



WILSON ELECTRONICS TEST REPORT

FOR THE

MOBILE WIRELESS CELLULAR/PCS
SMARTTECH AMPLIFIER, 801201-A

FCC PART 22 AND RSS-131

COMPLIANCE

DATE OF ISSUE: JANUARY 17, 2006

PREPARED FOR:

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

P.O. No.: DBW801201-1
W.O. No.: 84511

PREPARED BY:

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CKC Laboratories, Inc.
5046 Sierra Pines Drive
Mariposa, CA 95338

Date of test: March 21 – December 20, 2005

Report No.: FC06-011

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ADMINISTRATIVE INFORMATION

DATE OF TEST: March 21 – December 20, 2005

DATE OF RECEIPT: March 21, 2005

FREQUENCY RANGE TESTED: 30 MHz-10 GHz

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

REPRESENTATIVE: Riki Kline

TEST LOCATION: CKC Laboratories, Inc.
5046 Sierra Pines Drive
Mariposa, CA 95338

TEST METHOD: FCC Part 22, TIA/EIA 603 and RSS-131

PURPOSE OF TEST: The EUT contains both uplink and downlink capabilities and was previously certified as model 801201. The EUT was modified as model 801201-A with only changes to the uplink portion of the EUT. This report contains new testing for the uplink and the old downlink data (identified as the old model 801201) because that portion of the EUT has not changed. Therefore this report shows complete compliance for the Mobile Wireless Cellular/PCS SmartTech Amplifier, 801201-A with the requirements for FCC Part 22 and RSS-131 devices.

FCC TO CANADA STANDARD CORRELATION MATRIX

Canadian Standard	Canadian Section	FCC Standard	FCC Section	Test Description
RSS-131	5.4	N/A	N/A	External Controls
RSS-131	5.5	47 CFR	1.1307	RF Exposure
RSS-131	6.1	N/A	N/A	Passband Gain and Bandwidth
RSS-131	6.2	47 CFR	22.913	RF Power Output
RSS-131	6.3	TIA/EIA	603	Non-Linearity (Intermodulation Attenuation)
RSS-131	6.4	47 CFR	22.917	Spurious Emissions Limitations
RSS-131	6.5	N/A	N/A	Frequency Stability (Band Translators)
IC 3082-D		784962		Site Filing No.

CONDITIONS FOR COMPLIANCE

No modifications to the EUT were necessary to comply.

APPROVALS

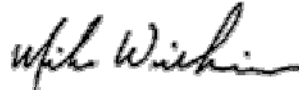
Steve Behm, Director of Engineering Services

QUALITY ASSURANCE:



Joyce Walker, Quality Assurance Administrative Manager

TEST PERSONNEL:



Mike Wilkinson, Lab Manager



Randy Clark, EMC Engineer



Ryan Rutledge, EMC Test Technologist



EQUIPMENT UNDER TEST (EUT) DESCRIPTION

The customer declares the EUT tested by CKC Laboratories was representative of a production unit.

The following equipment name has been used during testing by CKC Laboratories:

In Vehicle Wireless Dual Band Smart Amplifier

Since the time of testing the manufacturer has chosen to use the following equipment name in its place. Any differences between the names does not affect their EMC characteristics and therefore complies to the level of testing equivalent to the tested model name shown on the data sheets:

Mobile Wireless Cellular/PCS SmartTech Amplifier

The models number 801201 and 801201-A both appear in this test report. The manufacturer declares that the difference between 801201 and 801201-A is a redesign of the uplink path only and that the downlink circuitry and schematics remain unchanged. Therefore, the data regarding only the downlink path of the 801201 is used to demonstrate compliance for the 801201-A. This test report contains the new data for the uplink path of the 801201-A with which compliance is demonstrated.

EQUIPMENT UNDER TEST

Mobile Wireless Cellular/PCS SmartTech Amplifier

Manuf: Wilson Electronics
Model: 801201
Serial: 8012010000006
FCC ID: PWO8012SM

Mobile Wireless Cellular/PCS SmartTech Amplifier

Manuf: Wilson Electronics
Model: 801201-A
Serial: 8012010112702
FCC ID: PWO8012ASM (pending)

PERIPHERAL DEVICES

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

Signal Generator

Manuf: HP
Model: E4433B
Serial: US38440697
FCC ID: DoC

DC Power Supply

Manuf: Topward
Model: TPS-2000
Serial: 920035
FCC ID: NA

Signal Generator

Manuf: HP
Model: E4432B
Serial: MY41000298
FCC ID: DoC

Load

Manuf: JFW
Model: 50T-022
Serial: P04243
FCC ID: DoC

Signal Generator

Manuf: HP
Model: E4432B
Serial: US40052968
FCC ID: DoC

Signal Generator

Manuf: HP
Model: E4432B
Serial: US400053750
FCC ID: DoC

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

GXW, G7W, F9W

FCC 2.1033 (c)(5) FREQUENCY RANGE

Downlink 869-894MHz, Uplink 824-849MHz

FCC 2.1033 (c)(6) OPERATING POWER

Downlink, 12.58 mW, Uplink, 2.87 Watts ERP

FCC 2.1033 (c)(7) MAXIMUM POWER RATING

Downlink 15 mW, Uplink 3 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

GSM, EDGE, CDMA

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

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

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

Downlink Output Ratings:

All: 15mW

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	8.91
881.5	CDMA	7.58
892.75	CDMA	10.00
869.28	GSM	9.77
881.5	GSM	9.55
893.72	GSM	12.58
869.28	EDGE	10.00
881.5	EDGE	9.33
893.72	EDGE	12.30

Uplink Conducted Output

<i>Frequency (MHz)</i>	<i>Modulation</i>	<i>Power Output (Watts)</i>
825.25	CDMA	2.95
836.5	CDMA	2.95
847.75	CDMA	2.69
824.28	GSM	3.63
836.5	GSM	3.31
848.72	GSM	3.24
824.28	EDGE	2.63
836.5	EDGE	2.88
848.72	EDGE	2.51

Uplink ERP

<i>Frequency (MHz)</i>	<i>Modulation</i>	<i>Power Output (Watts)</i>
825.25	CDMA	2.33
836.5	CDMA	2.33
847.75	CDMA	2.13
824.28	GSM	2.87
836.5	GSM	2.62
848.72	GSM	2.56
824.28	EDGE	2.08
836.5	EDGE	2.28
848.72	EDGE	1.99

The above values are calculated based on the gain of the antenna minus the manufacturer's declared nominal cable loss of 4.0dB:

$5.12\text{dBi} - 4.0\text{dB} - 2.14\text{dB}(\text{dipole correction}) = -1.02\text{dBd}$

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A SA	US44300407	01/12/2005	01/12/2007	02660
Attenuator 30dB, Bird	9949	05/09/2003	05/09/2005	P01572
25-A-MFN-30				

PHOTOGRAPH SHOWING DIRECT CONNECT TEST SETUP



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

Not applicable to this unit.

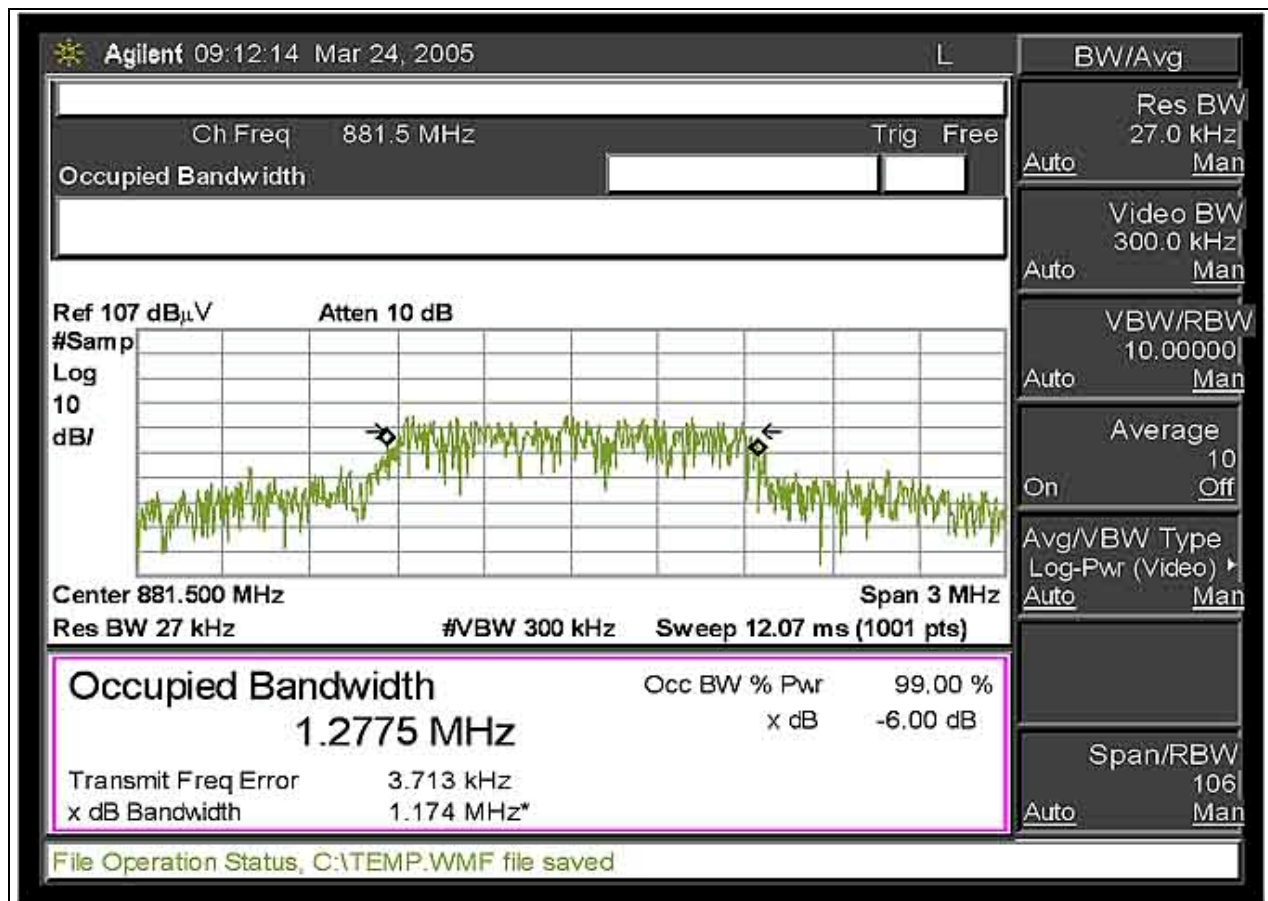
FCC 2.1033(c)(14)/2.1047(b) MODULATION CHARACTERISTICS- Modulation Limiting Response

Not applicable to this unit.

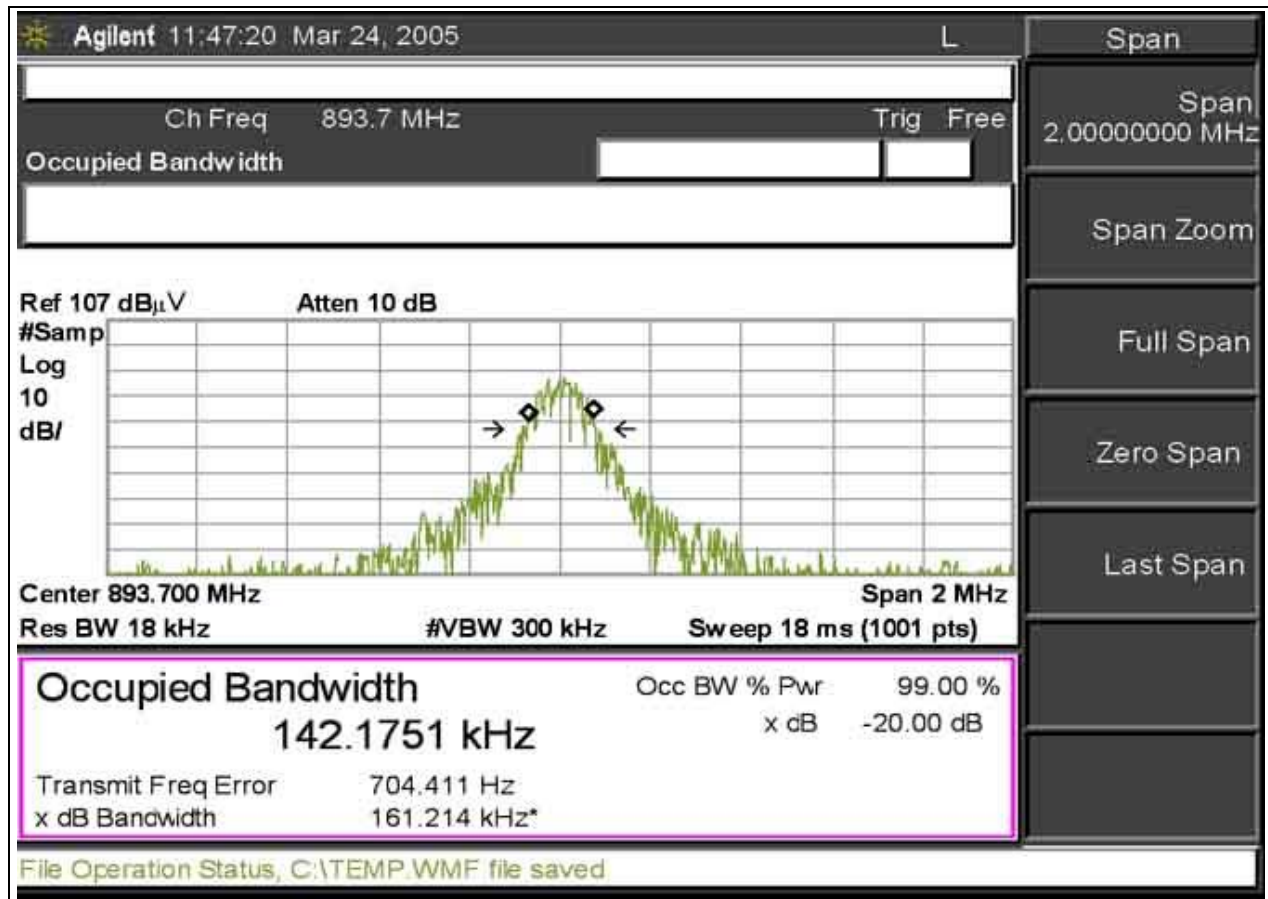
FCC 2.1033(c)(14)/2.1049(i)- OCCUPIED BANDWIDTH

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

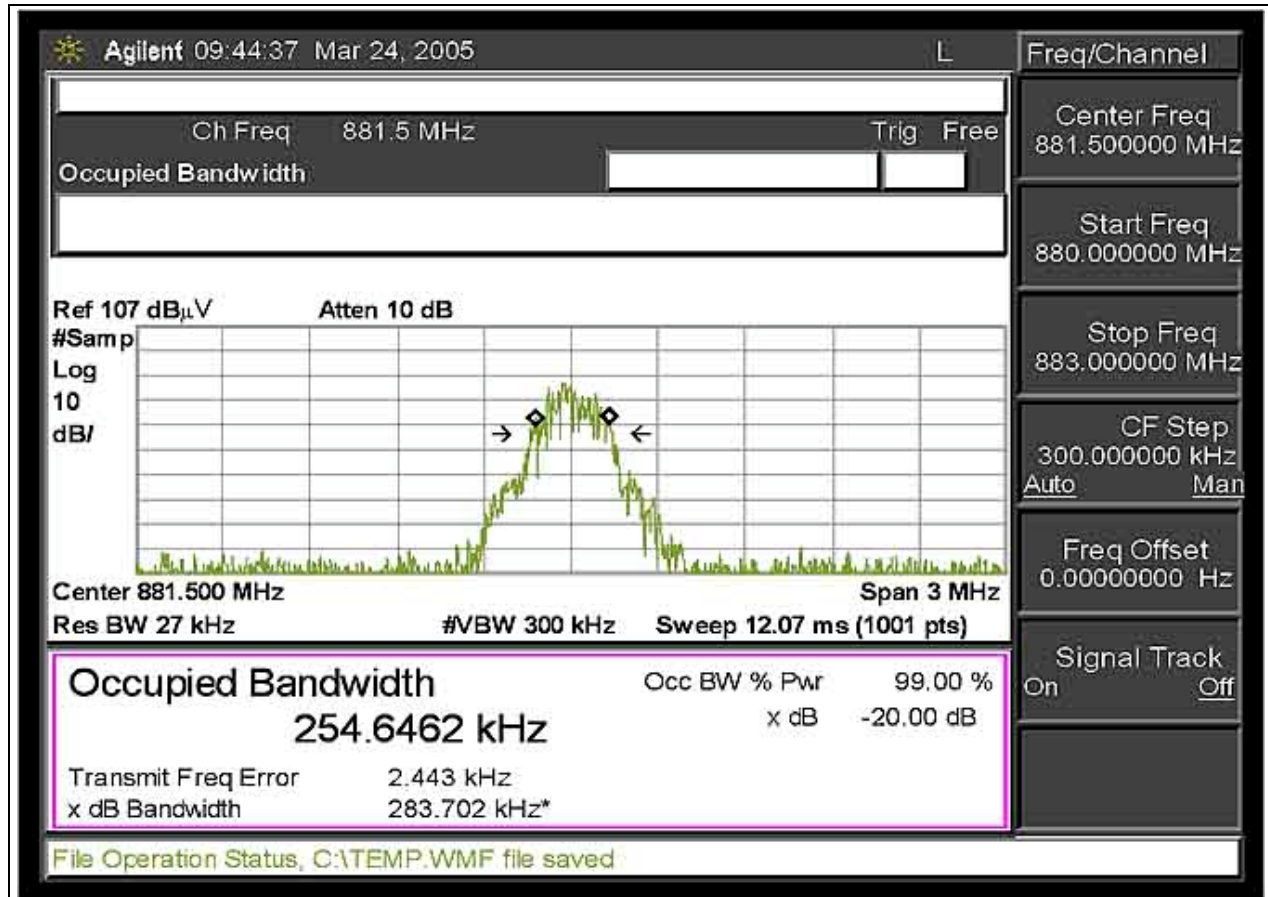
FCC 2.1049 DOWNLINK OCCUPIED BANDWIDTH CDMA - 800 MHZ BAND



FCC 2.1049 DOWNLINK OCCUPIED BANDWIDTH EDGE - 800 MHZ BAND



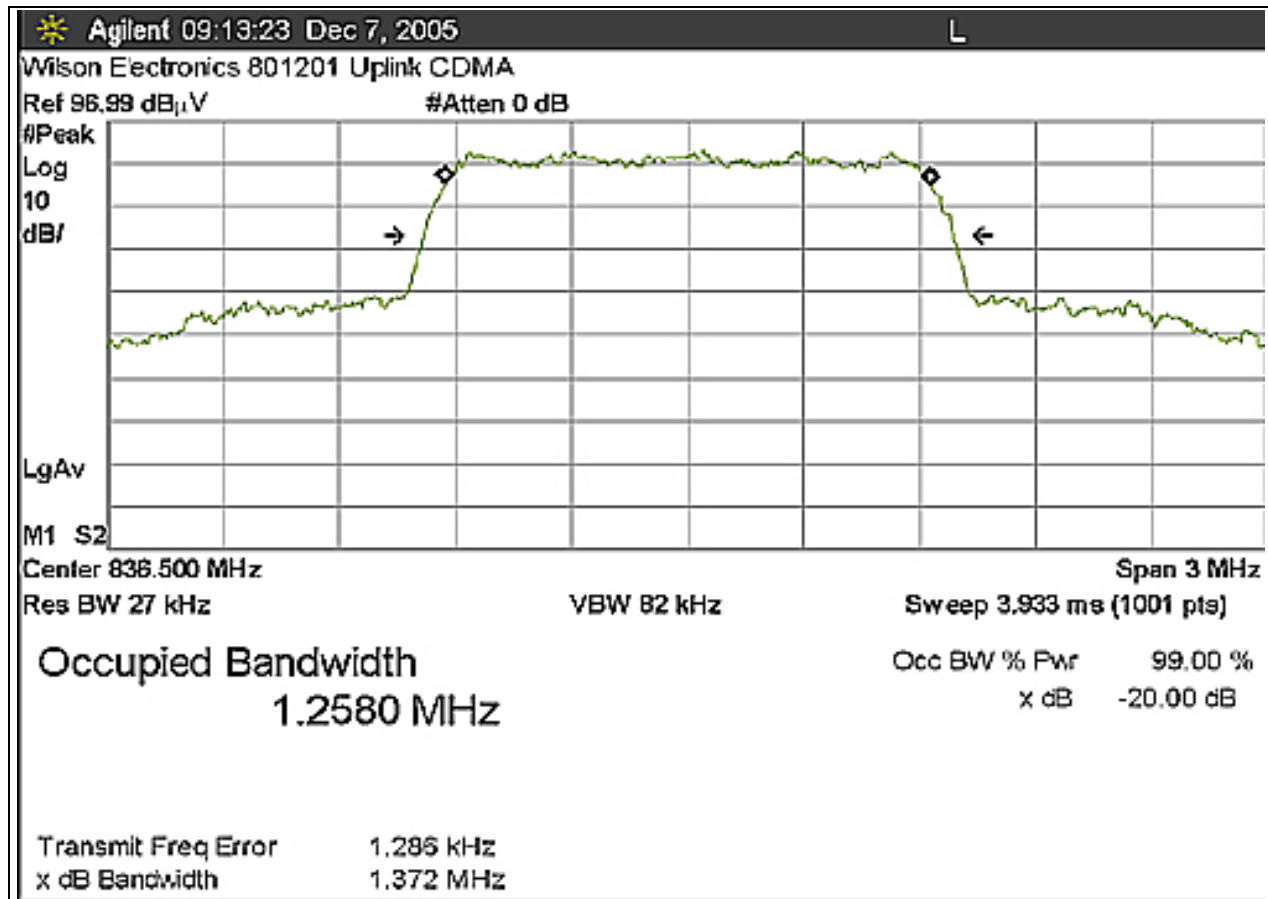
FCC 2.1049 DOWNLINK OCCUPIED BANDWIDTH GSM - 800 MHZ BAND



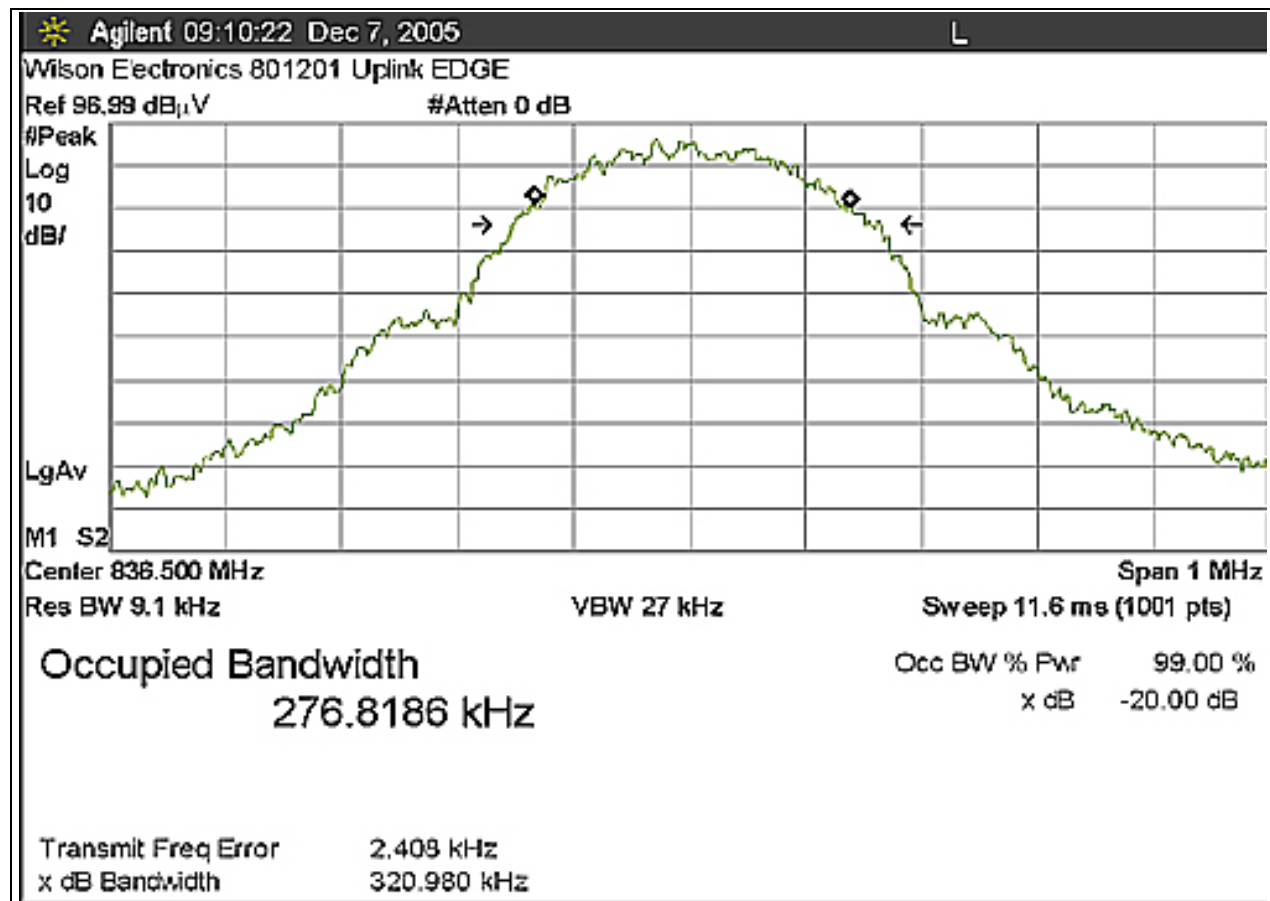
Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A SA	US44300407	01/12/2005	01/12/2007	02660
Attenuator 30dB, Bird	9949	05/09/2003	05/09/2005	P01572
25-A-MFN-30				

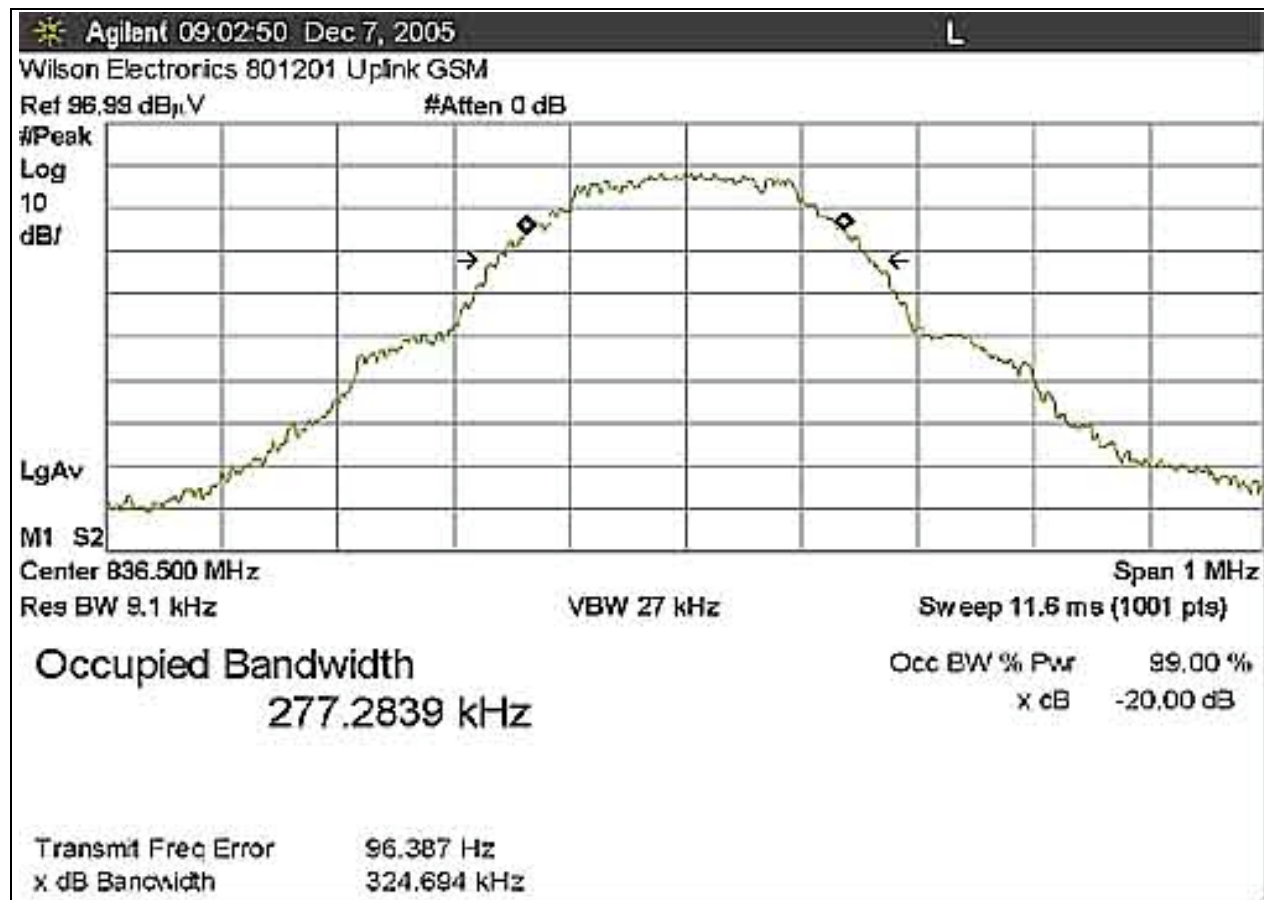
FCC 2.1049 UPLINK OCCUPIED BANDWIDTH CDMA



FCC 2.1049 UPLINK OCCUPIED BANDWIDTH EDGE



FCC 2.1049 UPLINK OCCUPIED BANDWIDTH GSM



Test Equipment:

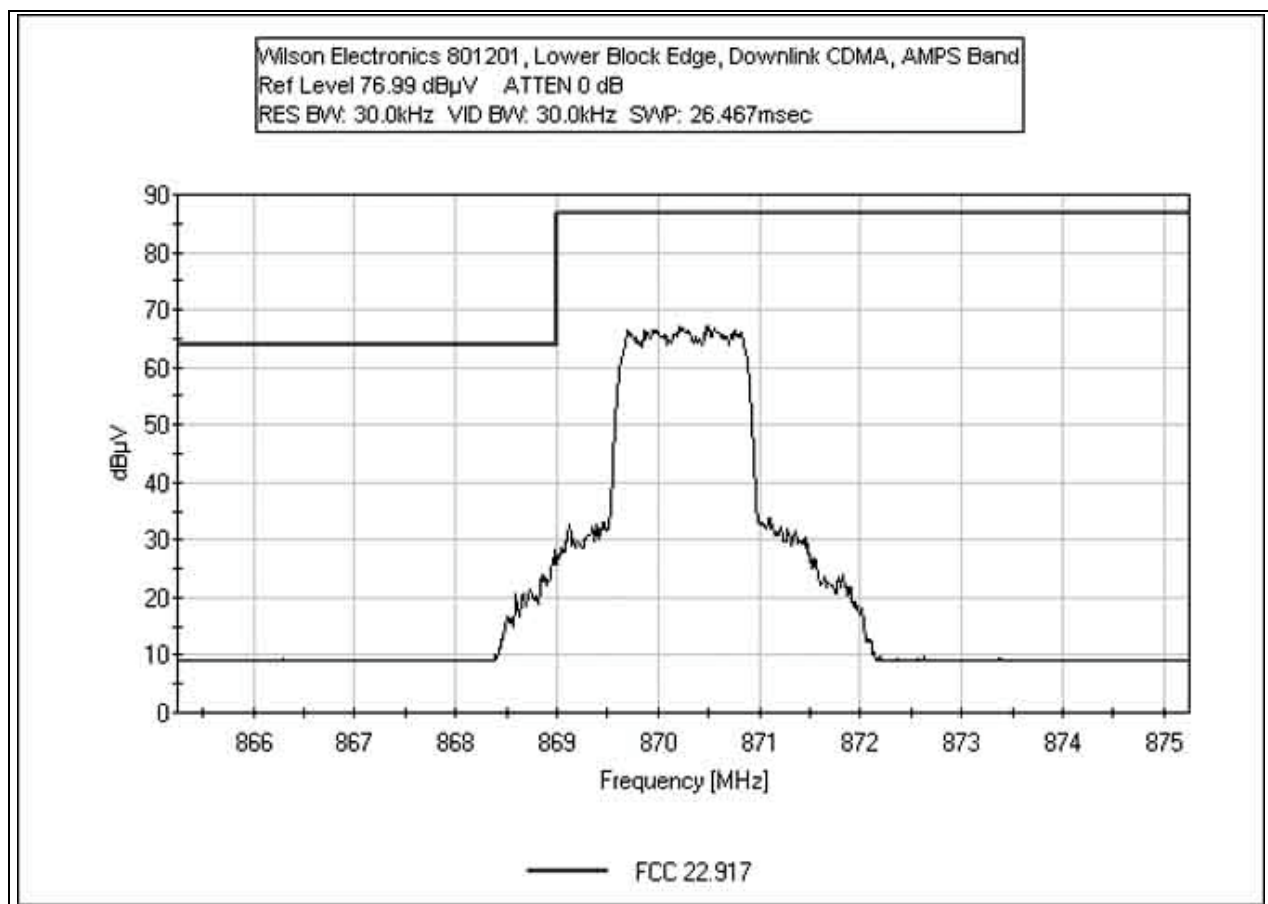
Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A SA	US44300407	01/12/2005	01/12/2007	02660
HF Cable		02/08/2005	02/08/2007	P05203
Weinchel 10dB attenuator	AH5409	05/23/2005	05/23/2007	P01681

PHOTOGRAPH SHOWING DIRECT CONNECT TEST SETUP

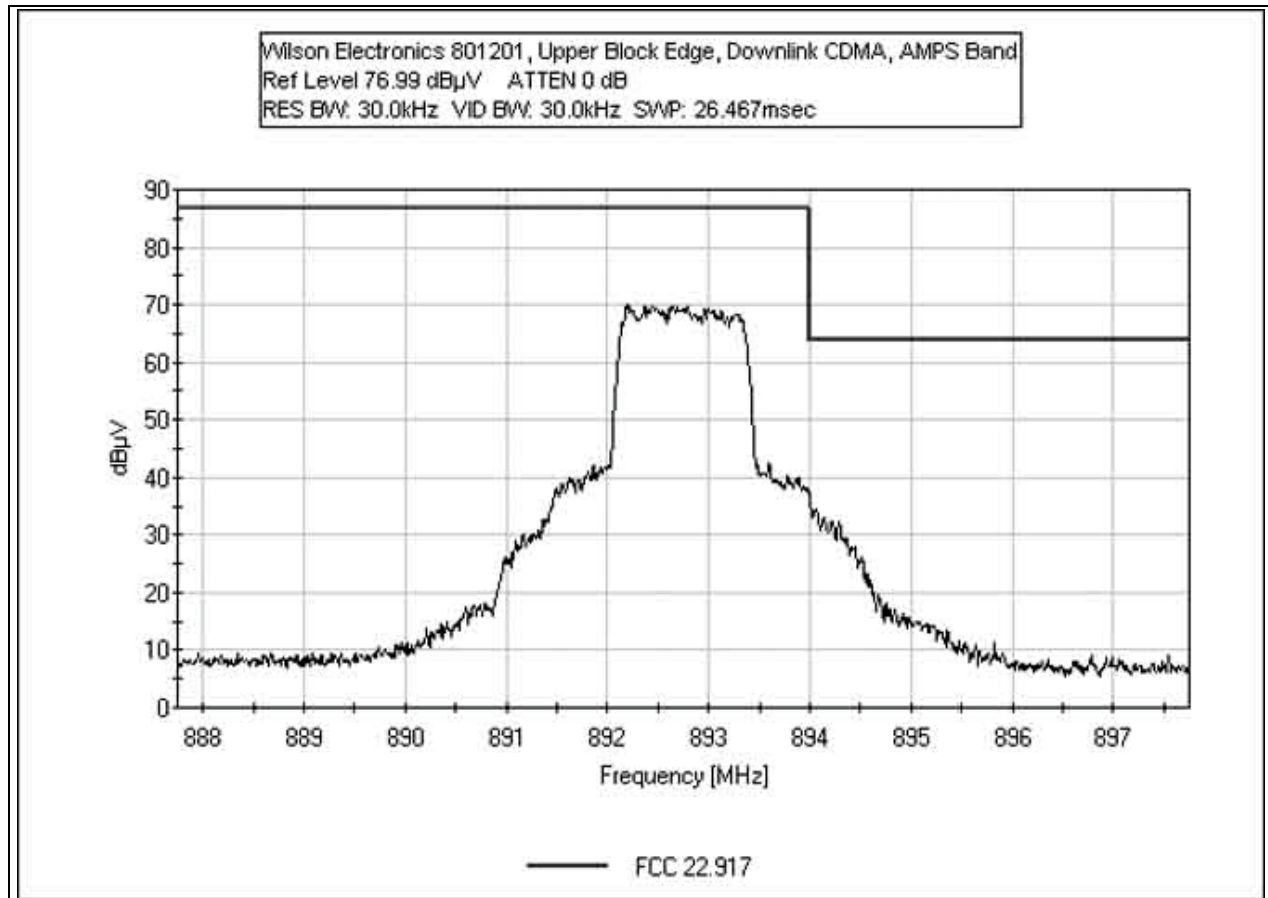


**FCC 2.1033(C)(14)/2.1051/22.917 - DOWNLINK LOWER BLOCK EDGE CDMA
- 800 MHZ BAND**

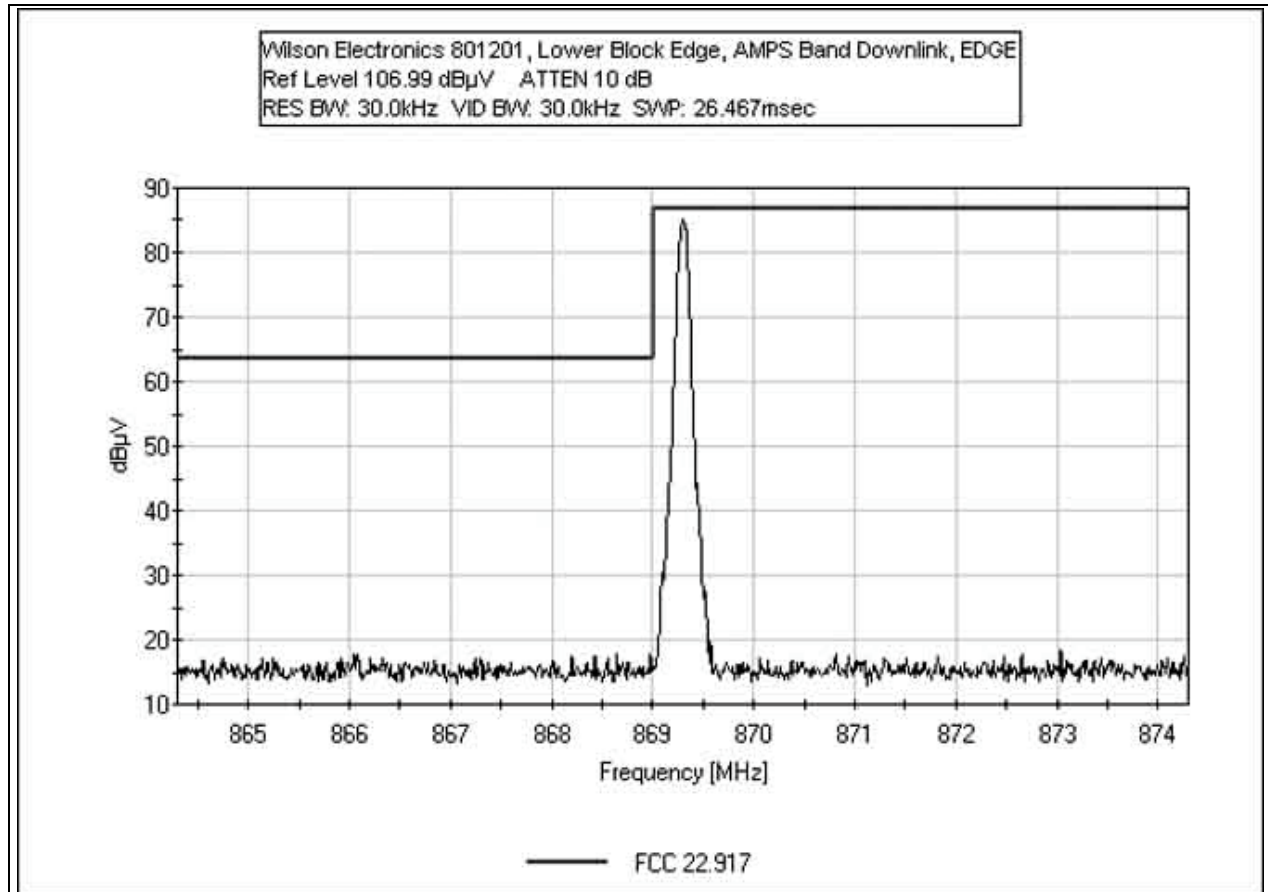
Test Conditions: EUT is a bidirectional amplifier for the 824 to 894MHz band. Uplink frequency range 824 - 849MHz. Downlink frequency range 869 - 894MHz. One signal is input to the amplifier. The input signal is set such that the maximum output is provided at the antenna terminals. The internal ALC of 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.



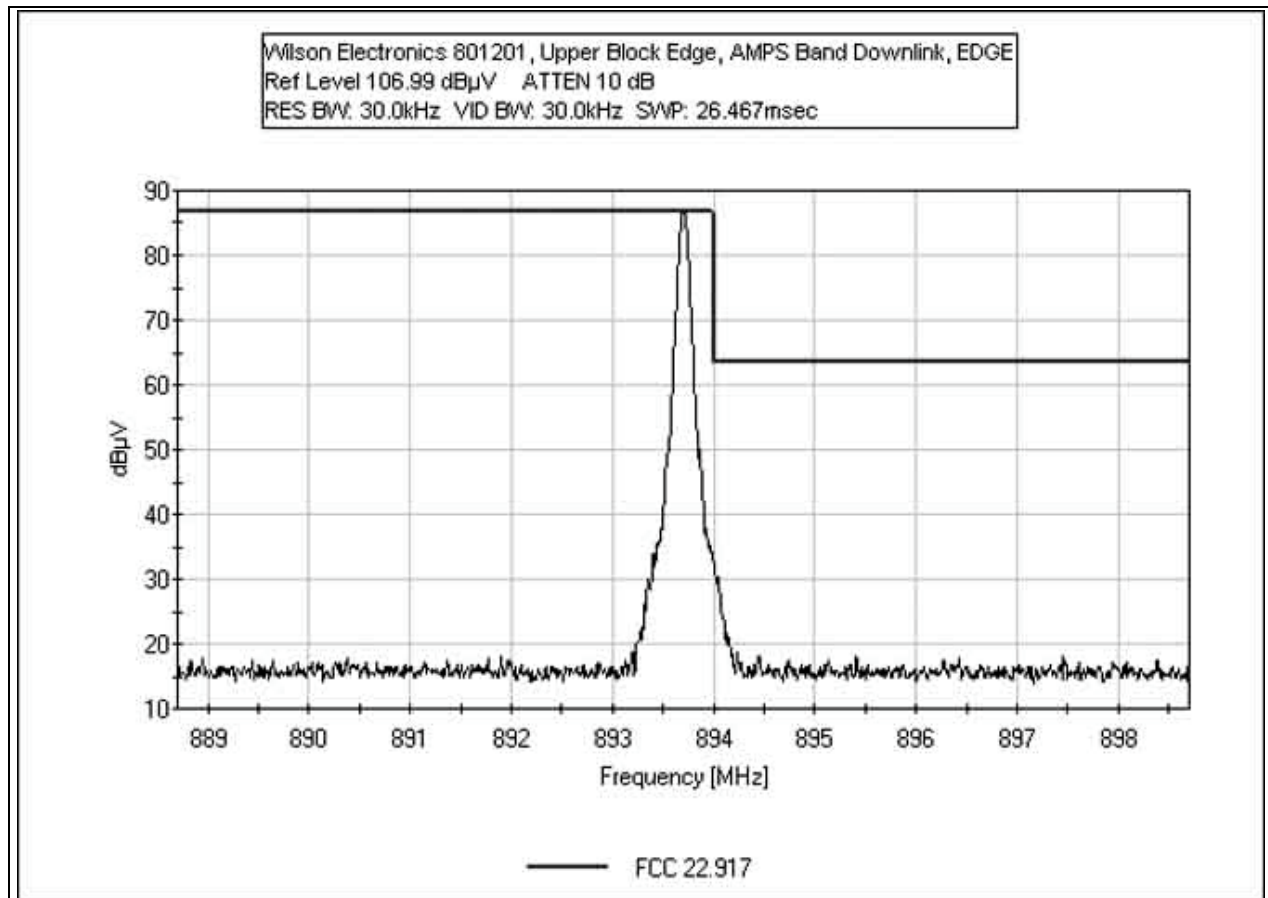
**FCC 2.1033(C)(14)/2.1051/22.917 - DOWNLINK UPPER BLOCK EDGE CDMA
- 800 MHZ BAND**



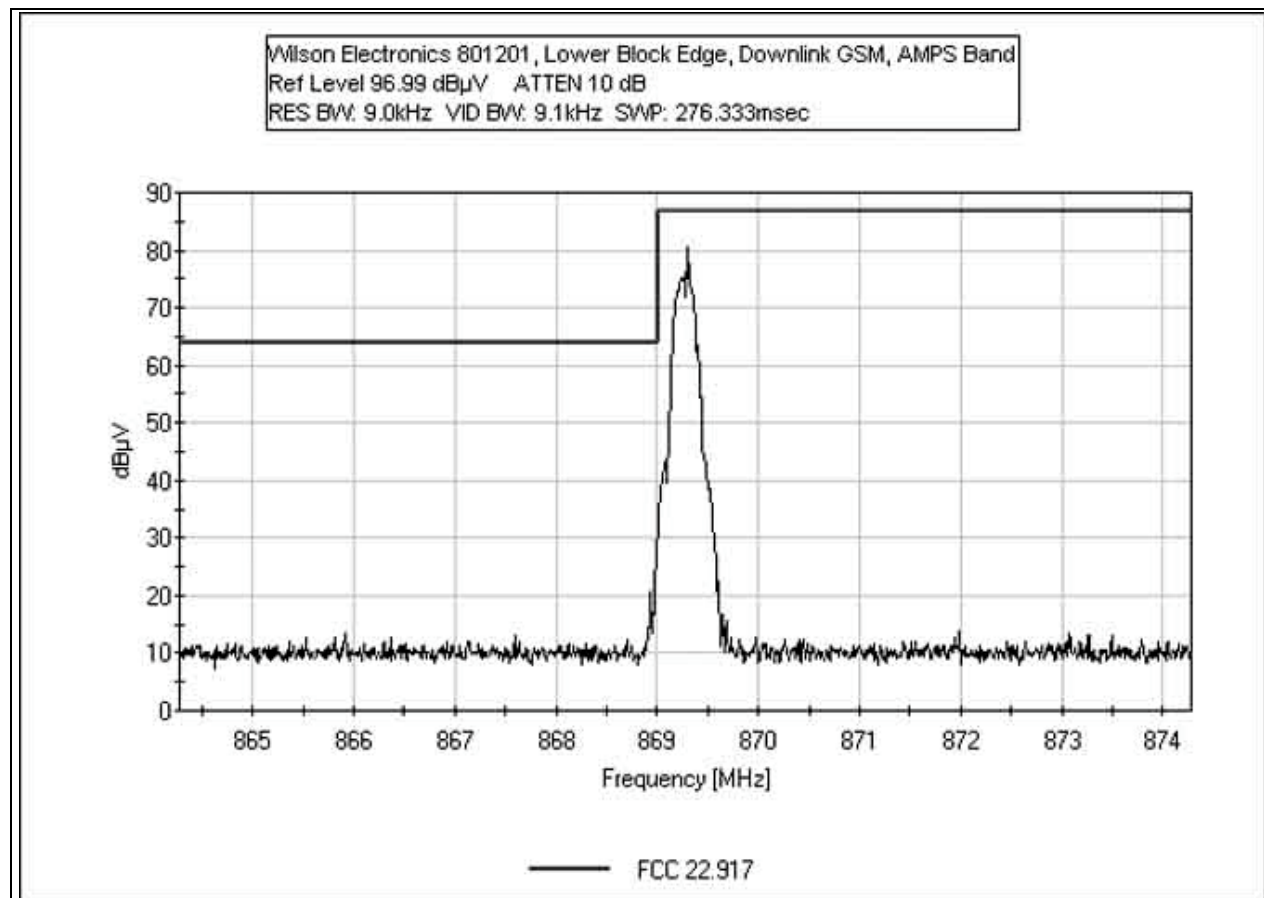
**FCC 2.1033(C)(14)/2.1051/22.917 - DOWNLINK LOWER BLOCK EDGE EDGE
- 800 MHZ BAND**



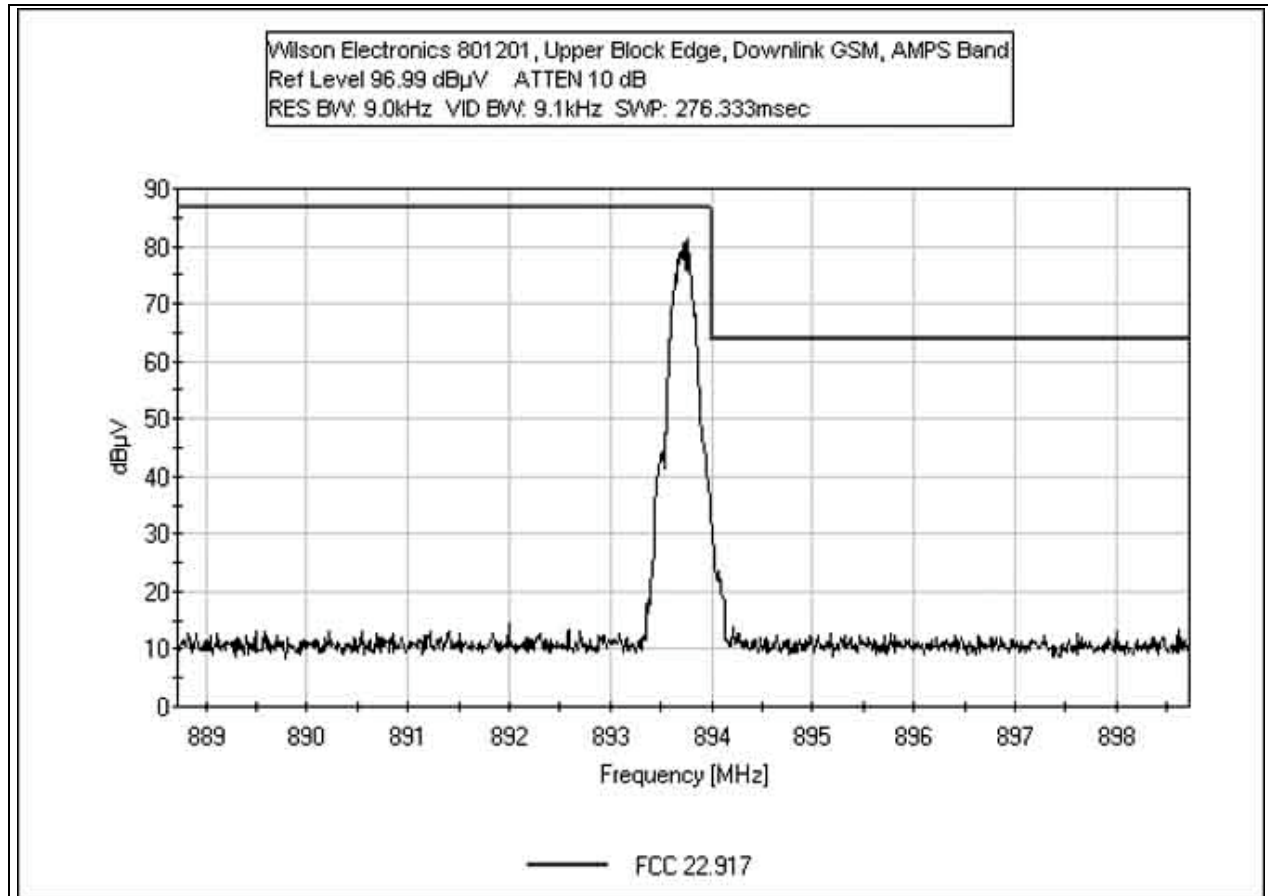
**FCC 2.1033(C)(14)/2.1051/22.917 - DOWNLINK UPPER BLOCK EDGE EDGE
- 800 MHZ BAND**



**FCC 2.1033(C)(14)/2.1051/22.917 - DOWNLINK LOWER BLOCK EDGE GSM
- 800 MHZ BAND**



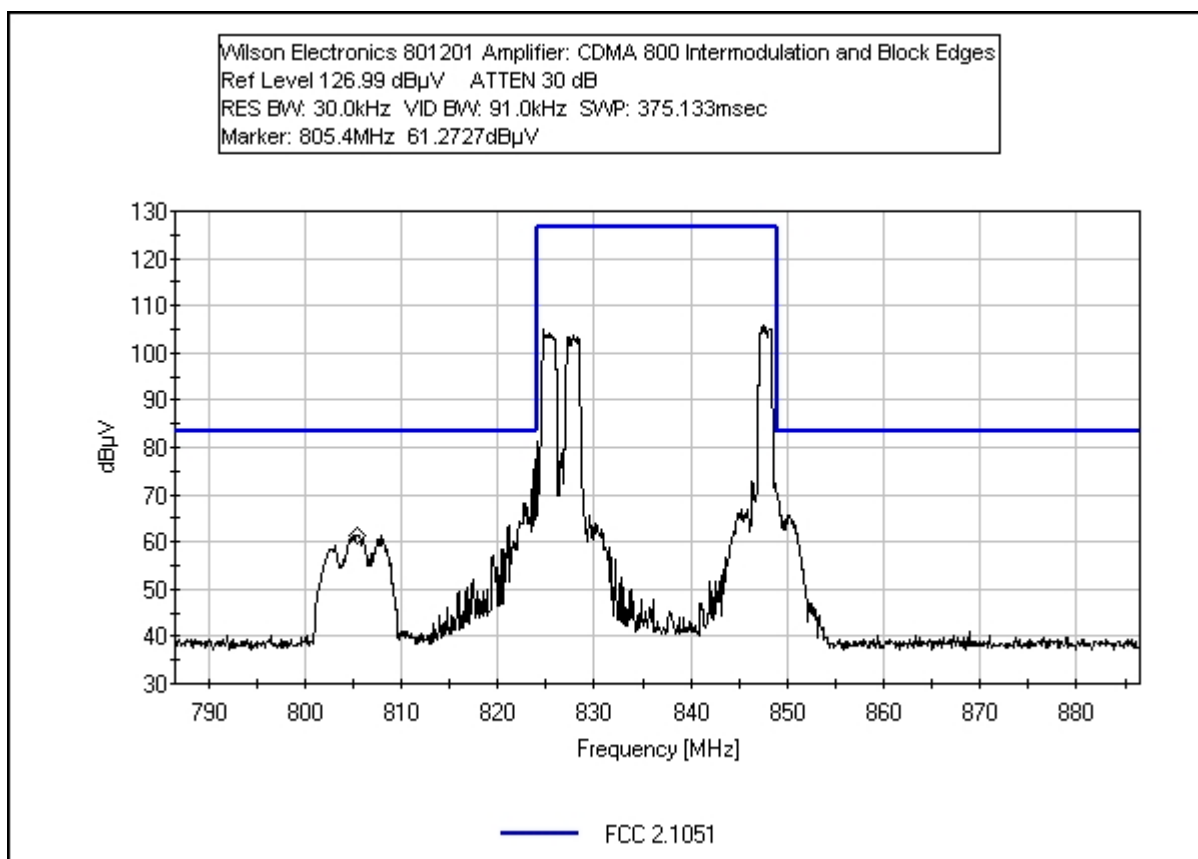
**FCC 2.1033(C)(14)/2.1051/22.917 - DOWNLINK UPPER BLOCK EDGE GSM
- 800 MHZ BAND**



Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A SA	US44300407	01/12/2005	01/12/2007	02660
Attenuator 30dB, Bird	9949	05/09/2003	05/09/2005	P01572
25-A-MFN-30				

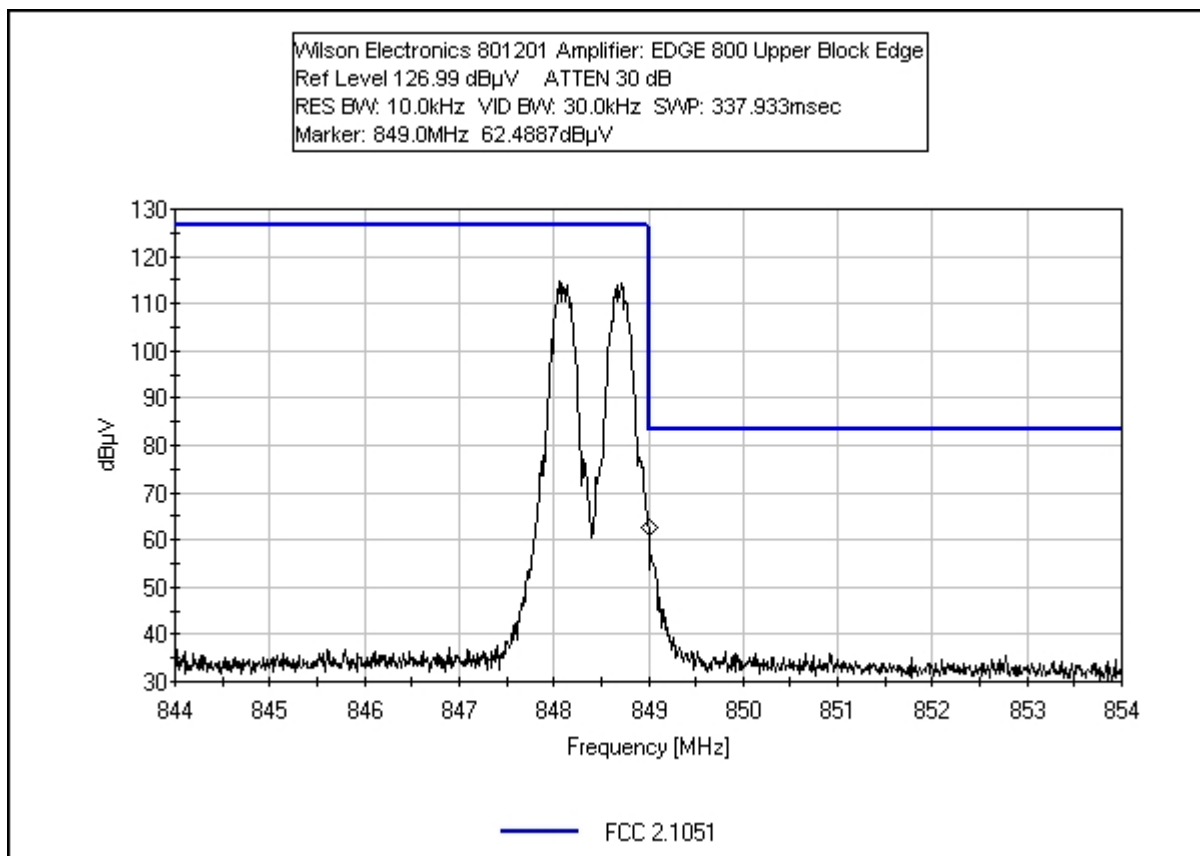
FCC 2.1033(C)(14)/2.1051/22.917 - UPLINK BLOCK EDGE AND INTERMODULATION - CDMA



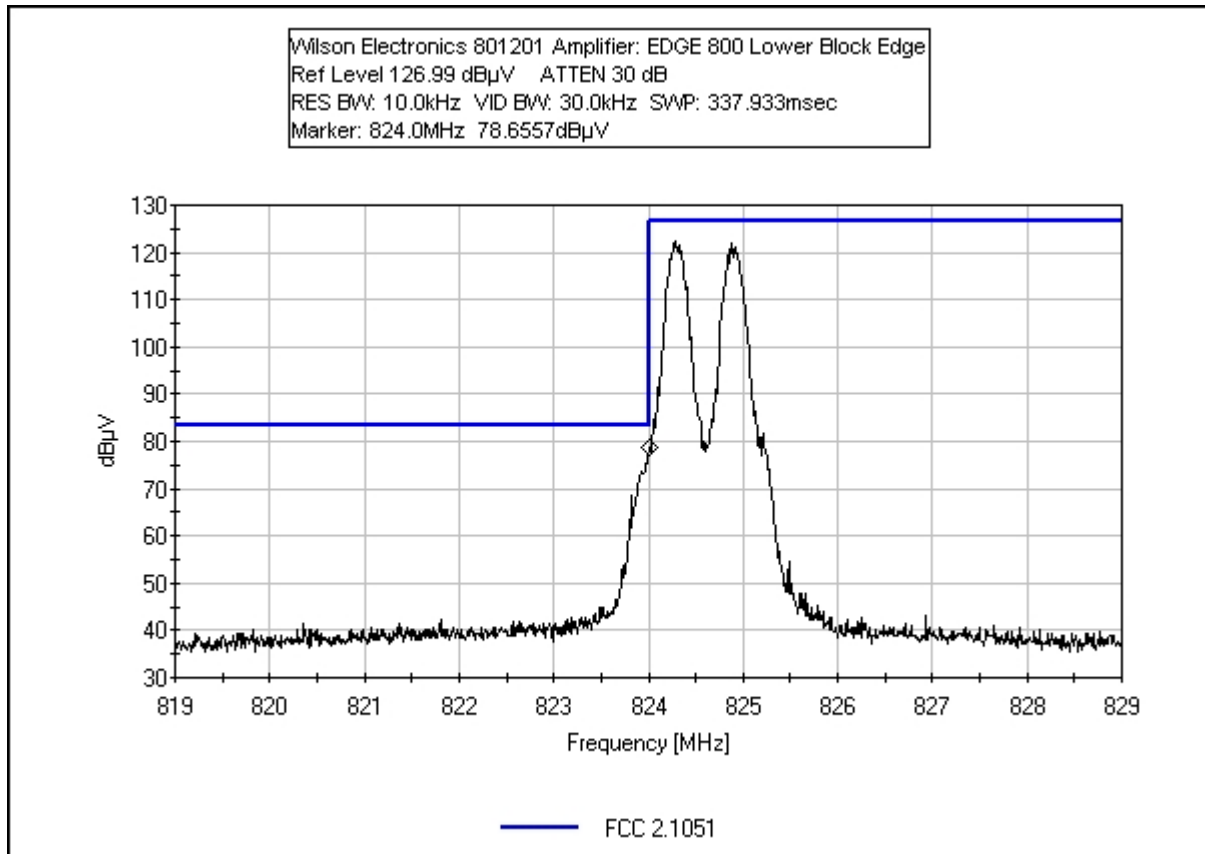
Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A SA	US44300407	01/12/2005	01/12/2007	02660
HF Cable		02/08/2005	02/08/2007	P05203
Weinchel 10dB attenuator	AH5409	05/23/2005	05/23/2007	P01681

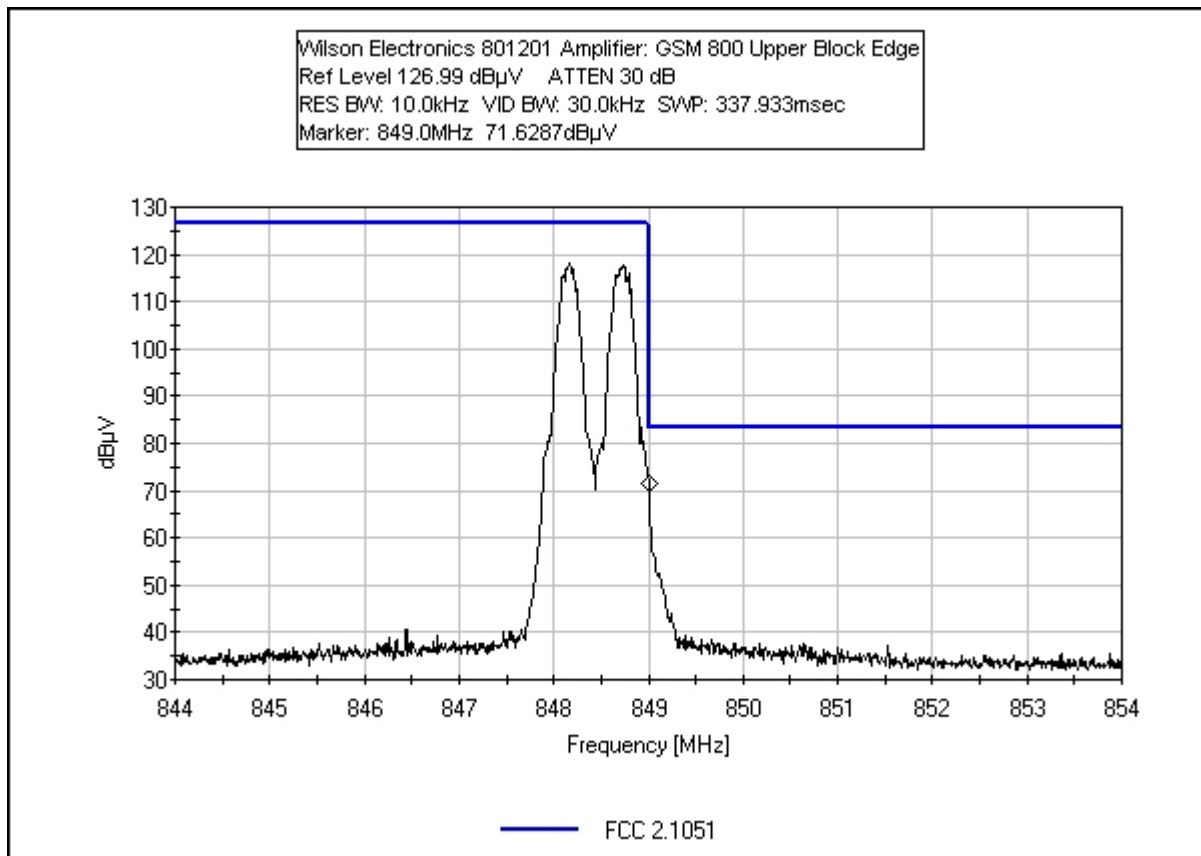
FCC 2.1033(c)(14)/2.1051/22.917 - UPLINK UPPER BLOCK EDGE - EDGE



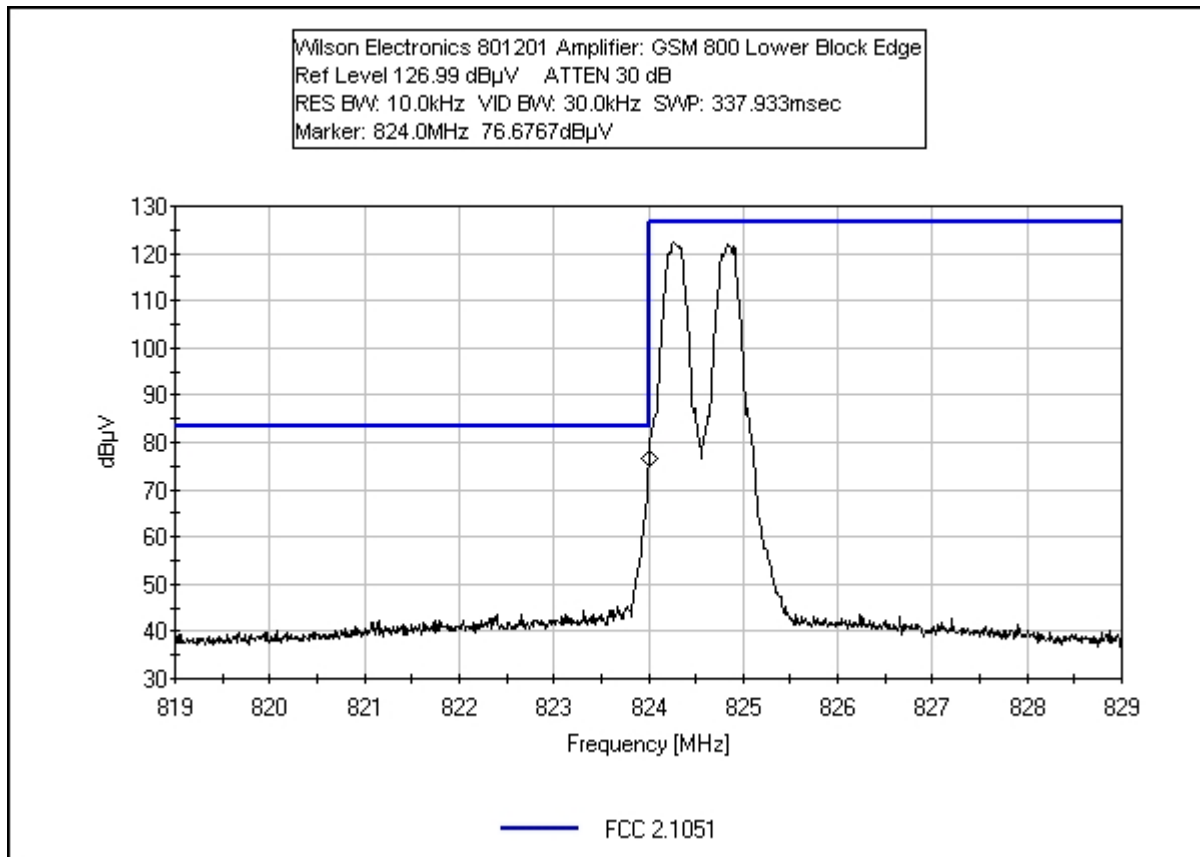
FCC 2.1033(C)(14)/2.1051/22.917 - UPLINK LOWER BLOCK EDGE - EDGE



FCC 2.1033(C)(14)/2.1051/22.917 - UPLINK UPPER BLOCK EDGE - GSM



FCC 2.1033(C)(14)/2.1051/22.917 - UPLINK LOWER BLOCK EDGE - GSM



Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A SA	US44300407	01/12/2005	01/12/2007	02660
HF Cable		02/08/2005	02/08/2007	P05203
Weinchel 10dB attenuator	AH5409	05/23/2005	05/23/2007	P01681

Test Location: CKC Laboratories • 5046 Sierra Pines Dr. • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **Wilson Electronics**
 Specification: **FCC 2.1051**
 Work Order #: **84511** Date: 12/15/2005
 Test Type: **Antenna Terminals** Time: 10:06:10
 Equipment: **In Vehicle Wireless Dual Band Smart Amplifier** Sequence#: 23
 Manufacturer: Wilson Electronics Tested By: Ryan Rutledge
 Model: 801201-A
 S/N: 8012010112702

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A SA	US44300407	01/12/2005	01/12/2007	02660
HF Cable		02/08/2005	02/08/2007	P05203
Weinchel 10dB attenuator	AH5409	05/23/2005	05/23/2007	P01681

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
In Vehicle Wireless Dual Band Smart Amplifier*	Wilson Electronics	801201-A	8012010112702

Support Devices:

Function	Manufacturer	Model #	S/N
DC Power Supply	Topward	TPS-2000	920035
Signal Generator	HP	E4432B	US40052968
Signal Generator	HP	E4432B	US400053750

Test Conditions / Notes:

EUT is a dual band bidirectional amplifier for the 824 to 894 MHz and the 1850 to 1990 MHz bands. Uplink frequency range 824 - 849MHz and 1850 - 1910MHz. Downlink frequency range 869 - 894MHz and 1930 - 1990MHz. 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: As Indicated
 Frequencies Tested: Uplink 800MHz. This mode represents the worst case of emissions. Frequency Range Investigated: 30 MHz to 20 GHz.

Transducer Legend:

T1=Pad 10dB	T2=Cable 40 GHz 48"
T3=DC AN 02576	

Measurement Data:

Reading listed by margin.

Test Distance: None

#	Freq MHz	Rdng dBμV	T1 dB	T2 dB	T3 dB	Dist Table	Corr dBμV/m	Spec dBμV/m	Margin dB	Polar Ant
1	824.000M	78.7	+9.7	+0.9		+0.0	89.3	94.0	-4.7	None
								EDGE 800 Lower Block Edge		
2	824.000M	76.7	+9.7	+0.9		+0.0	87.3	94.0	-6.7	None
								GSM 800 Lower Block Edge		

3	849.000M	76.0	+9.7	+0.9	+0.0	+0.0	86.6	94.0	-7.4	None
								EDGE 800 Upper Block Edge		
4	805.250M	75.8	+9.7	+0.9	+0.0	+0.0	86.4	94.0	-7.6	None
								CDMA Intermodulation Products		
5	807.750M	73.6	+9.7	+0.9	+0.0	+0.0	84.2	94.0	-9.8	None
								CDMA Intermodulation Products		
6	849.000M	72.9	+9.7	+0.9	+0.0	+0.0	83.5	94.0	-10.5	None
								GSM 800 Upper Block Edge		
7	802.750M	71.3	+9.7	+0.9	+0.0	+0.0	81.9	94.0	-12.1	None
								CDMA Intermodulation Products		
8	824.000M	66.3	+9.7	+0.9	+0.0	+0.0	76.9	94.0	-17.1	None
								CDMA 800 Lower Block Edge		
9	849.000M	65.5	+9.7	+0.9	+0.0	+0.0	76.1	94.0	-17.9	None
								CDMA 800 Upper Block Edge		

PHOTOGRAPH SHOWING DIRECT CONNECT TEST SETUP



FCC 2.1033(c)(14)/2.1051/22.917 - INTERMODULATION ATTENUATION

ANALYZER BANDWIDTH SETTINGS PER FREQUENCY RANGE			
TEST	BEGINNING FREQUENCY	ENDING FREQUENCY	BANDWIDTH SETTING
RADIATED EMISSIONS	30 MHz	1000MHz	10 kHz
RADIATED EMISSIONS	1000MHz	10 GHz	100 kHz

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

Customer: **Wilson Electronics**
 Specification: **FCC 22.917**
 Work Order #: **83305** Date: 03/23/2005
 Test Type: **Antenna Terminals** Time: 09:18:53
 Equipment: **In Vehicle Wireless Dual Band Smart Amplifier** Sequence#: 10
 Manufacturer: Wilson Electronics Tested By: Mike Wilkinson
 Model: 801201
 S/N: 8012010000006

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A SA	US44300407	01/12/2005	01/12/2007	02660
Attenuator 30dB, Bird	9949	05/09/2003	05/09/2005	P01572
25-A-MFN-30				

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
In Vehicle Wireless Dual Band Smart Amplifier*	Wilson Electronics	801201	8012010000006

Support Devices:

Function	Manufacturer	Model #	S/N
Signal Generator	HP	E4433B	US38440697
DC Power Supply	Topward	TPS-2000	920035
Signal Generator	HP	E4432B	MY41000298

Test Conditions / Notes:

EUT is a bidirectional amplifier for the 824 to 894MHz band. Uplink frequency range 824 - 849MHz. Downlink frequency range 869 - 894MHz. 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. Measurements were performed using the 3 tone method. Frequencies Tested: Downlink 870.25MHz, 872.75MHz, 892.75MHz. Frequency Range Investigated: 30MHz 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	892.720M	73.1	+30.3				+0.0	103.4	117.0 Fundamental	-13.6	None
2	895.280M	46.2	+30.3				+0.0	76.5	94.0	-17.5	None
3	870.220M	69.1	+30.3				+0.0	99.4	117.0 Fundamental	-17.6	None
4	872.840M	68.8	+30.3				+0.0	99.1	117.0 Fundamental	-17.9	None

5	867.720M	42.6	+30.3	+0.0	72.9	94.0	-21.1	None
6	2678.000M	33.6	+29.8	+0.0	63.4	94.0	-30.6	None
7	912.880M	32.2	+30.3	+0.0	62.5	94.0	-31.5	None
8	2635.620M	28.1	+29.9	+0.0	58.0	94.0	-36.0	None
9	2658.380M	24.0	+29.9	+0.0	53.9	94.0	-40.1	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 #: **83305** Date: 03/24/2005
 Test Type: **Antenna Terminals** Time: 14:01:31
 Equipment: **In Vehicle Wireless Dual Band Smart Amplifier** Sequence#: 26
 Manufacturer: Wilson Electronics Tested By: Mike Wilkinson
 Model: 801201
 S/N: 8012010000006

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A SA	US44300407	01/12/2005	01/12/2007	02660
Attenuator 30dB, Bird 25-A-MFN-30	9949	05/09/2003	05/09/2005	P01572

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
In Vehicle Wireless Dual Band Smart Amplifier*	Wilson Electronics	801201	8012010000006

Support Devices:

Function	Manufacturer	Model #	S/N
Signal Generator	HP	E4433B	US38440697
DC Power Supply	Topward	TPS-2000	920035
Signal Generator	HP	E4432B	MY41000298

Test Conditions / Notes:

EUT is a bidirectional amplifier for the 824 to 894MHz band. Uplink frequency range 824 - 849MHz. Downlink frequency range 869 - 894MHz. 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. Measurements were performed using the 2 tone method. Frequencies Tested: Downlink 869.3MHz, 869.9MHz. Frequency Range Investigated: 30MHz 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	869.900M	83.0	+30.3				+0.0	113.3	117.0	-3.7	None
									Fundamental		
2	869.300M	82.1	+30.3				+0.0	112.4	117.0	-4.6	None
									Fundamental		
3	2607.900M	28.4	+29.9				+0.0	58.3	94.0	-35.7	None
4	2609.690M	27.5	+29.9				+0.0	57.4	94.0	-36.6	None

5	868.980M	21.5	+30.3	+0.0	51.8	94.0	-42.2	None
6	3475.770M	21.1	+29.8	+0.0	50.9	94.0	-43.1	None
7	1739.810M	20.5	+30.3	+0.0	50.8	94.0	-43.2	None
8	1738.600M	20.0	+30.3	+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 #: **83305**

Date: 03/24/2005

Test Type: **Antenna Terminals**

Time: 14:25:45

Equipment: **In Vehicle Wireless Dual Band Smart Amplifier**

Sequence#: 29

Manufacturer: Wilson Electronics

Tested By: Mike Wilkinson

Model: 801201

S/N: 8012010000006

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A SA	US44300407	01/12/2005	01/12/2007	02660
Attenuator 30dB, Bird	9949	05/09/2003	05/09/2005	P01572
25-A-MFN-30				

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
In Vehicle Wireless Dual Band Smart Amplifier*	Wilson Electronics	801201	8012010000006

Support Devices:

Function	Manufacturer	Model #	S/N
Signal Generator	HP	E4433B	US38440697
DC Power Supply	Topward	TPS-2000	920035
Signal Generator	HP	E4432B	MY41000298

Test Conditions / Notes:

EUT is a bidirectional amplifier for the 824 to 894MHz band. Uplink frequency range 824 - 849MHz. Downlink frequency range 869 - 894MHz. 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. Measurements were performed using the 2 tone method. Frequencies Tested: Downlink 893.1MHz, 893.7MHz. Frequency Range Investigated: 30MHz 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	893.100M	85.0	+30.3				+0.0	115.3	117.0	-1.7	None
									Fundamental		
2	893.710M	85.0	+30.3				+0.0	115.3	117.0	-1.7	None
									Fundamental		
3	2681.100M	43.3	+29.8				+0.0	73.1	94.0	-20.9	None
4	2679.310M	42.9	+29.8				+0.0	72.7	94.0	-21.3	None

5	1787.400M	27.3	+30.3	+0.0	57.6	94.0	-36.4	None
6	1786.200M	26.7	+30.3	+0.0	57.0	94.0	-37.0	None
7	3574.800M	18.4	+29.8	+0.0	48.2	94.0	-45.8	None
8	894.100M	14.7	+30.3	+0.0	45.0	94.0	-49.0	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 #: **83305**
 Test Type: **Antenna Terminals**
 Equipment: **In Vehicle Wireless Dual Band Smart Amplifier**
 Manufacturer: Wilson Electronics
 Model: 801201

Date: 03/24/2005
 Time: 14:13:17
 Sequence#: 27
 Tested By: Mike Wilkinson
 S/N: 8012010000006

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A SA	US44300407	01/12/2005	01/12/2007	02660
Attenuator 30dB, Bird	9949	05/09/2003	05/09/2005	P01572
25-A-MFN-30				

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
In Vehicle Wireless Dual Band Smart Amplifier*	Wilson Electronics	801201	8012010000006

Support Devices:

Function	Manufacturer	Model #	S/N
Signal Generator	HP	E4433B	US38440697
DC Power Supply	Topward	TPS-2000	920035
Signal Generator	HP	E4432B	MY41000298

Test Conditions / Notes:

EUT is a bidirectional amplifier for the 824 to 894MHz band. Uplink frequency range 824 - 849MHz. Downlink frequency range 869 - 894MHz. 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. Measurements were performed using the 2 tone method. Frequencies Tested: Downlink 869.3MHz, 893.7MHz. Frequency Range Investigated: 30MHz 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	893.690M	84.8	+30.3				+0.0	115.1	117.0	-1.9	None
									Fundamental		
2	869.310M	82.2	+30.3				+0.0	112.5	117.0	-4.5	None
									Fundamental		
3	2607.900M	29.3	+29.9				+0.0	59.2	94.0	-34.8	None
4	3481.850M	20.8	+29.8				+0.0	50.6	94.0	-43.4	None
5	1738.610M	19.3	+30.3				+0.0	49.6	94.0	-44.4	None
6	868.970M	16.2	+30.3				+0.0	46.5	94.0	-47.5	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 #: **83305**
 Test Type: **Antenna Terminals**
 Equipment: **In Vehicle Wireless Dual Band Smart Amplifier**
 Manufacturer: Wilson Electronics
 Model: 801201

Date: 03/24/2005
 Time: 10:13:01
 Sequence#: 20
 Tested By: Mike Wilkinson
 S/N: 8012010000006

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A SA	US44300407	01/12/2005	01/12/2007	02660
Attenuator 30dB, Bird 25-A-MFN-30	9949	05/09/2003	05/09/2005	P01572

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
In Vehicle Wireless Dual Band Smart Amplifier*	Wilson Electronics	801201	8012010000006

Support Devices:

Function	Manufacturer	Model #	S/N
Signal Generator	HP	E4433B	US38440697
DC Power Supply	Topward	TPS-2000	920035
Signal Generator	HP	E4432B	MY41000298

Test Conditions / Notes:

EUT is a bidirectional amplifier for the 824 to 894MHz band. Uplink frequency range 824 - 849MHz. Downlink frequency range 869 - 894MHz. 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. Measurements were performed using the 2 tone method. Frequencies Tested: Downlink 869.28MHz, 869.84MHz. Frequency Range Investigated: 30MHz 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	869.480M	80.5	+30.3				+0.0	110.8	117.0	-6.2	None
									Fundamental		
2	870.060M	79.1	+30.3				+0.0	109.4	117.0	-7.6	None
									Fundamental		
3	2607.638M	24.4	+29.9				+0.0	54.3	94.0	-39.7	None
4	2608.018M	24.2	+29.9				+0.0	54.1	94.0	-39.9	None
5	2608.050M	24.1	+29.9				+0.0	54.0	94.0	-40.0	None
6	868.990M	17.4	+30.3				+0.0	47.7	94.0	-46.3	None
7	3477.298M	16.8	+29.8				+0.0	46.6	94.0	-47.4	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 #: **83305**
 Test Type: **Antenna Terminals**
 Equipment: **In Vehicle Wireless Dual Band Smart Amplifier**
 Manufacturer: Wilson Electronics
 Model: 801201
 S/N: 8012010000006

Date: 03/24/2005
 Time: 10:36:57
 Sequence#: 21
 Tested By: Mike Wilkinson

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A SA	US44300407	01/12/2005	01/12/2007	02660
Attenuator 30dB, Bird 25-A-MFN-30	9949	05/09/2003	05/09/2005	P01572

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
In Vehicle Wireless Dual Band Smart Amplifier*	Wilson Electronics	801201	8012010000006

Support Devices:

Function	Manufacturer	Model #	S/N
Signal Generator	HP	E4433B	US38440697
DC Power Supply	Topward	TPS-2000	920035
Signal Generator	HP	E4432B	MY41000298

Test Conditions / Notes:

EUT is a bidirectional amplifier for the 824 to 894MHz band. Uplink frequency range 824 - 849MHz. Downlink frequency range 869 - 894MHz. 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. Measurements were performed using the 2 tone method. Frequencies Tested: Downlink 869.28MHz, 893.72MHz. Frequency Range Investigated: 30MHz to 10 GHz.

Transducer Legend:

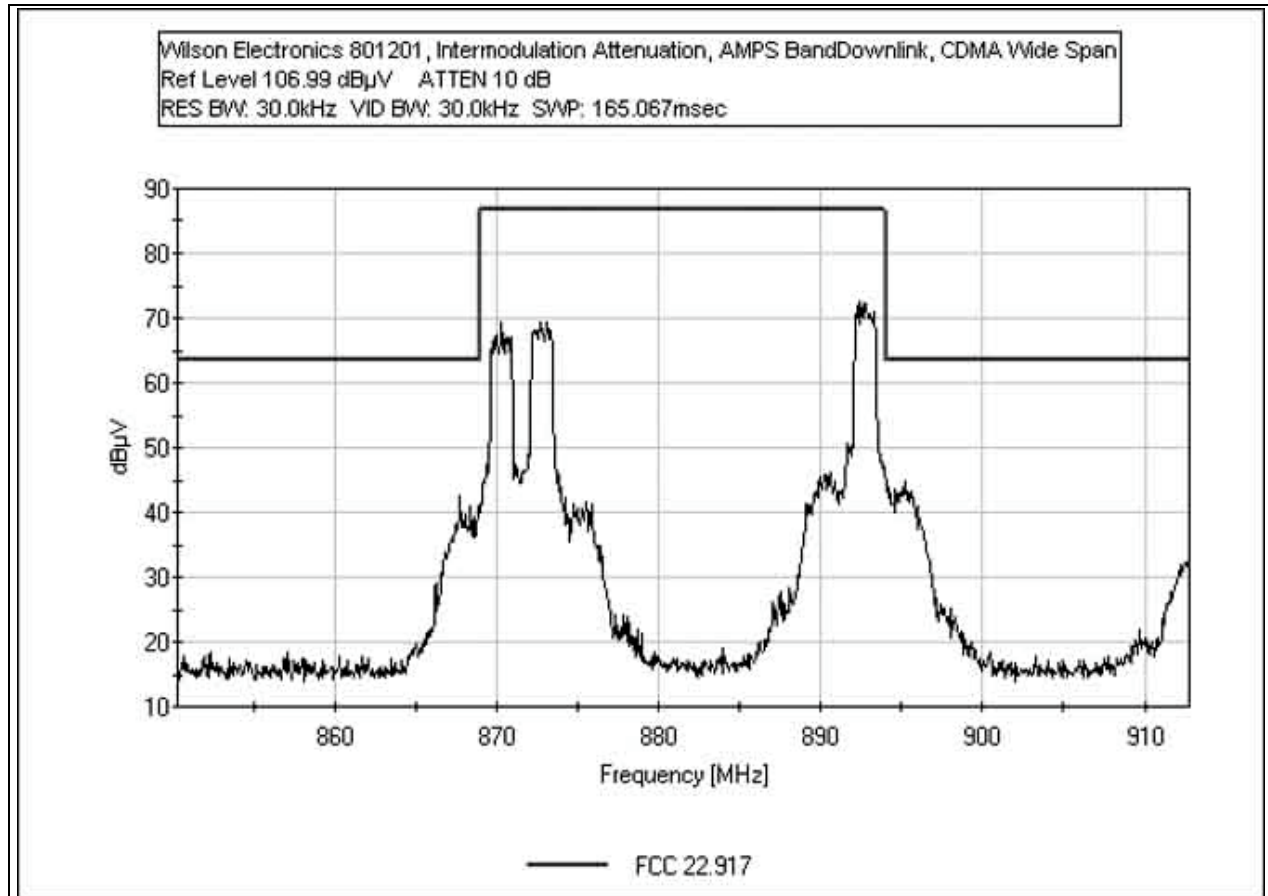
T1=Pad 30dB

Measurement Data: Reading listed by margin.

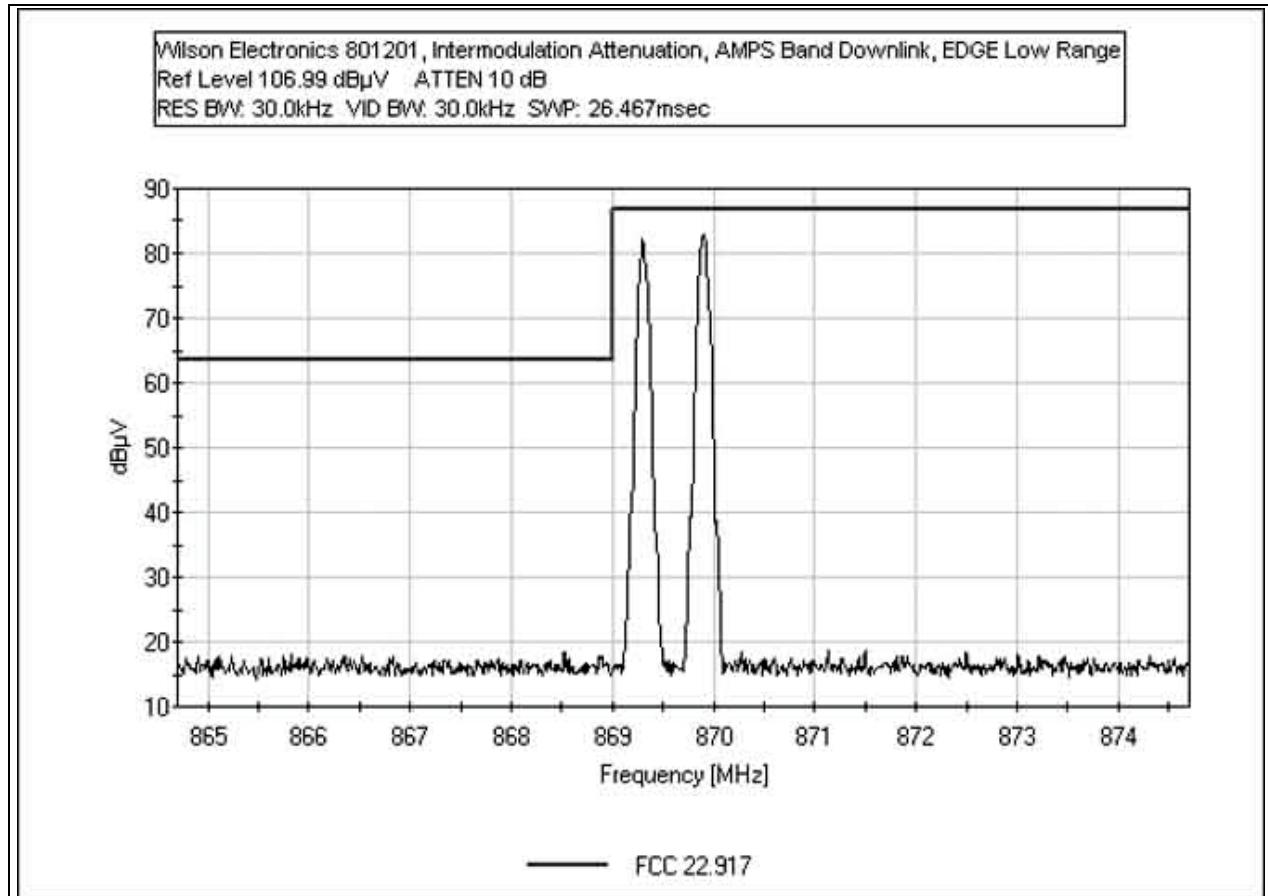
Test Distance: None

#	Freq MHz	Rdng dBμV	T1 dB				Dist Table	Corr dBμV	Spec dBμV	Margin dB	Polar Ant
1	893.690M	77.9	+30.3				+0.0	108.2	117.0	-8.8	None
									Fundamental		
2	869.310M	71.8	+30.3				+0.0	102.1	117.0	-14.9	None
									Fundamental		
3	2681.360M	38.0	+29.8				+0.0	67.8	94.0	-26.2	None
4	1787.440M	25.5	+30.3				+0.0	55.8	94.0	-38.2	None
5	3575.080M	19.6	+29.8				+0.0	49.4	94.0	-44.6	None
6	1738.590M	9.1	+30.3				+0.0	39.4	94.0	-54.6	None

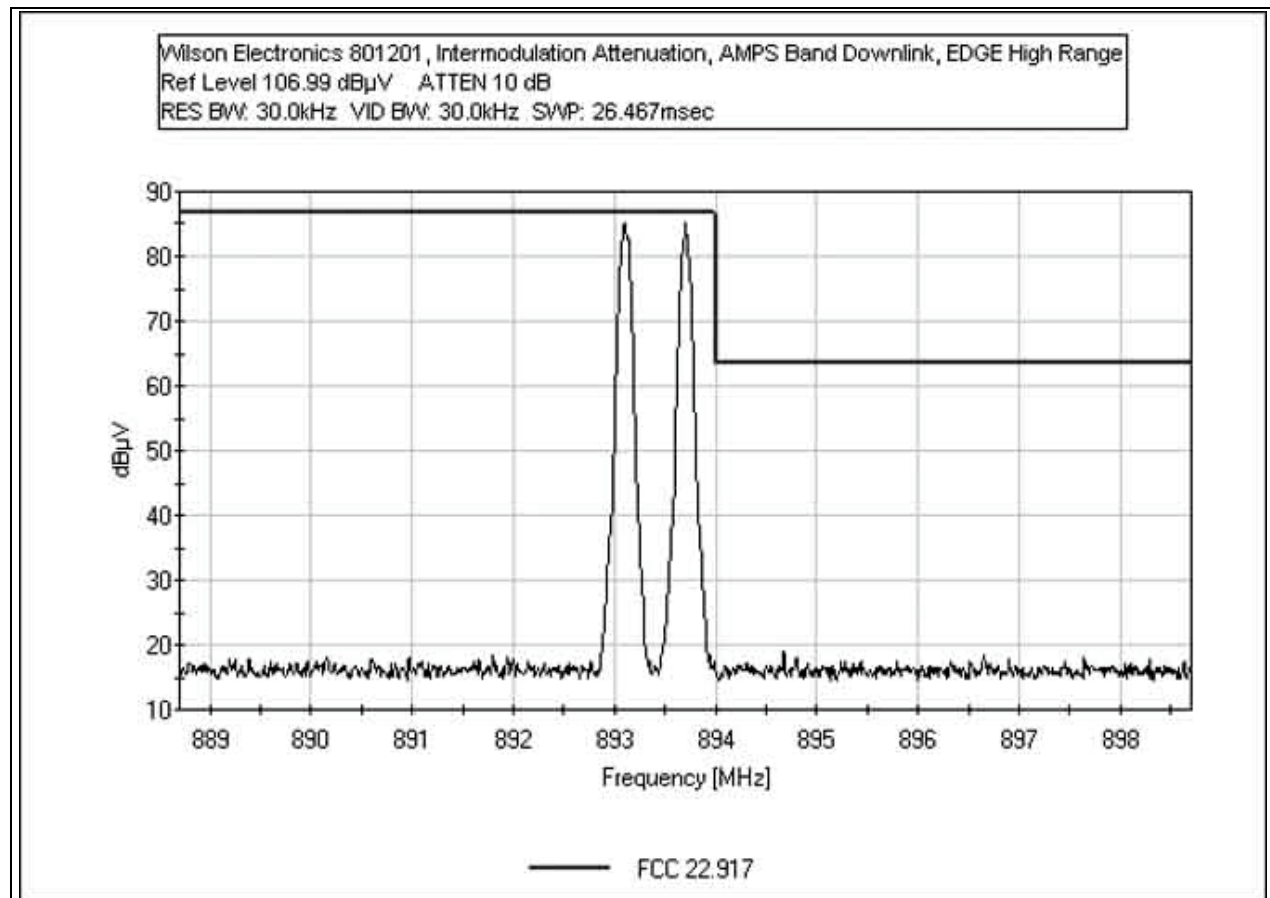
INTERMODULATION ATTENUATION DOWNLINK CDMA - 800 MHZ BAND WIDE SPAN



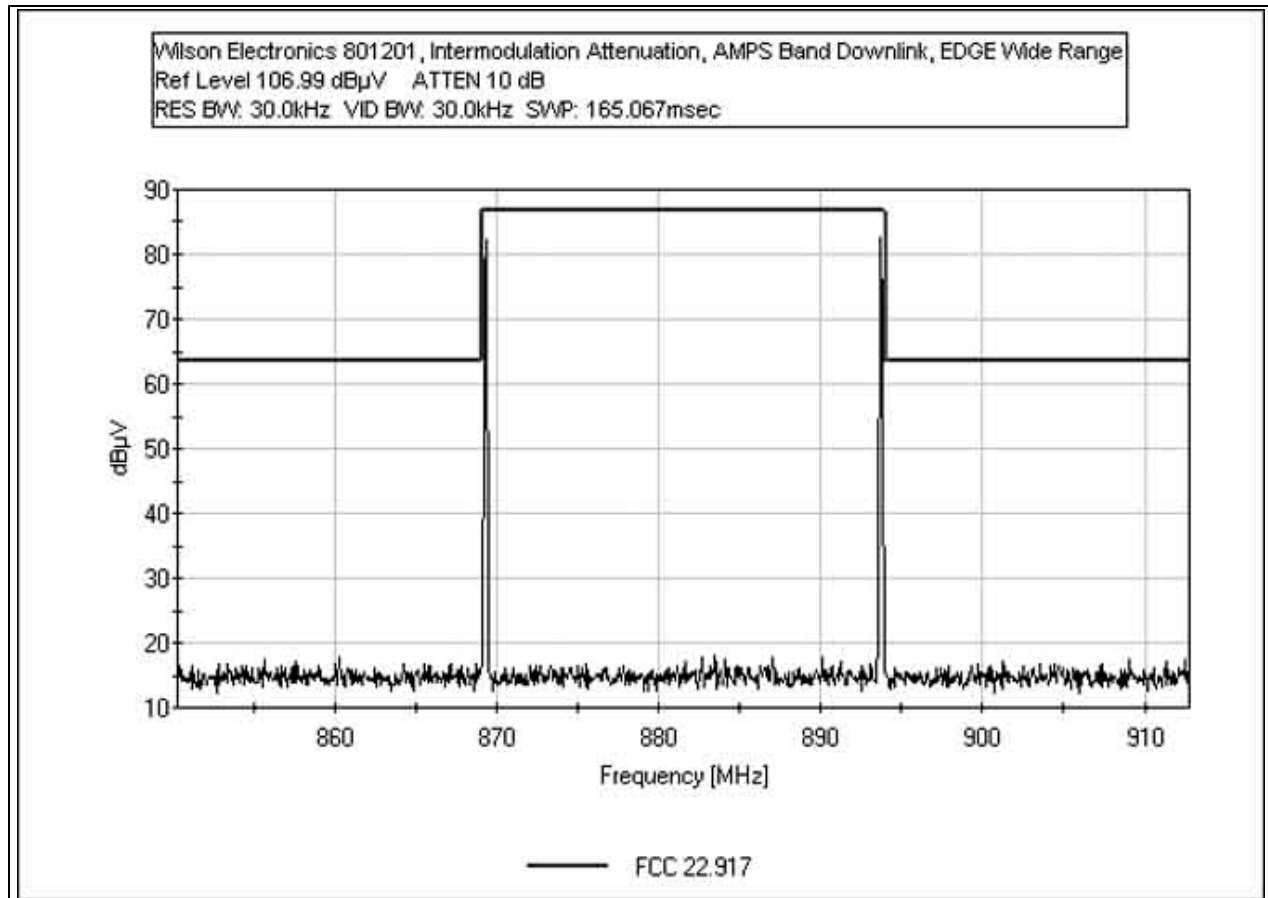
INTERMODULATION ATTENUATION DOWNLINK EDGE - 800 MHZ BAND LOW RANGE



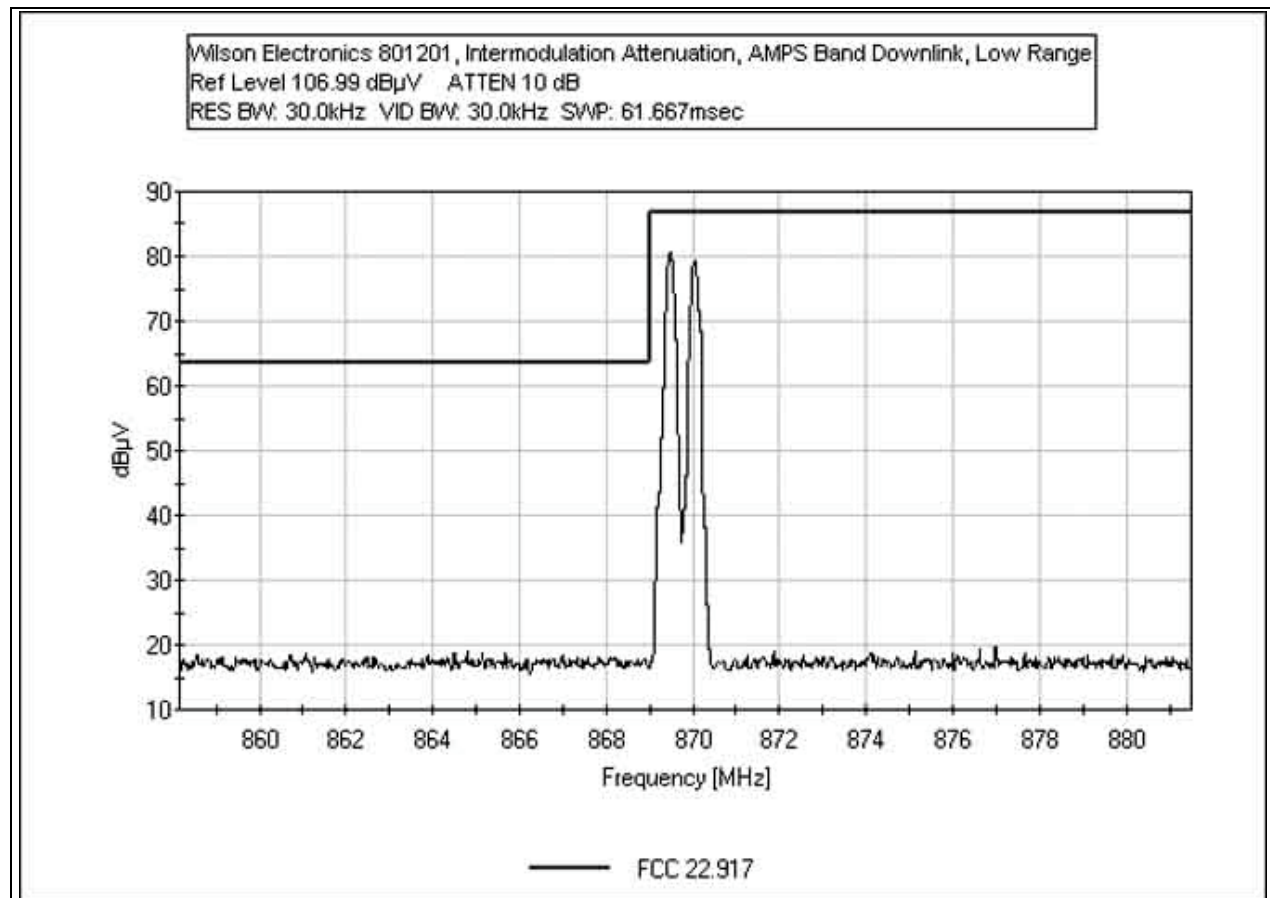
INTERMODULATION ATTENUATION DOWNLINK EDGE - 800 MHZ BAND HIGH RANGE



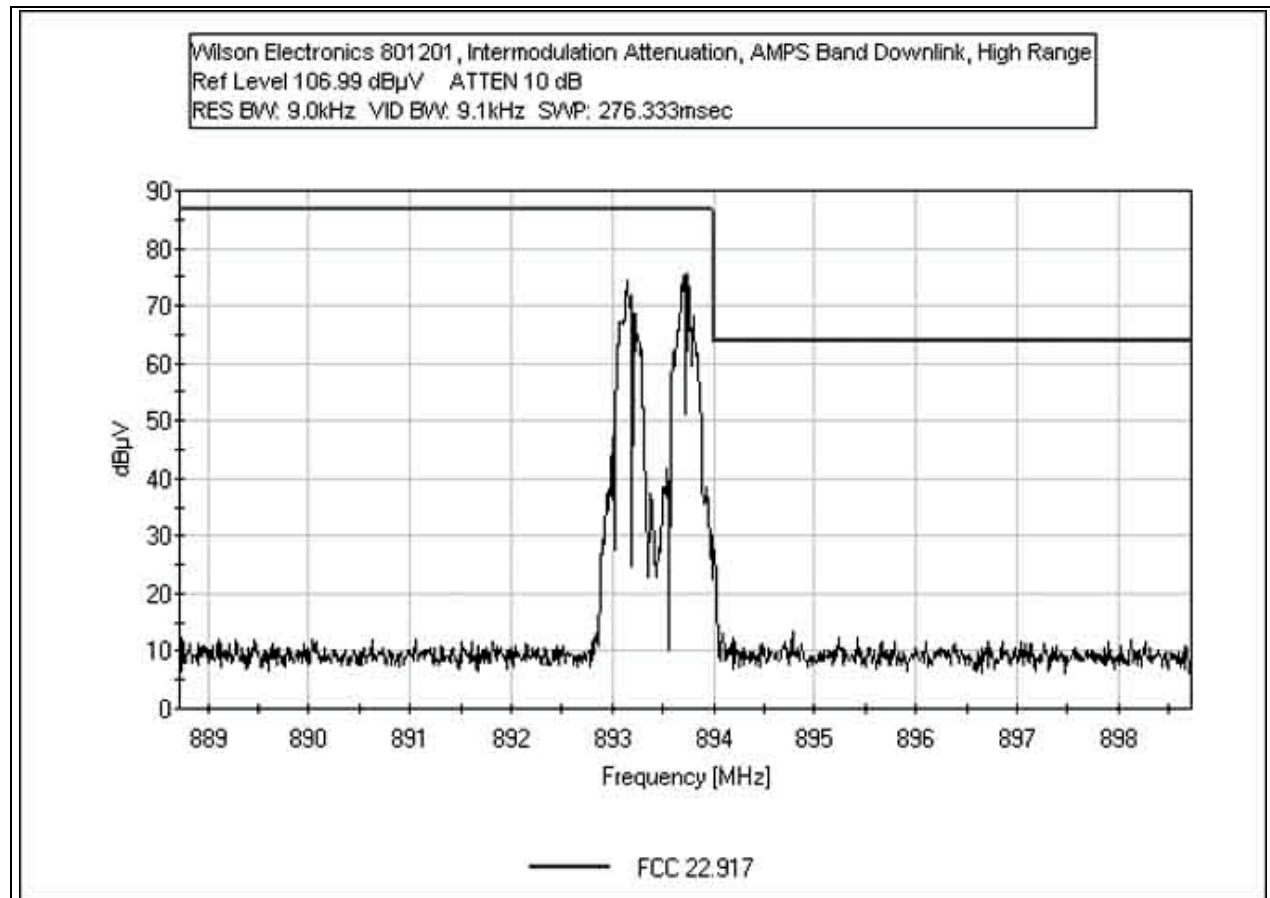
INTERMODULATION ATTENUATION DOWNLINK EDGE - 800 MHZ BAND WIDE RANGE



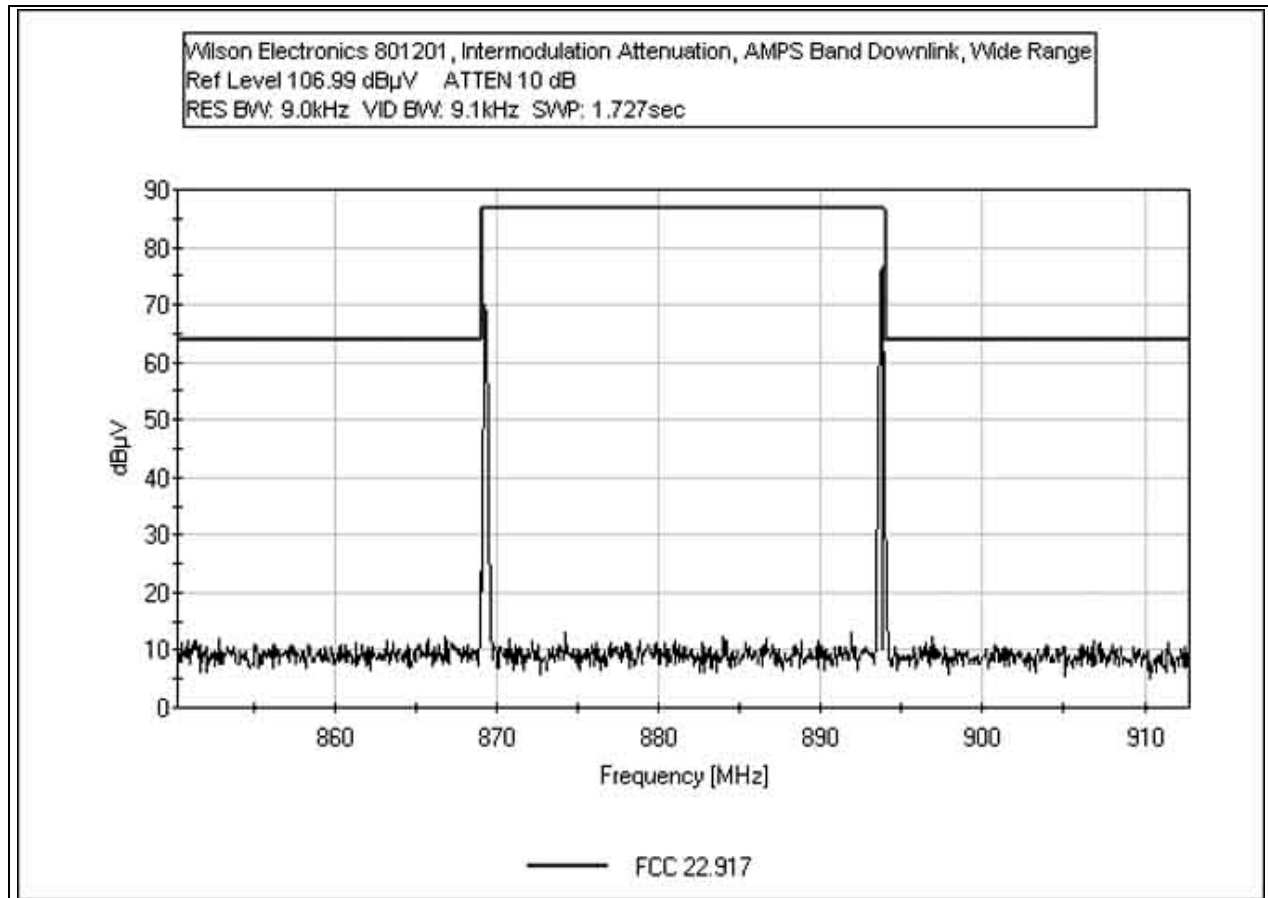
INTERMODULATION ATTENUATION DOWNLINK GSM - 800 MHZ BAND LOW RANGE



INTERMODULATION ATTENUATION DOWNLINK GSM - 800 MHZ BAND HIGH RANGE



INTERMODULATION ATTENUATION DOWNLINK GSM - 800 MHZ BAND WIDE RANGE



Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A SA	US44300407	01/12/2005	01/12/2007	02660
Attenuator 30dB, Bird	9949	05/09/2003	05/09/2005	P01572
25-A-MFN-30				

PHOTOGRAPH SHOWING DIRECT CONNECT TEST SETUP



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

ANALYZER BANDWIDTH SETTINGS PER FREQUENCY RANGE			
TEST	BEGINNING FREQUENCY	ENDING FREQUENCY	BANDWIDTH SETTING
RADIATED EMISSIONS	30 MHz	1000MHz	10 kHz
RADIATED EMISSIONS	1000MHz	10 GHz	100 kHz

Test Location: CKC Laboratories • 5473A Clouds Rest • Mariposa, CA 95338 • 1-800-500-4EMC (4362)
 Customer: **Wilson Electronics**
 Specification: **FCC 22.917**
 Work Order #: **83305** Date: 03/24/2005
 Test Type: **Antenna Terminals** Time: 13:11:05
 Equipment: **In Vehicle Wireless Dual Band Smart Amplifier** Sequence#: 23
 Manufacturer: Wilson Electronics Tested By: Mike Wilkinson
 Model: 801201
 S/N: 8012010000006

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A SA	US44300407	01/12/2005	01/12/2007	02660
Attenuator 30dB, Bird	9949	05/09/2003	05/09/2005	P01572
25-A-MFN-30				

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
In Vehicle Wireless Dual Band Smart Amplifier*	Wilson Electronics	801201	8012010000006

Support Devices:

Function	Manufacturer	Model #	S/N
Signal Generator	HP	E4433B	US38440697
DC Power Supply	Topward	TPS-2000	920035

Test Conditions / Notes:

EUT is a bidirectional amplifier for the 824 to 894MHz band. Uplink frequency range 824 - 849MHz. Downlink frequency range 869 - 894MHz. 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 - 869.3MHz. Frequency Range Investigated: 30MHz 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	869.300M	86.6	+30.3			+0.0	116.9	117.0	-0.1	None
Fundamental										

2	2607.900M	49.1	+29.9	+0.0	79.0	94.0	-15.0	None
3	3477.190M	39.0	+29.8	+0.0	68.8	94.0	-25.2	None
4	1738.620M	31.5	+30.3	+0.0	61.8	94.0	-32.2	None
5	4346.820M	24.5	+29.0	+0.0	53.5	94.0	-40.5	None
6	868.950M	17.7	+30.3	+0.0	48.0	94.0	-46.0	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 #: **83305** Date: 03/24/2005
 Test Type: **Antenna Terminals** Time: 13:30:28
 Equipment: **In Vehicle Wireless Dual Band Smart Amplifier** Sequence#: 24
 Manufacturer: Wilson Electronics Tested By: Mike Wilkinson
 Model: 801201
 S/N: 8012010000006

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A SA	US44300407	01/12/2005	01/12/2007	02660
Attenuator 30dB, Bird 25-A-MFN-30	9949	05/09/2003	05/09/2005	P01572

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
In Vehicle Wireless Dual Band Smart Amplifier*	Wilson Electronics	801201	8012010000006

Support Devices:

Function	Manufacturer	Model #	S/N
Signal Generator	HP	E4433B	US38440697
DC Power Supply	Topward	TPS-2000	920035

Test Conditions / Notes:

EUT is a bidirectional amplifier for the 824 to 894MHz band. Uplink frequency range 824 - 849MHz. Downlink frequency range 869 - 894MHz. 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 - 869.3MHz. Frequency Range Investigated: 30MHz 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	86.5	+30.3				+0.0	116.8	117.0	-0.2	None
									Fundamental		
2	2644.460M	51.0	+29.9				+0.0	80.9	94.0	-13.1	None
3	1763.010M	40.1	+30.3				+0.0	70.4	94.0	-23.6	None
4	3526.000M	39.6	+29.8				+0.0	69.4	94.0	-24.6	None
5	4409.810M	25.1	+28.9				+0.0	54.0	94.0	-40.0	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 #: **83305** Date: 03/24/2005
 Test Type: **Antenna Terminals** Time: 13:42:54
 Equipment: **In Vehicle Wireless Dual Band Smart Amplifier** Sequence#: 25
 Manufacturer: Wilson Electronics Tested By: Mike Wilkinson
 Model: 801201
 S/N: 8012010000006

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A SA	US44300407	01/12/2005	01/12/2007	02660
Attenuator 30dB, Bird 9949		05/09/2003	05/09/2005	P01572
25-A-MFN-30				

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
In Vehicle Wireless Dual Band Smart Amplifier*	Wilson Electronics	801201	8012010000006

Support Devices:

Function	Manufacturer	Model #	S/N
Signal Generator	HP	E4433B	US38440697
DC Power Supply	Topward	TPS-2000	920035

Test Conditions / Notes:

EUT is a bidirectional amplifier for the 824 to 894MHz band. Uplink frequency range 824 - 849MHz. Downlink frequency range 869 - 894MHz. 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 - 893.7MHz. Frequency Range Investigated: 30MHz 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	893.705M	87.7	+30.3				+0.0	118.0	117.0	+1.0	None
									Fundamental		
2	894.015M	39.7	+30.3				+0.0	70.0	94.0	-24.0	None
3	3538.515M	24.5	+29.8				+0.0	54.3	94.0	-39.7	None
4	4418.240M	23.5	+28.8				+0.0	52.3	94.0	-41.7	None
5	2657.015M	22.3	+29.9				+0.0	52.2	94.0	-41.8	None
6	1775.515M	21.4	+30.3				+0.0	51.7	94.0	-42.3	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 #: **83305** Date: 03/23/2005
 Test Type: **Antenna Terminals** Time: 16:33:58
 Equipment: **In Vehicle Wireless Dual Band Smart Amplifier** Sequence#: 17
 Manufacturer: Wilson Electronics Tested By: Mike Wilkinson
 Model: 801201
 S/N: 8012010000006

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A SA	US44300407	01/12/2005	01/12/2007	02660
Attenuator 30dB, Bird 9949		05/09/2003	05/09/2005	P01572
25-A-MFN-30				

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
In Vehicle Wireless Dual Band Smart Amplifier*	Wilson Electronics	801201	8012010000006

Support Devices:

Function	Manufacturer	Model #	S/N
Signal Generator	HP	E4433B	US38440697
DC Power Supply	Topward	TPS-2000	920035

Test Conditions / Notes:

EUT is a bidirectional amplifier for the 824 to 894MHz band. Uplink frequency range 824 - 849MHz. Downlink frequency range 869 - 894MHz. 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 - 869.28MHz. Frequency Range Investigated: 30MHz 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	869.232M	86.6	+30.3				+0.0	116.9	117.0	-0.1	None
									Fundamental		
2	2607.916M	43.9	+29.9				+0.0	73.8	94.0	-20.2	None
3	868.996M	40.3	+30.3				+0.0	70.6	94.0	-23.4	None
4	3477.270M	39.5	+29.8				+0.0	69.3	94.0	-24.7	None
5	1738.636M	27.1	+30.3				+0.0	57.4	94.0	-36.6	None
6	792.800M	12.9	+30.4				+0.0	43.3	94.0	-50.7	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 #: **83305** Date: 03/23/2005
 Test Type: **Antenna Terminals** Time: 16:39:46
 Equipment: **In Vehicle Wireless Dual Band Smart Amplifier** Sequence#: 18
 Manufacturer: Wilson Electronics Tested By: Mike Wilkinson
 Model: 801201
 S/N: 8012010000006

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A SA	US44300407	01/12/2005	01/12/2007	02660
Attenuator 30dB, Bird 9949		05/09/2003	05/09/2005	P01572
25-A-MFN-30				

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
In Vehicle Wireless Dual Band Smart Amplifier*	Wilson Electronics	801201	8012010000006

Support Devices:

Function	Manufacturer	Model #	S/N
Signal Generator	HP	E4433B	US38440697
DC Power Supply	Topward	TPS-2000	920035

Test Conditions / Notes:

EUT is a bidirectional amplifier for the 824 to 894MHz band. Uplink frequency range 824 - 849MHz. Downlink frequency range 869 - 894MHz. 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 - 881.5MHz. Frequency Range Investigated: 30MHz 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	881.505M	86.5	+30.3				+0.0	116.8	117.0	-0.2	None
									Fundamental		
2	2644.300M	46.1	+29.9				+0.0	76.0	94.0	-18.0	None
3	3526.000M	34.8	+29.8				+0.0	64.6	94.0	-29.4	None
4	1762.865M	33.8	+30.3				+0.0	64.1	94.0	-29.9	None
5	659.500M	13.8	+30.4				+0.0	44.2	94.0	-49.8	None
6	4409.510M	14.8	+28.9				+0.0	43.7	94.0	-50.3	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 #: **83305**
 Test Type: **Antenna Terminals**
 Equipment: **In Vehicle Wireless Dual Band Smart Amplifier**
 Manufacturer: Wilson Electronics
 Model: 801201

Date: 03/23/2005
 Time: 16:46:10
 Sequence#: 19
 Tested By: Mike Wilkinson
 S/N: 8012010000006

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A SA	US44300407	01/12/2005	01/12/2007	02660
Attenuator 30dB, Bird	9949	05/09/2003	05/09/2005	P01572
25-A-MFN-30				

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
In Vehicle Wireless Dual Band Smart Amplifier*	Wilson Electronics	801201	8012010000006

Support Devices:

Function	Manufacturer	Model #	S/N
Signal Generator	HP	E4433B	US38440697
DC Power Supply	Topward	TPS-2000	920035

Test Conditions / Notes:

EUT is a bidirectional amplifier for the 824 to 894MHz band. Uplink frequency range 824 - 849MHz. Downlink frequency range 869 - 894MHz. 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 - 893.72MHz. Frequency Range Investigated: 30MHz 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	893.722M	87.7	+30.3				+0.0	118.0	117.0	+1.0	None
									Fundamental		
2	2681.336M	52.1	+29.8				+0.0	81.9	94.0	-12.1	None
3	1787.576M	33.9	+30.3				+0.0	64.2	94.0	-29.8	None
4	894.010M	32.3	+30.3				+0.0	62.6	94.0	-31.4	None
5	3574.880M	32.1	+29.8				+0.0	61.9	94.0	-32.1	None
6	4467.696M	14.8	+28.8				+0.0	43.6	94.0	-50.4	None
7	662.200M	10.7	+30.4				+0.0	41.1	94.0	-52.9	None

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

Test Location: CKC Laboratories • 5046 Sierra Pines Dr. • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **Wilson Electronics**
 Specification: **FCC 22.917**
 Work Order #: **84511** Date: 12/8/2005
 Test Type: **Antenna Terminals** Time: 12:10:00
 Equipment: **In Vehicle Wireless Dual Band Smart Amplifier** Sequence#: 11
 Manufacturer: Wilson Electronics Tested By: Ryan Rutledge
 Model: 801201-A
 S/N: 8012010112702

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A SA	US44300407	01/12/2005	01/12/2007	02660
HF Cable		02/08/2005	02/08/2007	P05203
Weinchel 10dB attenuator	AH5409	05/23/2005	05/23/2007	P01681

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
In Vehicle Wireless Dual Band Smart Amplifier*	Wilson Electronics	801201-A	8012010112702

Support Devices:

Function	Manufacturer	Model #	S/N
DC Power Supply	Topward	TPS-2000	920035
Signal Generator	HP	E4432B	US40052968

Test Conditions / Notes:

EUT is a dual band bidirectional amplifier for the 824 to 894 MHz and the 1850 to 1990 MHz bands. Uplink frequency range 824 - 849MHz and 1850 - 1910MHz. Downlink frequency range 869 - 894MHz and 1930 - 1990MHz. Spurious Emissions Test: 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. Input Channel: Low. Frequencies Tested: Uplink 800 MHz Band. Frequency Range Investigated: 30 MHz to 20 GHz.

Transducer Legend:

T1=Pad 10dB	T2=Cable 40 GHz 48"
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Measurement Data:

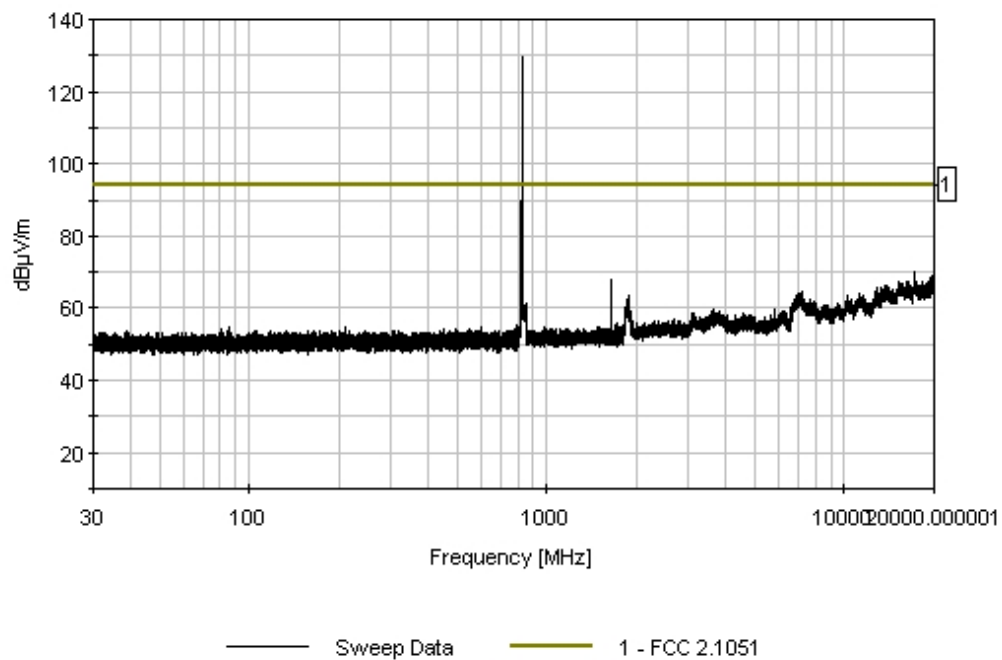
Reading listed by margin.

Test Distance: None

#	Freq MHz	Rdng dBμV	T1 dB	T2 dB	dB	dB	Dist Table	Corr dBμV/m	Spec dBμV/m	Margin dB	Polar Ant
1	825.300M	119.0	+9.7	+0.9			+0.0	129.6	94.0	+35.6	None
									Carrier		
2	824.000M	64.3	+9.7	+0.9			+0.0	74.9	94.0	-19.1	None
	Ave										

3	1650.489M	57.8	+10.0	+1.1	+0.0	68.9	94.0	-25.1	None
4	1650.524M	57.0	+10.0	+1.1	+0.0	68.1	94.0	-25.9	None
5	819.100M	52.5	+9.7	+0.9	+0.0	63.1	94.0	-30.9	None

CKC Laboratories Date: 12/8/2005 Time: 12:10:00 Wilson Electronics WVO#: 84511
FCC 2.1051 Test Distance: None Sequence#: 11
Wilson Electronics M/N 801201 800 MHz Band CDMA Low Channel





Test Location: CKC Laboratories • 5046 Sierra Pines Dr. • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **Wilson Electronics**
 Specification: **FCC 22.917**
 Work Order #: **84511** Date: 12/8/2005
 Test Type: **Antenna Terminals** Time: 11:49:41
 Equipment: **In Vehicle Wireless Dual Band Smart Amplifier** Sequence#: 12
 Manufacturer: Wilson Electronics Tested By: Ryan Rutledge
 Model: 801201-A
 S/N: 8012010112702

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A SA	US44300407	01/12/2005	01/12/2007	02660
HF Cable		02/08/2005	02/08/2007	P05203
Weinchel 10dB attenuator	AH5409	05/23/2005	05/23/2007	P01681

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
In Vehicle Wireless Dual Band Smart Amplifier*	Wilson Electronics	801201-A	8012010112702

Support Devices:

Function	Manufacturer	Model #	S/N
DC Power Supply	Topward	TPS-2000	920035
Signal Generator	HP	E4432B	US40052968

Test Conditions / Notes:

EUT is a dual band bidirectional amplifier for the 824 to 894 MHz and the 1850 to 1990 MHz bands. Uplink frequency range 824 - 849MHz and 1850 - 1910MHz. Downlink frequency range 869 - 894MHz and 1930 - 1990MHz. Spurious Emissions Test: 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. Input Channel: Mid. Frequencies Tested: Uplink 800 MHz Band. Frequency Range Investigated: 30 MHz to 20 GHz.

Transducer Legend:

T1=Pad 10dB	T2=Cable 40 GHz 48"
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Measurement Data:

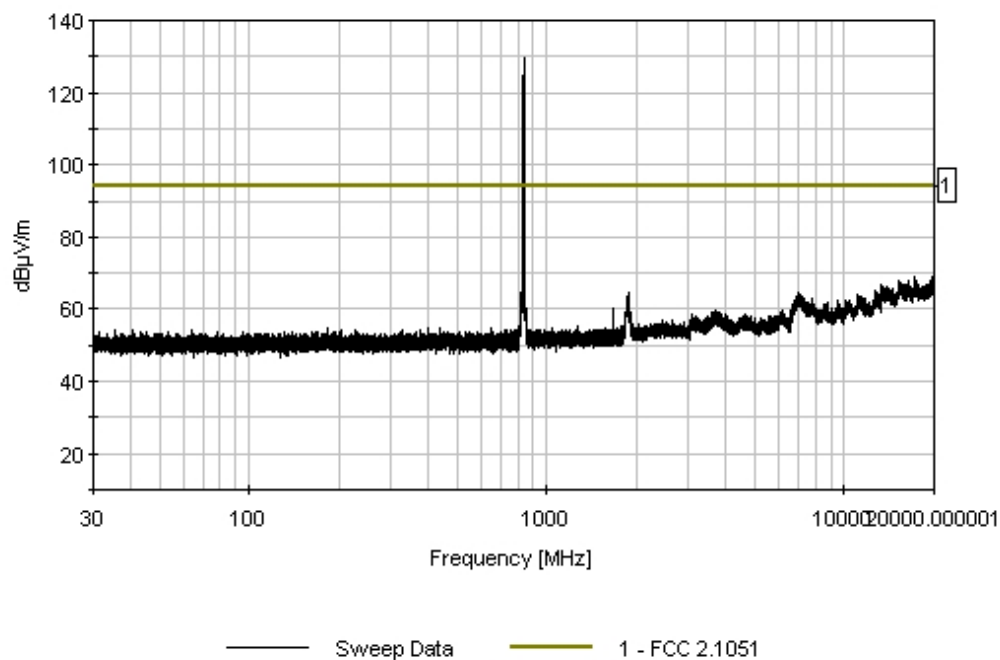
Reading listed by margin.

Test Distance: None

#	Freq MHz	Rdng dBμV	T1 dB	T2 dB	dB	dB	Dist Table	Corr dBμV/m	Spec dBμV/m	Margin dB	Polar Ant
1	836.550M	118.8	+9.7	+0.9			+0.0	129.4	94.0	+35.4	None
									Carrier		
2	835.400M	88.9	+9.7	+0.9			+0.0	99.5	94.0	+5.5	None
									Carrier		
3	838.000M	84.4	+9.7	+0.9			+0.0	95.0	94.0	+1.0	None
									Carrier		
4	834.200M	77.2	+9.7	+0.9			+0.0	87.8	94.0	-6.2	None
									Carrier		

5	838.900M	73.4	+9.7	+0.9	+0.0	84.0	94.0 Carrier	-10.0	None
6	833.950M	71.9	+9.7	+0.9	+0.0	82.5	94.0 Carrier	-11.5	None
7	833.750M	68.2	+9.7	+0.9	+0.0	78.8	94.0 Carrier	-15.2	None
8	833.600M	67.3	+9.7	+0.9	+0.0	77.9	94.0 Carrier	-16.1	None
9	839.300M	66.4	+9.7	+0.9	+0.0	77.0	94.0 Carrier	-17.0	None
10	839.500M	65.6	+9.7	+0.9	+0.0	76.2	94.0 Carrier	-17.8	None
11	833.150M	62.9	+9.7	+0.9	+0.0	73.5	94.0 Carrier	-20.5	None
12	839.700M	61.1	+9.7	+0.9	+0.0	71.7	94.0 Carrier	-22.3	None
13	839.850M	60.4	+9.7	+0.9	+0.0	71.0	94.0 Carrier	-23.0	None
14	832.900M	59.3	+9.7	+0.9	+0.0	69.9	94.0 Carrier	-24.1	None
15	1673.005M	51.2	+10.1	+1.1	+0.0	62.4	94.0	-31.6	None

CKC Laboratories Date: 12/8/2005 Time: 11:49:41 Wilson Electronics WO#: 84511
FCC 2.1051 Test Distance: None Sequence#: 12
Wilson Electronics M/N 801201 800 MHz Band CDMA Mid Channel



Test Location: CKC Laboratories • 5046 Sierra Pines Dr. • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **Wilson Electronics**
 Specification: **FCC 22.917**
 Work Order #: **84511** Date: 12/8/2005
 Test Type: **Antenna Terminals** Time: 12:25:36
 Equipment: **In Vehicle Wireless Dual Band Smart Amplifier** Sequence#: 13
 Manufacturer: Wilson Electronics Tested By: Ryan Rutledge
 Model: 801201-A
 S/N: 8012010112702

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A SA	US44300407	01/12/2005	01/12/2007	02660
HF Cable		02/08/2005	02/08/2007	P05203
Weinchel 10dB attenuator	AH5409	05/23/2005	05/23/2007	P01681

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
In Vehicle Wireless Dual Band Smart Amplifier*	Wilson Electronics	801201-A	8012010112702

Support Devices:

Function	Manufacturer	Model #	S/N
DC Power Supply	Topward	TPS-2000	920035
Signal Generator	HP	E4432B	US40052968

Test Conditions / Notes:

EUT is a dual band bidirectional amplifier for the 824 to 894 MHz and the 1850 to 1990 MHz bands. Uplink frequency range 824 - 849MHz and 1850 - 1910MHz. Downlink frequency range 869 - 894MHz and 1930 - 1990MHz. Spurious Emissions Test: 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. Input Channel: High. Frequencies Tested: Uplink 800 MHz Band. Frequency Range Investigated: 30 MHz to 20 GHz.

Transducer Legend:

T1=Pad 10dB	T2=Cable 40 GHz 48"
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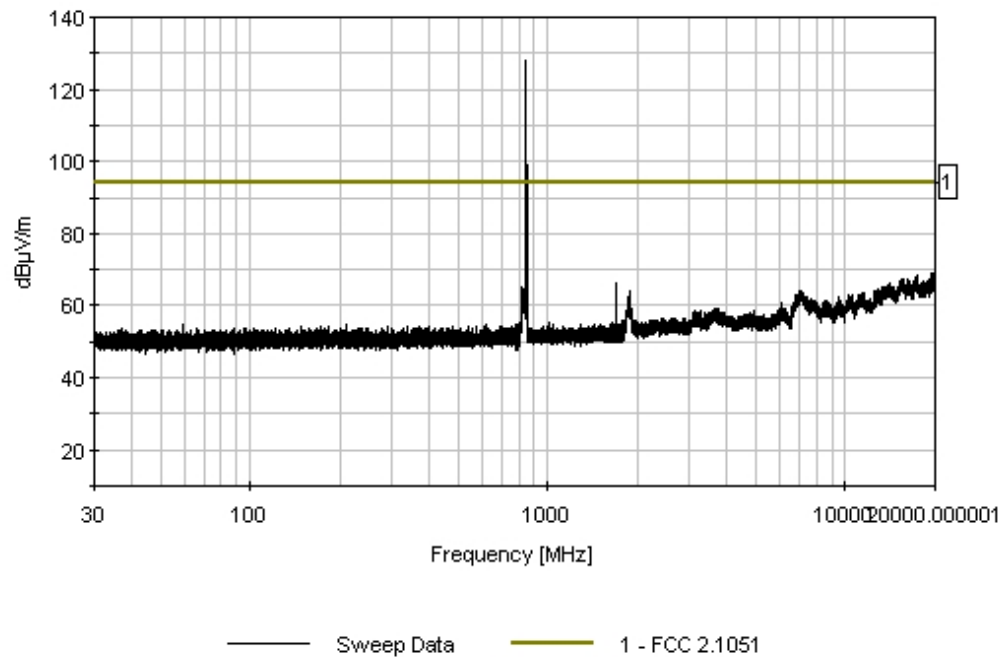
Measurement Data:

Reading listed by margin.

Test Distance: None

#	Freq MHz	Rdng dBμV	T1 dB	T2 dB	dB	dB	Dist Table	Corr dBμV/m	Spec dBμV/m	Margin dB	Polar Ant
1	847.800M	117.3	+9.7	+0.9			+0.0	127.9	94.0	+33.9	None
									Carrier		
2	849.000M	63.0	+9.7	+0.9			+0.0	73.6	94.0	-20.4	None
	Ave										
3	1695.500M	58.0	+10.1	+1.1			+0.0	69.2	94.0	-24.8	None

CKC Laboratories Date: 12/8/2005 Time: 12:25:36 Wilson Electronics WO#: 84511
FCC 2.1051 Test Distance: None Sequence#: 13
Wilson Electronics M/N 801201 800 MHz Band CDMA High Channel



Test Location: CKC Laboratories • 5046 Sierra Pines Dr. • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **Wilson Electronics**
 Specification: **FCC 22.917**
 Work Order #: **84511** Date: 12/8/2005
 Test Type: **Antenna Terminals** Time: 10:46:56
 Equipment: **In Vehicle Wireless Dual Band Smart Amplifier** Sequence#: 5
 Manufacturer: Wilson Electronics Tested By: Ryan Rutledge
 Model: 801201-A
 S/N: 8012010112702

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A SA	US44300407	01/12/2005	01/12/2007	02660
HF Cable		02/08/2005	02/08/2007	P05203
Weinchel 10dB attenuator	AH5409	05/23/2005	05/23/2007	P01681

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
In Vehicle Wireless Dual Band Smart Amplifier*	Wilson Electronics	801201-A	8012010112702

Support Devices:

Function	Manufacturer	Model #	S/N
DC Power Supply	Topward	TPS-2000	920035
Signal Generator	HP	E4432B	US40052968

Test Conditions / Notes:

EUT is a dual band bidirectional amplifier for the 824 to 894 MHz and the 1850 to 1990 MHz bands. Uplink frequency range 824 - 849MHz and 1850 - 1910MHz. Downlink frequency range 869 - 894MHz and 1930 - 1990MHz. Spurious Emissions Test: 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. Input Channel: Low. Frequencies Tested: Uplink 800 MHz Band. Frequency Range Investigated: 30 MHz to 20 GHz.

Transducer Legend:

T1=Pad 10dB	T2=Cable 40 GHz 48"
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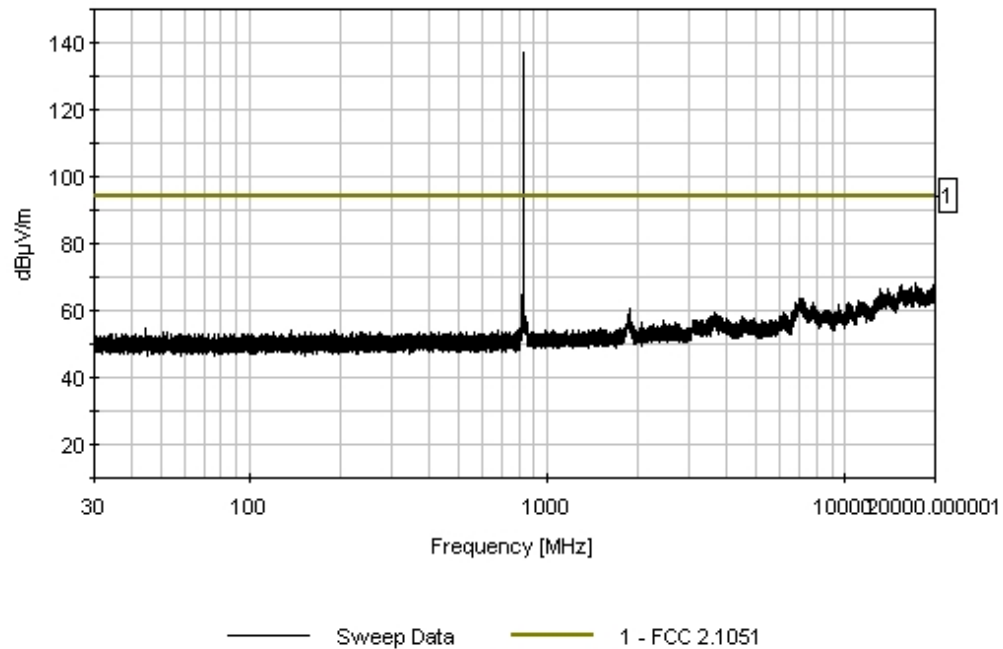
Measurement Data:

Reading listed by margin.

Test Distance: None

#	Freq MHz	Rdng dBμV	T1 dB	T2 dB	dB	dB	Dist Table	Corr dBμV/m	Spec dBμV/m	Margin dB	Polar Ant
1	824.300M	126.4	+9.7	+0.9			+0.0	137.0	94.0	+43.0	None
2	1648.564M	66.4	+10.0	+1.1			+0.0	77.5	94.0	-16.5	None
3	1648.584M	66.4	+10.0	+1.1			+0.0	77.5	94.0	-16.5	None

CKC Laboratories Date: 12/8/2005 Time: 10:46:56 Wilson Electronics WO#: 84511
FCC 2.1051 Test Distance: None Sequence#: 5
Wilson Electronics M/N 801201 800 MHz Band EDGE Low Channel



Test Location: CKC Laboratories • 5046 Sierra Pines Dr. • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **Wilson Electronics**
 Specification: **FCC 22.917**
 Work Order #: **84511** Date: 12/8/2005
 Test Type: **Antenna Terminals** Time: 10:56:14
 Equipment: **In Vehicle Wireless Dual Band Smart Amplifier** Sequence#: 6
 Manufacturer: Wilson Electronics Tested By: Ryan Rutledge
 Model: 801201-A
 S/N: 8012010112702

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A SA	US44300407	01/12/2005	01/12/2007	02660
HF Cable		02/08/2005	02/08/2007	P05203
Weinchel 10dB attenuator	AH5409	05/23/2005	05/23/2007	P01681

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
In Vehicle Wireless Dual Band Smart Amplifier*	Wilson Electronics	801201-A	8012010112702

Support Devices:

Function	Manufacturer	Model #	S/N
DC Power Supply	Topward	TPS-2000	920035
Signal Generator	HP	E4432B	US40052968

Test Conditions / Notes:

EUT is a dual band bidirectional amplifier for the 824 to 894 MHz and the 1850 to 1990 MHz bands. Uplink frequency range 824 - 849MHz and 1850 - 1910MHz. Downlink frequency range 869 - 894MHz and 1930 - 1990MHz. Spurious Emissions Test: 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. Input Channel: Mid. Frequencies Tested: Uplink 800 MHz Band. Frequency Range Investigated: 30 MHz to 20 GHz.

Transducer Legend:

T1=Pad 10dB	T2=Cable 40 GHz 48"
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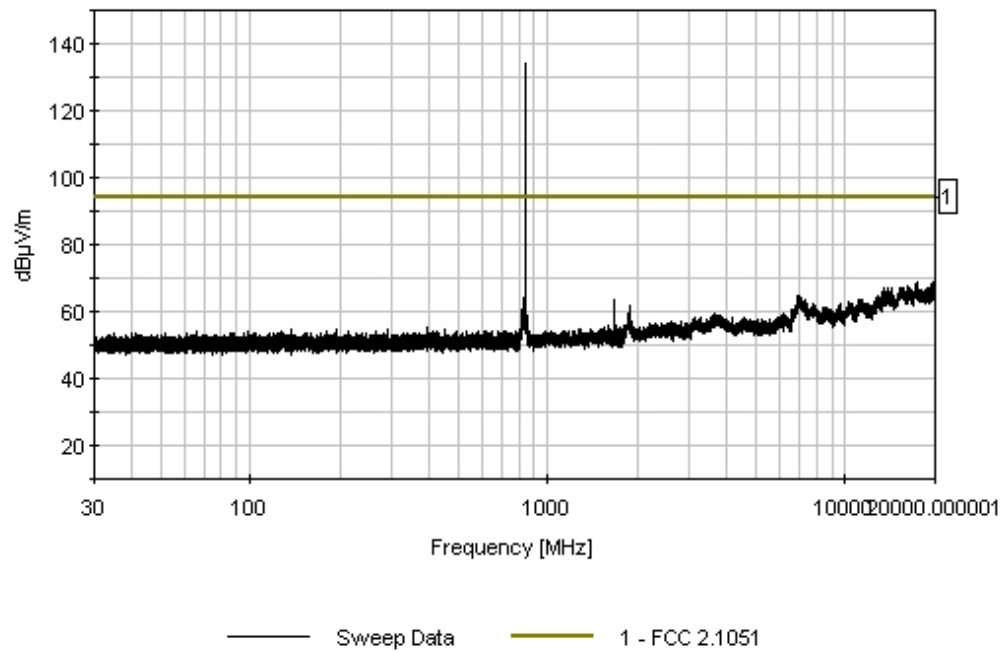
Measurement Data:

Reading listed by margin.

Test Distance: None

#	Freq MHz	Rdng dBμV	T1 dB	T2 dB	dB	dB	Dist Table	Corr dBμV/m	Spec dBμV/m	Margin dB	Polar Ant
1	836.500M	123.5	+9.7	+0.9			+0.0	134.1	94.0	+40.1	None
								Carrier			
2	1673.009M	56.6	+10.1	+1.1			+0.0	67.8	94.0	-26.2	None

CKC Laboratories Date: 12/8/2005 Time: 10:56:14 Wilson Electronics WVO#: 84511
 FCC 2.1051 Test Distance: None Sequence#: 6
 Wilson Electronics M/N 801201 800 MHz Band EDGE Mid Channel



Test Location: CKC Laboratories • 5046 Sierra Pines Dr. • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **Wilson Electronics**
 Specification: **FCC 22.917**
 Work Order #: **84511** Date: 12/8/2005
 Test Type: **Antenna Terminals** Time: 11:07:28
 Equipment: **In Vehicle Wireless Dual Band Smart Amplifier** Sequence#: 7
 Manufacturer: Wilson Electronics Tested By: Ryan Rutledge
 Model: 801201-A
 S/N: 8012010112702

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A SA	US44300407	01/12/2005	01/12/2007	02660
HF Cable		02/08/2005	02/08/2007	P05203
Weinchel 10dB attenuator	AH5409	05/23/2005	05/23/2007	P01681

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
In Vehicle Wireless Dual Band Smart Amplifier*	Wilson Electronics	801201-A	8012010112702

Support Devices:

Function	Manufacturer	Model #	S/N
DC Power Supply	Topward	TPS-2000	920035
Signal Generator	HP	E4432B	US40052968

Test Conditions / Notes:

EUT is a dual band bidirectional amplifier for the 824 to 894 MHz and the 1850 to 1990 MHz bands. Uplink frequency range 824 - 849MHz and 1850 - 1910MHz. Downlink frequency range 869 - 894MHz and 1930 - 1990MHz. Spurious Emissions Test: 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. Input Channel: High. Frequencies Tested: Uplink 800 MHz Band. Frequency Range Investigated: 30 MHz to 20 GHz.

Transducer Legend:

T1=Pad 10dB	T2=Cable 40 GHz 48"
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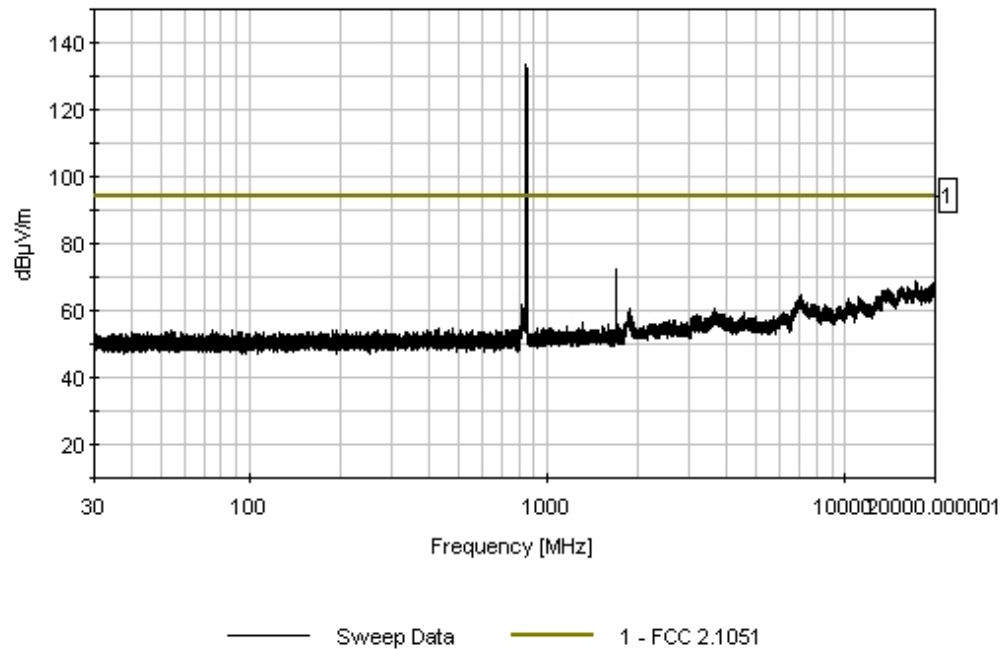
Measurement Data:

Reading listed by margin.

Test Distance: None

#	Freq MHz	Rdng dBμV	T1 dB	T2 dB	dB	dB	Dist Table	Corr dBμV/m	Spec dBμV/m	Margin dB	Polar Ant
1	848.700M	122.9	+9.7	+0.9			+0.0	133.5	94.0	+39.5	None
									Carrier		
2	1697.382M	63.2	+10.1	+1.1			+0.0	74.4	94.0	-19.6	None
3	1697.321M	60.9	+10.1	+1.1			+0.0	72.1	94.0	-21.9	None

CKC Laboratories Date: 12/8/2005 Time: 11:07:28 Wilson Electronics WO#: 84511
FCC 2.1051 Test Distance: None Sequence#: 7
Wilson Electronics M/N 801201 800 MHz Band EDGE High Channel



Test Location: CKC Laboratories • 5046 Sierra Pines Dr. • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **Wilson Electronics**
 Specification: **FCC 22.917**
 Work Order #: **84511** Date: 12/8/2005
 Test Type: **Antenna Terminals** Time: 10:03:19
 Equipment: **In Vehicle Wireless Dual Band Smart Amplifier** Sequence#: 2
 Manufacturer: Wilson Electronics Tested By: Randal Clark
 Model: 801201-A
 S/N: 8012010112702

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A SA	US44300407	01/12/2005	01/12/2007	02660
HF Cable		02/08/2005	02/08/2007	P05203
Weinchel 10dB attenuator	AH5409	05/23/2005	05/23/2007	P01681

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
In Vehicle Wireless Dual Band Smart Amplifier*	Wilson Electronics	801201-A	8012010112702

Support Devices:

Function	Manufacturer	Model #	S/N
DC Power Supply	Topward	TPS-2000	920035
Signal Generator	HP	E4432B	US40052968

Test Conditions / Notes:

EUT is a dual band bidirectional amplifier for the 824 to 894 MHz and the 1850 to 1990 MHz bands. Uplink frequency range 824 - 849MHz and 1850 - 1910MHz. Downlink frequency range 869 - 894MHz and 1930 - 1990MHz. Spurious Emissions Test: 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. Input Channel: Low. Frequencies Tested: Uplink 800 MHz Band. Frequency Range Investigated: 30 MHz to 20 GHz.

Transducer Legend:

T1=Pad 10dB	T2=Cable 40 GHz 48"
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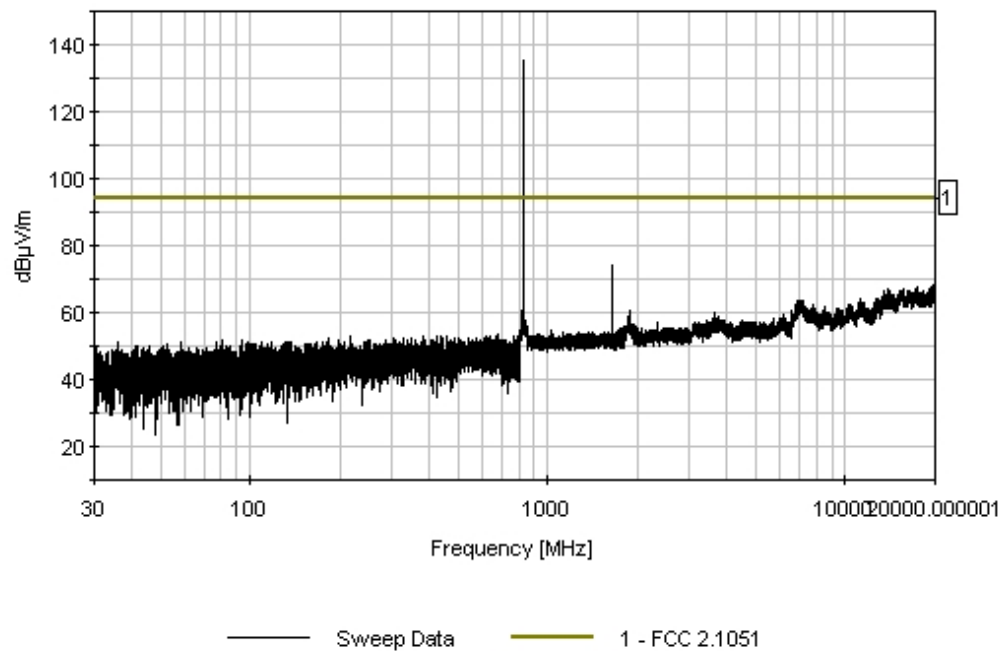
Measurement Data:

Reading listed by margin.

Test Distance: None

#	Freq MHz	Rdng dBμV	T1 dB	T2 dB	dB	dB	Dist Table	Corr dBμV/m	Spec dBμV/m	Margin dB	Polar Ant
1	824.200M	124.6	+9.7	+0.9			+0.0	135.2	94.0	+41.2	None
									Carrier		
2	824.000M	64.2	+9.7	+0.9			+0.0	74.8	94.0	-19.2	None
									Block Edge		
3	1648.433M	63.0	+10.0	+1.1			+0.0	74.1	94.0	-19.9	None
4	823.750M	57.7	+9.7	+0.9			+0.0	68.3	94.0	-25.7	None

CKC Laboratories Date: 12/8/2005 Time: 10:03:19 Wilson Electronics WO#: 84511
 FCC 2.1051 Test Distance: None Sequence#: 2
 Wilson Electronics M/N 801201 800 MHz Band GSM Low Channel





Test Location: CKC Laboratories • 5046 Sierra Pines Dr. • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **Wilson Electronics**
 Specification: **FCC 22.917**
 Work Order #: **84511** Date: 12/8/2005
 Test Type: **Antenna Terminals** Time: 10:21:15
 Equipment: **In Vehicle Wireless Dual Band Smart Amplifier** Sequence#: 3
 Manufacturer: Wilson Electronics Tested By: Randal Clark
 Model: 801201-A
 S/N: 8012010112702

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A SA	US44300407	01/12/2005	01/12/2007	02660
HF Cable		02/08/2005	02/08/2007	P05203
Weinchel 10dB attenuator	AH5409	05/23/2005	05/23/2007	P01681

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
In Vehicle Wireless Dual Band Smart Amplifier*	Wilson Electronics	801201-A	8012010112702

Support Devices:

Function	Manufacturer	Model #	S/N
DC Power Supply	Topward	TPS-2000	920035
Signal Generator	HP	E4432B	US40052968

Test Conditions / Notes:

EUT is a dual band bidirectional amplifier for the 824 to 894 MHz and the 1850 to 1990 MHz bands. Uplink frequency range 824 - 849MHz and 1850 - 1910MHz. Downlink frequency range 869 - 894MHz and 1930 - 1990MHz. Spurious Emissions Test: 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. Input Channel: Mid. Frequencies Tested: Uplink 800 MHz Band. Frequency Range Investigated: 30 MHz to 20 GHz.

Transducer Legend:

T1=Pad 10dB	T2=Cable 40 GHz 48"
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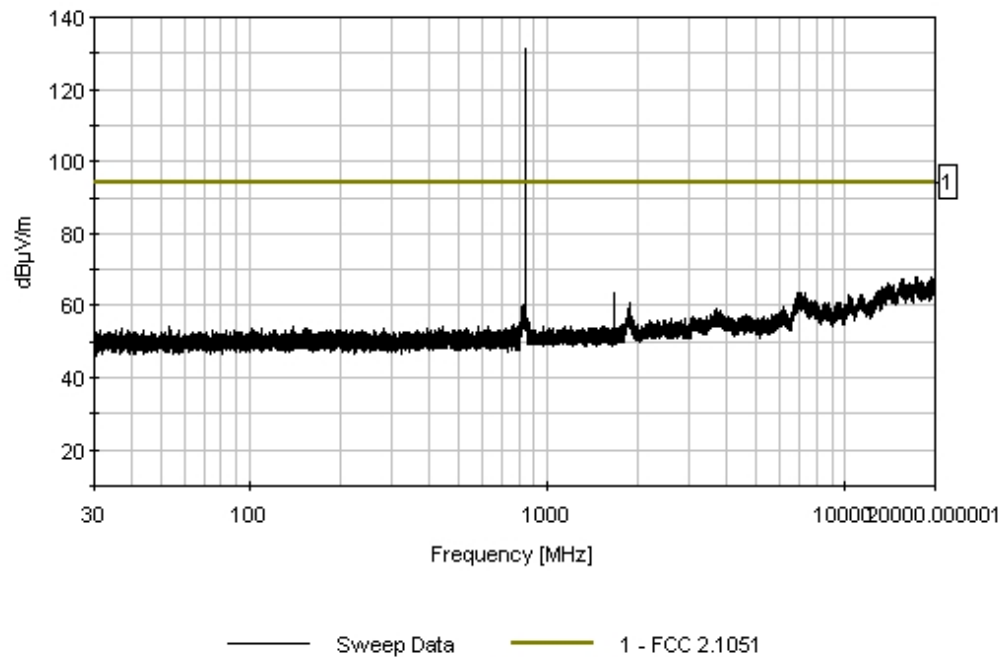
Measurement Data:

Reading listed by margin.

Test Distance: None

#	Freq MHz	Rdng dBμV	T1 dB	T2 dB	dB	dB	Dist Table	Corr dBμV/m	Spec dBμV/m	Margin dB	Polar Ant
1	836.550M	120.8	+9.7	+0.9			+0.0	131.4	94.0	+37.4	None
									Carrier		
2	1673.125M	53.1	+10.1	+1.1			+0.0	64.3	94.0	-29.7	None

CKC Laboratories Date: 12/8/2005 Time: 10:21:15 Wilson Electronics WO#: 84511
 FCC 2.1051 Test Distance: None Sequence#: 3
 Wilson Electronics M/N 801201 800 MHz Band GSM Mid Channel



Test Location: CKC Laboratories • 5046 Sierra Pines Dr. • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **Wilson Electronics**
 Specification: **FCC 22.917**
 Work Order #: **84511** Date: 12/8/2005
 Test Type: **Antenna Terminals** Time: 10:32:45
 Equipment: **In Vehicle Wireless Dual Band Smart Amplifier** Sequence#: 4
 Manufacturer: Wilson Electronics Tested By: Ryan Rutledge
 Model: 801201-A
 S/N: 8012010112702

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A SA	US44300407	01/12/2005	01/12/2007	02660
HF Cable		02/08/2005	02/08/2007	P05203
Weinchel 10dB attenuator	AH5409	05/23/2005	05/23/2007	P01681

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
In Vehicle Wireless Dual Band Smart Amplifier*	Wilson Electronics	801201-A	8012010112702

Support Devices:

Function	Manufacturer	Model #	S/N
DC Power Supply	Topward	TPS-2000	920035
Signal Generator	HP	E4432B	US40052968

Test Conditions / Notes:

EUT is a dual band bidirectional amplifier for the 824 to 894 MHz and the 1850 to 1990 MHz bands. Uplink frequency range 824 - 849MHz and 1850 - 1910MHz. Downlink frequency range 869 - 894MHz and 1930 - 1990MHz. Spurious Emissions Test: 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. Input Channel: High. Frequencies Tested: Uplink 800 MHz Band. Frequency Range Investigated: 30 MHz to 20 GHz.

Transducer Legend:

T1=Pad 10dB	T2=Cable 40 GHz 48"
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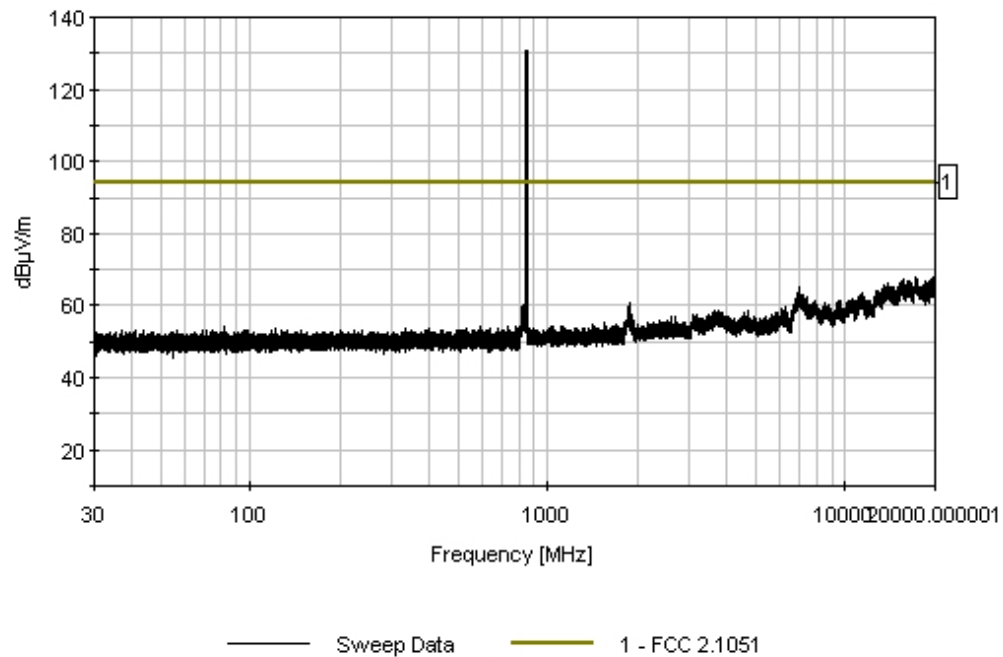
Measurement Data:

Reading listed by margin.

Test Distance: None

#	Freq MHz	Rdng dBμV	T1 dB	T2 dB		Dist Table	Corr dBμV/m	Spec dBμV/m	Margin dB	Polar Ant
1	848.800M	120.3	+9.7	+0.9		+0.0	130.9	94.0	+36.9	None
								Carrier		
2	1697.311M	59.2	+10.1	+1.1		+0.0	70.4	94.0	-23.6	None

CKC Laboratories Date: 12/8/2005 Time: 10:32:45 Wilson Electronics WO#: 84511
FCC 2.1051 Test Distance: None Sequence#: 4
Wilson Electronics M/N 801201 800 MHz Band GSM High Channel



PHOTOGRAPH SHOWING DIRECT CONNECT TEST SETUP



FCC 2.1033(c)(14)/2.1051/22.917 - SELF-COLLOCATION INTERMODULATION

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

Customer: **Wilson Electronics**
 Specification: **FCC 2.1051**
 Work Order #: **83305** Date: 05/02/2005
 Test Type: **Antenna Terminals** Time: 16:45:04
 Equipment: **In Vehicle Wireless Dual Band Smart Amplifier** Sequence#: 93
 Manufacturer: Wilson Electronics Tested By: Mike Wilkinson
 Model: 801201
 S/N: 8012010000006

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A SA	US44300407	01/12/2005	01/12/2007	02660
Attenuator 30dB, Bird 9949		05/09/2003	05/09/2005	P01572
25-A-MFN-30				

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
In Vehicle Wireless Dual Band Smart Amplifier*	Wilson Electronics	801201	8012010000006

Support Devices:

Function	Manufacturer	Model #	S/N
Signal Generator	HP	E4433B	US38440697
DC Power Supply	Topward	TPS-2000	920035

Test Conditions / Notes:

EUT is a dual band bidirectional amplifier for the 824 to 894MHz and the 1850 to 1990MHz bands. Uplink frequency range 824 - 849MHz and 1850 - 1910MHz. Downlink frequency range 869 - 894MHz and 1930 - 1990MHz. 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: CDMA. Frequencies Tested: Downlink 1960MHz and 881.5MHz. This mode represents the worst case of emissions. Frequency Range Investigated: 30 MHz to 20 GHz.

Transducer Legend:

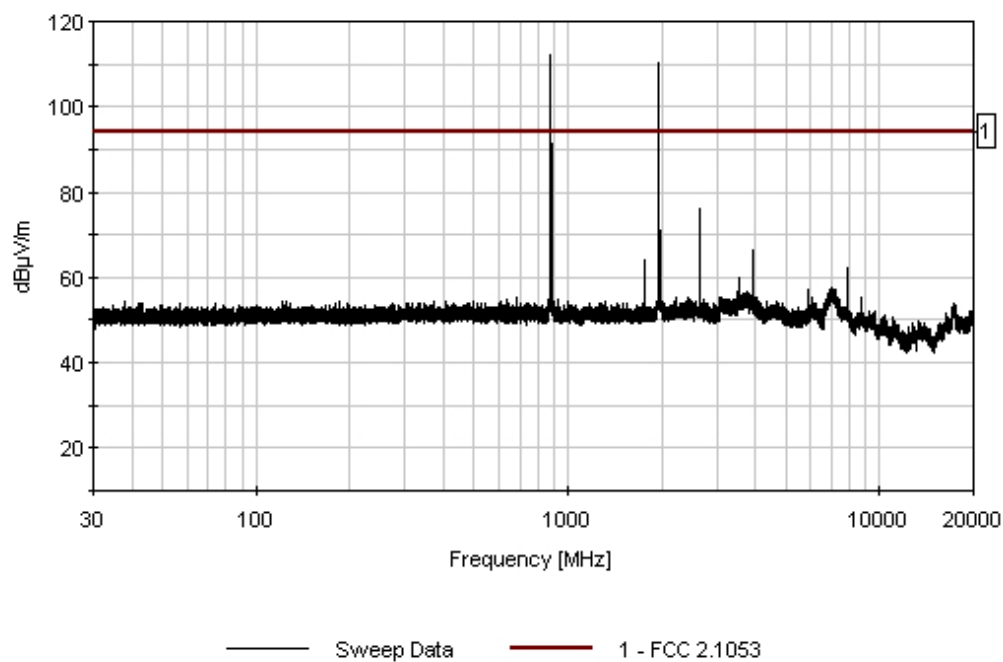
T1=Pad 30dB

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

#	Freq MHz	Rdng dBμV	T1 dB	dB	dB	dB	Dist Table	Corr dBμV/m	Spec dBμV/m	Margin dB	Polar Ant
1	881.432M	81.8	+30.3				+0.0	112.1	117.0 Carrier	-4.9	None
2	1959.641M	79.8	+30.3				+0.0	110.1	117.0 Carrier	-6.9	None

3	2644.350M	46.8	+29.9	+0.0	76.7	94.0	-17.3	None
4	3920.080M	39.3	+29.6	+0.0	68.9	94.0	-25.1	None
5	7839.978M	41.1	+24.9	+0.0	66.0	94.0	-28.0	None
6	1762.664M	34.6	+30.3	+0.0	64.9	94.0	-29.1	None
7	5879.230M	30.5	+27.8	+0.0	58.3	94.0	-35.7	None

CKC Laboratories Date: 05/02/2005 Time: 16:45:04 Wilson Electronics W/O#: 83305
FCC 2.1053 Test Distance: None Sequence#: 93
Wilson Electronics M/N 801201



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

Customer: **Wilson Electronics**
 Specification: **FCC 2.10531**
 Work Order #: **83305** Date: 05/02/2005
 Test Type: **Antenna Terminals** Time: 16:24:36
 Equipment: **In Vehicle Wireless Dual Band Smart Amplifier** Sequence#: 92
 Manufacturer: Wilson Electronics Tested By: Mike Wilkinson
 Model: 801201
 S/N: 8012010000006

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A SA	US44300407	01/12/2005	01/12/2007	02660
Attenuator 30dB, Bird 25-A-MFN-30	9949	05/09/2003	05/09/2005	P01572

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
In Vehicle Wireless Dual Band Smart Amplifier*	Wilson Electronics	801201	8012010000006

Support Devices:

Function	Manufacturer	Model #	S/N
Signal Generator	HP	E4433B	US38440697
DC Power Supply	Topward	TPS-2000	920035

Test Conditions / Notes:

EUT is a dual band bidirectional amplifier for the 824 to 894MHz and the 1850 to 1990MHz bands. Uplink frequency range 824 - 849MHz and 1850 - 1910MHz. Downlink frequency range 869 - 894MHz and 1930 - 1990MHz. 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: CDMA. Frequencies Tested: Uplink 1880MHz and 836.5MHz. This mode represents the worst case of emissions. Frequency Range Investigated: 30 MHz to 20 GHz.

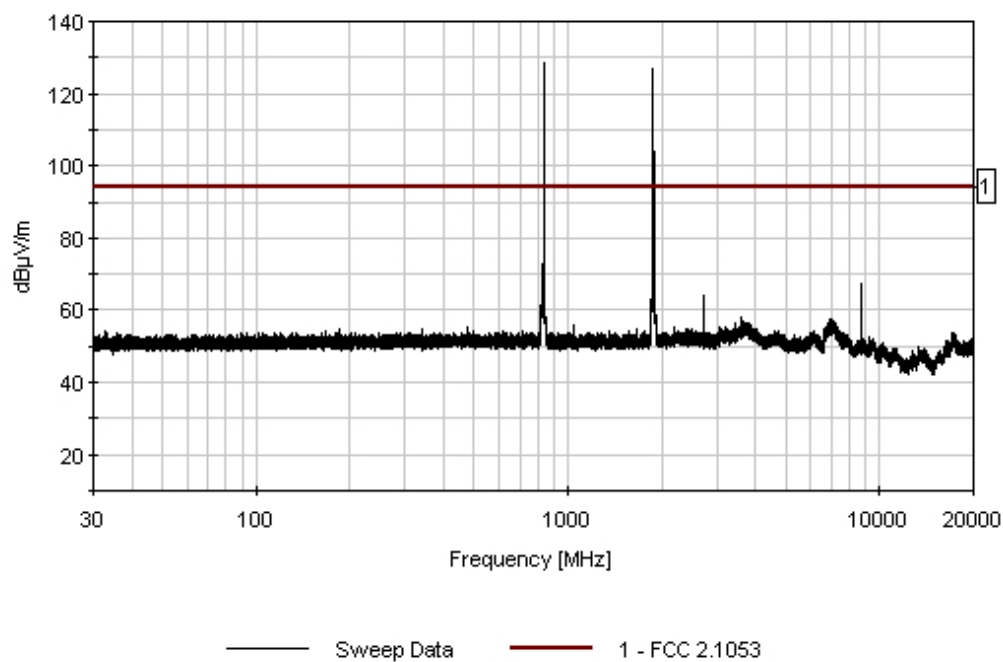
Transducer Legend:

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/m	Spec dBμV/m	Margin dB	Polar Ant
1	836.496M	98.1	+30.4				+0.0	128.5	140.0	-11.5	None
									Carrier		
2	1879.816M	96.5	+30.3				+0.0	126.8	140.0	-13.2	None
									Carrier		
3	1883.680M	42.4	+30.3				+0.0	72.7	94.0	-21.3	None
4	1885.270M	39.3	+30.3				+0.0	69.6	94.0	-24.4	None

5	8765.240M	43.4	+24.4	+0.0	67.8	94.0	-26.2	None
6	2716.385M	36.6	+29.8	+0.0	66.4	94.0	-27.6	None
7	830.350M	34.8	+30.4	+0.0	65.2	94.0	-28.8	None
8	818.280M	32.7	+30.4	+0.0	63.1	94.0	-30.9	None

CKC Laboratories Date: 05/02/2005 Time: 16:24:36 Wilson Electronics WO#: 83305
FCC 2.1053 Test Distance: None Sequence#: 92
Wilson Electronics M/N 801201



PHOTOGRAPH SHOWING DIRECT CONNECT TEST SETUP



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

Test Location: CKC Laboratories • 5473A Clouds Rest • Mariposa, CA 95338 • 1-800-500-4EMC (4362)
 Customer: **Wilson Electronics**
 Specification: **FCC 22.917**
 Work Order #: **83305** Date: 03/31/2005
 Test Type: **Maximized Emissions** Time: 09:25:25
 Equipment: **In Vehicle Wireless Dual Band Smart Amplifier** Sequence#: 85
 Manufacturer: Wilson Electronics Tested By: Mike Wilkinson
 Model: 801201 S/N: 8012010000006

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A SA	US44300407	01/12/2005	01/12/2007	02660
HP 8447D Preamp	1937A02604	03/11/2005	03/11/2007	00099
Chase CBL6111C Bilog	2456	06/26/2003	06/26/2005	01991
EMCO 3115 Horn Antenna	9006-3413	03/08/2005	03/08/2007	327
HP 8449B Preamp	3008A00301	12/14/2004	12/14/2006	2010
ARA MWH-1826/B Horn Antenna	1005	11/05/2004	11/05/2006	02046

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
In Vehicle Wireless Dual Band Smart Amplifier*	Wilson Electronics	801201	8012010000006

Support Devices:

Function	Manufacturer	Model #	S/N
Signal Generator	HP	E4433B	US38440697
DC Power Supply	Topward	TPS-2000	920035
Signal Generator	HP	E4432B	MY41000298
Load	JFW	50T-022	P04243

Test Conditions / Notes:

EUT is a bidirectional amplifier for the 824 to 894MHz band. Uplink frequency range 824 - 849MHz. Downlink frequency range 869 - 894MHz. 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. Signal generators were remotely located under the ground plane. Two input frequency configurations were investigated as follows, 869.28 & 869.84MHz and then 893.16 & 893.72MHz. Data represents measured worst case and represents all modulation types. Input Modulation: GSM. Frequencies Tested: Downlink. Frequency Range Investigated: 30MHz to 10 GHz. Measurement Bandwidth Settings: 10MHz to 1000MHz - RBW=VBW=10kHz, 1000MHz to 10000MHz - RBW=VBW=1MHz. **No EUT Emissions detected within 20dBc of the limit.**

Transducer Legend:

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Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq MHz	Rdng dB μ V	dB	dB	dB	dB	Dist Table	Corr dB μ V/m	Spec dB μ V/m	Margin dB	Polar Ant
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Test Location: CKC Laboratories • 4933 Sierra Pines Dr. • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **Wilson Electronics**

Specification: **FCC 22.917**

Work Order #: **84511**

Date: 12/15/2005

Test Type: **Antenna Terminals**

Time: 08:14:08

Equipment: **In Vehicle Wireless Dual Band Smart Amplifier**

Sequence#: 25

Manufacturer: Wilson Electronics

Tested By: Randal Clark

Model: 801201-A

S/N: 8012010112702

Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A SA	US44300407	01/12/2005	01/12/2007	02660
HF Cable		02/08/2005	02/08/2007	P05203
Chase CBL6111C Bilog	2456	06/07/2005	06/07/2007	01991
EMCO 3115 Horn Antenna	9307-4085	04/29/2005	04/29/2007	00656
ARA MWH-1826/B Horn Antenna	1005	11/05/2004	11/05/2006	02046
HP 8447D Preamp	1937A02604	03/11/2005	03/11/2007	00099
HP 8449B Preamp	3008A00301	12/14/2004	12/14/2006	2010
Cable, Andrews Hardline HF-005-20	NA	05/27/2005	05/27/2007	P04275

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
In Vehicle Wireless Dual Band Smart Amplifier*	Wilson Electronics	801201-A	8012010112702

Support Devices:

Function	Manufacturer	Model #	S/N
DC Power Supply	Topward	TPS-2000	920035
Signal Generator	HP	E4432B	US40052968

Test Conditions / Notes:

EUT is a dual band bidirectional amplifier for the 824 to 894 MHz and the 1850 to 1990 MHz bands. Uplink frequency range 824 - 849MHz and 1850 - 1910MHz. Downlink frequency range 869 - 894MHz and 1930 - 1990MHz. Radiated Spurious Emissions Test: 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. The EUT output port is terminated into a resistive load. Input Modulation: CDMA. Frequencies Tested: Uplink 800MHz and 1900MHz Bands. This mode represents the worst case of emissions. Frequency Range Investigated: 30 MHz to 20 GHz. **No EUT Emissions were detected within 20dB of the limit.**

Transducer Legend:

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Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq MHz	Rdng dBμV	dB	dB	dB	dB	Dist Table	Corr dBμV/m	Spec dBμV/m	Margin dB	Polar Ant
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PHOTOGRAPH SHOWING RADIATED EMISSIONS



Radiated Emissions - Front View

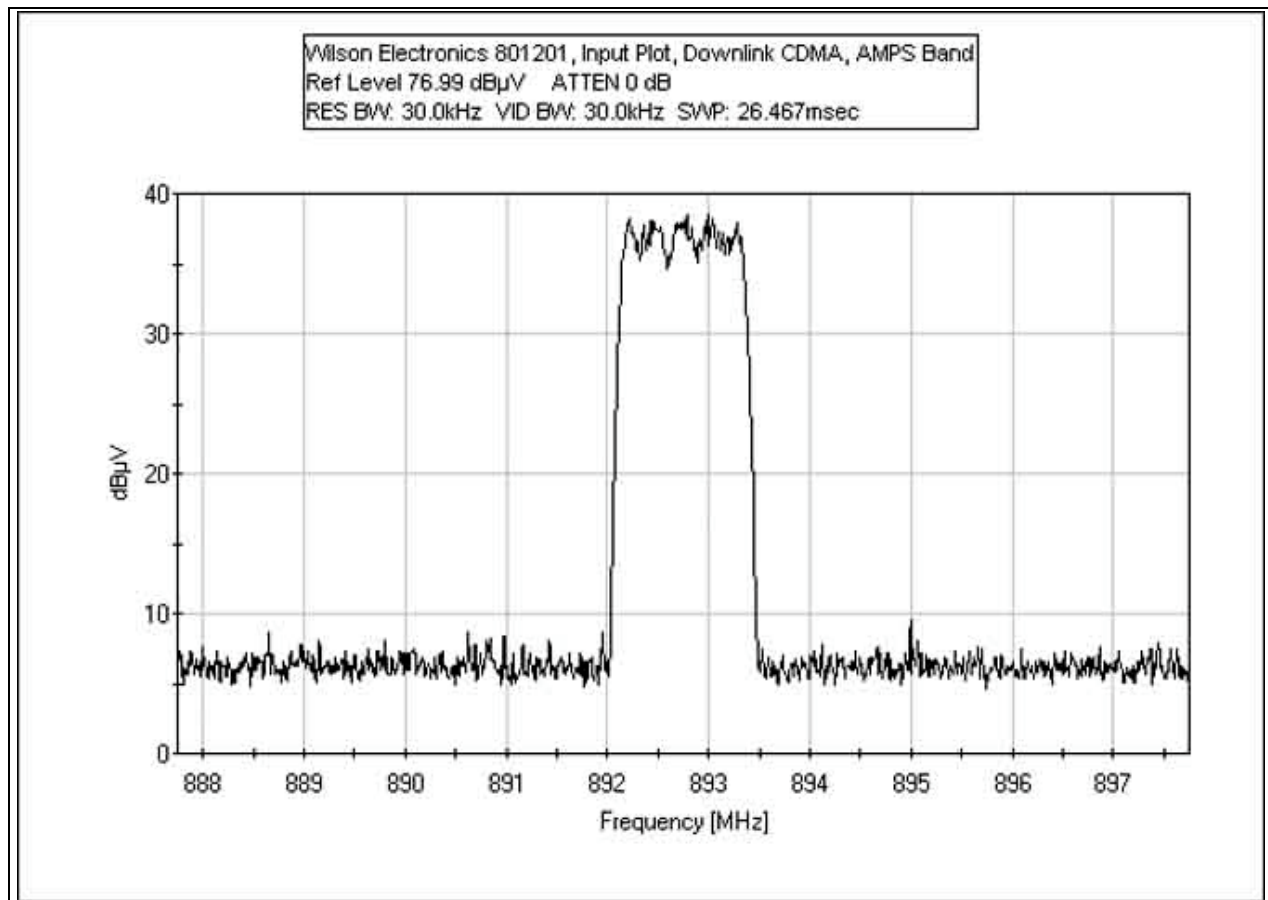
PHOTOGRAPH SHOWING RADIATED EMISSIONS



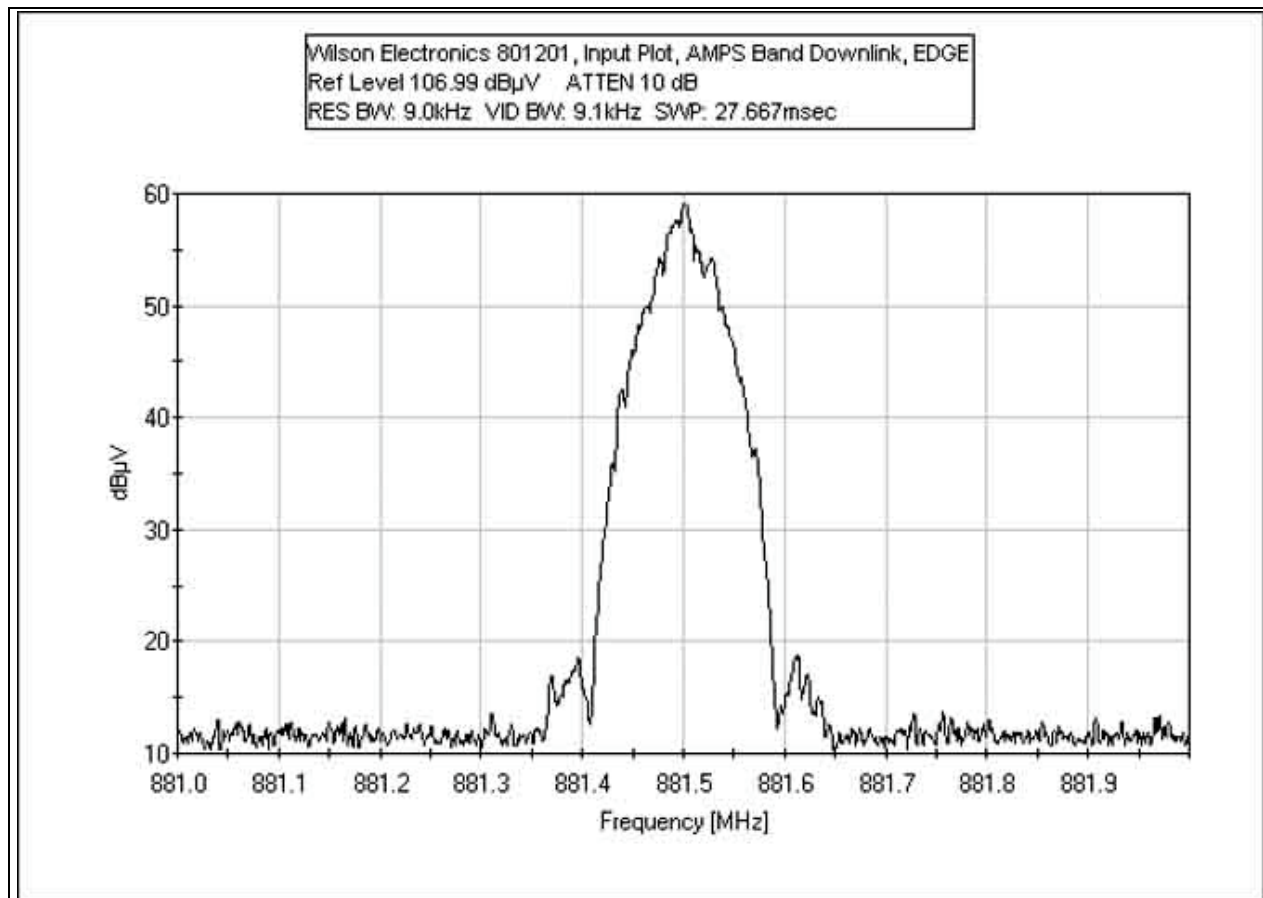
Radiated Emissions - Back View

INPUT DOWNLINK CDMA - 800 MHZ BAND

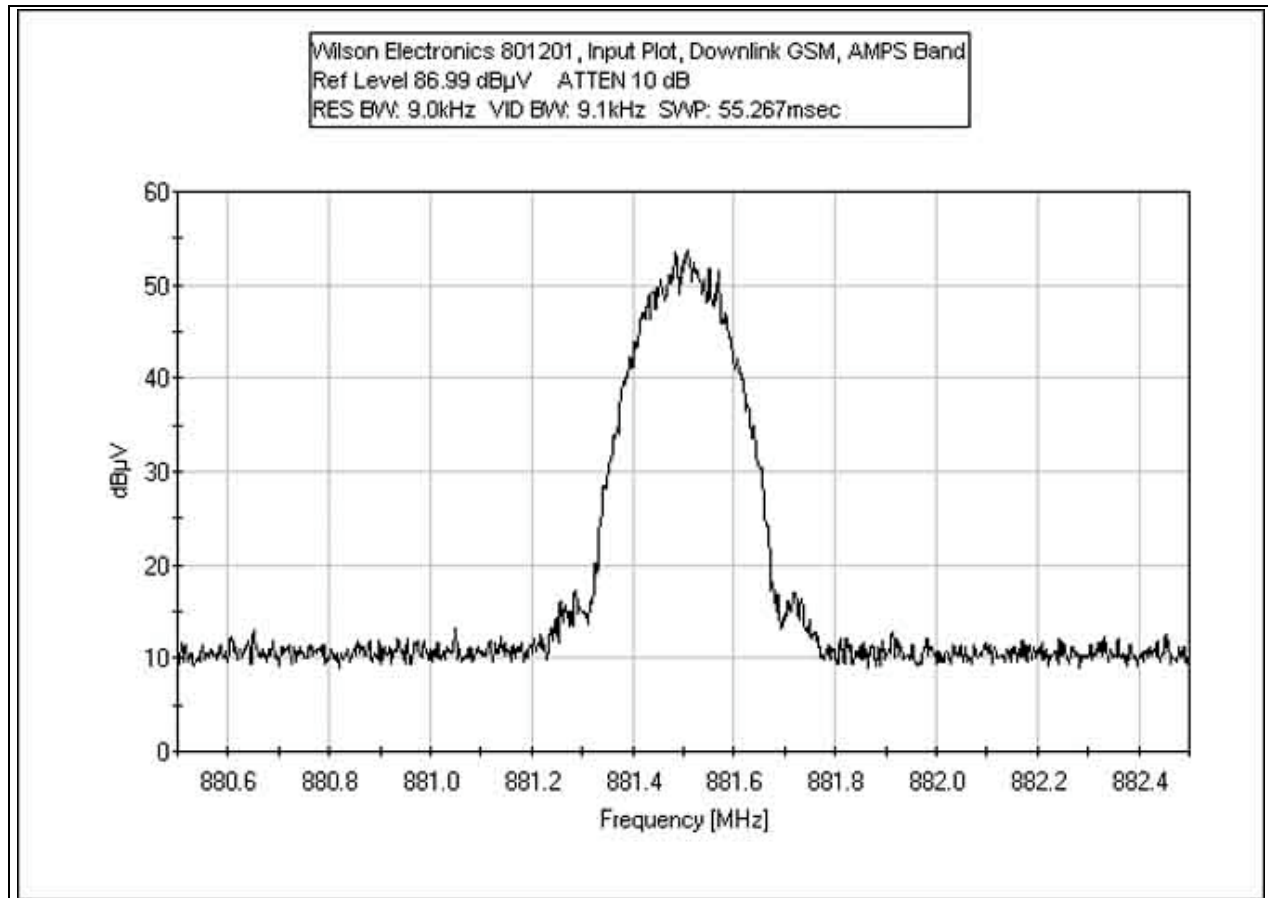
Test Conditions: EUT is a bidirectional amplifier for the 824 to 894MHz band. Uplink frequency range 824 - 849MHz. Downlink frequency range 869 - 894MHz. One signal is input to the amplifier. The input signal is set such that the maximum output is provided at the antenna terminals. The internal ALC of 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 DOWNLINK EDGE - 800 MHZ BAND



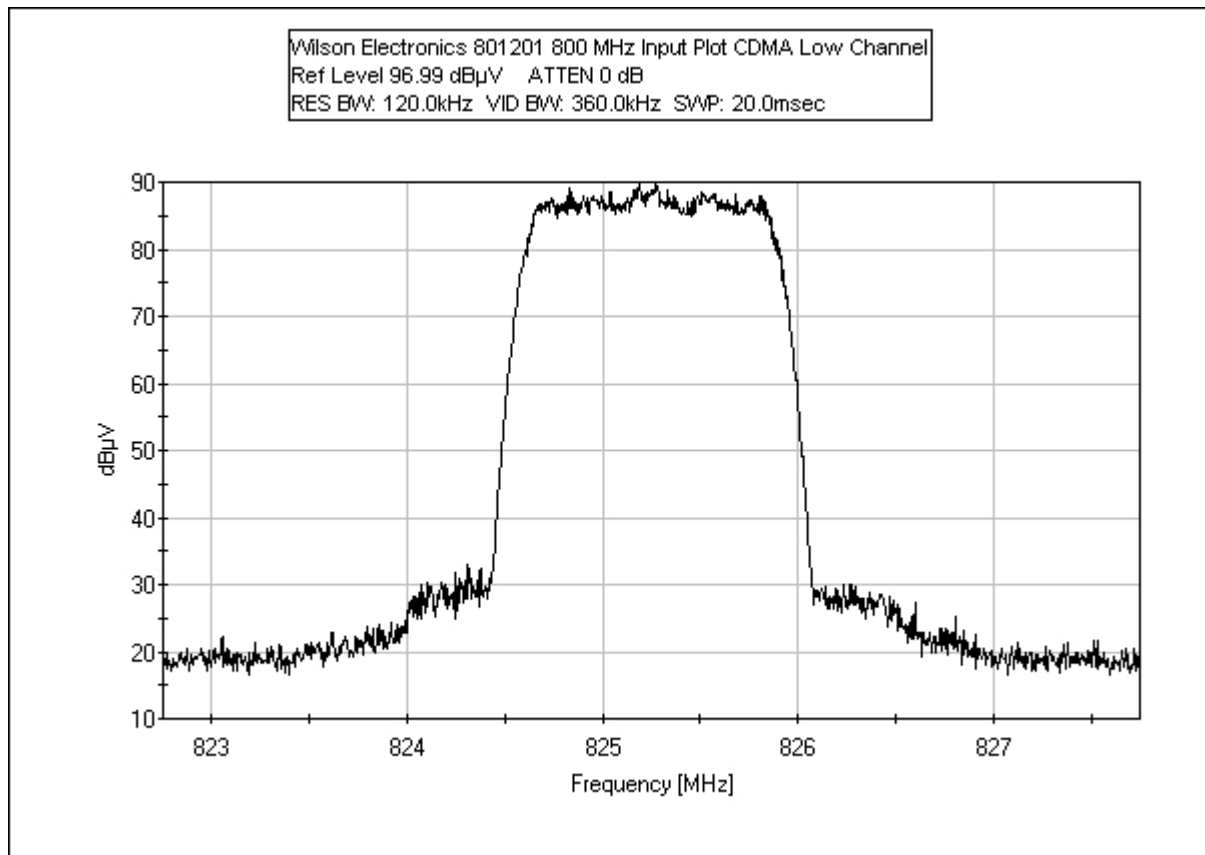
INPUT DOWNLINK GSM - 800 MHZ BAND



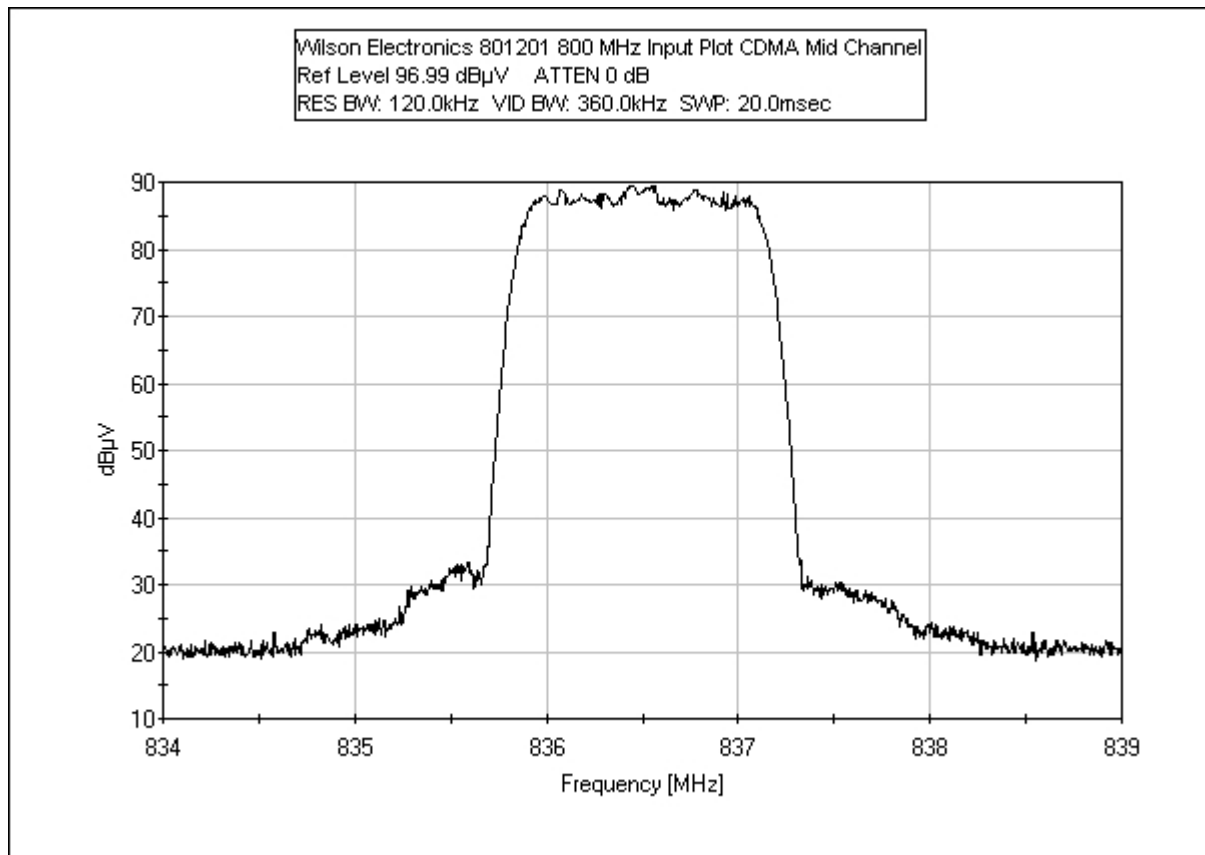
Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A SA	US44300407	01/12/2005	01/12/2007	02660
Attenuator 30dB, Bird	9949	05/09/2003	05/09/2005	P01572
25-A-MFN-30				

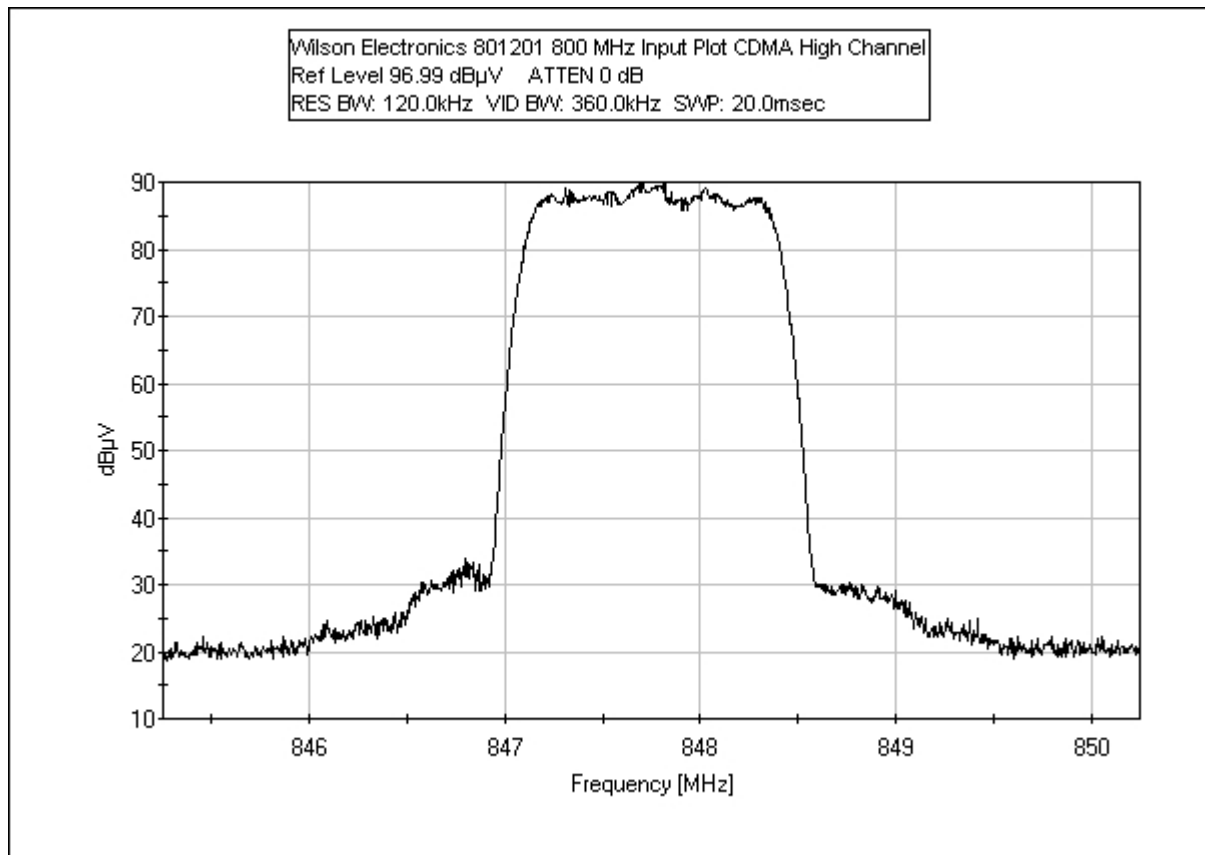
INPUT UPLINK - CDMA LOW CHANNEL



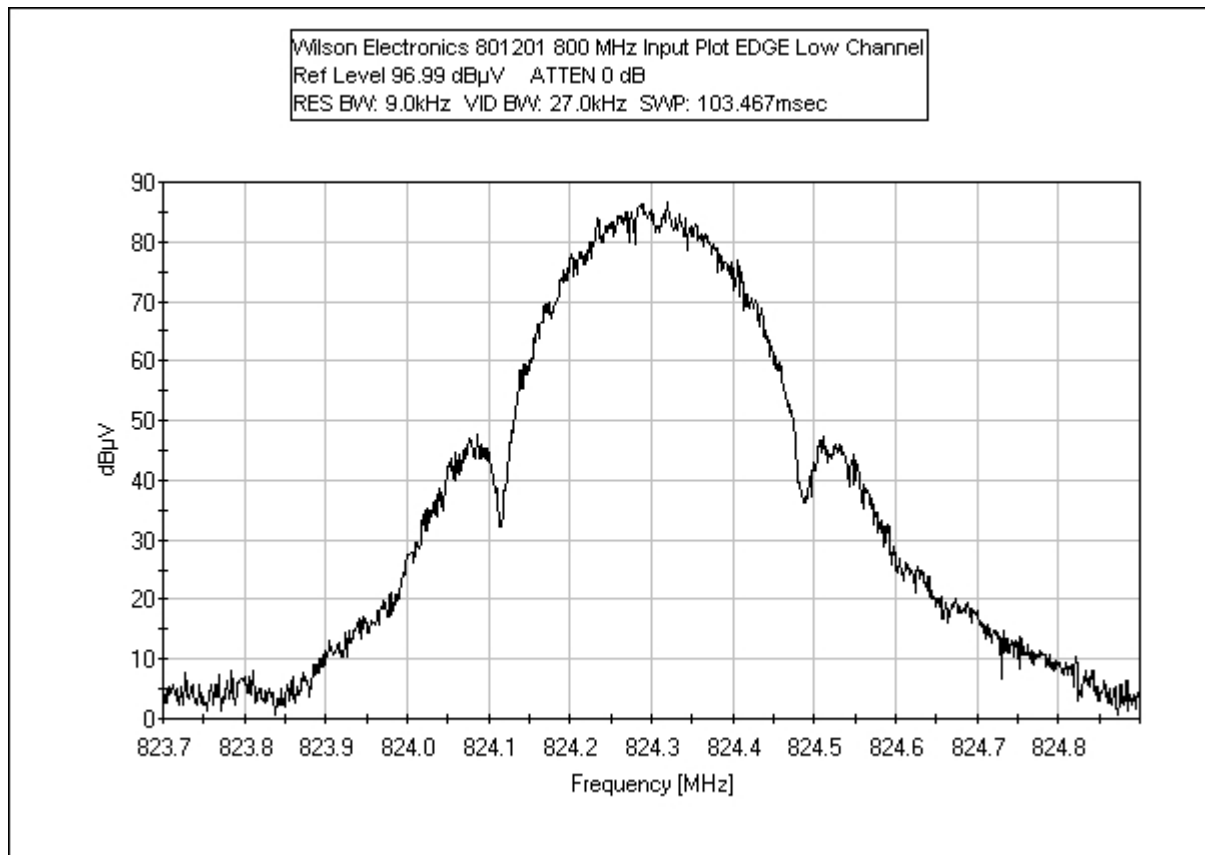
INPUT UPLINK - CDMA MID CHANNEL



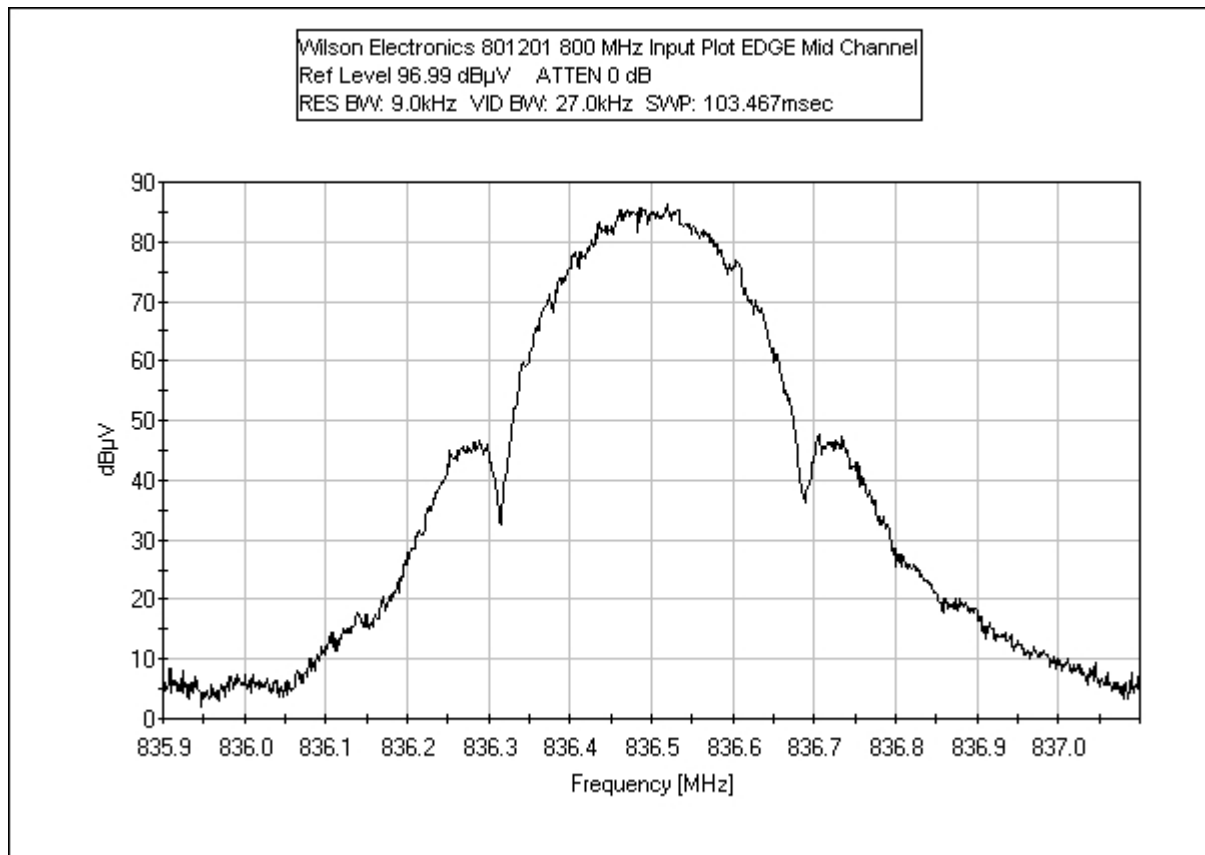
INPUT UPLINK - CDMA HIGH CHANNEL



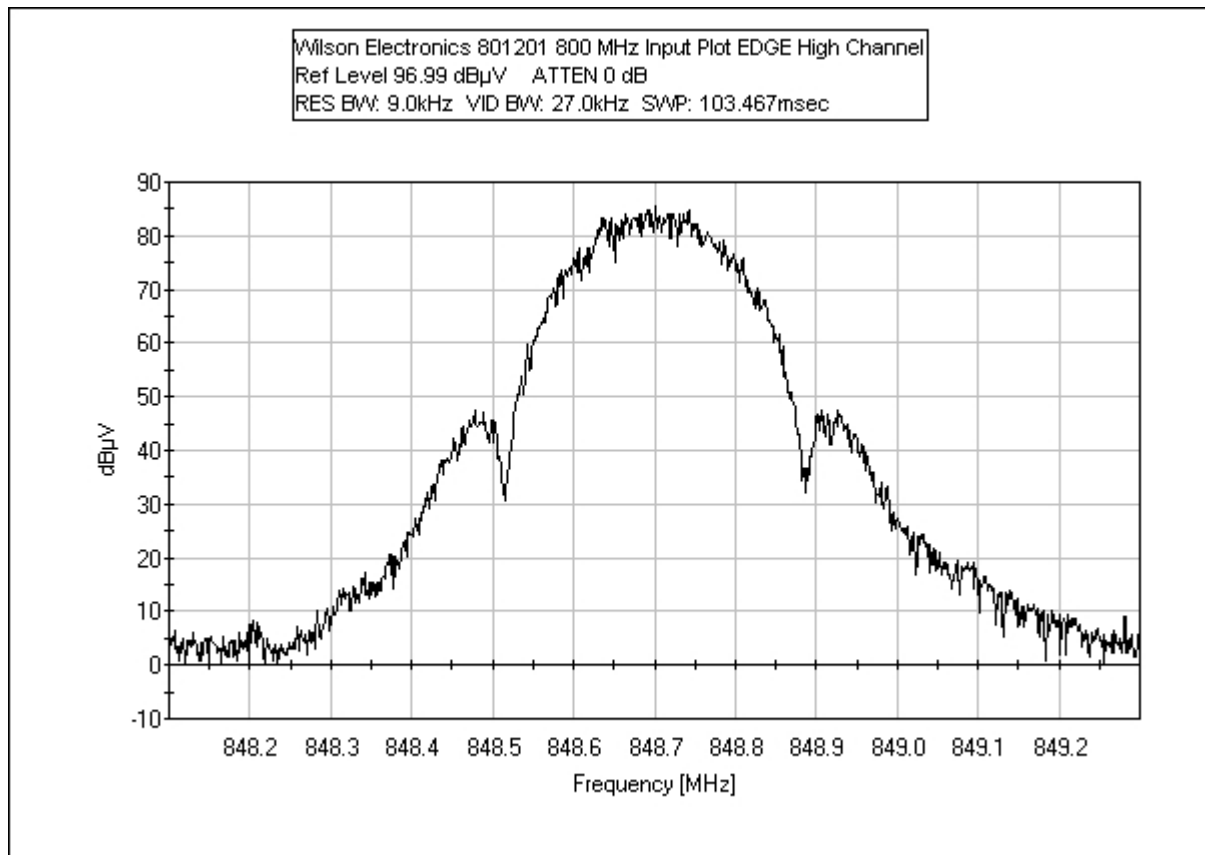
INPUT UPLINK - EDGE LOW CHANNEL



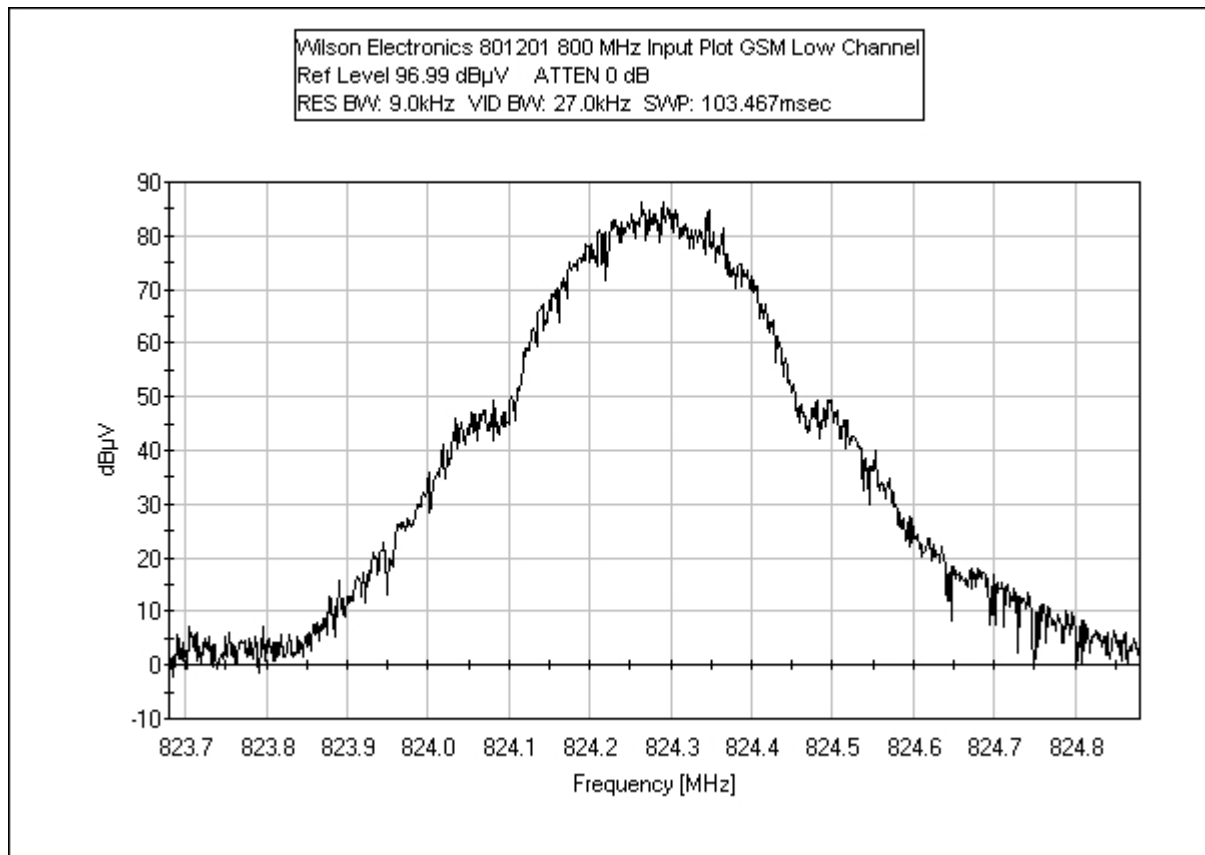
INPUT UPLINK - EDGE MID CHANNEL



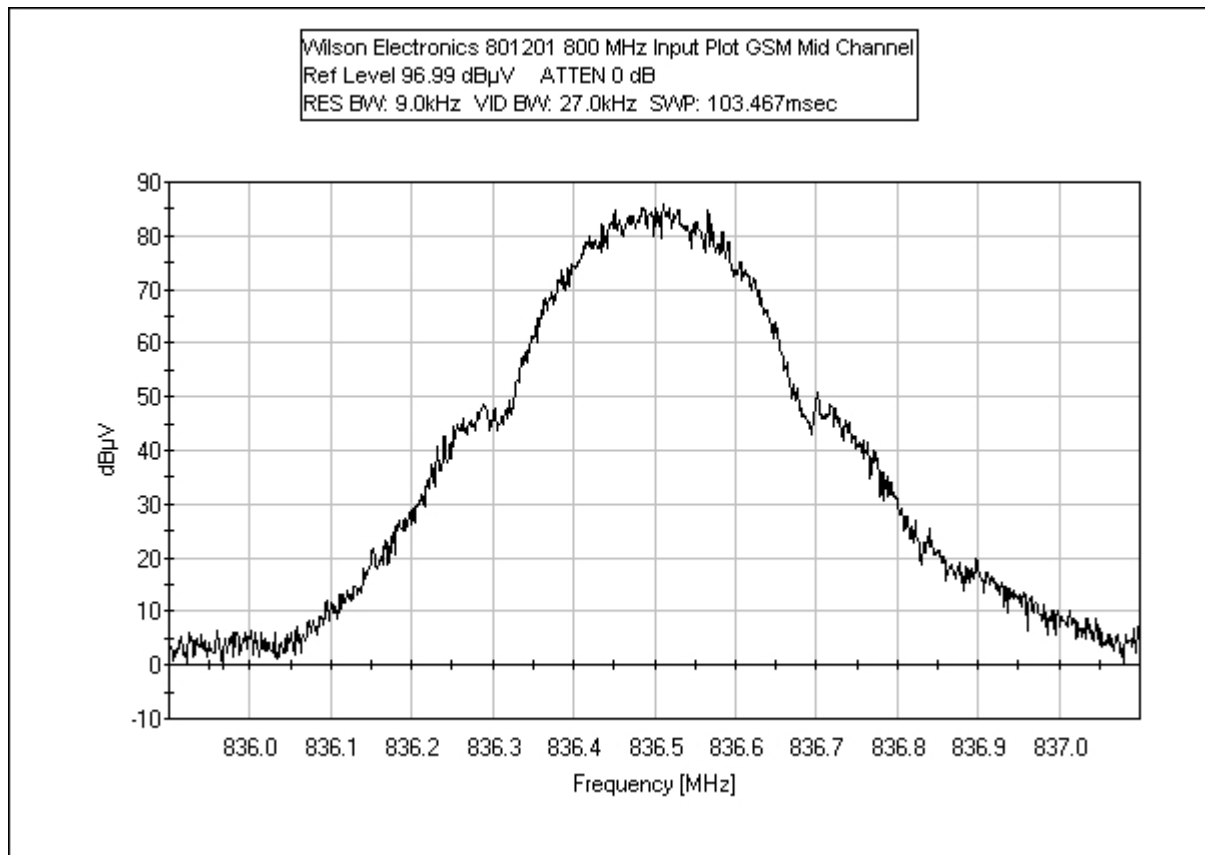
INPUT UPLINK - EDGE HIGH CHANNEL



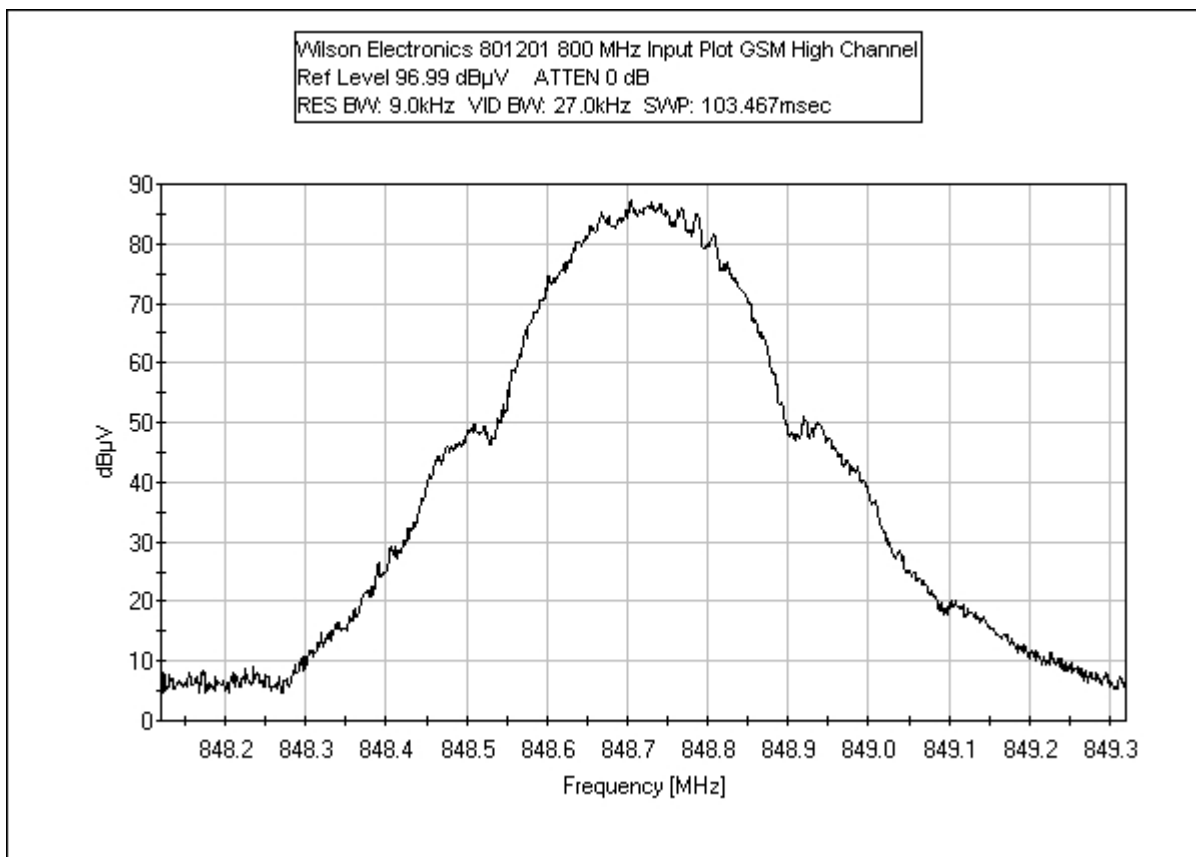
INPUT UPLINK - GSM LOW CHANNEL



INPUT UPLINK - GSM MID CHANNEL



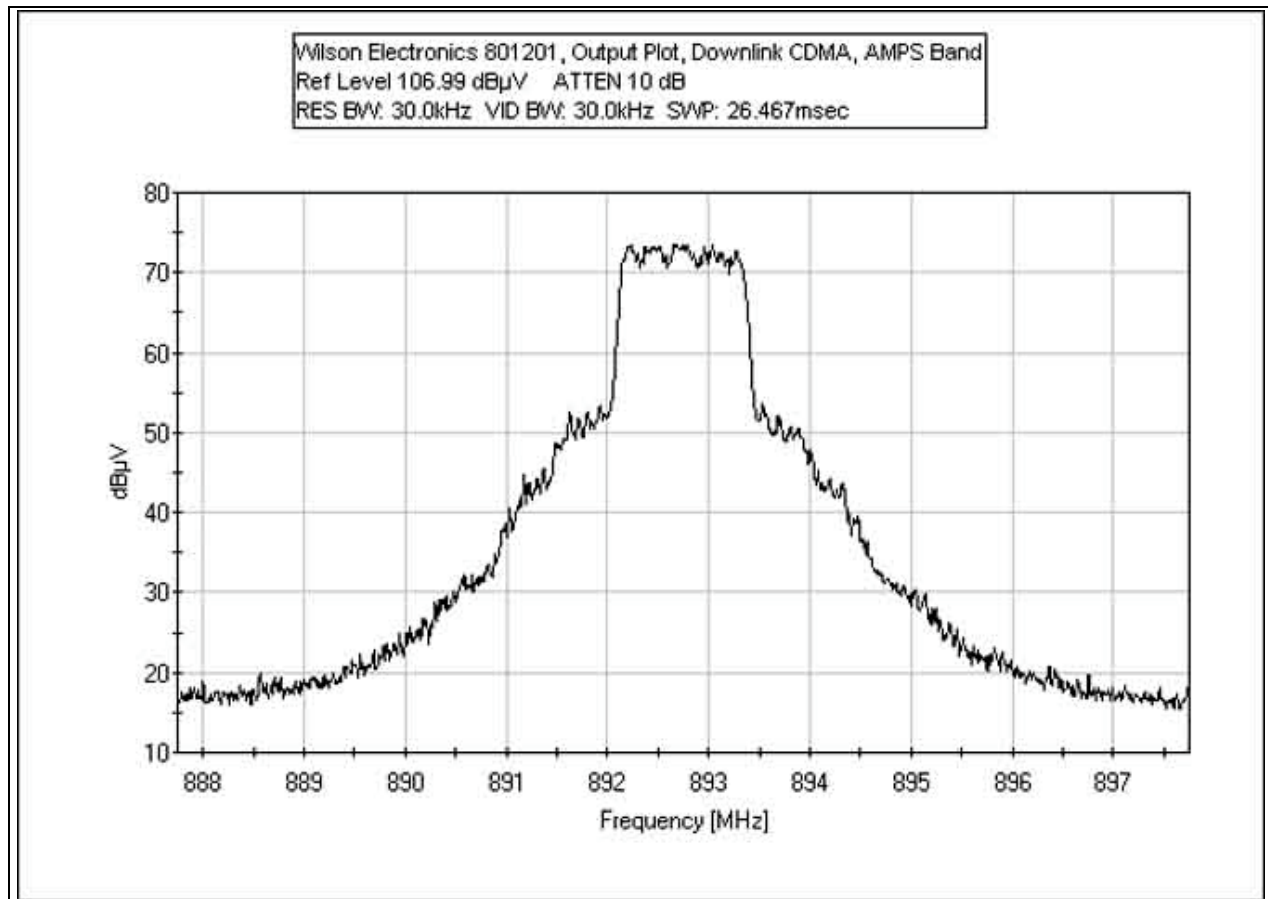
INPUT UPLINK - GSM HIGH CHANNEL



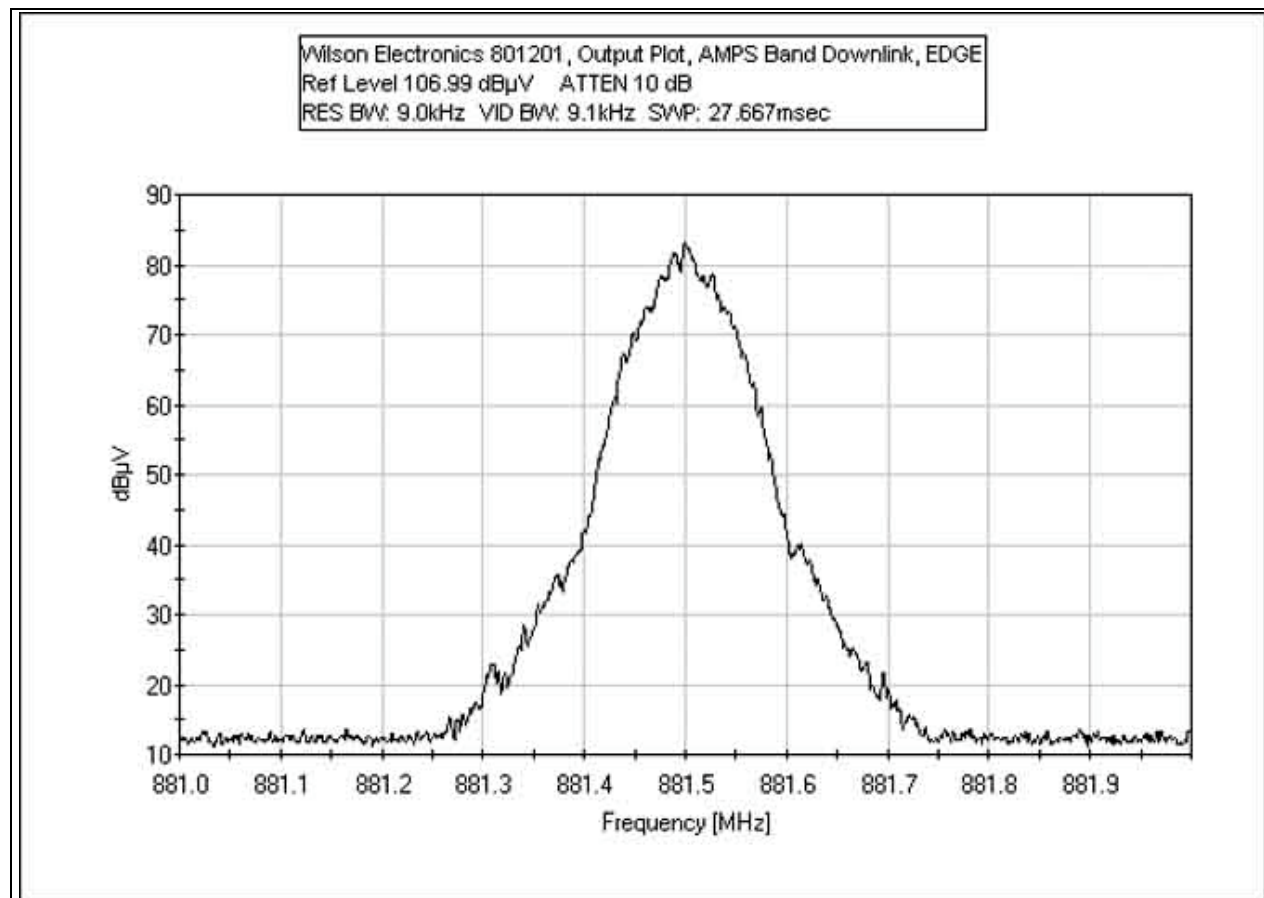
Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A SA	US44300407	01/12/2005	01/12/2007	02660
HF Cable		02/08/2005	02/08/2007	P05203
Weinchel 10dB attenuator	AH5409	05/23/2005	05/23/2007	P01681

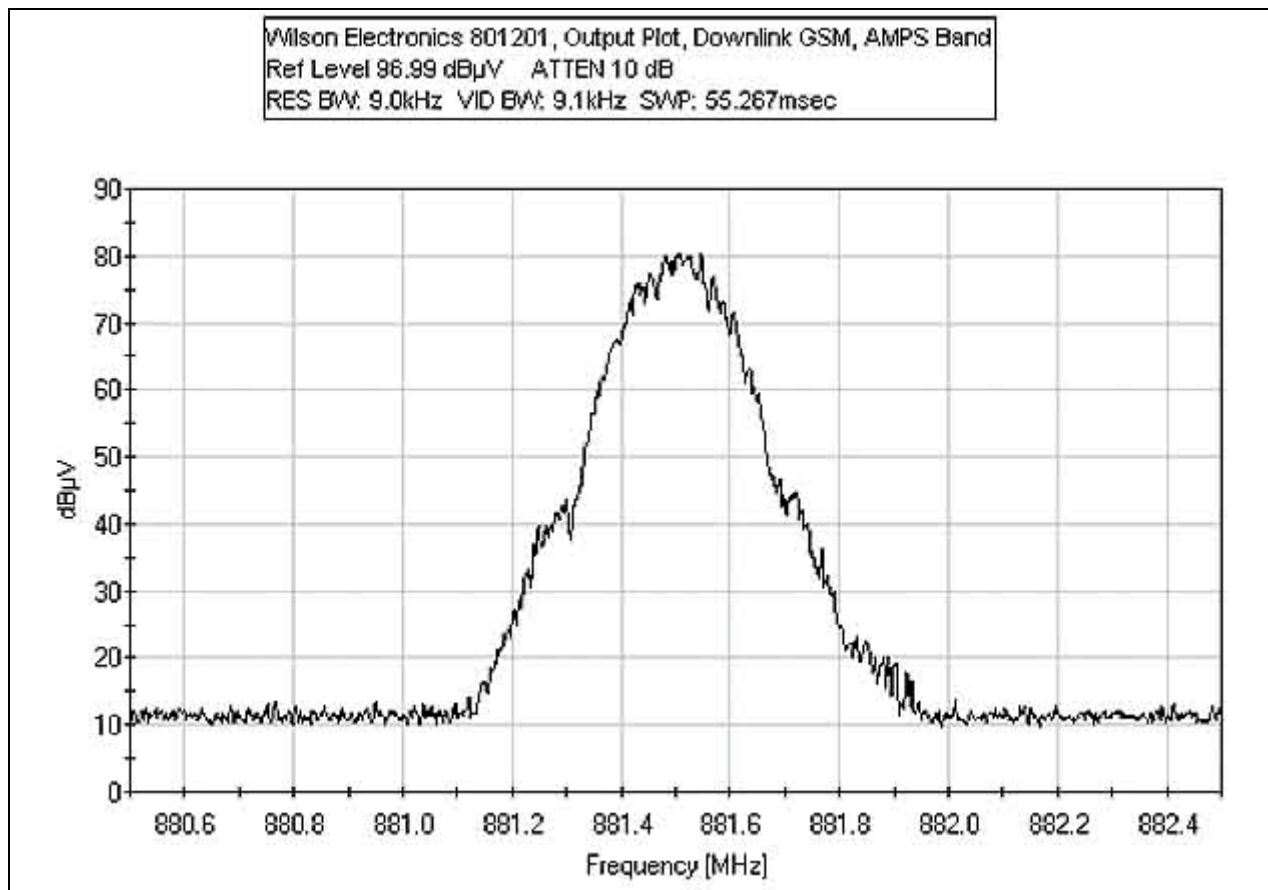
OUTPUT DOWNLINK CDMA - 800 MHZ BAND



OUTPUT DOWNLINK EDGE - 800 MHZ BAND



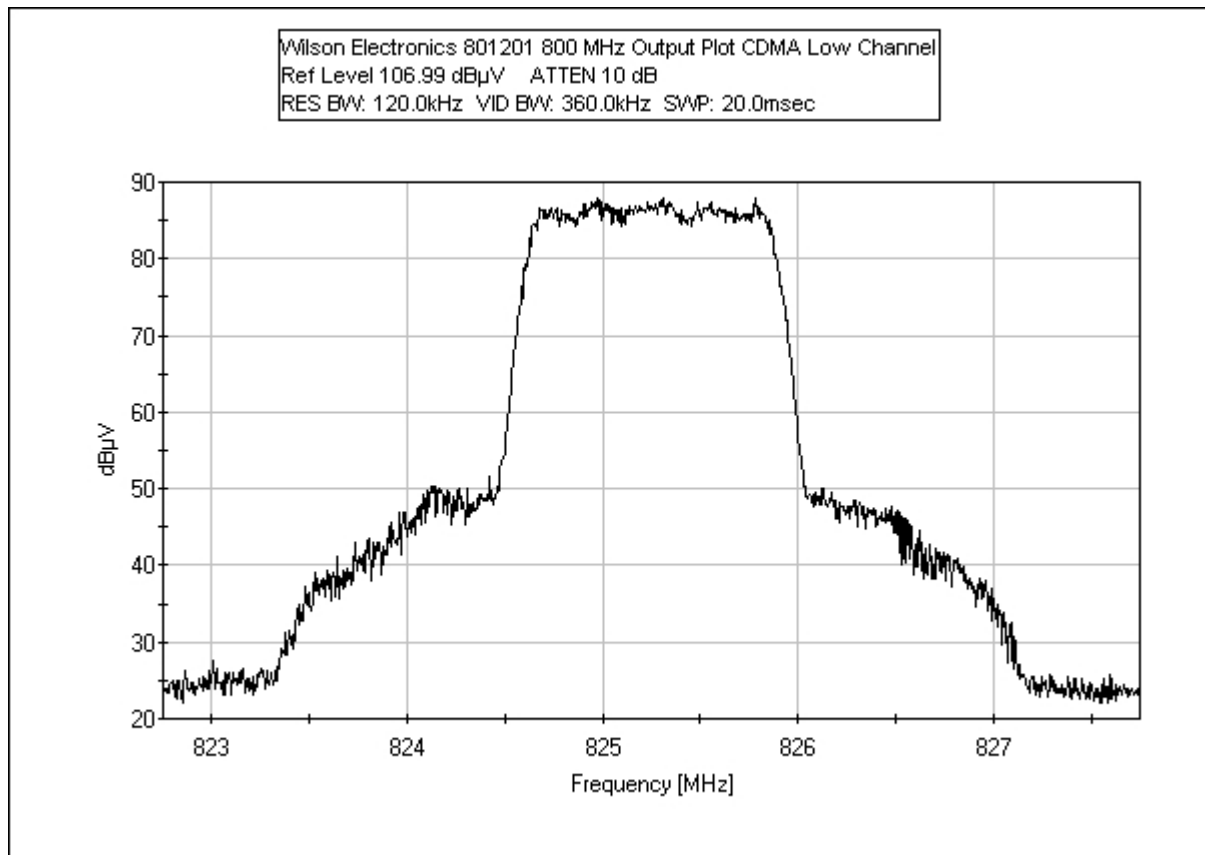
OUTPUT DOWNLINK GSM - 800 MHZ BAND



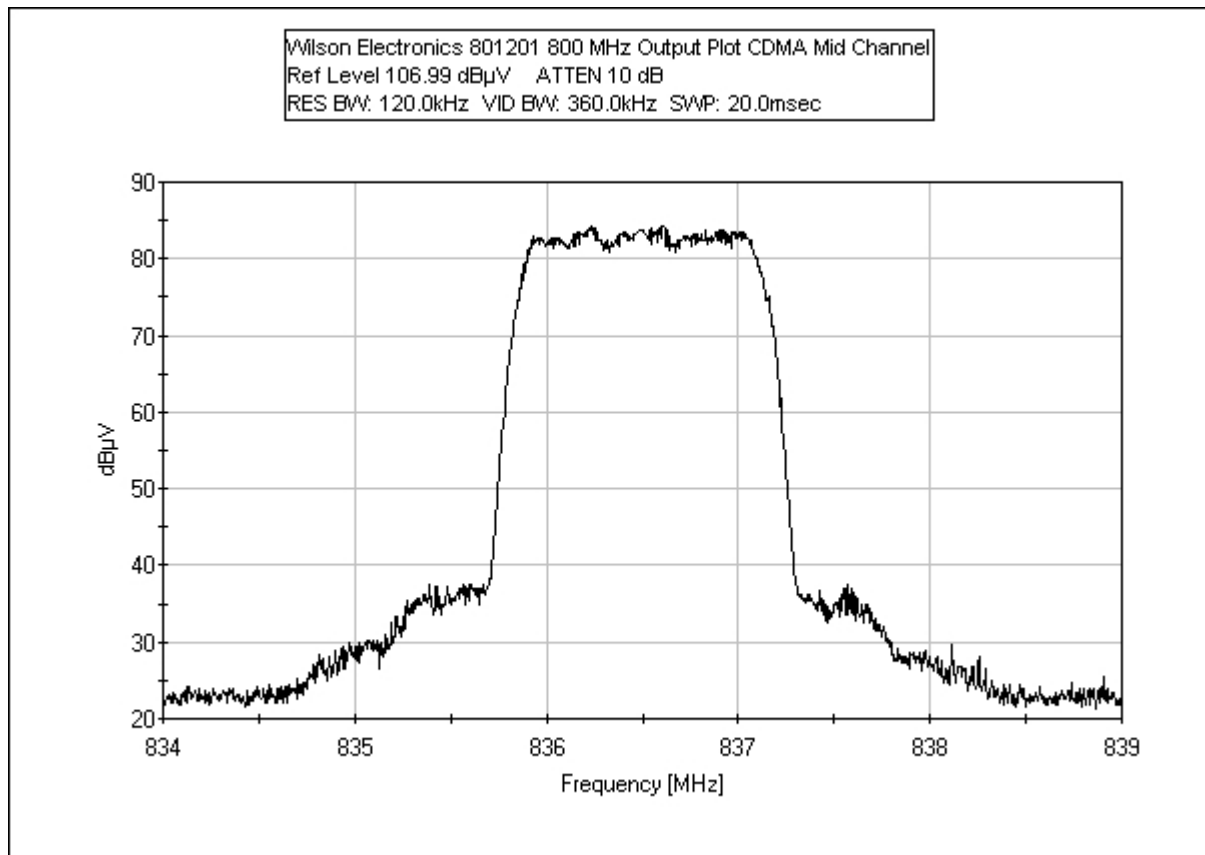
Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A SA	US44300407	01/12/2005	01/12/2007	02660
Attenuator 30dB, Bird	9949	05/09/2003	05/09/2005	P01572
25-A-MFN-30				

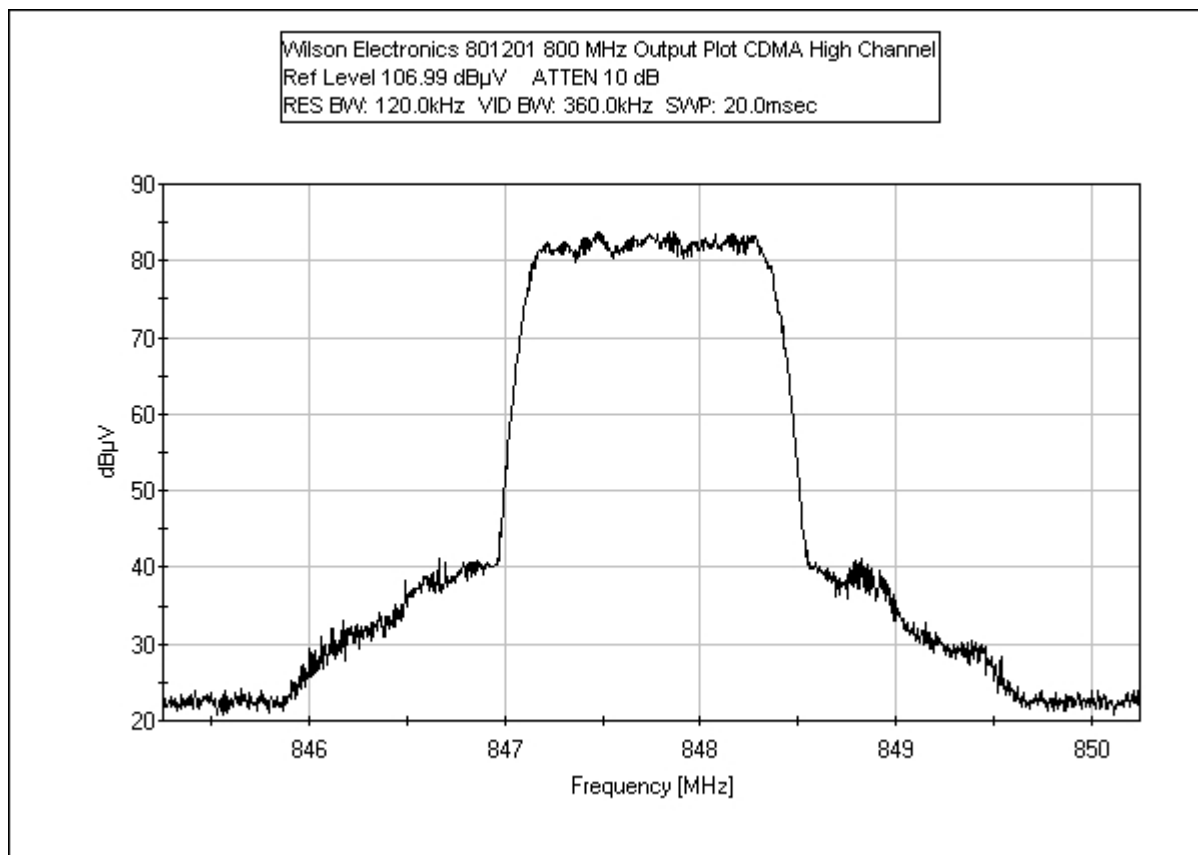
OUTPUT UPLINK - CDMA LOW CHANNEL



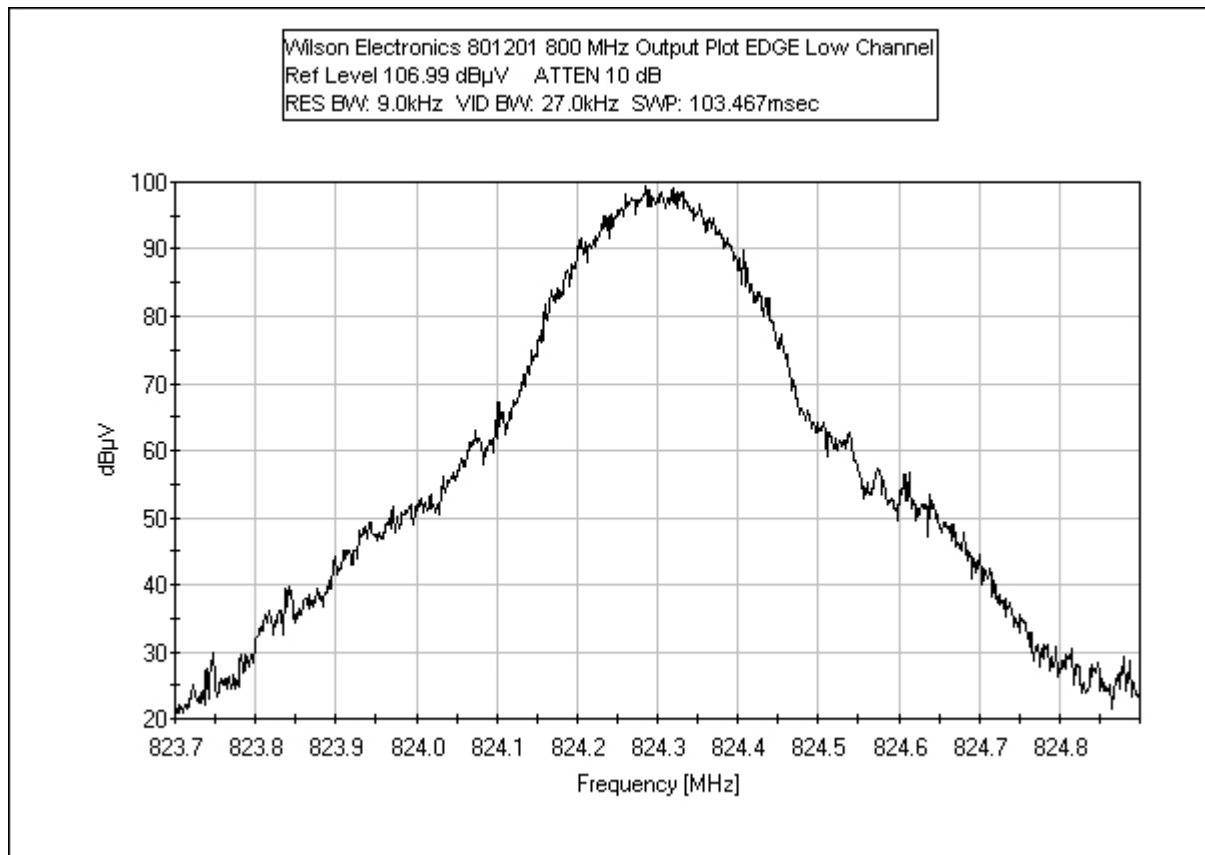
OUTPUT UPLINK - CDMA MID CHANNEL



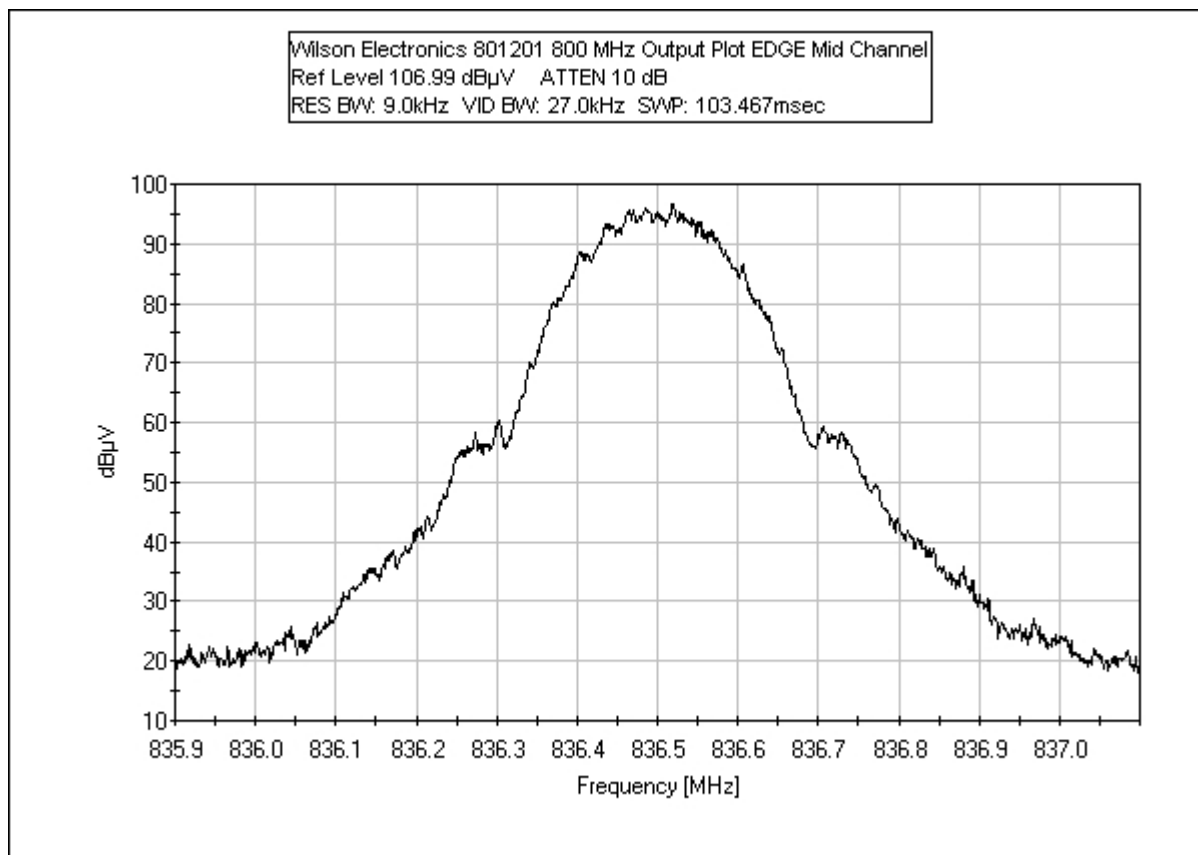
OUTPUT UPLINK - CDMA HIGH CHANNEL



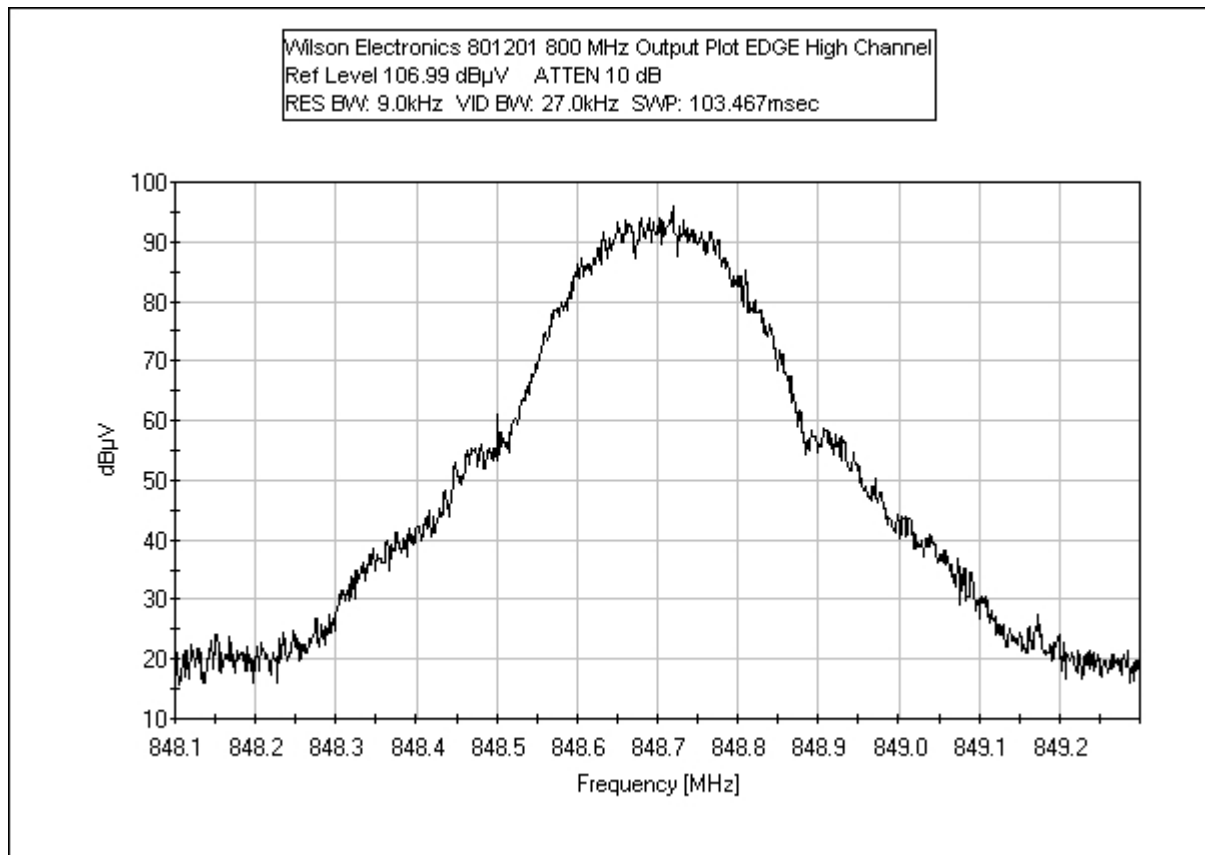
OUTPUT UPLINK - EDGE LOW CHANNEL



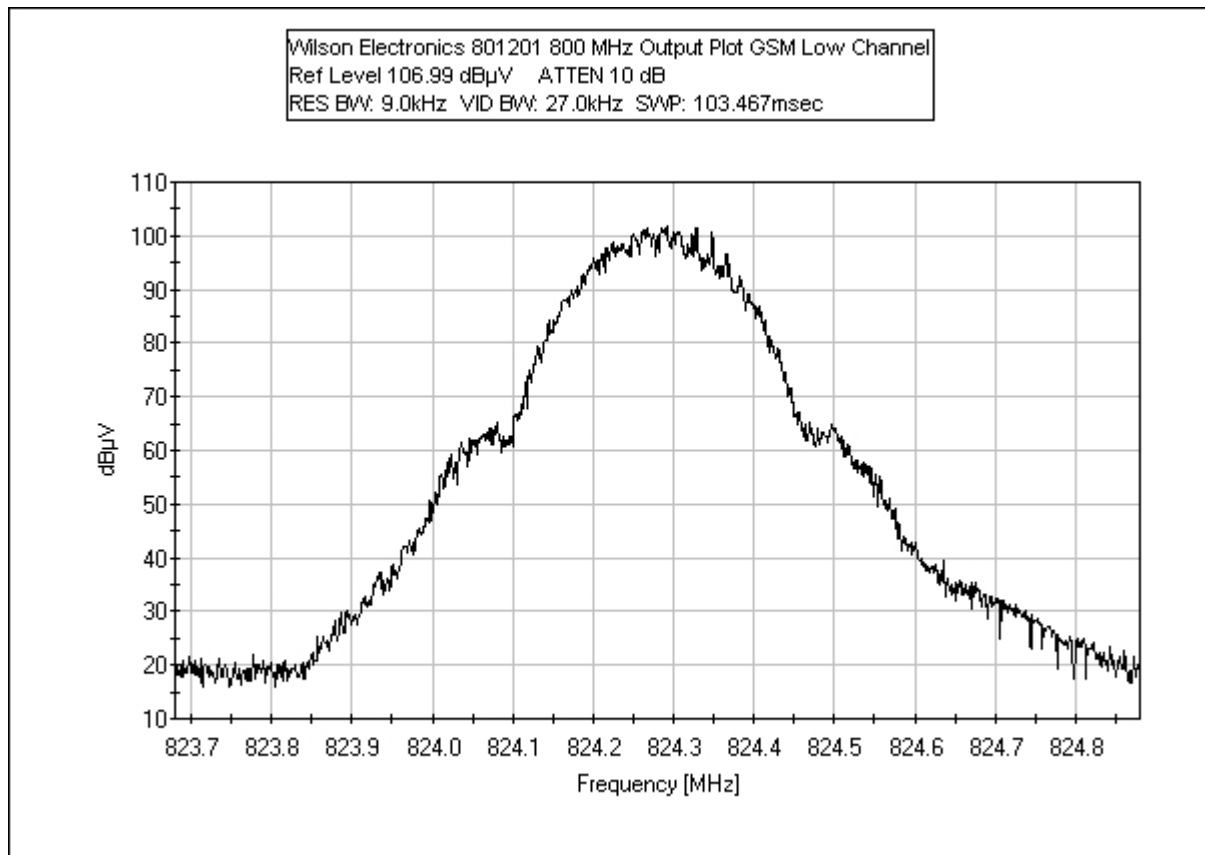
OUTPUT UPLINK - EDGE MID CHANNEL



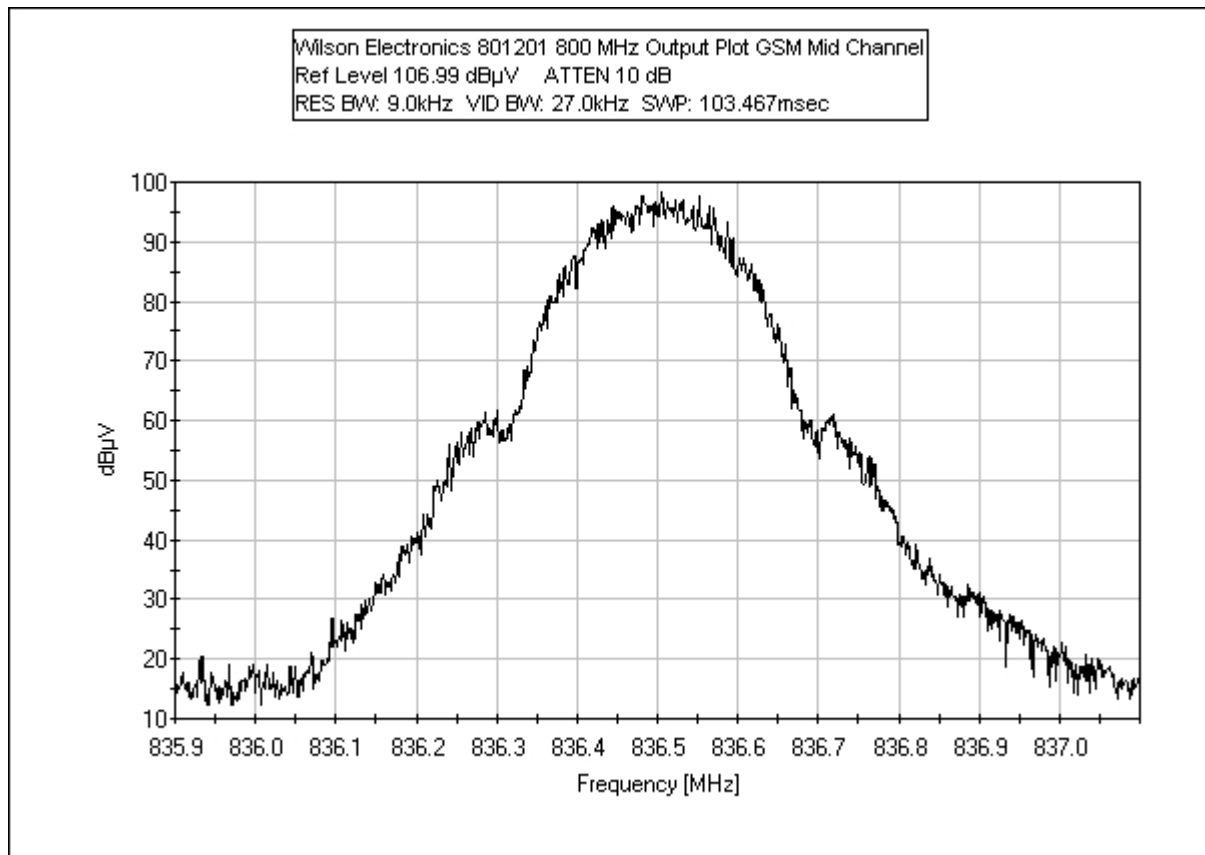
OUTPUT UPLINK - EDGE HIGH CHANNEL



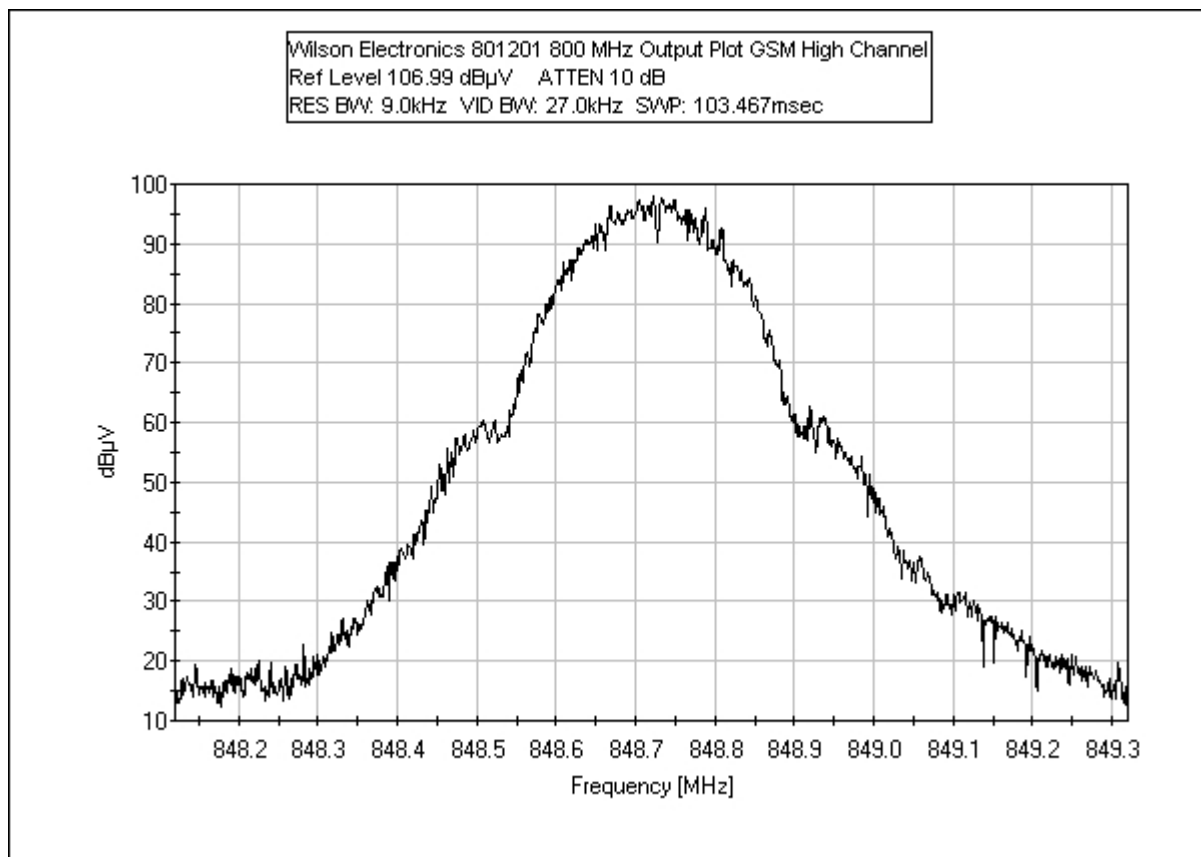
OUTPUT UPLINK - GSM LOW CHANNEL



OUTPUT UPLINK - GSM MID CHANNEL



OUTPUT UPLINK - GSM HIGH CHANNEL



Test Equipment:

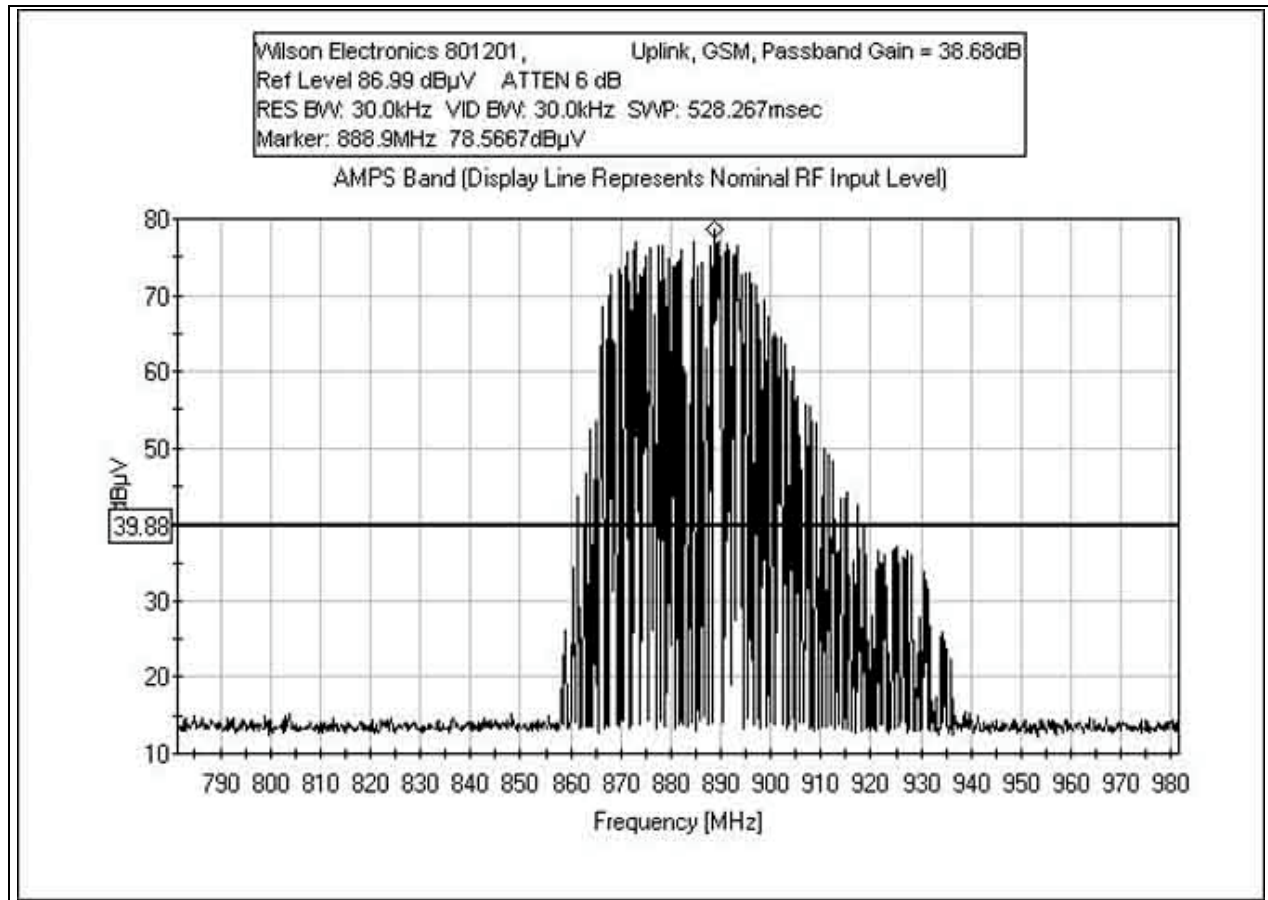
Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A SA	US44300407	01/12/2005	01/12/2007	02660
HF Cable		02/08/2005	02/08/2007	P05203
Weinchel 10dB attenuator	AH5409	05/23/2005	05/23/2007	P01681

PHOTOGRAPH SHOWING DIRECT CONNECT TEST SETUP



RSS-131 DOWNLINK PASSBAND GAIN GSM

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

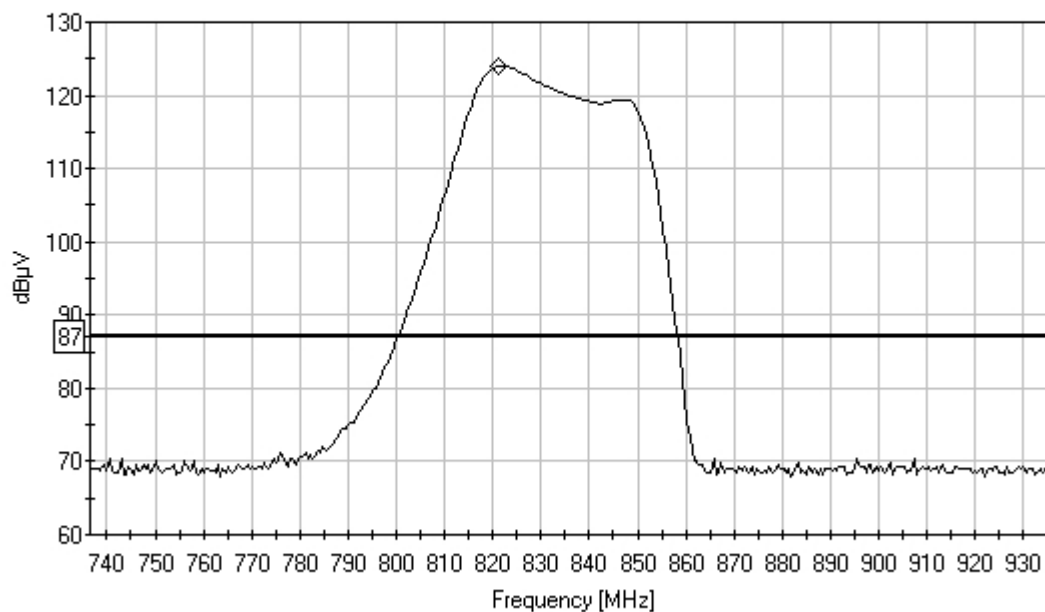


Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A SA	US44300407	01/12/2005	01/12/2007	02660
Attenuator 30dB, Bird	9949	05/09/2003	05/09/2005	P01572
25-A-MFN-30				

RSS-131 UPLINK PASSBAND GAIN

Wilson Electronics 801201 RSS 131 800 MHz Passband gain is +37.1dB (Display line shows input level)
 Ref Level 137 dBμV ATTN 40 dB
 RES BW: 300.0kHz VID BW: 1.0MHz SWP: 20.0msec
 Marker: 821.0MHz 124.01dBμV



Test Equipment:

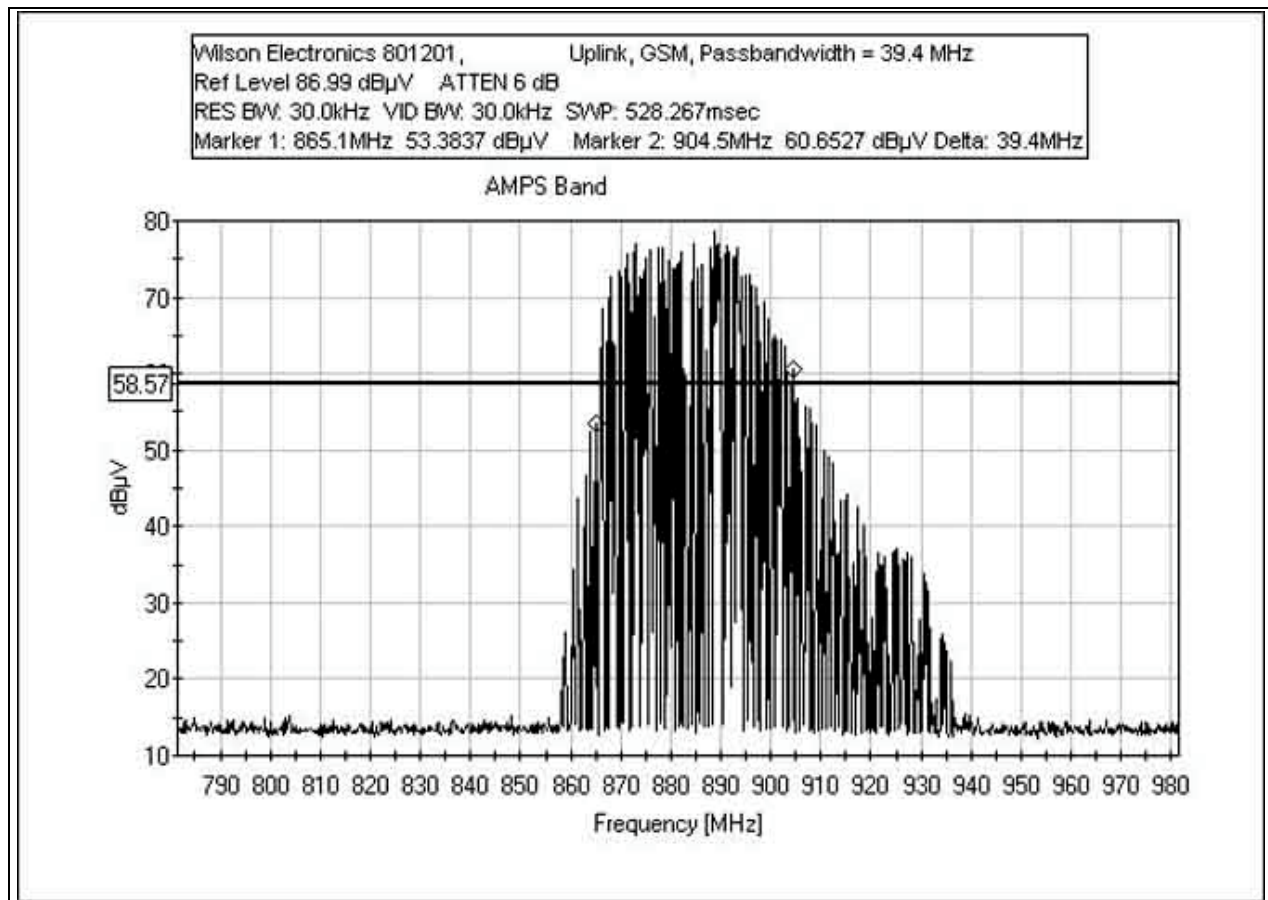
Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A SA	US44300407	01/12/2005	01/12/2007	02660
HF Cable		02/08/2005	02/08/2007	P05203
Weinchel 10dB attenuator	AH5409	05/23/2005	05/23/2007	P01681

PHOTOGRAPH SHOWING DIRECT CONNECT TEST SETUP



RSS-131 DOWNLINK PASSBANDWIDTH GSM

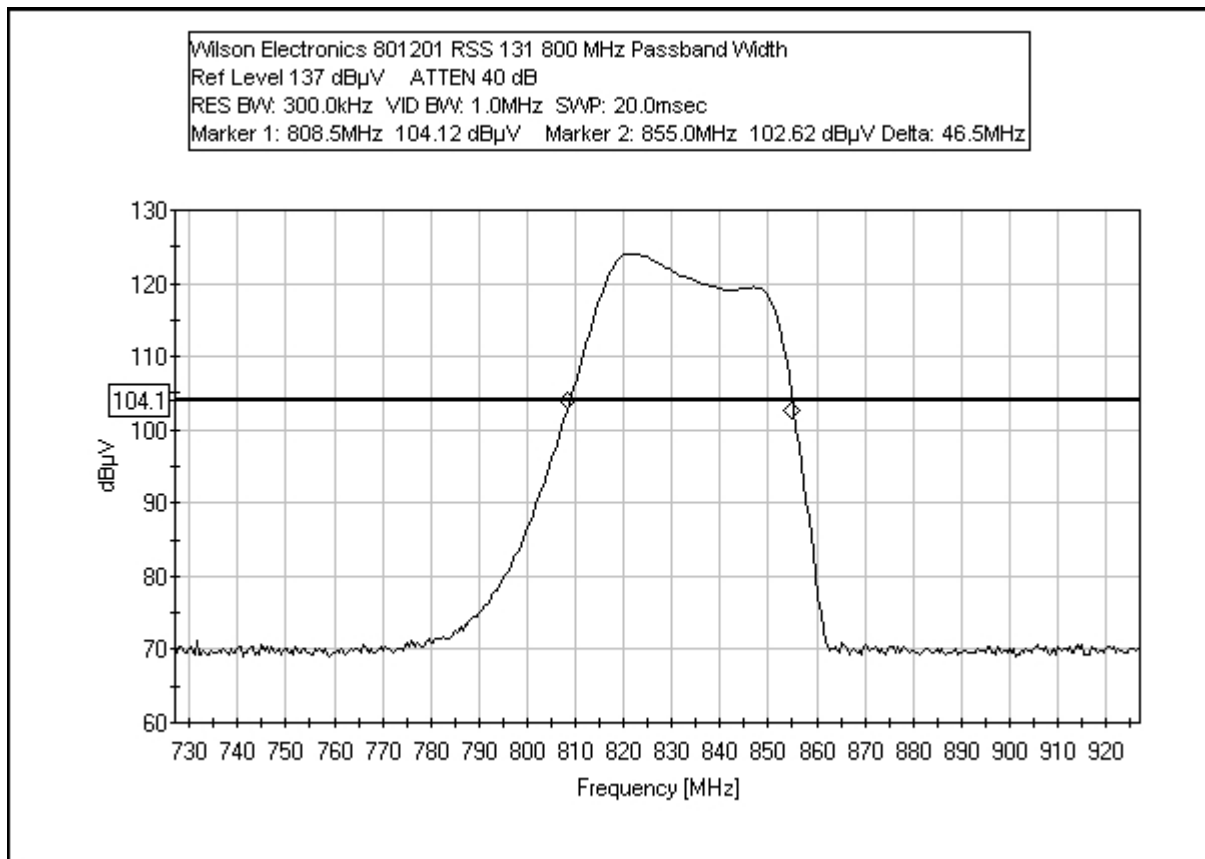
Test Conditions: EUT is a bidirectional amplifier for the 824 to 894MHz band. Uplink frequency range 824 - 849MHz. Downlink frequency range 869 - 894MHz. One signal is input to the amplifier. The input signal is set such that the maximum output is provided at the antenna terminals. The internal ALC of 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.



Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A SA	US44300407	01/12/2005	01/12/2007	02660
Attenuator 30dB, Bird	9949	05/09/2003	05/09/2005	P01572
25-A-MFN-30				

RSS-131 UPLINK PASSBAND WIDTH



Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A SA	US44300407	01/12/2005	01/12/2007	02660
HF Cable		02/08/2005	02/08/2007	P05203
Weinchel 10dB attenuator	AH5409	05/23/2005	05/23/2007	P01681

PHOTOGRAPH SHOWING DIRECT CONNECT TEST SETUP

