Notes:

EUT is a bidirectional amplifier repeater for the 824 - 894 MHz band. Uplink frequency range 824 - 849 MHz. Downlink frequency range 869 - 894 MHz. Radiated Intermodulation/Spurious Emissions Test: Two signals are input to the amplifier through a combining network. The input signals are set such that the maximum output per channel is provided at the antenna terminals. The internal ALC of the amplifier limits the combined maximum power output to a factory set level. Power output is continuously variable and directly proportional to the supplied RF input. Test setup is in accordance with TIA/EIA 603. Two input frequency configurations were investigated as follows, 869.28 & 870.12 MHz and then 892.88 & 893.72 MHz. Data represents measured worst case and represents all modulation types. Amplifier Gain: 37dB. Input Modulation: EDGE. Frequencies Tested: Downlink. Frequency Range Investigated: 30 MHz to 10 GHz. Measurement Bandwidth Settings: 10 MHz to 1000 MHz - RBW=VBW=10kHz, 1000 MHz to 10000 MHz - RBW=VBW=1MHz. **No EUT Emissions detected within 20dBc of the limit.**

Test Location: CKC Laboratories, Inc. •5473A Clouds Rest • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **Wilson Electronics**
 Specification: **FCC 22.917**
 Work Order #: **81892** Date: 02/26/2004
 Test Type: **Maximized Emissions** Time: 09:26:02
 Equipment: **Bidirectional Amplifier Repeater** Sequence#: 43
 Manufacturer: Wilson Electronics Tested By: Mike Wilkinson
 Model: 804003
 S/N: NB5-008909

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8566B SA	2209A01404	02/26/2003	02/26/2004	00490
HP 8566B SA Display	2403A08241	02/26/2003	02/26/2004	00489
HP 85650A QPA	2811A01267	02/26/2003	02/26/2004	00478
HP 8447D Preamp	1937A02604	03/07/2003	03/07/2004	00099
HP 8449B Preamp	3008A00301	10/21/2002	10/18/2004	2010
Chase CBL6111C Bilog	2456	12/13/2002	12/13/2004	01991
EMCO 3115 Horn Antenna	9006-3413	04/15/2003	04/25/2005	327

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Amplifier Power Supply	Wilson Electronics	JOD-48U-36	NA
Bidirectional Amplifier Repeater	Wilson Electronics	801101	AV3-009920

Support Devices:

Function	Manufacturer	Model #	S/N
Signal Generator	HP	E4432B	US40052283
RF Combiner	Motorola	None	P1314
Signal Generator	HP	E4432B	US38330168

Test Conditions / Notes:

EUT is a bidirectional amplifier repeater for the 824 - 894 MHz band. Uplink frequency range 824 - 849 MHz. Downlink frequency range 869 - 894 MHz. Radiated Intermodulation /Spurious Emissions Test: Three signals are input to the amplifier through a combining network. The first two input signals are provided by the HP E4432B ESG. The input signals are set such that the maximum output per channel is provided at the antenna terminals. The internal ALC of the amplifier limits the combined maximum power output to a factory set level. Power output is continuously variable and directly proportional to the supplied RF input. Test setup is in accordance with TIA/EIA 603. Two input frequency configurations were investigated as follows, 869.28 & 870.12 MHz and then 892.88 & 893.72 MHz. Data represents measured worst case and represents all modulation types. Amplifier Gain: 37dB Input Modulation: CDMA. Frequencies Tested: Uplink 825.25 MHz, 827.25 MHz, 847.75 MHz. Frequency Range Investigated: 30 MHz to 10 GHz. Measurement Bandwidth Settings: 10 MHz to 1000 MHz - RBW=VBW=10kHz, 1000 MHz to 10000 MHz - RBW=VBW=1MHz. **No EUT Emissions detected within 20dBc of the limit.**

PHOTOGRAPH SHOWING RADIATED EMISSIONS



Radiated Emissions - Front View



Radiated Emissions - Back View

Intermodulation Attenuation

Test Location: CKC Laboratories • 5473A Clouds Rest • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **Wilson Electronics**

Specification: **FCC 22.917**

Work Order #: **81892**

Date: 02/25/2004

Test Type: **Antenna Terminals**

Time: 16:36:28

Equipment: **Bidirectional Amplifier Repeater**

Sequence#: 41

Manufacturer: Wilson Electronics

Tested By: Mike Wilkinson

Model: 801101

S/N: AV3-009920

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8566B SA	2209A01404	02/26/2003	02/26/2005	00490
HP 8566B SA	2403A08241	02/26/2003	02/26/2005	00489
Display				
HP 85650A QPA	2811A01267	02/26/2003	02/26/2005	00478
Bird Attenuator, 25A- MFN-30	9724	05/08/2003	05/08/2005	P01577

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Bidirectional Amplifier Repeater*	Wilson Electronics	801101	AV3-009920
Amplifier Power Supply	Wilson Electronics	JOD-48U-36	NA

Support Devices:

Function	Manufacturer	Model #	S/N
Signal Generator	HP	E4432B	US40052283
Signal Generator	HP	E4432B	US38330168
Signal Generator	HP	8656A	2245A04338

Test Conditions / Notes:

EUT is a bidirectional amplifier repeater for the 824 to 894 MHz band. Uplink frequency range 824 - 849 MHz. Downlink frequency range 869 - 894 MHz. Intermodulation Attenuation and Spurious Emissions Test: Three signals are input to the amplifier through a combining network. The input signals are set such that the maximum output is provided at the antenna terminals. The internal ALC of the amplifier limits the maximum power output to a factory set level. Power output is continuously variable and directly proportional to the supplied RF input. Input Modulation: AMPS. Frequencies Tested: Downlink 869.03 MHz, 881.5 MHz, 893.97 MHz. Frequency Range Investigated: 30 MHz to 10 GHz.

Transducer Legend:

T1=Pad 30dB

Measurement Data:

Reading listed by margin.

Test Distance: None

#	Freq MHz	Rdng dB μ V	T1 dB	dB	dB	dB	Dist Table	Corr dB μ V	Spec dB μ V	Margin dB	Polar Ant
1	870.112M	73.3	+30.3				+0.0	103.6	117.0	-13.4	None
									Fundamental		
2	869.050M	71.8	+30.3				+0.0	102.1	117.0	-14.9	None
									Fundamental		
3	893.940M	62.4	+30.3				+0.0	92.7	117.0	-24.3	None
									Fundamental		

4	867.905M	35.6	+30.3	+0.0	65.9	94.0	-28.1	None
5	867.977M	35.0	+30.3	+0.0	65.3	94.0	-28.7	None
6	895.031M	29.9	+30.3	+0.0	60.2	94.0	-33.8	None
7	869.015M	42.9	+30.3	+0.0	73.2	117.0	-43.8	None
8	869.012M	39.2	+30.3	+0.0	69.5	117.0	-47.5	None
9	893.948M	36.8	+30.3	+0.0	67.1	117.0	-49.9	None
10	866.030M	8.9	+30.3	+0.0	39.2	94.0	-54.8	None
11	893.955M	13.9	+30.3	+0.0	44.2	117.0	-72.8	None

Test Location: CKC Laboratories • 5473A Clouds Rest • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **Wilson Electronics**
 Specification: **FCC 22.917**
 Work Order #: **81892** Date: 02/19/2004
 Test Type: **Antenna Terminals** Time: 08:35:42
 Equipment: **Bidirectional Amplifier Repeater** Sequence#: 9
 Manufacturer: Wilson Electronics Tested By: Mike Wilkinson
 Model: 801101
 S/N: AV3-009920

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8566B SA	2209A01404	02/26/2003	02/26/2005	00490
HP 8566B SA	2403A08241	02/26/2003	02/26/2005	00489
Display				
HP 85650A QPA	2811A01267	02/26/2003	02/26/2005	00478
Bird Attenuator, 25A- MFN-30	9724	05/08/2003	05/08/2005	P01577

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Bidirectional Amplifier Repeater*	Wilson Electronics	801101	AV3-009920
Amplifier Power Supply	Wilson Electronics	JOD-48U-36	NA

Support Devices:

Function	Manufacturer	Model #	S/N
Signal Generator	HP	E4432B	US40052283
Signal Generator	HP	8921A	3519A01796
Signal Generator (CDMA Adapter)	HP	83205A	US37461985

Test Conditions / Notes:

EUT is a bidirectional amplifier repeater for the 824 to 894 MHz band. Uplink frequency range 824 - 849 MHz. Downlink frequency range 869 - 894 MHz. Intermodulation Attenuation and Spurious Emissions Test: Three signals are input to the amplifier through a combining network. The first two input signals are provided by the HP E4432B ESG. The input signals are set such that the maximum output is provided at the antenna terminals. The internal ALC of the amplifier limits the maximum power output to a factory set level. Power output is continuously variable and directly proportional to the supplied RF input. Input Modulation: CDMA. Frequencies Tested: Downlink 870.25 MHz, 872.75 MHz, 892.75 MHz. Frequency Range Investigated: 30 MHz to 10 GHz.

Transducer Legend:

T1=Pad 30dB

Measurement Data: Reading listed by margin. Test Distance: None

#	Freq MHz	Rdng dBμV	T1 dB				Dist Table	Corr dBμV	Spec dBμV	Margin dB	Polar Ant
1	870.330M	70.6	+30.3				+0.0	100.9	117.0	-16.1	None
									Fundamental		
2	872.770M	70.1	+30.3				+0.0	100.4	117.0	-16.6	None
									Fundamental		
3	892.770M	68.0	+30.3				+0.0	98.3	117.0	-18.7	None
									Fundamental		

4	868.980M	30.5	+30.3	+0.0	60.8	94.0	-33.2	None
5	894.130M	29.4	+30.3	+0.0	59.7	94.0	-34.3	None
6	7074.200M	28.0	+26.9	+0.0	54.9	94.0	-39.1	None
7	137.600M	22.7	+30.5	+0.0	53.2	94.0	-40.8	None
8	440.900M	22.6	+30.3	+0.0	52.9	94.0	-41.1	None
9	3548.200M	22.9	+29.8	+0.0	52.7	94.0	-41.3	None
10	1768.900M	21.9	+30.3	+0.0	52.2	94.0	-41.8	None
11	2650.400M	20.4	+29.9	+0.0	50.3	94.0	-43.7	None

Test Location: CKC Laboratories • 5473A Clouds Rest • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **Wilson Electronics**
 Specification: **FCC 22.917**
 Work Order #: **81892** Date: 02/19/2004
 Test Type: **Antenna Terminals** Time: 16:19:30
 Equipment: **Bidirectional Amplifier Repeater** Sequence#: 13
 Manufacturer: Wilson Electronics Tested By: Mike Wilkinson
 Model: 801101
 S/N: AV3-009920

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8566B SA	2209A01404	02/26/2003	02/26/2005	00490
HP 8566B SA	2403A08241	02/26/2003	02/26/2005	00489
Display				
HP 85650A QPA	2811A01267	02/26/2003	02/26/2005	00478
Bird Attenuator, 25A- MFN-30	9724	05/08/2003	05/08/2005	P01577

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Bidirectional Amplifier Repeater*	Wilson Electronics	801101	AV3-009920
Amplifier Power Supply	Wilson Electronics	JOD-48U-36	NA

Support Devices:

Function	Manufacturer	Model #	S/N
Signal Generator	HP	E4432B	US40052283
Signal Generator	HP	8921A	3519A01796
Signal Generator (CDMA Adapter)	HP	83205A	US37461985

Test Conditions / Notes:

EUT is a bidirectional amplifier repeater for the 824 to 894 MHz band. Uplink frequency range 824 - 849 MHz. Downlink frequency range 869 - 894 MHz. Intermodulation Attenuation and Spurious Emissions Test: Two signals are input to the amplifier through a combining network. The input signals are set such that the maximum output is provided at the antenna terminals. The internal ALC of the amplifier limits the maximum power output to a factory set level. Power output is continuously variable and directly proportional to the supplied RF input. Input Modulation: GSM. Frequencies Tested: Downlink 869.28 MHz, 870.12 MHz. Frequency Range Investigated: 30 MHz to 10 GHz.

Transducer Legend:

T1=Pad 30dB

Measurement Data: Reading listed by margin. Test Distance: None

#	Freq MHz	Rdng dBμV	T1 dB				Dist Table	Corr dBμV	Spec dBμV	Margin dB	Polar Ant
1	869.275M	76.3	+30.3				+0.0	106.6	117.0	-10.4	None
Fundamental											
2	870.100M	74.4	+30.3				+0.0	104.7	117.0	-12.3	None
Fundamental											
3	868.977M	28.5	+30.3				+0.0	58.8	94.0	-35.2	None

4	3475.240M	15.7	+29.8	+0.0	45.5	94.0	-48.5	None
5	2599.670M	15.2	+29.9	+0.0	45.1	94.0	-48.9	None
6	8701.620M	20.9	+24.1	+0.0	45.0	94.0	-49.0	None
7	70.000M	14.4	+30.5	+0.0	44.9	94.0	-49.1	None
8	5217.810M	16.6	+28.1	+0.0	44.7	94.0	-49.3	None
9	1748.030M	14.1	+30.3	+0.0	44.4	94.0	-49.6	None

Test Location: CKC Laboratories • 5473A Clouds Rest • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **Wilson Electronics**
 Specification: **FCC 22.917**
 Work Order #: **81892** Date: 02/20/2004
 Test Type: **Antenna Terminals** Time: 09:45:18
 Equipment: **Bidirectional Amplifier Repeater** Sequence#: 14
 Manufacturer: Wilson Electronics Tested By: Mike Wilkinson
 Model: 801101
 S/N: AV3-009920

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8566B SA	2209A01404	02/26/2003	02/26/2005	00490
HP 8566B SA	2403A08241	02/26/2003	02/26/2005	00489
Display				
HP 85650A QPA	2811A01267	02/26/2003	02/26/2005	00478
Bird Attenuator, 25A- MFN-30	9724	05/08/2003	05/08/2005	P01577

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Bidirectional Amplifier Repeater*	Wilson Electronics	801101	AV3-009920
Amplifier Power Supply	Wilson Electronics	JOD-48U-36	NA

Support Devices:

Function	Manufacturer	Model #	S/N
Signal Generator	HP	E4432B	US40052283
Signal Generator	HP	8921A	3519A01796
Signal Generator (CDMA Adapter)	HP	83205A	US37461985

Test Conditions / Notes:

EUT is a bidirectional amplifier repeater for the 824 to 894 MHz band. Uplink frequency range 824 - 849 MHz. Downlink frequency range 869 - 894 MHz. Intermodulation Attenuation and Spurious Emissions Test: Two signals are input to the amplifier through a combining network. The input signals are set such that the maximum output is provided at the antenna terminals. The internal ALC of the amplifier limits the maximum power output to a factory set level. Power output is continuously variable and directly proportional to the supplied RF input. Input Modulation: GSM. Frequencies Tested: Downlink 892.88 MHz, 893.72 MHz. Frequency Range Investigated: 30 MHz to 10 GHz.

Transducer Legend:

T1=Pad 30dB

Measurement Data: Reading listed by margin. Test Distance: None

#	Freq MHz	Rdng dBμV	T1 dB				Dist Table	Corr dBμV	Spec dBμV	Margin dB	Polar Ant
1	893.740M	76.3	+30.3				+0.0	106.6	117.0	-10.4	None
Fundamental											
2	892.890M	75.9	+30.3				+0.0	106.2	117.0	-10.8	None
Fundamental											
3	894.011M	26.4	+30.3				+0.0	56.7	94.0	-37.3	None

4	6252.789M	20.3	+27.5	+0.0	47.8	94.0	-46.2	None
5	1787.370M	15.3	+30.3	+0.0	45.6	94.0	-48.4	None
6	2681.633M	15.5	+29.8	+0.0	45.3	94.0	-48.7	None
7	8043.656M	20.8	+24.3	+0.0	45.1	94.0	-48.9	None
8	625.100M	14.4	+30.4	+0.0	44.8	94.0	-49.2	None
9	4463.219M	15.4	+28.8	+0.0	44.2	94.0	-49.8	None

Test Location: CKC Laboratories • 5473A Clouds Rest • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **Wilson Electronics**
 Specification: **FCC 22.917**
 Work Order #: **81892** Date: 02/20/2004
 Test Type: **Antenna Terminals** Time: 10:14:27
 Equipment: **Bidirectional Amplifier Repeater** Sequence#: 15
 Manufacturer: Wilson Electronics Tested By: Mike Wilkinson
 Model: 801101
 S/N: AV3-009920

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8566B SA	2209A01404	02/26/2003	02/26/2005	00490
HP 8566B SA	2403A08241	02/26/2003	02/26/2005	00489
Display				
HP 85650A QPA	2811A01267	02/26/2003	02/26/2005	00478
Bird Attenuator, 25A- MFN-30	9724	05/08/2003	05/08/2005	P01577

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Bidirectional Amplifier Repeater*	Wilson Electronics	801101	AV3-009920
Amplifier Power Supply	Wilson Electronics	JOD-48U-36	NA

Support Devices:

Function	Manufacturer	Model #	S/N
Signal Generator	HP	E4432B	US40052283
Signal Generator	HP	8921A	3519A01796
Signal Generator (CDMA Adapter)	HP	83205A	US37461985

Test Conditions / Notes:

EUT is a bidirectional amplifier repeater for the 824 to 894 MHz band. Uplink frequency range 824 - 849 MHz. Downlink frequency range 869 - 894 MHz. Intermodulation Attenuation and Spurious Emissions Test: Two signals are input to the amplifier through a combining network. The input signals are set such that the maximum output is provided at the antenna terminals. The internal ALC of the amplifier limits the maximum power output to a factory set level. Power output is continuously variable and directly proportional to the supplied RF input. Input Modulation: GSM. Frequencies Tested: Downlink 869.28 MHz, 893.72 MHz. Frequency Range Investigated: 30 MHz to 10 GHz.

Transducer Legend:

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Measurement Data: Reading listed by margin. Test Distance: None

#	Freq MHz	Rdng dB μ V	dB	dB	dB	dB	Dist Table	Corr dB μ V	Spec dB μ V	Margin dB	Polar Ant

Test Location: CKC Laboratories • 5473A Clouds Rest • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **Wilson Electronics**
 Specification: **FCC 22.917**
 Work Order #: **81892** Date: 02/24/2004
 Test Type: **Antenna Terminals** Time: 13:01:34
 Equipment: **Bidirectional Amplifier Repeater** Sequence#: 25
 Manufacturer: Wilson Electronics Tested By: Mike Wilkinson
 Model: 801101
 S/N: AV3-009920

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8566B SA	2209A01404	02/26/2003	02/26/2005	00490
HP 8566B SA	2403A08241	02/26/2003	02/26/2005	00489
Display				
HP 85650A QPA	2811A01267	02/26/2003	02/26/2005	00478
Bird Attenuator, 25A- MFN-30	9724	05/08/2003	05/08/2005	P01577

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Bidirectional Amplifier Repeater*	Wilson Electronics	801101	AV3-009920
Amplifier Power Supply	Wilson Electronics	JOD-48U-36	NA

Support Devices:

Function	Manufacturer	Model #	S/N
Signal Generator	HP	E4432B	US40052283
Signal Generator	HP	8921A	3519A01796
Signal Generator (CDMA Adapter)	HP	83205A	US37461985

Test Conditions / Notes:

EUT is a bidirectional amplifier repeater for the 824 to 894 MHz band. Uplink frequency range 824 - 849 MHz. Downlink frequency range 869 - 894 MHz. Intermodulation Attenuation and Spurious Emissions Test: Two signals are input to the amplifier through a combining network. The input signals are set such that the maximum output is provided at the antenna terminals. The internal ALC of the amplifier limits the maximum power output to a factory set level. Power output is continuously variable and directly proportional to the supplied RF input. Input Modulation: EDGE. Frequencies Tested: Downlink 869.28 MHz, 870.12 MHz. Frequency Range Investigated: 30 MHz to 10 GHz.

Transducer Legend:

T1=Pad 30dB

Measurement Data: Reading listed by margin. Test Distance: None

#	Freq MHz	Rdng dBμV	T1 dB				Dist Table	Corr dBμV	Spec dBμV	Margin dB	Polar Ant
1	869.340M	72.5	+30.3				+0.0	102.8	117.0	-14.2	None
									Fundamental		
2	870.160M	70.5	+30.3				+0.0	100.8	117.0	-16.2	None
									Fundamental		
3	3546.190M	17.7	+29.8				+0.0	47.5	94.0	-46.5	None

4	1757.290M	15.8	+30.3	+0.0	46.1	94.0	-47.9	None
5	4447.000M	15.8	+28.8	+0.0	44.6	94.0	-49.4	None
6	5339.540M	15.4	+28.0	+0.0	43.4	94.0	-50.6	None
7	766.000M	12.7	+30.4	+0.0	43.1	94.0	-50.9	None
8	2655.290M	11.9	+29.9	+0.0	41.8	94.0	-52.2	None
9	869.010M	13.4	+30.3	+0.0	43.7	117.0	-73.3	None

Test Location: CKC Laboratories • 5473A Clouds Rest • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **Wilson Electronics**
 Specification: **FCC 22.917**
 Work Order #: **81892** Date: 02/24/2004
 Test Type: **Antenna Terminals** Time: 13:13:10
 Equipment: **Bidirectional Amplifier Repeater** Sequence#: 26
 Manufacturer: Wilson Electronics Tested By: Mike Wilkinson
 Model: 801101
 S/N: AV3-009920

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8566B SA	2209A01404	02/26/2003	02/26/2005	00490
HP 8566B SA	2403A08241	02/26/2003	02/26/2005	00489
Display				
HP 85650A QPA	2811A01267	02/26/2003	02/26/2005	00478
Bird Attenuator, 25A- MFN-30	9724	05/08/2003	05/08/2005	P01577

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Bidirectional Amplifier Repeater*	Wilson Electronics	801101	AV3-009920
Amplifier Power Supply	Wilson Electronics	JOD-48U-36	NA

Support Devices:

Function	Manufacturer	Model #	S/N
Signal Generator	HP	E4432B	US40052283
Signal Generator	HP	8921A	3519A01796
Signal Generator (CDMA Adapter)	HP	83205A	US37461985

Test Conditions / Notes:

EUT is a bidirectional amplifier repeater for the 824 to 894 MHz band. Uplink frequency range 824 - 849 MHz. Downlink frequency range 869 - 894 MHz. Intermodulation Attenuation and Spurious Emissions Test: Two signals are input to the amplifier through a combining network. The input signals are set such that the maximum output is provided at the antenna terminals. The internal ALC of the amplifier limits the maximum power output to a factory set level. Power output is continuously variable and directly proportional to the supplied RF input. Input Modulation: EDGE. Frequencies Tested: Downlink 892.88 MHz, 892.72 MHz. Frequency Range Investigated: 30 MHz to 10 GHz.

Transducer Legend:

T1=Pad 30dB

Measurement Data:

Reading listed by margin.

Test Distance: None

#	Freq MHz	Rdng dBμV	T1 dB				Dist Table	Corr dBμV	Spec dBμV	Margin dB	Polar Ant
1	892.900M	73.4	+30.3				+0.0	103.7	117.0	-13.3	None
									Fundamental		
2	893.750M	71.4	+30.3				+0.0	101.7	117.0	-15.3	None
									Fundamental		
3	2683.390M	16.2	+29.8				+0.0	46.0	94.0	-48.0	None

4	3575.020M	15.2	+29.8	+0.0	45.0	94.0	-49.0	None
5	1786.200M	14.6	+30.3	+0.0	44.9	94.0	-49.1	None
6	5359.930M	16.1	+28.0	+0.0	44.1	94.0	-49.9	None
7	596.200M	13.6	+30.4	+0.0	44.0	94.0	-50.0	None
8	894.002M	12.6	+30.3	+0.0	42.9	94.0	-51.1	None
9	4468.740M	13.7	+28.8	+0.0	42.5	94.0	-51.5	None

Test Location: CKC Laboratories • 5473A Clouds Rest • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **Wilson Electronics**
 Specification: **FCC 22.917**
 Work Order #: **81892** Date: 02/24/2004
 Test Type: **Antenna Terminals** Time: 13:30:20
 Equipment: **Bidirectional Amplifier Repeater** Sequence#: 27
 Manufacturer: Wilson Electronics Tested By: Mike Wilkinson
 Model: 801101
 S/N: AV3-009920

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8566B SA	2209A01404	02/26/2003	02/26/2005	00490
HP 8566B SA	2403A08241	02/26/2003	02/26/2005	00489
Display				
HP 85650A QPA	2811A01267	02/26/2003	02/26/2005	00478
Bird Attenuator, 25A- MFN-30	9724	05/08/2003	05/08/2005	P01577

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Bidirectional Amplifier Repeater*	Wilson Electronics	801101	AV3-009920
Amplifier Power Supply	Wilson Electronics	JOD-48U-36	NA

Support Devices:

Function	Manufacturer	Model #	S/N
Signal Generator	HP	E4432B	US40052283
Signal Generator	HP	8921A	3519A01796
Signal Generator (CDMA Adapter)	HP	83205A	US37461985

Test Conditions / Notes:

EUT is a bidirectional amplifier repeater for the 824 to 894 MHz band. Uplink frequency range 824 - 849 MHz. Downlink frequency range 869 - 894 MHz. Intermodulation Attenuation and Spurious Emissions Test: Two signals are input to the amplifier through a combining network. The input signals are set such that the maximum output is provided at the antenna terminals. The internal ALC of the amplifier limits the maximum power output to a factory set level. Power output is continuously variable and directly proportional to the supplied RF input. Input Modulation: EDGE. Frequencies Tested: Downlink 869.28 MHz, 892.72 MHz. Frequency Range Investigated: 30 MHz to 10 GHz.

Transducer Legend:

T1=Pad 30dB

Measurement Data: Reading listed by margin. Test Distance: None

#	Freq MHz	Rdng dBμV	T1 dB	dB	dB	dB	Dist Table	Corr dBμV	Spec dBμV	Margin dB	Polar Ant
1	869.340M	72.6	+30.3				+0.0	102.9	117.0	-14.1	None
Fundamental											
2	893.720M	71.5	+30.3				+0.0	101.8	117.0	-15.2	None
Fundamental											
3	893.811M	58.9	+30.3				+0.0	89.2	117.0	-27.8	None

4	893.831M	51.8	+30.3	+0.0	82.1	117.0	-34.9	None
5	893.841M	48.8	+30.3	+0.0	79.1	117.0	-37.9	None
6	893.855M	40.4	+30.3	+0.0	70.7	117.0	-46.3	None
7	1787.009M	15.9	+30.3	+0.0	46.2	94.0	-47.8	None
8	2607.934M	15.7	+29.9	+0.0	45.6	94.0	-48.4	None
9	1738.857M	14.3	+30.3	+0.0	44.6	94.0	-49.4	None
10	893.904M	36.7	+30.3	+0.0	67.0	117.0	-50.0	None
11	868.964M	12.9	+30.3	+0.0	43.2	94.0	-50.8	None
12	869.081M	35.9	+30.3	+0.0	66.2	117.0	-50.8	None

Test Location: CKC Laboratories • 5473A Clouds Rest • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **Wilson Electronics**
 Specification: **FCC 22.917**
 Work Order #: **81892** Date: 02/25/2004
 Test Type: **Antenna Terminals** Time: 12:33:07
 Equipment: **Bidirectional Amplifier Repeater** Sequence#: 37
 Manufacturer: Wilson Electronics Tested By: Mike Wilkinson
 Model: 801101
 S/N: AV3-009920

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8566B SA	2209A01404	02/26/2003	02/26/2005	00490
HP 8566B SA	2403A08241	02/26/2003	02/26/2005	00489
Display				
HP 85650A QPA	2811A01267	02/26/2003	02/26/2005	00478
Bird Attenuator, 25A- MFN-30	9724	05/08/2003	05/08/2005	P01577

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Bidirectional Amplifier Repeater*	Wilson Electronics	801101	AV3-009920
Amplifier Power Supply	Wilson Electronics	JOD-48U-36	NA

Support Devices:

Function	Manufacturer	Model #	S/N
Signal Generator	HP	E4432B	US40052283
Signal Generator	HP	E4432B	US38330168
Signal Generator	HP	8656A	2245A04338

Test Conditions / Notes:

EUT is a bidirectional amplifier repeater for the 824 to 894 MHz band. Uplink frequency range 824 - 849 MHz. Downlink frequency range 869 - 894 MHz. Intermodulation Attenuation and Spurious Emissions Test: Three signals are input to the amplifier through a combining network. The first two input signals are provided by the HP E4432B ESG. The input signals are set such that the maximum output is provided at the antenna terminals. The internal ALC of the amplifier limits the maximum power output to a factory set level. Power output is continuously variable and directly proportional to the supplied RF input. Input Modulation: AMPS. Frequencies Tested: Uplink 824.03 MHz, 824.12MHz, 848.97 MHz. Frequency Range Investigated: 30 MHz to 10 GHz.

Transducer Legend:

T1=Pad 30dB

Measurement Data: Reading listed by margin. Test Distance: None

#	Freq MHz	Rdng dBμV	T1 dB	dB			Dist Table	Corr dBμV	Spec dBμV	Margin dB	Polar Ant
1	823.915M	56.1	+30.4				+0.0	86.5	94.0	-7.5	None
2	823.970M	55.5	+30.4				+0.0	85.9	94.0	-8.1	None
3	824.020M	90.5	+30.4				+0.0	120.9	137.0	-16.1	None

Fundamental

4	848.982M	89.3	+30.3	+0.0	119.6	137.0	-17.4	None
						Fundamental		
5	824.130M	88.6	+30.4	+0.0	119.0	137.0	-18.0	None
						Fundamental		
6	823.805M	31.6	+30.4	+0.0	62.0	94.0	-32.0	None
7	1648.170M	31.1	+30.2	+0.0	61.3	94.0	-32.7	None
8	849.970M	28.1	+30.3	+0.0	58.4	94.0	-35.6	None
9	823.695M	21.4	+30.4	+0.0	51.8	94.0	-42.2	None
10	1697.903M	21.3	+30.2	+0.0	51.5	94.0	-42.5	None
11	2472.200M	17.6	+30.1	+0.0	47.7	94.0	-46.3	None

Test Location: CKC Laboratories • 5473A Clouds Rest • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **Wilson Electronics**
 Specification: **FCC 22.917**
 Work Order #: **81892** Date: 02/18/2004
 Test Type: **Antenna Terminals** Time: 10:45:49
 Equipment: **Bidirectional Amplifier Repeater** Sequence#: 5
 Manufacturer: Wilson Electronics Tested By: Mike Wilkinson
 Model: 801101
 S/N: AV3-009920

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8566B SA	2209A01404	02/26/2003	02/26/2005	00490
HP 8566B SA	2403A08241	02/26/2003	02/26/2005	00489
Display				
HP 85650A QPA	2811A01267	02/26/2003	02/26/2005	00478
Bird Attenuator, 25A- MFN-30	9724	05/08/2003	05/08/2005	P01577

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Bidirectional Amplifier Repeater*	Wilson Electronics	801101	AV3-009920
Amplifier Power Supply	Wilson Electronics	JOD-48U-36	NA

Support Devices:

Function	Manufacturer	Model #	S/N
Signal Generator	HP	E4432B	US40052283
Signal Generator	HP	8921A	3519A01796
Signal Generator (CDMA Adapter)	HP	83205A	US37461985

Test Conditions / Notes:

EUT is a bidirectional amplifier repeater for the 824 to 894 MHz band. Uplink frequency range 824 - 849 MHz. Downlink frequency range 869 - 894 MHz. Intermodulation Attenuation and Spurious Emissions Test: Three signals are input to the amplifier through a combining network. The first two input signals are provided by the HP E4432B ESG. The input signals are set such that the maximum output is provided at the antenna terminals. The internal ALC of the amplifier limits the maximum power output to a factory set level. Power output is continuously variable and directly proportional to the supplied RF input. Input Modulation: CDMA. Frequencies Tested: Uplink 825.25 MHz, 827.25 MHz, 847.75 MHz. Frequency Range Investigated: 30 MHz to 10 GHz.

Transducer Legend:

T1=Pad 30dB

Measurement Data: Reading listed by margin. Test Distance: None

#	Freq MHz	Rdng dBμV	T1 dB				Dist Table	Corr dBμV	Spec dBμV	Margin dB	Polar Ant
1	823.980M	34.9	+30.4				+0.0	65.3	94.0	-28.7	None
2	827.560M	78.5	+30.4				+0.0	108.9	141.7	-32.8	None
									Fundamental		
3	825.380M	78.2	+30.4				+0.0	108.6	141.7	-33.1	None
									Fundamental		

4	6687.940M	32.5	+27.2	+0.0	59.7	94.0	-34.3	None
5	847.940M	73.1	+30.4	+0.0	103.5	141.7	-38.2	None
6	157.600M	24.5	+30.5	+0.0	55.0	94.0	-39.0	None
7	315.600M	24.2	+30.5	+0.0	54.7	94.0	-39.3	None
8	2500.560M	23.1	+30.1	+0.0	53.2	94.0	-40.8	None
9	1664.060M	22.5	+30.2	+0.0	52.7	94.0	-41.3	None
10	848.180M	44.1	+30.4	+0.0	74.5	141.7	-67.2	None

Test Location: CKC Laboratories • 5473A Clouds Rest • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **Wilson Electronics**
 Specification: **FCC 22.917**
 Work Order #: **81892** Date: 02/20/2004
 Test Type: **Antenna Terminals** Time: 15:51:54
 Equipment: **Bidirectional Amplifier Repeater** Sequence#: 19
 Manufacturer: Wilson Electronics Tested By: Mike Wilkinson
 Model: 801101
 S/N: AV3-009920

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8566B SA	2209A01404	02/26/2003	02/26/2005	00490
HP 8566B SA	2403A08241	02/26/2003	02/26/2005	00489
Display				
HP 85650A QPA	2811A01267	02/26/2003	02/26/2005	00478
Bird Attenuator, 25A- MFN-30	9724	05/08/2003	05/08/2005	P01577

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Bidirectional Amplifier Repeater*	Wilson Electronics	801101	AV3-009920
Amplifier Power Supply	Wilson Electronics	JOD-48U-36	NA

Support Devices:

Function	Manufacturer	Model #	S/N
Signal Generator	HP	E4432B	US40052283
Signal Generator	HP	8921A	3519A01796
Signal Generator (CDMA Adapter)	HP	83205A	US37461985

Test Conditions / Notes:

EUT is a bidirectional amplifier repeater for the 824 to 894 MHz band. Uplink frequency range 824 - 849 MHz. Downlink frequency range 869 - 894 MHz. Intermodulation Attenuation and Spurious Emissions Test: Two signals are input to the amplifier through a combining network. The input signals are set such that the maximum output is provided at the antenna terminals. The internal ALC of the amplifier limits the maximum power output to a factory set level. Power output is continuously variable and directly proportional to the supplied RF input. Input Modulation: GSM. Frequencies Tested: Uplink 824.28 MHz, 825.12 MHz. Frequency Range Investigated: 30 MHz to 10 GHz.

Transducer Legend:

T1=Pad 30dB

Measurement Data: Reading listed by margin. Test Distance: None

#	Freq MHz	Rdng dBμV	T1 dB	dB	dB	dB	Dist Table	Corr dBμV	Spec dBμV	Margin dB	Polar Ant
1	824.310M	105.7	+30.4				+0.0	136.1	141.7	-5.6	None
Fundamental											
2	825.220M	103.0	+30.4				+0.0	133.4	141.7	-8.3	None
Fundamental											
3	1648.680M	47.9	+30.2				+0.0	78.1	94.0	-15.9	None

4	1649.470M	41.5	+30.2	+0.0	71.7	94.0	-22.3	None
5	1650.420M	41.1	+30.2	+0.0	71.3	94.0	-22.7	None
6	815.740M	35.9	+30.4	+0.0	66.3	94.0	-27.7	None
7	823.960M	35.4	+30.4	+0.0	65.8	94.0	-28.2	None
8	2474.290M	35.6	+30.1	+0.0	65.7	94.0	-28.3	None
9	269.800M	35.1	+30.4	+0.0	65.5	94.0	-28.5	None
10	3284.800M	35.3	+29.6	+0.0	64.9	94.0	-29.1	None

Test Location: CKC Laboratories • 5473A Clouds Rest • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **Wilson Electronics**
 Specification: **FCC 22.917**
 Work Order #: **81892** Date: 02/20/2004
 Test Type: **Antenna Terminals** Time: 16:52:29
 Equipment: **Bidirectional Amplifier Repeater** Sequence#: 20
 Manufacturer: Wilson Electronics Tested By: Mike Wilkinson
 Model: 801101
 S/N: AV3-009920

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8566B SA	2209A01404	02/26/2003	02/26/2005	00490
HP 8566B SA	2403A08241	02/26/2003	02/26/2005	00489
Display				
HP 85650A QPA	2811A01267	02/26/2003	02/26/2005	00478
Bird Attenuator, 25A- MFN-30	9724	05/08/2003	05/08/2005	P01577

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Bidirectional Amplifier Repeater*	Wilson Electronics	801101	AV3-009920
Amplifier Power Supply	Wilson Electronics	JOD-48U-36	NA

Support Devices:

Function	Manufacturer	Model #	S/N
Signal Generator	HP	E4432B	US40052283
Signal Generator	HP	8921A	3519A01796
Signal Generator (CDMA Adapter)	HP	83205A	US37461985

Test Conditions / Notes:

EUT is a bidirectional amplifier repeater for the 824 to 894 MHz band. Uplink frequency range 824 - 849 MHz. Downlink frequency range 869 - 894 MHz. Intermodulation Attenuation and Spurious Emissions Test: Two signals are input to the amplifier through a combining network. The input signals are set such that the maximum output is provided at the antenna terminals. The internal ALC of the amplifier limits the maximum power output to a factory set level. Power output is continuously variable and directly proportional to the supplied RF input. Input Modulation: GSM. Frequencies Tested: Uplink 847.88 MHz, 848.72 MHz. Frequency Range Investigated: 30 MHz to 10 GHz.

Transducer Legend:

T1=Pad 30dB

Measurement Data: Reading listed by margin. Test Distance: None

#	Freq MHz	Rdng dBμV	T1 dB	dB	dB	dB	Dist Table	Corr dBμV	Spec dBμV	Margin dB	Polar Ant
1	849.002M	56.1	+30.3				+0.0	86.4	94.0	-7.6	None
2	848.716M	101.2	+30.3				+0.0	131.5	141.7	-10.2	None
									Fundamental		
3	847.862M	95.0	+30.4				+0.0	125.4	141.7	-16.3	None
									Fundamental		

4	849.130M	39.0	+30.3	+0.0	69.3	94.0	-24.7	None
5	1697.500M	38.4	+30.2	+0.0	68.6	94.0	-25.4	None
6	6791.095M	29.4	+27.1	+0.0	56.5	94.0	-37.5	None
7	2586.300M	25.2	+30.0	+0.0	55.2	94.0	-38.8	None
8	4244.495M	25.5	+29.1	+0.0	54.6	94.0	-39.4	None
9	8489.094M	29.8	+23.4	+0.0	53.2	94.0	-40.8	None

Test Location: CKC Laboratories •5473A Clouds Rest • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **Wilson Electronics**
 Specification: **FCC 22.917**
 Work Order #: **81892** Date: 02/23/2004
 Test Type: **Antenna Terminals** Time: 14:50:13
 Equipment: **Bidirectional Amplifier Repeater** Sequence#: 21
 Manufacturer: Wilson Electronics Tested By: Mike Wilkinson
 Model: 801101
 S/N: AV3-009920

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8566B SA	2209A01404	02/26/2003	02/26/2005	00490
HP 8566B SA	2403A08241	02/26/2003	02/26/2005	00489
Display				
HP 85650A QPA	2811A01267	02/26/2003	02/26/2005	00478
Bird Attenuator, 25A-	9724	05/08/2003	05/08/2005	P01577
MFN-30				

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Bidirectional Amplifier Repeater*	Wilson Electronics	801101	AV3-009920
Amplifier Power Supply	Wilson Electronics	JOD-48U-36	NA

Support Devices:

Function	Manufacturer	Model #	S/N
Signal Generator	HP	E4432B	US40052283
Signal Generator	HP	8921A	3519A01796
Signal Generator (CDMA Adapter)	HP	83205A	US37461985

Test Conditions / Notes:

EUT is a bidirectional amplifier repeater for the 824 to 894 MHz band. Uplink frequency range 824 - 849 MHz. Downlink frequency range 869 - 894 MHz. Intermodulation Attenuation and Spurious Emissions Test: Two signals are input to the amplifier through a combining network. The input signals are set such that the maximum output is provided at the antenna terminals. The internal ALC of the amplifier limits the maximum power output to a factory set level. Power output is continuously variable and directly proportional to the supplied RF input. Input Modulation: GSM. Frequencies Tested: Uplink 824.28 MHz, 848.72 MHz. Frequency Range Investigated: 30 MHz to 10 GHz.

Transducer Legend:

T1=Pad 30dB	T2=Wilson Cable
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Measurement Data: Reading listed by margin. Test Distance: None

#	Freq MHz	Rdng dBμV	T1 dB	T2 dB	dB	dB	Dist Table	Corr dBμV	Spec dBμV	Margin dB	Polar Ant
1	848.715M	109.1	+30.3	+0.6			+0.0	140.0	141.7	-1.7	None
									Fundamental		
2	824.280M	109.6	+30.4				+0.0	140.0	141.7	-1.7	None
									Fundamental		
3	823.990M	53.5	+30.4				+0.0	83.9	94.0	-10.1	None

4	849.009M	52.3	+30.3	+0.6	+0.0	83.2	94.0	-10.8	None
5	1697.640M	43.3	+30.2	+0.6	+0.0	74.1	94.0	-19.9	None
6	1648.800M	34.8	+30.2	+0.6	+0.0	65.6	94.0	-28.4	None
7	5920.940M	33.0	+27.8	+0.6	+0.0	61.4	94.0	-32.6	None
8	2557.860M	27.1	+30.0	+0.6	+0.0	57.7	94.0	-36.3	None
9	3414.680M	26.4	+29.7	+0.6	+0.0	56.7	94.0	-37.3	None
10	725.200M	25.2	+30.4	+0.6	+0.0	56.2	94.0	-37.8	None

Test Location: CKC Laboratories • 5473A Clouds Rest • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **Wilson Electronics**
 Specification: **FCC 22.917**
 Work Order #: **81892** Date: 02/24/2004
 Test Type: **Antenna Terminals** Time: 15:55:40
 Equipment: **Bidirectional Amplifier Repeater** Sequence#: 31
 Manufacturer: Wilson Electronics Tested By: Mike Wilkinson
 Model: 801101
 S/N: AV3-009920

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8566B SA	2209A01404	02/26/2003	02/26/2005	00490
HP 8566B SA	2403A08241	02/26/2003	02/26/2005	00489
Display				
HP 85650A QPA	2811A01267	02/26/2003	02/26/2005	00478
Bird Attenuator, 25A- MFN-30	9724	05/08/2003	05/08/2005	P01577

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Bidirectional Amplifier Repeater*	Wilson Electronics	801101	AV3-009920
Amplifier Power Supply	Wilson Electronics	JOD-48U-36	NA

Support Devices:

Function	Manufacturer	Model #	S/N
Signal Generator	HP	E4432B	US40052283
Signal Generator	HP	8921A	3519A01796
Signal Generator (CDMA Adapter)	HP	83205A	US37461985

Test Conditions / Notes:

EUT is a bidirectional amplifier repeater for the 824 to 894 MHz band. Uplink frequency range 824 - 849 MHz. Downlink frequency range 869 - 894 MHz. Intermodulation Attenuation and Spurious Emissions Test: Two signals are input to the amplifier through a combining network. The input signals are set such that the maximum output is provided at the antenna terminals. The internal ALC of the amplifier limits the maximum power output to a factory set level. Power output is continuously variable and directly proportional to the supplied RF input. Input Modulation: EDGE. Frequencies Tested: Downlink 824.28 MHz, 825.12 MHz. Frequency Range Investigated: 30 MHz to 10 GHz.

Transducer Legend:

T1=Pad 30dB

Measurement Data: Reading listed by margin. Test Distance: None

#	Freq MHz	Rdng dBμV	T1 dB	dB	dB	dB	Dist Table	Corr dBμV	Spec dBμV	Margin dB	Polar Ant
1	824.370M	97.6	+30.4				+0.0	128.0	137.0	-9.0	None
Fundamental											
2	825.220M	96.6	+30.4				+0.0	127.0	137.0	-10.0	None
Fundamental											
3	1649.402M	41.7	+30.2				+0.0	71.9	94.0	-22.1	None

4	1648.566M	38.5	+30.2	+0.0	68.7	94.0	-25.3	None
5	2472.266M	35.8	+30.1	+0.0	65.9	94.0	-28.1	None
6	4946.756M	35.9	+28.3	+0.0	64.2	94.0	-29.8	None
7	823.877M	33.8	+30.4	+0.0	64.2	94.0	-29.8	None
8	3298.144M	34.5	+29.6	+0.0	64.1	94.0	-29.9	None
9	4121.176M	34.3	+29.4	+0.0	63.7	94.0	-30.3	None
10	824.099M	65.5	+30.4	+0.0	95.9	137.0	-41.1	None

Test Location: CKC Laboratories • 5473A Clouds Rest • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **Wilson Electronics**
 Specification: **FCC 22.917**
 Work Order #: **81892** Date: 02/24/2004
 Test Type: **Antenna Terminals** Time: 15:56:35
 Equipment: **Bidirectional Amplifier Repeater** Sequence#: 32
 Manufacturer: Wilson Electronics Tested By: Mike Wilkinson
 Model: 801101
 S/N: AV3-009920

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8566B SA	2209A01404	02/26/2003	02/26/2005	00490
HP 8566B SA	2403A08241	02/26/2003	02/26/2005	00489
Display				
HP 85650A QPA	2811A01267	02/26/2003	02/26/2005	00478
Bird Attenuator, 25A- MFN-30	9724	05/08/2003	05/08/2005	P01577

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Bidirectional Amplifier Repeater*	Wilson Electronics	801101	AV3-009920
Amplifier Power Supply	Wilson Electronics	JOD-48U-36	NA

Support Devices:

Function	Manufacturer	Model #	S/N
Signal Generator	HP	E4432B	US40052283
Signal Generator	HP	8921A	3519A01796
Signal Generator (CDMA Adapter)	HP	83205A	US37461985

Test Conditions / Notes:

EUT is a bidirectional amplifier repeater for the 824 to 894 MHz band. Uplink frequency range 824 - 849 MHz. Downlink frequency range 869 - 894 MHz. Intermodulation Attenuation and Spurious Emissions Test: Two signals are input to the amplifier through a combining network. The input signals are set such that the maximum output is provided at the antenna terminals. The internal ALC of the amplifier limits the maximum power output to a factory set level. Power output is continuously variable and directly proportional to the supplied RF input. Input Modulation: EDGE. Frequencies Tested: Downlink 847.88 MHz, 848.72 MHz. Frequency Range Investigated: 30 MHz to 10 GHz.

Transducer Legend:

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Measurement Data: Reading listed by margin. Test Distance: None

#	Freq MHz	Rdng dB μ V	dB	dB	dB	dB	Dist Table	Corr dB μ V	Spec dB μ V	Margin dB	Polar Ant

Test Location: CKC Laboratories • 5473A Clouds Rest • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **Wilson Electronics**
 Specification: **FCC 22.917**
 Work Order #: **81892** Date: 02/24/2004
 Test Type: **Antenna Terminals** Time: 16:29:04
 Equipment: **Bidirectional Amplifier Repeater** Sequence#: 33
 Manufacturer: Wilson Electronics Tested By: Mike Wilkinson
 Model: 801101
 S/N: AV3-009920

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8566B SA	2209A01404	02/26/2003	02/26/2005	00490
HP 8566B SA	2403A08241	02/26/2003	02/26/2005	00489
Display				
HP 85650A QPA	2811A01267	02/26/2003	02/26/2005	00478
Bird Attenuator, 25A- MFN-30	9724	05/08/2003	05/08/2005	P01577

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
Bidirectional Amplifier Repeater*	Wilson Electronics	801101	AV3-009920
Amplifier Power Supply	Wilson Electronics	JOD-48U-36	NA

Support Devices:

Function	Manufacturer	Model #	S/N
Signal Generator	HP	E4432B	US40052283
Signal Generator	HP	8921A	3519A01796
Signal Generator (CDMA Adapter)	HP	83205A	US37461985

Test Conditions / Notes:

EUT is a bidirectional amplifier repeater for the 824 to 894 MHz band. Uplink frequency range 824 - 849 MHz. Downlink frequency range 869 - 894 MHz. Intermodulation Attenuation and Spurious Emissions Test: Two signals are input to the amplifier through a combining network. The input signals are set such that the maximum output is provided at the antenna terminals. The internal ALC of the amplifier limits the maximum power output to a factory set level. Power output is continuously variable and directly proportional to the supplied RF input. Input Modulation: EDGE. Frequencies Tested: Downlink 824.28 MHz, 848.72 MHz. Frequency Range Investigated: 30 MHz to 10 GHz.

Transducer Legend:

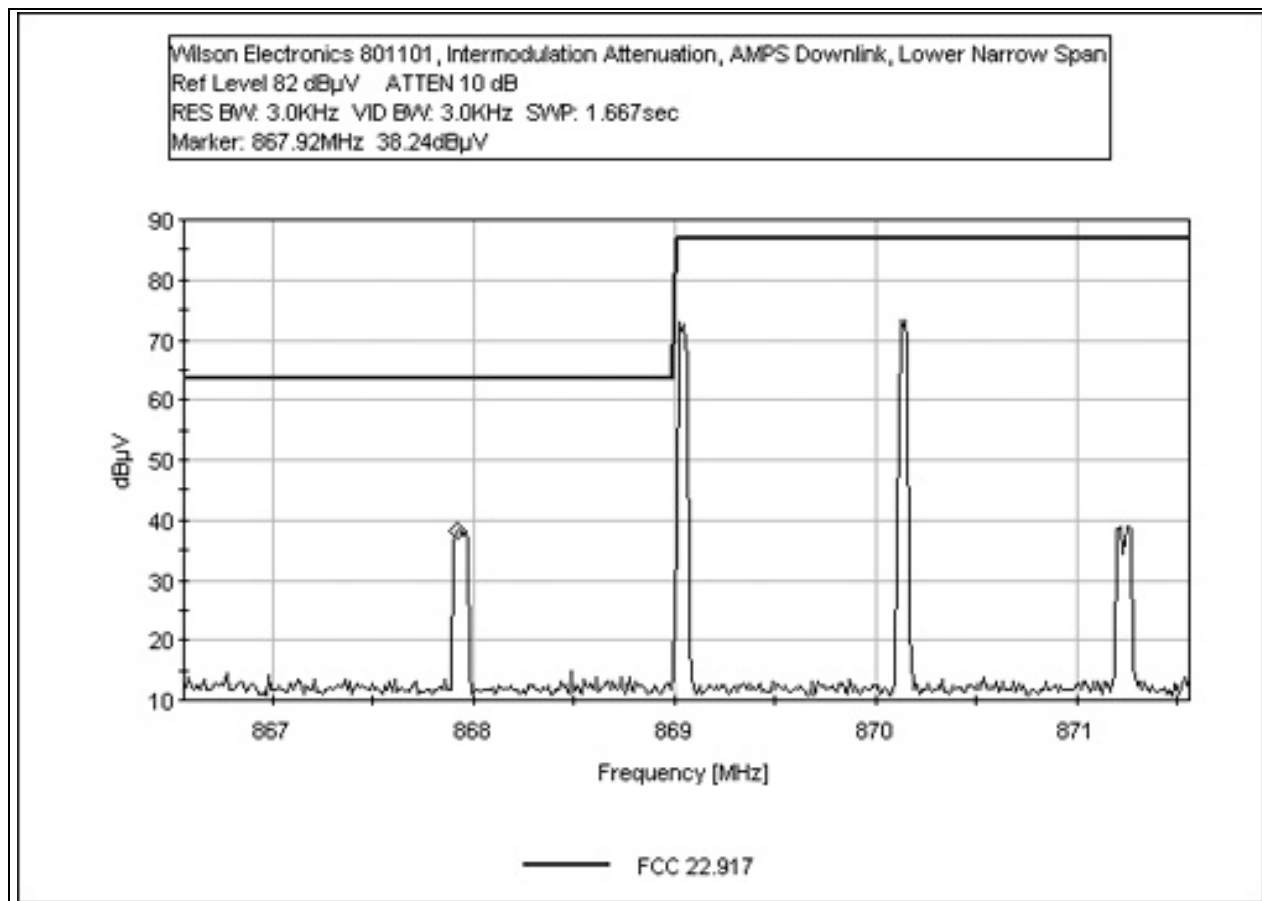
T1=Pad 30dB

Measurement Data: Reading listed by margin. Test Distance: None

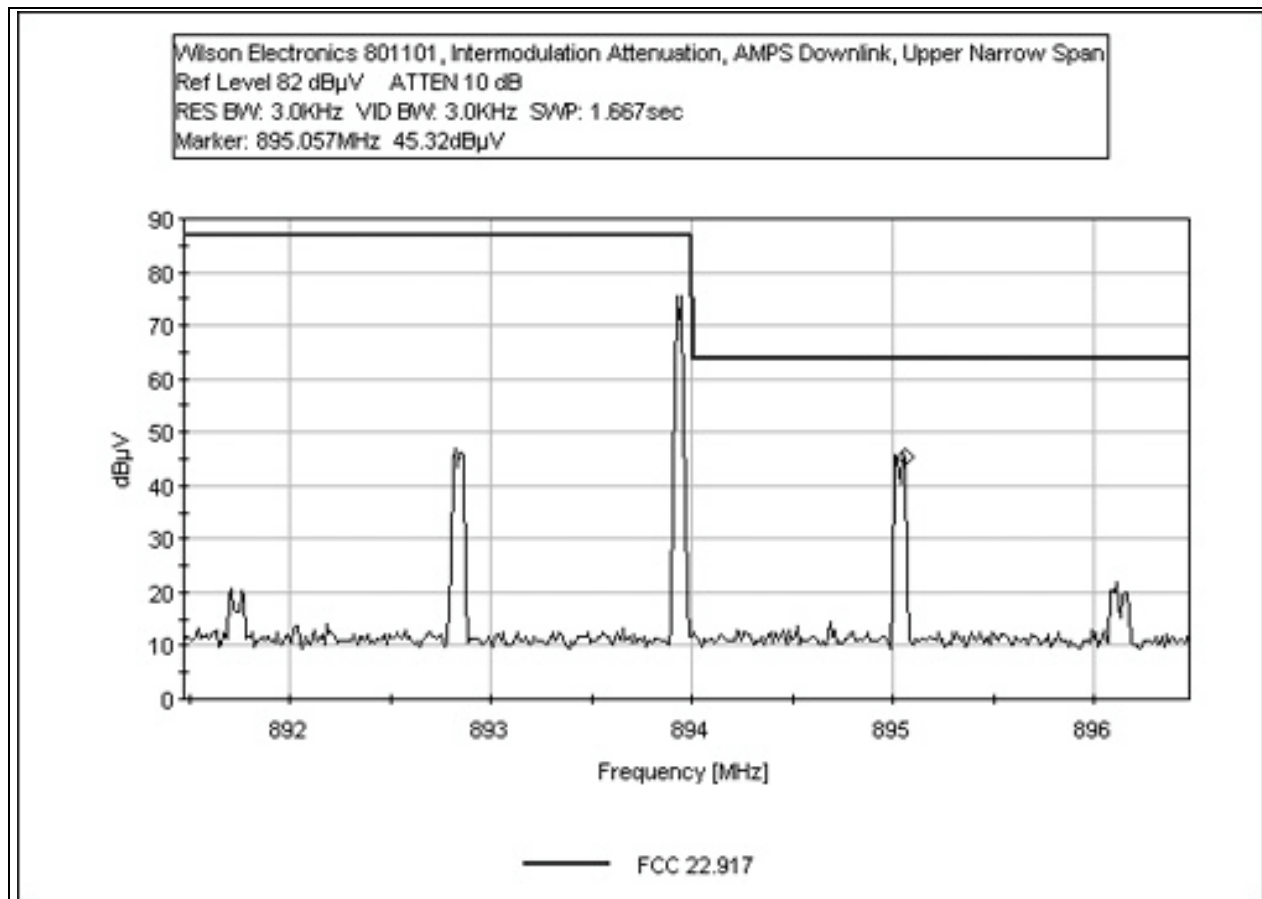
#	Freq MHz	Rdng dBµV	T1 dB	dB	dB	dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	824.268M	97.9	+30.4				+0.0	128.3	137.0	-8.7	None
Fundamental											
2	848.702M	97.8	+30.3				+0.0	128.1	137.0	-8.9	None
Fundamental											
3	824.182M	84.5	+30.4				+0.0	114.9	137.0	-22.1	None

4	1648.560M	39.0	+30.2	+0.0	69.2	94.0	-24.8	None
5	1697.402M	36.5	+30.2	+0.0	66.7	94.0	-27.3	None
6	849.077M	35.8	+30.3	+0.0	66.1	94.0	-27.9	None
7	848.825M	78.7	+30.3	+0.0	109.0	137.0	-28.0	None
8	2546.915M	35.2	+30.0	+0.0	65.2	94.0	-28.8	None
9	823.792M	34.0	+30.4	+0.0	64.4	94.0	-29.6	None
10	823.912M	33.2	+30.4	+0.0	63.6	94.0	-30.4	None
11	849.106M	32.5	+30.3	+0.0	62.8	94.0	-31.2	None
12	2472.804M	32.1	+30.1	+0.0	62.2	94.0	-31.8	None
13	824.150M	72.5	+30.4	+0.0	102.9	137.0	-34.1	None
14	824.120M	65.9	+30.4	+0.0	96.3	137.0	-40.7	None
15	848.865M	66.0	+30.3	+0.0	96.3	137.0	-40.7	None
16	824.098M	65.4	+30.4	+0.0	95.8	137.0	-41.2	None
17	848.934M	59.0	+30.3	+0.0	89.3	137.0	-47.7	None
18	824.042M	53.0	+30.4	+0.0	83.4	137.0	-53.6	None
19	848.968M	45.7	+30.3	+0.0	76.0	137.0	-61.0	None
20	824.010M	43.2	+30.4	+0.0	73.6	137.0	-63.4	None

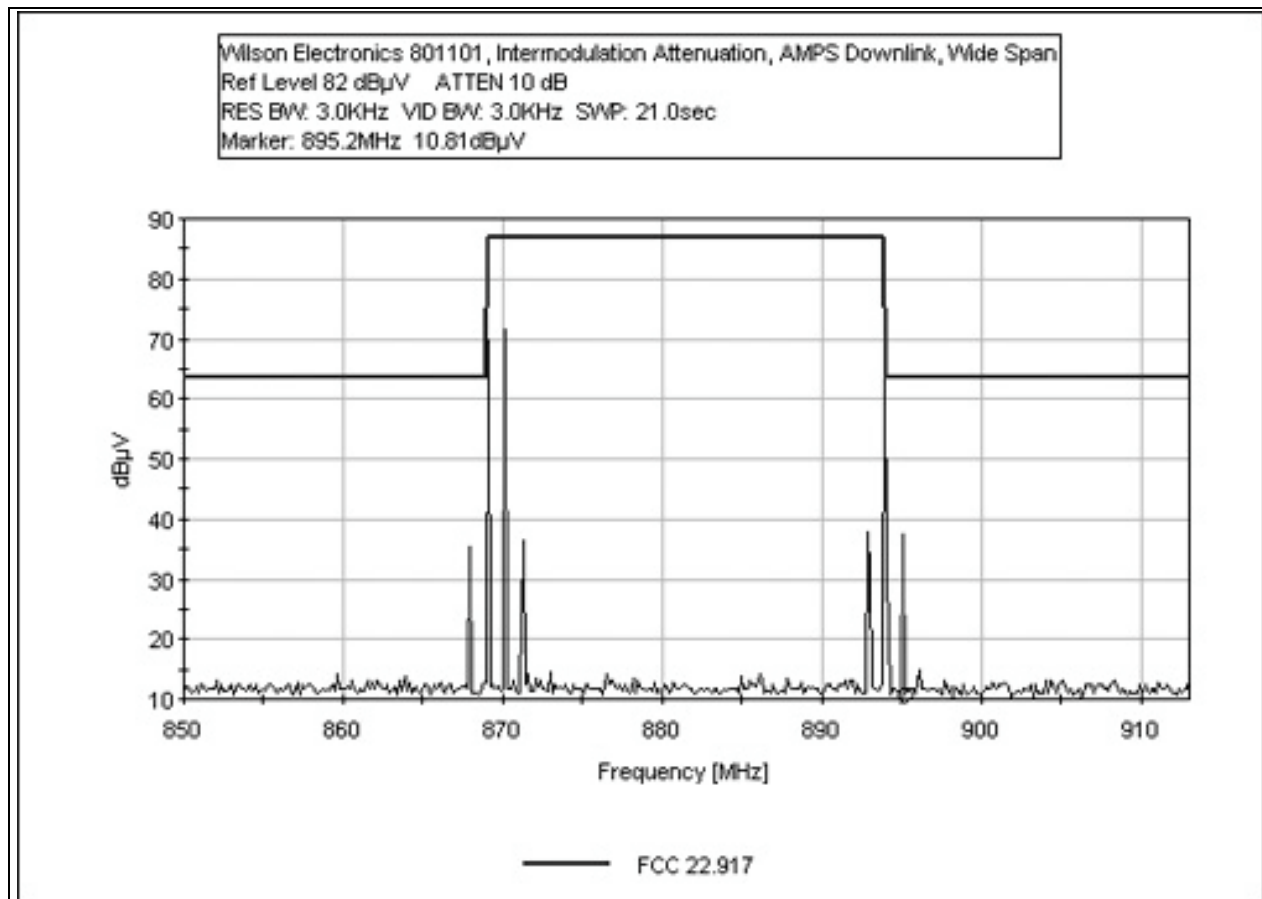
Intermodulation Attenuation Downlink AMPS Lower Narrow Span



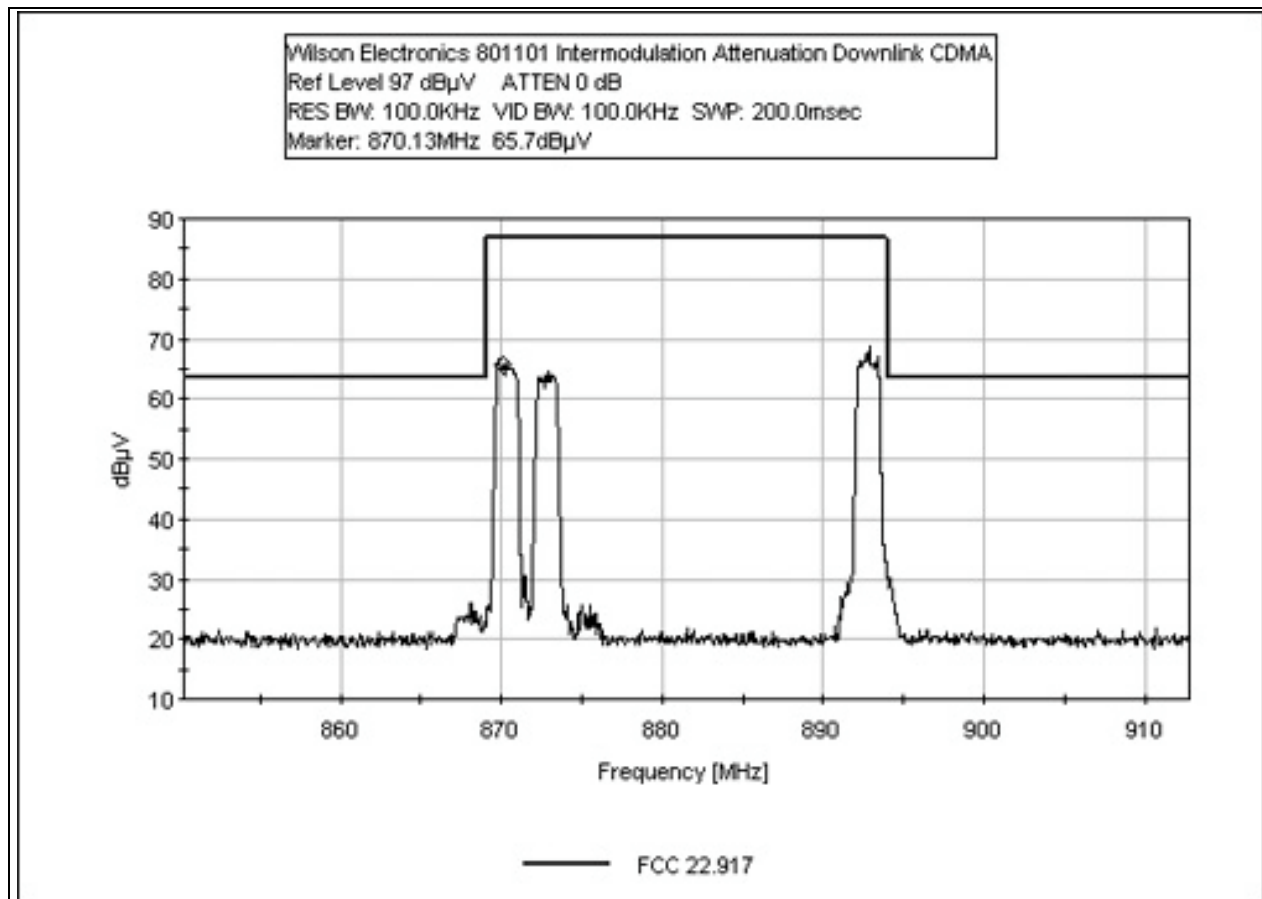
Intermodulation Attenuation Downlink AMPS Upper Narrow Span



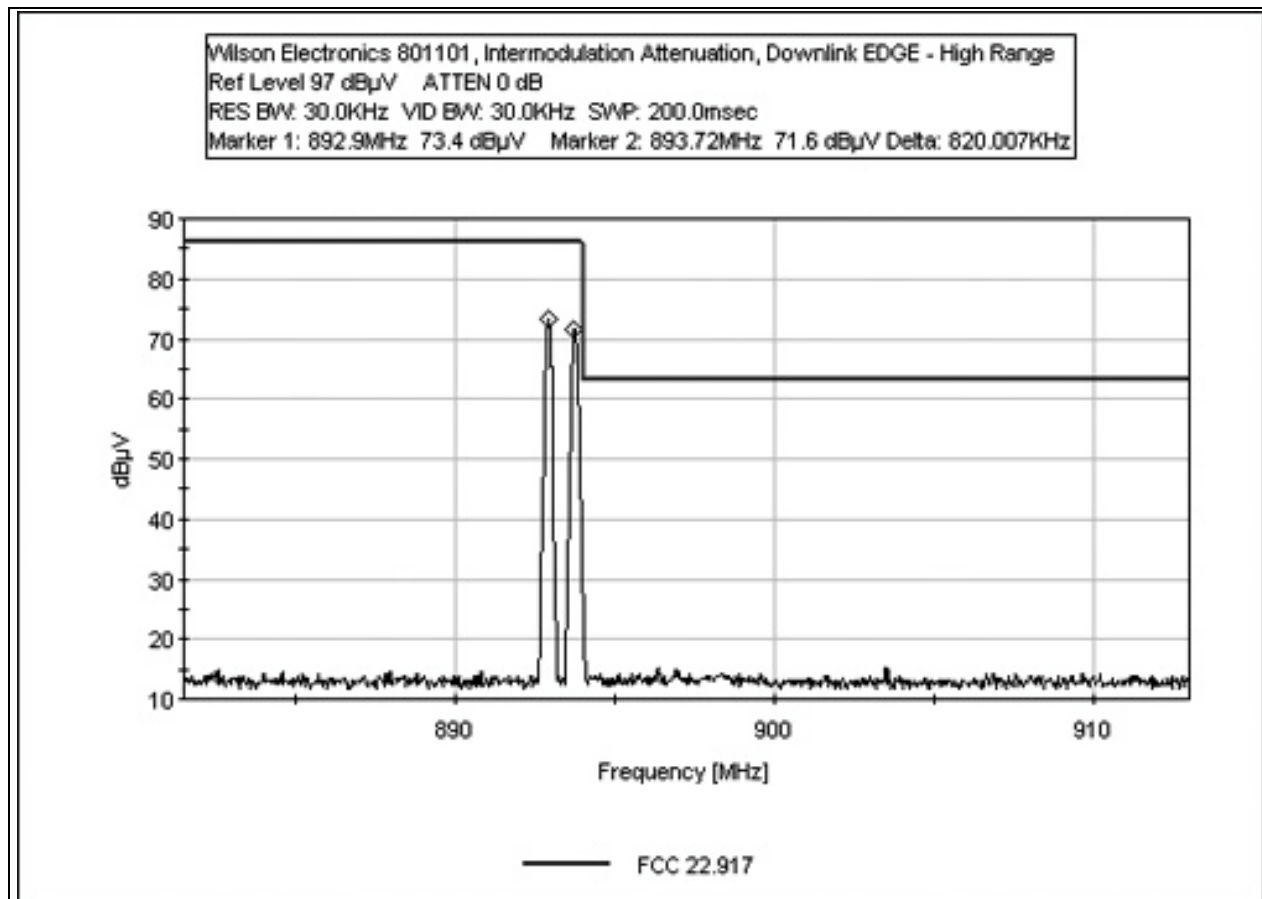
Intermodulation Attenuation Downlink AMPS Wide Span



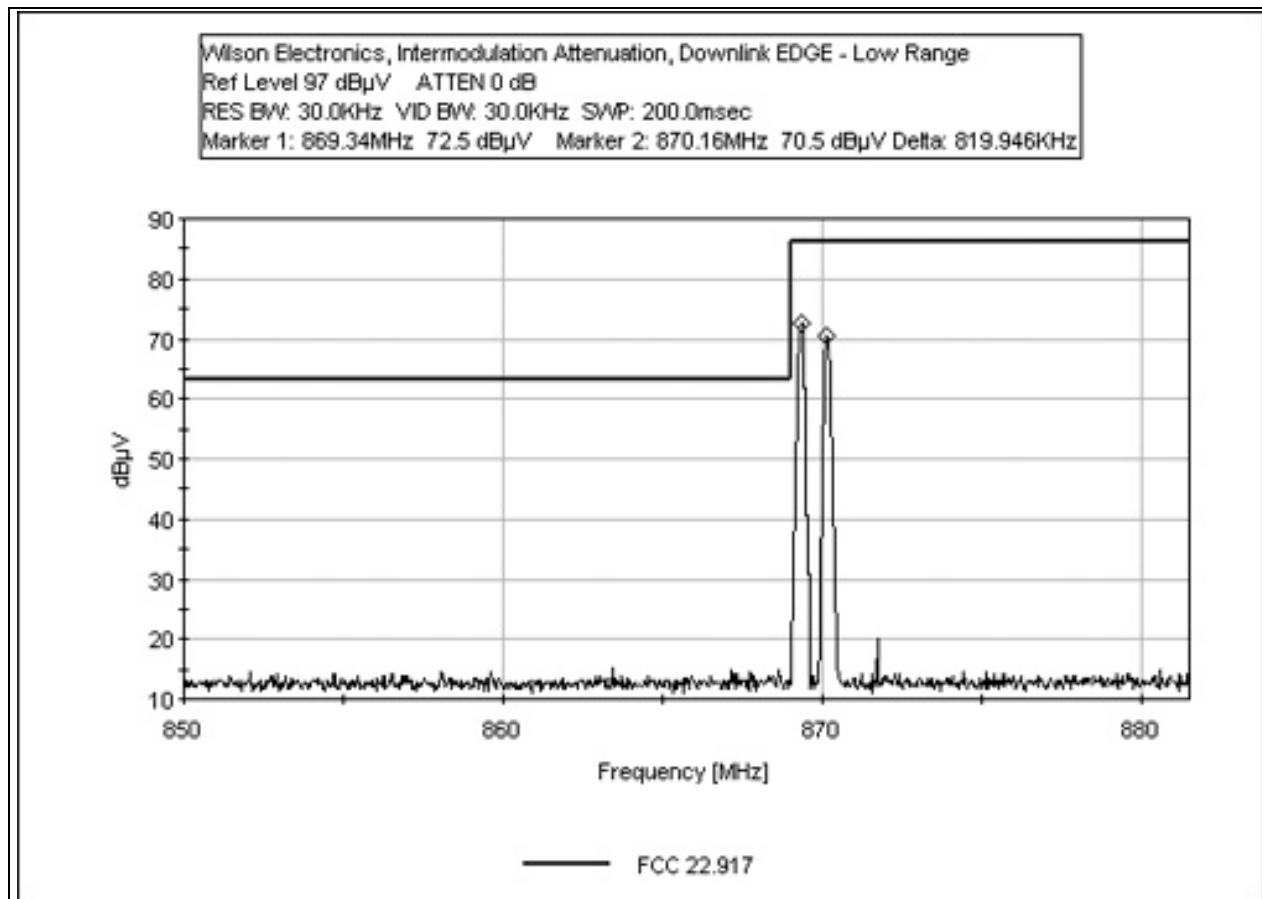
Intermodulation Attenuation Downlink CDMA



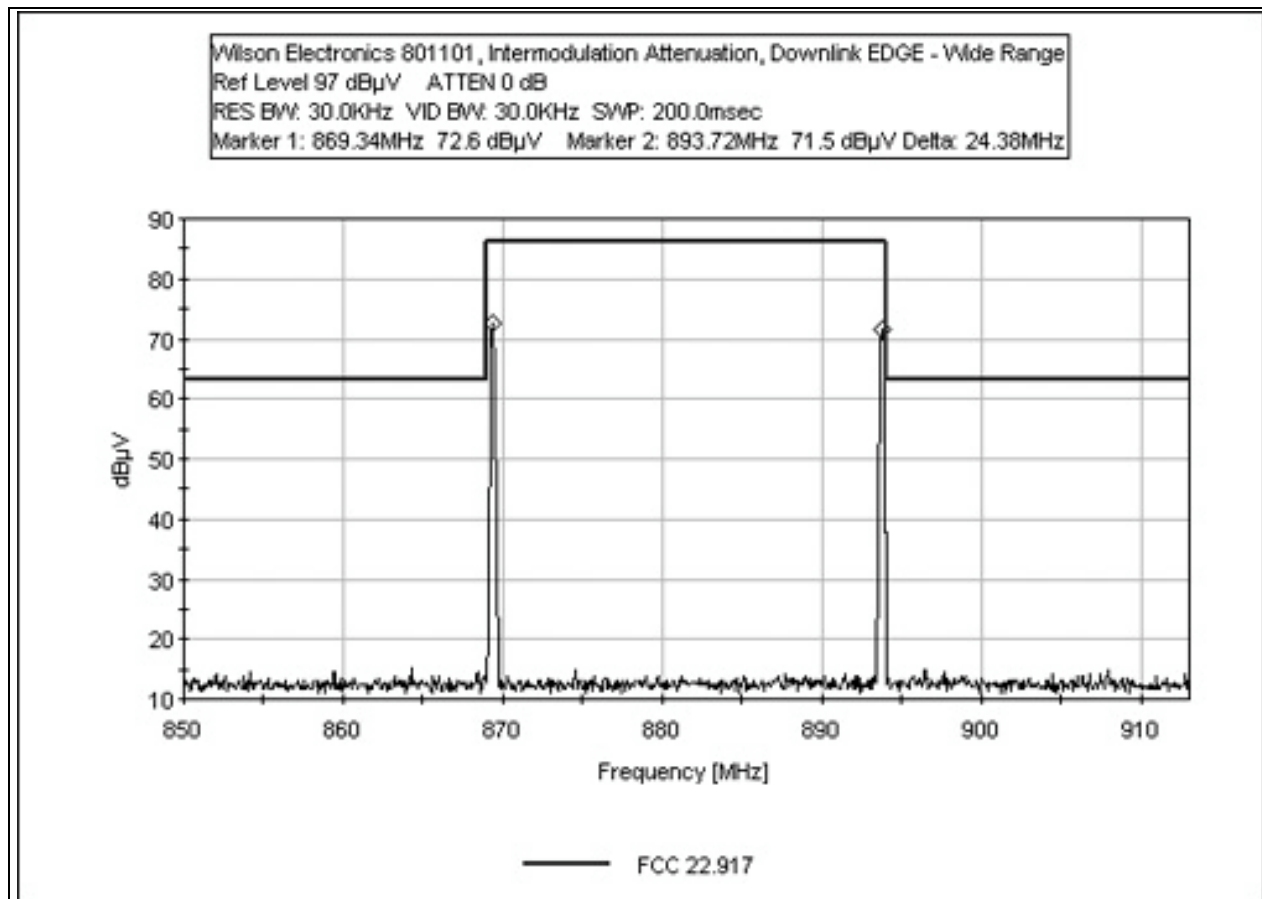
Intermodulation Attenuation Downlink Edge High Range



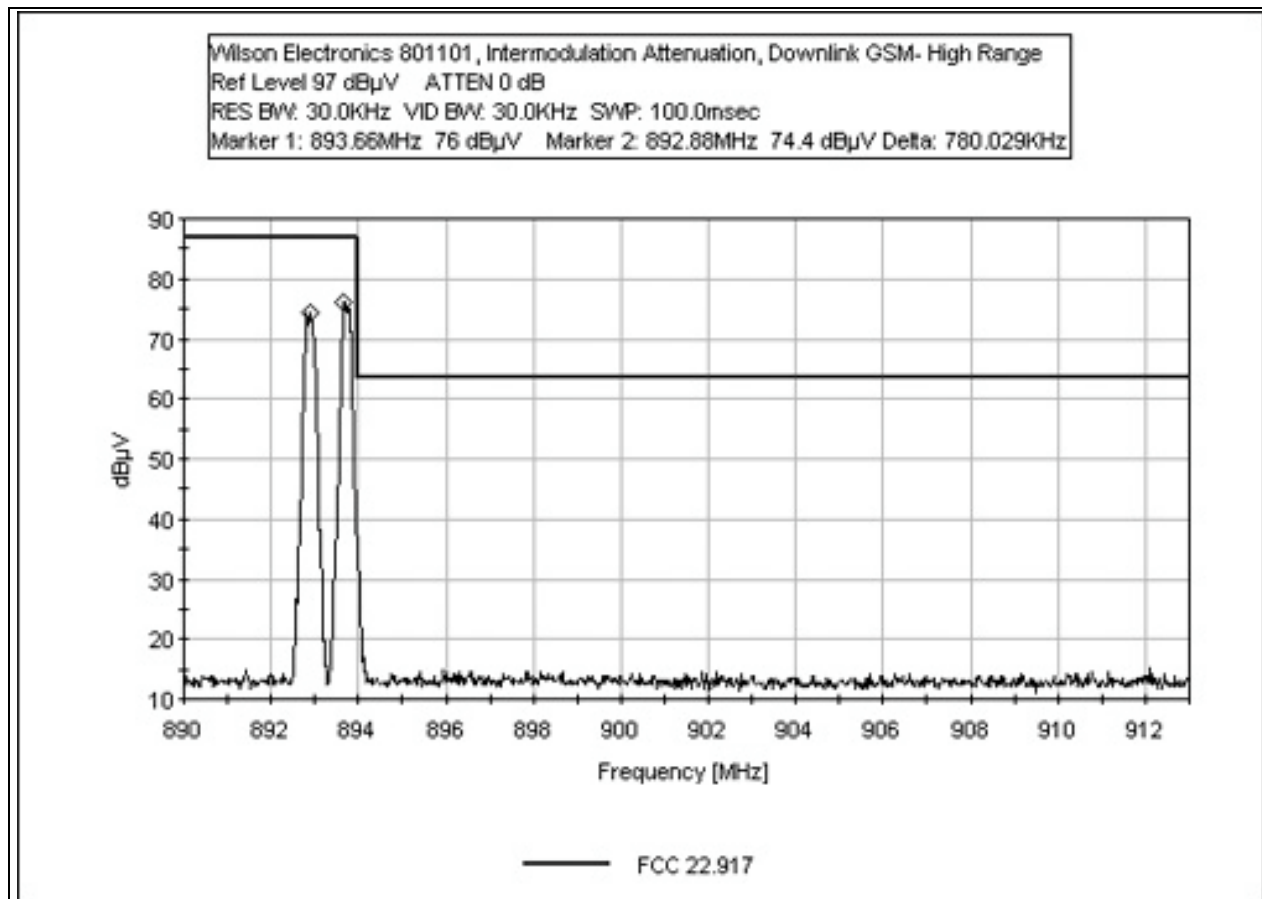
Intermodulation Attenuation Downlink Edge Low Range



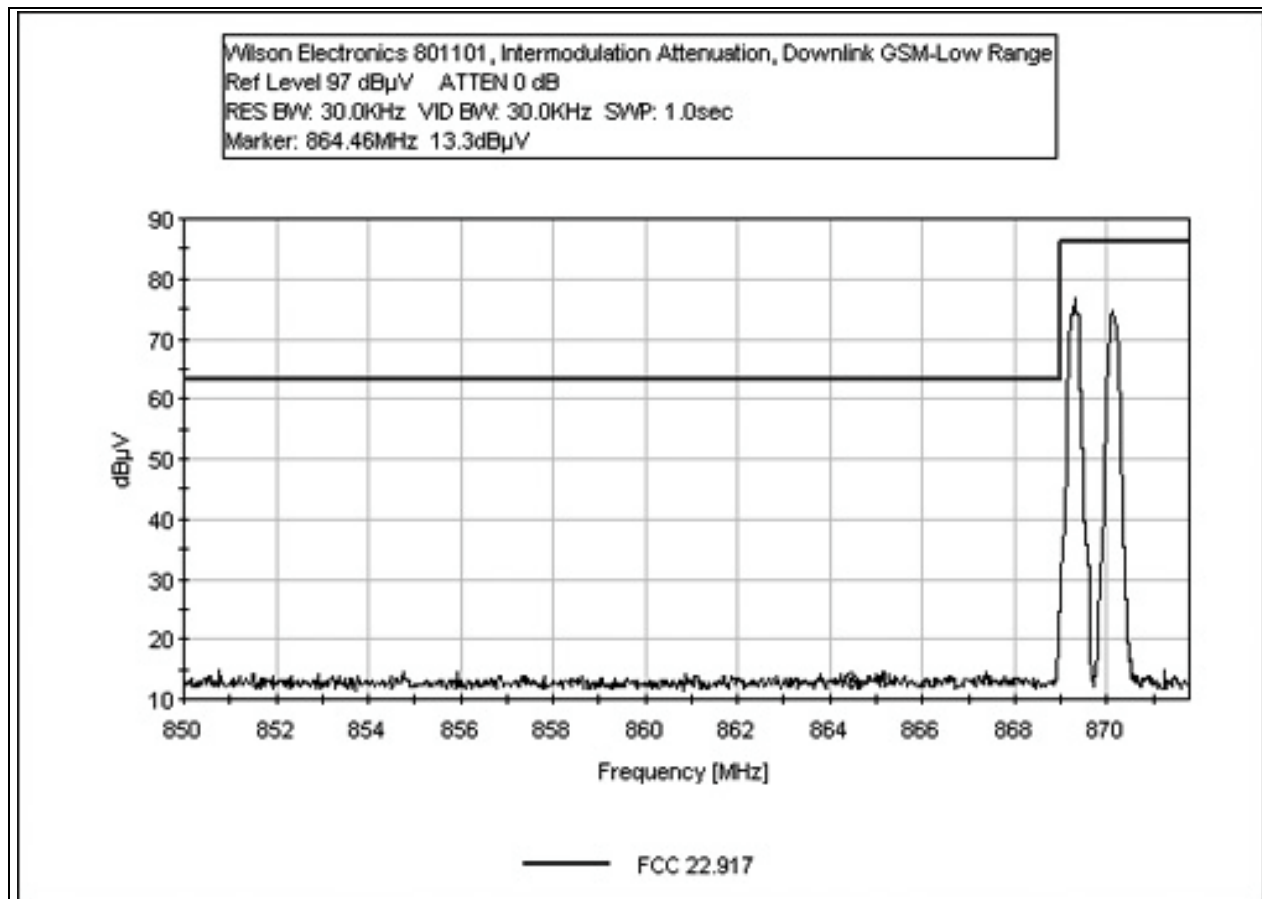
Intermodulation Attenuation Downlink Edge Wide Range



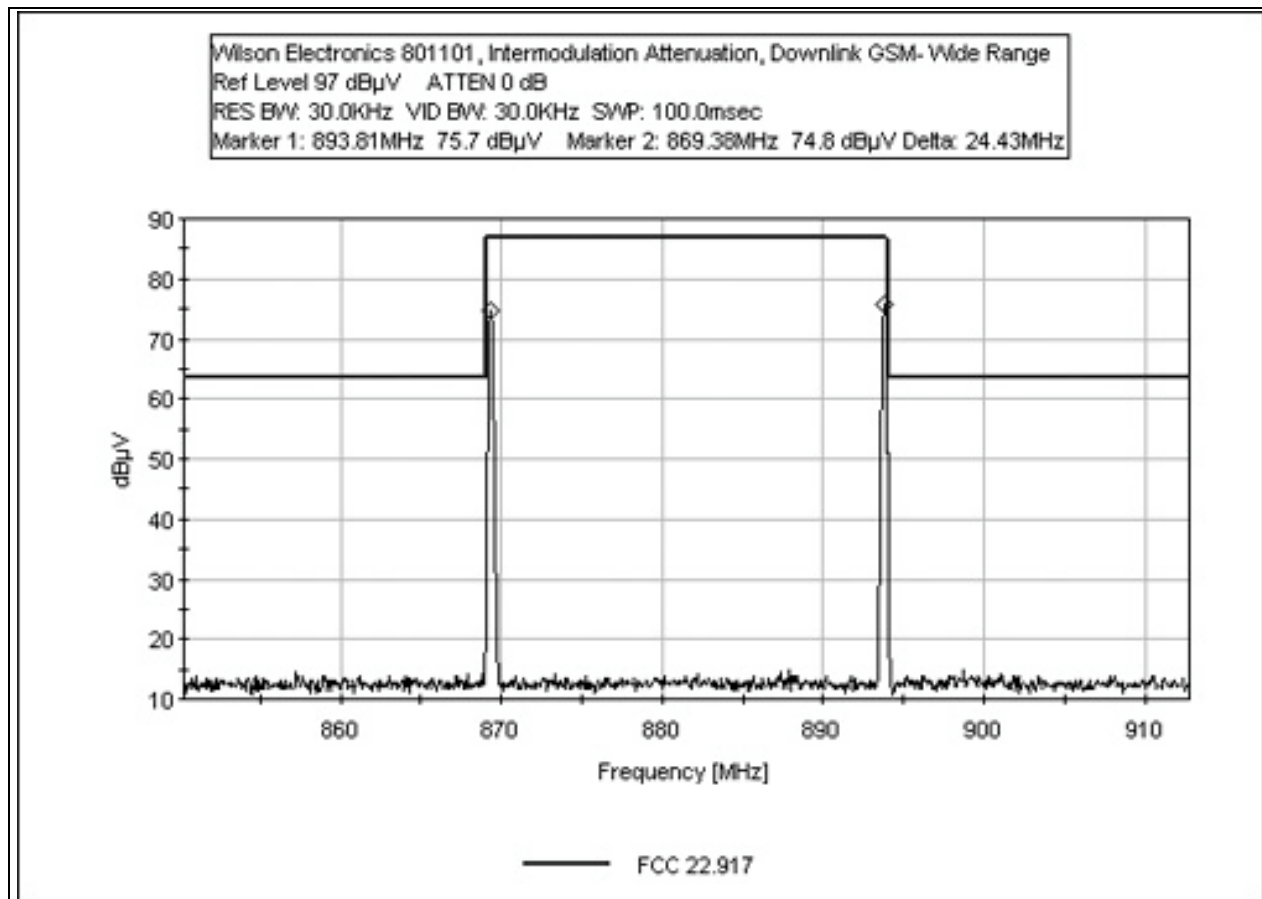
Intermodulation Attenuation Downlink GSM High Range



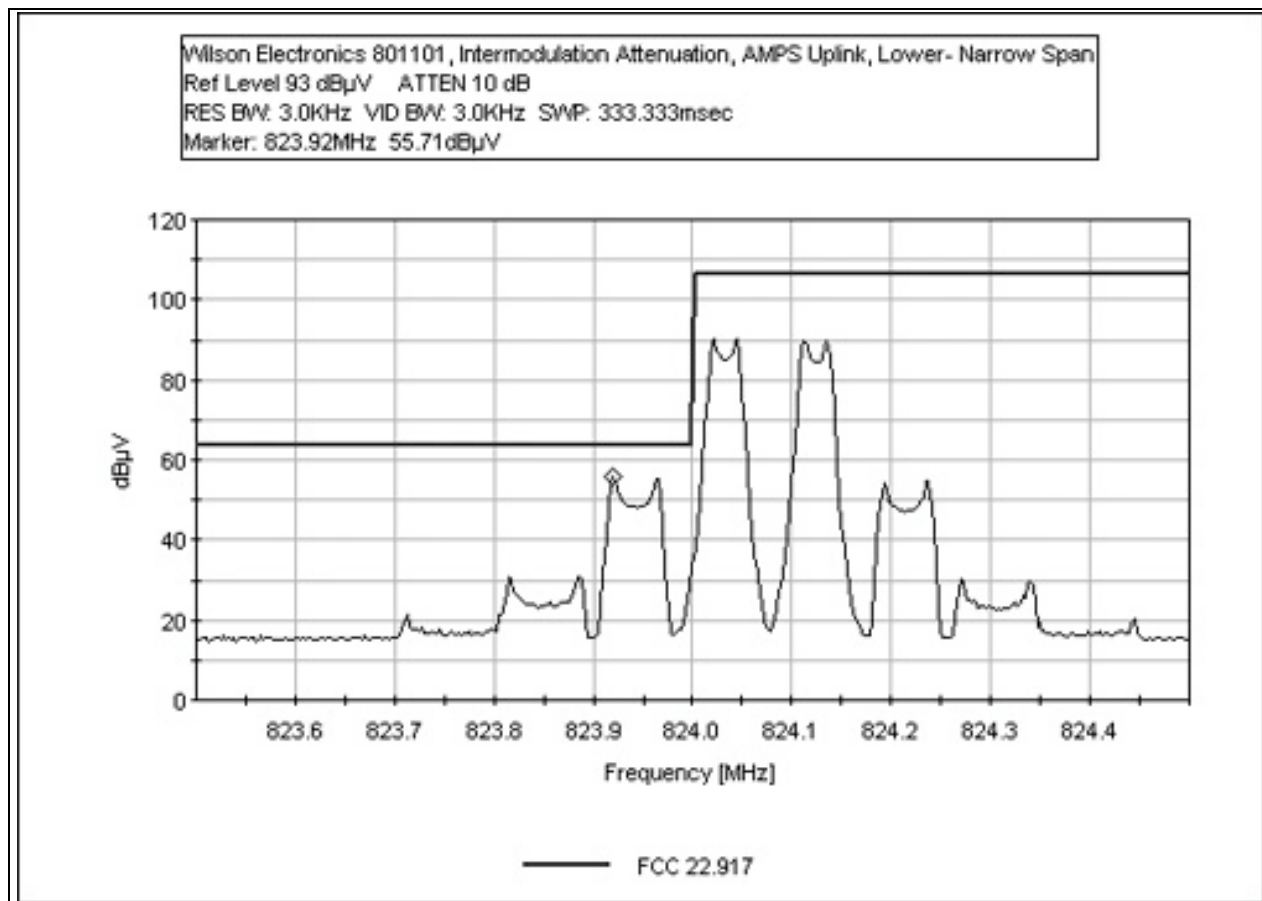
Intermodulation Attenuation Downlink GSM Low Range



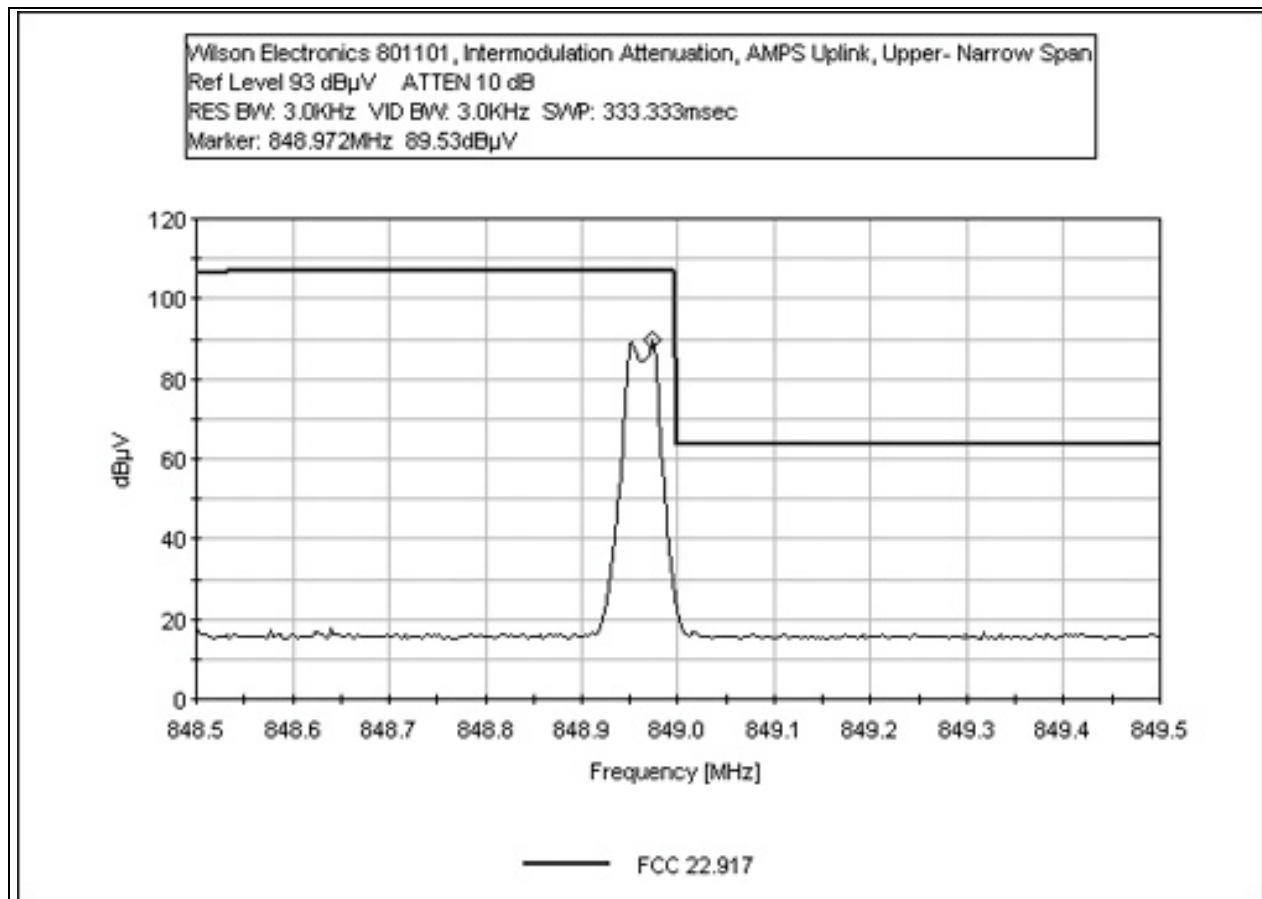
Intermodulation Attenuation Downlink GSM Wide Range



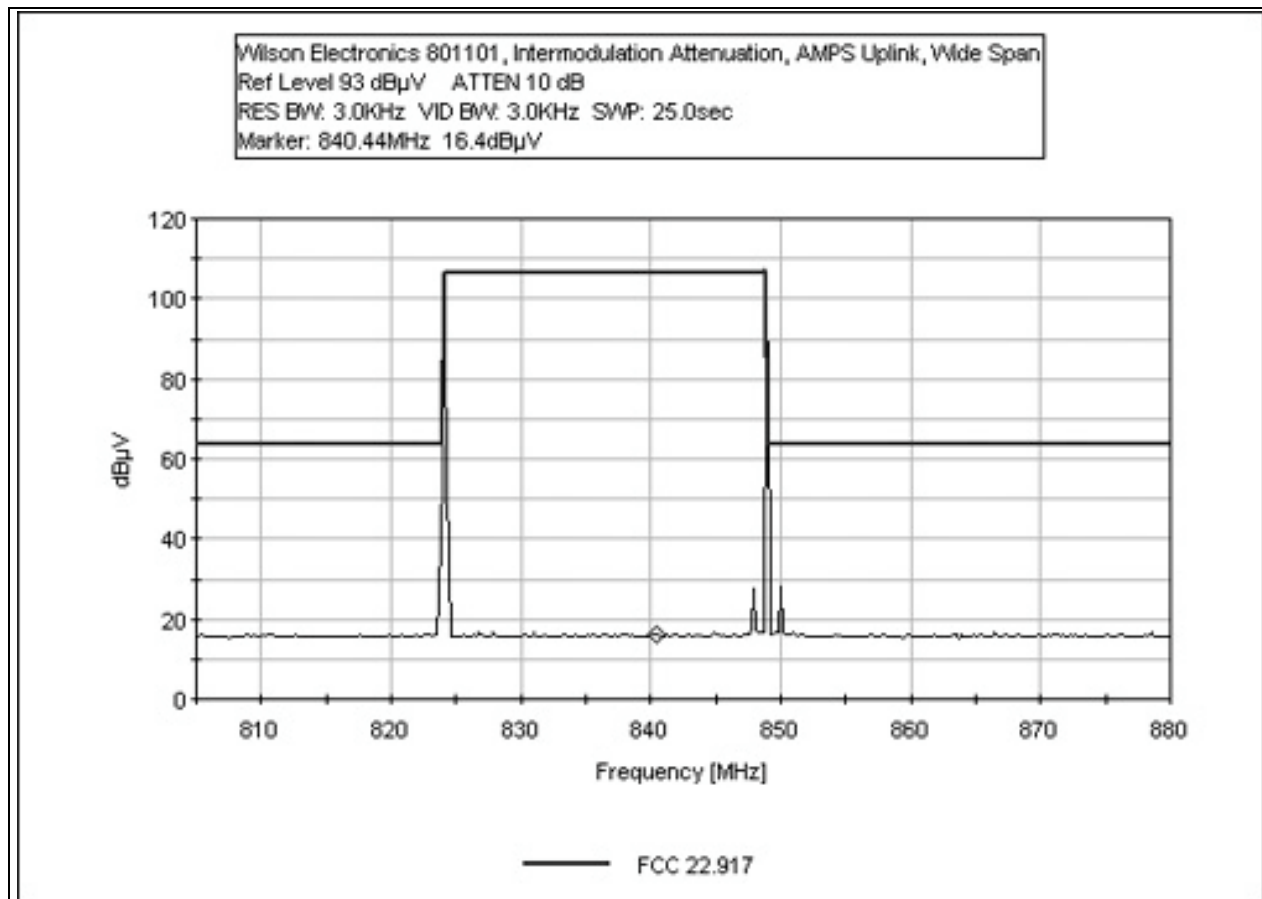
Intermodulation Attenuation Uplink AMPS Lower Narrow Span



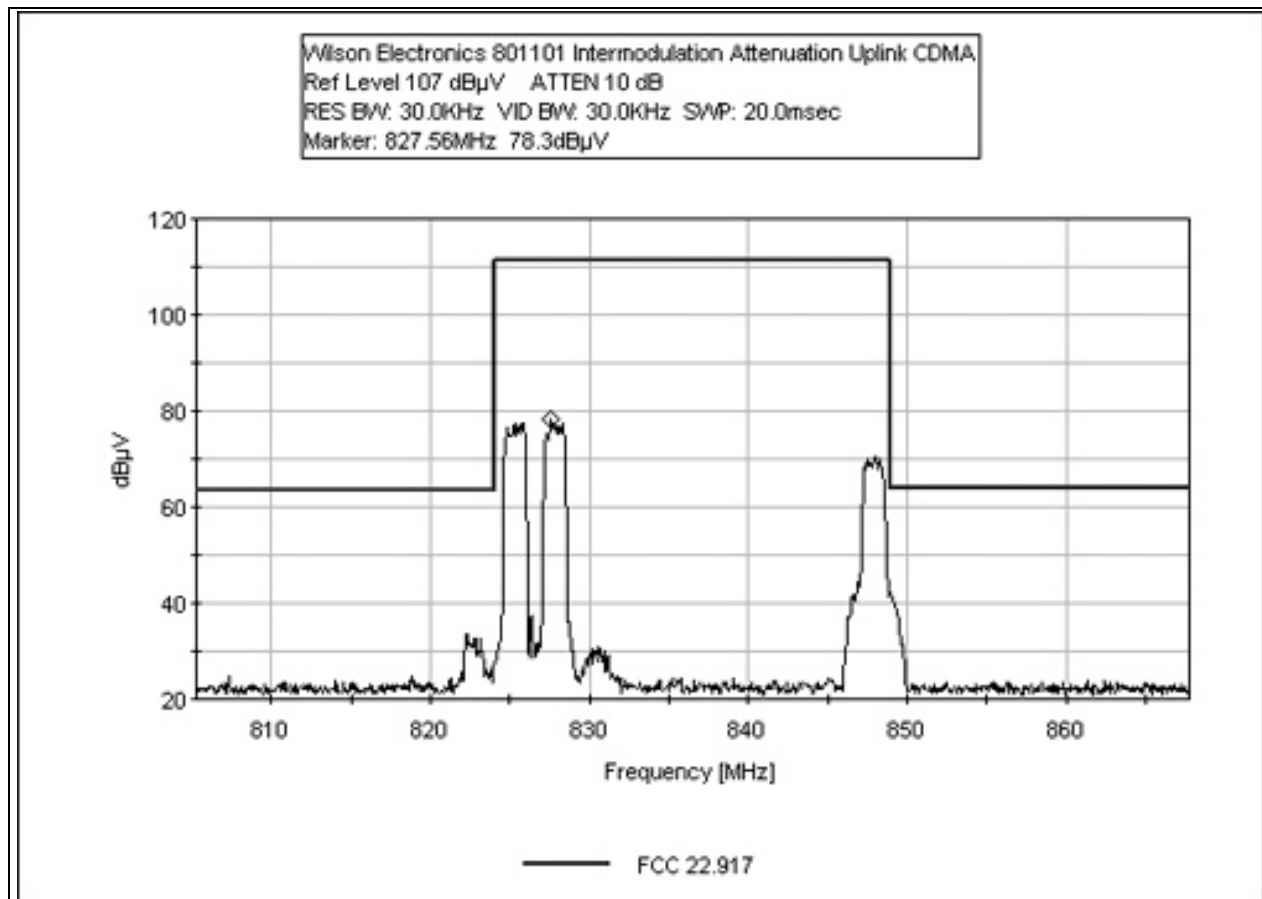
Intermodulation Attenuation Uplink AMPS Upper Narrow Span



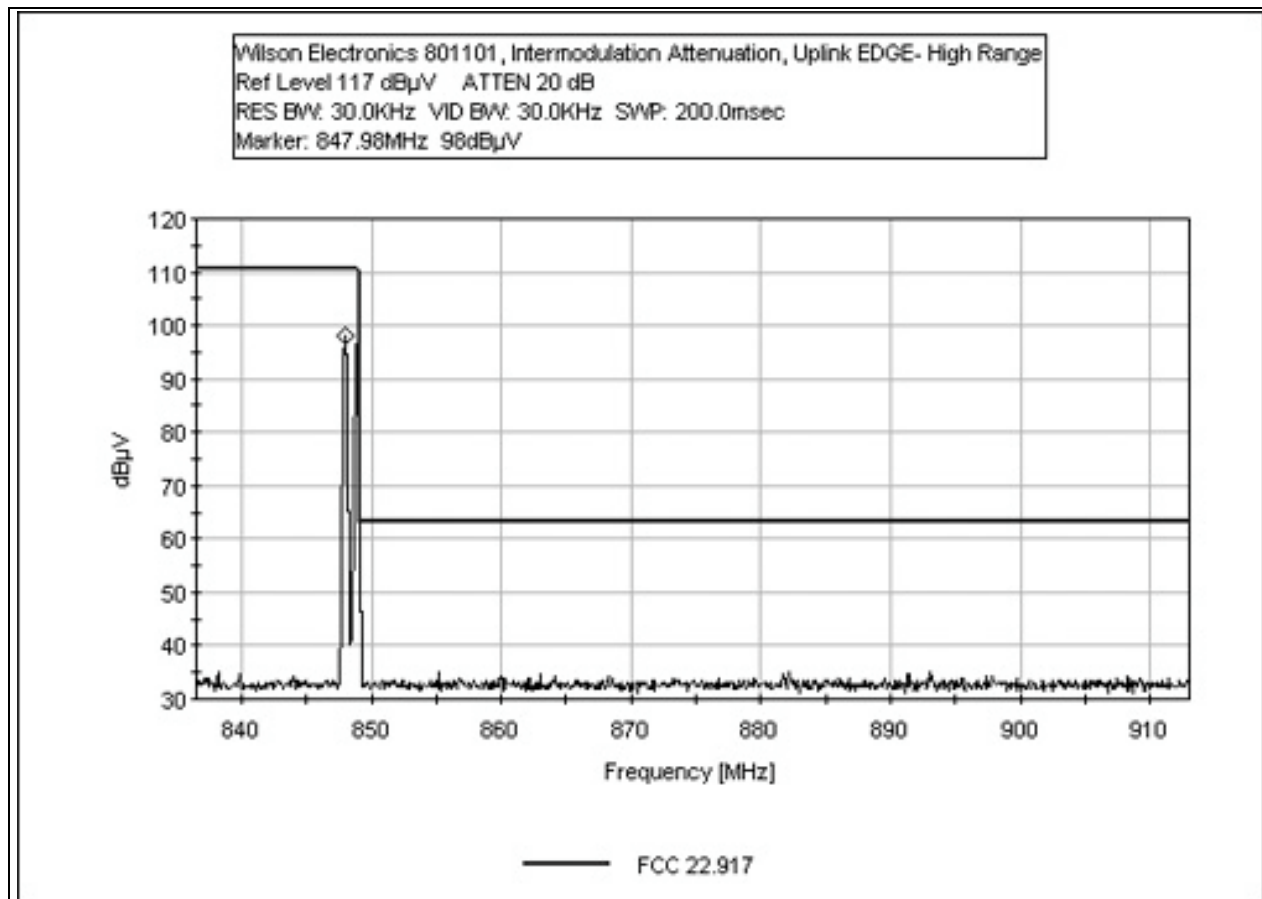
Intermodulation Attenuation Uplink AMPS Wide Span



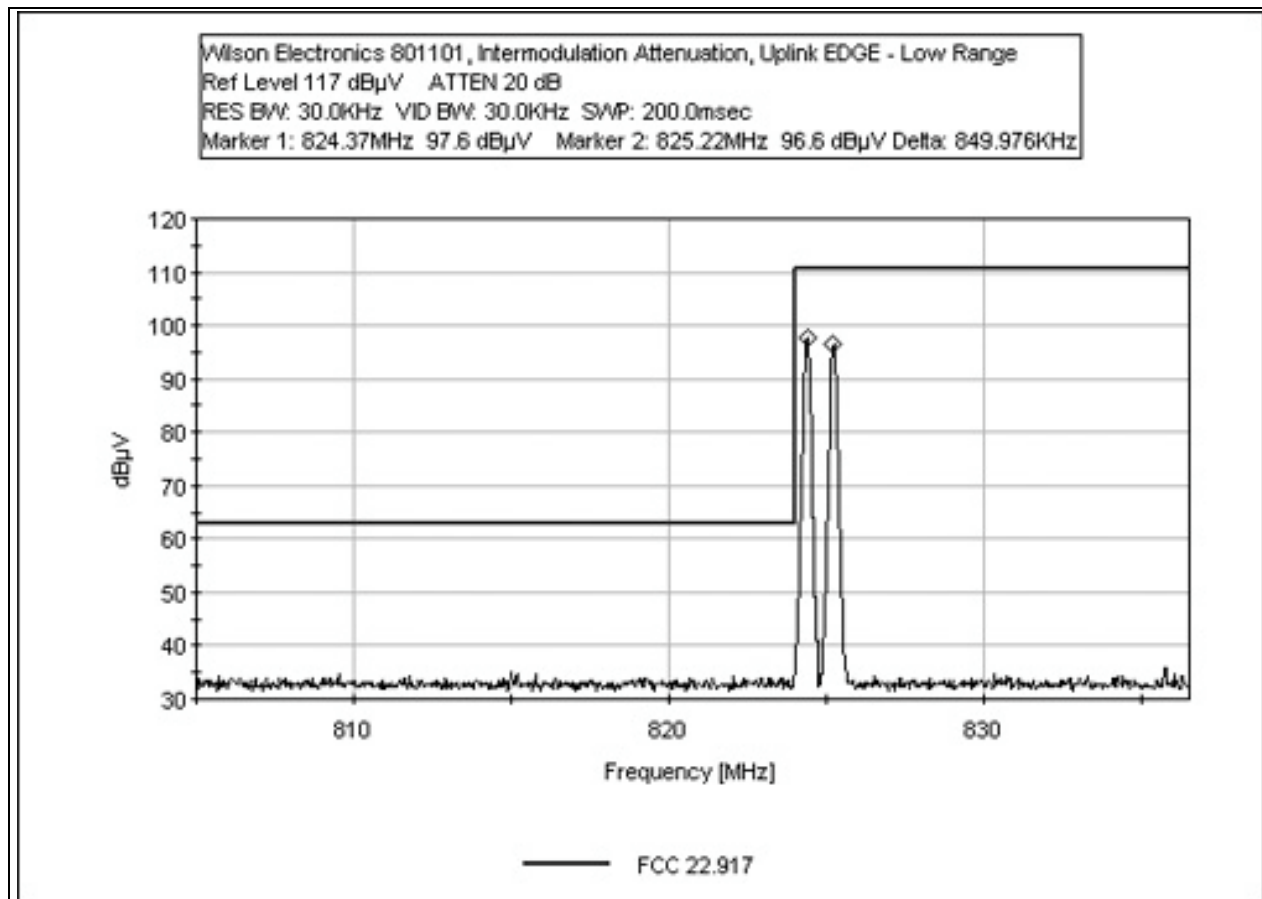
Intermodulation Attenuation Uplink CDMA



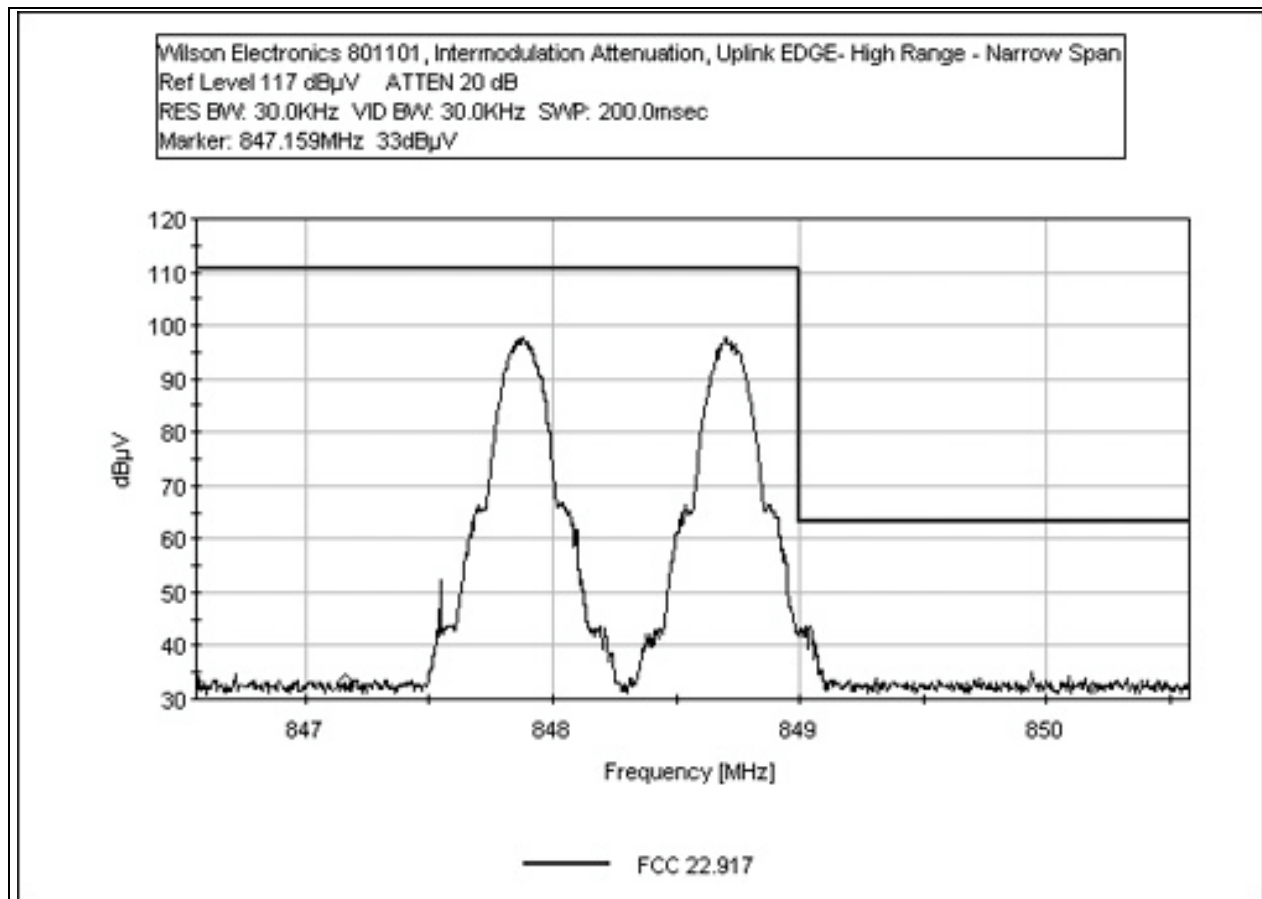
Intermodulation Attenuation Uplink Edge High Range



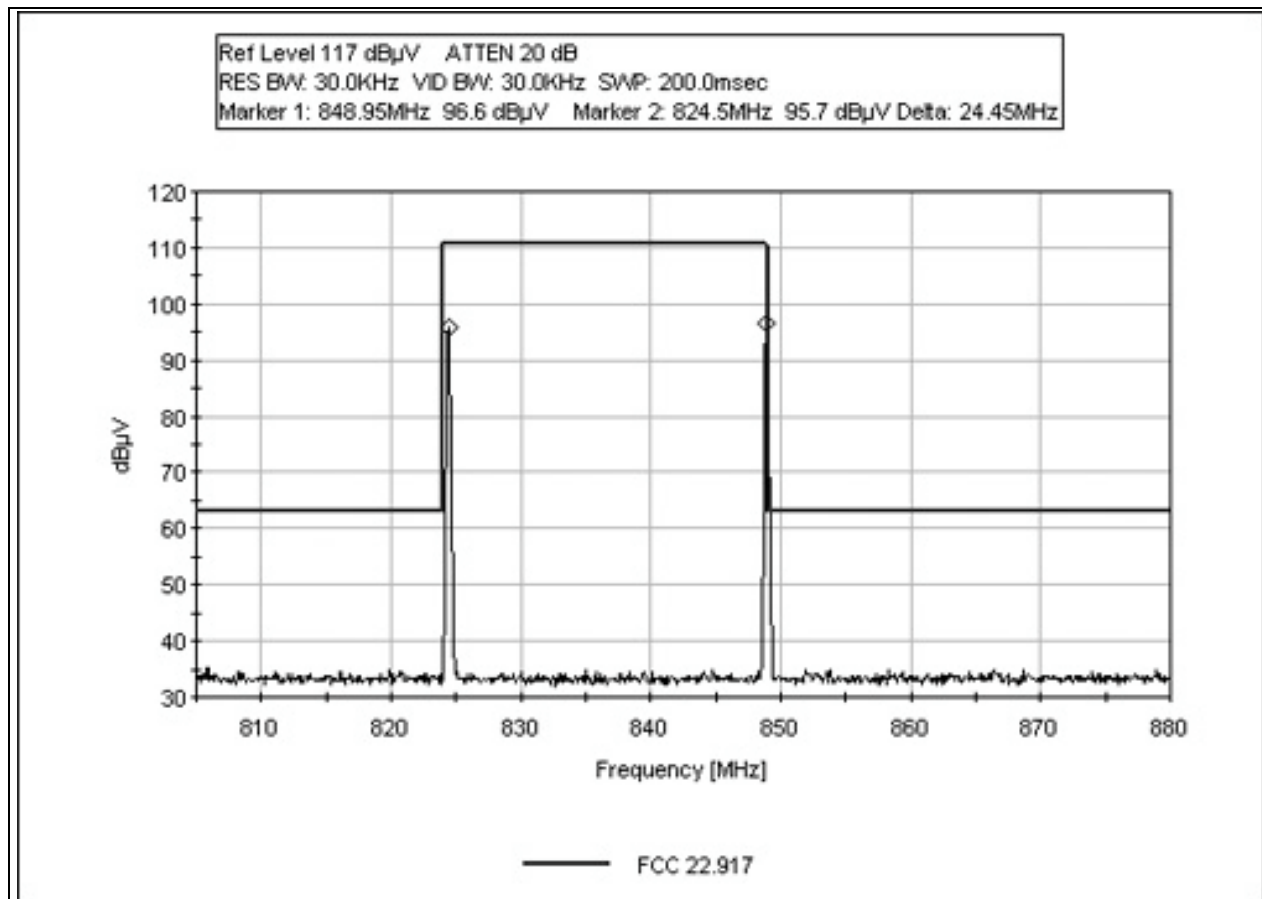
Intermodulation Attenuation Uplink EDGE Low Range



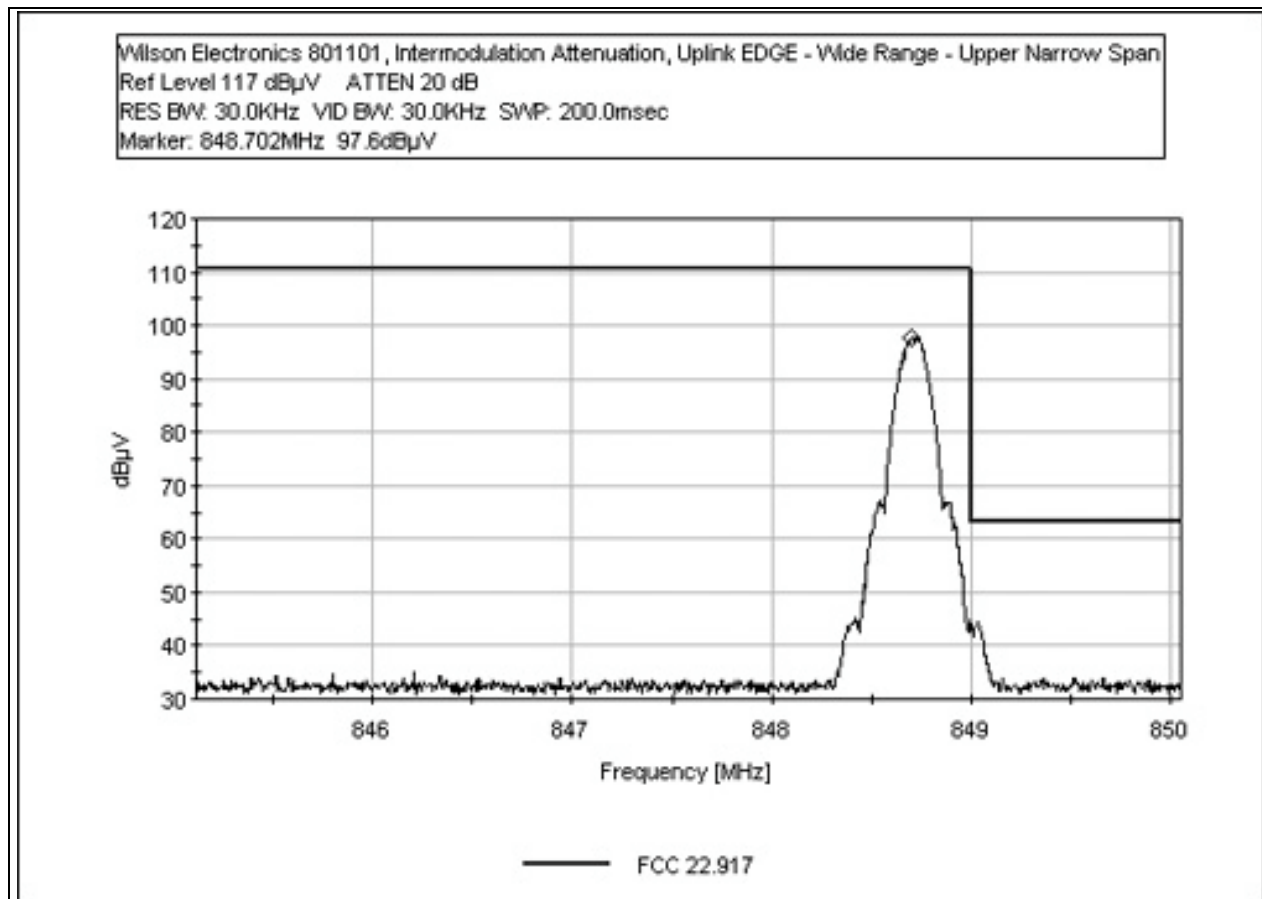
Intermodulation Attenuation Uplink EDGE High Range Narrow Span



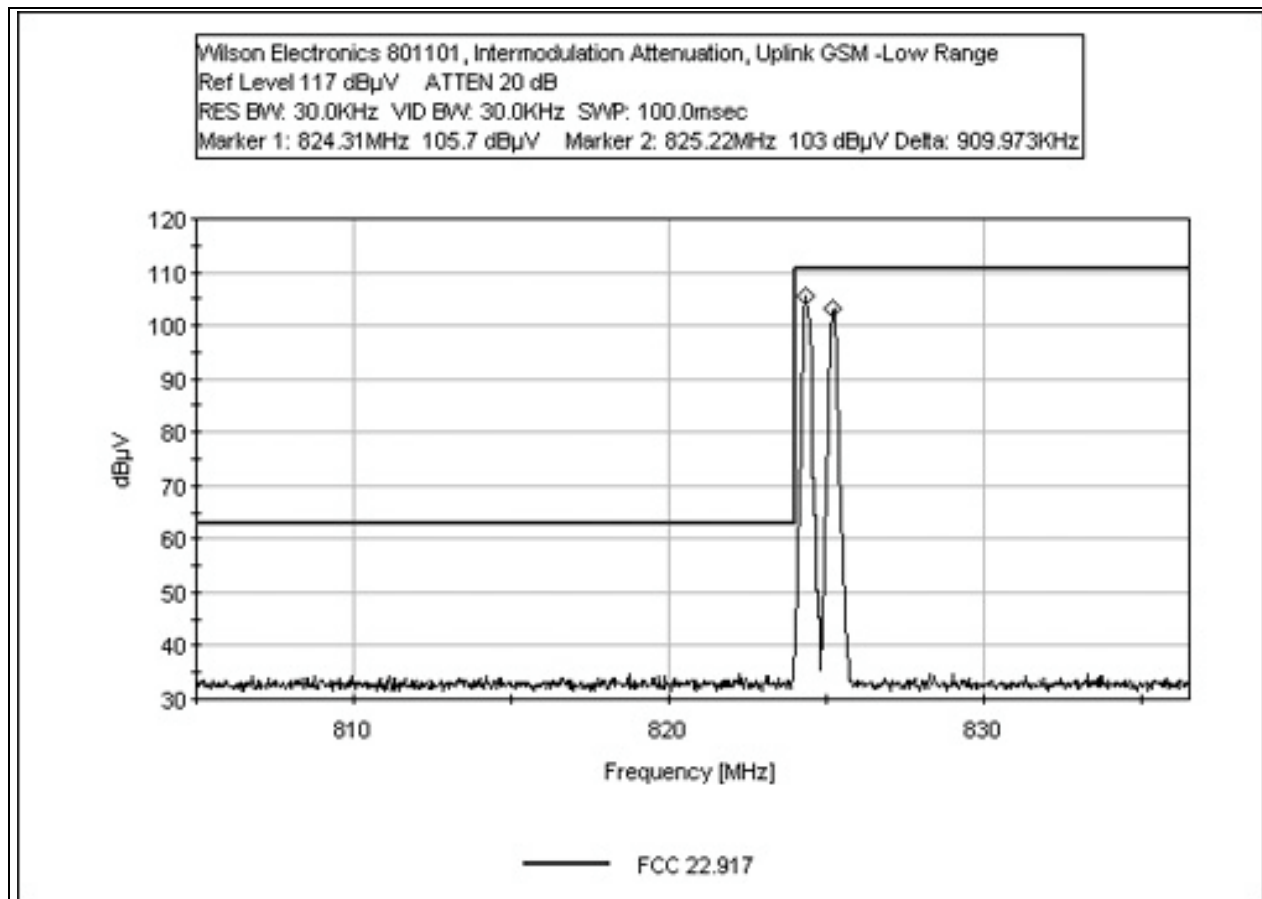
Intermodulation Attenuation Uplink EDGE Wide Range



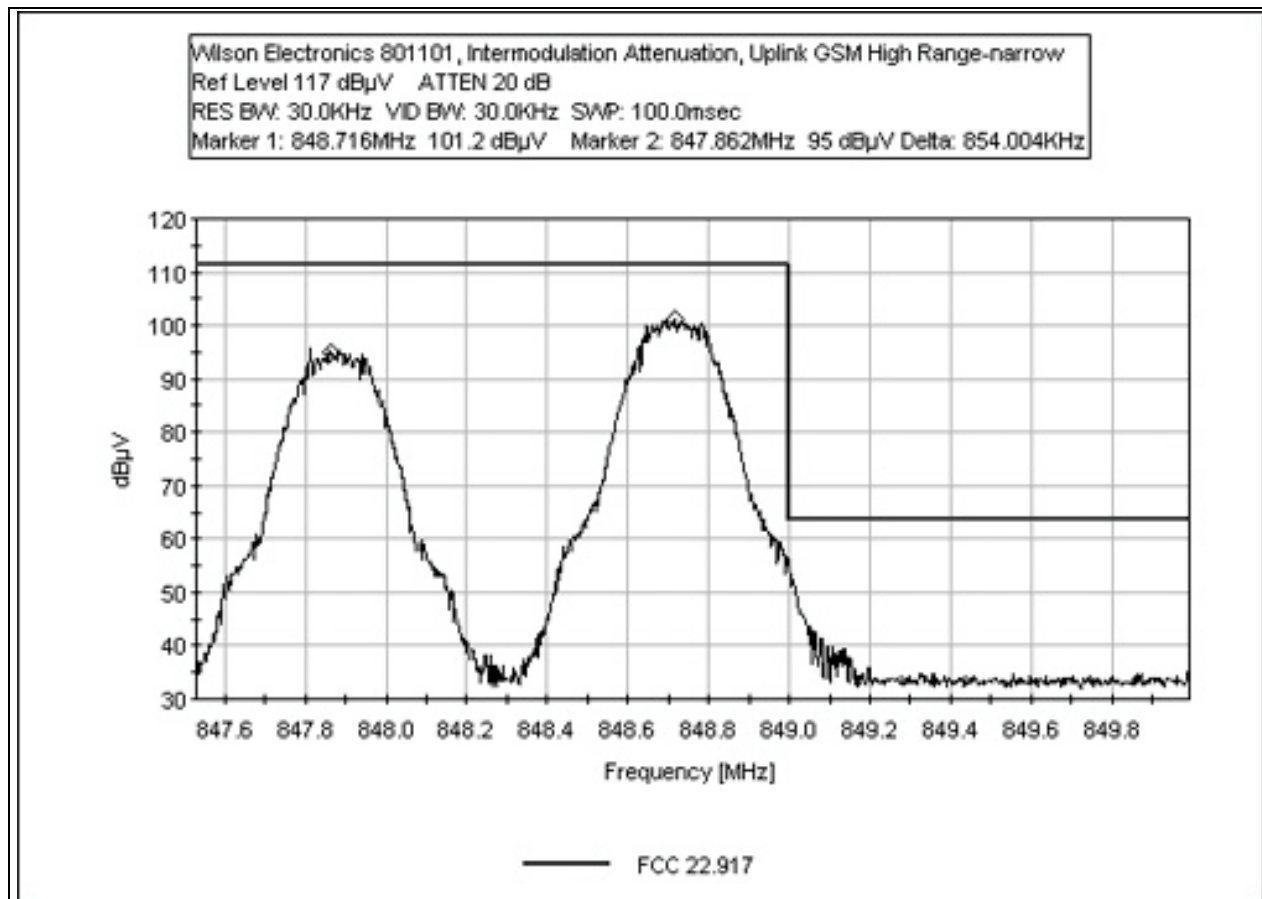
Intermodulation Attenuation Uplink EDGE Wide Range Upper Narrow Span



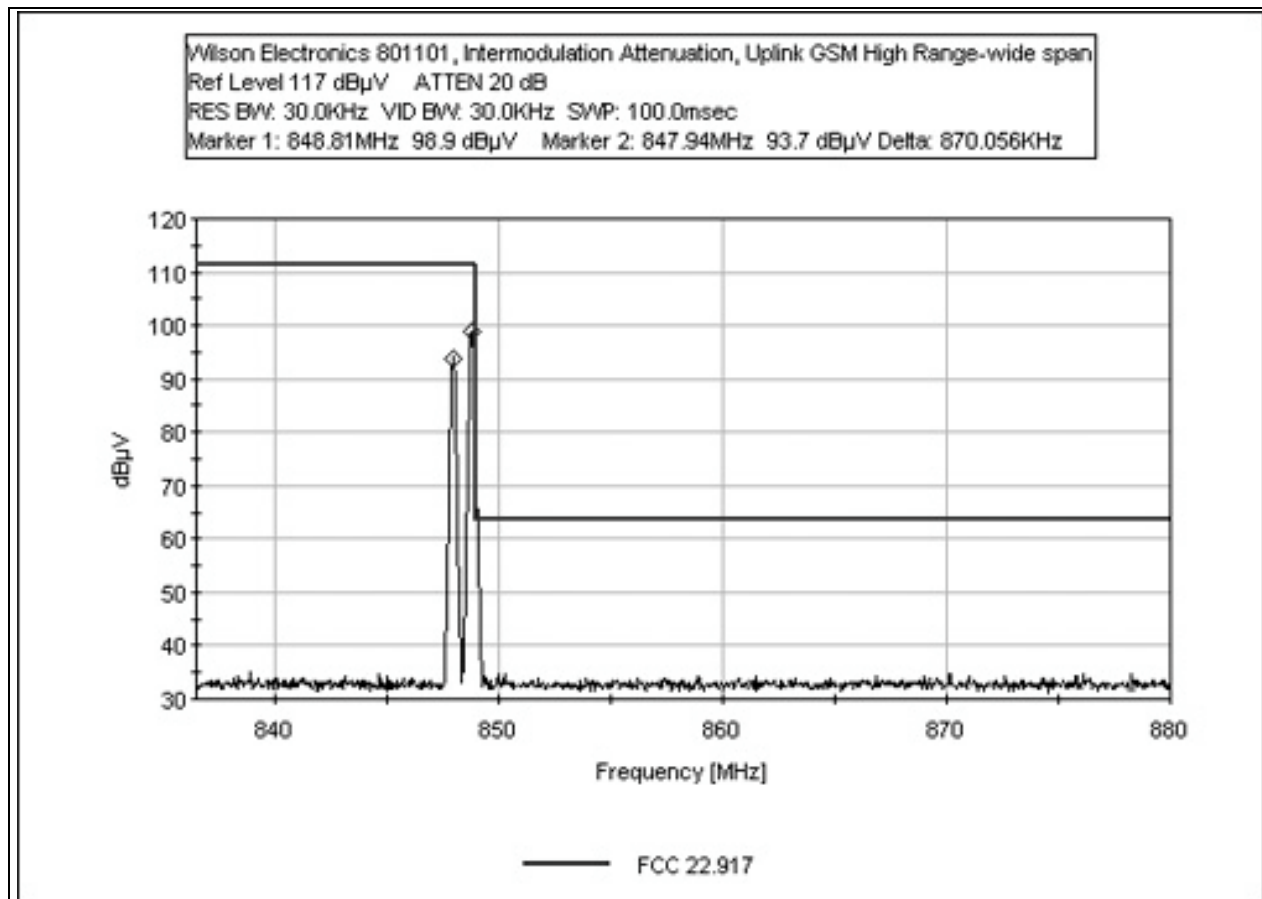
Intermodulation Attenuation Uplink GSM Low Range



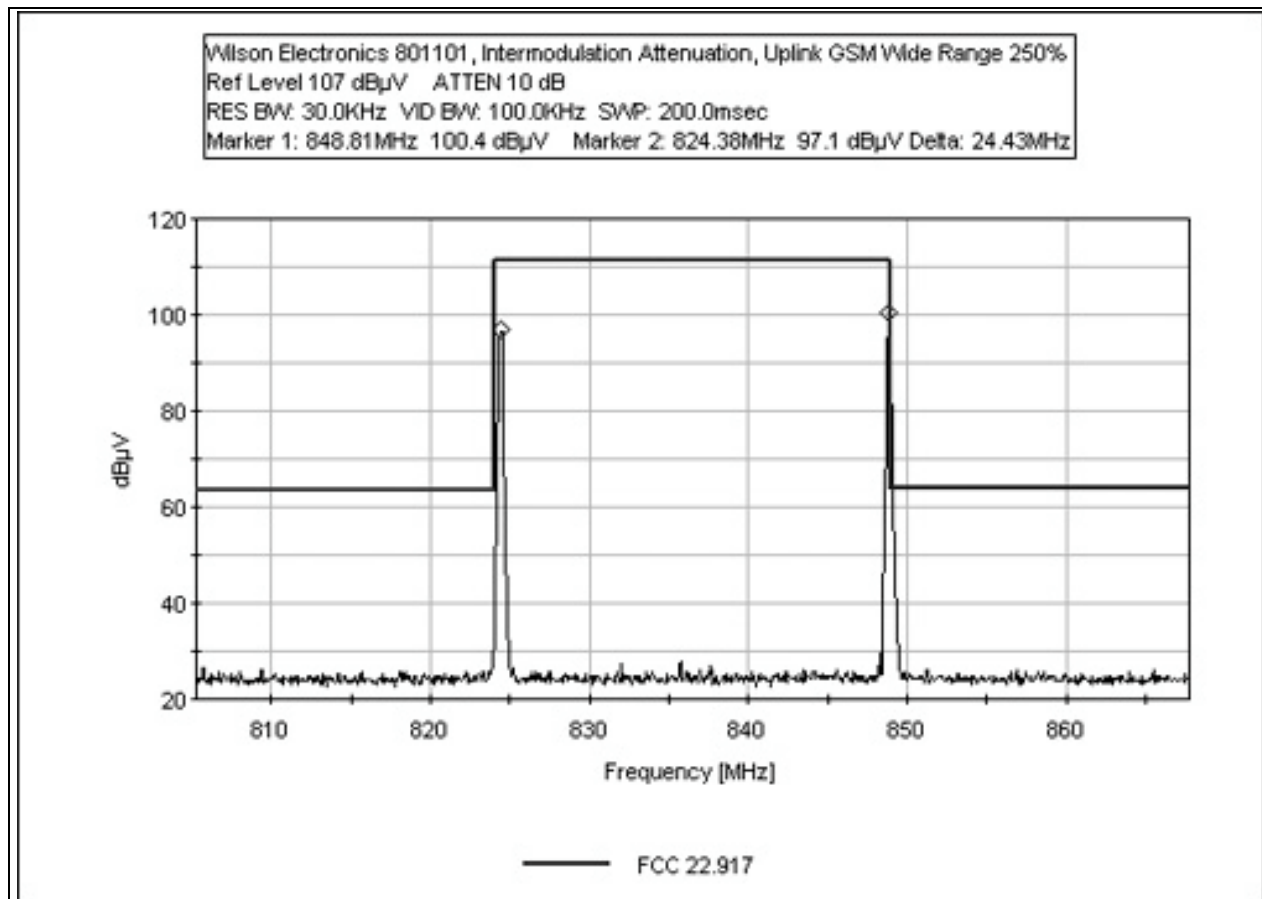
Intermodulation Attenuation Uplink GSM High Range Narrow Span



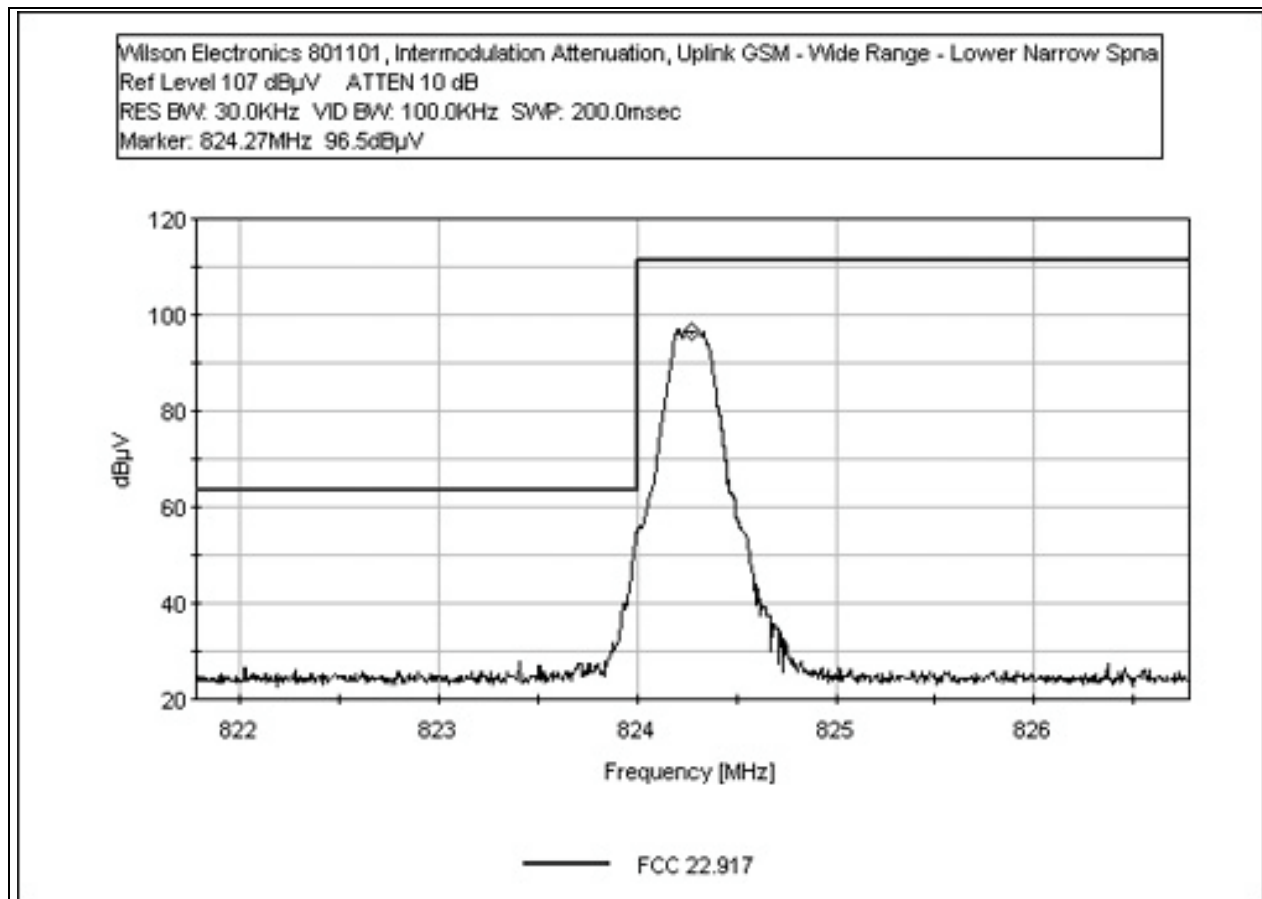
Intermodulation Attenuation Uplink GSM High Range Wide Span



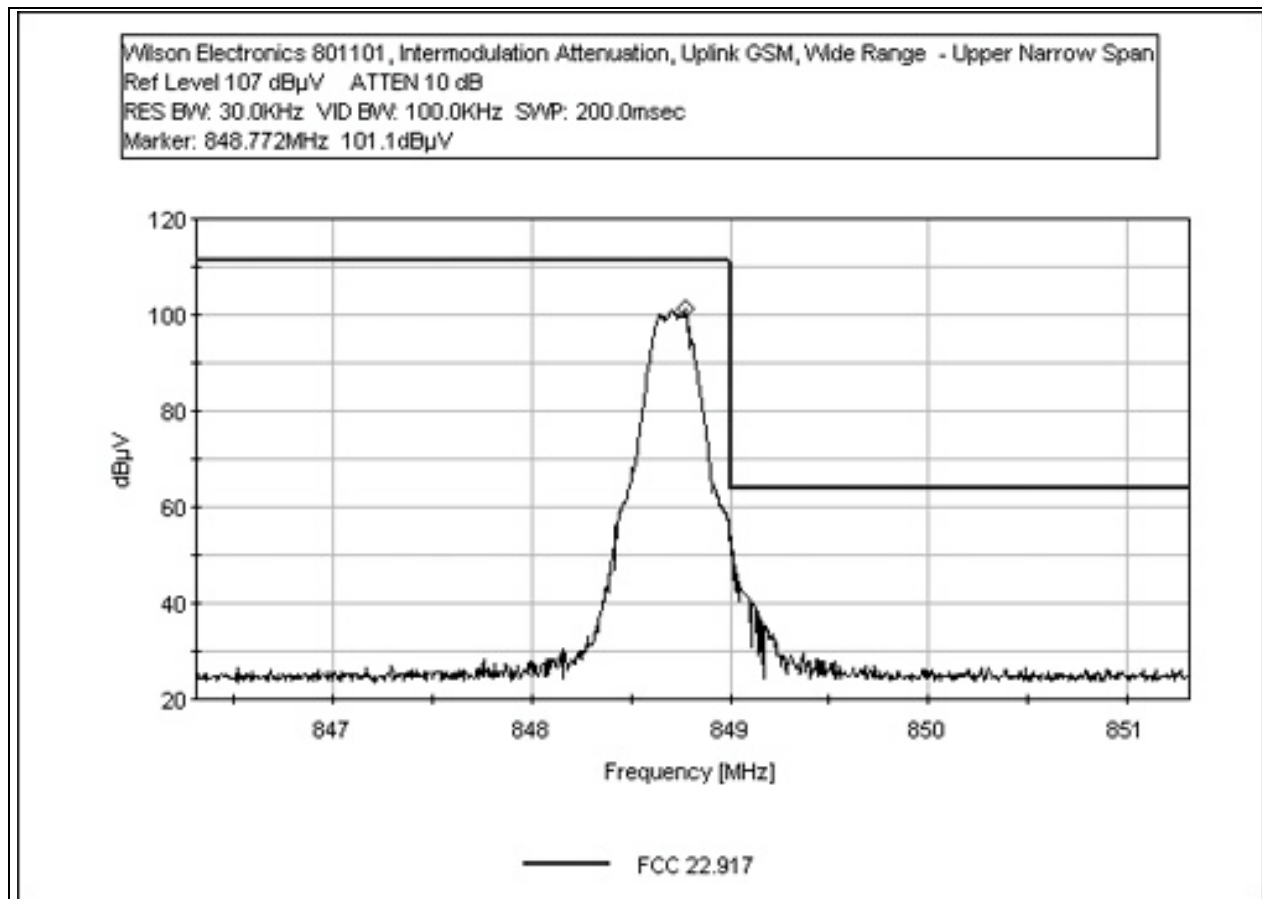
Intermodulation Attenuation Uplink GSM Wide Range



Intermodulation Attenuation Uplink GSM Wide Range Lower Narrow Span



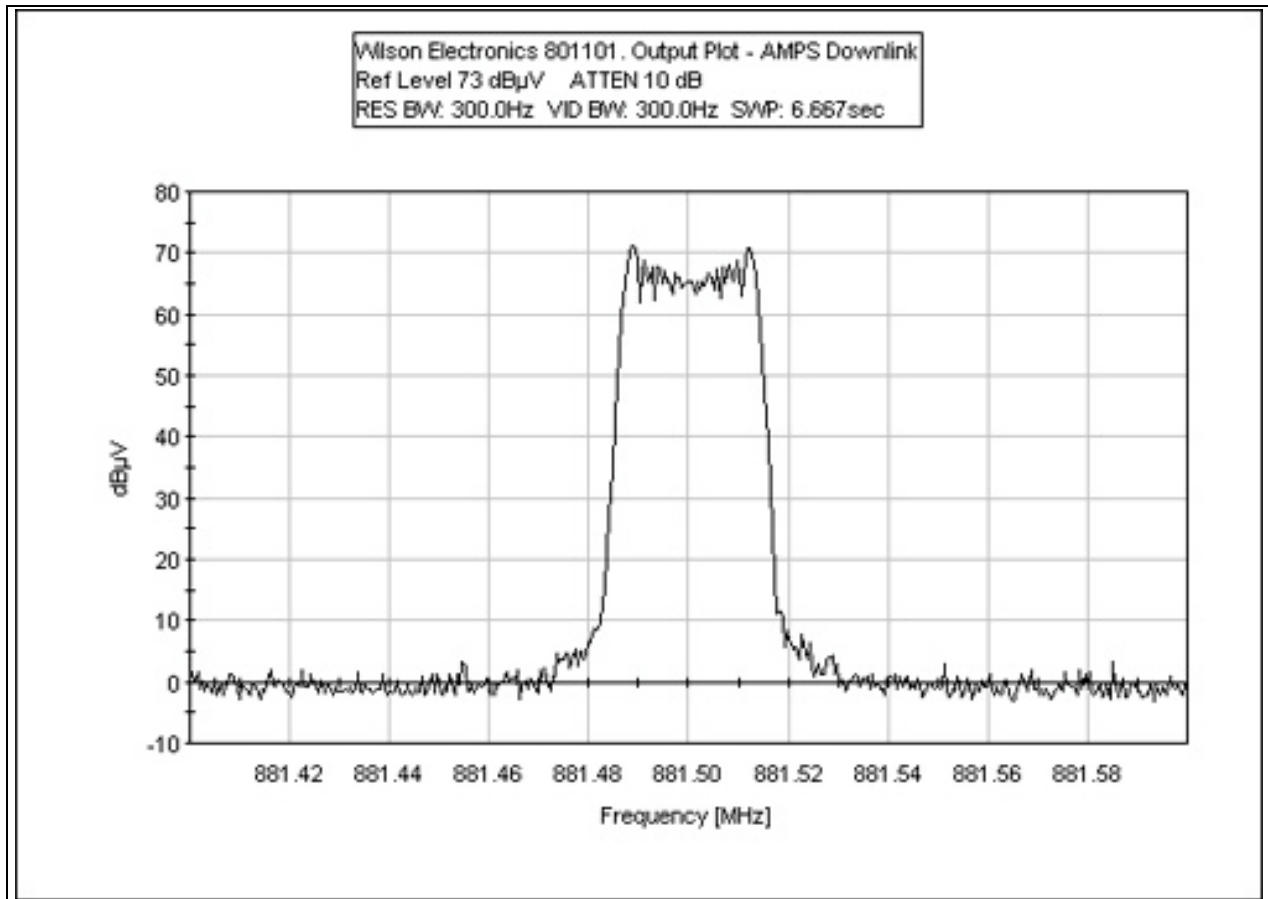
Intermodulation Attenuation Uplink GSM Wide Range Upper Narrow Span



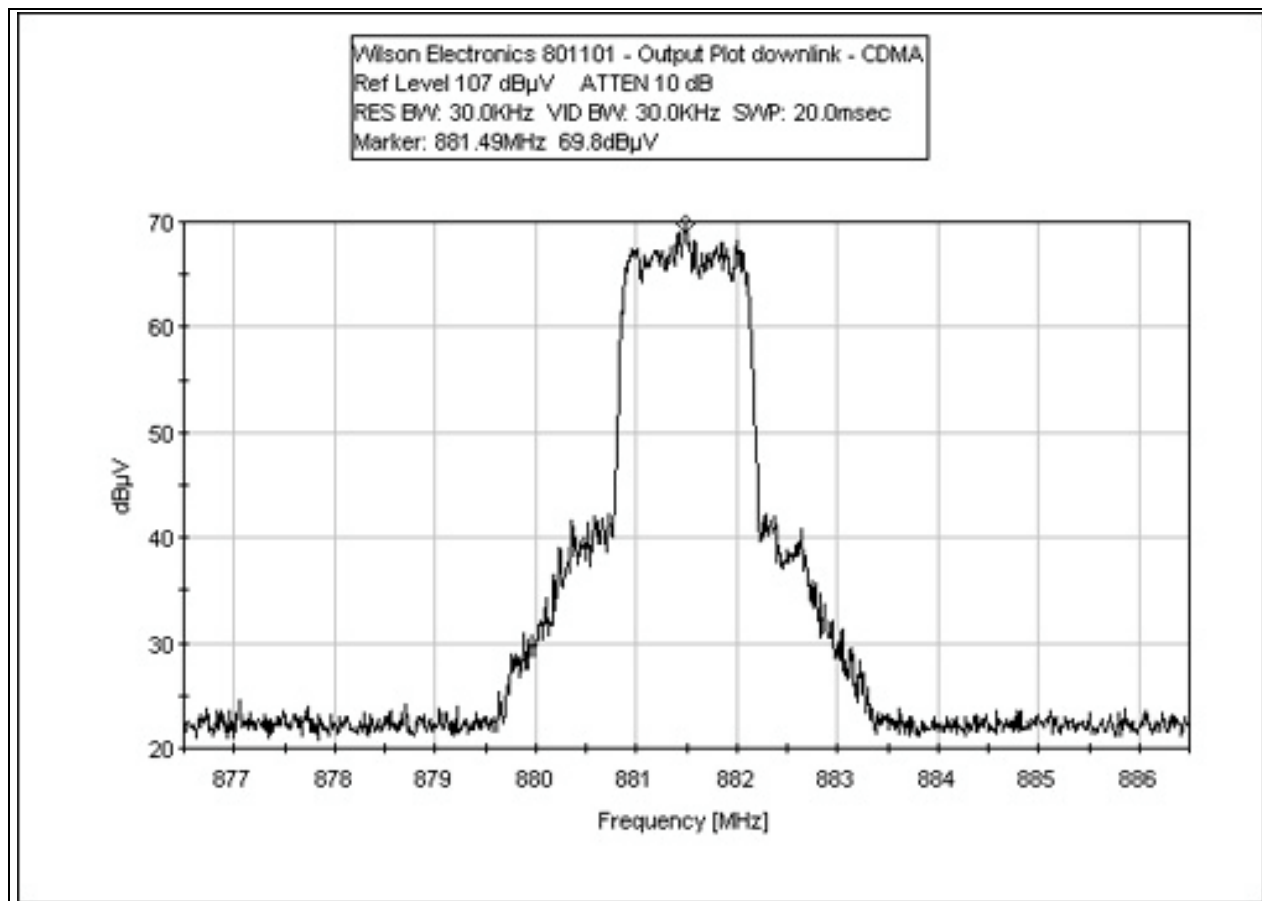
Output Downlink AMPS

Test Conditions / Notes:

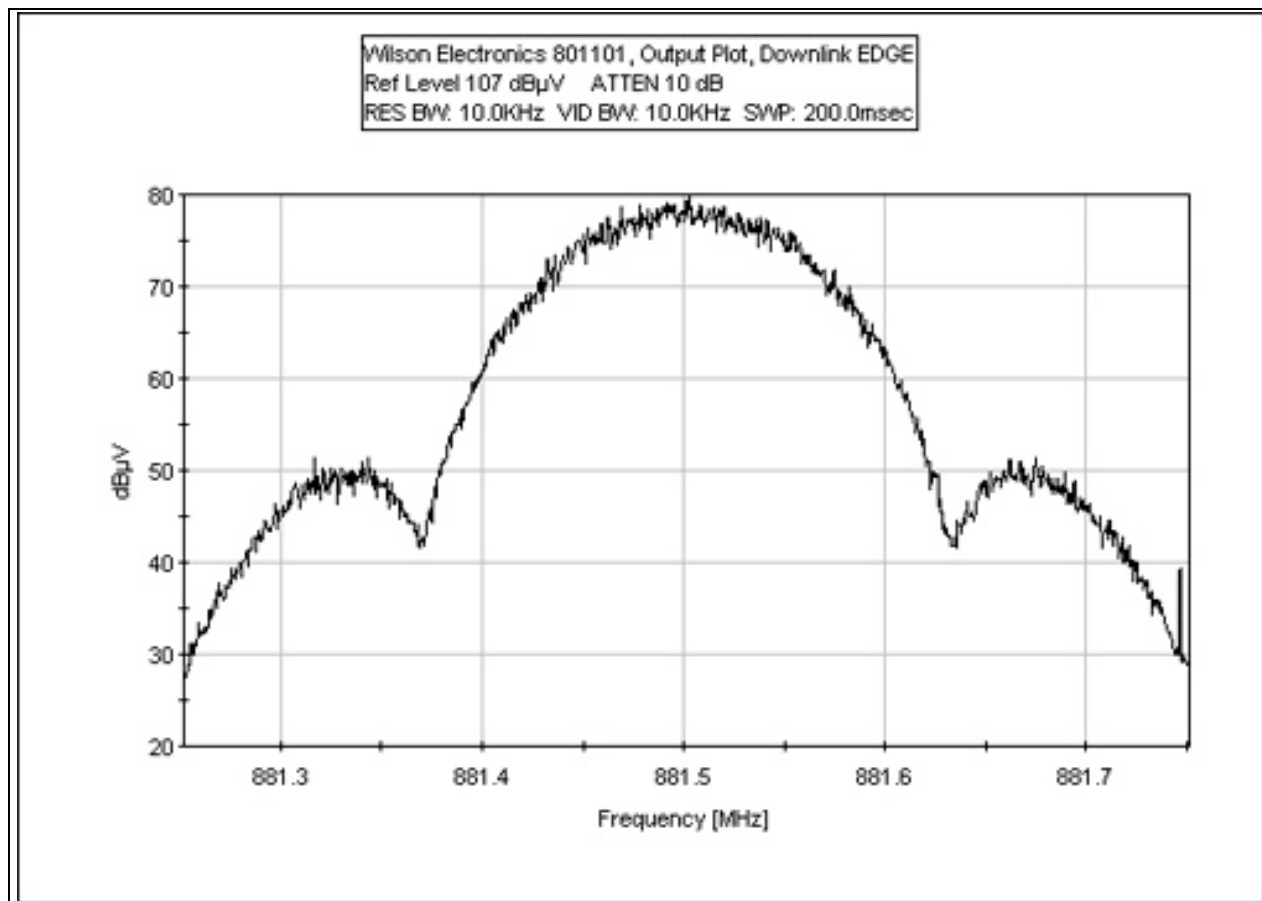
EUT is a bidirectional amplifier repeater for the 824 to 894 MHz band. Uplink frequency range 824 - 849 MHz. Downlink frequency range 869 - 894 MHz. Spurious Emissions Test: One signal is input to the amplifier. The input signal is set such that the maximum output is provided at the antenna terminals. The internal ALC of the amplifier limits the maximum power output to a factory set level. Power output is continuously variable and directly proportional to the supplied RF input.



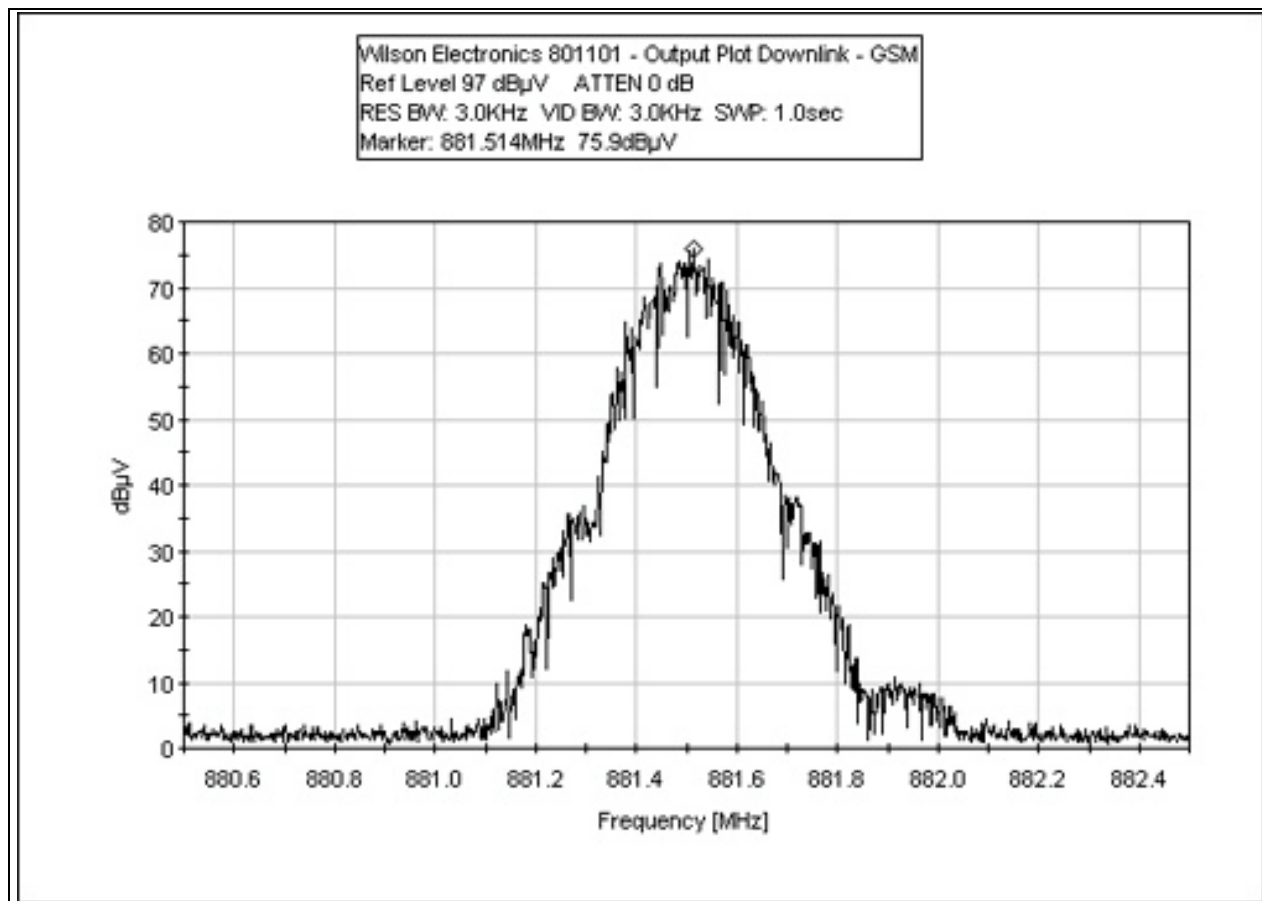
Output Downlink CDMA



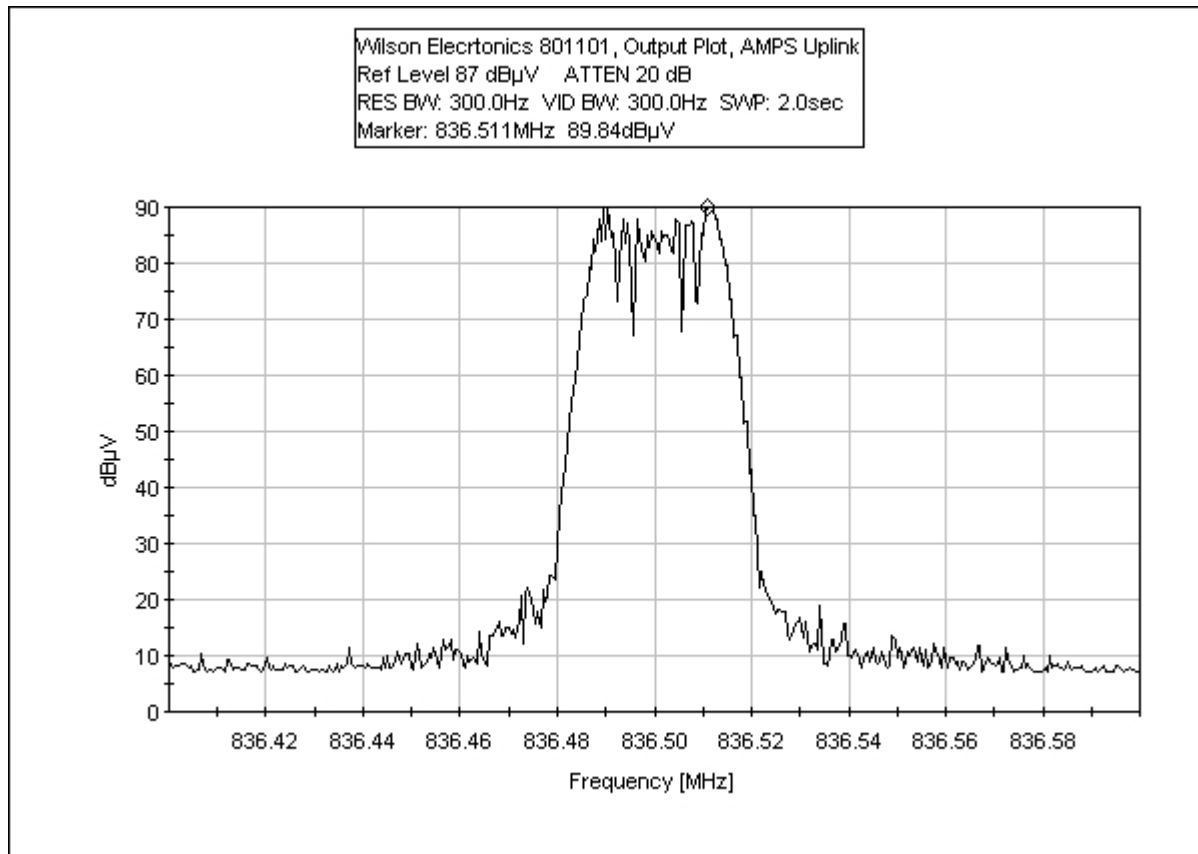
Output Downlink EDGE



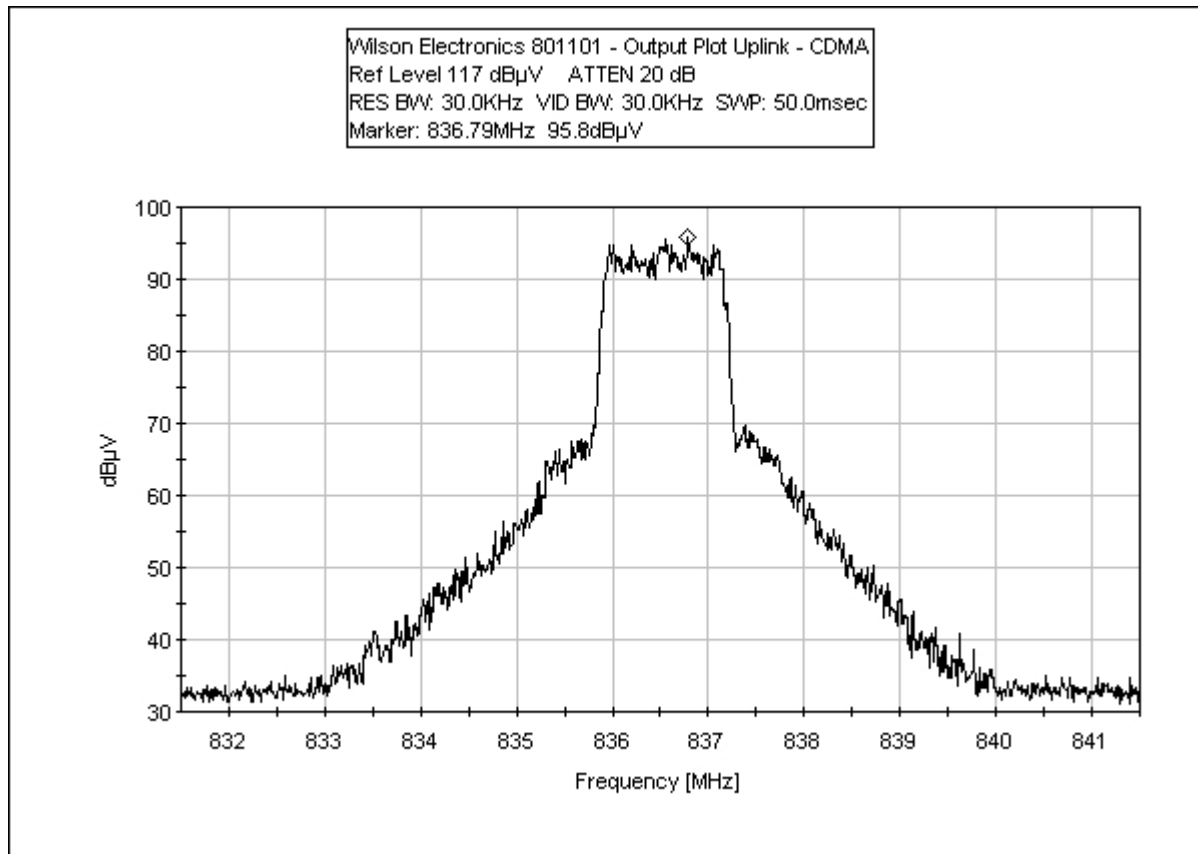
Output Downlink GSM



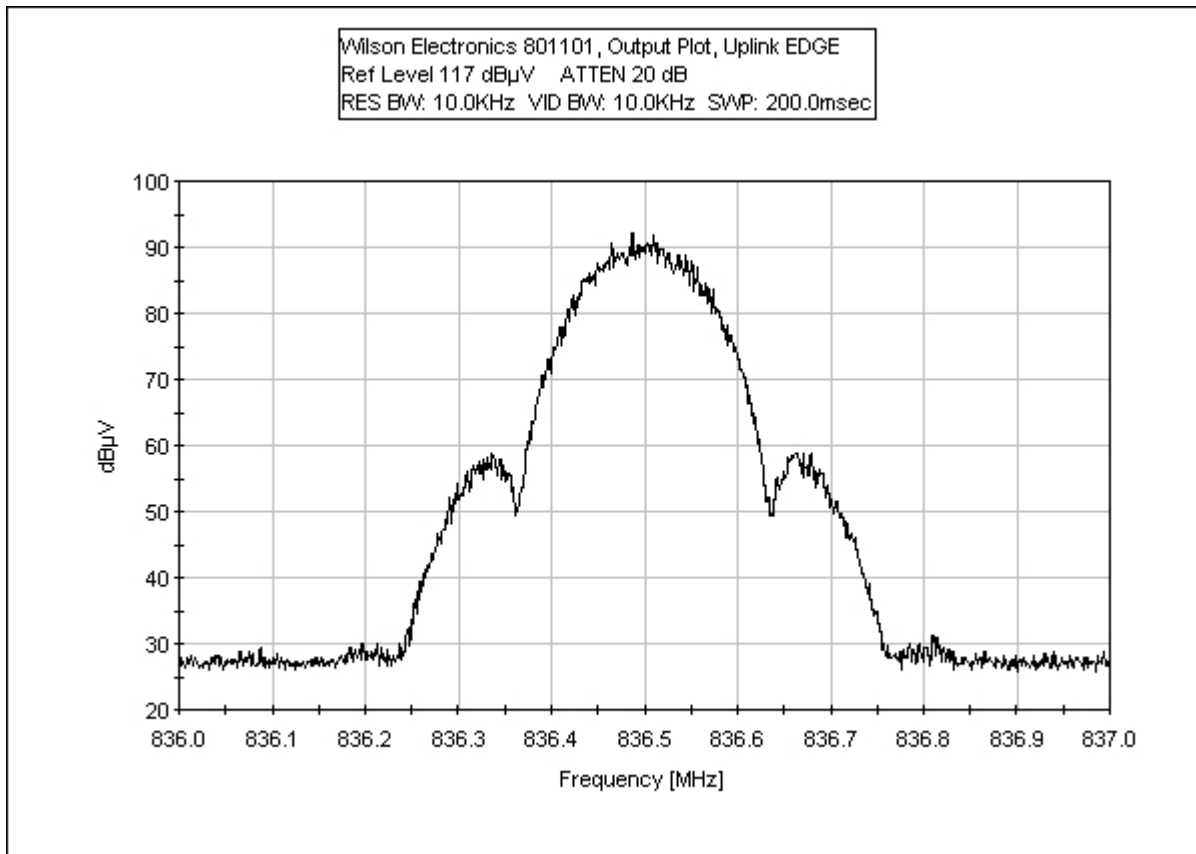
Output Uplink AMPS



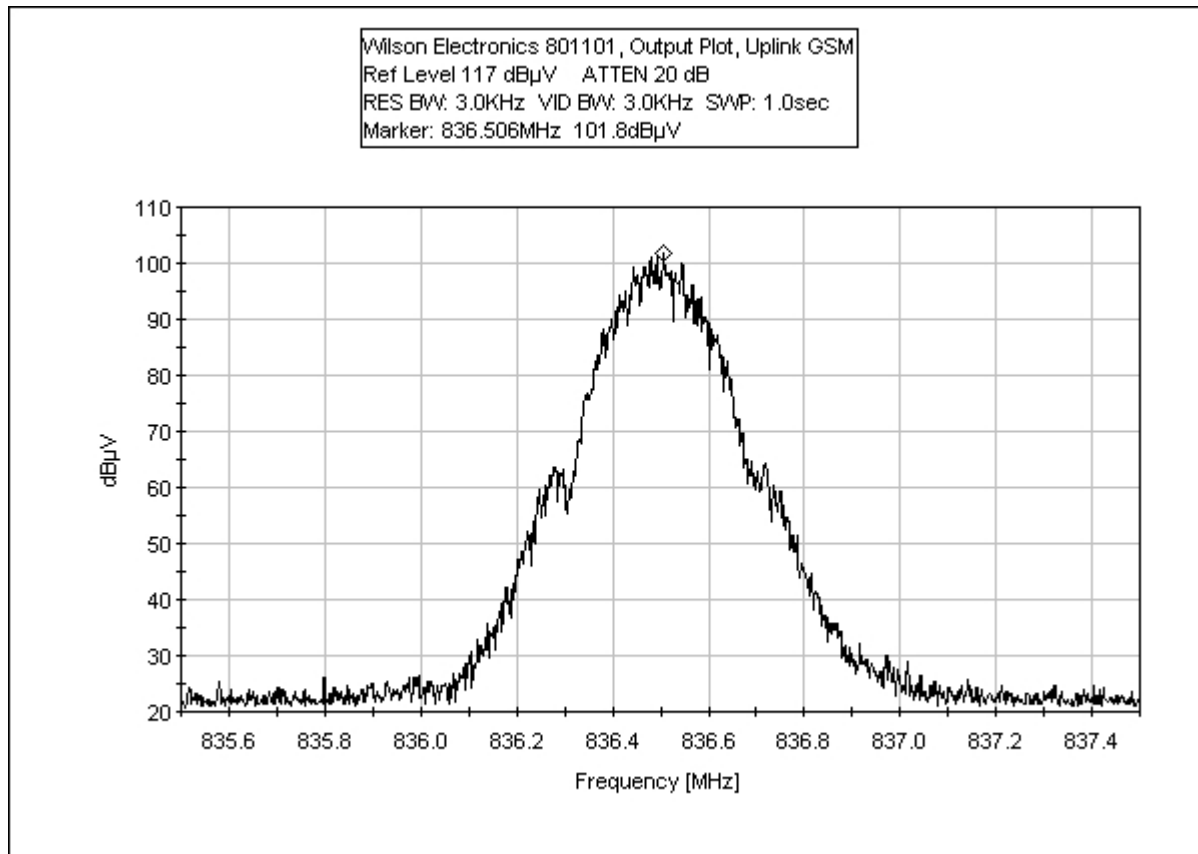
Output Uplink CDMA



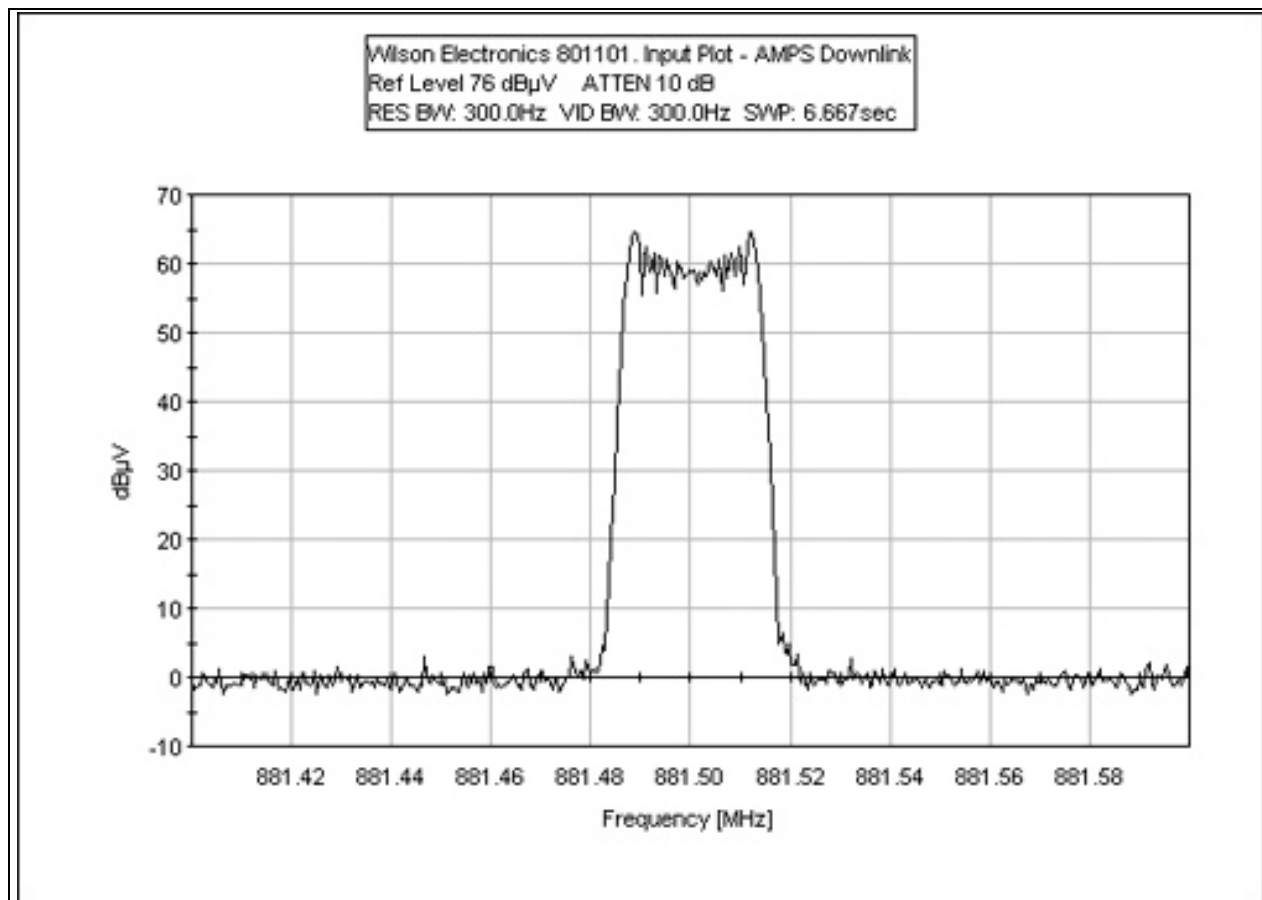
Output Uplink EDGE



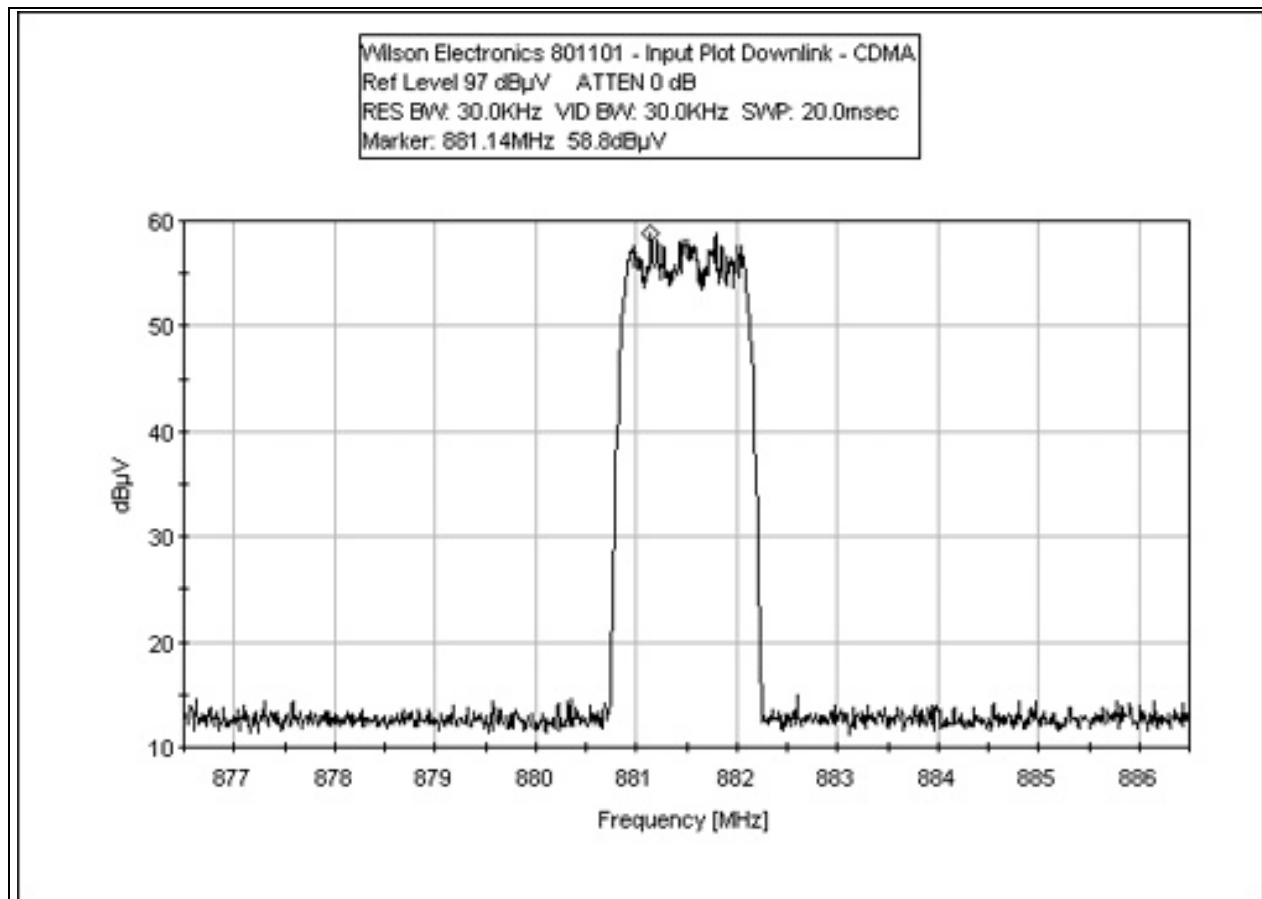
Output Uplink GSM



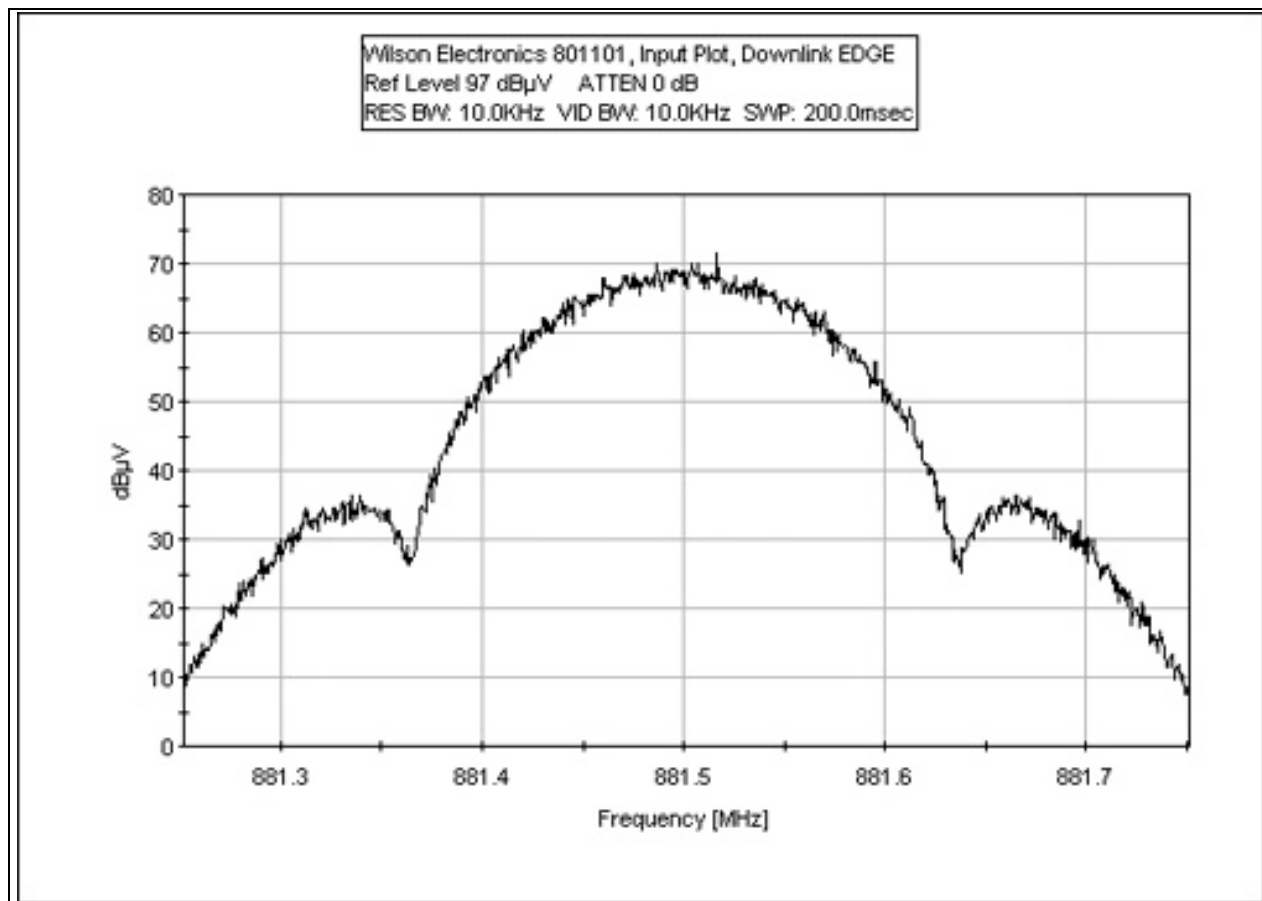
Input Downlink AMPS



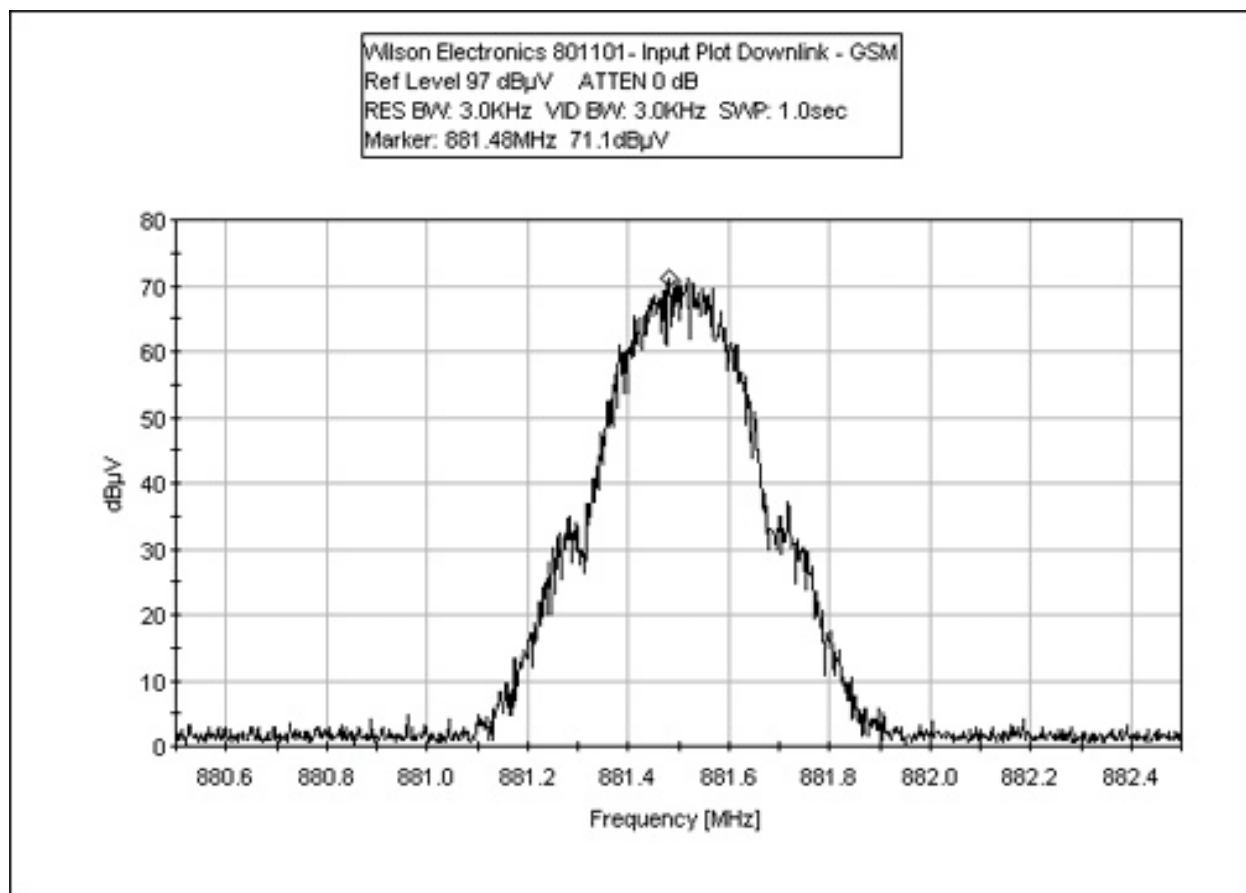
Input Downlink CDMA



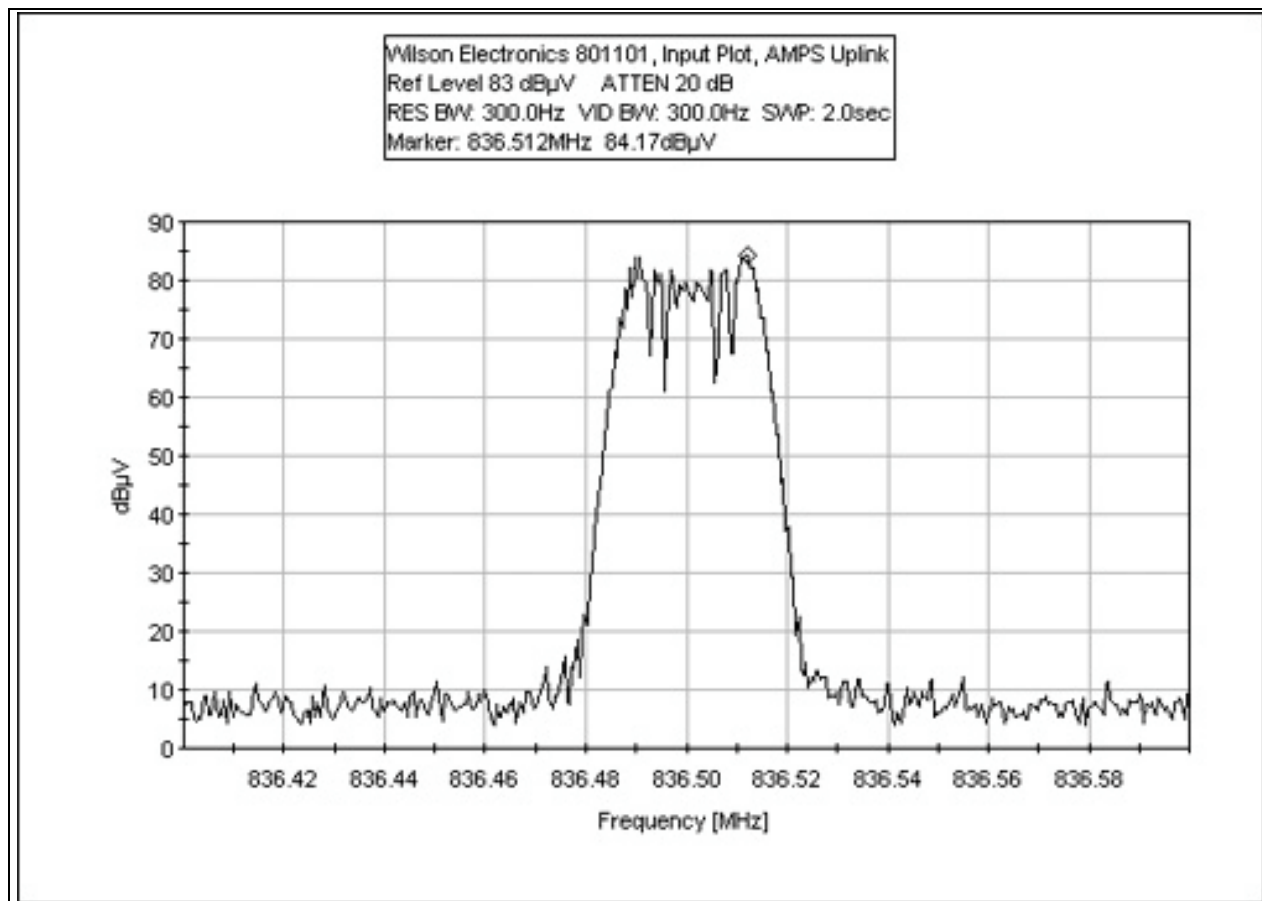
Input Downlink EDGE



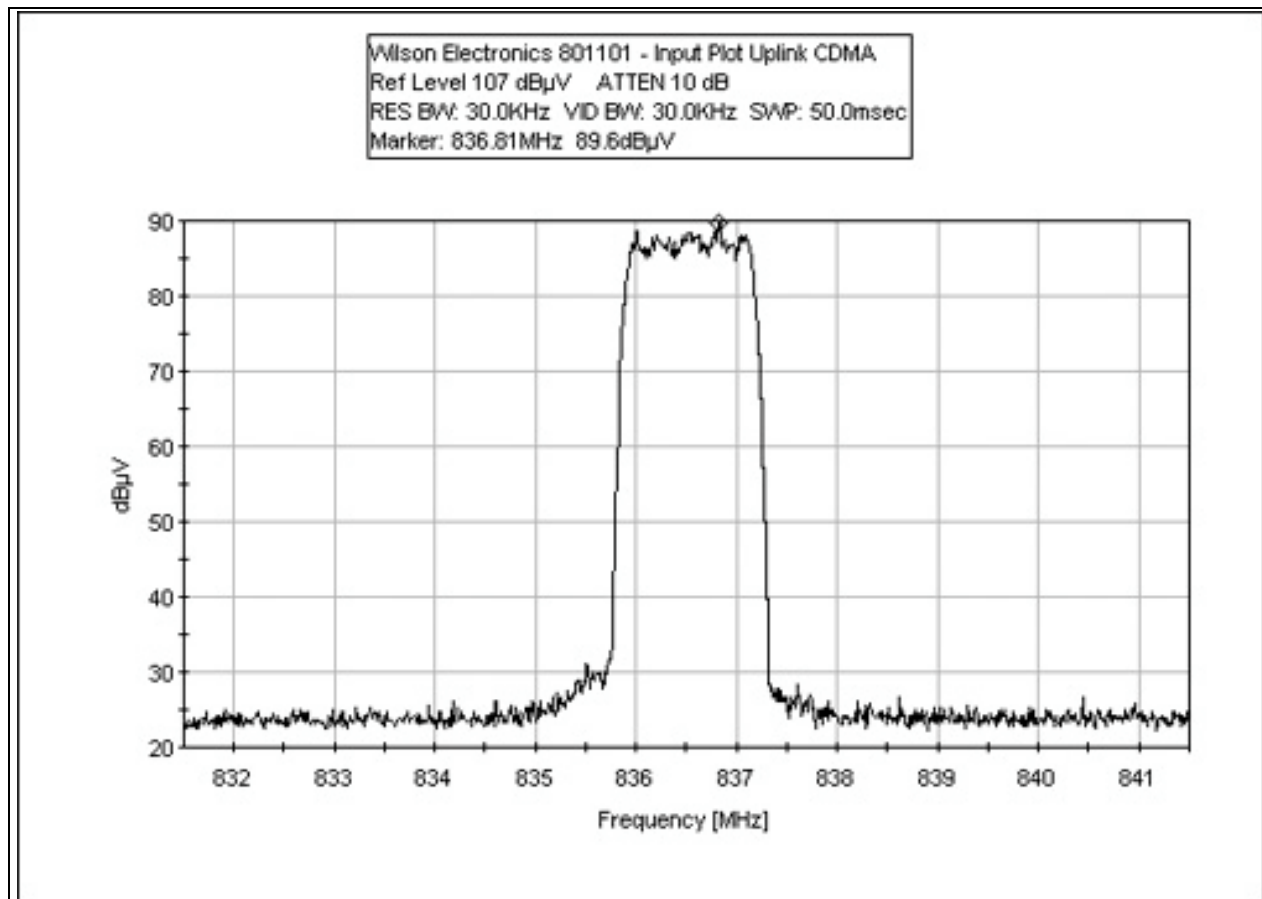
Input Downlink GSM



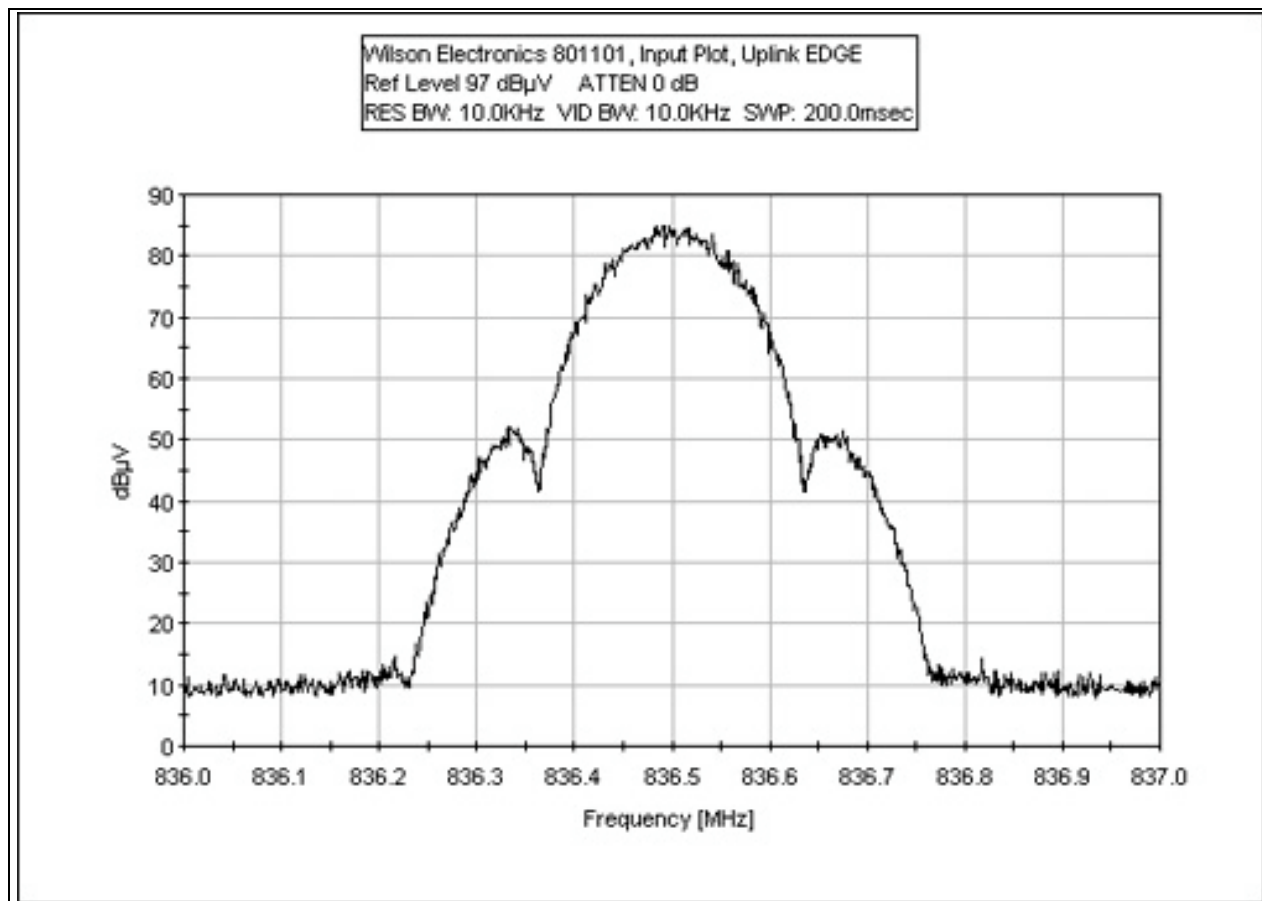
Input Uplink AMPS



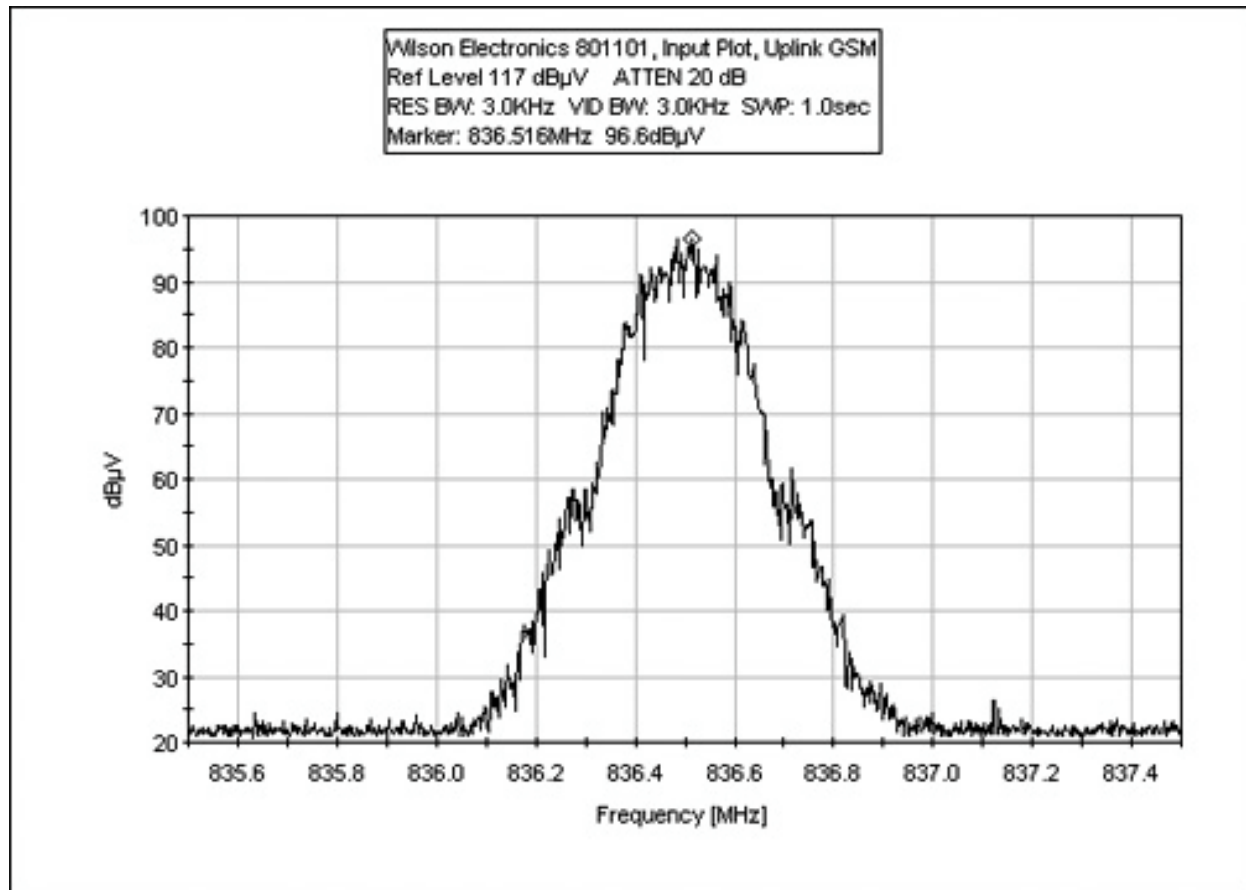
Input Uplink CDMA



Input Uplink EDGE



Input Uplink GSM



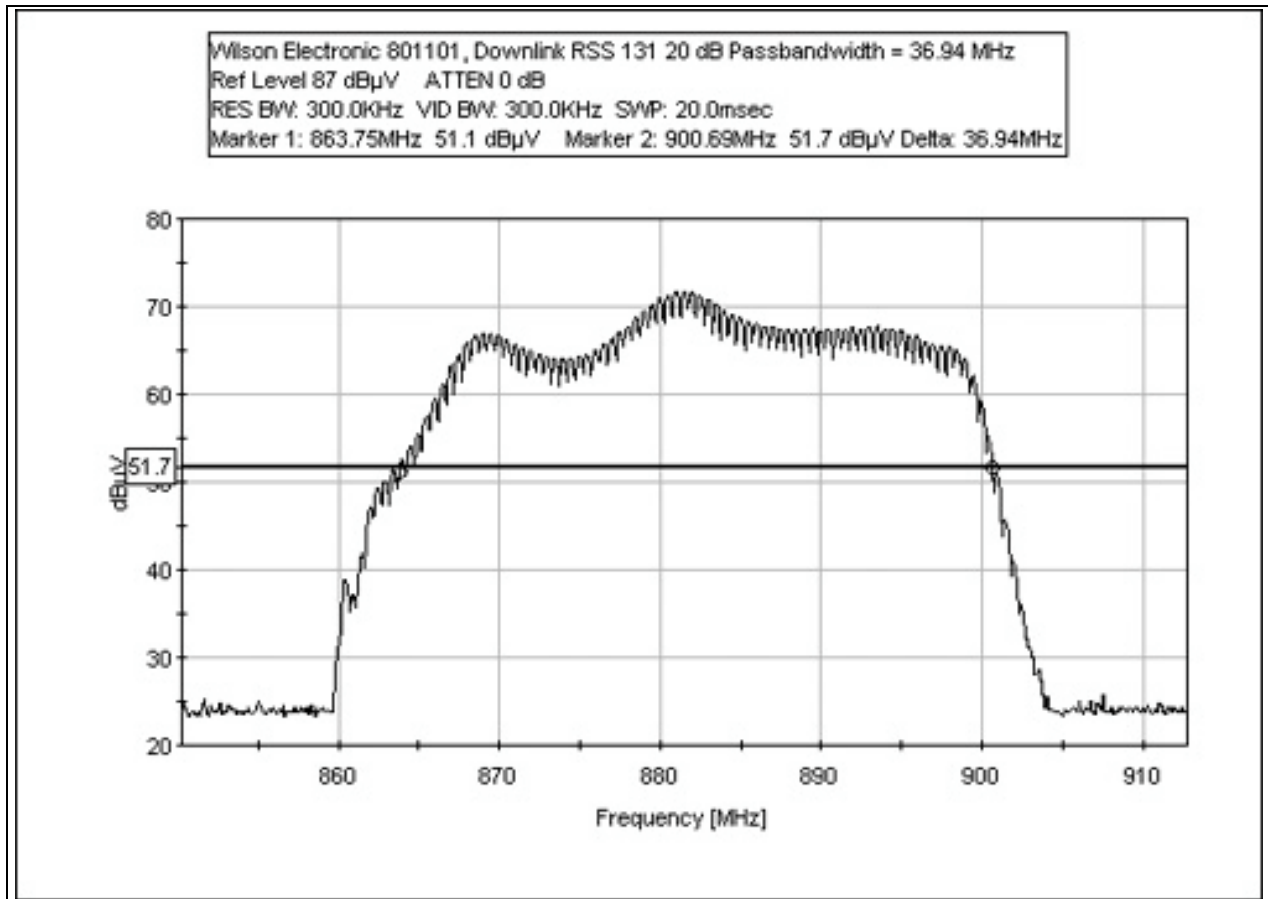
Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8566B SA	2209A01404	02/26/2003	02/26/2005	00490
HP 8566B SA Display	2403A08241	02/26/2003	02/26/2005	00489
HP 85650A QPA	2811A01267	02/26/2003	02/26/2005	00478
Bird Attenuator, 25A-MFN-30	9724	05/08/2003	05/08/2005	P01577

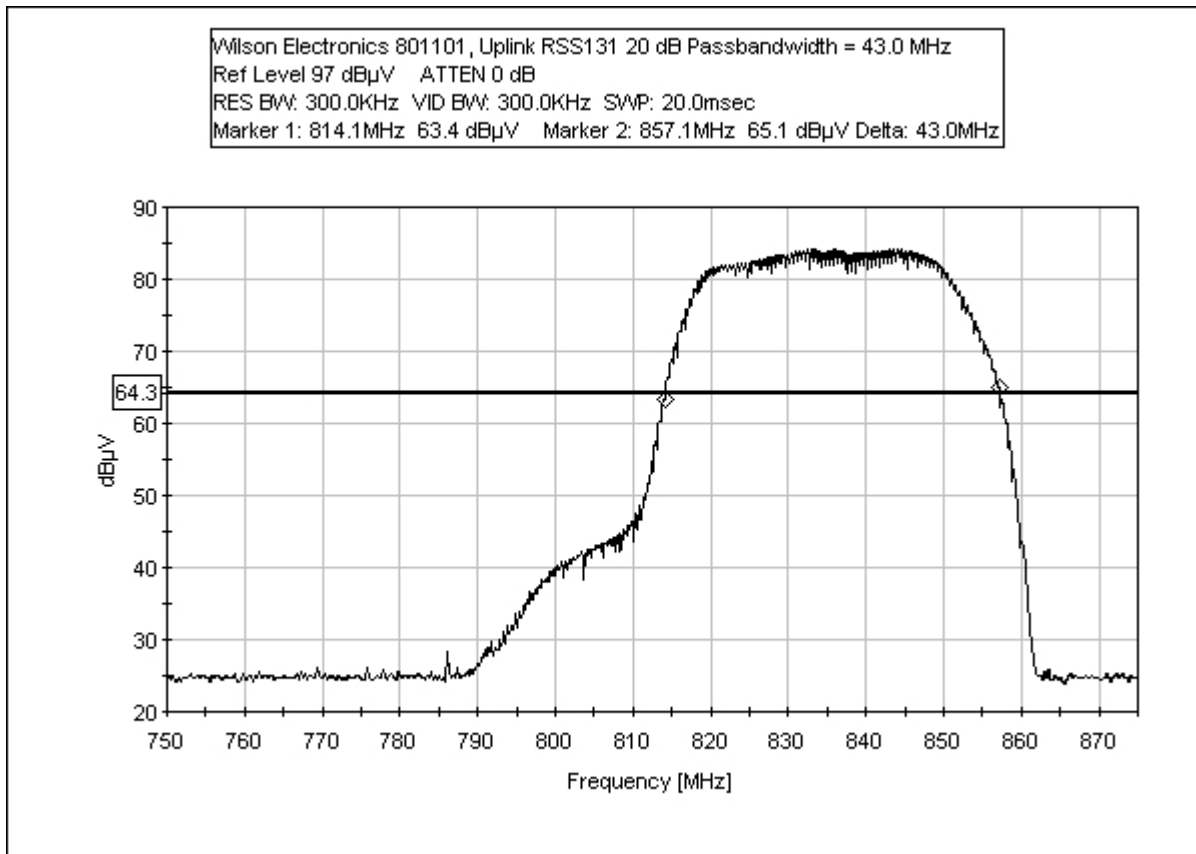
RSS 131 Downlink 20dB Passbandwidth

Test Conditions / Notes:

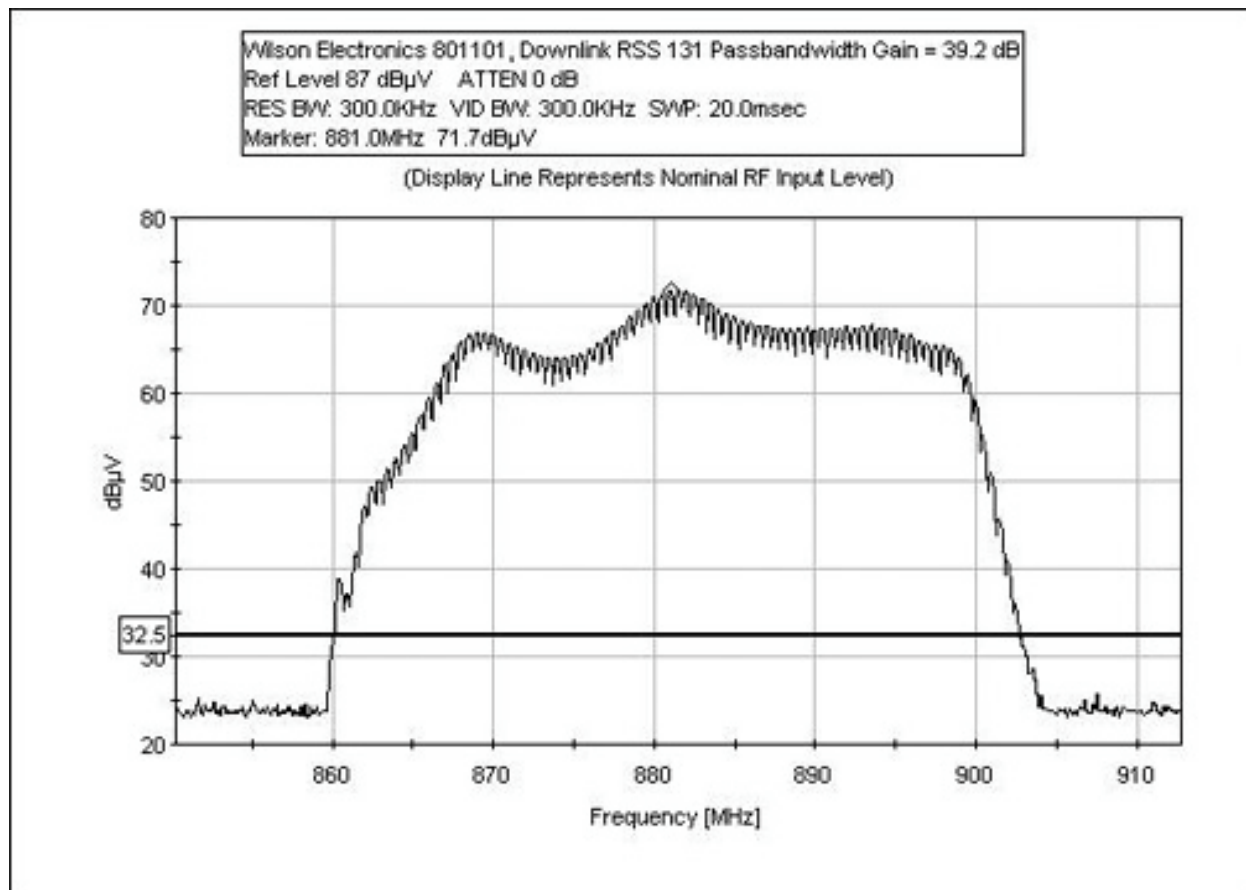
EUT is a bidirectional amplifier repeater for the 824 to 894 MHz band. Uplink frequency range 824 - 849 MHz. Downlink frequency range 869 - 894 MHz. Spurious Emissions Test: One signal is input to the amplifier. The input signal is set such that the maximum output is provided at the antenna terminals. The internal ALC of the amplifier limits the maximum power output to a factory set level. Power output is continuously variable and directly proportional to the supplied RF input.



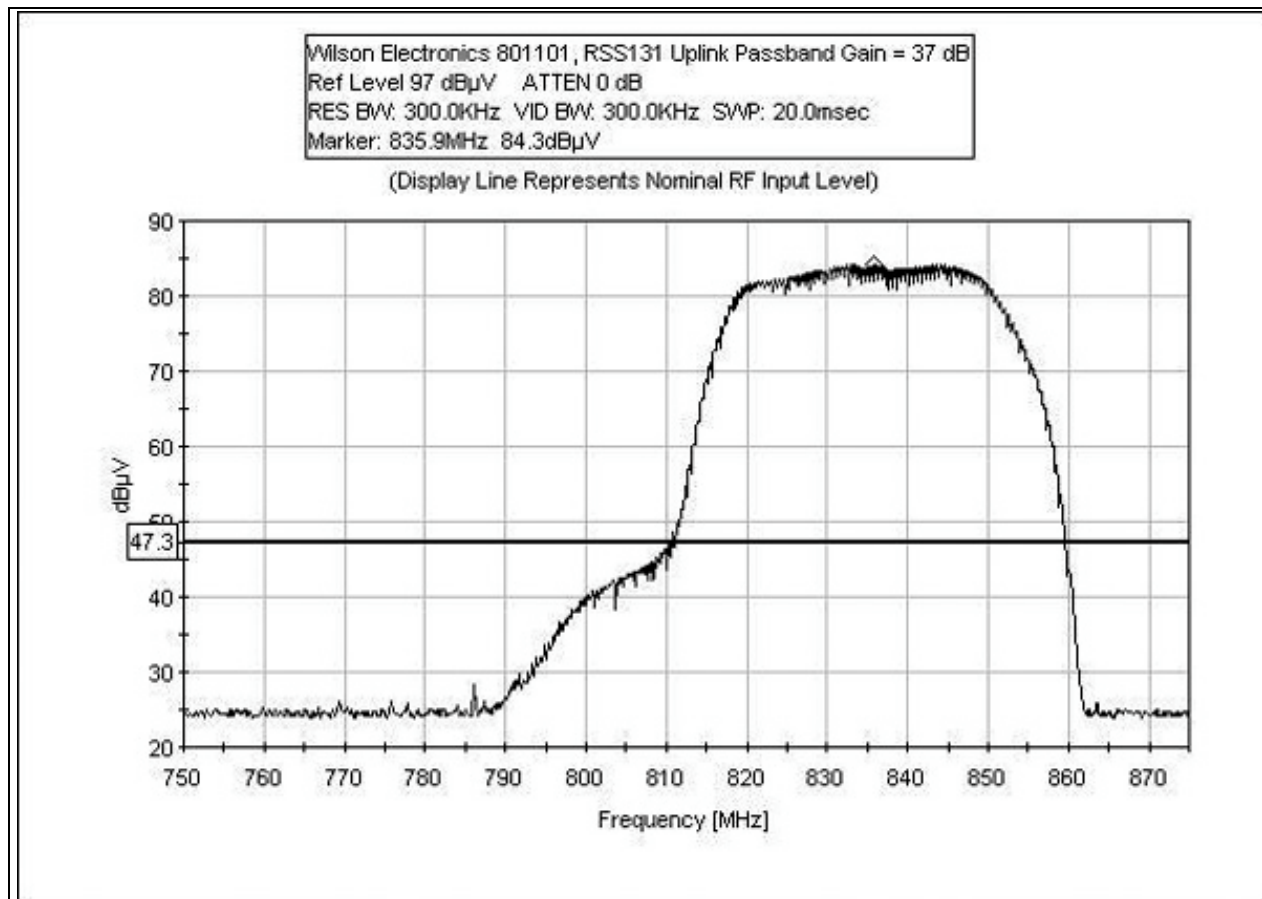
RSS 131 Uplink 20dB Passbandwidth



RSS 131 Downlink 20dB Passbandwidth Gain



RSS 131 Uplink 20dB Passbandwidth Gain



Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8566B SA	2209A01404	02/26/2003	02/26/2005	00490
HP 8566B SA Display	2403A08241	02/26/2003	02/26/2005	00489
HP 85650A QPA	2811A01267	02/26/2003	02/26/2005	00478
Bird Attenuator, 25A-MFN-30	9724	05/08/2003	05/08/2005	P01577