



ADDENDUM TO WILSON ELECTRONICS TEST REPORT FC05-017

FOR THE

**MOBILE WIRELESS DUAL BAND CELLULAR/
PCS SMART TECHNOLOGY AMPLIFIER, 801201**

FCC PART 24 & RSS-131

COMPLIANCE

DATE OF ISSUE: MAY 3, 2005

PREPARED FOR:

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

P.O. No.: DBW801201-1
W.O. No.: 83305

PREPARED BY:

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

Date of test: March 21 – May 2, 2005

Report No.: FC05-017A

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ADMINISTRATIVE INFORMATION

DATE OF TEST: March 21 – May 2, 2005

DATE OF RECEIPT: March 21, 2005

FREQUENCY RANGE TESTED: 30MHz-20GHz

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 24, TIA/EIA 603 & RSS-131

PURPOSE OF TEST: To demonstrate the compliance of the Mobile Wireless Dual Band Cellular/PCS Smart Technology Amplifier, 801201 with the requirements for FCC Part 24 & RSS-131 devices. **Addendum A** is to revise the data sheet on page 54 and add self collocation intermodulation data on page 80.

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	24.232	RF Power Output
RSS-131	6.3	TIA/EIA	603	Non-Linearity (Intermodulation Attenuation)
RSS-131	6.4	47 CFR	24.238	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

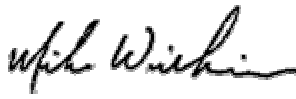
Steve Behm, Director of Engineering Services

QUALITY ASSURANCE:



Joyce Walker, Quality Assurance Administrative Manager

TEST PERSONNEL:



Mike Wilkinson, Lab Manager



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 Dual Band Cellular/PCS Smart Technology Amplifier

EQUIPMENT UNDER TEST

Mobile Wireless Dual Band Cellular/PCS Smart Technology Amplifier

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

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, G7X, F9W

FCC 2.1033 (c)(5) FREQUENCY RANGE

Downlink 1930-1990MHz, Uplink 1850-1910MHz

FCC 2.1033 (c)(6) OPERATING POWER

Downlink, 8.31 mWatts (EIRP), Uplink, 1.862 Watts (EIRP)

FCC 2.1033 (c)(7) MAXIMUM POWER RATING

Downlink 15 mW, Uplink 2 Watts EIRP

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)/2.1046/24.232 - RF POWER OUTPUT

EUT is a bidirectional amplifier for the 1850 to 1990MHz band. Uplink frequency range 1850 - 1910MHz. Downlink frequency range 1930 - 1990MHz

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: 2Watts EIRP

Downlink Output Ratings:

All: 15mW

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

Downlink – Conducted Power

<i>Frequency (MHz)</i>	<i>Modulation</i>	<i>Power Output (milliWatts)</i>
1931.25	CDMA	6.60
1960.0	CDMA	9.77
1988.75	CDMA	8.71
1930.28	GSM	6.30
1960.0	GSM	9.77
1989.72	GSM	8.51
1930.28	EDGE	6.30
1960.0	EDGE	9.12
1989.72	EDGE	8.51

Downlink – EIRP Power

<i>Frequency (MHz)</i>	<i>Modulation</i>	<i>Power Output (milliWatts)</i>
1931.25	CDMA	5.62
1960.0	CDMA	8.31
1988.75	CDMA	7.41
1930.28	GSM	5.37
1960.0	GSM	8.31
1989.72	GSM	7.24
1930.3	EDGE	5.37
1960.0	EDGE	7.76
1989.7	EDGE	6.91

Note: Downlink EIRP calculated using 3.2 dBi gain antenna – 3.9 dB coax loss = -0.7 dBi as declared by Wilson Electronics.

Uplink – Conducted Power

<i>Frequency (MHz)</i>	<i>Modulation</i>	<i>Power Output (Watts)</i>
1851.25	CDMA	.776
1880.0	CDMA	1.122
1908.75	CDMA	.363
1850.28	GSM	.547
1880.0	GSM	.933
1909.72	GSM	.363
1850.28	EDGE	.912
1880.0	EDGE	1.071
1909.72	EDGE	.363

Uplink – EIRP Power

<i>Frequency (MHz)</i>	<i>Modulation</i>	<i>Power Output (Watts)</i>
1851.25	CDMA	1.288
1880.0	CDMA	1.862
1908.75	CDMA	.602
1850.28	GSM	.954
1880.0	GSM	1.548
1909.72	GSM	.602
1850.28	EDGE	1.513
1880.0	EDGE	1.778
1909.72	EDGE	.602

Note: Uplink EIRP calculated using 5.12 dBi gain antenna – 3.9 dB coax loss = 2.2 dBi as declared by Wilson Electronics.

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.

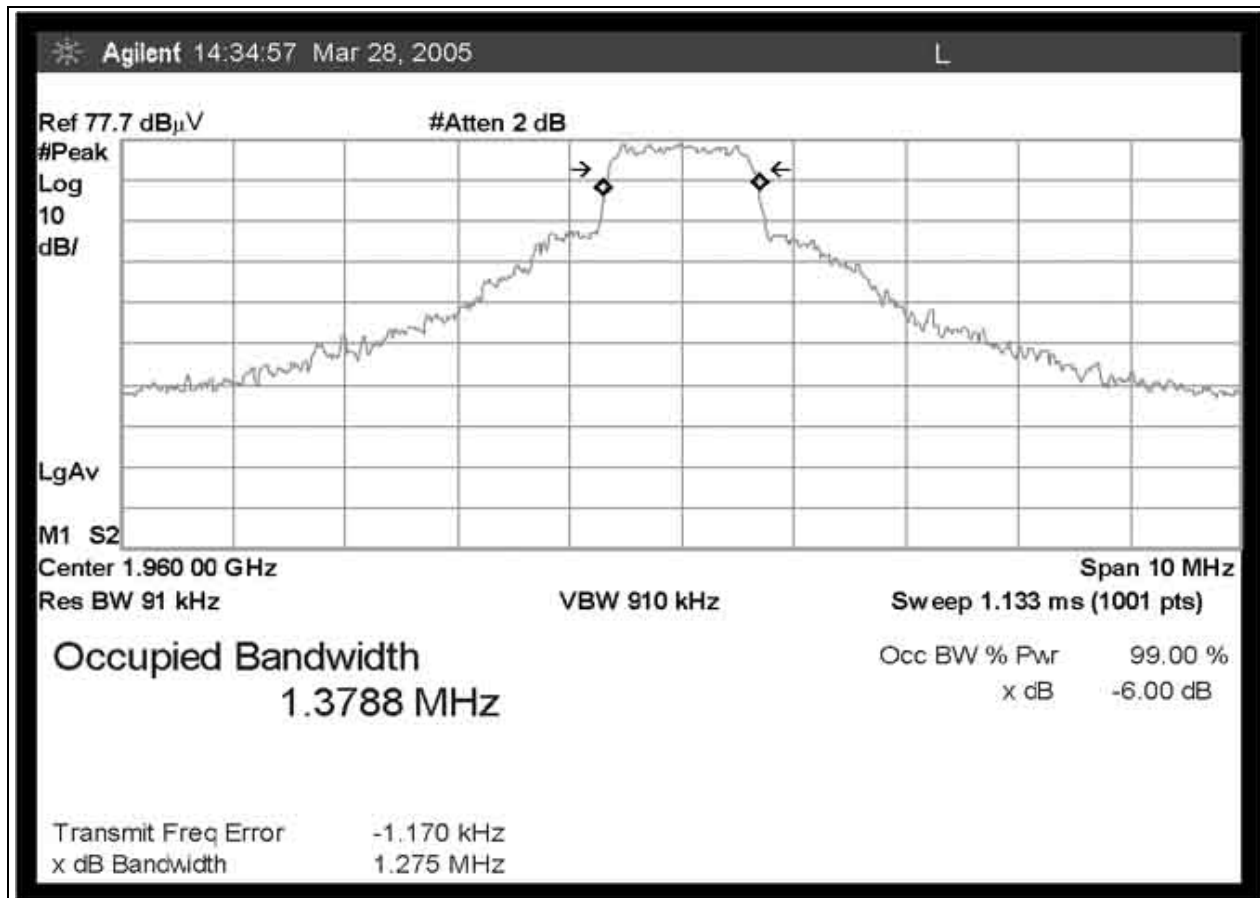
**FCC 2.1033(c)(14)/2.1047(b) MODULATION CHARACTERISTICS- Modulation
Limiting Response**

Not applicable to this unit.

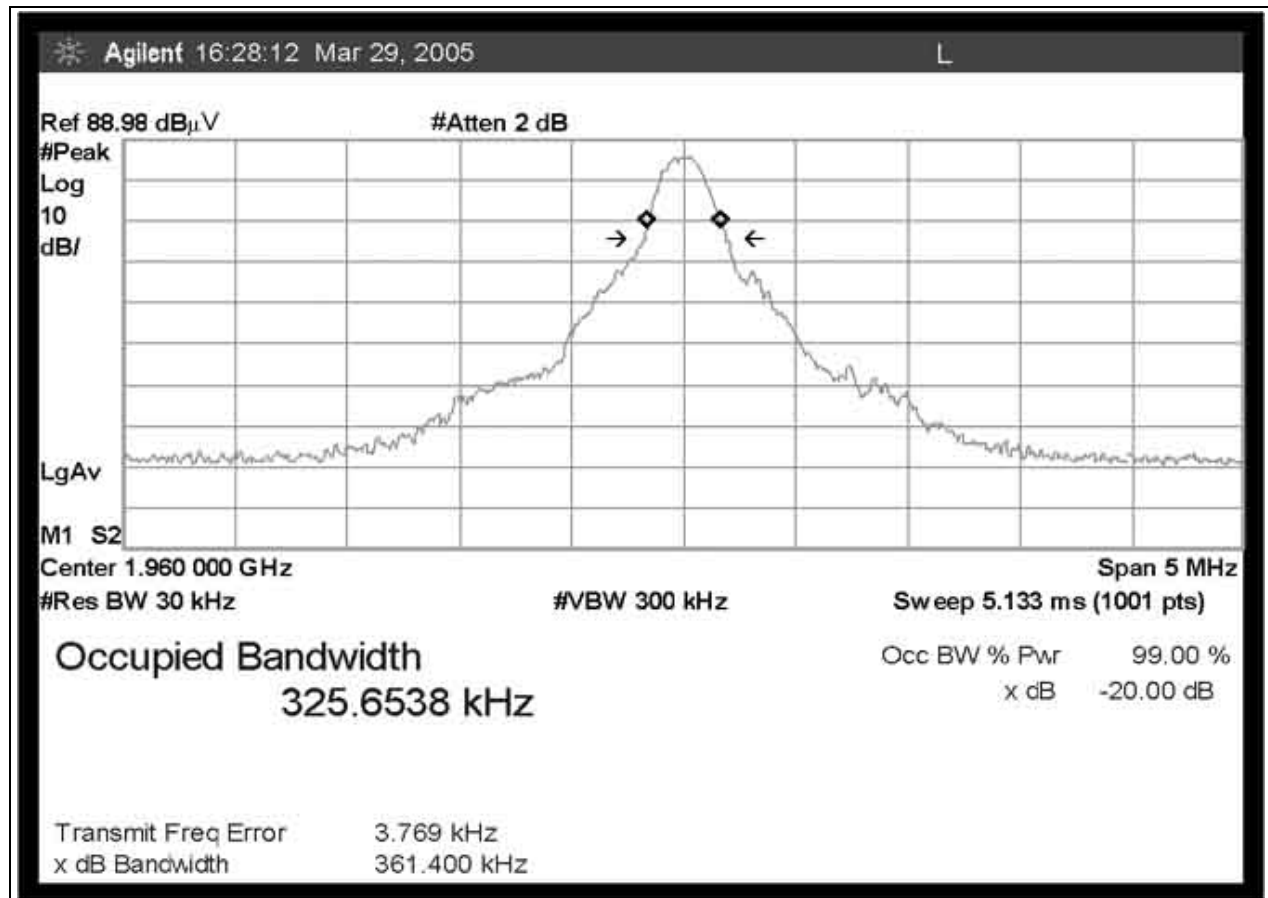
FCC 2.1033(c)(14)/2.1049(i)- OCCUPIED BANDWIDTH

Test Conditions: EUT is a bidirectional amplifier for the 1850 to 1990MHz band. Uplink frequency range 1850 - 1910MHz. Downlink frequency range 1930 - 1990MHz. 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. Frequency Range Investigated: 30MHz to 20GHz.

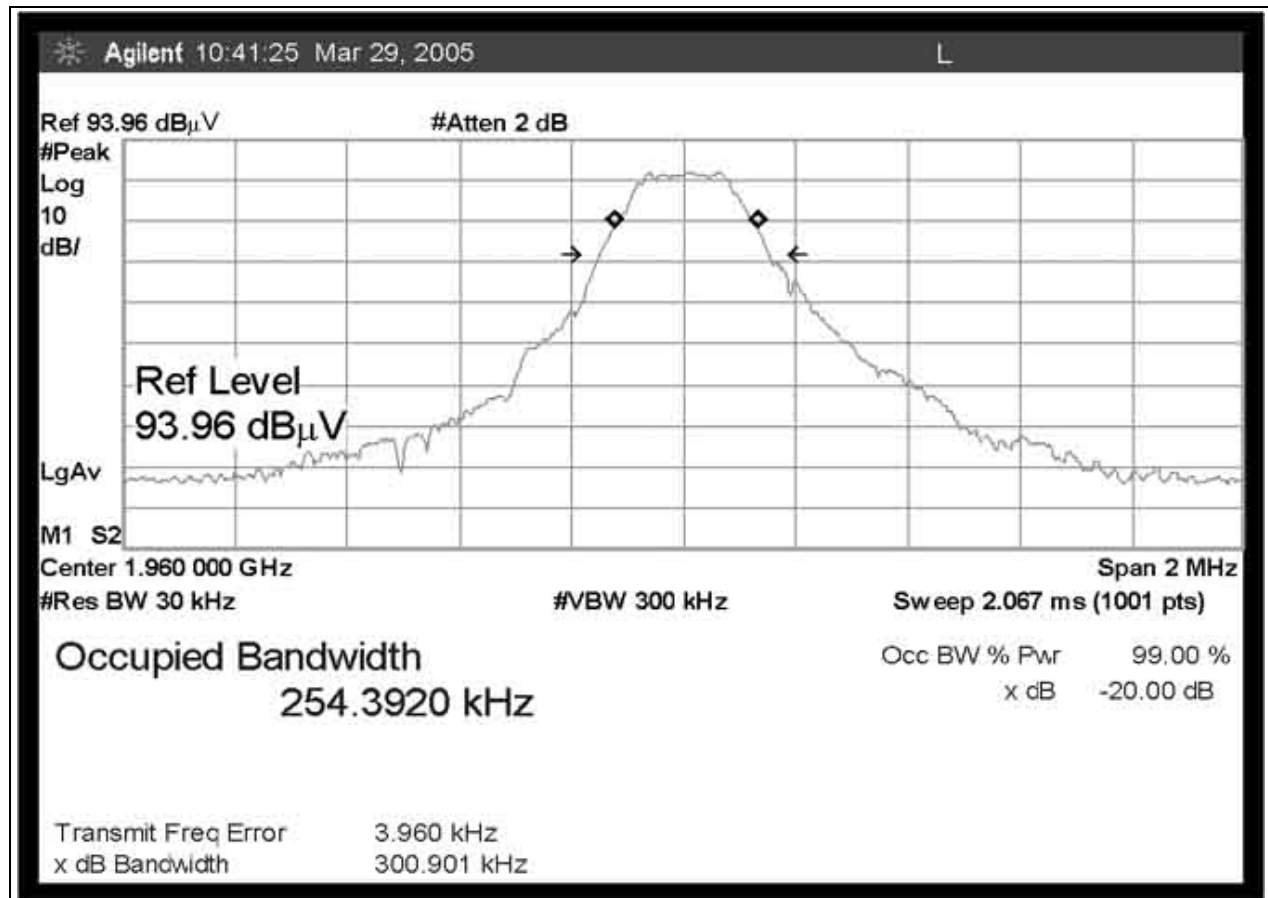
FCC 2.1049 DOWNLINK OCCUPIED BANDWIDTH CDMA - PCS BAND



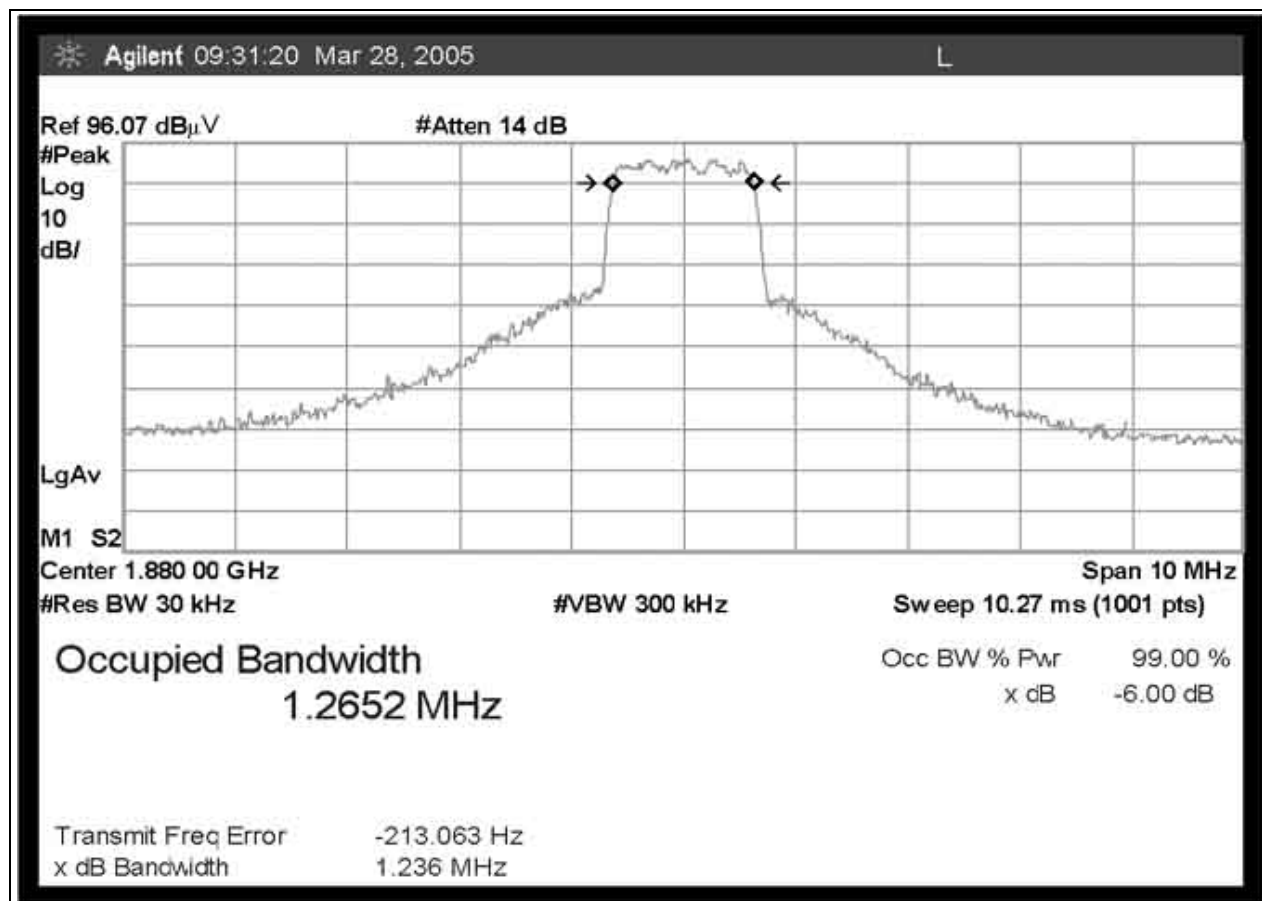
FCC 2.1049 DOWNLINK OCCUPIED BANDWIDTH EDGE - PCS BAND



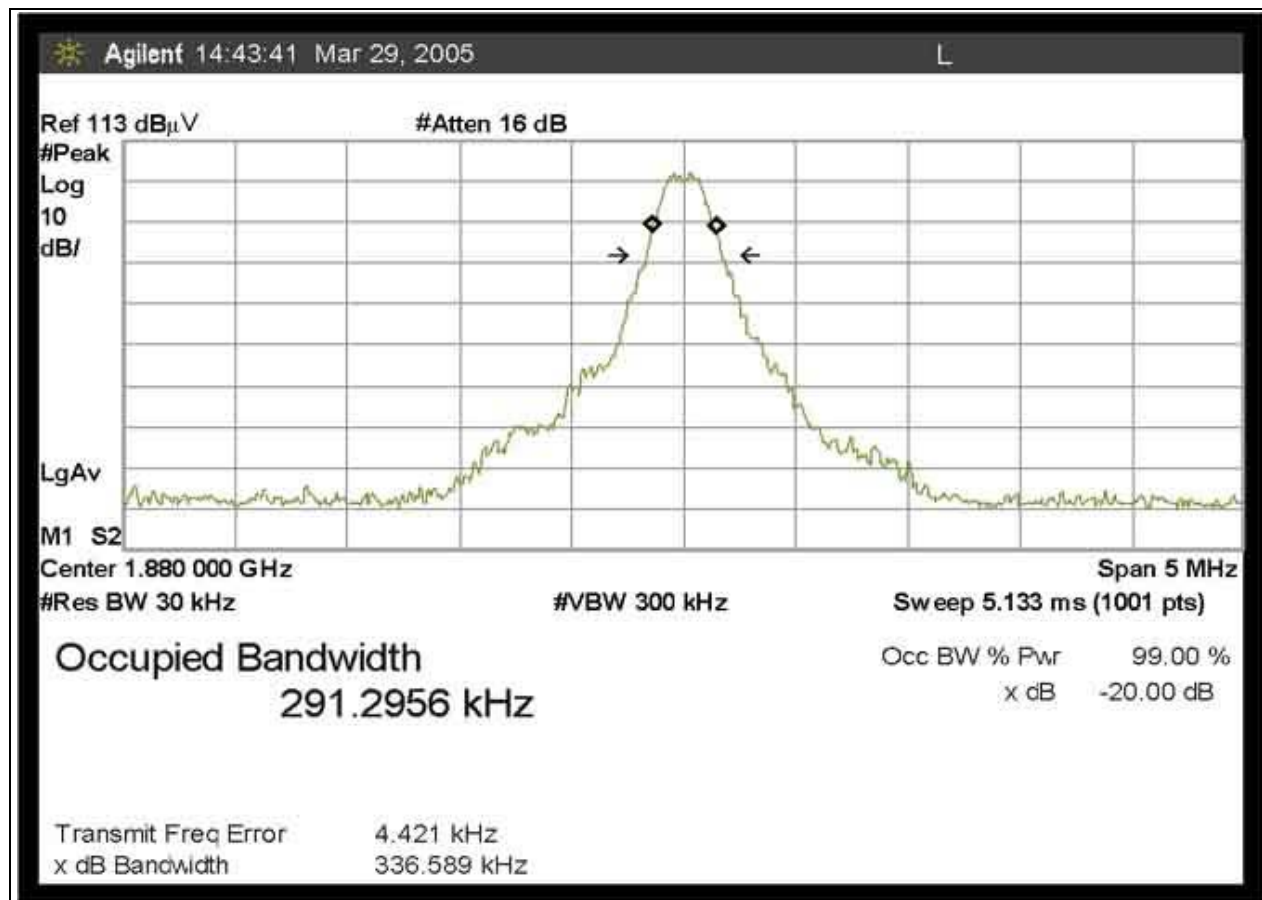
FCC 2.1049 DOWNLINK OCCUPIED BANDWIDTH GSM - PCS BAND



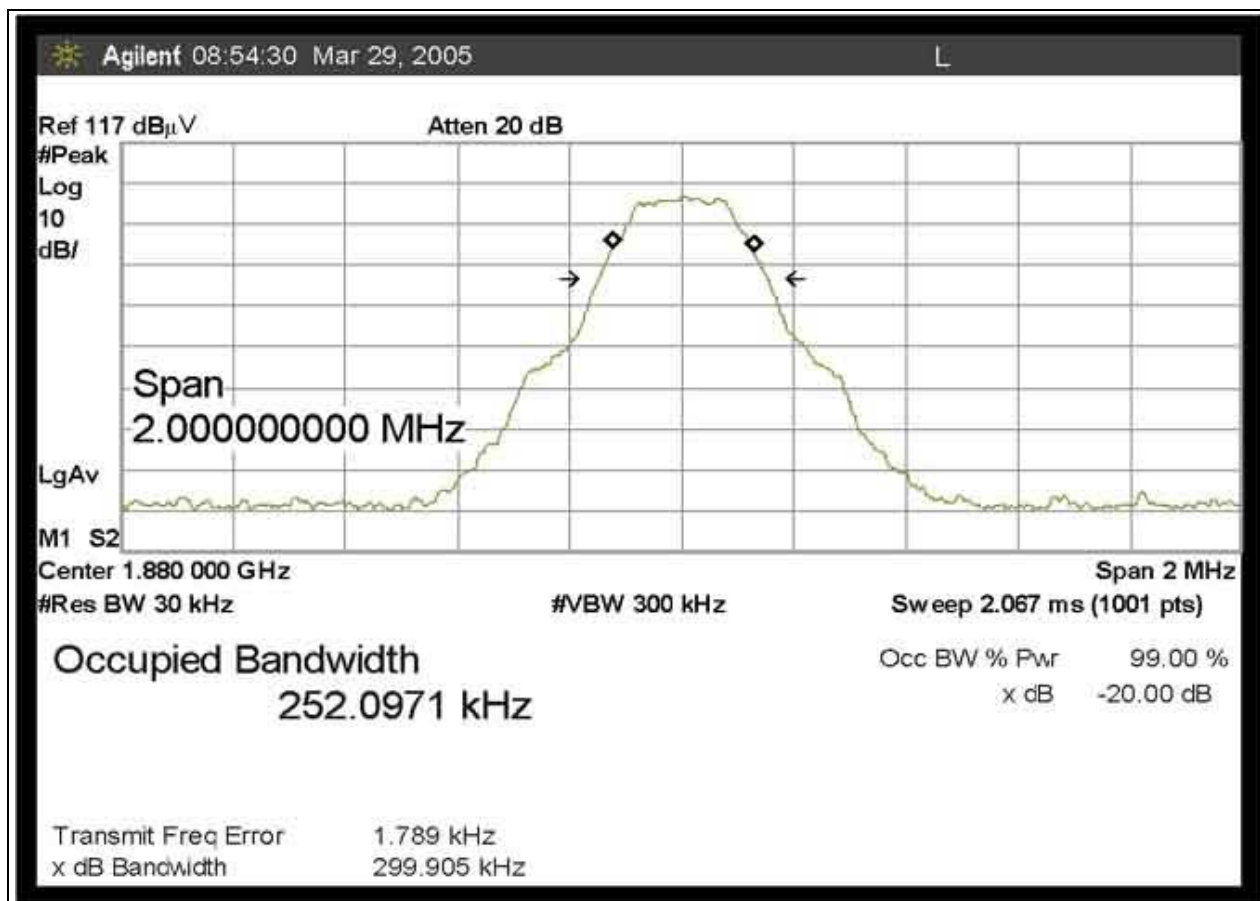
FCC 2.1049 UPLINK OCCUPIED BANDWIDTH CDMA - PCS BAND



FCC 2.1049 UPLINK OCCUPIED BANDWIDTH EDGE - PCS BAND



FCC 2.1049 UPLINK OCCUPIED BANDWIDTH GSM - PCS BAND



Test Equipment:

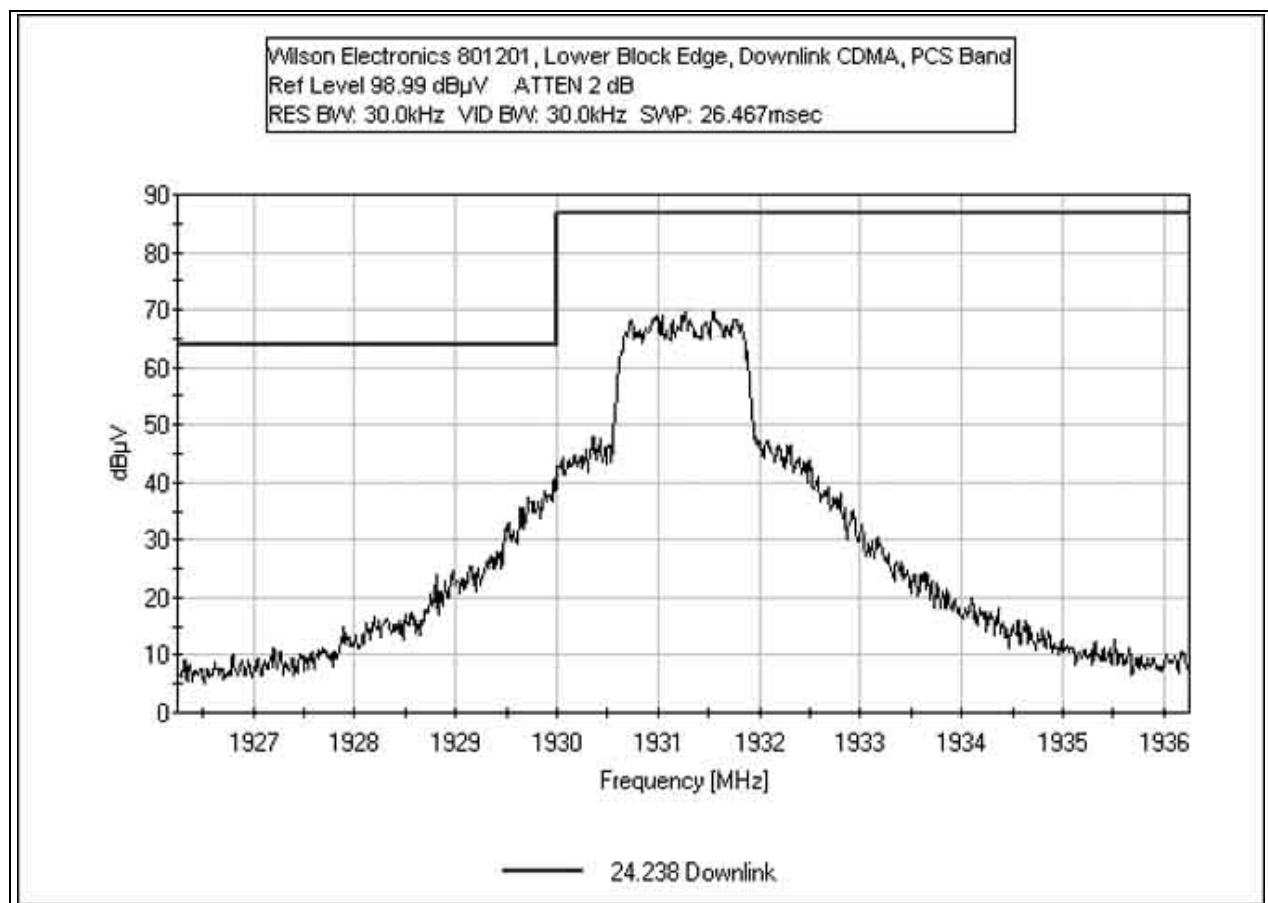
Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A SA	US44300407	01/12/2005	01/12/2007	02660
Attenuator 30dB, Bird 9949		05/09/2003	05/09/2005	P01572
25-A-MFN-30				

PHOTOGRAPH SHOWING DIRECT CONNECT TEST SETUP

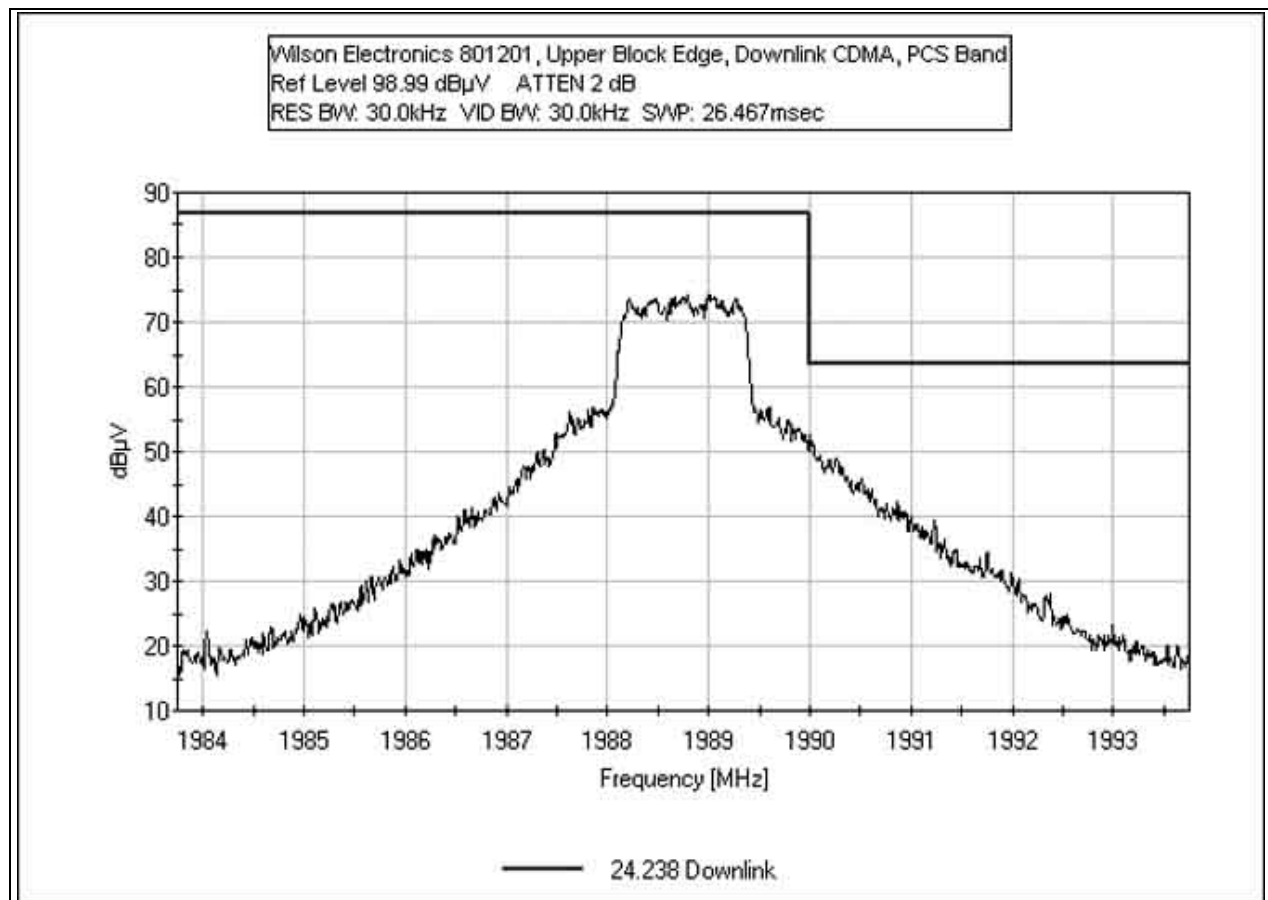


FCC 2.1051 DOWNLINK LOWER BLOCK EDGE CDMA - PCS BAND

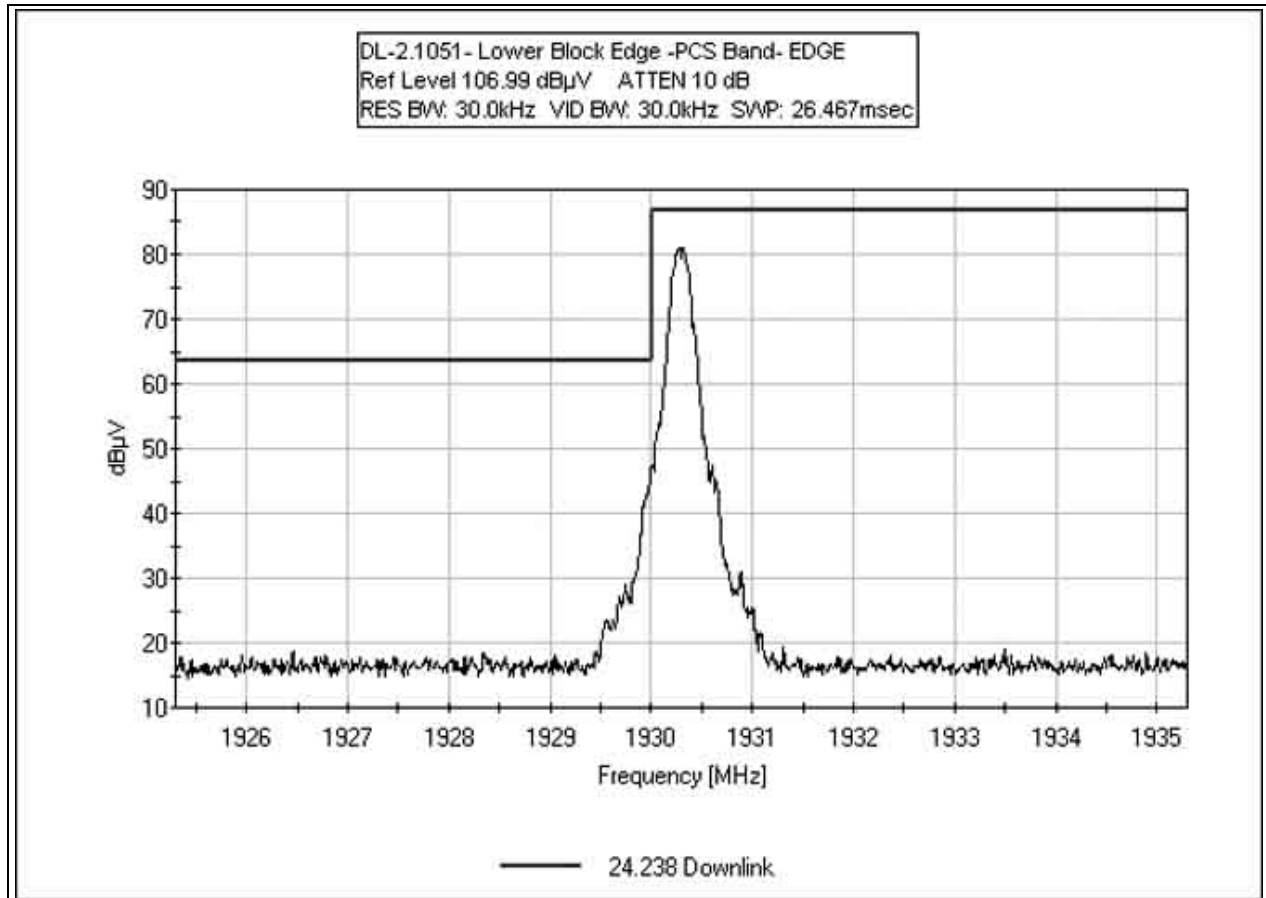
Test Conditions: EUT is a bidirectional amplifier for the 1850 to 1990MHz band. Uplink frequency range 1850 - 1910MHz. Downlink frequency range 1930 - 1990MHz. One signal is input to the amplifier. The input signal is set such that the maximum output is provided at the antenna terminals. The internal 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. Frequency Range Investigated: 30MHz to 20GHz.



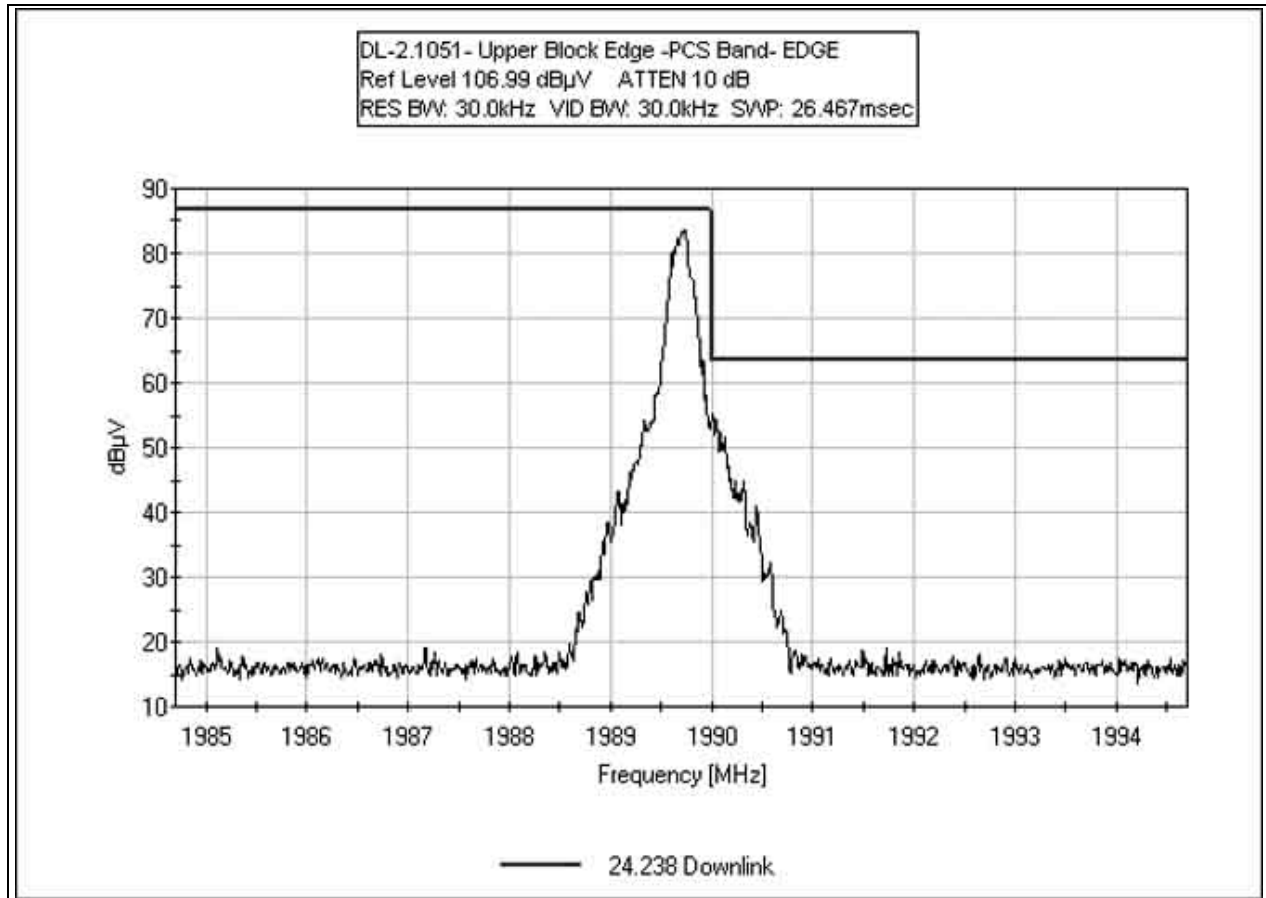
FCC 2.1051 DOWNLINK UPPER BLOCK EDGE CDMA - PCS BAND



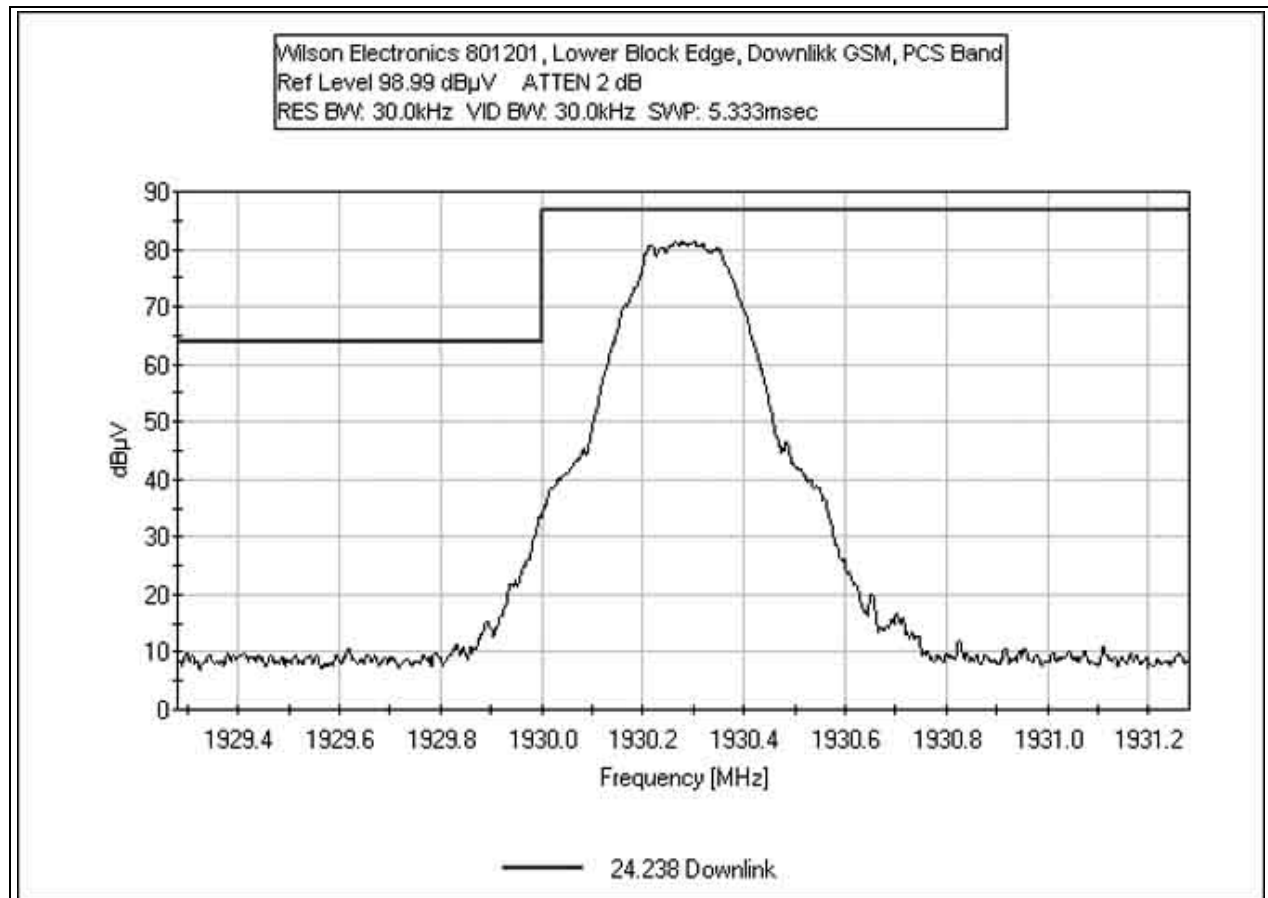
FCC 2.1051 DOWNLINK LOWER BLOCK EDGE EDGE - PCS BAND



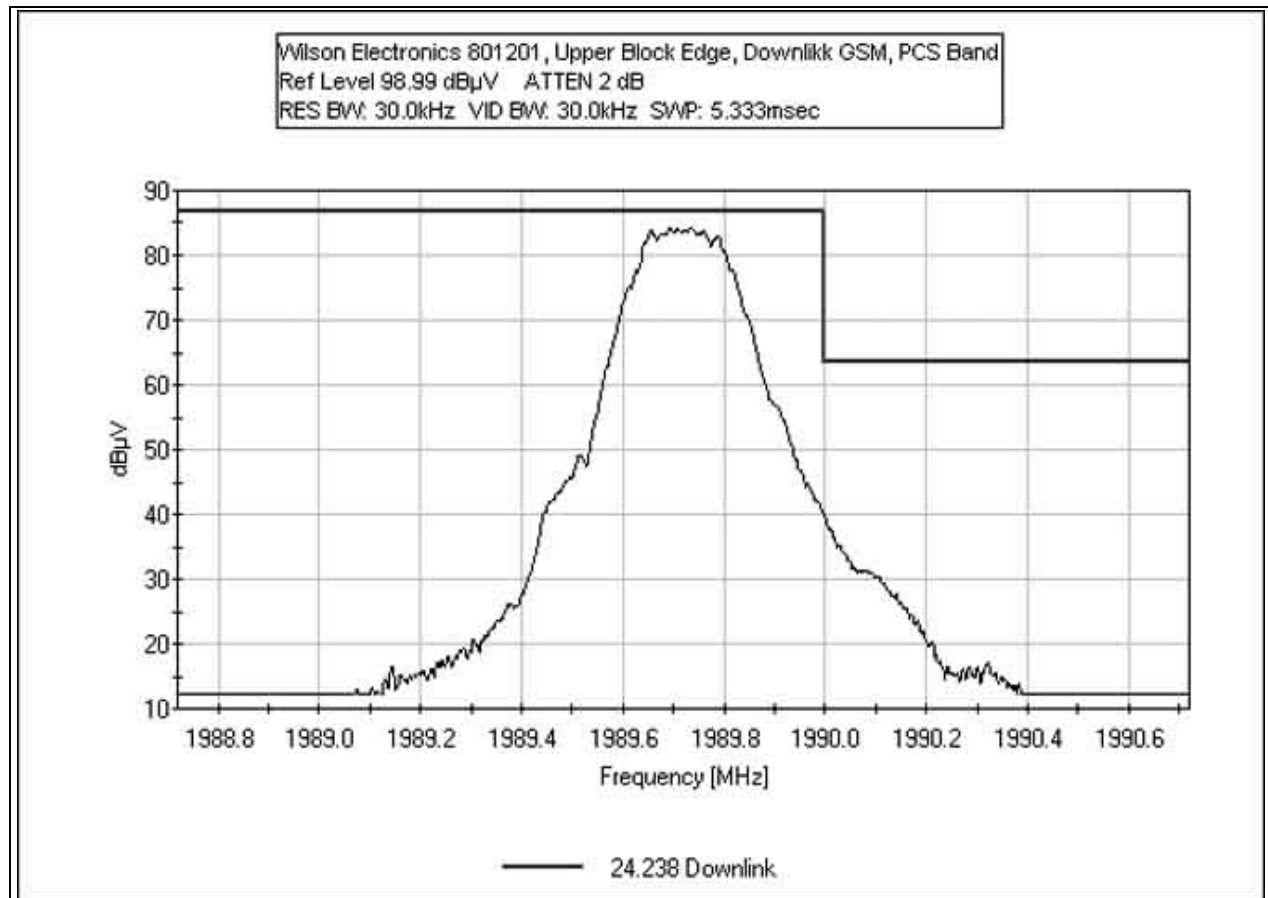
FCC 2.1051 DOWNLINK UPPER BLOCK EDGE EDGE - PCS BAND



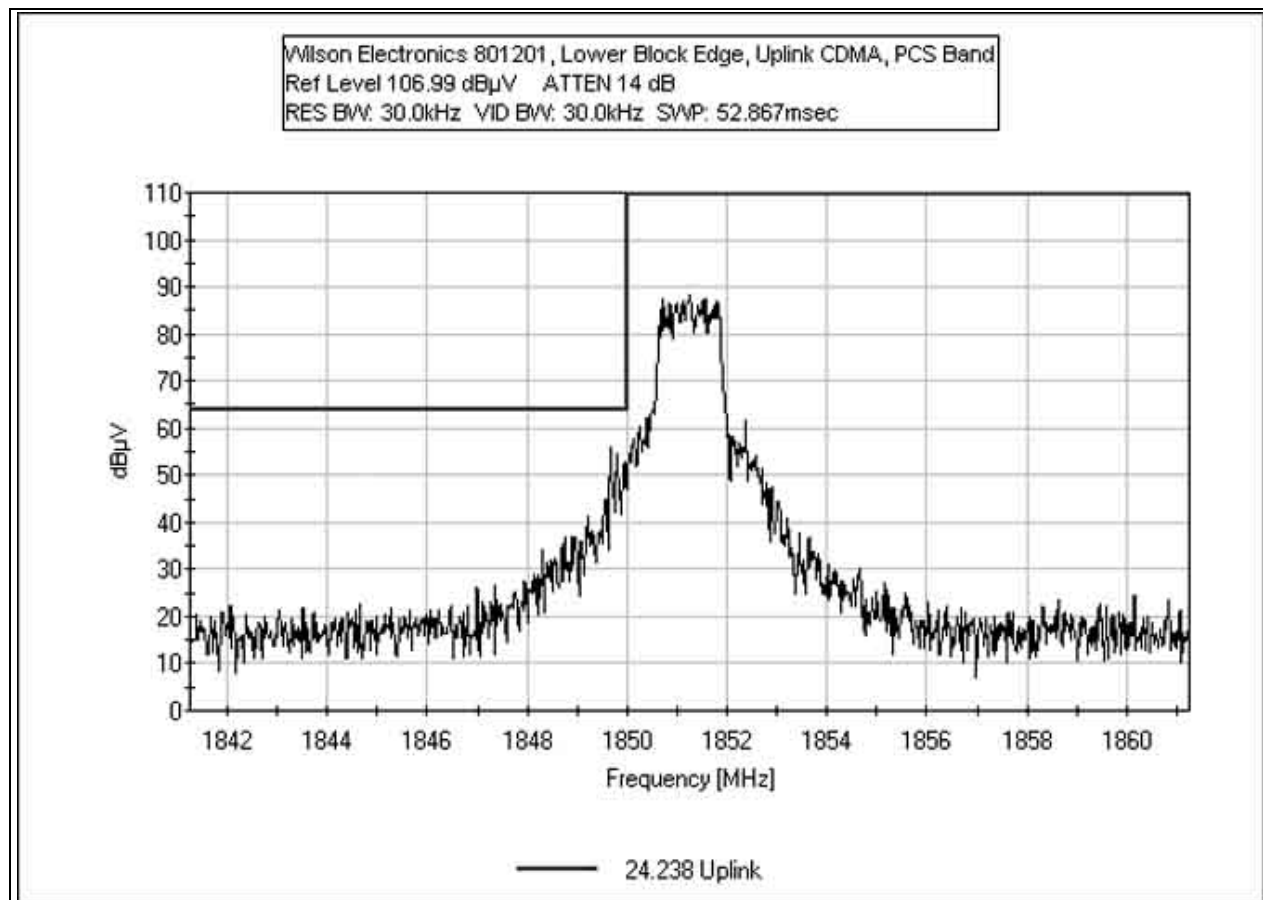
FCC 2.1051 DOWNLINK LOWER BLOCK EDGE GSM - PCS BAND



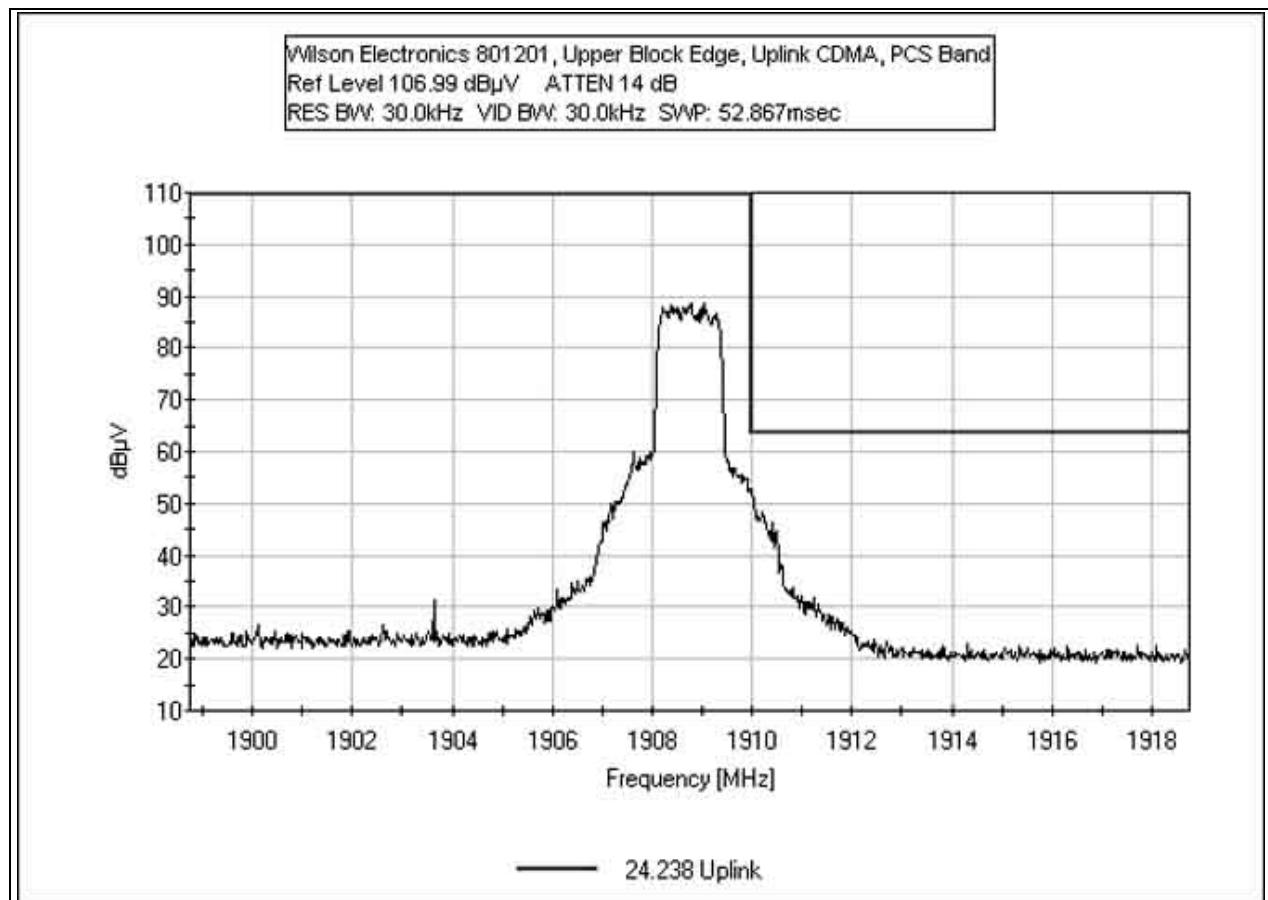
FCC 2.1051 DOWNLINK UPPER BLOCK EDGE GSM - PCS BAND



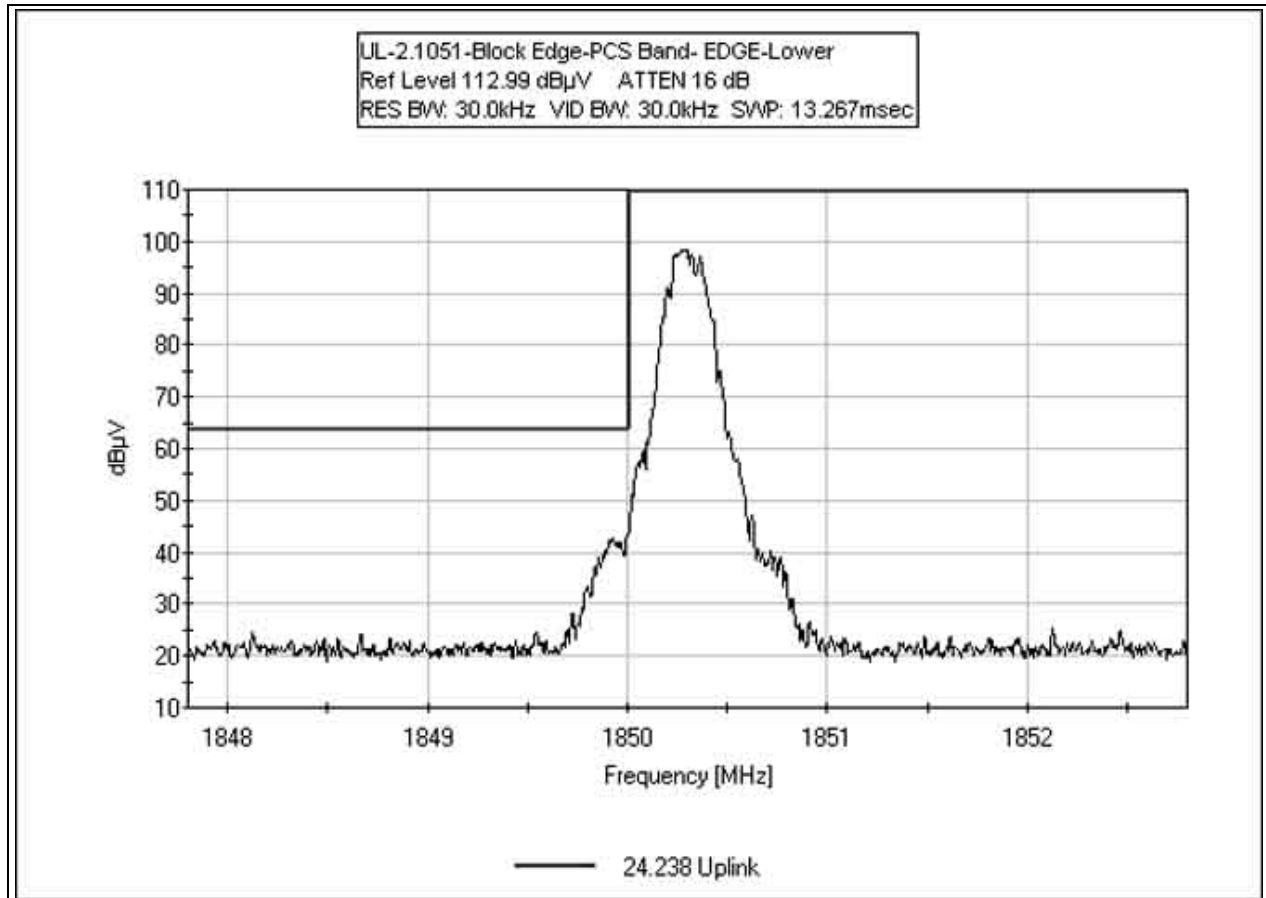
FCC 2.1051 UPLINK LOWER BLOCK EDGE CDMA - PCS BAND



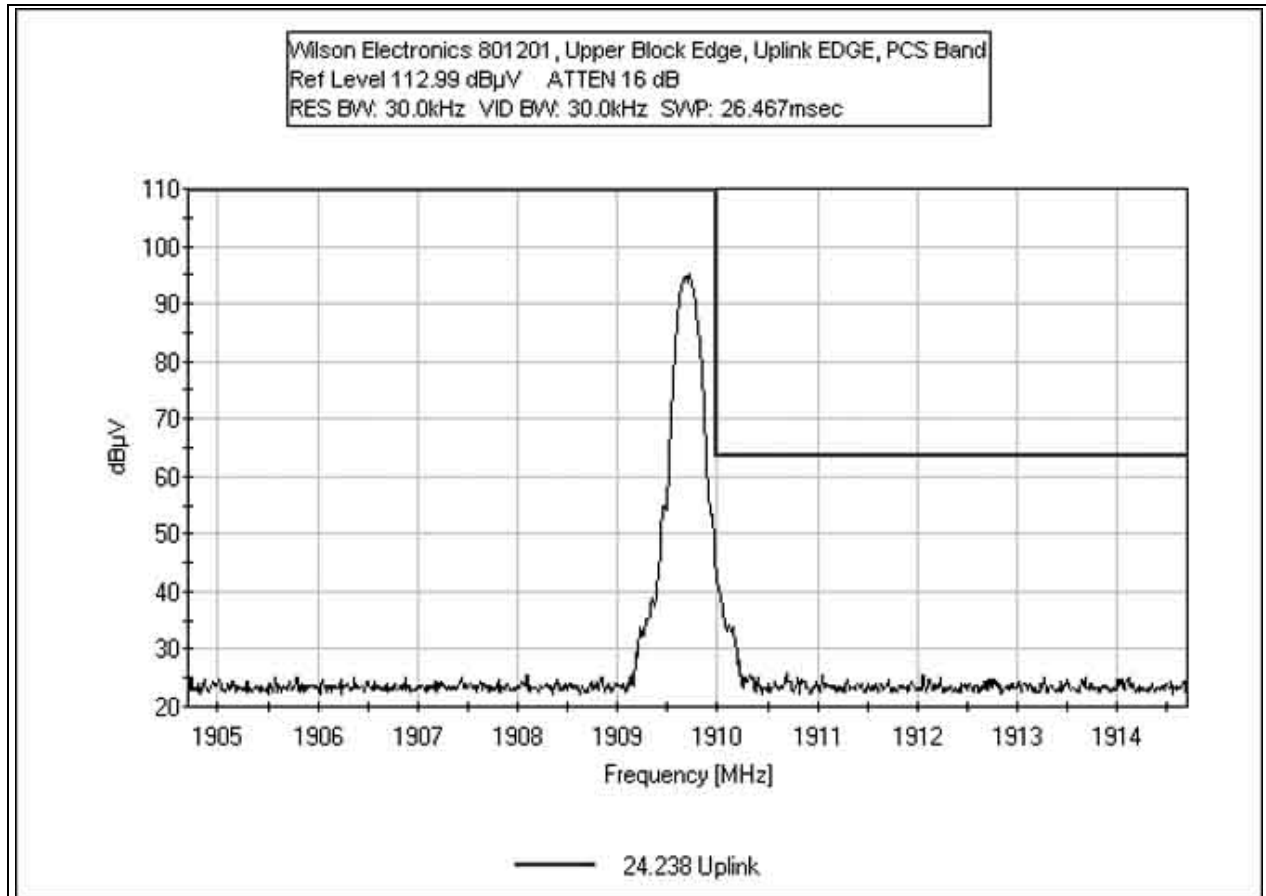
FCC 2.1051 UPLINK UPPER BLOCK EDGE CDMA - PCS BAND



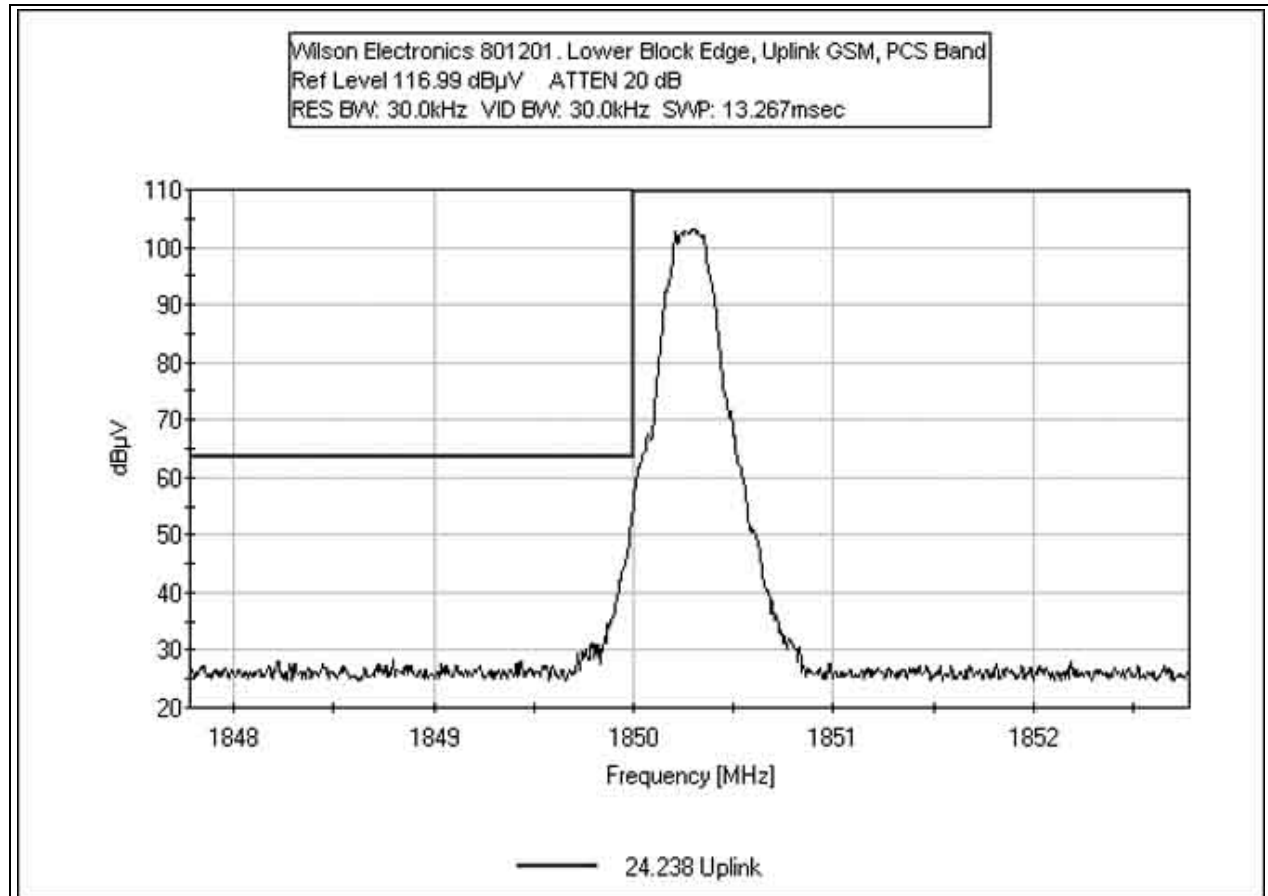
FCC 2.1051 UPLINK LOWER BLOCK EDGE EDGE - PCS BAND



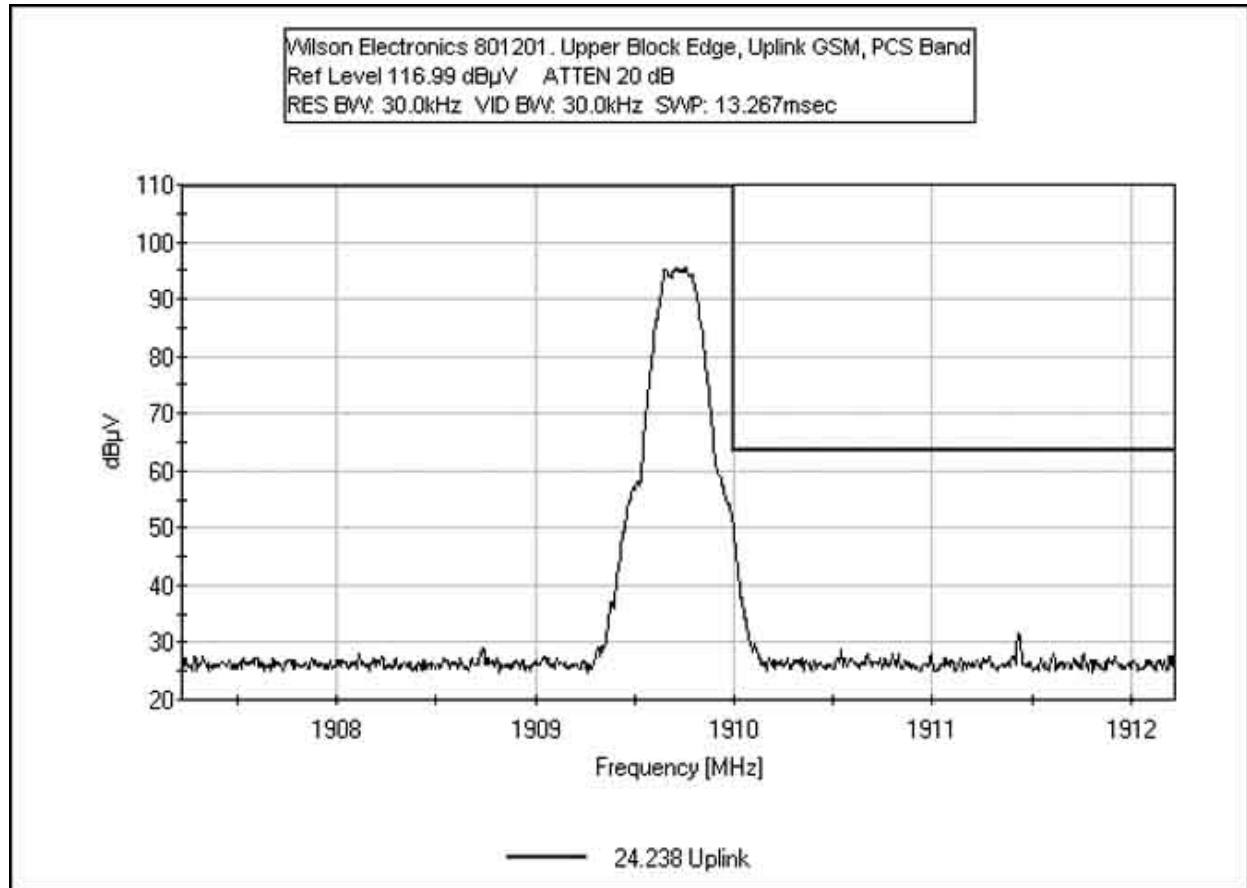
FCC 2.1051 UPLINK UPPER BLOCK EDGE EDGE - PCS BAND



FCC 2.1051 UPLINK LOWER BLOCK EDGE GSM - PCS BAND



FCC 2.1051 UPLINK UPPER BLOCK EDGE GSM - PCS 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				

PHOTOGRAPH SHOWING DIRECT CONNECT TEST SETUP



FCC 2.1033(c)(14)/2.1051/24.238 - SPURIOUS EMISSIONS AT ANTENNA TERMINAL

ANALYZER BANDWIDTH SETTINGS PER FREQUENCY RANGE			
TEST	BEGINNING FREQUENCY	ENDING FREQUENCY	BANDWIDTH SETTING
RADIATED EMISSIONS	30MHz	1000MHz	10 kHz
RADIATED EMISSIONS	1000MHz	20GHz	100 kHz

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

Customer: **Wilson Electronics**
 Specification: **24.238 Downlink**
 Work Order #: **83305** Date: 03/28/2005
 Test Type: **Antenna Terminals** Time: 15:23:53
 Equipment: **In Vehicle Wireless Dual Band Smart Amplifier** Sequence#: 52
 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 1850 to 1990MHz band. Uplink frequency range 1850 - 1910MHz. Downlink frequency range 1930 - 1990MHz. 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 - 1960.0MHz. Frequency Range Investigated: 30MHz to 20GHz.

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	1960.020M	86.6	+30.3				+0.0	116.9	117.0	-0.1	None
Fundamental											

2	3920.150M	35.8	+29.6	+0.0	65.4	94.0	-28.6	None
3	7840.000M	28.1	+24.9	+0.0	53.0	94.0	-41.0	None
4	5880.170M	21.3	+27.8	+0.0	49.1	94.0	-44.9	None
5	9800.020M	16.1	+23.7	+0.0	39.8	94.0	-54.2	None

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

Customer: **Wilson Electronics**
 Specification: **24.238 Downlink**
 Work Order #: **83305** Date: 03/28/2005
 Test Type: **Antenna Terminals** Time: 15:15:14
 Equipment: **In Vehicle Wireless Dual Band Smart Amplifier** Sequence#: 51
 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 1850 to 1990MHz band. Uplink frequency range 1850 - 1910MHz. Downlink frequency range 1930 - 1990MHz. 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 - 1931.25MHz. Frequency Range Investigated: 30MHz to 20GHz.

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	1931.250M	84.9	+30.3				+0.0	115.2	117.0	-1.8	None
									Fundamental		
2	1929.990M	44.4	+30.3				+0.0	74.7	94.0	-19.3	None
3	3862.790M	28.1	+29.7				+0.0	57.8	94.0	-36.2	None
4	7725.290M	16.7	+25.2				+0.0	41.9	94.0	-52.1	None
5	5794.040M	12.5	+27.8				+0.0	40.3	94.0	-53.7	None
6	9656.540M	15.2	+24.2				+0.0	39.4	94.0	-54.6	None

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

Customer: **Wilson Electronics**
 Specification: **24.238 Downlink**
 Work Order #: **83305** Date: 03/28/2005
 Test Type: **Antenna Terminals** Time: 15:29:55
 Equipment: **In Vehicle Wireless Dual Band Smart Amplifier** Sequence#: 53
 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 1850 to 1990MHz band. Uplink frequency range 1850 - 1910MHz. Downlink frequency range 1930 - 1990MHz. 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 - 1988.75MHz. Frequency Range Investigated: 30MHz to 20GHz.

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	1988.690M	86.1	+30.3				+0.0	116.4	117.0	-0.6	None
									Fundamental		
2	3977.470M	33.1	+29.6				+0.0	62.7	94.0	-31.3	None
3	5966.510M	20.7	+27.8				+0.0	48.5	94.0	-45.5	None
4	7954.960M	23.1	+24.5				+0.0	47.6	94.0	-46.4	None
5	11932.620M	18.1	+19.9				+0.0	38.0	94.0	-56.0	None
6	9943.650M	14.3	+23.2				+0.0	37.5	94.0	-56.5	None

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

Customer: **Wilson Electronics**
 Specification: **24.238 Downlink**
 Work Order #: **83305** Date: 03/30/2005
 Test Type: **Antenna Terminals** Time: 08:07:37
 Equipment: **In Vehicle Wireless Dual Band Smart Amplifier** Sequence#: 70
 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 1850 to 1990MHz band. Uplink frequency range 1850 - 1910MHz. Downlink frequency range 1930 - 1990MHz. 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 - 1930.3MHz. Frequency Range Investigated: 30MHz to 20GHz.

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	1930.320M	84.7	+30.3				+0.0	115.0	117.0	-2.0	None
									Fundamental		
2	1929.980M	58.3	+30.3				+0.0	88.6	94.0	-5.4	None
3	3860.510M	43.7	+29.7				+0.0	73.4	94.0	-20.6	None
4	5790.950M	34.2	+27.8				+0.0	62.0	94.0	-32.0	None
5	7721.270M	34.9	+25.2				+0.0	60.1	94.0	-33.9	None
6	9651.670M	25.3	+24.2				+0.0	49.5	94.0	-44.5	None

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

Customer: **Wilson Electronics**
 Specification: **24.238 Downlink**
 Work Order #: **83305** Date: 03/30/2005
 Test Type: **Antenna Terminals** Time: 08:14:46
 Equipment: **In Vehicle Wireless Dual Band Smart Amplifier** Sequence#: 71
 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 1850 to 1990MHz band. Uplink frequency range 1850 - 1910MHz. Downlink frequency range 1930 - 1990MHz. 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 - 1960.0MHz. Frequency Range Investigated: 30MHz to 20GHz.

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	1960.040M	86.3	+30.3				+0.0	116.6	117.0	-0.4	None
									Fundamental		
2	3920.000M	44.4	+29.6				+0.0	74.0	94.0	-20.0	None
3	7840.190M	47.2	+24.9				+0.0	72.1	94.0	-21.9	None
4	5879.820M	35.8	+27.8				+0.0	63.6	94.0	-30.4	None
5	9800.230M	30.6	+23.7				+0.0	54.3	94.0	-39.7	None
6	11760.270M	26.1	+20.1				+0.0	46.2	94.0	-47.8	None

Test Location: CKC Laboratories • 5473A Clouds Rest • Mariposa, CA 95338 • 1-800-500-4EMC (4362)
 Customer: **Wilson Electronics**
 Specification: **24.238 Downlink**
 Work Order #: **83305** Date: 03/30/2005
 Test Type: **Antenna Terminals** Time: 08:23:26
 Equipment: **In Vehicle Wireless Dual Band Smart Amplifier** Sequence#: 72
 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 1850 to 1990MHz band. Uplink frequency range 1850 - 1910MHz. Downlink frequency range 1930 - 1990MHz. 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 - 1989.7MHz. Frequency Range Investigated: 30MHz to 20GHz.

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	1989.720M	86.0	+30.3				+0.0	116.3	117.0	-0.7	None
									Fundamental		
2	1990.090M	59.6	+30.3				+0.0	89.9	94.0	-4.1	None
3	3979.570M	40.3	+29.6				+0.0	69.9	94.0	-24.1	None
4	7958.820M	35.1	+24.5				+0.0	59.6	94.0	-34.4	None
5	5969.140M	27.6	+27.8				+0.0	55.4	94.0	-38.6	None
6	9948.520M	24.6	+23.2				+0.0	47.8	94.0	-46.2	None
7	11938.220M	23.1	+19.9				+0.0	43.0	94.0	-51.0	None

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

Customer: **Wilson Electronics**
 Specification: **24.238 Downlink**
 Work Order #: **83305** Date: 03/29/2005
 Test Type: **Antenna Terminals** Time: 11:11:57
 Equipment: **In Vehicle Wireless Dual Band Smart Amplifier** Sequence#: 60
 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 1850 to 1990MHz band. Uplink frequency range 1850 - 1910MHz. Downlink frequency range 1930 - 1990MHz. 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 - 1930.28MHz. Frequency Range Investigated: 30MHz to 20GHz.

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	1930.282M	84.7	+30.3				+0.0	115.0	117.0	-2.0	None
									Fundamental		
2	3860.700M	46.6	+29.7				+0.0	76.3	94.0	-17.7	None
3	1929.998M	35.2	+30.3				+0.0	65.5	94.0	-28.5	None
4	5790.640M	30.0	+27.8				+0.0	57.8	94.0	-36.2	None
5	7721.376M	27.1	+25.2				+0.0	52.3	94.0	-41.7	None
6	9651.654M	14.7	+24.2				+0.0	38.9	94.0	-55.1	None

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

Customer: **Wilson Electronics**
 Specification: **24.238 Downlink**
 Work Order #: **83305** Date: 03/29/2005
 Test Type: **Antenna Terminals** Time: 11:17:23
 Equipment: **In Vehicle Wireless Dual Band Smart Amplifier** Sequence#: 61
 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 1850 to 1990MHz band. Uplink frequency range 1850 - 1910MHz. Downlink frequency range 1930 - 1990MHz. 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 - 1960.0MHz. Frequency Range Investigated: 30MHz to 20GHz.

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	1959.934M	86.6	+30.3				+0.0	116.9	117.0	-0.1	None
									Fundamental		
2	3920.132M	39.4	+29.6				+0.0	69.0	94.0	-25.0	None
3	7840.286M	41.7	+24.9				+0.0	66.6	94.0	-27.4	None
4	5879.796M	35.7	+27.8				+0.0	63.5	94.0	-30.5	None
5	9799.710M	21.7	+23.7				+0.0	45.4	94.0	-48.6	None
6	11759.290M	16.9	+20.1				+0.0	37.0	94.0	-57.0	None

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

Customer: **Wilson Electronics**
 Specification: **24.238 Downlink**
 Work Order #: **83305** Date: 03/29/2005
 Test Type: **Antenna Terminals** Time: 11:24:30
 Equipment: **In Vehicle Wireless Dual Band Smart Amplifier** Sequence#: 62
 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 1850 to 1990MHz band. Uplink frequency range 1850 - 1910MHz. Downlink frequency range 1930 - 1990MHz. 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-1989.72MHz. Frequency Range Investigated: 30MHz to 20GHz.

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	1989.736M	86.0	+30.3				+0.0	116.3	117.0	-0.7	None
									Fundamental		
2	1990.002M	36.1	+30.3				+0.0	66.4	94.0	-27.6	None
3	3979.584M	34.1	+29.6				+0.0	63.7	94.0	-30.3	None
4	7959.164M	35.0	+24.5				+0.0	59.5	94.0	-34.5	None
5	5968.956M	29.4	+27.8				+0.0	57.2	94.0	-36.8	None
6	9949.446M	18.5	+23.2				+0.0	41.7	94.0	-52.3	None

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

Customer: **Wilson Electronics**
 Specification: **24.238 Uplink**
 Work Order #: **83305** Date: 03/28/2005
 Test Type: **Antenna Terminals** Time: 10:38:56
 Equipment: **In Vehicle Wireless Dual Band Smart Amplifier** Sequence#: 48
 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 1850 to 1990MHz band. Uplink frequency range 1850 - 1910MHz. Downlink frequency range 1930 - 1990MHz. 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 - 1880.0MHz. Frequency Range Investigated: 30MHz to 20GHz.

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	1880.040M	107.2	+30.3				+0.0	137.5	140.0	-2.5	None
									Fundamental		
2	3760.120M	28.1	+29.7				+0.0	57.8	94.0	-36.2	None
3	7520.200M	28.6	+25.8				+0.0	54.4	94.0	-39.6	None
4	9400.240M	28.9	+24.8				+0.0	53.7	94.0	-40.3	None
5	5640.160M	24.0	+27.9				+0.0	51.9	94.0	-42.1	None

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

Customer: **Wilson Electronics**

Specification: **24.238 Uplink**

Work Order #: **83305**

Date: 03/28/2005

Test Type: **Antenna Terminals**

Time: 10:30:04

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

Sequence#: 47

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 1850 to 1990MHz band. Uplink frequency range 1850 - 1910MHz. Downlink frequency range 1930 - 1990MHz. 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 - 1851.25MHz. Frequency Range Investigated: 30MHz to 20GHz.

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	1851.110M	105.6	+30.3				+0.0	135.9	140.0	-4.1	None
									Fundamental		
2	1849.970M	58.3	+30.3				+0.0	88.6	94.0	-5.4	None
3	1847.150M	29.2	+30.3				+0.0	59.5	94.0	-34.5	None
4	3702.220M	28.5	+29.7				+0.0	58.2	94.0	-35.8	None
5	7404.620M	25.2	+26.1				+0.0	51.3	94.0	-42.7	None
6	5549.370M	19.4	+27.9				+0.0	47.3	94.0	-46.7	None

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

Customer: **Wilson Electronics**
 Specification: **24.238 Uplink**
 Work Order #: **83305** Date: 03/28/2005
 Test Type: **Antenna Terminals** Time: 10:45:46
 Equipment: **In Vehicle Wireless Dual Band Smart Amplifier** Sequence#: 49
 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 1850 to 1990MHz band. Uplink frequency range 1850 - 1910MHz. Downlink frequency range 1930 - 1990MHz. 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 - 1908.75MHz. Frequency Range Investigated: 30MHz to 20GHz.

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	1908.830M	102.3	+30.3				+0.0	132.6	140.0	-7.4	None
									Fundamental		
2	1910.030M	47.7	+30.3				+0.0	78.0	94.0	-16.0	None
3	3818.740M	29.6	+29.7				+0.0	59.3	94.0	-34.7	None
4	7636.400M	29.1	+25.5				+0.0	54.6	94.0	-39.4	None
5	9545.230M	28.5	+24.5				+0.0	53.0	94.0	-41.0	None
6	11454.060M	29.1	+20.6				+0.0	49.7	94.0	-44.3	None

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

Customer: **Wilson Electronics**

Specification: **24.238 Uplink**

Work Order #: **83305**

Date: 03/29/2005

Test Type: **Antenna Terminals**

Time: 15:25:23

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

Sequence#: 65

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 1850 to 1990MHz band. Uplink frequency range 1850 - 1910MHz. Downlink frequency range 1930 - 1990MHz. 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 - 1850.3MHz. Frequency Range Investigated: 30MHz to 20GHz.

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	1850.290M	106.3	+30.3				+0.0	136.6	140.0	-3.4	None
									Fundamental		
2	1849.995M	45.6	+30.3				+0.0	75.9	94.0	-18.1	None
3	3700.650M	31.0	+29.7				+0.0	60.7	94.0	-33.3	None
4	7401.300M	31.1	+26.1				+0.0	57.2	94.0	-36.8	None
5	5550.975M	26.3	+27.9				+0.0	54.2	94.0	-39.8	None
6	9251.625M	29.2	+24.9				+0.0	54.1	94.0	-39.9	None

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

Customer: **Wilson Electronics**

Specification: **24.238 Uplink**

Work Order #: **83305**

Date: 03/29/2005

Test Type: **Antenna Terminals**

Time: 15:31:01

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

Sequence#: 66

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 1850 to 1990MHz band. Uplink frequency range 1850 - 1910MHz. Downlink frequency range 1930 - 1990MHz. 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 - 1880.0MHz. Frequency Range Investigated: 30MHz to 20GHz.

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	1880.025M	107.0	+30.3				+0.0	137.3	140.0	-2.7	None
									Fundamental		
2	3760.050M	30.7	+29.7				+0.0	60.4	94.0	-33.6	None
3	7520.100M	30.1	+25.8				+0.0	55.9	94.0	-38.1	None
4	11280.150M	33.6	+20.9				+0.0	54.5	94.0	-39.5	None
5	5640.075M	26.4	+27.9				+0.0	54.3	94.0	-39.7	None
6	9400.125M	29.1	+24.8				+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: **24.238 Uplink**
 Work Order #: **83305** Date: 03/29/2005
 Test Type: **Antenna Terminals** Time: 15:36:37
 Equipment: **In Vehicle Wireless Dual Band Smart Amplifier** Sequence#: 67
 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 1850 to 1990MHz band. Uplink frequency range 1850 - 1910MHz. Downlink frequency range 1930 - 1990MHz. 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 - 1909.7MHz. Frequency Range Investigated: 30MHz to 20GHz.

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	1909.690M	102.3	+30.3				+0.0	132.6	140.0	-7.4	None
									Fundamental		
2	1910.005M	42.5	+30.3				+0.0	72.8	94.0	-21.2	None
3	3819.430M	25.6	+29.7				+0.0	55.3	94.0	-38.7	None
4	7638.910M	27.8	+25.5				+0.0	53.3	94.0	-40.7	None
5	5729.045M	25.1	+27.9				+0.0	53.0	94.0	-41.0	None
6	9548.625M	25.0	+24.5				+0.0	49.5	94.0	-44.5	None

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

Customer: **Wilson Electronics**
 Specification: **24.238 Uplink**
 Work Order #: **83305** Date: 03/29/2005
 Test Type: **Antenna Terminals** Time: 09:38:51
 Equipment: **In Vehicle Wireless Dual Band Smart Amplifier** Sequence#: 56
 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 1850 to 1990MHz band. Uplink frequency range 1850 - 1910MHz. Downlink frequency range 1930 - 1990MHz. 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 - 1880.0MHz. Frequency Range Investigated: 30MHz to 20GHz.

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	1879.990M	106.4	+30.3				+0.0	136.7	140.0	-3.3	None
									Fundamental		
2	3759.980M	32.9	+29.7				+0.0	62.6	94.0	-31.4	None
3	7519.960M	33.5	+25.8				+0.0	59.3	94.0	-34.7	None
4	9399.950M	33.6	+24.8				+0.0	58.4	94.0	-35.6	None
5	5639.970M	28.9	+27.9				+0.0	56.8	94.0	-37.2	None
6	11279.940M	34.2	+20.9				+0.0	55.1	94.0	-38.9	None

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

Customer: **Wilson Electronics**
 Specification: **24.238 Uplink**
 Work Order #: **83305** Date: 03/29/2005
 Test Type: **Antenna Terminals** Time: 09:26:46
 Equipment: **In Vehicle Wireless Dual Band Smart Amplifier** Sequence#: 55
 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 1850 to 1990MHz band. Uplink frequency range 1850 - 1910MHz. Downlink frequency range 1930 - 1990MHz. 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 - 1850.28MHz. Frequency Range Investigated: 30MHz to 20GHz.

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	1850.225M	104.3	+30.3				+0.0	134.6	140.0	-5.4	None
									Fundamental		
2	1849.985M	51.6	+30.3				+0.0	81.9	94.0	-12.1	None
3	7401.070M	38.8	+26.1				+0.0	64.9	94.0	-29.1	None
4	3700.520M	34.0	+29.7				+0.0	63.7	94.0	-30.3	None
5	5550.730M	35.7	+27.9				+0.0	63.6	94.0	-30.4	None



Test Location: CKC Laboratories • 5473A Clouds Rest • Mariposa, CA 95338 • 1-800-500-4EMC (4362)
 Customer: **Wilson Electronics**
 Specification: **24.238 Uplink**
 Work Order #: **83305** Date: 03/29/2005
 Test Type: **Antenna Terminals** Time: 09:44:08
 Equipment: **In Vehicle Wireless Dual Band Smart Amplifier** Sequence#: 57
 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 1850 to 1990MHz band. Uplink frequency range 1850 - 1910MHz. Downlink frequency range 1930 - 1990MHz. 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 - 1880.0MHz. Frequency Range Investigated: 30MHz to 20GHz.

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	1909.710M	102.3	+30.3				+0.0	132.6	140.0	-7.4	None
									Fundamental		
2	1910.020M	44.2	+30.3				+0.0	74.5	94.0	-19.5	None
3	3819.490M	32.8	+29.7				+0.0	62.5	94.0	-31.5	None
4	7638.980M	35.0	+25.5				+0.0	60.5	94.0	-33.5	None
5	9548.725M	35.1	+24.5				+0.0	59.6	94.0	-34.4	None
6	5729.235M	31.0	+27.9				+0.0	58.9	94.0	-35.1	None
7	19097.450M	33.8	+22.2				+0.0	56.0	94.0	-38.0	None

FCC 2.1051 - INTERMODULATION ATTENUATION

ANALYZER BANDWIDTH SETTINGS PER FREQUENCY RANGE			
TEST	BEGINNING FREQUENCY	ENDING FREQUENCY	BANDWIDTH SETTING
RADIATED EMISSIONS	30MHz	1000MHz	10 kHz
RADIATED EMISSIONS	1000MHz	20GHz	100 kHz

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

Customer: **Wilson Electronics**
 Specification: **24.238 Downlink**
 Work Order #: **83305** Date: 03/28/2005
 Test Type: **Antenna Terminals** Time: 15:48:54
 Equipment: **In Vehicle Wireless Dual Band Smart Amplifier** Sequence#: 54
 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 1850 to 1990MHz band. Uplink frequency range 1850 - 1910MHz. Downlink frequency range 1930 - 1990MHz. 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 1931.25MHz, 1933.75MHz, 1988.75MHz. Frequency Range Investigated: 30MHz to 20GHz.

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	1934.200M	69.8	+30.3				+0.0	100.1	117.0	-16.9	None
Fundamental											

2	1988.600M	69.0	+30.3	+0.0	99.3	117.0	-17.7	None
						Fundamental		
3	1931.800M	66.2	+30.3	+0.0	96.5	117.0	-20.5	None
						Fundamental		
4	1929.200M	42.3	+30.3	+0.0	72.6	94.0	-21.4	None
5	1991.400M	39.8	+30.3	+0.0	70.1	94.0	-23.9	None
6	3868.400M	26.0	+29.7	+0.0	55.7	94.0	-38.3	None
7	3977.450M	23.9	+29.6	+0.0	53.5	94.0	-40.5	None
8	1936.800M	44.0	+30.3	+0.0	74.3	117.0	-42.7	None
9	1986.000M	42.7	+30.3	+0.0	73.0	117.0	-44.0	None
10	5966.350M	18.2	+27.8	+0.0	46.0	94.0	-48.0	None

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

Customer: **Wilson Electronics**
 Specification: **24.238 Downlink**
 Work Order #: **83305** Date: 03/30/2005
 Test Type: **Antenna Terminals** Time: 08:36:04
 Equipment: **In Vehicle Wireless Dual Band Smart Amplifier** Sequence#: 73
 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 1850 to 1990MHz band. Uplink frequency range 1850 - 1910MHz. Downlink frequency range 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: EDGE. Frequencies Tested: Downlink 1930.3MHz, 1930.9MHz. Frequency Range Investigated: 30MHz to 20GHz.

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	1930.920M	81.7	+30.3				+0.0	112.0	117.0	-5.0	None
									Fundamental		
2	1930.300M	81.0	+30.3				+0.0	111.3	117.0	-5.7	None
									Fundamental		
3	1929.980M	46.0	+30.3				+0.0	76.3	94.0	-17.7	None
4	3860.640M	42.6	+29.7				+0.0	72.3	94.0	-21.7	None
5	3861.860M	41.9	+29.7				+0.0	71.6	94.0	-22.4	None

6	1931.160M	49.7	+30.3	+0.0	80.0	117.0	-37.0	None
7	5792.720M	26.5	+27.8	+0.0	54.3	94.0	-39.7	None
8	5790.820M	25.9	+27.8	+0.0	53.7	94.0	-40.3	None
9	7720.860M	24.2	+25.2	+0.0	49.4	94.0	-44.6	None
10	9655.420M	22.5	+24.2	+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: **24.238 Downlink**
 Work Order #: **83305** Date: 05/02/2005
 Test Type: **Antenna Terminals** Time: 16:56:48
 Equipment: **In Vehicle Wireless Dual Band Smart Amplifier** Sequence#: 74
 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 1850 to 1990MHz band. Uplink frequency range 1850 - 1910MHz. Downlink frequency range 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: EDGE Frequencies Tested: Downlink 1989.1 MHz 1989.7 MHz 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				Dist Table	Corr dBμV	Spec dBμV	Margin dB	Polar Ant
1	1990.000M	57.1	+30.3				+0.0	87.4	94.0	-6.6	None
2	1990.158M	51.1	+30.3				+0.0	81.4	94.0	-12.6	None
3	1990.444M	43.7	+30.3				+0.0	74.0	94.0	-20.0	None

4	3979.450M	35.8	+29.6	+0.0	65.4	94.0	-28.6	None
5	3978.000M	34.6	+29.6	+0.0	64.2	94.0	-29.8	None
6	5967.410M	22.4	+27.8	+0.0	50.2	94.0	-43.8	None
7	5968.930M	20.6	+27.8	+0.0	48.4	94.0	-45.6	None



Test Location: CKC Laboratories • 5473A Clouds Rest • Mariposa, CA 95338 • 1-800-500-4EMC (4362)
 Customer: **Wilson Electronics**
 Specification: **24.238 Downlink**
 Work Order #: **83305** Date: 03/29/2005
 Test Type: **Antenna Terminals** Time: 12:03:44
 Equipment: **In Vehicle Wireless Dual Band Smart Amplifier** Sequence#: 63
 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 1850 to 1990MHz band. Uplink frequency range 1850 - 1910MHz. Downlink frequency range 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: GSM. Frequencies Tested: Downlink 1930.28MHz, 1930.81MHz. Frequency Range Investigated: 30MHz to 20GHz.

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	1930.270M	80.2	+30.3				+0.0	110.5	117.0	-6.5	None
									Fundamental		
2	1930.830M	78.1	+30.3				+0.0	108.4	117.0	-8.6	None
									Fundamental		
3	3860.690M	36.5	+29.7				+0.0	66.2	94.0	-27.8	None
4	1929.980M	27.9	+30.3				+0.0	58.2	94.0	-35.8	None
5	3861.610M	26.5	+29.7				+0.0	56.2	94.0	-37.8	None
6	5790.840M	18.4	+27.8				+0.0	46.2	94.0	-47.8	None
7	9651.960M	9.9	+24.2				+0.0	34.1	94.0	-59.9	None

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

Customer: **Wilson Electronics**
 Specification: **24.238 Downlink**
 Work Order #: **83305** Date: 03/29/2005
 Test Type: **Antenna Terminals** Time: 13:01:07
 Equipment: **In Vehicle Wireless Dual Band Smart Amplifier** Sequence#: 64
 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 1850 to 1990MHz band. Uplink frequency range 1850 - 1910MHz. Downlink frequency range 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: GSM. Frequencies Tested: Downlink 1989.16MHz, 1989.72MHz. Frequency Range Investigated: 30MHz to 20GHz.

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	1989.170M	83.5	+30.3				+0.0	113.8	117.0	-3.2	None
2	1989.720M	82.7	+30.3				+0.0	113.0	117.0	-4.0	None
3	1990.010M	39.1	+30.3				+0.0	69.4	94.0	-24.6	None
4	3979.490M	37.5	+29.6				+0.0	67.1	94.0	-26.9	None
5	3978.180M	36.8	+29.6				+0.0	66.4	94.0	-27.6	None

6	5967.300M	24.2	+27.8	+0.0	52.0	94.0	-42.0	None
7	5969.330M	22.9	+27.8	+0.0	50.7	94.0	-43.3	None
8	7956.630M	21.3	+24.5	+0.0	45.8	94.0	-48.2	None
9	7959.150M	19.5	+24.5	+0.0	44.0	94.0	-50.0	None
10	9948.600M	11.0	+23.2	+0.0	34.2	94.0	-59.8	None

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

Customer: **Wilson Electronics**
 Specification: **24.238 Uplink**
 Work Order #: **83305** Date: 03/28/2005
 Test Type: **Antenna Terminals** Time: 16:17:38
 Equipment: **In Vehicle Wireless Dual Band Smart Amplifier** Sequence#: 50
 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 1850 to 1990MHz band. Uplink frequency range 1850 - 1910MHz. Downlink frequency range 1930 - 1990MHz. 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 1851.25MHz, 1853.75MHz, 1908.75MHz. Frequency Range Investigated: 30MHz to 20GHz.

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	1848.500M	37.5	+30.3				+0.0	67.8	94.0	-26.2	None
2	1853.800M	80.5	+30.3				+0.0	110.8	140.0	-29.2	None
									Fundamental		
3	1911.000M	33.7	+30.3				+0.0	64.0	94.0	-30.0	None
4	1851.500M	79.2	+30.3				+0.0	109.5	140.0	-30.5	None
									Fundamental		
5	1908.500M	78.4	+30.3				+0.0	108.7	140.0	-31.3	None
									Fundamental		

6	1831.600M	13.4	+30.3	+0.0	43.7	94.0	-50.3	None
7	3705.400M	10.9	+29.7	+0.0	40.6	94.0	-53.4	None
8	3817.900M	10.4	+29.7	+0.0	40.1	94.0	-53.9	None
9	1906.000M	35.5	+30.3	+0.0	65.8	140.0	-74.2	None
10	1856.200M	34.5	+30.3	+0.0	64.8	140.0	-75.2	None
11	1876.000M	22.7	+30.3	+0.0	53.0	140.0	-87.0	None



Test Location: CKC Laboratories • 5473A Clouds Rest • Mariposa, CA 95338 • 1-800-500-4EMC (4362)
 Customer: **Wilson Electronics**
 Specification: **24.238 Uplink**
 Work Order #: **83305** Date: 03/29/2005
 Test Type: **Antenna Terminals** Time: 15:52:03
 Equipment: **In Vehicle Wireless Dual Band Smart Amplifier** Sequence#: 68
 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 1850 to 1990MHz band. Uplink frequency range 1850 - 1910MHz. Downlink frequency range 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: EDGE. Frequencies Tested: Uplink 1850.3MHz, 1850.9MHz. Frequency Range Investigated: 30MHz to 20GHz.

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	1850.925M	103.0	+30.3				+0.0	133.3	140.0	-6.7	None
									Fundamental		
2	1849.995M	56.8	+30.3				+0.0	87.1	94.0	-6.9	None
3	1850.285M	102.5	+30.3				+0.0	132.8	140.0	-7.2	None
									Fundamental		
4	3701.180M	24.8	+29.7				+0.0	54.5	94.0	-39.5	None
5	5551.770M	21.7	+27.9				+0.0	49.6	94.0	-44.4	None
6	7402.360M	23.0	+26.1				+0.0	49.1	94.0	-44.9	None
7	9252.950M	21.2	+24.9				+0.0	46.1	94.0	-47.9	None

Test Location: CKC Laboratories • 5473A Clouds Rest • Mariposa, CA 95338 • 1-800-500-4EMC (4362)
 Customer: **Wilson Electronics**
 Specification: **24.238 Uplink**
 Work Order #: **83305** Date: 03/29/2005
 Test Type: **Antenna Terminals** Time: 16:13:35
 Equipment: **In Vehicle Wireless Dual Band Smart Amplifier** Sequence#: 69
 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 1850 to 1990MHz band. Uplink frequency range 1850 - 1910MHz. Downlink frequency range 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: EDGE. Frequencies Tested: Uplink 1909.1MHz, 1909.7MHz. Frequency Range Investigated: 30MHz to 20GHz.

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	1909.130M	97.4	+30.3				+0.0	127.7	140.0	-12.3	None
									Fundamental		
2	1909.720M	95.8	+30.3				+0.0	126.1	140.0	-13.9	None
									Fundamental		
3	1910.010M	49.6	+30.3				+0.0	79.9	94.0	-14.1	None
4	3818.800M	31.1	+29.7				+0.0	60.8	94.0	-33.2	None
5	5728.470M	29.5	+27.9				+0.0	57.4	94.0	-36.6	None
6	7637.870M	28.8	+25.5				+0.0	54.3	94.0	-39.7	None
7	9547.220M	28.7	+24.5				+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: **24.238 Uplink**
 Work Order #: **83305** Date: 03/29/2005
 Test Type: **Antenna Terminals** Time: 10:11:59
 Equipment: **In Vehicle Wireless Dual Band Smart Amplifier** Sequence#: 58
 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 1850 to 1990MHz band. Uplink frequency range 1850 - 1910MHz. Downlink frequency range 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: GSM. Frequencies Tested: Uplink 1850.28MHz, 1850.81MHz. Frequency Range Investigated: 30MHz to 20GHz.

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	1850.330M	98.4	+30.3				+0.0	128.7	140.0	-11.3	None
									Fundamental		
2	1850.820M	98.0	+30.3				+0.0	128.3	140.0	-11.7	None
									Fundamental		
3	1849.990M	47.7	+30.3				+0.0	78.0	94.0	-16.0	None
4	3701.120M	33.6	+29.7				+0.0	63.3	94.0	-30.7	None
5	7402.240M	34.8	+26.1				+0.0	60.9	94.0	-33.1	None
6	9252.800M	33.5	+24.9				+0.0	58.4	94.0	-35.6	None
7	11103.360M	34.8	+21.1				+0.0	55.9	94.0	-38.1	None



Test Location: CKC Laboratories • 5473A Clouds Rest • Mariposa, CA 95338 • 1-800-500-4EMC (4362)
 Customer: **Wilson Electronics**
 Specification: **24.238 Uplink**
 Work Order #: **83305** Date: 03/29/2005
 Test Type: **Antenna Terminals** Time: 10:21:33
 Equipment: **In Vehicle Wireless Dual Band Smart Amplifier** Sequence#: 59
 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:

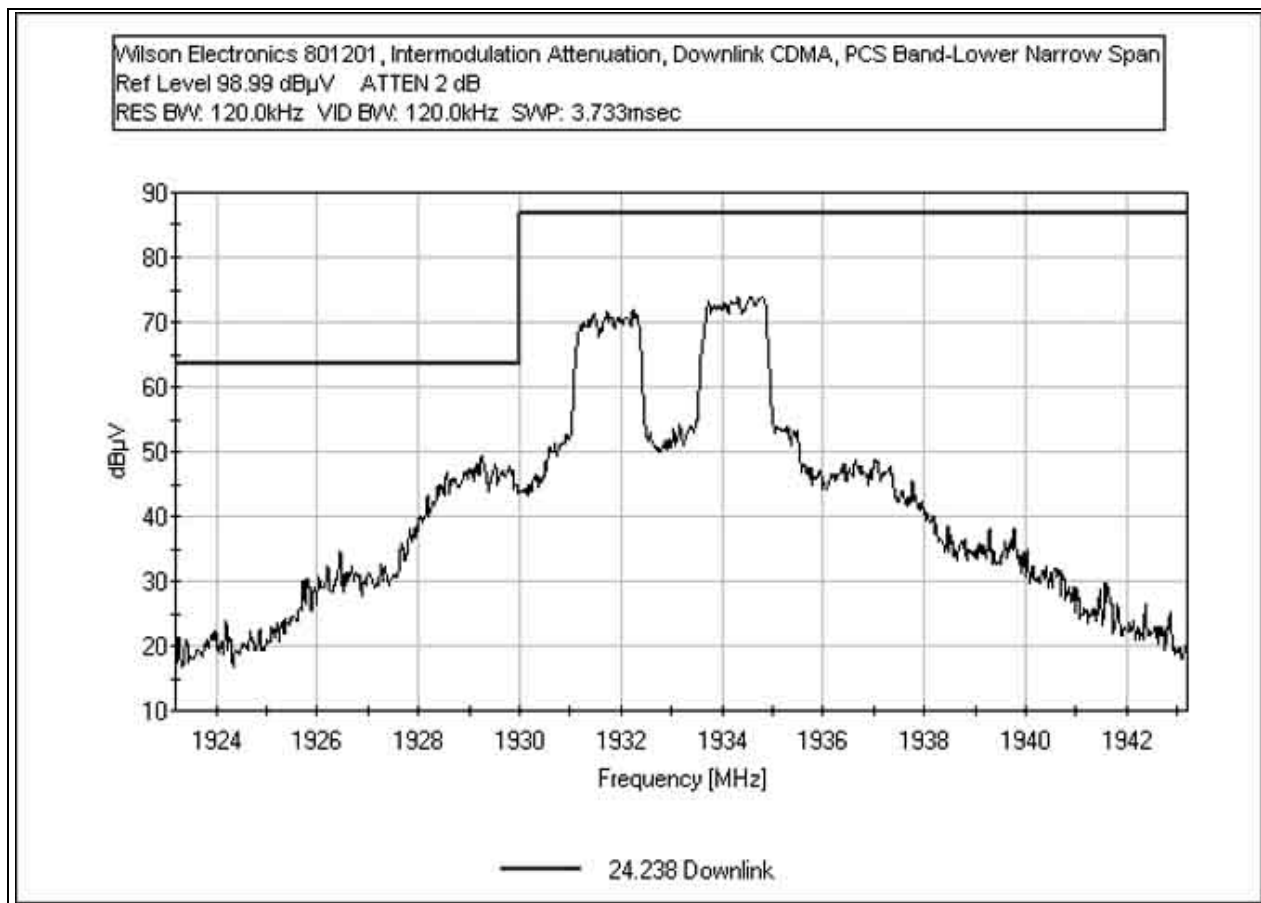
EUT is a bidirectional amplifier for the 1850 to 1990MHz band. Uplink frequency range 1850 - 1910MHz. Downlink frequency range 1930 - 1990MHz. Intermodulation Attenuation and Spurious Emissions Test: Two signals are input to the amplifier through a combining network. The input signals are set such that 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: GSM. Frequencies Tested: Uplink 1909.16MHz, 1909.72MHz. Frequency Range Investigated: 30MHz to 20GHz.

Transducer Legend:

T1=Pad 30dB

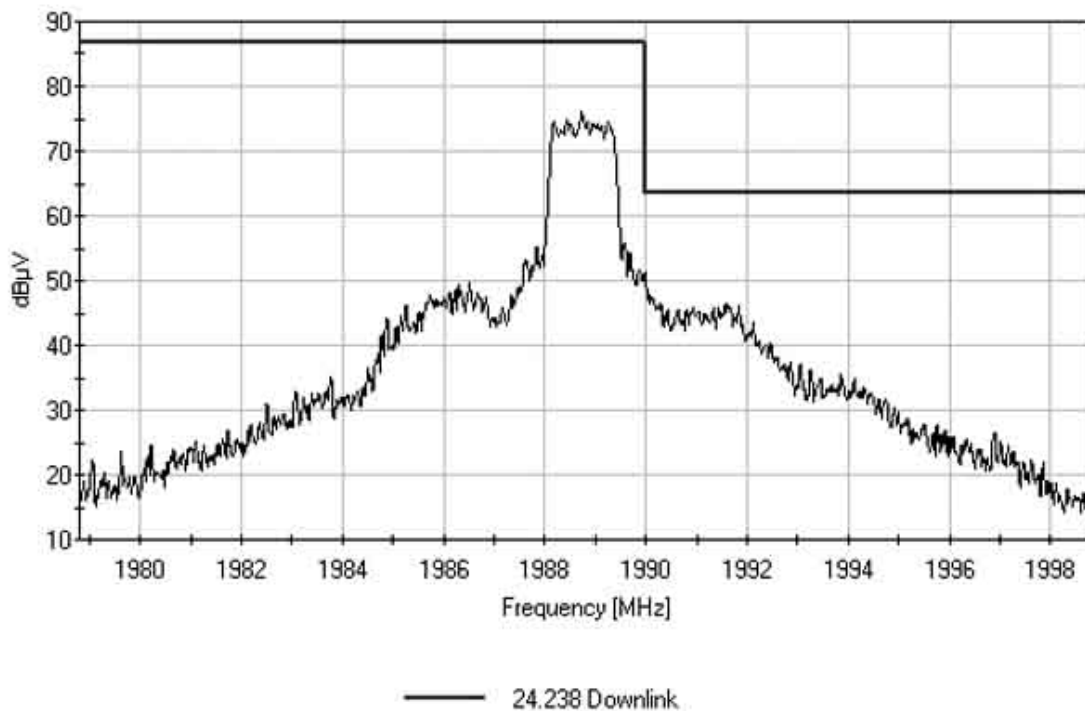
Measurement Data:		Reading listed by margin.					Test Distance: None				
#	Freq MHz	Rdng dBμV	T1 dB				Dist Table	Corr dBμV	Spec dBμV	Margin dB	Polar Ant
1	1909.170M	95.7	+30.3				+0.0	126.0	140.0	-14.0	None
									Fundamental		
2	1909.740M	93.3	+30.3				+0.0	123.6	140.0	-16.4	None
									Fundamental		
3	1910.010M	42.6	+30.3				+0.0	72.9	94.0	-21.1	None
4	3818.860M	33.5	+29.7				+0.0	63.2	94.0	-30.8	None
5	5728.290M	33.8	+27.9				+0.0	61.7	94.0	-32.3	None
6	7637.720M	36.1	+25.5				+0.0	61.6	94.0	-32.4	None
7	9547.150M	35.1	+24.5				+0.0	59.6	94.0	-34.4	None

INTERMODULATION ATTENUATION DOWNLINK CDMA - PCS BAND LOWER NARROW SPAN

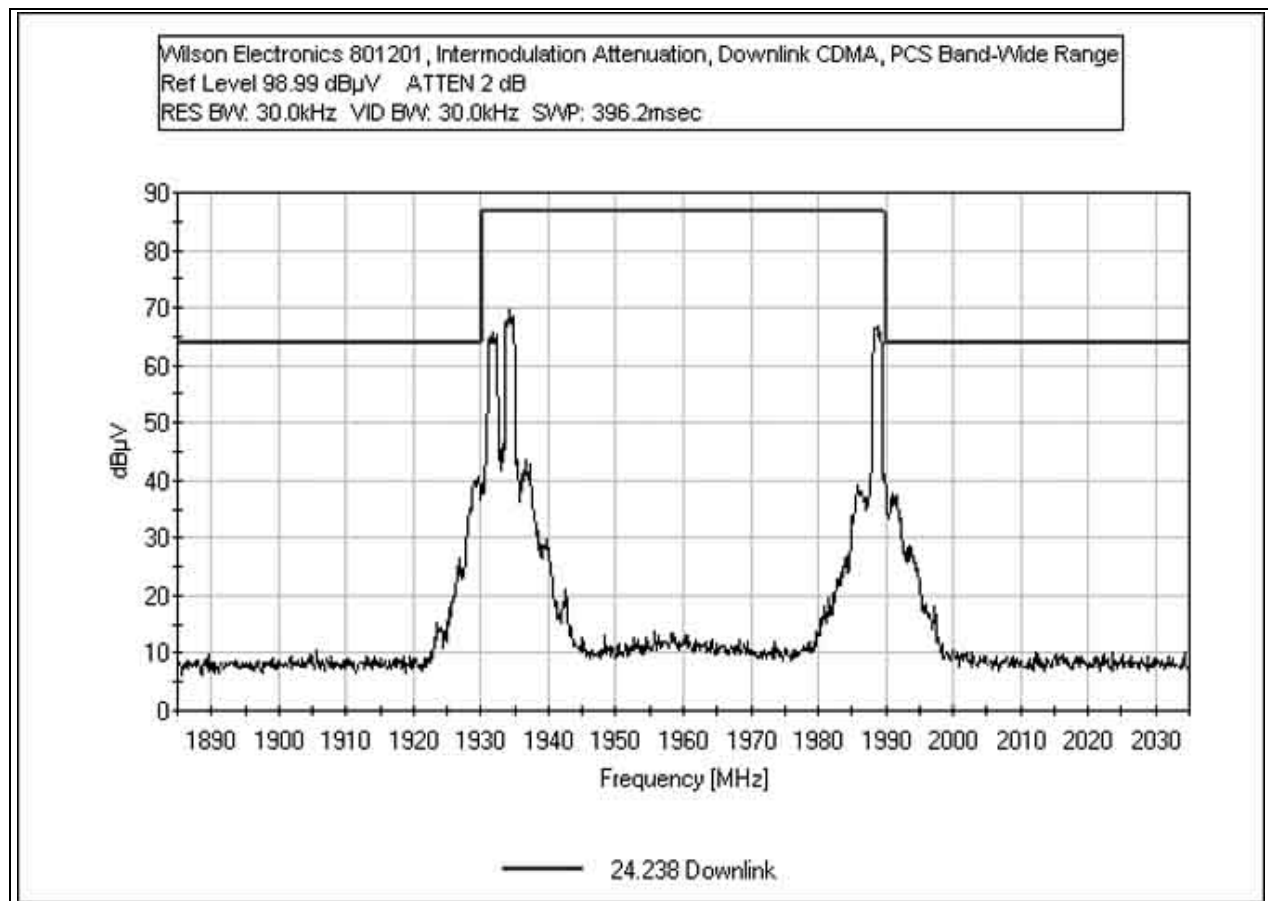


INTERMODULATION ATTENUATION DOWNLINK CDMA - PCS BAND UPPER NARROW SPAN

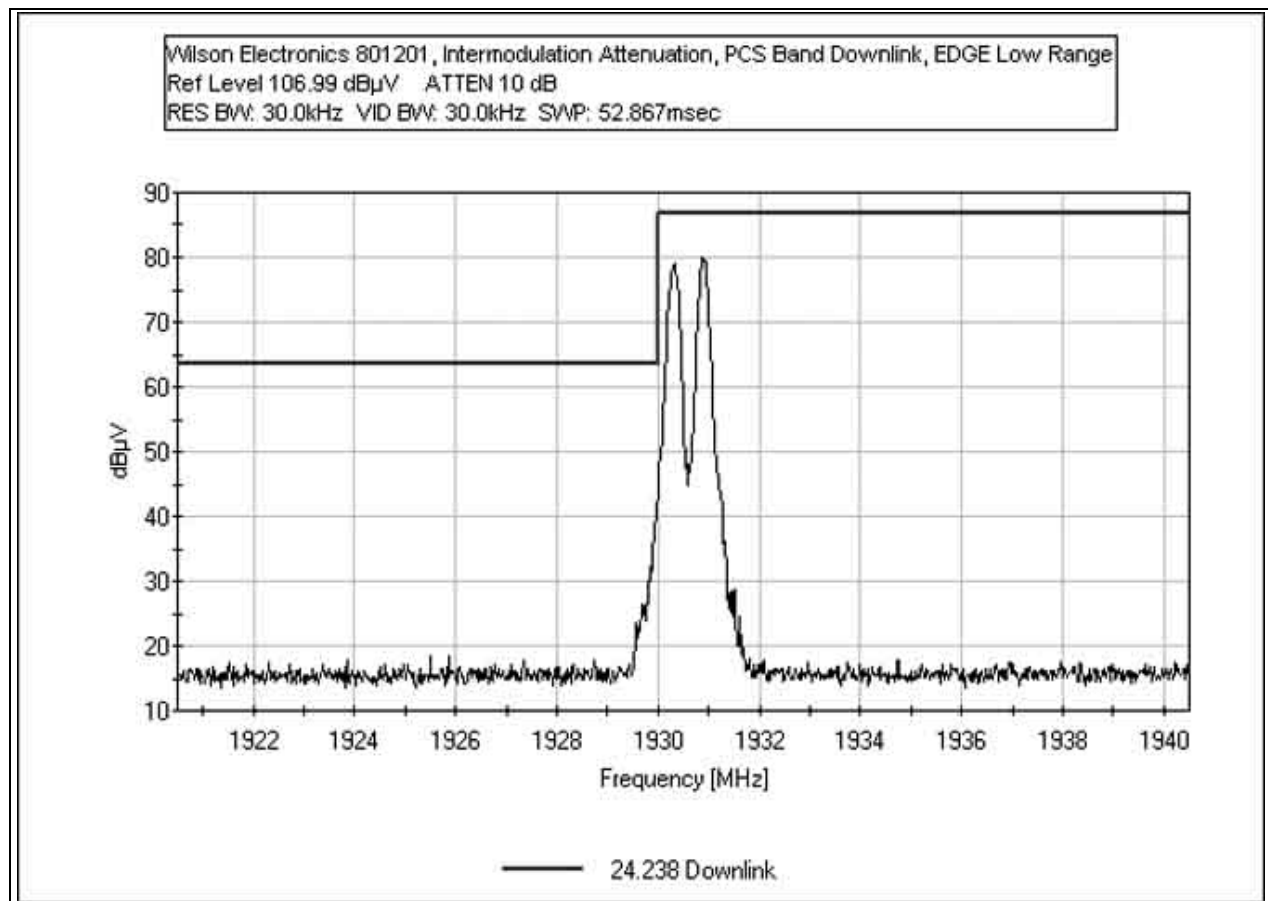
Wilson Electronics 801201, Intermodulation Attenuation, Downlink CDMA, PCS Band-Upper Narrow Span
Ref Level 98.99 dB μ V ATTN 2 dB
RES BW: 120.0kHz VID BW: 120.0kHz SWP: 3.733msec



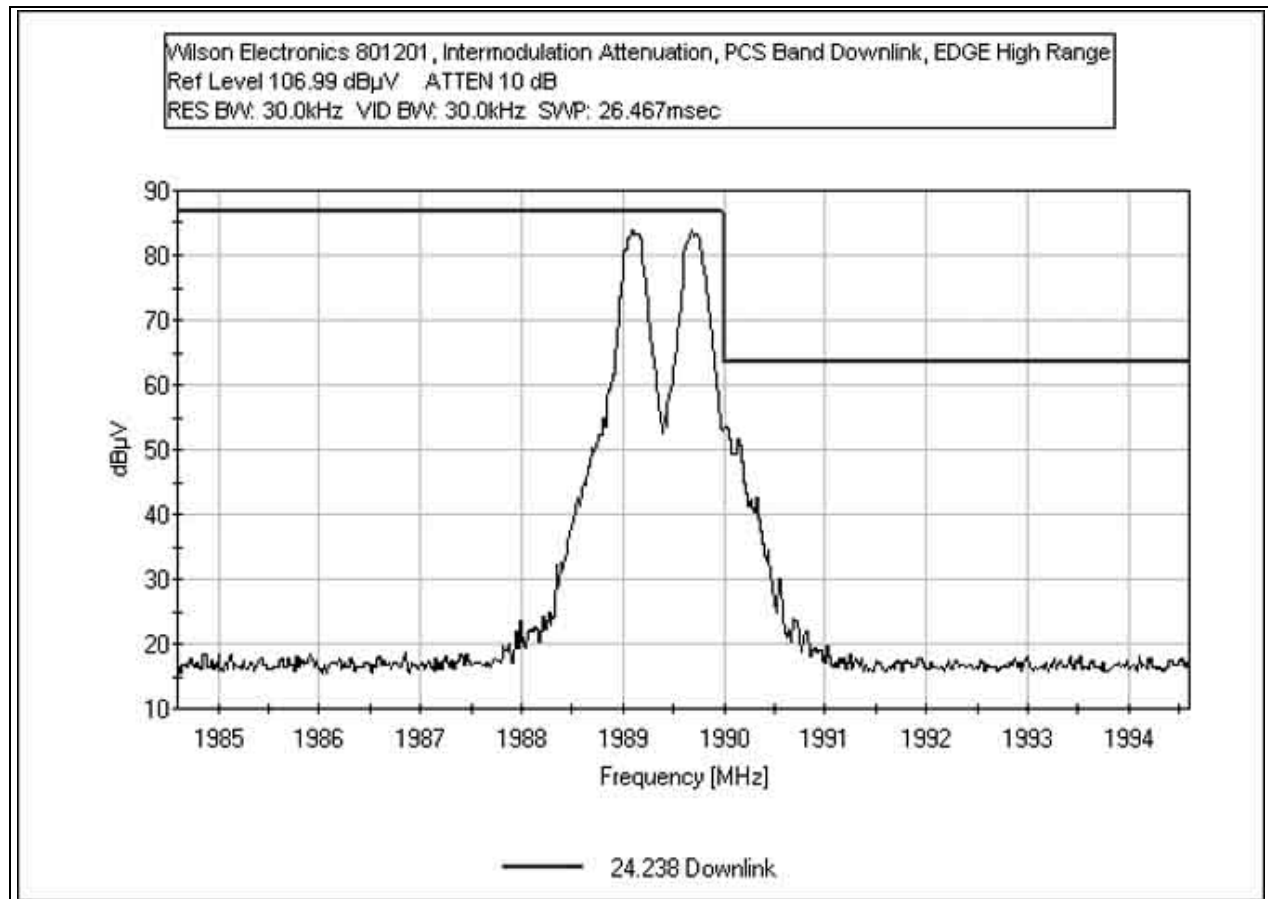
INTERMODULATION ATTENUATION DOWNLINK CDMA - PCS BAND WIDE RANGE



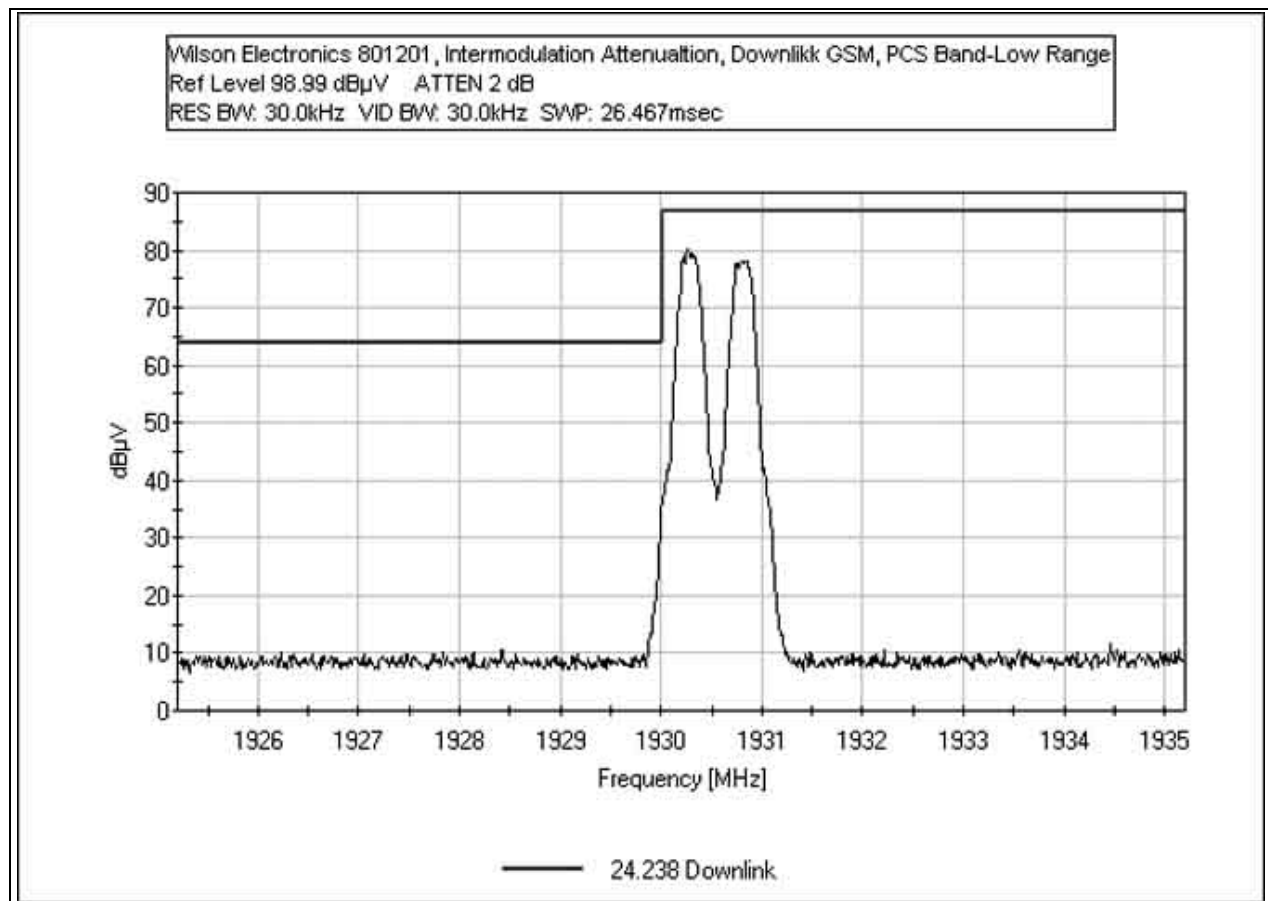
INTERMODULATION ATTENUATION DOWNLINK EDGE - PCS BAND LOW RANGE



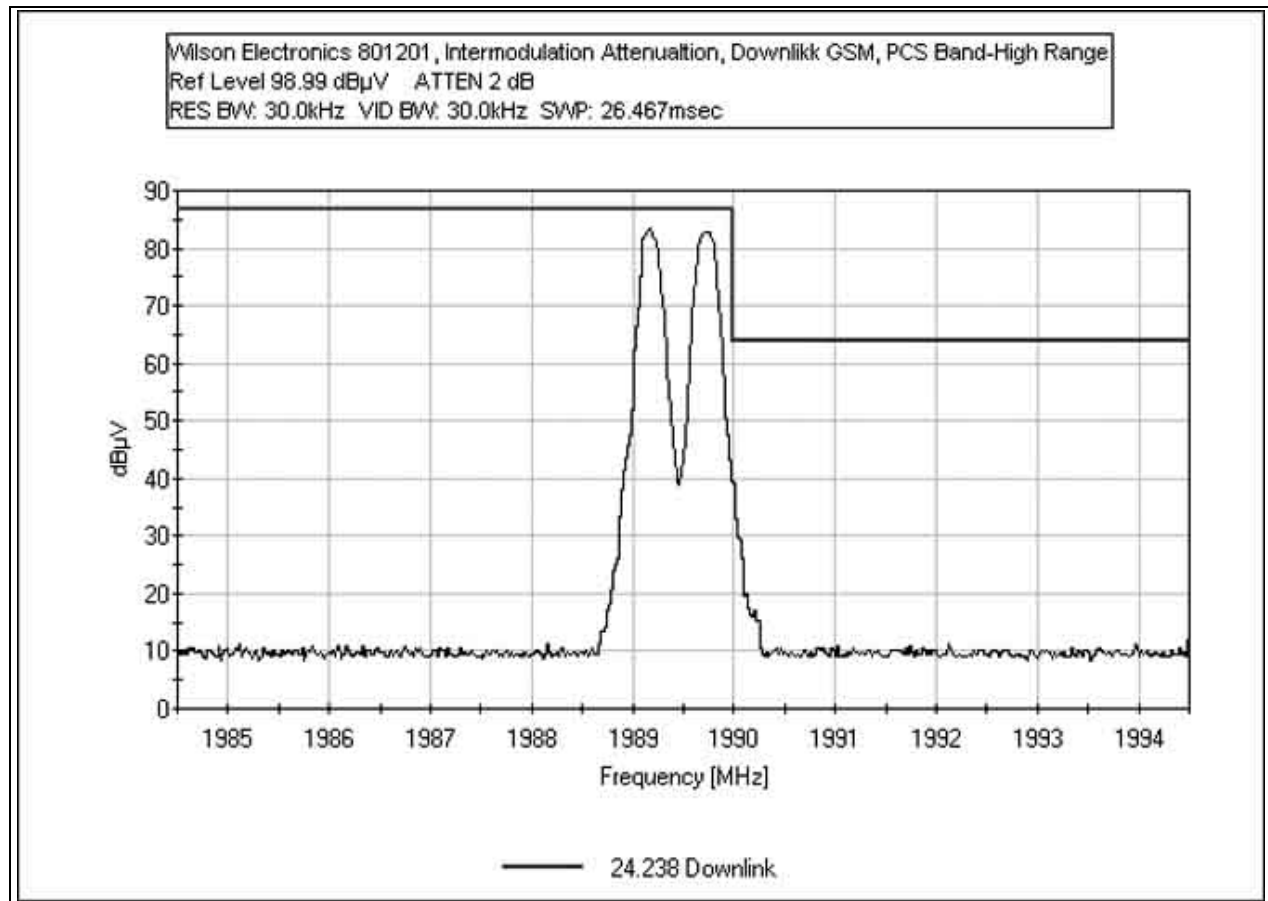
INTERMODULATION ATTENUATION DOWNLINK EDGE - PCS BAND HIGH RANGE



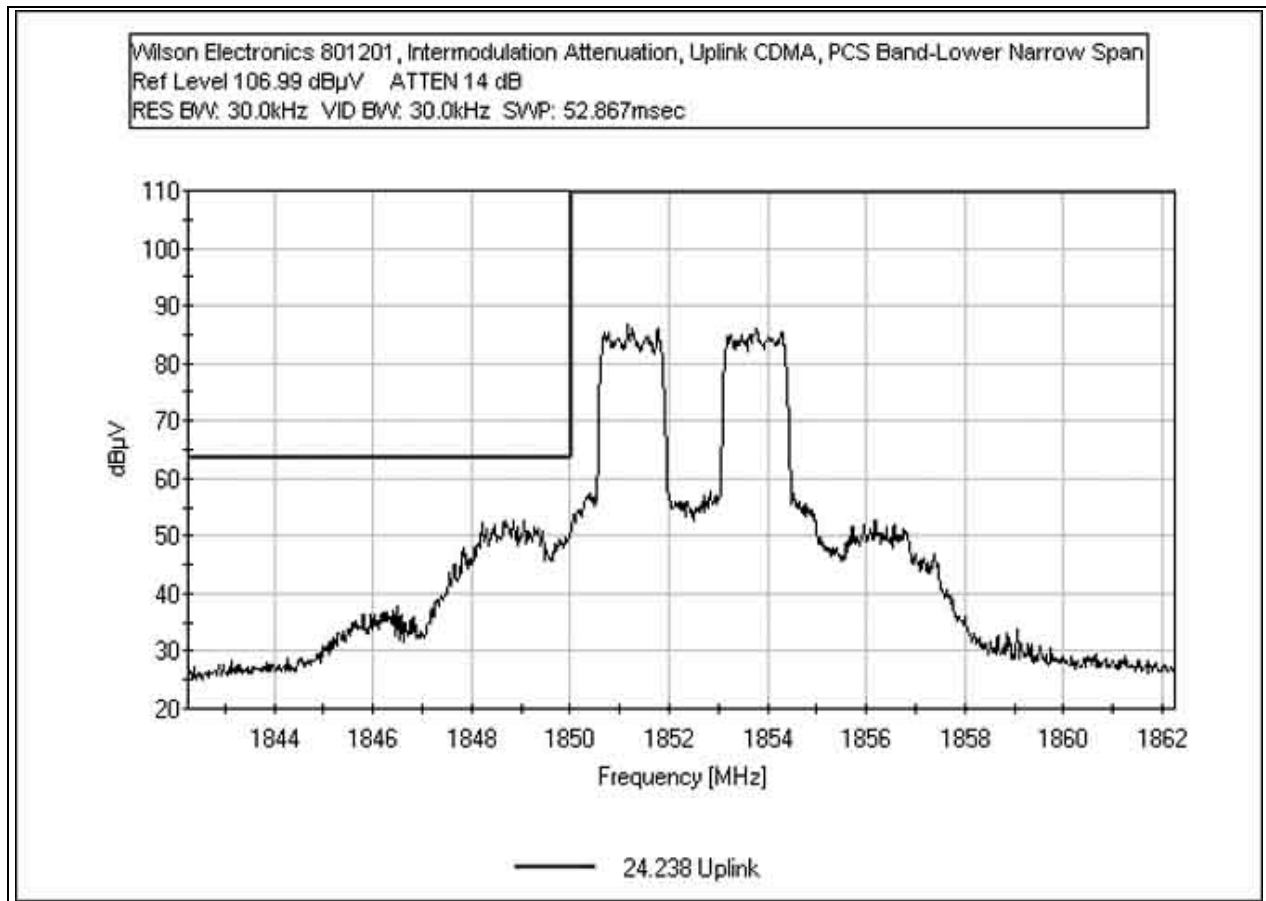
INTERMODULATION ATTENUATION DOWNLINK GSM - PCS BAND LOW RANGE



INTERMODULATION ATTENUATION DOWNLINK GSM - PCS BAND HIGH RANGE

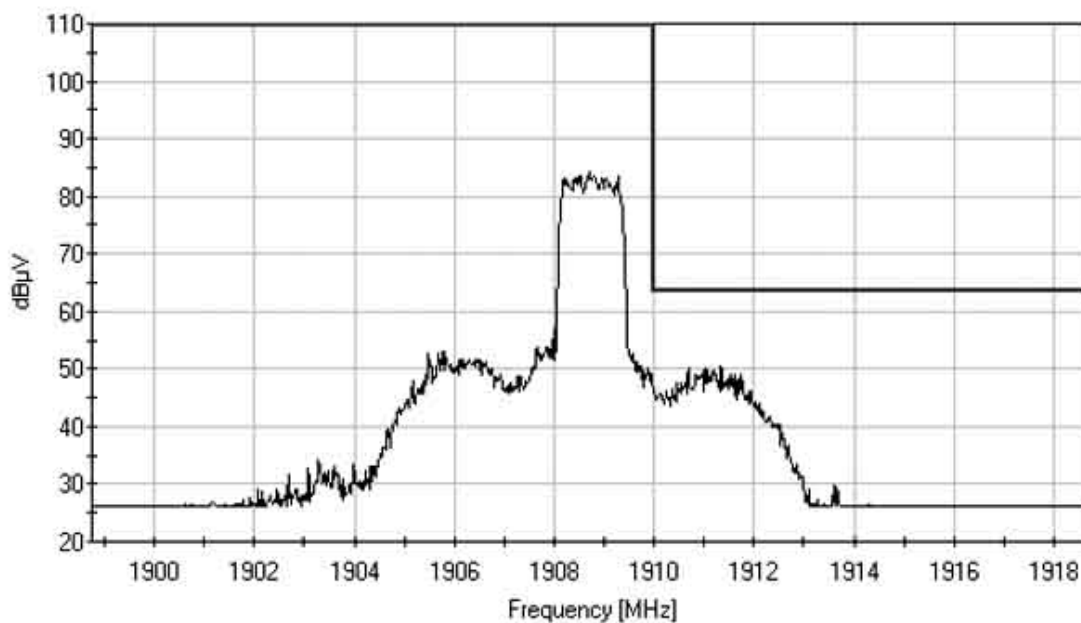


INTERMODULATION ATTENUATION UPLINK CDMA - PCS BAND LOWER NARROW SPAN

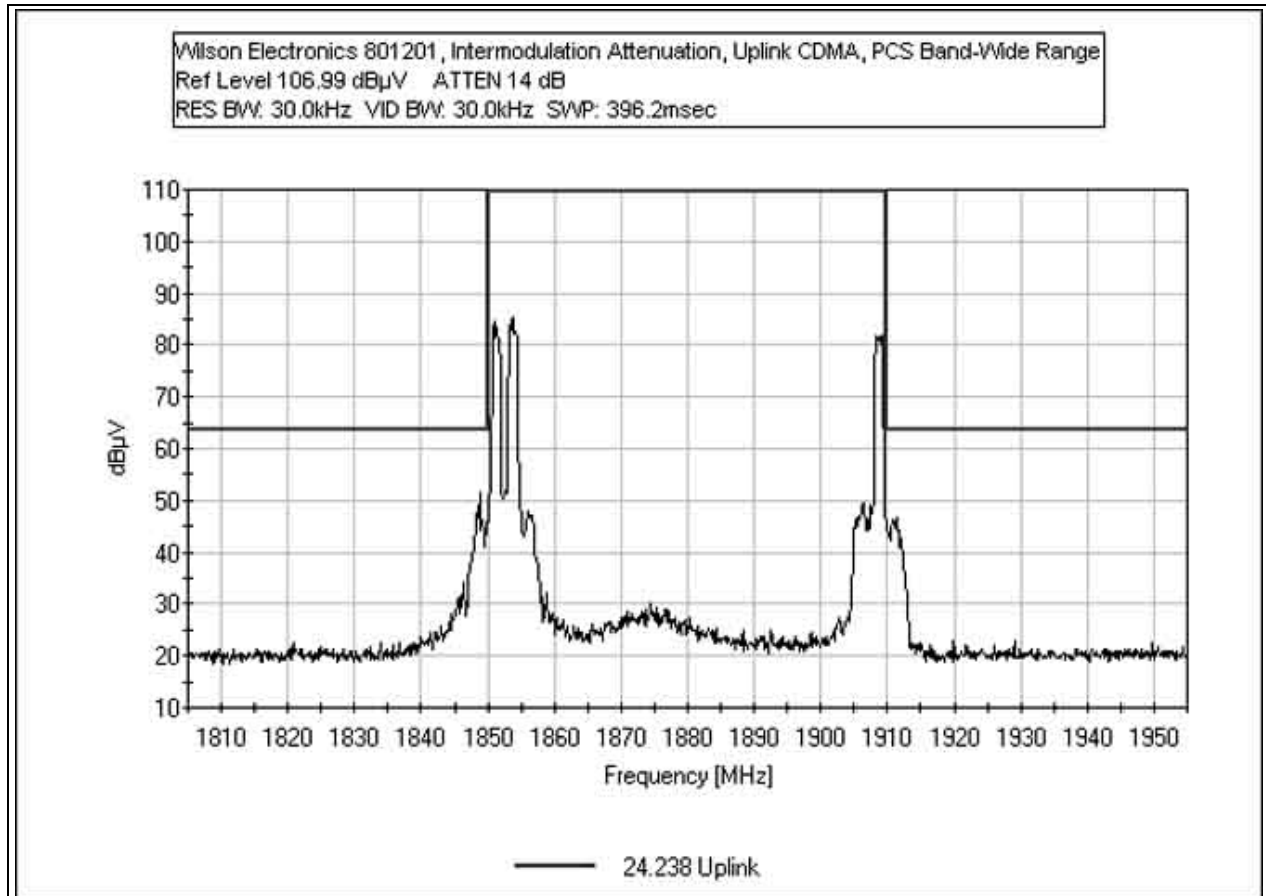


INTERMODULATION ATTENUATION UPLINK CDMA - PCS BAND UPPER NARROW SPAN

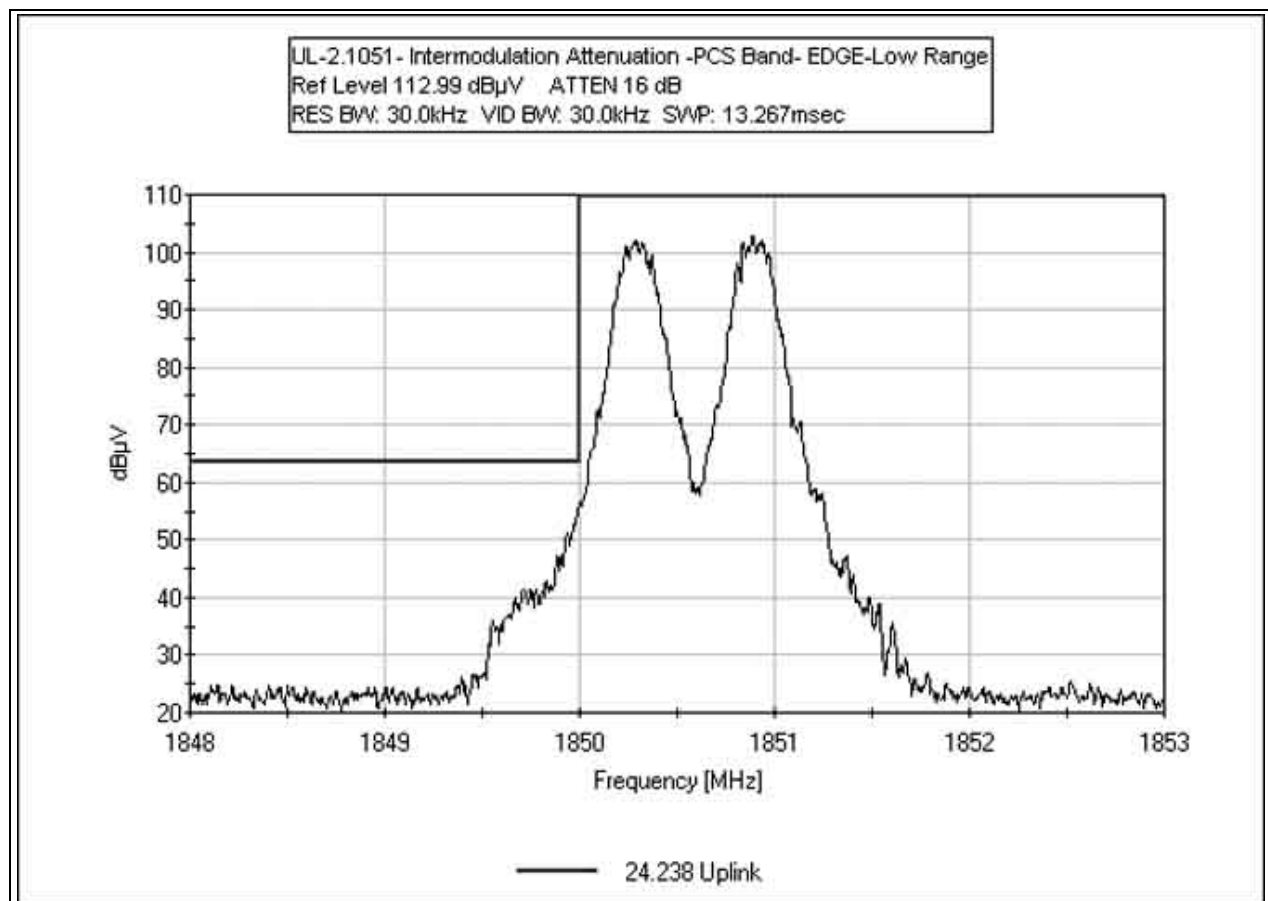
Wilson Electronics 801201, Intermodulation Attenuation, Uplink CDMA, PCS Band-Upper Narrow Span
Ref Level 106.99 dB μ V ATTN 14 dB
RES BW: 30.0kHz VID BW: 30.0kHz SWP: 52.867msec



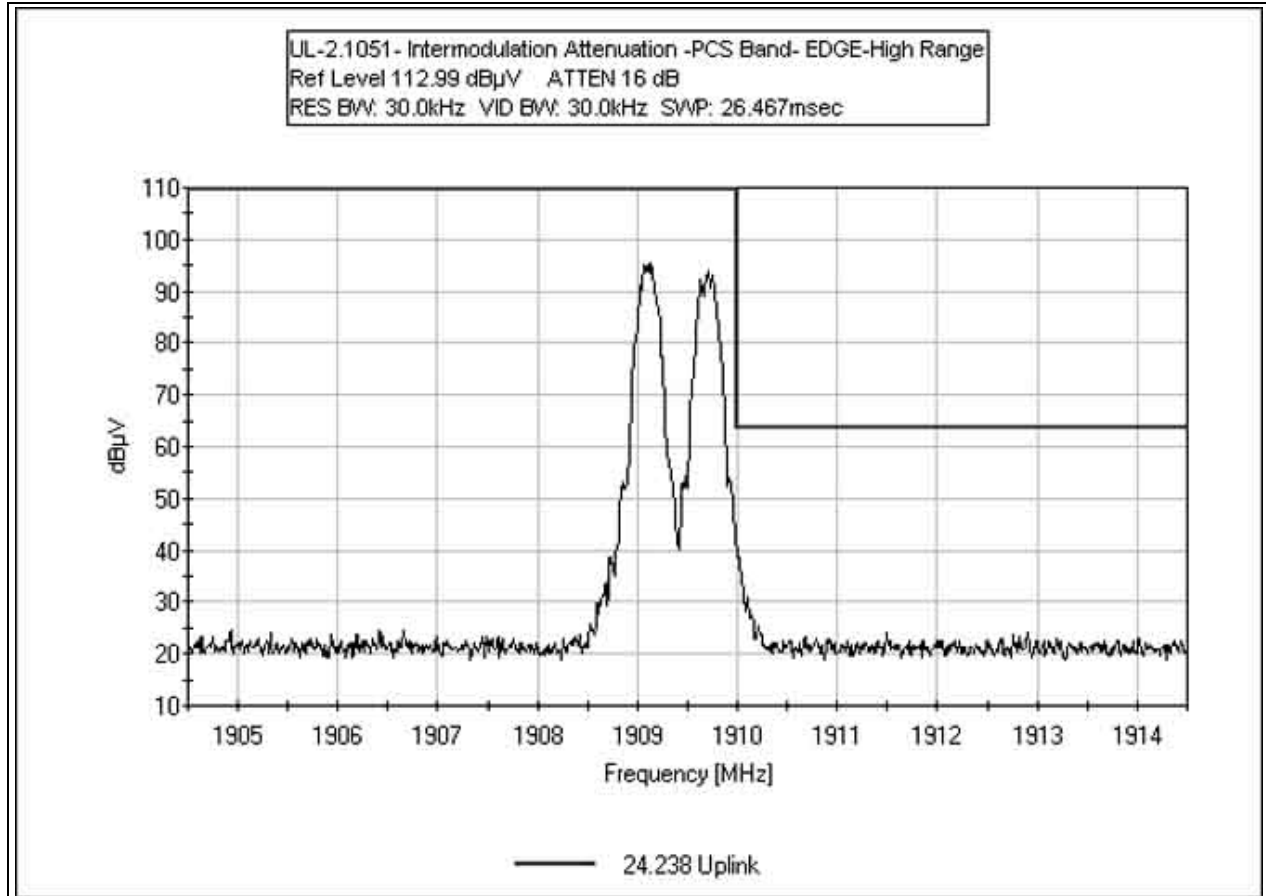
INTERMODULATION ATTENUATION UPLINK CDMA - PCS BAND WIDE RANGE



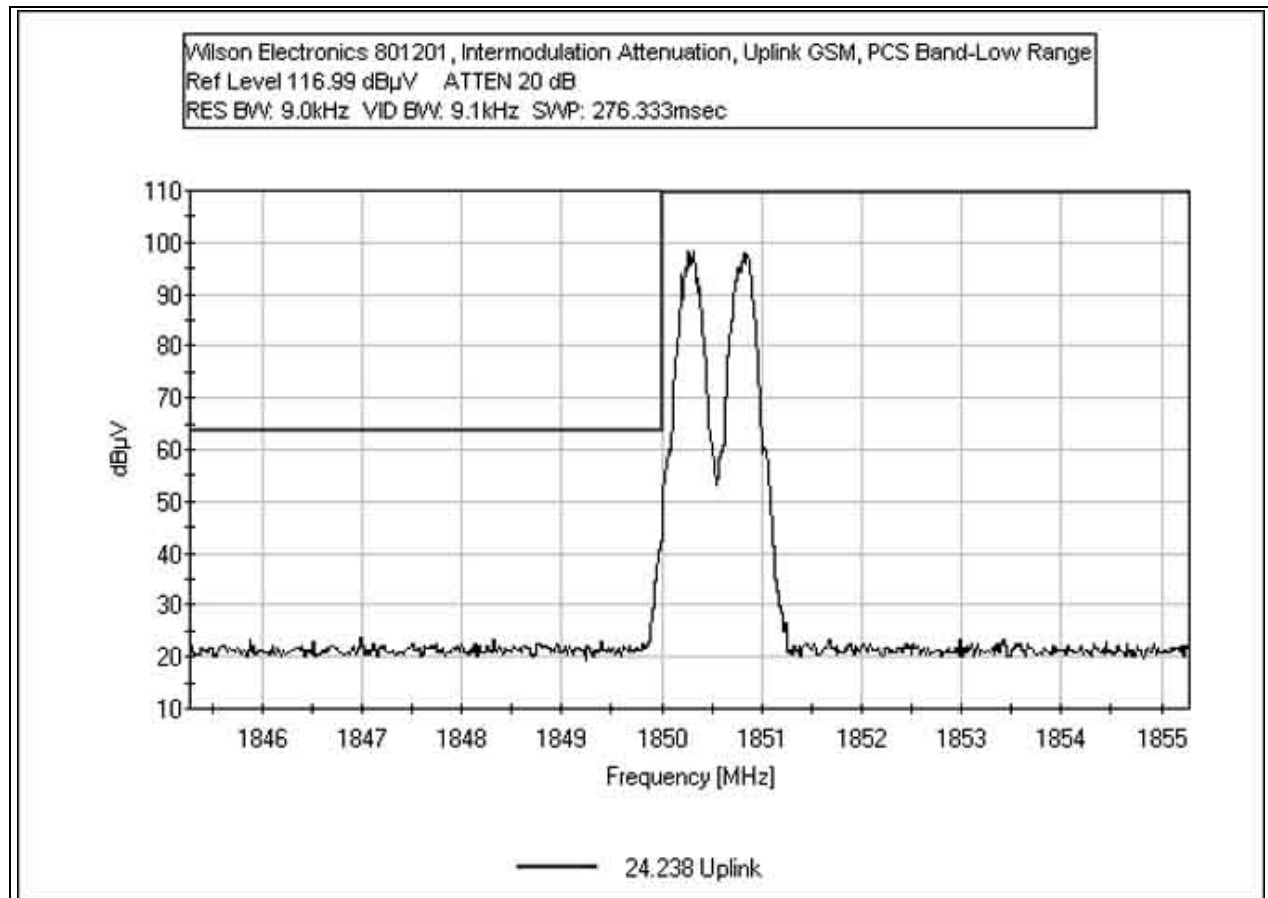
INTERMODULATION ATTENUATION UPLINK EDGE - PCS BAND LOW RANGE



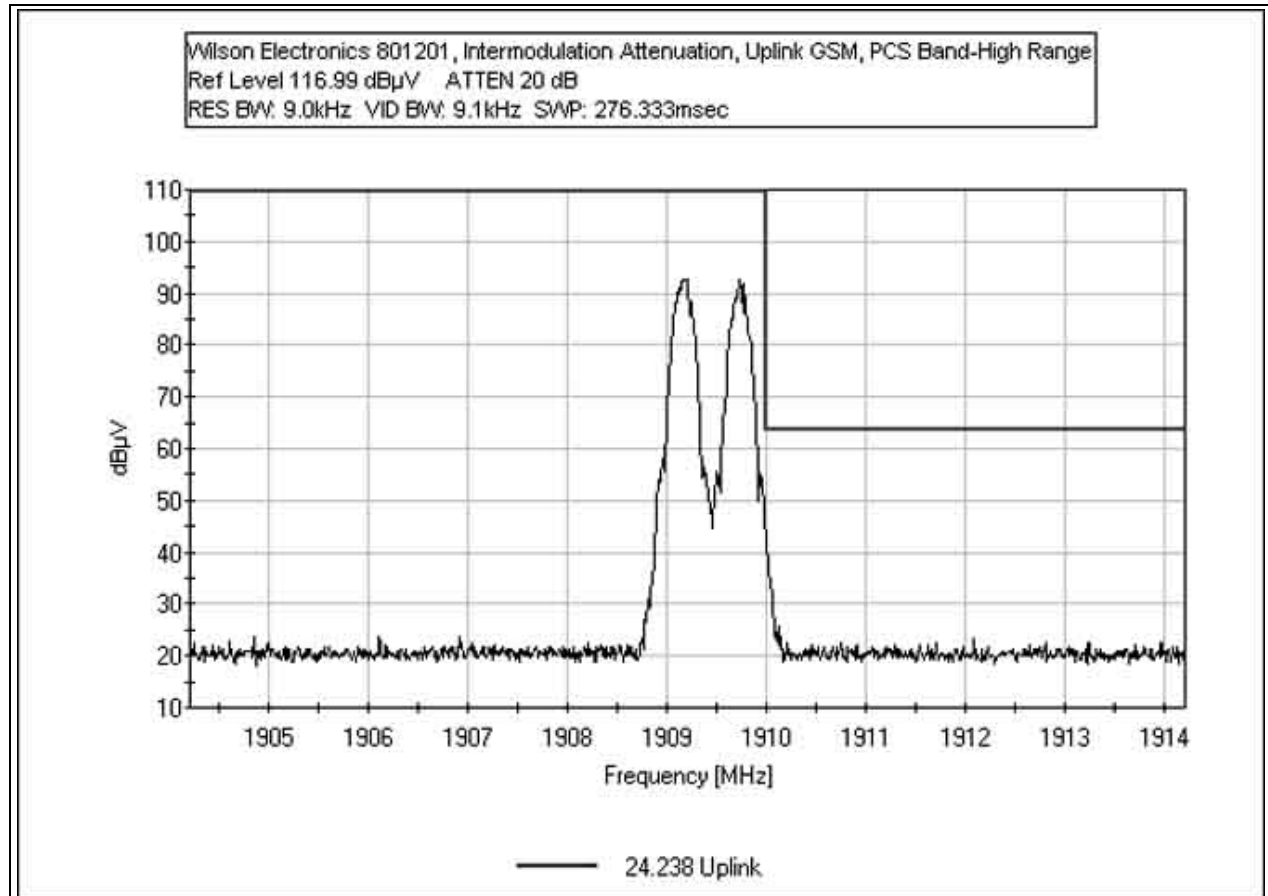
INTERMODULATION ATTENUATION UPLINK EDGE - PCS BAND HIGH RANGE



INTERMODULATION ATTENUATION UPLINK GSM - PCS BAND LOW RANGE



INTERMODULATION ATTENUATION UPLINK GSM - PCS BAND HIGH RANGE



PHOTOGRAPH SHOWING DIRECT CONNECT TEST SETUP



FCC 2.1051 – 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

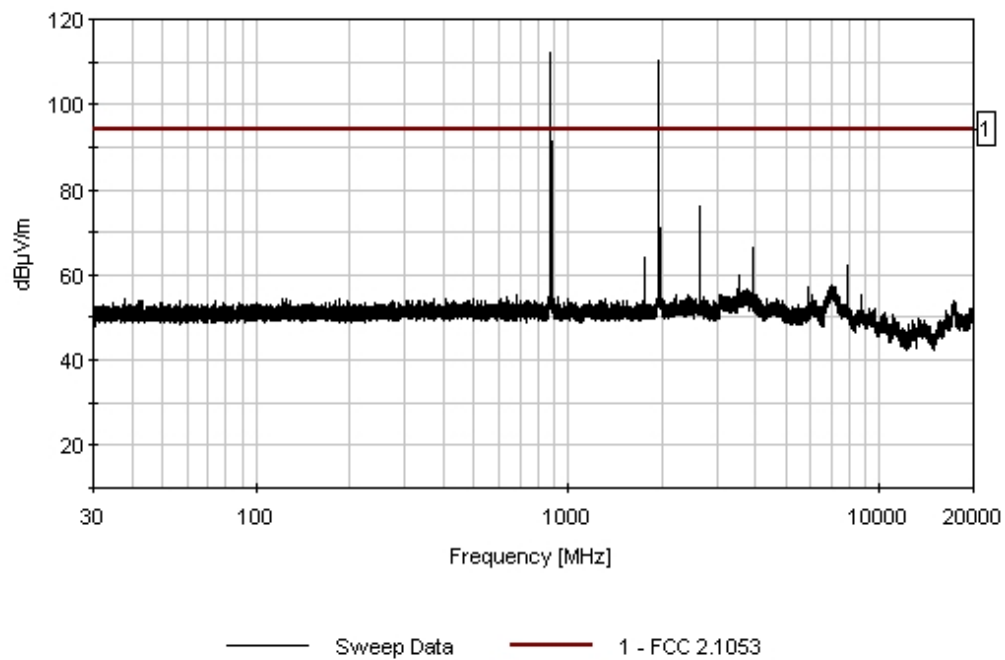
Measurement Data: Reading listed by margin.

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	-4.9	None
									Carrier		
2	1959.641M	79.8	+30.3				+0.0	110.1	117.0	-6.9	None
									Carrier		
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 WVO#: 83305
FCC 2.1053 Test Distance: None Sequence#: 93
Wilson Electronics MN 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	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: 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:

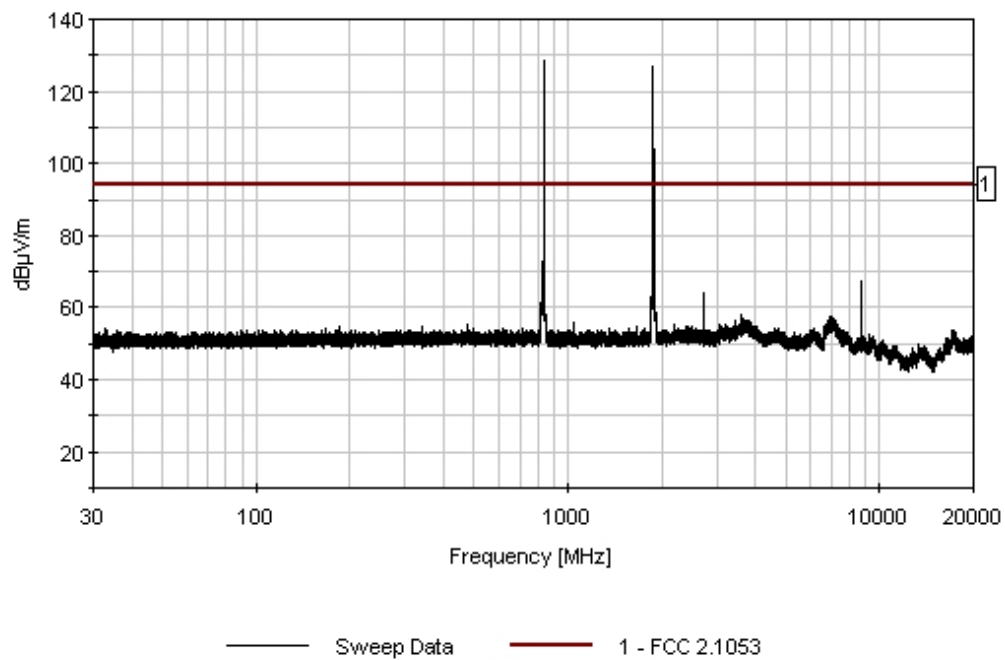
Reading listed by margin.

Test Distance: None

#	Freq MHz	Rdng dBμV	T1 dB				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 W/O#: 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)/2.1053/24.238 - FIELD STRENGTH OF SPURIOUS RADIATION

Test Location: CKC Laboratories • 5473A Clouds Rest • Mariposa, CA 95338 • 1-800-500-4EMC (4362)
 Customer: **Wilson Electronics**
 Specification: **24.238**
 Work Order #: **83305** Date: 03/31/2005
 Test Type: **Antenna Terminals** Time: 10:10:20
 Equipment: **In Vehicle Wireless Dual Band Smart Amplifier** Sequence#: 88
 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 1850 to 1990MHz band. Uplink frequency range 1850 - 1910MHz. Downlink frequency range 1930 - 1990MHz. 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, 1930.28 & 1930.84MHz and then 1989.16 & 1989.72MHz. Data represents measured worst case and represents all modulation types. Input Modulation: GSM. Frequencies Tested: Downlink Frequency Range Investigated: 30MHz to 10GHz. 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:

--

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
---	-------------	--------------	----	----	----	----	---------------	----------------	----------------	--------------	--------------



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

Customer: **Wilson Electronics**

Specification: **24.238**

Work Order #: **83305**

Date: 03/31/2005

Test Type: **Antenna Terminals**

Time: 10:04:08

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

Sequence#: 87

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 1850 to 1990MHz band. Uplink frequency range 1850 - 1910MHz. Downlink frequency range 1930 - 1990MHz. 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, 1850.28 & 1850.84MHz and then 1909.16 & 1909.72MHz. Data represents measured worst case and represents all modulation types. Input Modulation:GSM. Frequencies Tested: Uplink. Frequency Range Investigated: 30MHz to 10GHz. 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:

--

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
---	-------------	--------------------	----	----	----	----	---------------	----------------------	----------------------	--------------	--------------

PHOTOGRAPH SHOWING RADIATED EMISSIONS



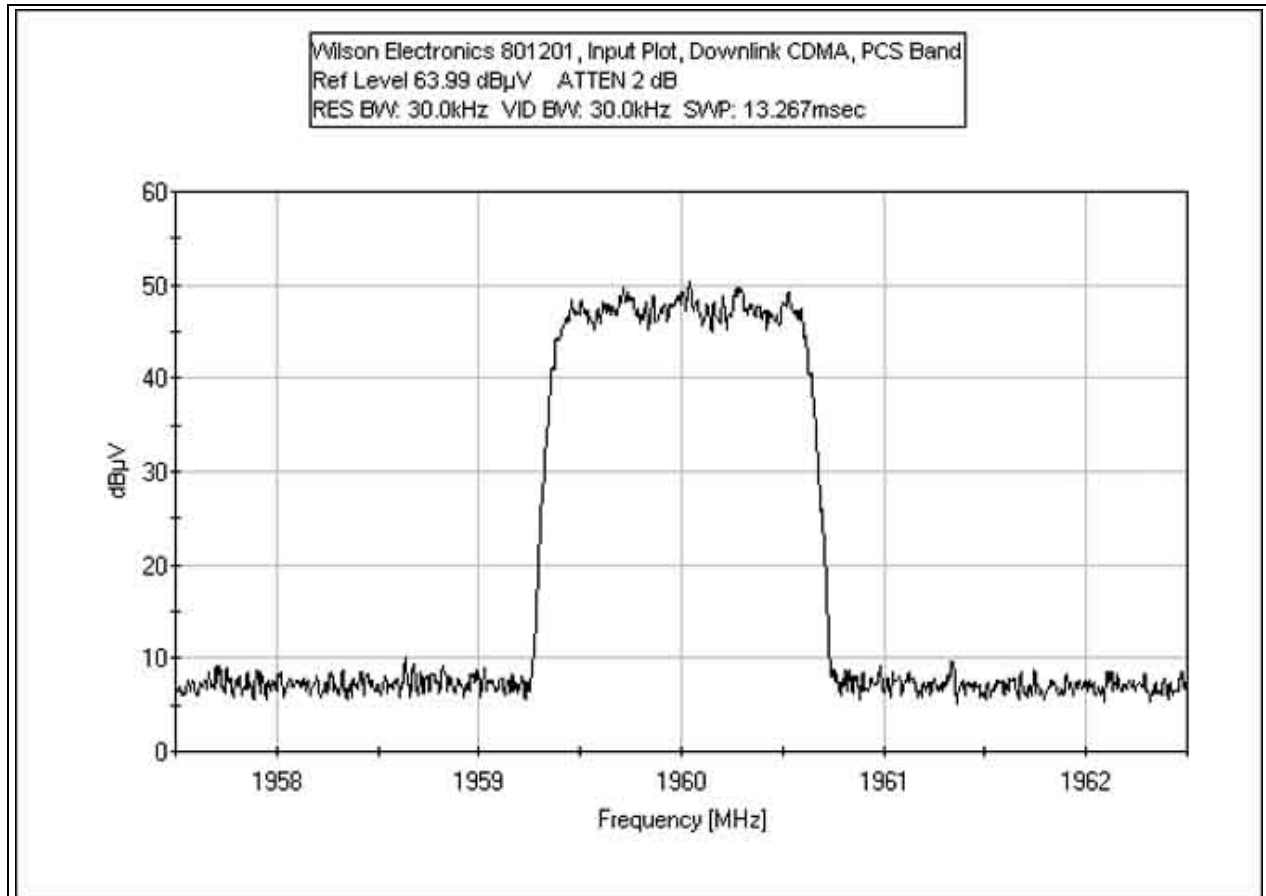
Radiated Emissions - Front View

PHOTOGRAPH SHOWING RADIATED EMISSIONS

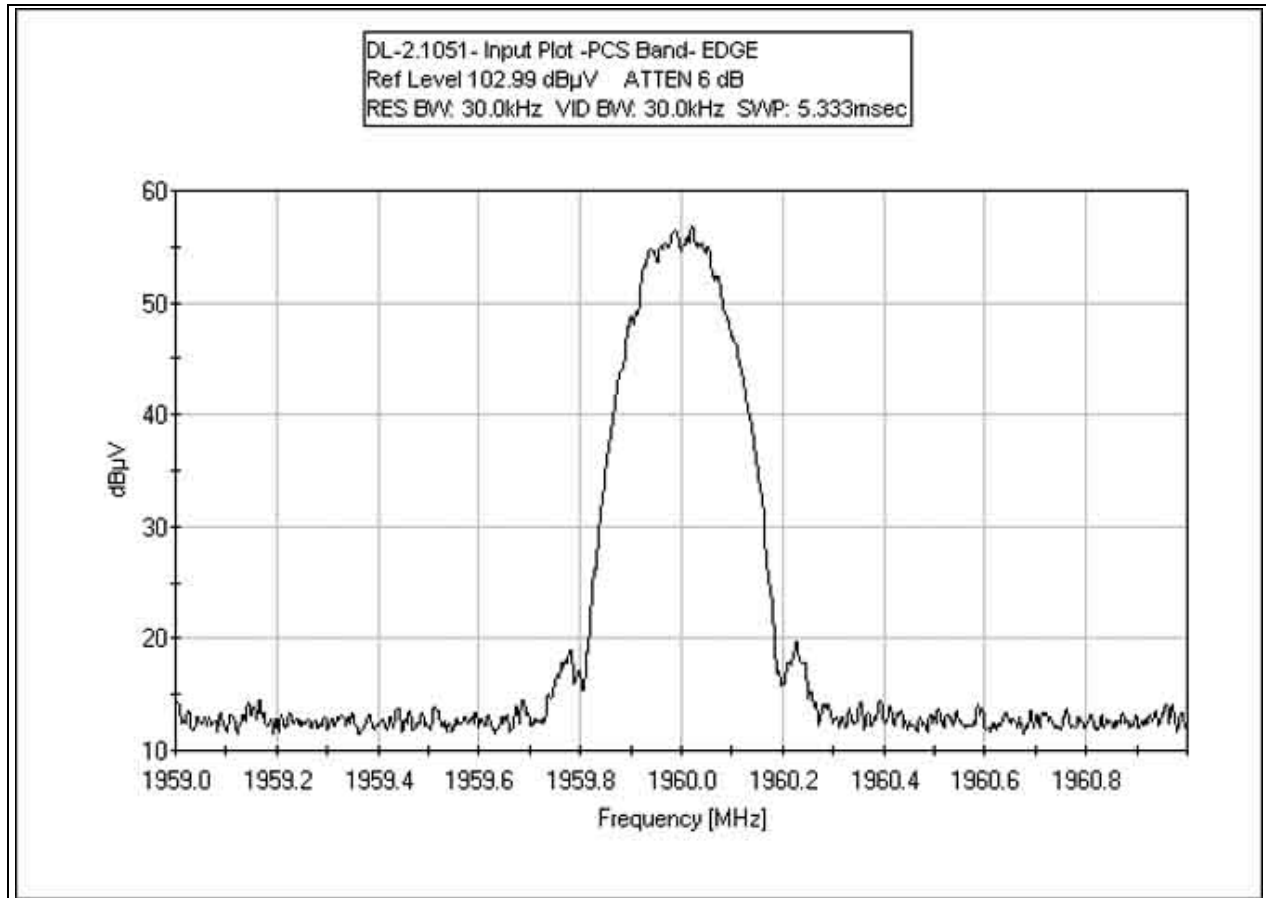


Radiated Emissions - Back View

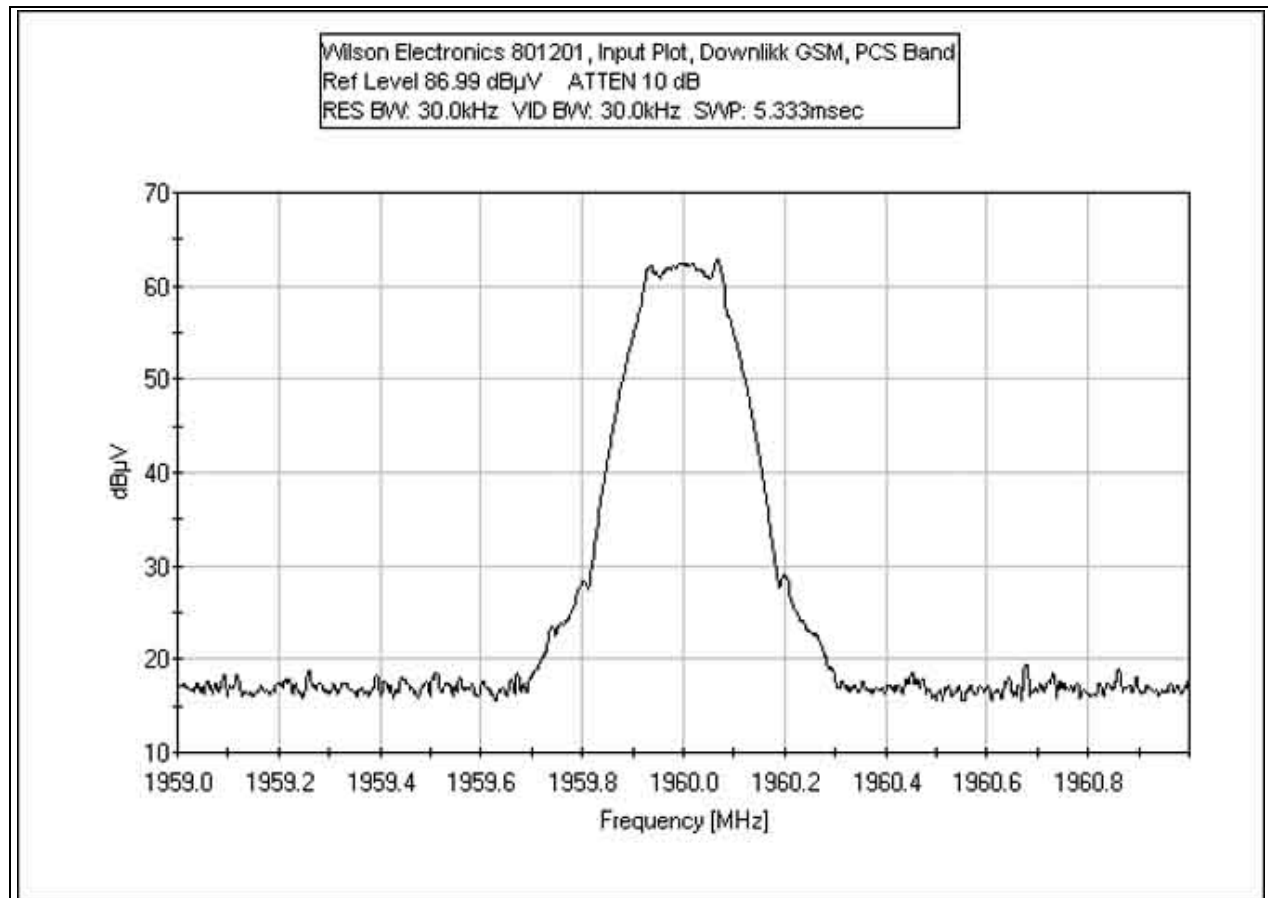
INPUT DOWNLINK CDMA



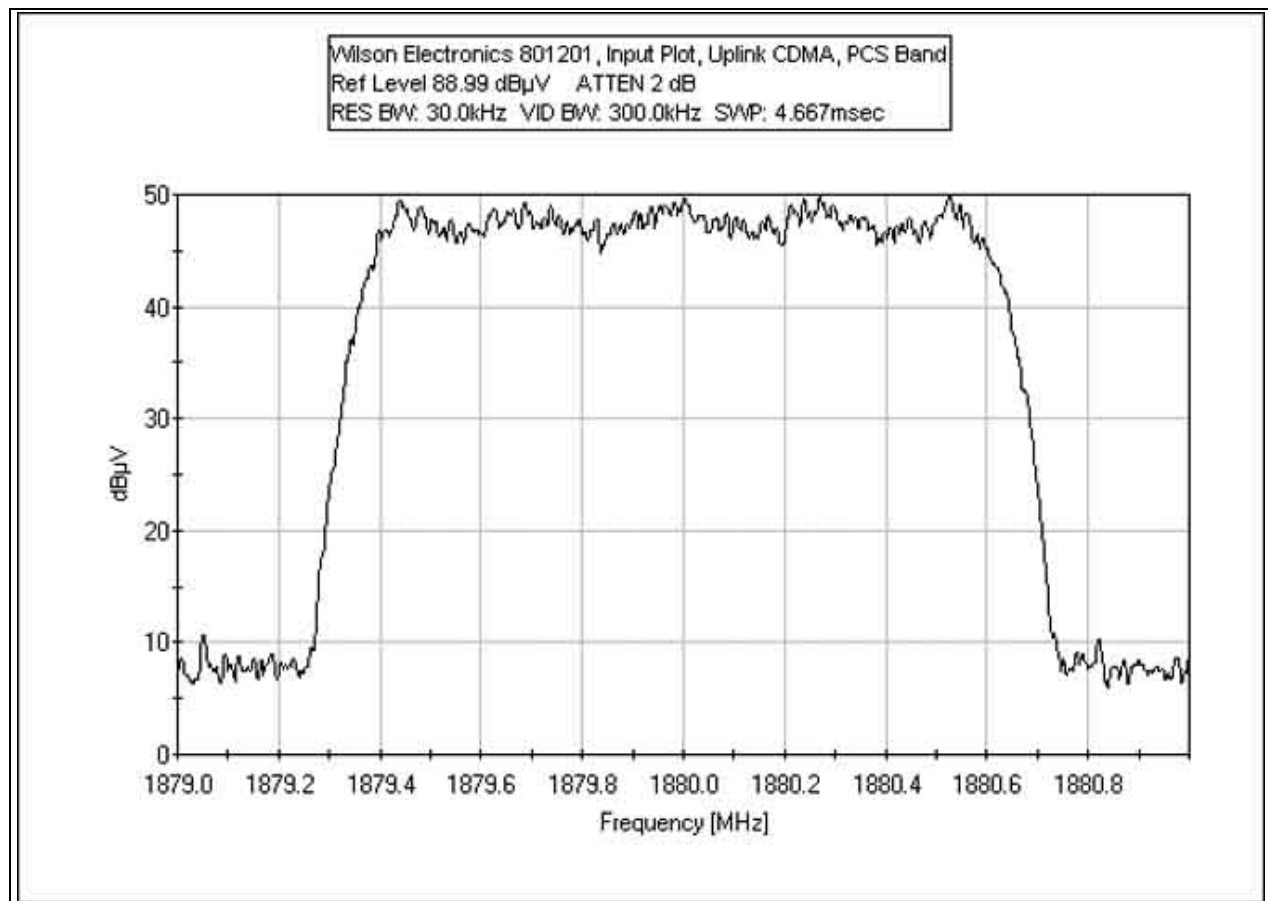
INPUT DOWNLINK EDGE



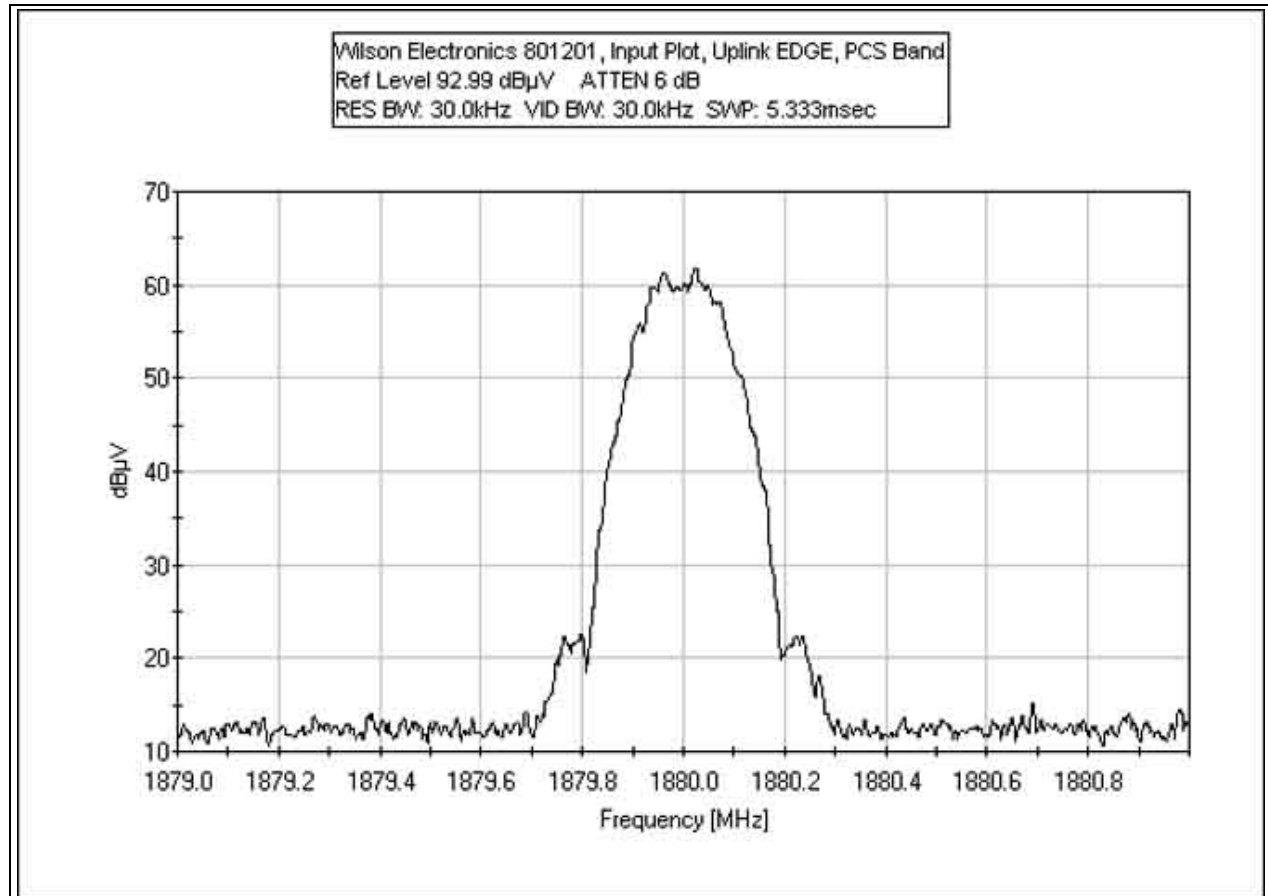
INPUT DOWNLINK GSM



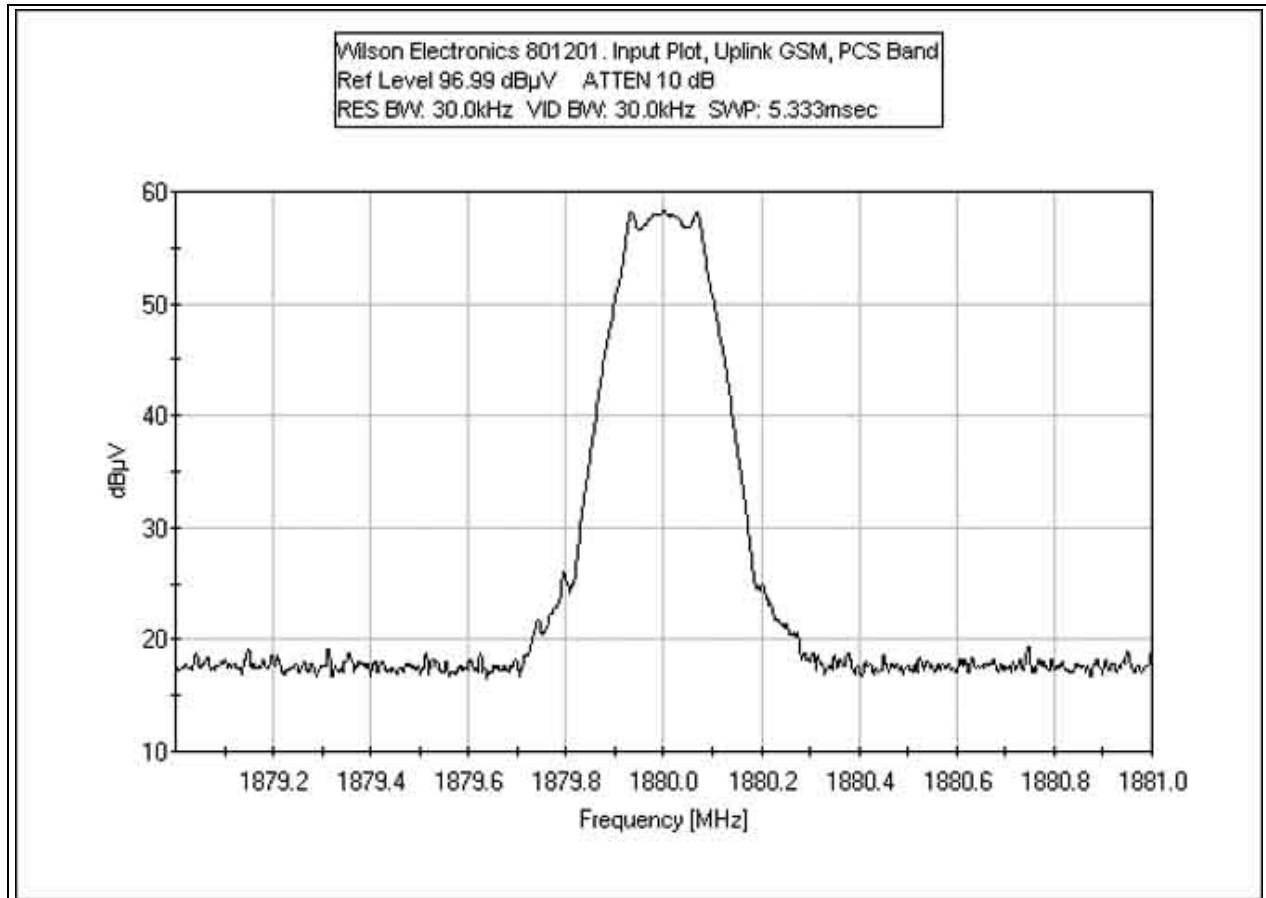
INPUT UPLINK CDMA



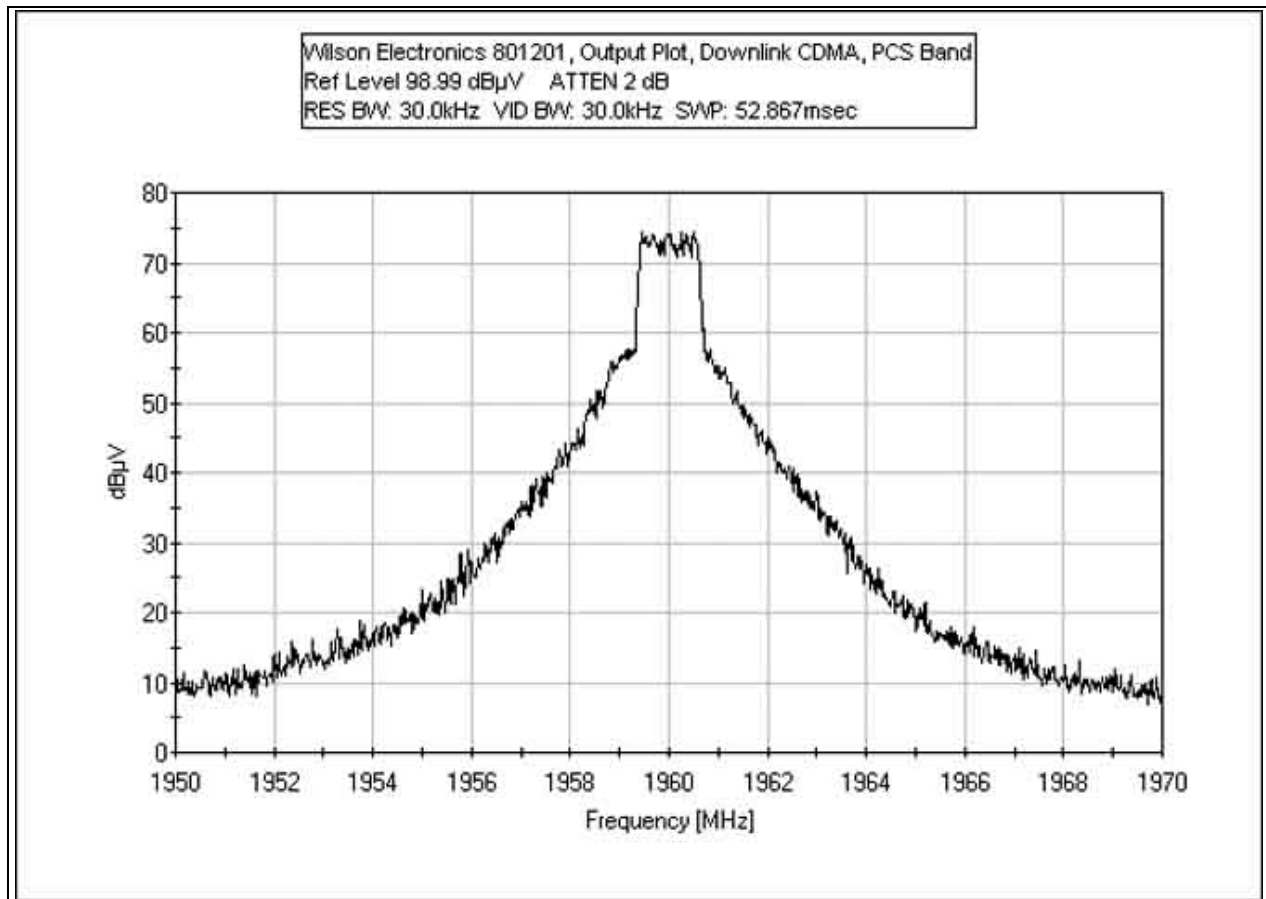
INPUT UPLINK EDGE



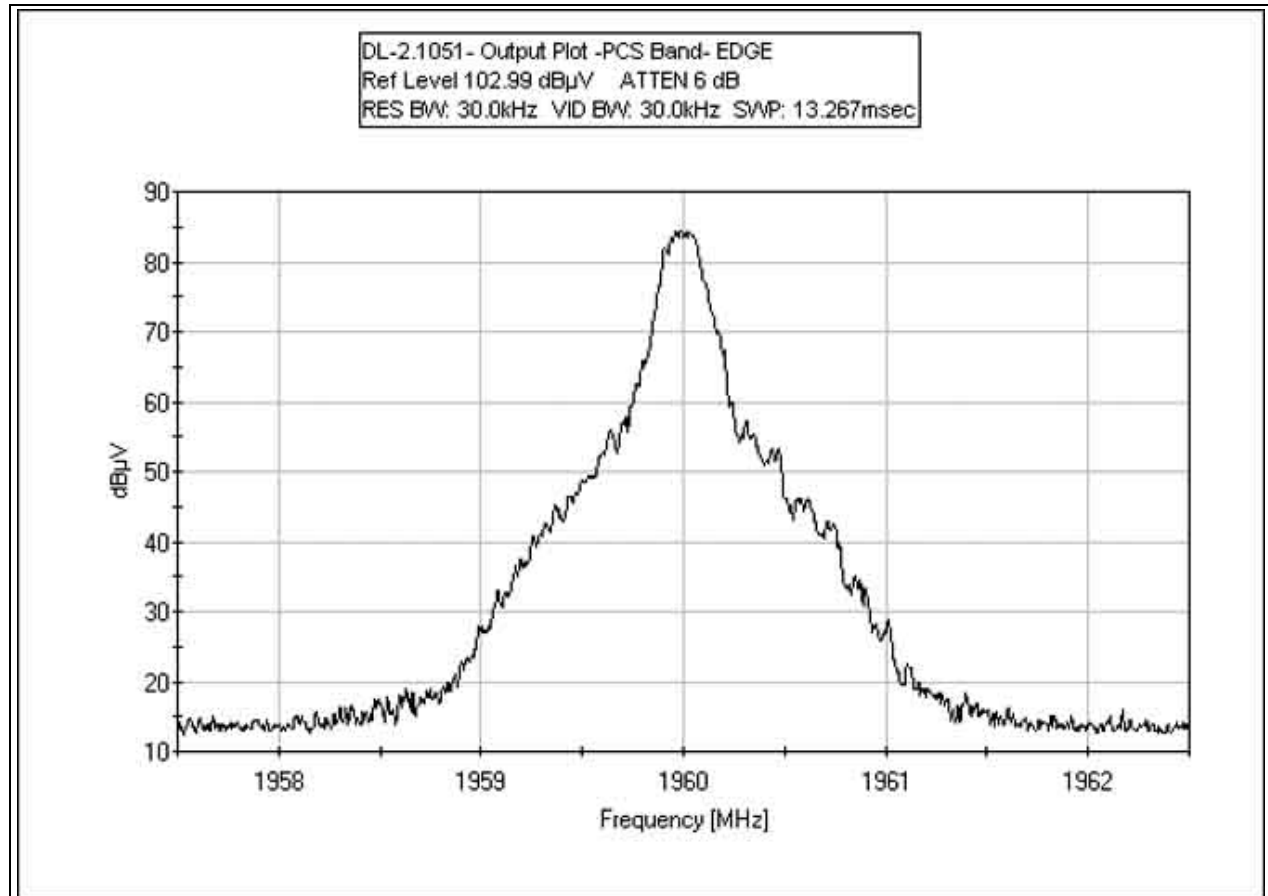
INPUT UPLINK GSM



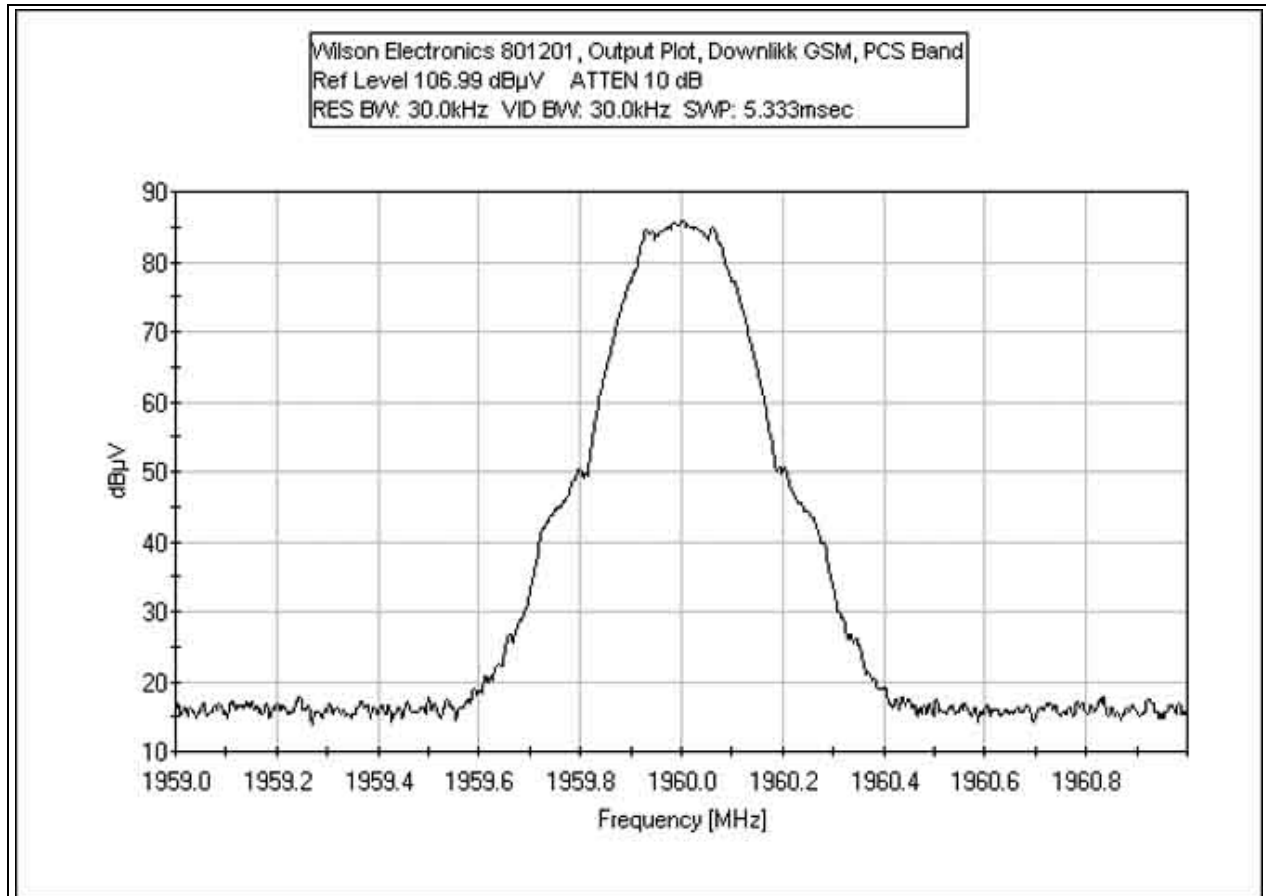
OUTPUT DOWNLINK CDMA



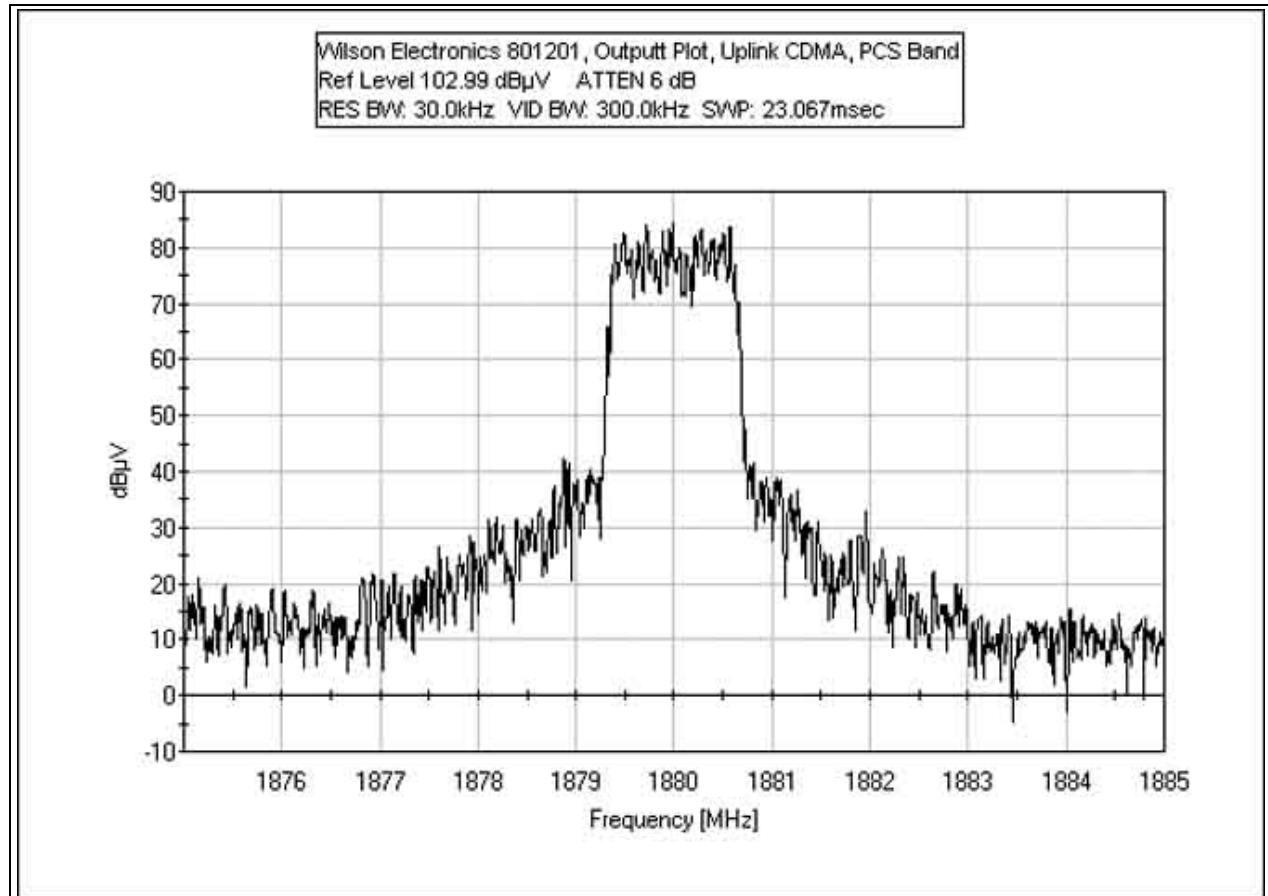
OUTPUT DOWNLINK EDGE



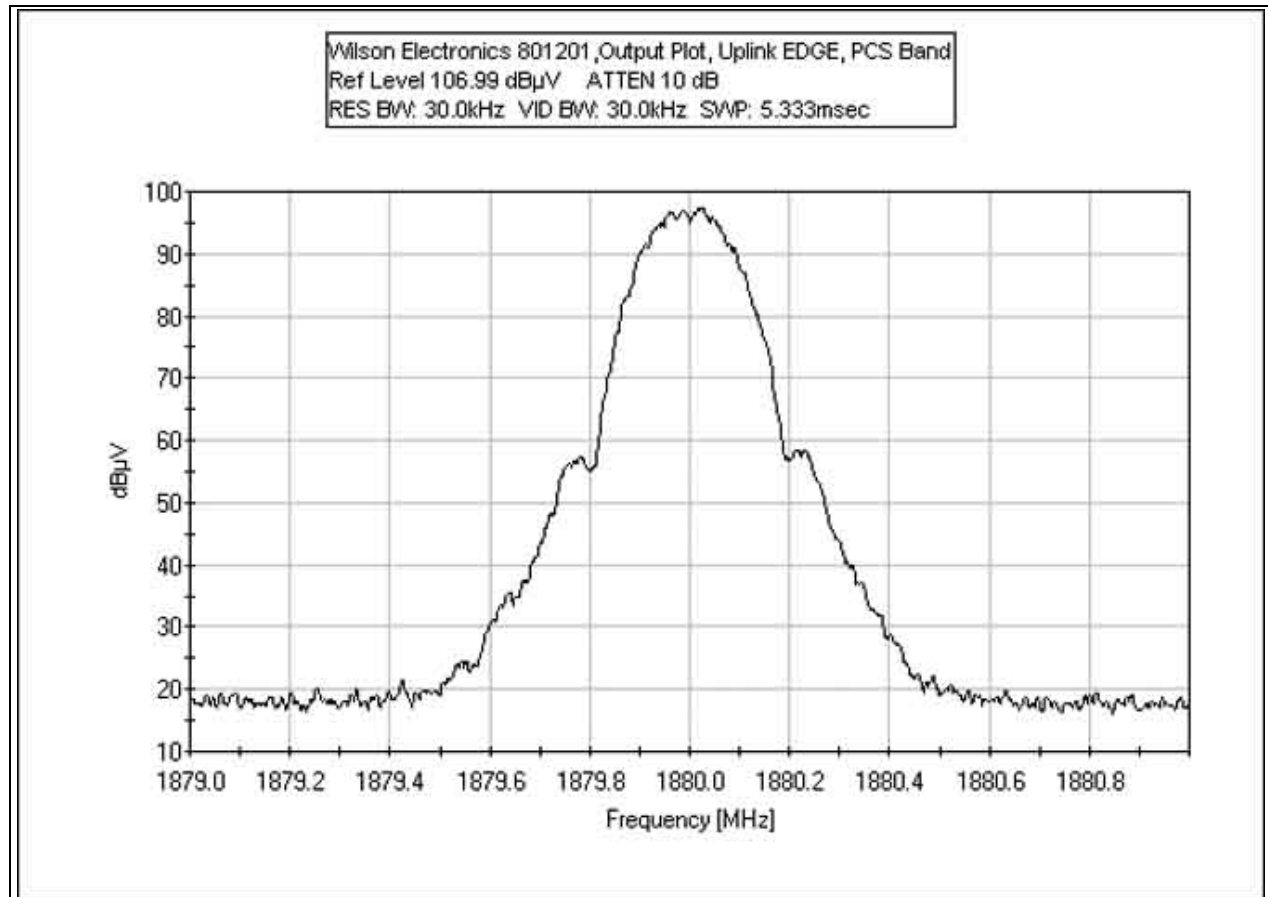
OUTPUT DOWNLINK GSM



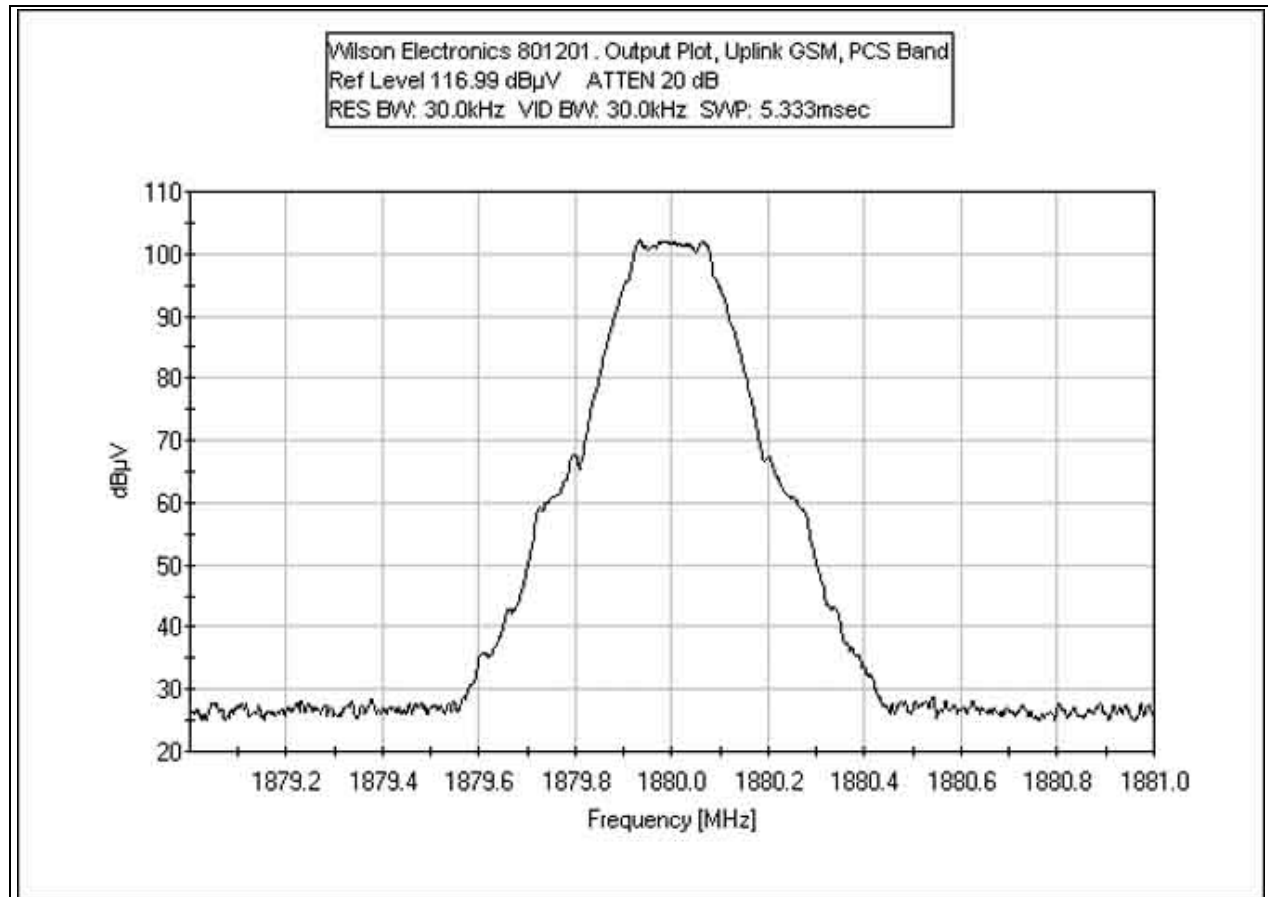
OUTPUT UPLINK CDMA



OUTPUT UPLINK EDGE



OUTPUT UPLINK GSM



Test Equipment:

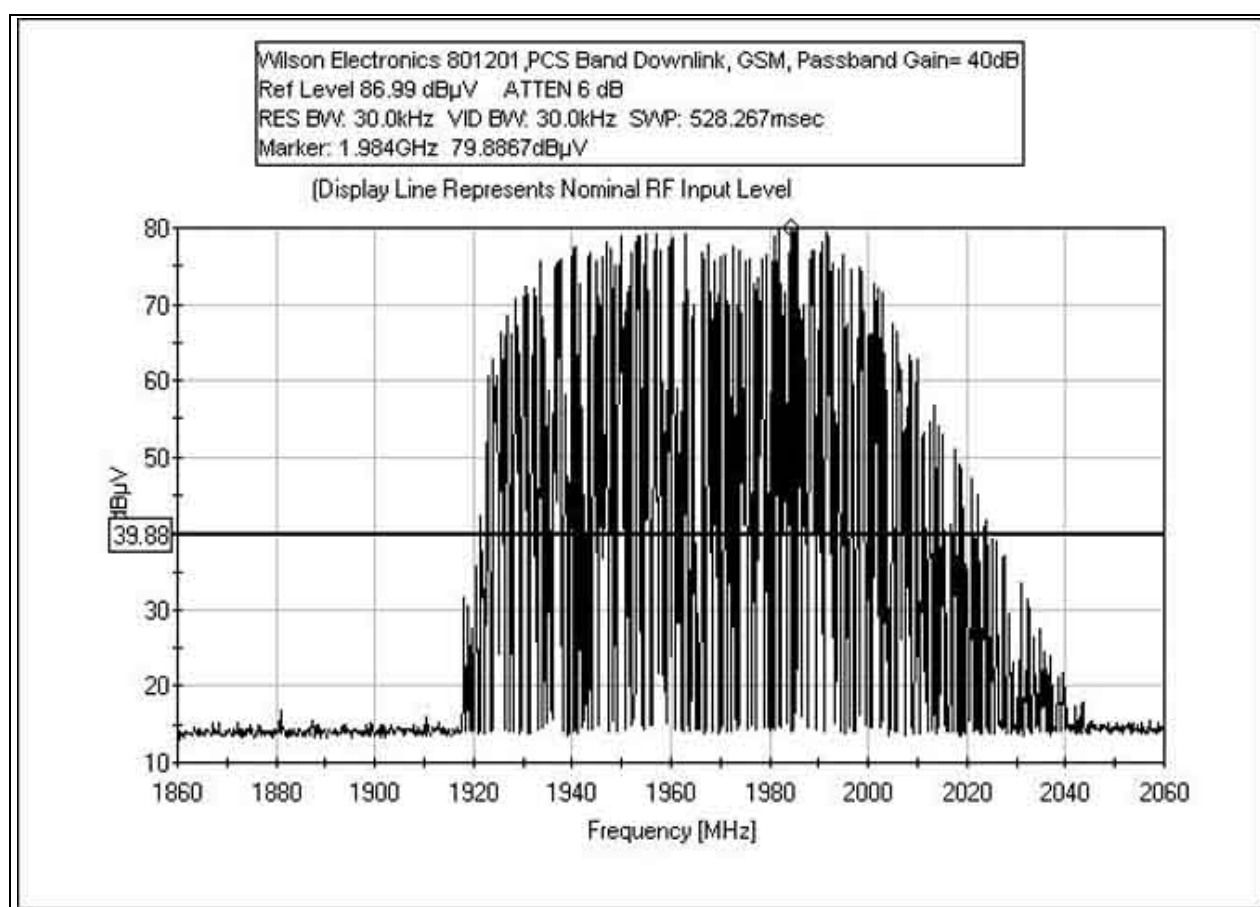
Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A SA	US44300407	01/12/2005	01/12/2007	02660
Attenuator 30dB, Bird 9949		05/09/2003	05/09/2005	P01572
25-A-MFN-30				

PHOTOGRAPH SHOWING DIRECT CONNECT TEST SETUP

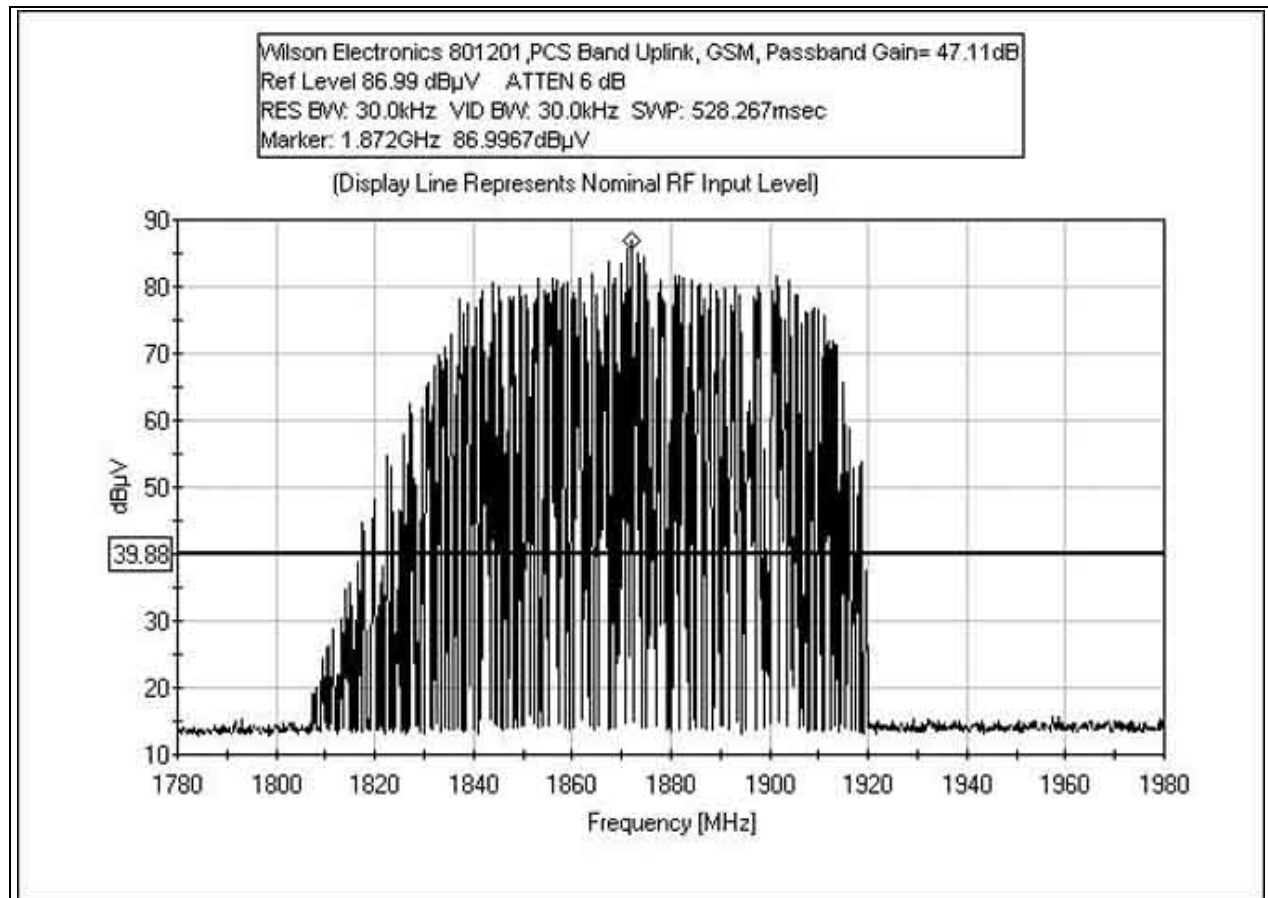


RSS-131 DOWNLINK PASSBAND GAIN GSM

Test Conditions: EUT is a bidirectional amplifier for the 1850 to 1990MHz band. Uplink frequency range 1850 - 1910MHz. Downlink frequency range 1930 - 1990MHz. 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. Frequency Range Investigated: 30MHz to 20GHz.



RSS-131 UPLINK PASSBAND GAIN GSM



Test Equipment:

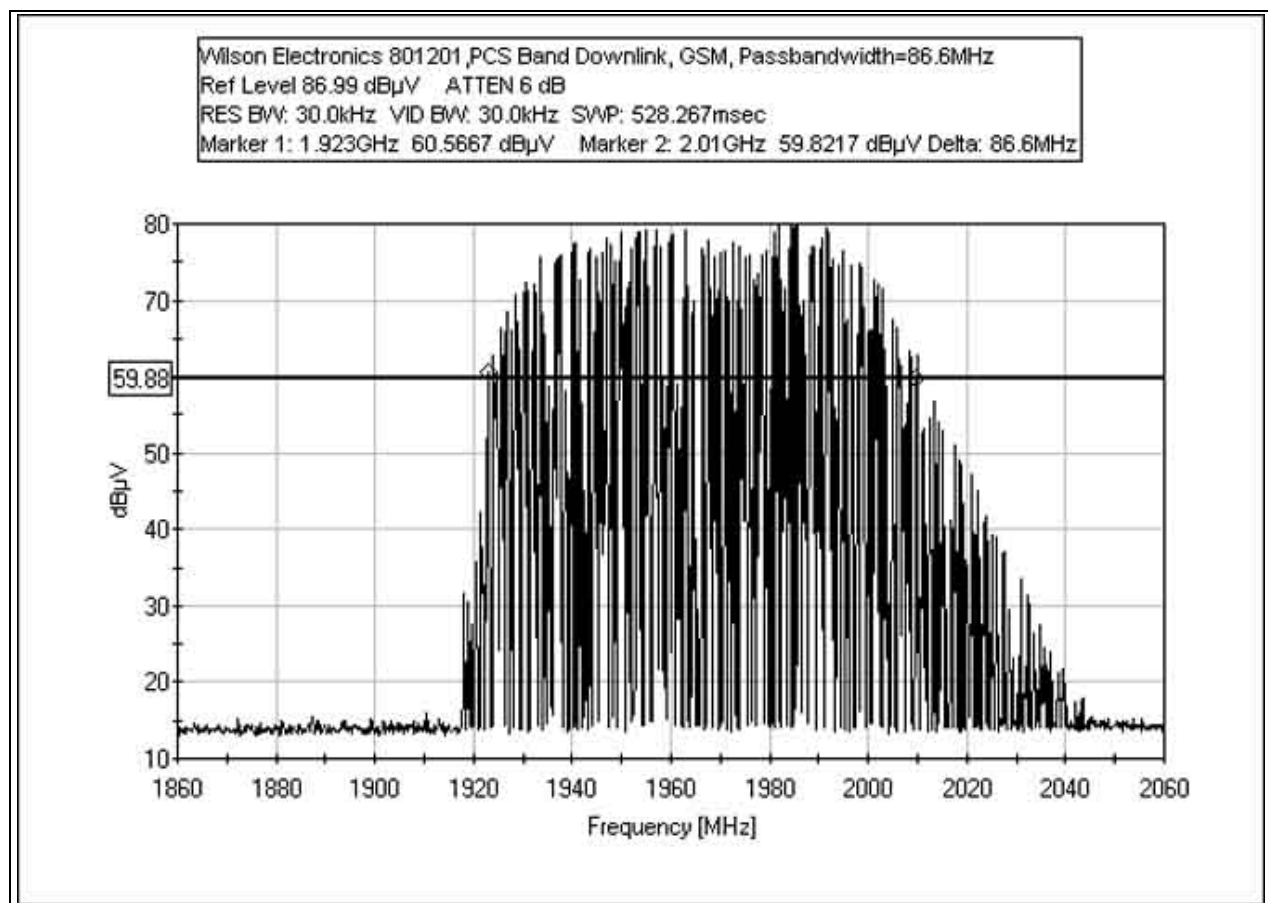
Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A SA	US44300407	01/12/2005	01/12/2007	02660
Attenuator 30dB, Bird 9949		05/09/2003	05/09/2005	P01572
25-A-MFN-30				

PHOTOGRAPH SHOWING DIRECT CONNECT TEST SETUP

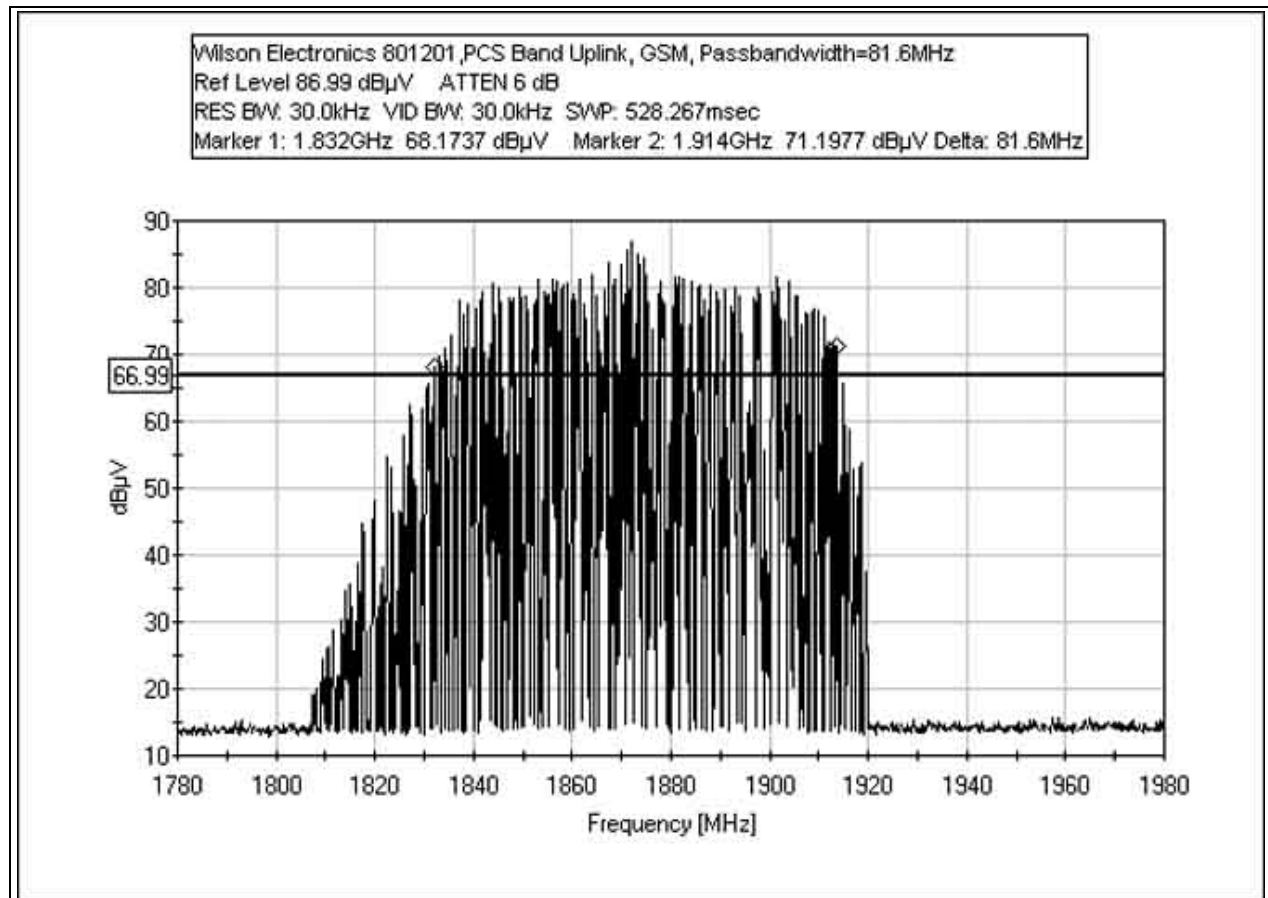


RSS-131 DOWNLINK PASSBANDWIDTH GSM

Test Conditions: EUT is a bidirectional amplifier for the 1850 to 1990MHz band. Uplink frequency range 1850 - 1910MHz. Downlink frequency range 1930 - 1990MHz. 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. Frequency Range Investigated: 30MHz to 20GHz.



RSS-131 UPLINK PASSBANDWIDTH GSM



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

