

TEST RESULT SUMMARY

FCC Part 22

FCC Part 24

MANUFACTURER	ADC Inc.
NAME OF EQUIPMENT	Digivance® Street Coverage Solution
MODEL NUMBERS	DGVC-1X1X4X1X200SYS
MANUFACTURER'S ADDRESS	P.O. Box 1101 Minneapolis, MN 55440-1101
TEST REPORT NUMBER	WC505743 Rev B
TEST DATES	14 November 2005 (ADC) 06-07 December 2005 (TÜV)

According to testing performed at TÜV America Inc, the above-mentioned unit is in compliance with the applicable electromagnetic compatibility (EMC) portions of the requirements defined in FCC Parts 22 & 24.

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

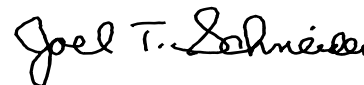
TÜV America Inc, as an independent testing laboratory, declares that the equipment tested as specified above conforms to the applicable EMC requirements of FCC Parts 22 & 24.

Date: 06 November 2006

Location: Taylors Falls MN
USA



JC Sausen & MJ Schultz
EMC Technicians



JT Schneider
Senior EMC Engineer

Not Transferable

EMC Emission - TEST REPORT

Test Report File No. : **WC505743 Rev B** Date of issue: 06 November 2006

Model Nos. : **DGVC-1X1X4X1X200SYS**

Product Name : **Digivance® Street Coverage Solution**

Product Type : **Dual band chassis
Transports RF between a remote antenna and base station**

Applicant : **ADC Inc.**

Manufacturer : **ADC Inc.**

License Holder : **ADC Inc.**

Address : **P.O. Box 1101
Minneapolis, MN 55440-1101**

Test Result : ☒ **Positive** ☐ **Negative**

Test Project Number :
Reference(s) : **WC505743 Rev B**

Total pages including Appendices **269**

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

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

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

D I R E C T O R Y

Documentation	Page(s)
Test Regulations	3
Test setup drawings and photos	10 – 17
Test Operation Mode	18
Configuration of the device under test	18
Deviations from standard	19
General Remarks	19
Summary	19
Test Results	
22.913 Effective radiated power limits	4
22.355 Frequency tolerance	5
22.917 Emission limitations for cellular	6
24.232 Power and antenna height limits	7
24.235 Frequency stability	8
24.238 Emission limitations for Broadband PCS equipment	9
Appendix A	
Test data	20 - 258
Appendix B	
Constructional data form & Block diagrams	259 - 267
Appendix C	
Measurement Protocol	268 - 269

Sign Explanations:

- ☐ - not applicable
☒ - applicable

R E V I S I O N R E C O R D

REVISION	TOTAL NUMBER OF PAGES	DATE	DESCRIPTION
	265	08 March 2006	Initial Release
A	261	18 September 2006	Revisions include: ▪ Replaced or modified the cover page and pages 1 - 4, 7, 12, 21, 22, 23, 30, 41, 54, 70, 71, 84, 93, 186 ▪ Deleted pages 34, 39, 64, 69 and corrected page numbers accordingly ▪ Exchanged pages 30 & 41
B	269	06 November 2006	Revisions include: ▪ Replace pages 24-30 and 41. ▪ Add pages after pages 40 and 53.

EMISSIONS TEST REGULATIONS :

The emissions tests were performed according to following regulations:

- | | | |
|---|---|------------------------------------|
| ☐ - EN 50081-1 / 1991 | ☐ - Group 1 | ☐ - Group 2 |
| ☐ - EN 55011 / 1991 | ☐ - Class A | ☐ - Class B |
| ☐ - EN 55013 / 1990 | ☐ - Household appliances and similar | |
| ☐ - EN 55014 / 1987 | ☐ - Portable tools | |
| | ☐ - Semiconductor devices | |
| ☐ - EN 55014 / A2:1990 | ☐ - Household appliances and similar | |
| ☐ - EN 55014 / 1993 | ☐ - Portable tools | |
| | ☐ - Semiconductor devices | |
| ☐ - EN 55015 / 1987 | ☐ - Class A | ☐ - Class B |
| ☐ - EN 55015 / A1:1990 | ☐ - Class A | ☐ - Class B |
| ☐ - EN 55015 / 1993 | | |
| ☐ - EN 55022 / 1987 | ☐ - Class A | ☐ - Class B |
| ☐ - EN 55022 / 1991 | ☐ - Class A | ☐ - Class B |
| ☐ - BS | ☐ - Class A | ☐ - Class B |
| ☐ - VCCI | ☐ - Class A | ☐ - Class B |
| ☐ - FCC Part 15 Subpart B | ☐ - Class A | ☐ - Class B |
| ☐ - FCC Part 15 Subpart C | | |
| ☒ - FCC Part 24 | | |
| ☒ - FCC Part 22 | | |
| ☐ - CISPR 11 (1990) | ☐ - Group 1 | ☐ - Group 2 |
| | ☐ - Class A | ☐ - Class B |
| ☐ - CISPR 22 (1993) | ☐ - Class A | ☐ - Class B |
| ☐ - IC RSS-Gen Issue 1 | | |
| ☐ - IC RSS-193 Issue 1 | | |

ENVIRONMENTAL CONDITIONS IN THE LAB

TUV

Temperature: 22 - 26 °C

Relative Humidity: 20 - 22 %

Atmospheric pressure: 98 - 99 kPa

ADC

Temperature: 26 °C

Relative Humidity: 22 %

Atmospheric pressure: 98.6 kPa

POWER SUPPLY UTILIZED

Power supply system : 1 phase, 60 Hz, 120 V

22.913 Effective radiated power limits

Test summary

The requirements are: ☒ - MET ☐ - NOT MET

Minimum margin of compliance is 19 dB at 891.5 MHz (TDMA, band A) and 894 MHz (CW-FM, band B)

Test location

☐ - Wild River Lab Large Test Site (Open Area Test Site)

☐ - Wild River Lab Small Test Site (Open Area Test Site)

☒ - ADC facility

Test Distance

☐ - 3 meters

☐ - 10 meters

☒ - Conducted measurement

Test equipment (ADC)

Model Number	Manufacturer	Description	ADC Serial Number	Cal Due
49-30-33	Aeroflex	Attenuator	n/a	CNR
HP8563E	HP	Spectrum Analyzer	MC27690	6-22-06
EPM-441A	HP	Power Meter	MC27670	9-28-06
E4436B	Agilent	Signal Generator	963739	10-16-06

Equipment with a Calibration Not Required (CNR) listing is verified and compensated for with NIST traceable calibrated equipment.

Test limit

500 watts or 57dBm

Test Data

See page 21

22.355 Frequency tolerance

Test summary

The requirements are: ■ - MET □ - NOT MET

The carrier frequency of each channel is maintained within the tolerances given in Table C-1 of this section.

Frequency measured over a temperature range of -30 to 50°C and an input voltage range of 102 to 138 VAC

Test location

□ - Wild River Lab Large Test Site (Open Area Test Site)

□ - Wild River Lab Small Test Site (Open Area Test Site)

■ - ADC facility

Test equipment (ADC)

Model Number	Manufacturer	Description	ADC Serial Number	Cal Due
26III	Fluke	Multimeter	MC22687	4-27-06
5347A	HP	Freq. Counter	MC27569	7-21-06
1520CT	Staco	Variable Auto Transformer	MC/44655	CNR
E4436B	Agilent	Signal Generator	963739	10-16-06

Equipment with a Calibration Not Required (CNR) listing is verified and compensated for with NIST traceable calibrated equipment.

Test limit

TABLE C-1—FREQUENCY TOLERANCE FOR TRANSMITTERS IN THE PUBLIC MOBILE SERVICES

Frequency range (MHz)	Base, fixed (ppm)	Mobile ≤3 watts (ppm)	Mobile ≤3 watts (ppm)
25 to 50	20.0	20.0	50.0
50 to 450	5.0	5.0	50.0
450 to 512	2.5	5.0	5.0
821 to 896	1.5	2.5	2.5
928 to 929	5.0	n/a	n/a
929 to 960	1.5	n/a	n/a
2110 to 2220	10.0	n/a	n/a

Test data

See pages 24 - 29

22.917 Emission limitations for cellular

Test summary

The requirements are: ■ - MET □ - NOT MET

The power of any emission outside of the authorized operating frequency ranges are attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB.

Outside the emission bandwidth of the carrier, all emissions are attenuated at least 26 dB below the transmitter power.

Test location

■ - Wild River Lab Large Test Site (Open Area Test Site)

□ - Wild River Lab Small Test Site (Open Area Test Site)

■ - ADC facility

Test equipment (ADC)

Model Number	Manufacturer	Description	ADC Serial Number	Cal Due
49-30-33	Aeroflex	Attenuator	n/a	CNR
HP8563E	HP	Spectrum Analyzer	MC27690	6-22-06
EPM-441A	HP	Power Meter	MC27670	9-28-06
26III	Fluke	Multimeter	MC22687	4-27-06
5347A	HP	Freq. Counter	MC27569	7-21-06
Thermotron	Thermotron	Temperature Chamber	MC18966	3-1-06
1520CT	Staco	Variable Auto Transformer	MC/44655	CNR
E4436B	Agilent	Signal Generator	963739	10-16-06
E4436B	Agilent	Signal Generator	MC50601	12-29-06

Equipment with a Calibration Not Required (CNR) listing is verified and compensated for with NIST traceable calibrated equipment.

Test equipment (TUV)

TUV ID	Model Number	Manufacturer	Description	Serial Number	Cal Due
3203	EM-6917B	Electro-Metrics	Biconicallog Periodic	106	01-Apr-06
2074	3115	Electro-Mechanics (EMCO)	Ridge Guide Antenna	2504	22-Nov-06
3961	ZHL-1042J	Mini-Circuits	Preamplifier	D120403-1	Code B
3958	SL18B4020	Phase One Microwave	Preamplifier 1 – 18 GHz	0002	Code B
2681	85650A	Hewlett-Packard	Quasi-Peak Adapter	2430A00562	03-Feb-06
8052	8566B	Hewlett-Packard	Spectrum Analyzer	2115A00853	24-Mar-06
8051	85662A	Hewlett-Packard	Analyzer Display	2112A02220	24-Mar-06
3236	UHAP-10dB	Schwarzbeck	Dipole Antenna 300-1000	164	N/A
3333	SME03	Rhode & Schwarz	Signal Generator	100003	25-Apr-06

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

Test limits

Out of band emissions:

Attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB or -13 dBm

Outside of the carrier emission bandwidth:

26 dB below the transmitter power

Test data

Occupied Bandwidth Modulation, pages 30 - 38

Conducted Emission Limits, pages 52 - 66

Radiated emissions, pages 124 - 136

Inter-Modulation Test, pages 137 - 177

24.232 Power and antenna height limits

Test summary

The requirements are: ☒ - MET ☐ - NOT MET

Minimum margin of compliance is 12.3 dB at 1977.5 MHz (TDMA Band EFC)

Test location

☐ - Wild River Lab Large Test Site (Open Area Test Site)

☐ - Wild River Lab Small Test Site (Open Area Test Site)

☒ - ADC facility

Test Distance

☐ - 3 meters

☐ - 10 meters

☒ - Conducted measurement

Test equipment (ADC)

Model Number	Manufacturer	Description	ADC Serial Number	Cal Due
49-30-33	Aeroflex	Attenuator	n/a	CNR
HP8563E	HP	Spectrum Analyzer	MC27690	6-22-06
EPM-441A	HP	Power Meter	MC27670	9-28-06
E4436B	Agilent	Signal Generator	963739	10-16-06

Equipment with a Calibration Not Required (CNR) listing is verified and compensated for with NIST traceable calibrated equipment.

Test limit

100 watts or 50 dBm

Test Data

See page 22 - 23

24.235 Frequency stability

Test summary

The requirements are: ■ - MET □ - NOT MET

The fundamental emission stays within the authorized frequency block

Frequency measured over a temperature range of -30 to 50°C and an input voltage range of 102 to 138 VAC

Test location

□ - Wild River Lab Large Test Site (Open Area Test Site)

□ - Wild River Lab Small Test Site (Open Area Test Site)

■ - ADC facility

Test equipment (ADC)

Model Number	Manufacturer	Description	ADC Serial Number	Cal Due
26III	Fluke	Multimeter	MC22687	4-27-06
5347A	HP	Freq. Counter	MC27569	7-21-06
1520CT	Staco	Variable Auto Transformer	MC/44655	CNR
E4436B	Agilent	Signal Generator	963739	10-16-06

Equipment with a Calibration Not Required (CNR) listing is verified and compensated for with NIST traceable calibrated equipment.

Test limit

The emission must stay within the authorized frequency block

Test data

See pages 26 - 29

24.238 Emission limitations for Broadband PCS equipment

Test summary

The requirements are: ■ - MET □ - NOT MET

Out of band emissions were less than -13dBm

Outside the emission bandwidth of the carrier, all emissions are attenuated at least 26 dB below the transmitter power

Test location

■ - Wild River Lab Large Test Site (Open Area Test Site)

□ - Wild River Lab Small Test Site (Open Area Test Site)

■ - ADC facility

Test equipment (ADC)

Model Number	Manufacturer	Description	ADC Serial Number	Cal Due
49-30-33	Aeroflex	Attenuator	n/a	CNR
HP8563E	HP	Spectrum Analyzer	MC27690	6-22-06
EPM-441A	HP	Power Meter	MC27670	9-28-06
26III	Fluke	Multimeter	MC22687	4-27-06
5347A	HP	Freq. Counter	MC27569	7-21-06
Thermotron	Thermotron	Temperature Chamber	MC18966	3-1-06
1520CT	Staco	Variable Auto Transformer	MC/44655	CNR
E4436B	Agilent	Signal Generator	963739	10-16-06
E4436B	Agilent	Signal Generator	MC50601	12-29-06

Equipment with a Calibration Not Required (CNR) listing is verified and compensated for with NIST traceable calibrated equipment.

Test equipment (TUV)

TUV ID	Model Number	Manufacturer	Description	Serial Number	Cal Due
3203	EM-6917B	Electro-Metrics	Biconicalog Periodic	106	01-Apr-06
2075	3115	Electro-Mechanics (EMCO)	Ridge Guide Ant. 1-18 GHz	9001-3275	07-Dec-06
3961	ZHL-1042J	Mini-Circuits	Preamplifier	D120403-1	Code B
3958	SL18B4020	Phase One Microwave	Preamplifier 1 – 18 GHz	0002	Code B
2681	85650A	Hewlett-Packard	Quasi-Peak Adapter	2430A00562	03-Feb-06
8052	8566B	Hewlett-Packard	Spectrum Analyzer	2115A00853	24-Mar-06
8051	85662A	Hewlett-Packard	Analyzer Display	2112A02220	24-Mar-06
3367	E4440A	Agilent	Spectrum Analyzer	MY43362222	02-Sep-06
6717	3116	Electro-Mechanics (EMCO)	Ridge Guide Ant 18-40 GHz	2005	19-Sep-06

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

Test limits

Out of band emissions:

Attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB. or -13 dBm

Outside of the carrier emission bandwidth:

26 dB below the transmitter power

Test data

Occupied bandwidth, pages 39 - 51

Conducted Emissions, pages 67 - 91

Radiated emissions, pages 92 - 123

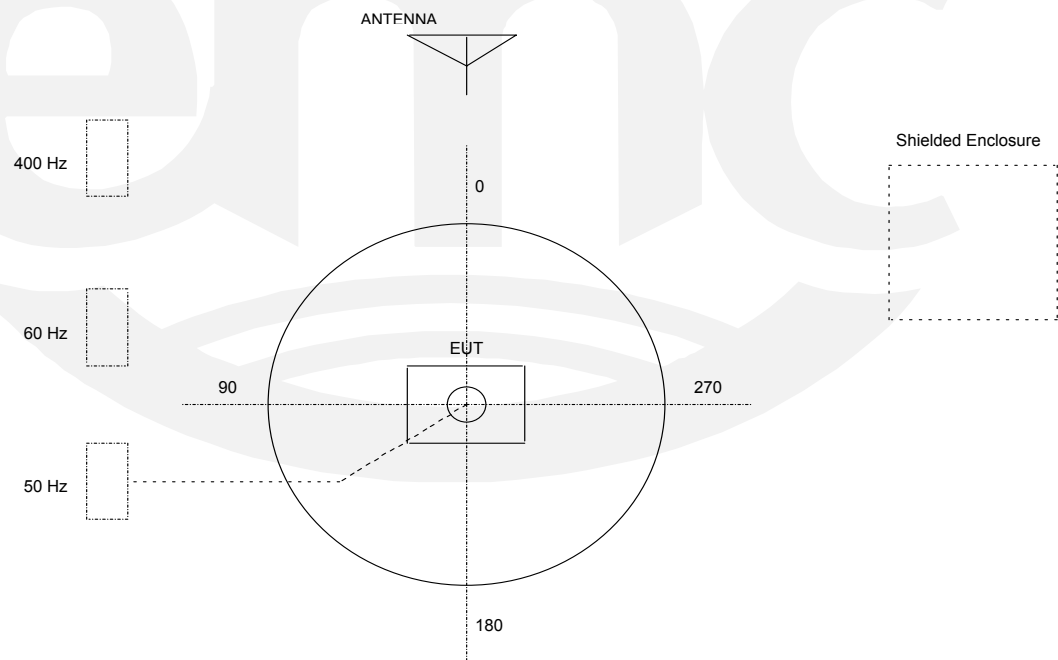
Inter-Modulation Test, pages 178 - 250

TEST SETUP FOR EMISSIONS TESTING

WILD RIVER LAB Large Test Site

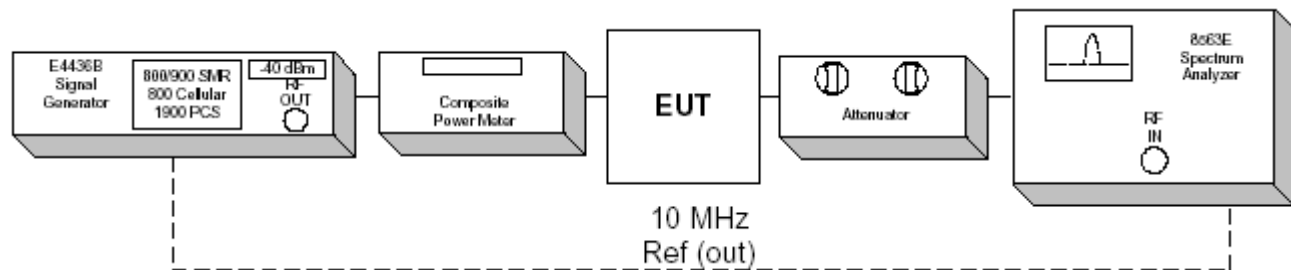
Notes:

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



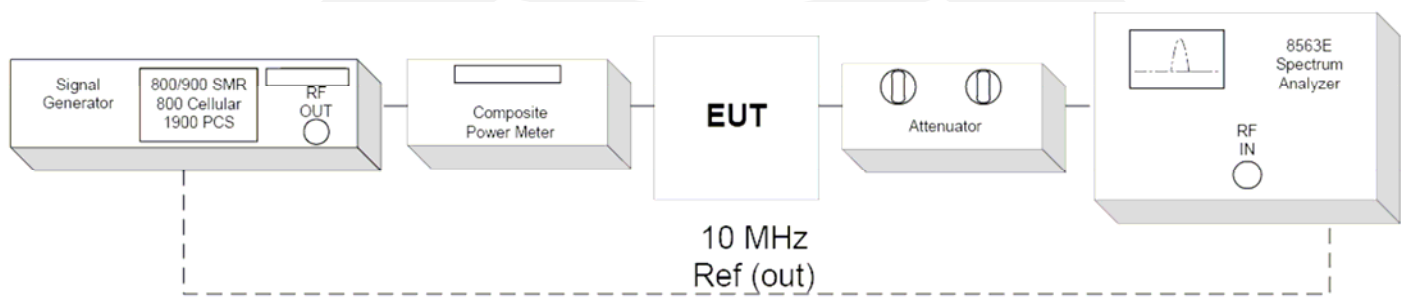
Conducted Emission Limits Test for ADC Inc. **Digivance® Street Coverage Solution** **Model Number DGVC-1X1X4X1X200SYS**

Test Set-up



Conducted Output Power Test for ADC Inc. **Digivance® Street Coverage Solution** **Model Number DGVC-1X1X4X1X200SYS**

Test Set-up

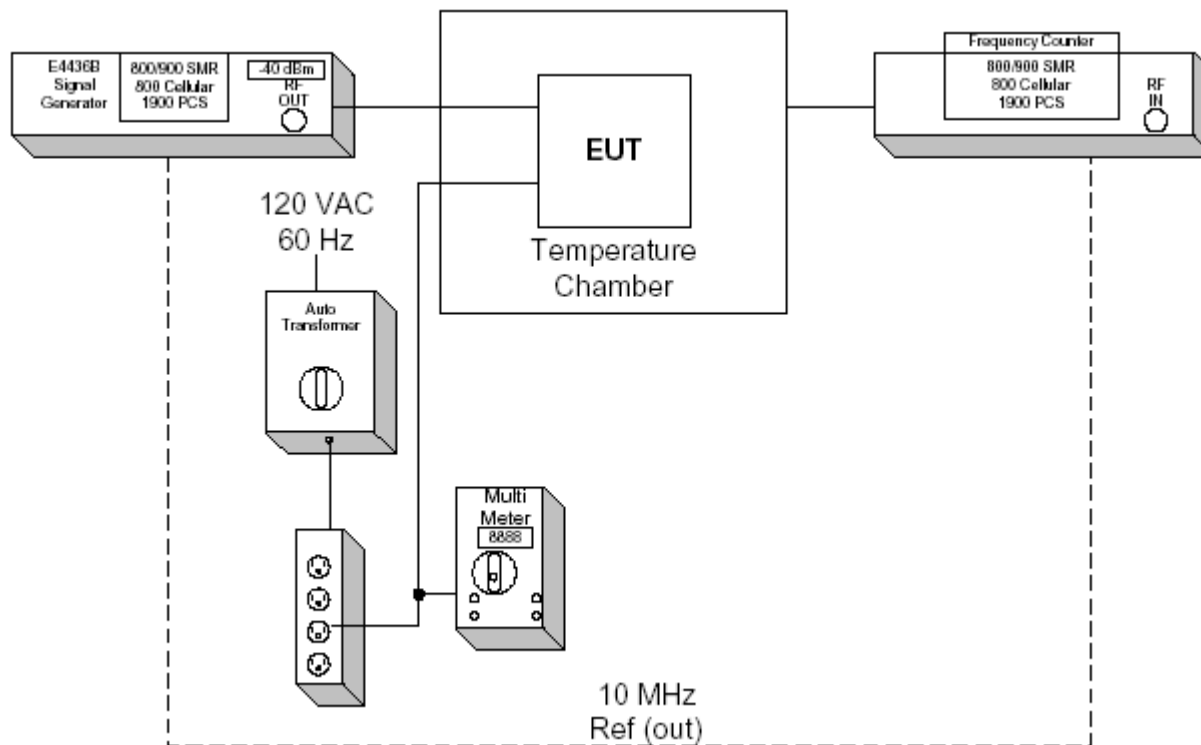


Frequency Tolerance Test for ADC Inc. Digivance® Street Coverage Solution Model Number DGVC-1X1X4X1X200SYS

EUT Host is specified for indoor use only with temperature range of 0° to +50° C, and was tested with its range.

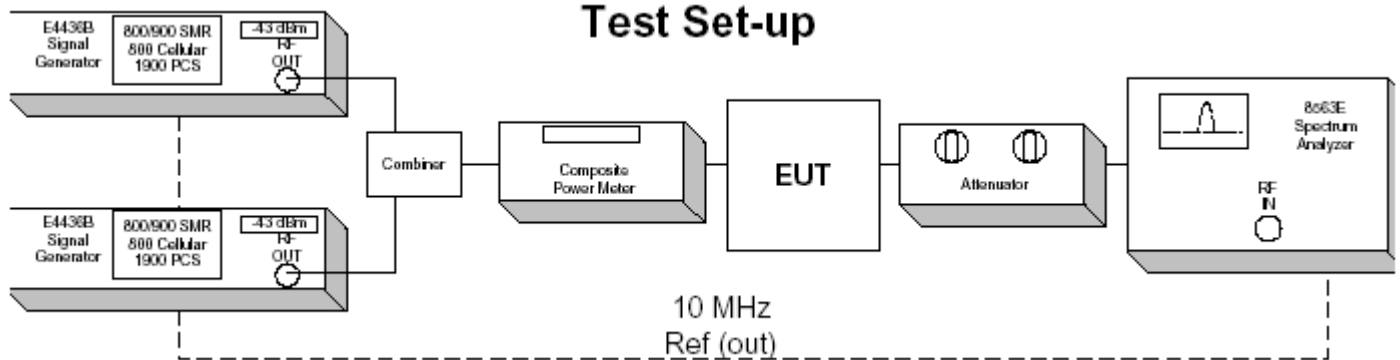
EUT Remote is specified with a temperature range of -30° to +50° C and was tested with its range.

Test Set-up

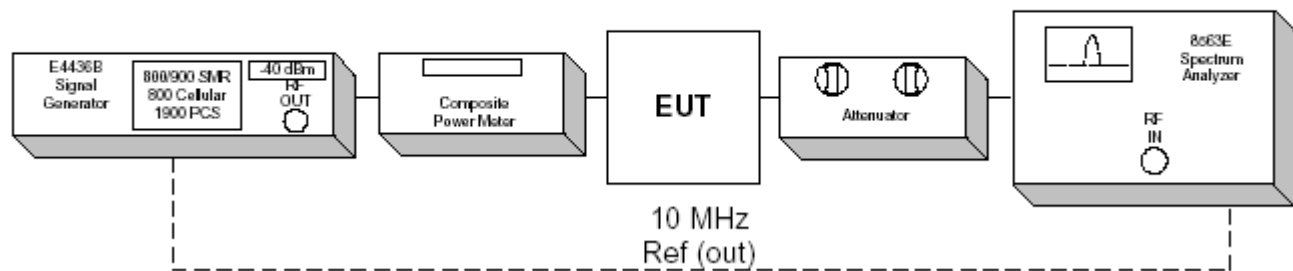


Inter-Modulation Test for ADC Inc. Digivance® Street Coverage Solution Model Number DGVC-1X1X4X1X200SYS

Test Set-up



Occupied Bandwidth Modulation Test for ADC Inc. **Digivance® Street Coverage Solution** **Model Number DGVC-1X1X4X1X200SYS**



Test setup photo, radiated emissions



Test setup photo, radiated emissions



Test Operation Mode:

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

- ☐ - Standby
- ☐ - Test program (H - Pattern)
- ☐ - Test program (color bar)
- ☐ - Test program (customer specific)
- ☐ - Practice operation
- ☒ - Max composite in and out.

Configuration of the device under test:

- ☒ - See diagrams, pages 10 – 15, photos, pages 16 – 17, EUT software, page 259
SMR 800 MHz Cellular and 1900 MHz PCS Systems

DEVIATIONS FROM STANDARD:

None.

GENERAL REMARKS:

Modifications required to pass:

- ☒ None
- ☐ As indicated on the data sheet(s)

Test Specification Deviations: Additions to or Exclusions from:

- ☒ None
- ☐ As indicated in the Test Plan

SUMMARY:

The requirements according to the technical regulations are

- ☒ - met
- ☐ - **not** met.

The device under test does

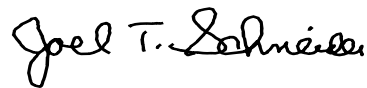
- ☒ - fulfill the general approval requirements mentioned on page 3.
- ☐ - **not** fulfill the general approval requirements mentioned on page 3.

EUT Received Date: (TÜV)	<u>06 December 2005</u>
Condition of EUT:	<u>Normal</u>
Testing Start Date: (ADC)	<u>14 November 2005</u>
Testing End Date: (TÜV)	<u>07 December 2005</u>

- TÜV AMERICA INC -



JC Sausen & MJ Schultz
EMC Technicians



JT Schneider
Senior EMC Engineer

Appendix A

Test data



Conducted Output Power Test for ADC Inc.

Digivance® Street Coverage Solution

Model Number DGVC-1X1X4X1X200SYS

*Note: The EUT is a fixed repeater and not a base station.

This measurement was made as a direct conducted emission measurement. The output from the EUT antenna connector was connected to the power meter. The carrier output, below, was conducted using a single FM, TDMA, GSM, CDMA, EVDO, and W-CDMA signal generator. The power meter level was offset to compensate for attenuators and cable loss between the EUT and the meter.

A signal was used at the low, mid and high parts of the selected band. The power meter level was offset by 33.4 dB to compensate for attenuators and cable loss between the EUT and the analyzer.

FM		5.32 Watts		GSM		5.79 Watts	
Band A		(800 MHz)		Band A		(800 MHz)	
Carrier Frequency		Carrier Output		Carrier Frequency		Carrier Output	
869.2 MHz		<u>37.33</u> dBm		869.5 MHz		<u>37.63</u> dBm	
880.0MHz		<u>37.17</u> dBm		880.0 MHz		<u>37.47</u> dBm	
891.3 MHz		<u>37.50</u> dBm		891.0 MHz		<u>37.57</u> dBm	
TDMA		6.27 Watts		CDMA		6.17 Watts	
Band A		(800 MHz)		Band A		(800 MHz)	
Carrier Frequency		Carrier Output		Carrier Frequency		Carrier Output	
869.2 MHz		<u>37.57</u> dBm		869.8 MHz		<u>37.60</u> dBm	
880.0 MHz		<u>37.30</u> dBm		880.0 MHz		<u>37.90</u> dBm	
891.3 MHz		<u>37.97</u> dBm		890.7 MHz		<u>37.47</u> dBm	
EVDO		5.84 Watts		W-CDMA		6.12 Watts	
Band A		(800 MHz)		Band A		(800 MHz)	
Carrier Frequency		Carrier Output		Carrier Frequency		Carrier Output	
869.8 MHz		<u>37.13</u> dBm		871.6 MHz		<u>37.54</u> dBm	
880.0 MHz		<u>37.27</u> dBm		880.0 MHz		<u>37.87</u> dBm	
890.7 MHz		<u>37.67</u> dBm		888.9 MHz		<u>37.27</u> dBm	

FM 6.27 Watts		GSM 5.79 Watts	
Band B	(800 MHz)	Band B	(800 MHz)
Carrier Frequency	Carrier Output	Carrier Frequency	Carrier Output
880.2 MHz	<u>37.33</u> dBm	880.5 MHz	<u>37.63</u> dBm
887.0 MHz	<u>37.47</u> dBm	887.0 MHz	<u>37.17</u> dBm
893.8 MHz	<u>37.97</u> dBm	893.5 MHz	<u>37.57</u> dBm
TDMA 6.03 Watts		CDMA 6.11 Watts	
Band B	(800 MHz)	Band B	(800 MHz)
Carrier Frequency	Carrier Output	Carrier Frequency	Carrier Output
880.2 MHz	<u>37.80</u> dBm	880.8 MHz	<u>37.53</u> dBm
887.0 MHz	<u>37.30</u> dBm	887.0 MHz	<u>36.70</u> dBm
893.8 MHz	<u>37.00</u> dBm	893.2 MHz	<u>37.86</u> dBm
EVDO 5.71 Watts		W-CDMA 6.03 Watts	
Band B	(800 MHz)	Band B	(800 MHz)
Carrier Frequency	Carrier Output	Carrier Frequency	Carrier Output
880.2 MHz	<u>37.47</u> dBm	882.6 MHz	<u>36.93</u> dBm
887.0 MHz	<u>37.17</u> dBm	887.0 MHz	<u>37.33</u> dBm
893.2 MHz	<u>37.57</u> dBm	891.4 MHz	<u>37.80</u> dBm

Conducted Output Power Test for ADC Inc.

Digivance® Street Coverage Solution

Model Number DGVC-1X1X4X1X200SYS

*Note: The EUT is a fixed repeater and not a base station.

This measurement was made as a direct conducted emission measurement. The output from the EUT antenna connector was connected to the power meter. The carrier output, below, was conducted using a single TDMA, GSM, CDMA, EVDO, and W-CDMA signal generator. The power meter level was offset to compensate for attenuators and cable loss between the EUT and the meter.

A signal was used at the low, mid and high parts of the selected band. The power meter level was offset by 33.4 dB to compensate for attenuators and cable loss between the EUT and the power meter.

TDMA		GSM	
5.85 Watts		5.58 Watts	
Band AD	(1900 MHz)	Band AD	(1900 MHz)
Carrier Frequency	Carrier Output	Carrier Frequency	Carrier Output
1930.2 MHz	<u>37.00</u> dBm	1930.5 MHz	<u>37.13</u> dBm
1940.0 MHz	<u>37.50</u> dBm	1940.0 MHz	<u>37.30</u> dBm
1949.8 MHz	<u>36.50</u> dBm	1949.5 MHz	<u>36.63</u> dBm
Band DBE	(1900 MHz)	Band DBE	(1900 MHz)
Carrier Frequency	Carrier Output	Carrier Frequency	Carrier Output
1945.2 MHz	<u>37.17</u> dBm	1945.5 MHz	<u>37.47</u> dBm
1957.5 MHz	<u>37.33</u> dBm	1957.5 MHz	<u>37.13</u> dBm
1969.8 MHz	<u>36.67</u> dBm	1969.5 MHz	<u>37.13</u> dBm
Band BEF	(1900 MHz)	Band BEF	(1900 MHz)
Carrier Frequency	Carrier Output	Carrier Frequency	Carrier Output
1950.2 MHz	<u>36.17</u> dBm	1950.5 MHz	<u>36.47</u> dBm
1962.5 MHz	<u>37.17</u> dBm	1962.5 MHz	<u>37.13</u> dBm
1974.8 MHz	<u>36.50</u> dBm	1974.5 MHz	<u>36.63</u> dBm
Band EFC	(1900 MHz)	Band EFC	(1900 MHz)
Carrier Frequency	Carrier Output	Carrier Frequency	Carrier Output
1965.2 MHz	<u>35.83</u> dBm	1965.5 MHz	<u>36.47</u> dBm
1977.5 MHz	<u>37.67</u> dBm	1977.5 MHz	<u>37.13</u> dBm
1989.8 MHz	<u>35.67</u> dBm	1989.5 MHz	<u>36.63</u> dBm

CDMA		EVDO	
5.83 Watts		5.70 Watts	
Band AD	(1900 MHz)	Band AD	(1900 MHz)
Carrier Frequency	Carrier Output	Carrier Frequency	Carrier Output
1930.8 MHz	<u>37.23</u> dBm	1930.8 MHz	<u>37.56</u> dBm
1940.0 MHz	<u>36.80</u> dBm	1940.0 MHz	<u>36.93</u> dBm
1949.2 MHz	<u>36.73</u> dBm	1949.2 MHz	<u>37.27</u> dBm
Band DBE	(1900 MHz)	Band DBE	(1900 MHz)
Carrier Frequency	Carrier Output	Carrier Frequency	Carrier Output
1945.8 MHz	<u>37.40</u> dBm	1945.8 MHz	<u>36.87</u> dBm
1957.5 MHz	<u>36.56</u> dBm	1957.5 MHz	<u>37.13</u> dBm
1969.2 MHz	<u>36.90</u> dBm	1969.2 MHz	<u>35.87</u> dBm
Band BEF	(1900 MHz)	Band BEF	(1900 MHz)
Carrier Frequency	Carrier Output	Carrier Frequency	Carrier Output
1950.8 MHz	<u>37.40</u> dBm	1950.8 MHz	<u>36.50</u> dBm
1962.5 MHz	<u>37.66</u> dBm	1962.5 MHz	<u>37.23</u> dBm
1974.2 MHz	<u>37.06</u> dBm	1974.2 MHz	<u>37.10</u> dBm
Band EFC	(1900 MHz)	Band EFC	(1900 MHz)
Carrier Frequency	Carrier Output	Carrier Frequency	Carrier Output
1965.8 MHz	<u>36.06</u> dBm	1965.8 MHz	<u>37.50</u> dBm
1977.5 MHz	<u>37.66</u> dBm	1977.5 MHz	<u>37.54</u> dBm
1989.2 MHz	<u>36.90</u> dBm	1989.2 MHz	<u>37.27</u> dBm
W-CDMA		5.70 Watts	
Band AD	(1900 MHz)	Band DBE	(1900 MHz)
Carrier Frequency	Carrier Output	Carrier Frequency	Carrier Output
1932.6 MHz	<u>37.13</u> dBm	1947.6 MHz	<u>37.27</u> dBm
1940.0 MHz	<u>37.56</u> dBm	1957.5 MHz	<u>37.03</u> dBm
1947.4 MHz	<u>37.17</u> dBm	1967.4 MHz	<u>36.93</u> dBm
Band DBE	(1900 MHz)	Band EFC	(1900 MHz)
Carrier Frequency	Carrier Output	Carrier Frequency	Carrier Output
1952.6 MHz	<u>37.40</u> dBm	1967.6 MHz	<u>37.17</u> dBm
1962.5 MHz	<u>36.87</u> dBm	1977.5 MHz	<u>36.87</u> dBm
1972.4 MHz	<u>37.23</u> dBm	1987.4 MHz	<u>36.54</u> dBm

**Frequency Tolerance Test for ADC Inc.
Digivance® Street Coverage Solution
Model Number DGVC-1X1X4X1X200SYS**

EUT Cellular (800 MHz – A Band)

HOST	REMOTE			
Input Voltage	Input Voltage	Carrier Frequency	Measured Frequency	Meets Requirements?
24 VDC	102 VAC	869.200 MHz	869.200 MHz	Yes
36 VDC	120 VAC	869.200 MHz	869.200 MHz	Yes
48 VDC	138 VAC	869.200 MHz	869.200 MHz	Yes
24 VDC	102 VAC	880.000 MHz	880.000 MHz	Yes
36 VDC	120 VAC	880.000 MHz	880.000 MHz	Yes
48 VDC	138 VAC	880.000 MHz	880.000 MHz	Yes
24 VDC	102 VAC	891.300 MHz	891.300 MHz	Yes
36 VDC	120 VAC	891.300 MHz	891.300 MHz	Yes
48 VDC	138 VAC	891.300 MHz	891.300 MHz	Yes
Temperature		Carrier Frequency	Measured Frequency	Meets Requirements?
-30 Deg. C		869.200 MHz	869.200 MHz	Yes
-20 Deg. C		869.200 MHz	869.200 MHz	Yes
-10 Deg. C		869.200 MHz	869.200 MHz	Yes
0 Deg. C		869.200 MHz	869.200 MHz	Yes
10 Deg. C		869.200 MHz	869.200 MHz	Yes
20 Deg. C		869.200 MHz	869.200 MHz	Yes
30 Deg. C		869.200 MHz	869.200 MHz	Yes
40 Deg. C		869.200 MHz	869.200 MHz	Yes
50 Deg. C		869.200 MHz	869.200 MHz	Yes
-30 Deg. C		880.000 MHz	880.000 MHz	Yes
-20 Deg. C		880.000 MHz	880.000 MHz	Yes
-10 Deg. C		880.000 MHz	880.000 MHz	Yes
0 Deg. C		880.000 MHz	880.000 MHz	Yes
10 Deg. C		880.000 MHz	880.000 MHz	Yes
20 Deg. C		880.000 MHz	880.000 MHz	Yes
30 Deg. C		880.000 MHz	880.000 MHz	Yes
40 Deg. C		880.000 MHz	880.000 MHz	Yes
50 Deg. C		880.000 MHz	880.000 MHz	Yes
-30 Deg. C		891.300 MHz	891.300 MHz	Yes
-20 Deg. C		891.300 MHz	891.300 MHz	Yes
-10 Deg. C		891.300 MHz	891.300 MHz	Yes
0 Deg. C		891.300 MHz	891.300 MHz	Yes
10 Deg. C		891.300 MHz	891.300 MHz	Yes
20 Deg. C		891.300 MHz	891.300 MHz	Yes
30 Deg. C		891.300 MHz	891.300 MHz	Yes
40 Deg. C		891.300 MHz	891.300 MHz	Yes
50 Deg. C		891.300 MHz	891.300 MHz	Yes

**Frequency Tolerance Test for ADC Inc.
Digivance® Street Coverage Solution
Model Number DGVC-1X1X4X1X200SYS**

EUT Cellular (800 MHz – B Band)

HOST	REMOTE			
Input Voltage	Input Voltage	Carrier Frequency	Measured Frequency	Meets Requirements?
24 VDC	102 VAC	880.200 MHz	880.200 MHz	Yes
36 VDC	120 VAC	880.200 MHz	880.200 MHz	Yes
48 VDC	138 VAC	880.200 MHz	880.200 MHz	Yes
24 VDC	102 VAC	887.000 MHz	887.000 MHz	Yes
36 VDC	120 VAC	887.000 MHz	887.000 MHz	Yes
48 VDC	138 VAC	887.000 MHz	887.000 MHz	Yes
24 VDC	102 VAC	893.800 MHz	893.800 MHz	Yes
36 VDC	120 VAC	893.800 MHz	893.800 MHz	Yes
48 VDC	138 VAC	893.800 MHz	893.800 MHz	Yes
Temperature		Carrier Frequency	Measured Frequency	Meets Requirements?
-30 Deg. C		880.200 MHz	880.200 MHz	Yes
-20 Deg. C		880.200 MHz	880.200 MHz	Yes
-10 Deg. C		880.200 MHz	880.200 MHz	Yes
0 Deg. C		880.200 MHz	880.200 MHz	Yes
10 Deg. C		880.200 MHz	880.200 MHz	Yes
20 Deg. C		880.200 MHz	880.200 MHz	Yes
30 Deg. C		880.200 MHz	880.200 MHz	Yes
40 Deg. C		880.200 MHz	880.200 MHz	Yes
50 Deg. C		880.200 MHz	880.200 MHz	Yes
-30 Deg. C		887.000 MHz	887.000 MHz	Yes
-20 Deg. C		887.000 MHz	887.000 MHz	Yes
-10 Deg. C		887.000 MHz	887.000 MHz	Yes
0 Deg. C		887.000 MHz	887.000 MHz	Yes
10 Deg. C		887.000 MHz	887.000 MHz	Yes
20 Deg. C		887.000 MHz	887.000 MHz	Yes
30 Deg. C		887.000 MHz	887.000 MHz	Yes
40 Deg. C		887.000 MHz	887.000 MHz	Yes
50 Deg. C		887.000 MHz	887.000 MHz	Yes
-30 Deg. C		893.800 MHz	893.800 MHz	Yes
-20 Deg. C		893.800 MHz	893.800 MHz	Yes
-10 Deg. C		893.800 MHz	893.800 MHz	Yes
0 Deg. C		893.800 MHz	893.800 MHz	Yes
10 Deg. C		893.800 MHz	893.800 MHz	Yes
20 Deg. C		893.800 MHz	893.800 MHz	Yes
30 Deg. C		893.800 MHz	893.800 MHz	Yes
40 Deg. C		893.800 MHz	893.800 MHz	Yes
50 Deg. C		893.800 MHz	893.800 MHz	Yes

**Frequency Tolerance Test for ADC Inc.
Digivance® Street Coverage Solution
Model Number DGVC-1X1X4X1X200SYS**

EUT PCS (1900 MHz - AD)

HOST	REMOTE			
Input Voltage	Input Voltage	Carrier Frequency	Measured Frequency	Meets Requirements?
24 VDC	102 VAC	1930.200 MHz	1930.200 MHz	Yes
36 VDC	120 VAC	1930.200 MHz	1930.200 MHz	Yes
48 VDC	138 VAC	1930.200 MHz	1930.200 MHz	Yes
24 VDC	102 VAC	1940.000 MHz	1940.000 MHz	Yes
36 VDC	120 VAC	1940.000 MHz	1940.000 MHz	Yes
48 VDC	138 VAC	1940.000 MHz	1940.000 MHz	Yes
24 VDC	102 VAC	1949.800 MHz	1949.800 MHz	Yes
36 VDC	120 VAC	1949.800 MHz	1949.800 MHz	Yes
48 VDC	138 VAC	1949.800 MHz	1949.800 MHz	Yes
Temperature		Carrier Frequency	Measured Frequency	Meets Requirements?
-30 Deg. C		1930.200 MHz	1930.200 MHz	Yes
-20 Deg. C		1930.200 MHz	1930.200 MHz	Yes
-10 Deg. C		1930.200 MHz	1930.200 MHz	Yes
0 Deg. C		1930.200 MHz	1930.200 MHz	Yes
10 Deg. C		1930.200 MHz	1930.200 MHz	Yes
20 Deg. C		1930.200 MHz	1930.200 MHz	Yes
30 Deg. C		1930.200 MHz	1930.200 MHz	Yes
40 Deg. C		1930.200 MHz	1930.200 MHz	Yes
50 Deg. C		1930.200 MHz	1930.200 MHz	Yes
-30 Deg. C		1940.000 MHz	1940.000 MHz	Yes
-20 Deg. C		1940.000 MHz	1940.000 MHz	Yes
-10 Deg. C		1940.000 MHz	1940.000 MHz	Yes
0 Deg. C		1940.000 MHz	1940.000 MHz	Yes
10 Deg. C		1940.000 MHz	1940.000 MHz	Yes
20 Deg. C		1940.000 MHz	1940.000 MHz	Yes
30 Deg. C		1940.000 MHz	1940.000 MHz	Yes
40 Deg. C		1940.000 MHz	1940.000 MHz	Yes
50 Deg. C		1940.000 MHz	1940.000 MHz	Yes
-30 Deg. C		1949.800 MHz	1949.800 MHz	Yes
-20 Deg. C		1949.800 MHz	1949.800 MHz	Yes
-10 Deg. C		1949.800 MHz	1949.800 MHz	Yes
0 Deg. C		1949.800 MHz	1949.800 MHz	Yes
10 Deg. C		1949.800 MHz	1949.800 MHz	Yes
20 Deg. C		1949.800 MHz	1949.800 MHz	Yes
30 Deg. C		1949.800 MHz	1949.800 MHz	Yes
40 Deg. C		1949.800 MHz	1949.800 MHz	Yes
50 Deg. C		1949.800 MHz	1949.800 MHz	Yes

**Frequency Tolerance Test for ADC Inc.
Digivance® Street Coverage Solution
Model Number DGVC-1X1X4X1X200SYS**

EUT PCS (1900 MHz - DBE)

HOST	REMOTE			
Input Voltage	Input Voltage	Carrier Frequency	Measured Frequency	Meets Requirements?
24 VDC	102 VAC	1945.200 MHz	1945.200 MHz	Yes
36 VDC	120 VAC	1945.200 MHz	1945.200 MHz	Yes
48 VDC	138 VAC	1945.200 MHz	1945.200 MHz	Yes
24 VDC	102 VAC	1957.500 MHz	1957.500 MHz	Yes
36 VDC	120 VAC	1957.500 MHz	1957.500 MHz	Yes
48 VDC	138 VAC	1957.500 MHz	1957.500 MHz	Yes
24 VDC	102 VAC	1969.800 MHz	1969.800 MHz	Yes
36 VDC	120 VAC	1969.800 MHz	1969.800 MHz	Yes
48 VDC	138 VAC	1969.800 MHz	1969.800 MHz	Yes
Temperature		Carrier Frequency	Measured Frequency	Meets Requirements?
-30 Deg. C		1945.200 MHz	1945.200 MHz	Yes
-20 Deg. C		1945.200 MHz	1945.200 MHz	Yes
-10 Deg. C		1945.200 MHz	1945.200 MHz	Yes
0 Deg. C		1945.200 MHz	1945.200 MHz	Yes
10 Deg. C		1945.200 MHz	1945.200 MHz	Yes
20 Deg. C		1945.200 MHz	1945.200 MHz	Yes
30 Deg. C		1945.200 MHz	1945.200 MHz	Yes
40 Deg. C		1945.200 MHz	1945.200 MHz	Yes
50 Deg. C		1945.200 MHz	1945.200 MHz	Yes
-30 Deg. C		1957.500 MHz	1957.500 MHz	Yes
-20 Deg. C		1957.500 MHz	1957.500 MHz	Yes
-10 Deg. C		1957.500 MHz	1957.500 MHz	Yes
0 Deg. C		1957.500 MHz	1957.500 MHz	Yes
10 Deg. C		1957.500 MHz	1957.500 MHz	Yes
20 Deg. C		1957.500 MHz	1957.500 MHz	Yes
30 Deg. C		1957.500 MHz	1957.500 MHz	Yes
40 Deg. C		1957.500 MHz	1957.500 MHz	Yes
50 Deg. C		1957.500 MHz	1957.500 MHz	Yes
-30 Deg. C		1969.800 MHz	1969.800 MHz	Yes
-20 Deg. C		1969.800 MHz	1969.800 MHz	Yes
-10 Deg. C		1969.800 MHz	1969.800 MHz	Yes
0 Deg. C		1969.800 MHz	1969.800 MHz	Yes
10 Deg. C		1969.800 MHz	1969.800 MHz	Yes
20 Deg. C		1969.800 MHz	1969.800 MHz	Yes
30 Deg. C		1969.800 MHz	1969.800 MHz	Yes
40 Deg. C		1969.800 MHz	1969.800 MHz	Yes
50 Deg. C		1969.800 MHz	1969.800 MHz	Yes

**Frequency Tolerance Test for ADC Inc.
Digivance® Street Coverage Solution
Model Number DGVC-1X1X4X1X200SYS**

EUT PCS (1900 MHz - BEF)

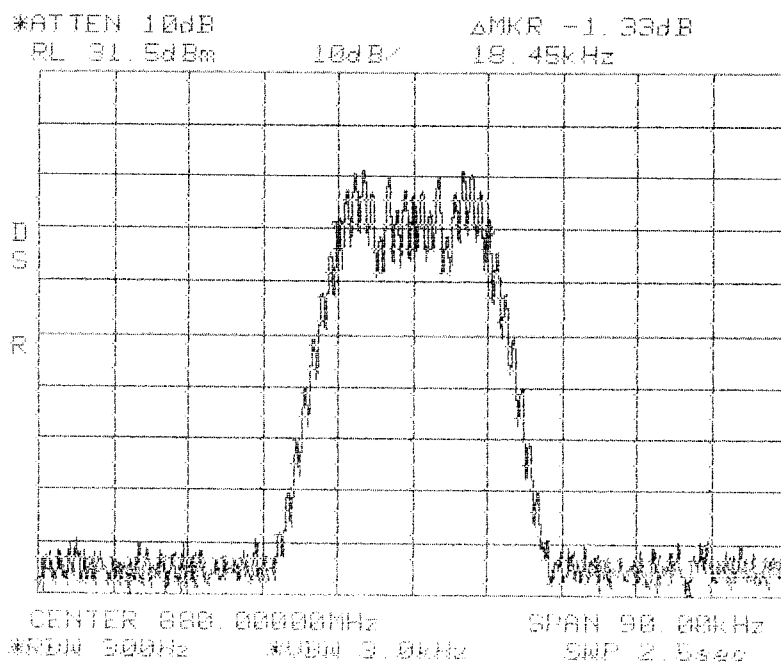
HOST	REMOTE			
Input Voltage	Input Voltage	Carrier Frequency	Measured Frequency	Meets Requirements?
24 VDC	102 VAC	1950.200 MHz	1950.200 MHz	Yes
36 VDC	120 VAC	1950.200 MHz	1950.200 MHz	Yes
48 VDC	138 VAC	1950.200 MHz	1950.200 MHz	Yes
24 VDC	102 VAC	1962.500 MHz	1962.500 MHz	Yes
36 VDC	120 VAC	1962.500 MHz	1962.500 MHz	Yes
48 VDC	138 VAC	1962.500 MHz	1962.500 MHz	Yes
24 VDC	102 VAC	1974.800 MHz	1974.800 MHz	Yes
36 VDC	120 VAC	1974.800 MHz	1974.800 MHz	Yes
48 VDC	138 VAC	1974.800 MHz	1974.800 MHz	Yes
Temperature		Carrier Frequency	Measured Frequency	Meets Requirements?
-30 Deg. C		1950.200 MHz	1950.200 MHz	Yes
-20 Deg. C		1950.200 MHz	1950.200 MHz	Yes
-10 Deg. C		1950.200 MHz	1950.200 MHz	Yes
0 Deg. C		1950.200 MHz	1950.200 MHz	Yes
10 Deg. C		1950.200 MHz	1950.200 MHz	Yes
20 Deg. C		1950.200 MHz	1950.200 MHz	Yes
30 Deg. C		1950.200 MHz	1950.200 MHz	Yes
40 Deg. C		1950.200 MHz	1950.200 MHz	Yes
50 Deg. C		1950.200 MHz	1950.200 MHz	Yes
-30 Deg. C		1962.500 MHz	1962.500 MHz	Yes
-20 Deg. C		1962.500 MHz	1962.500 MHz	Yes
-10 Deg. C		1962.500 MHz	1962.500 MHz	Yes
0 Deg. C		1962.500 MHz	1962.500 MHz	Yes
10 Deg. C		1962.500 MHz	1962.500 MHz	Yes
20 Deg. C		1962.500 MHz	1962.500 MHz	Yes
30 Deg. C		1962.500 MHz	1962.500 MHz	Yes
40 Deg. C		1962.500 MHz	1962.500 MHz	Yes
50 Deg. C		1962.500 MHz	1962.500 MHz	Yes
-30 Deg. C		1974.800 MHz	1974.800 MHz	Yes
-20 Deg. C		1974.800 MHz	1974.800 MHz	Yes
-10 Deg. C		1974.800 MHz	1974.800 MHz	Yes
0 Deg. C		1974.800 MHz	1974.800 MHz	Yes
10 Deg. C		1974.800 MHz	1974.800 MHz	Yes
20 Deg. C		1974.800 MHz	1974.800 MHz	Yes
30 Deg. C		1974.800 MHz	1974.800 MHz	Yes
40 Deg. C		1974.800 MHz	1974.800 MHz	Yes
50 Deg. C		1974.800 MHz	1974.800 MHz	Yes

**Frequency Tolerance Test for ADC Inc.
Digivance® Street Coverage Solution
Model Number DGVC-1X1X4X1X200SYS**

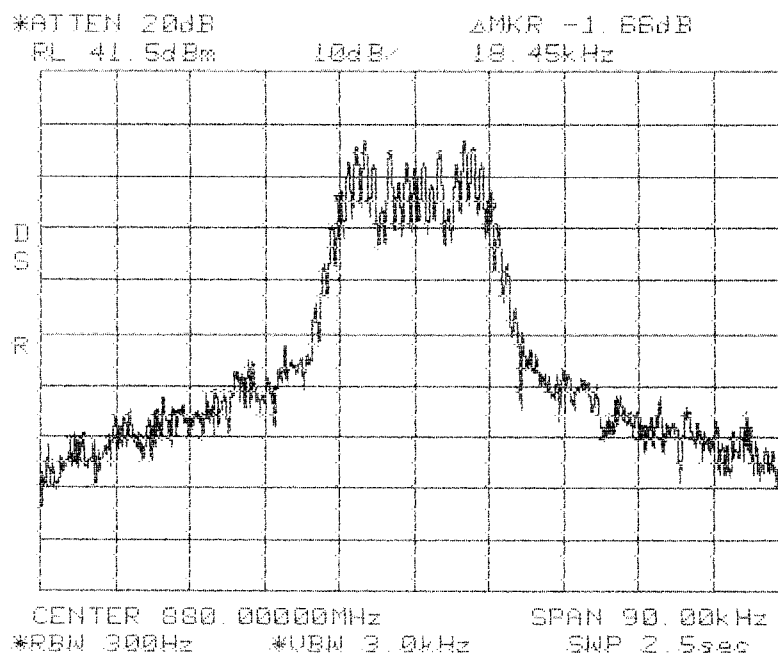
EUT PCS (1900 MHz - EFC)

HOST	REMOTE			
Input Voltage	Input Voltage	Carrier Frequency	Measured Frequency	Meets Requirements?
24 VDC	102 VAC	1965.200 MHz	1965.200 MHz	Yes
36 VDC	120 VAC	1965.200 MHz	1965.200 MHz	Yes
48 VDC	138 VAC	1965.200 MHz	1965.200 MHz	Yes
24 VDC	102 VAC	1977.500 MHz	1977.500 MHz	Yes
36 VDC	120 VAC	1977.500 MHz	1977.500 MHz	Yes
48 VDC	138 VAC	1977.500 MHz	1977.500 MHz	Yes
24 VDC	102 VAC	1989.800 MHz	1989.800 MHz	Yes
36 VDC	120 VAC	1989.800 MHz	1989.800 MHz	Yes
48 VDC	138 VAC	1989.800 MHz	1989.800 MHz	Yes
Temperature		Carrier Frequency	Measured Frequency	Meets Requirements?
-30 Deg. C		1965.200 MHz	1965.200 MHz	Yes
-20 Deg. C		1965.200 MHz	1965.200 MHz	Yes
-10 Deg. C		1965.200 MHz	1965.200 MHz	Yes
0 Deg. C		1965.200 MHz	1965.200 MHz	Yes
10 Deg. C		1965.200 MHz	1965.200 MHz	Yes
20 Deg. C		1965.200 MHz	1965.200 MHz	Yes
30 Deg. C		1965.200 MHz	1965.200 MHz	Yes
40 Deg. C		1965.200 MHz	1965.200 MHz	Yes
50 Deg. C		1965.200 MHz	1965.200 MHz	Yes
-30 Deg. C		1977.500 MHz	1977.500 MHz	Yes
-20 Deg. C		1977.500 MHz	1977.500 MHz	Yes
-10 Deg. C		1977.500 MHz	1977.500 MHz	Yes
0 Deg. C		1977.500 MHz	1977.500 MHz	Yes
10 Deg. C		1977.500 MHz	1977.500 MHz	Yes
20 Deg. C		1977.500 MHz	1977.500 MHz	Yes
30 Deg. C		1977.500 MHz	1977.500 MHz	Yes
40 Deg. C		1977.500 MHz	1977.500 MHz	Yes
50 Deg. C		1977.500 MHz	1977.500 MHz	Yes
-30 Deg. C		1989.800 MHz	1989.800 MHz	Yes
-20 Deg. C		1989.800 MHz	1989.800 MHz	Yes
-10 Deg. C		1989.800 MHz	1989.800 MHz	Yes
0 Deg. C		1989.800 MHz	1989.800 MHz	Yes
10 Deg. C		1989.800 MHz	1989.800 MHz	Yes
20 Deg. C		1989.800 MHz	1989.800 MHz	Yes
30 Deg. C		1989.800 MHz	1989.800 MHz	Yes
40 Deg. C		1989.800 MHz	1989.800 MHz	Yes
50 Deg. C		1989.800 MHz	1989.800 MHz	Yes

Center: 880.0 MHz
Span: 90 KHz
RBW/VBW: 300 Hz / 3 kHz



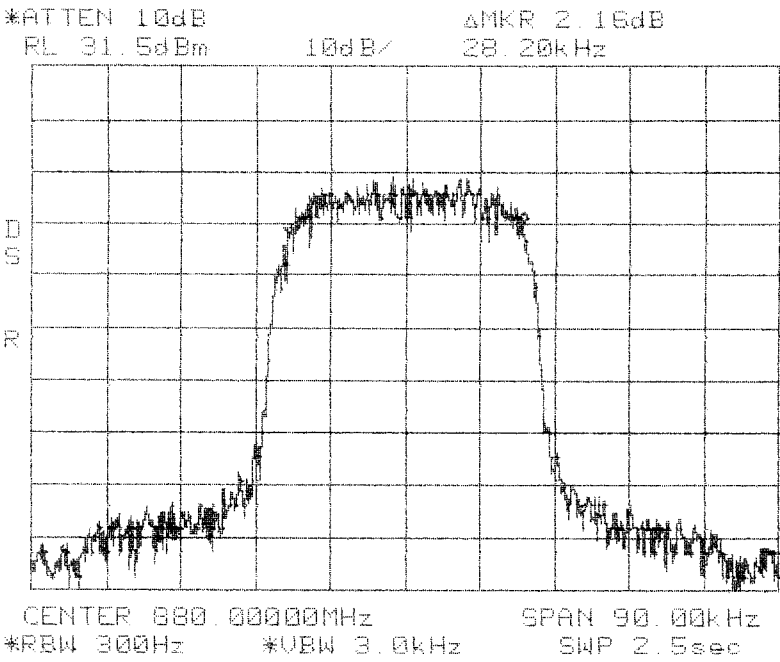
**Occupied Bandwidth
FM In
Cellular 800 MHz
A Band**



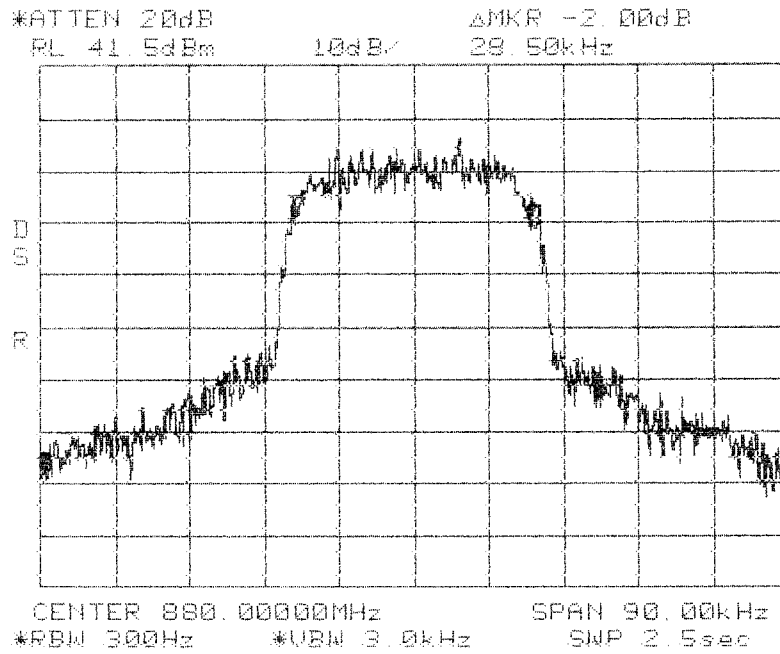
**Occupied Bandwidth
FM Out
Cellular 800 MHz
A Band**

Center: 880.0 MHz
Span: 90 KHz
RBW/VBW: 300 Hz / 3 kHz

Center: 880.0 MHz
Span: 90 kHz
RBW/VBW: 300 Hz / 3 kHz



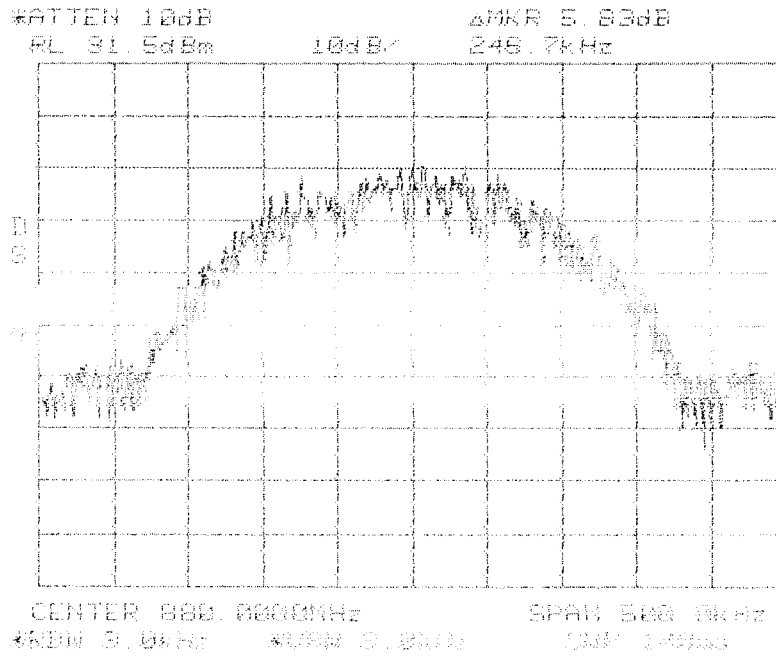
**Occupied Bandwidth
TDMA In
Cellular 800 MHz
A Band**



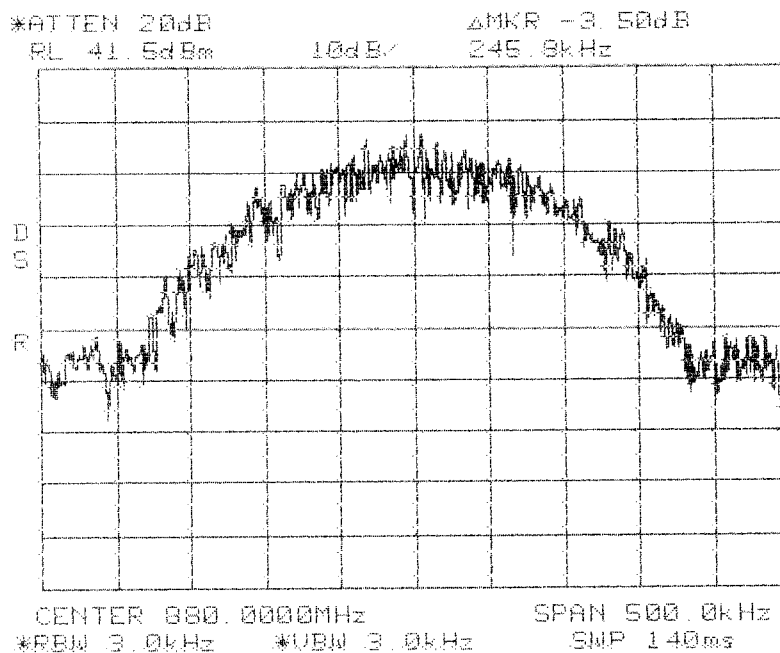
**Occupied Bandwidth
TDMA Out
Cellular 800 MHz
A Band**

Center: 880.0 MHz
Span: 90 kHz
RBW/VBW: 300 Hz / 3 kHz

Center: 880.0 MHz
Span: 500 KHz
RBW/VBW: 3 kHz / 3 kHz



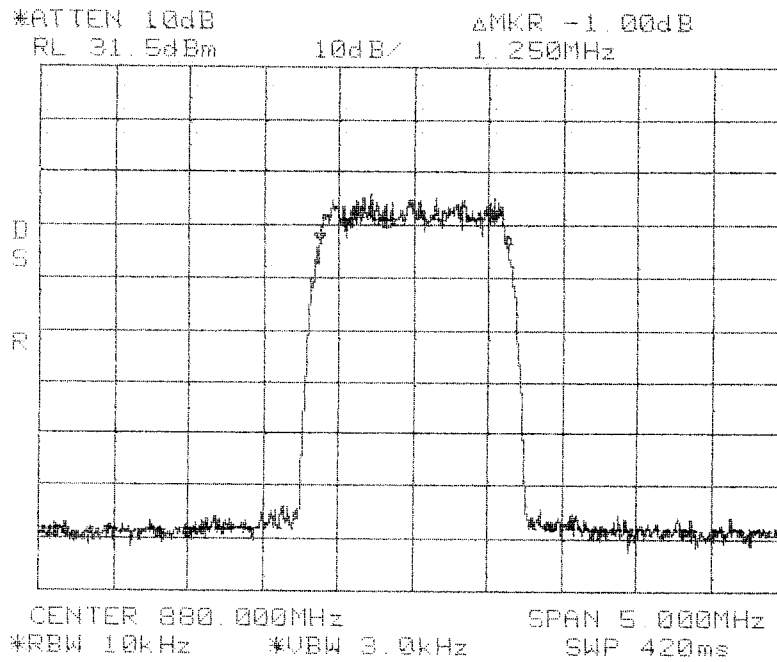
**Occupied Bandwidth
GSM In
Cellular 800 MHz
A Band**



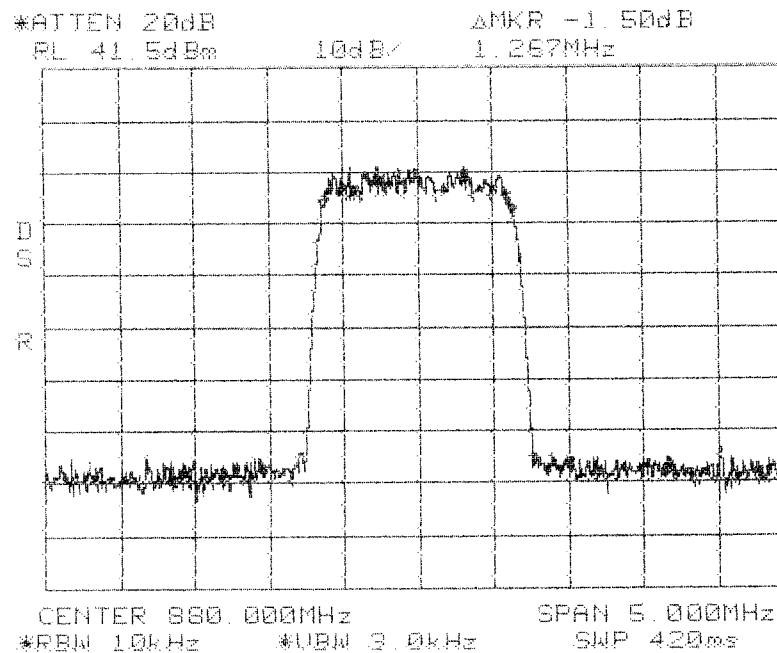
**Occupied Bandwidth
GSM Out
Cellular 800 MHz
A Band**

Center: 880.0 MHz
Span: 500 KHz
RBW/VBW: 3 kHz / 3 kHz

Center: 880.0 MHz
Span: 5 MHz
RBW/VBW: 10 kHz / 3 kHz



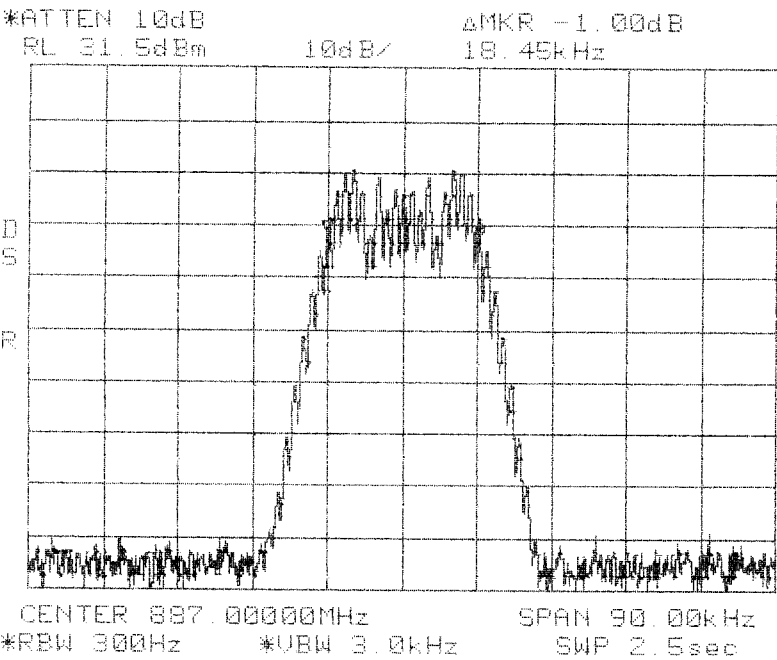
**Occupied Bandwidth
CDMA In
Cellular 800 MHz
A Band**



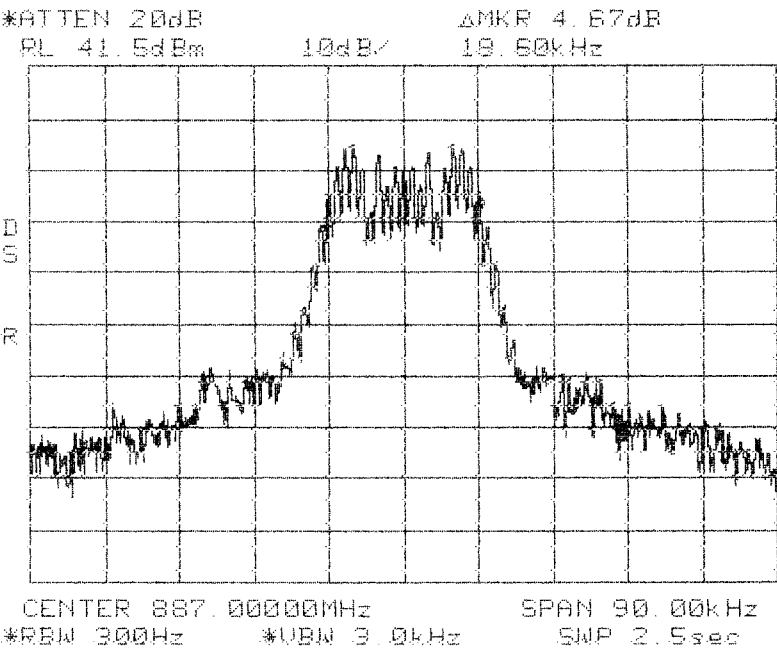
**Occupied Bandwidth
CDMA Out
Cellular 800 MHz
A Band**

Center: 880.0 MHz
Span: 5 MHz
RBW/VBW: 10 kHz / 3 kHz

Center: 887.0 MHz
Span: 90 KHz
RBW/VBW: 300 Hz / 3 kHz



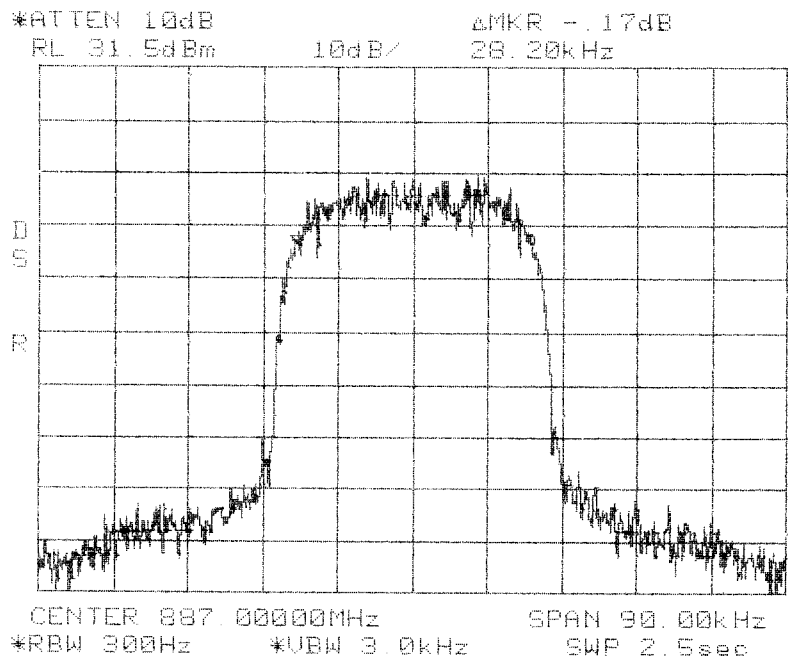
**Occupied Bandwidth
FM In
Cellular 800 MHz
B Band**



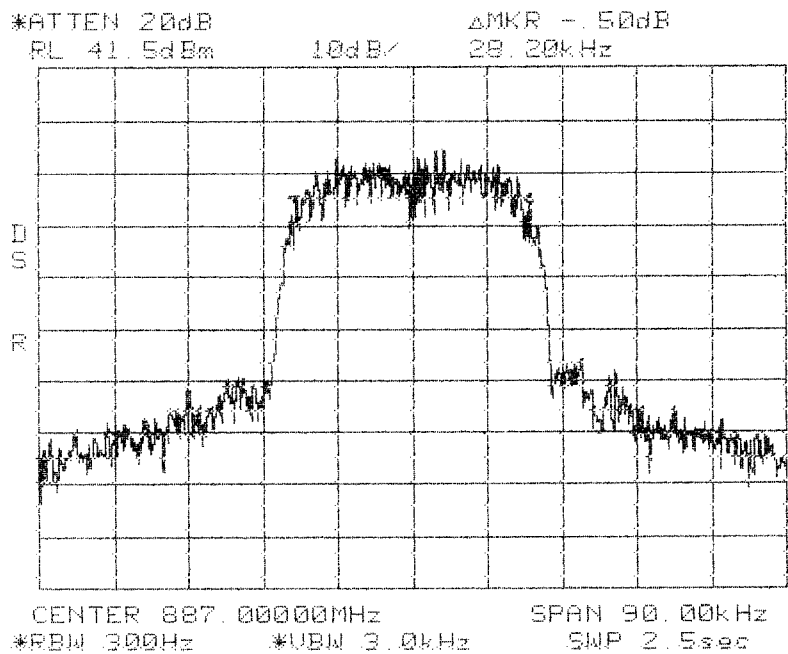
**Occupied Bandwidth
FM Out
Cellular 800 MHz
B Band**

Center: 887.0 MHz
Span: 90 KHz
RBW/VBW: 300 Hz / 3 kHz

Center: 887.0 MHz
Span: 90 kHz
RBW/VBW: 300 Hz / 3 kHz



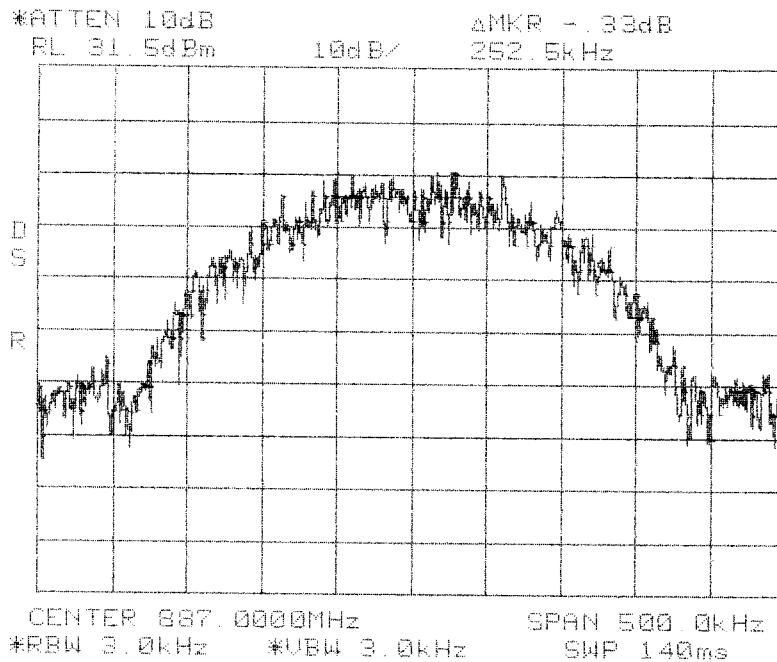
**Occupied Bandwidth
TDMA In
Cellular 800 MHz
B Band**



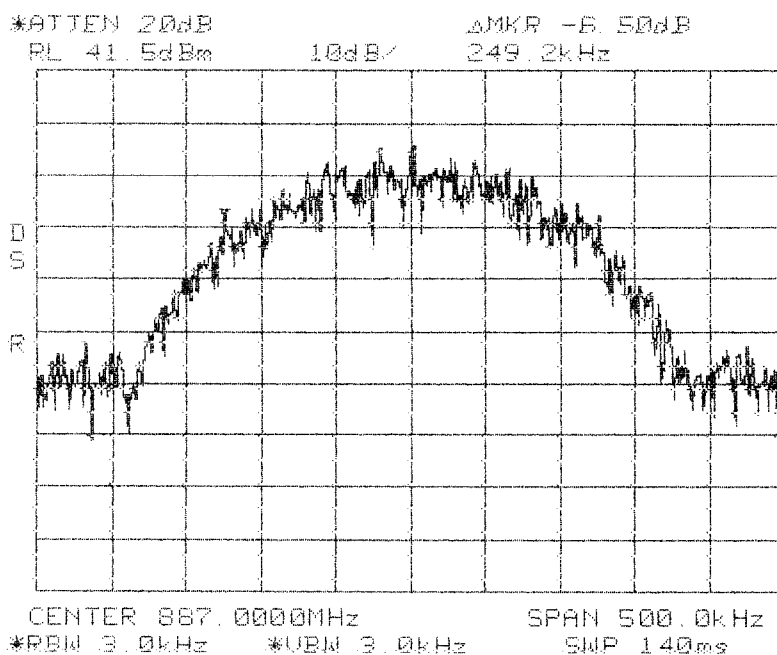
**Occupied Bandwidth
TDMA Out
Cellular 800 MHz
B Band**

Center: 887.0 MHz
Span: 90 kHz
RBW/VBW: 300 Hz / 3 kHz

Center: 887.0 MHz
Span: 500 KHz
RBW/VBW: 3 kHz / 3 kHz



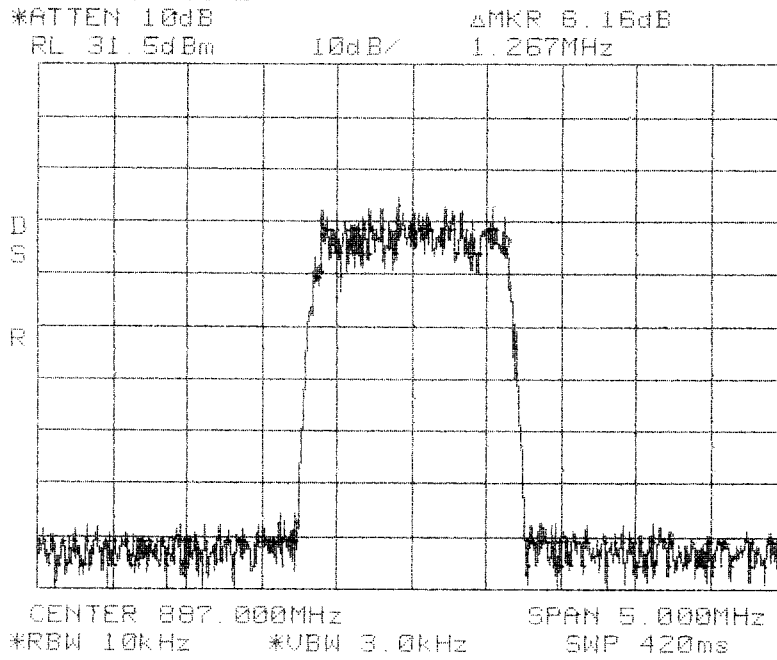
**Occupied Bandwidth
GSM In
Cellular 800 MHz
B Band**



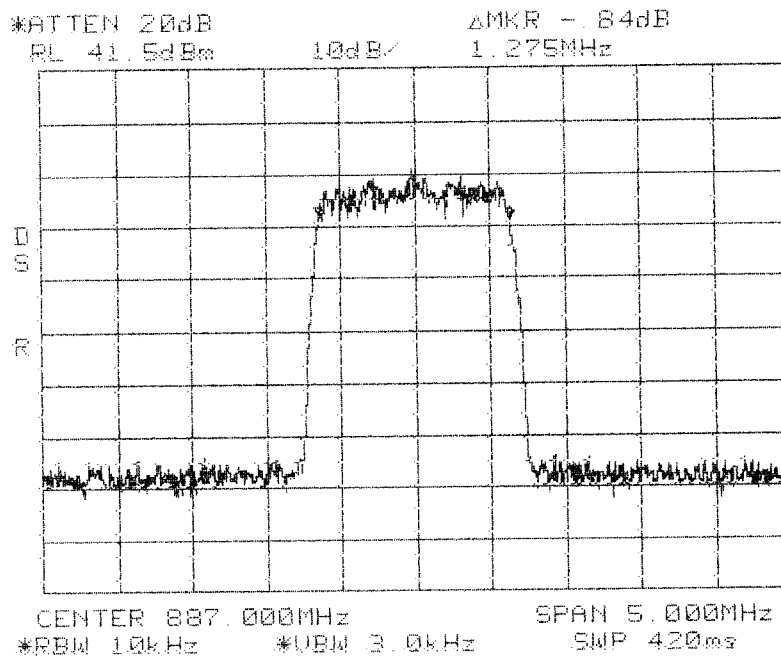
**Occupied Bandwidth
GSM Out
Cellular 800 MHz
B Band**

Center: 887.0 MHz
Span: 500 KHz
RBW/VBW: 3 kHz / 3 kHz

Center: 887.0 MHz
Span: 5 MHz
RBW/VBW: 10 kHz / 3 kHz



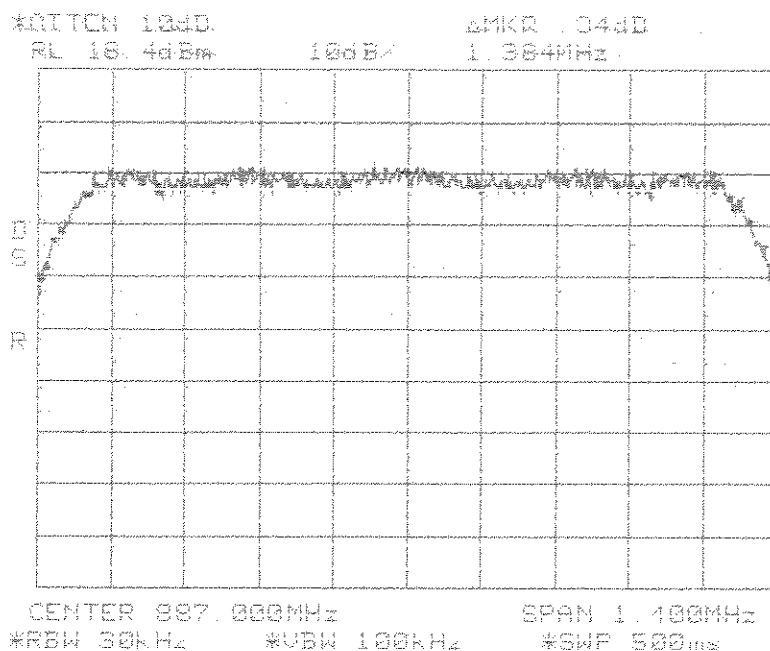
**Occupied Bandwidth
CDMA In
Cellular 800 MHz
B Band**



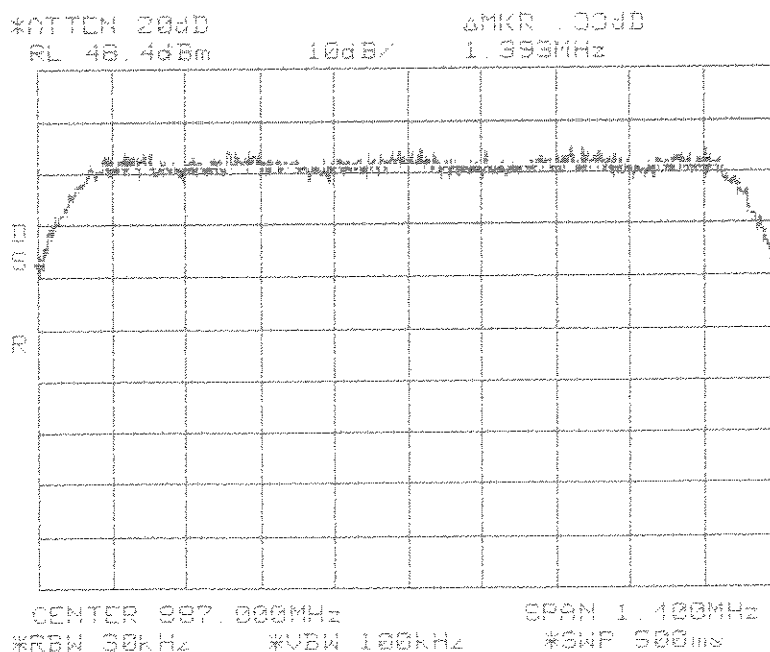
**Occupied Bandwidth
CDMA Out
Cellular 800 MHz
B Band**

Center: 887.0 MHz
Span: 5 MHz
RBW/VBW: 10 kHz / 3 kHz

Span: 1.4 MHz
RBW: 30 kHz
VBW: 100 kHz



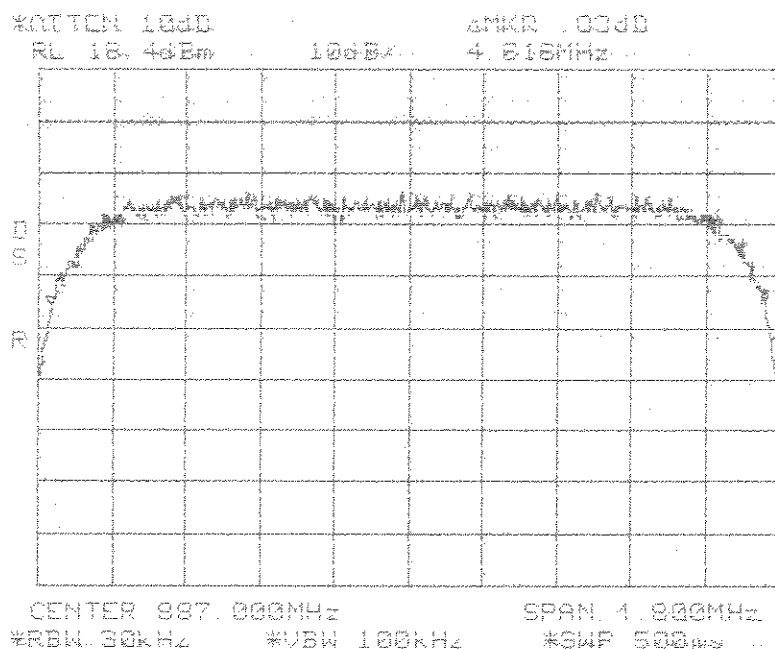
**Occupied Bandwidth
EVDO
Signal In**



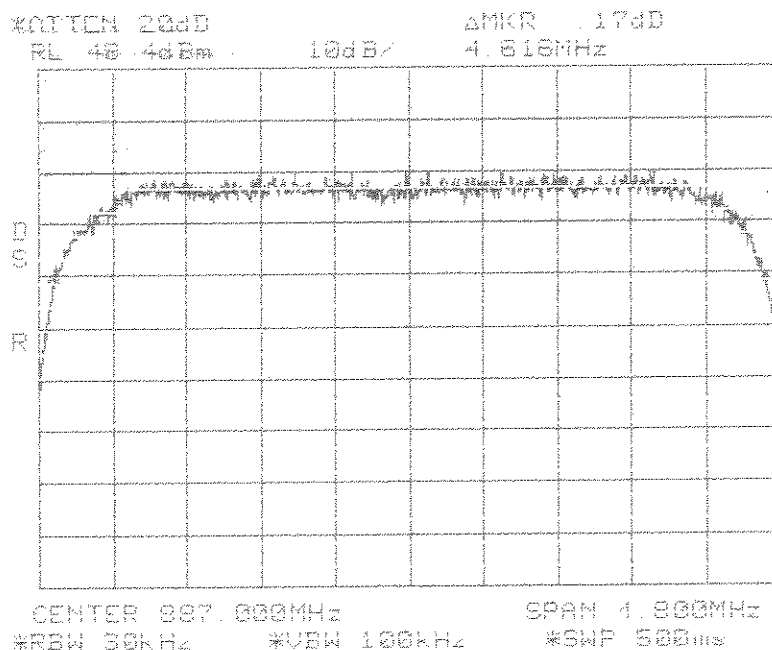
**Occupied Bandwidth
EVDO
Signal Out**

Span: 1.4 MHz
RBW: 30 kHz
VBW: 100 kHz

Span: 4.8 MHz
RBW: 30 kHz
VBW: 100 kHz



**Occupied Bandwidth
W-CDMA
Signal In**



**Occupied Bandwidth
W-CDMA
Signal Out**

Span: 4.8 MHz
RBW: 30 kHz
VBW: 100 kHz

Occupied Bandwidth Modulation Test for ADC Inc.
Digivance® Street Coverage Solution
Model Number DGVC-1X1X4X1X200SYS

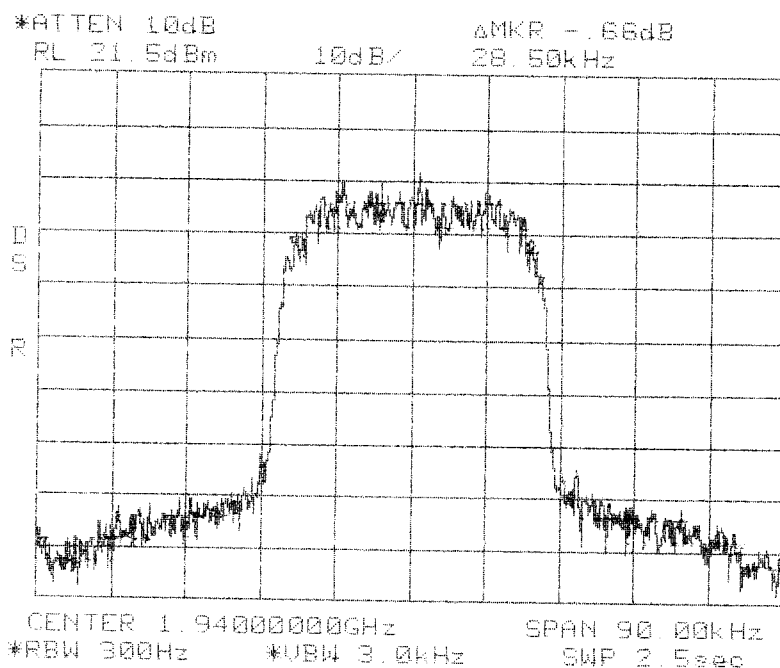
An input/output Occupied Bandwidth test was done with modulation types: TDMA, GSM, CDMA, EVDO and W-CDMA. The purpose was to determine the amount of distortion added to different types of modulation schemes by the EUT. The following plots show input signals vs. output signals.

The resolution bandwidth is reduced to 1% of the estimated emission bandwidth and the video bandwidth is set to 3 times the resolution bandwidth. The markers are moved to the -20 dB points (from the previously established center frequency level) on either side of center frequency.

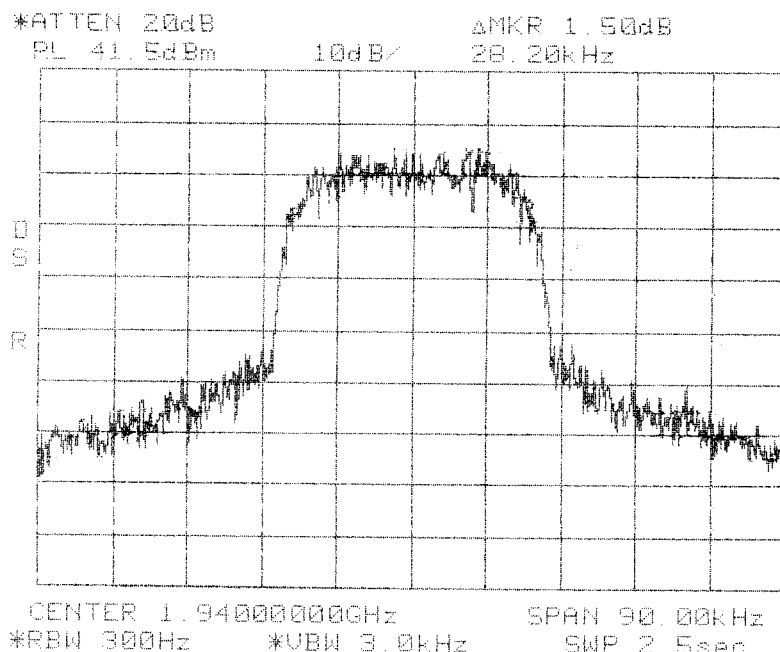
Results:

Pass (see plots)

Center: 1940.0 MHz
Span: 90 kHz
RBW/VBW: 300 Hz / 3 kHz



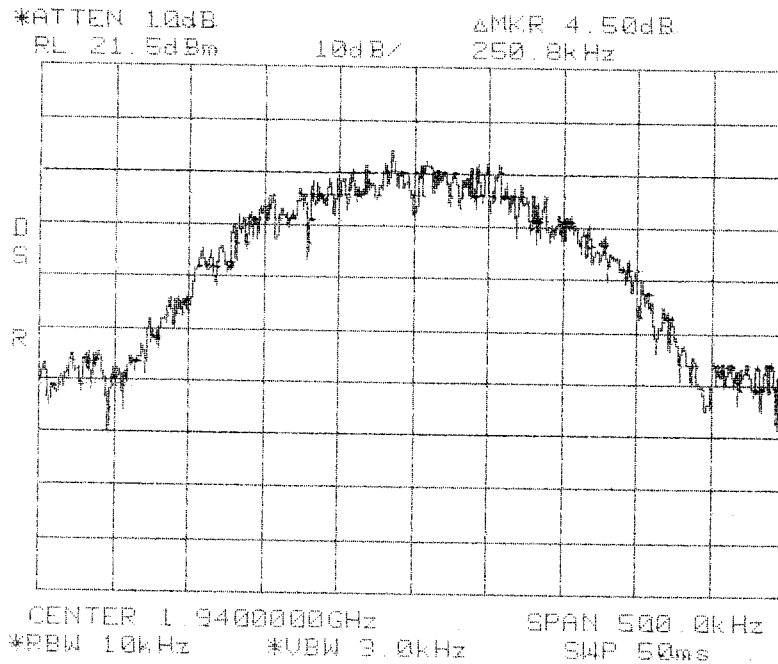
**Occupied Bandwidth
TDMA In
PCS 1900 MHz
AD Band**



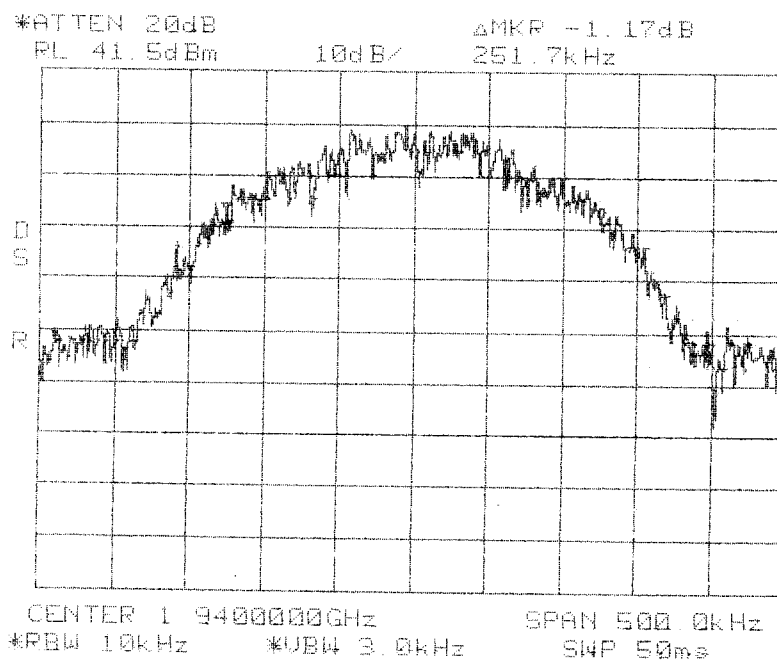
**Occupied Bandwidth
TDMA Out
PCS 1900 MHz
AD Band**

Center: 1940.0 MHz
Span: 90 kHz
RBW/VBW: 300 Hz / 3 kHz

Center: 1940.0 MHz
Span: 5 MHz
RBW/VBW: 10 kHz / 3 kHz



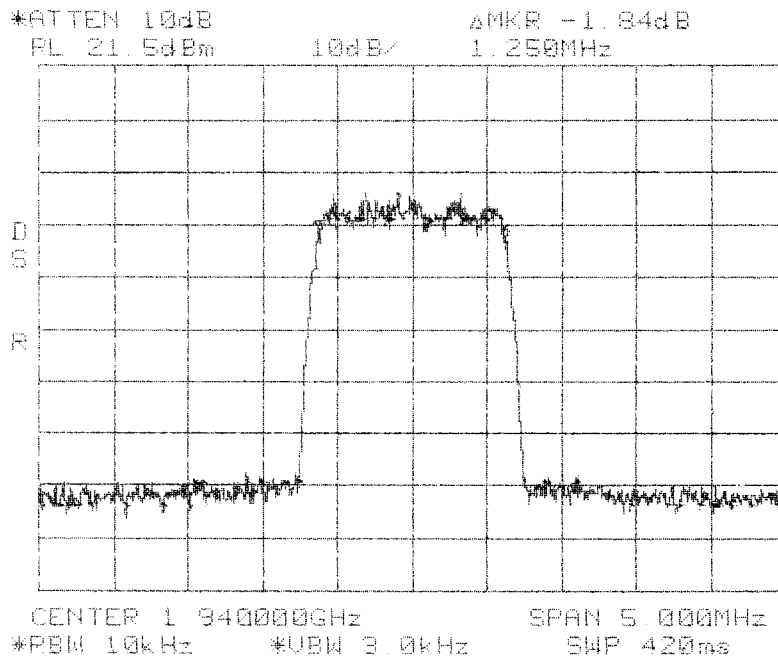
**Occupied Bandwidth
GSM In
PCS 1900 MHz
AD Band**



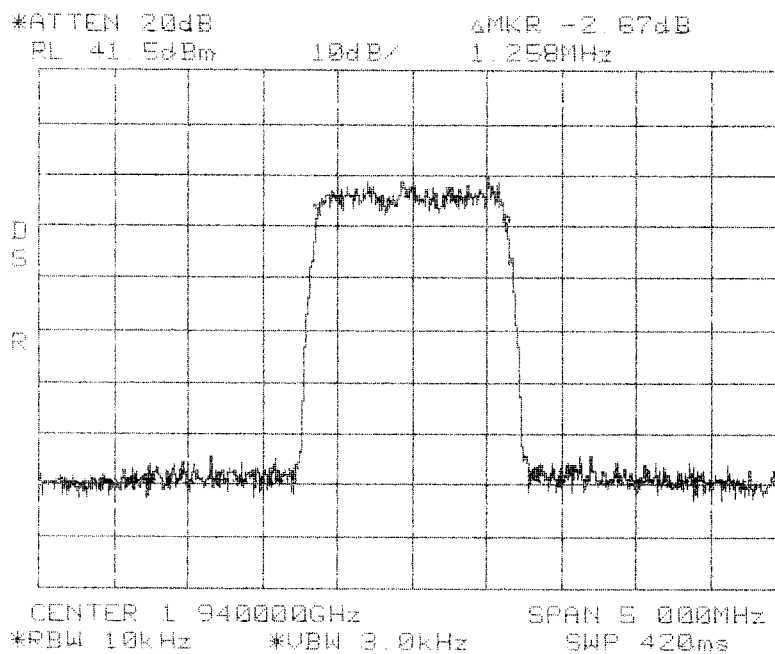
**Occupied Bandwidth
GSM Out
PCS 1900 MHz
AD Band**

Center: 1940.0 MHz
Span: 5 MHz
RBW/VBW: 10 kHz / 3 kHz

Center: 1940.0 MHz
Span: 5 MHz
RBW/VBW: 10 kHz / 3 kHz



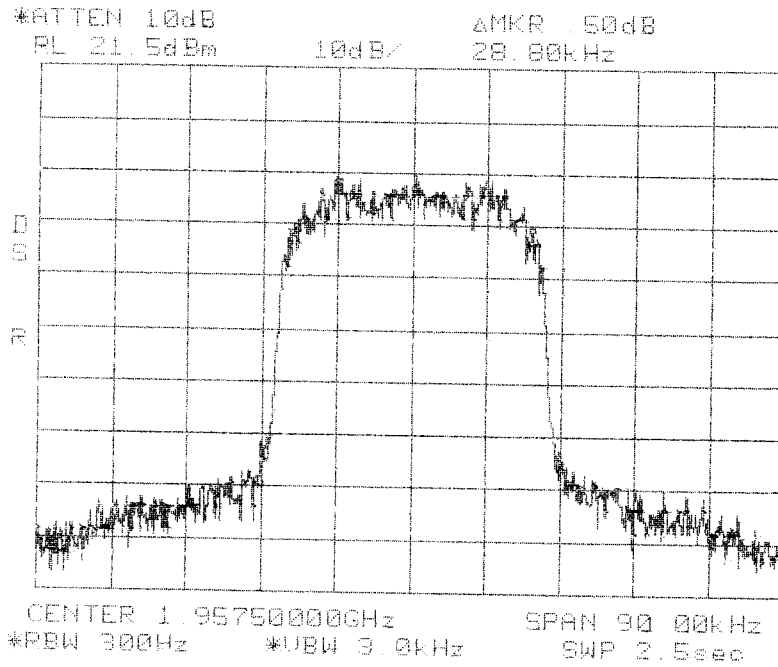
**Occupied Bandwidth
CDMA In
PCS 1900 MHz
AD Band**



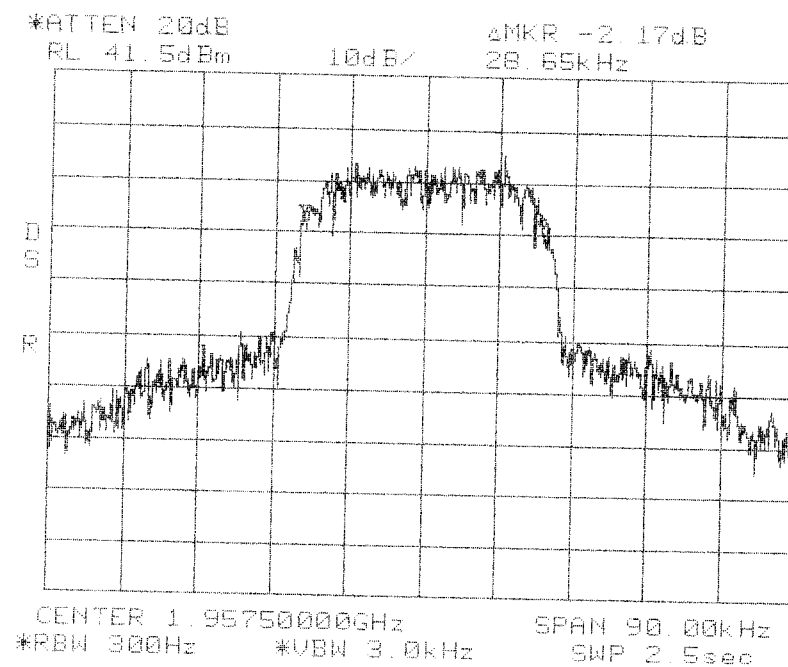
**Occupied Bandwidth
CDMA Out
PCS 1900 MHz
AD Band**

Center: 1940.0 MHz
Span: 5 MHz
RBW/VBW: 10 kHz / 3 kHz

Center: 1957.5 MHz
Span: 90 kHz
RBW/VBW: 300 Hz / 3 kHz



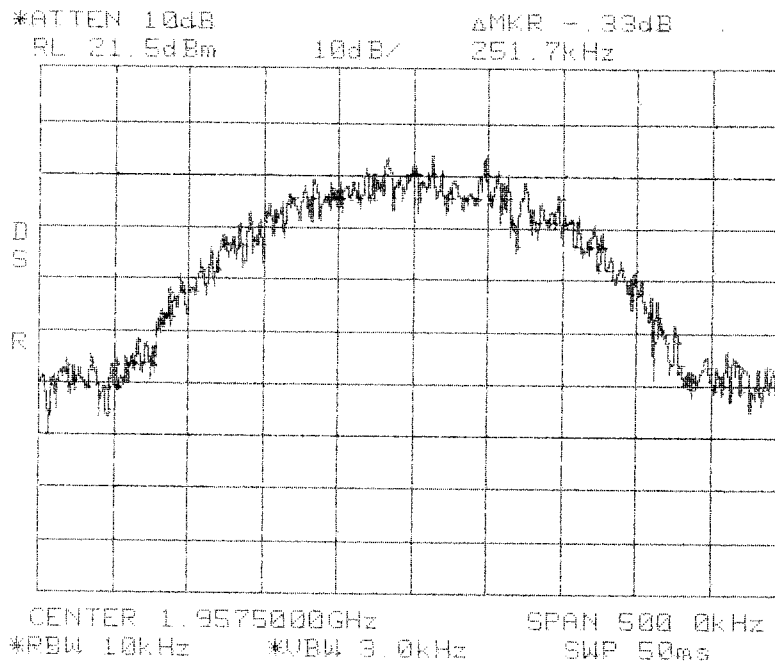
**Occupied Bandwidth
TDMA In
PCS 1900 MHz
DBE Band**



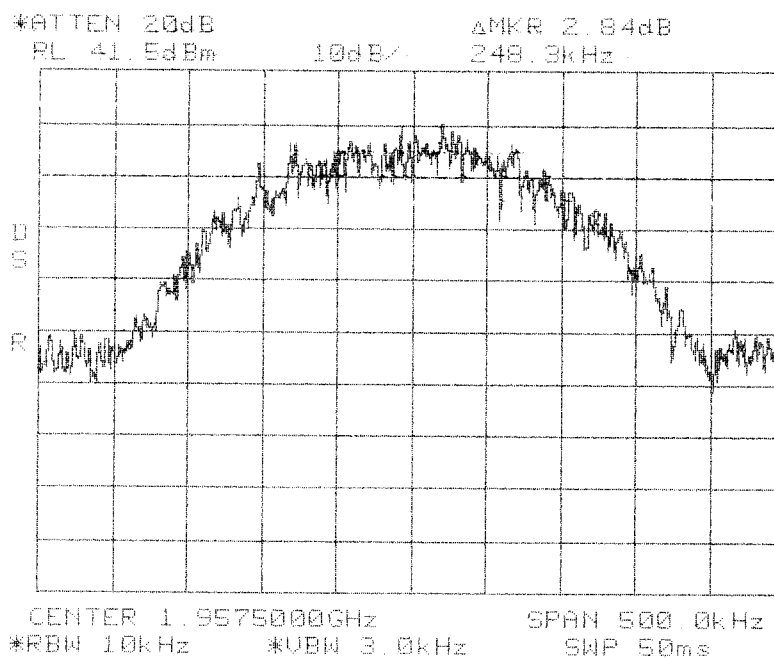
**Occupied Bandwidth
TDMA Out
PCS 1900 MHz
DBE Band**

Center: 1957.5 MHz
Span: 90 kHz
RBW/VBW: 300 Hz / 3 kHz

Center: 1957.5 MHz
Span: 5 MHz
RBW/VBW: 10 kHz / 3 kHz



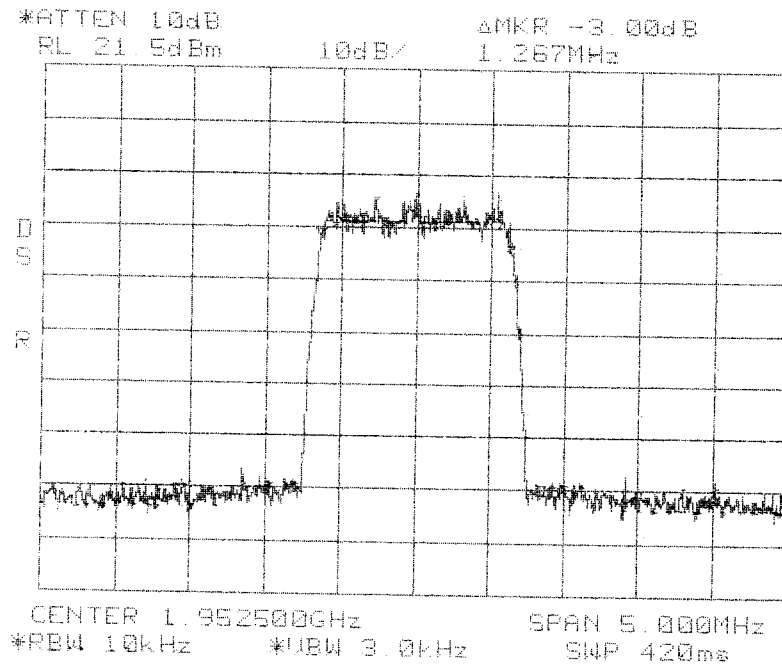
**Occupied Bandwidth
GSM In
PCS 1900 MHz
DBE Band**



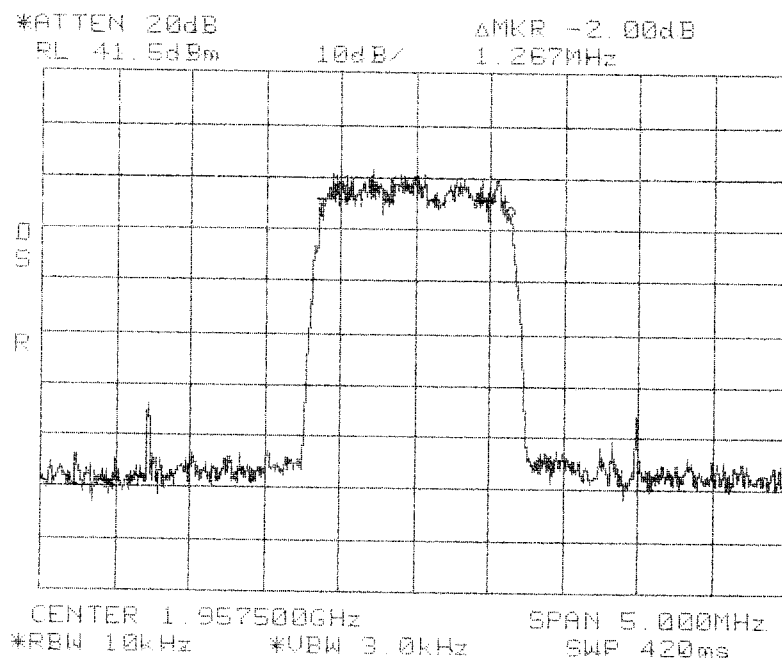
**Occupied Bandwidth
GSM Out
PCS 1900 MHz
DBE Band**

Center: 1957.5 MHz
Span: 5 MHz
RBW/VBW: 10 kHz / 3 kHz

Center: 1957.5 MHz
Span: 5 MHz
RBW/VBW: 10 kHz / 3 kHz



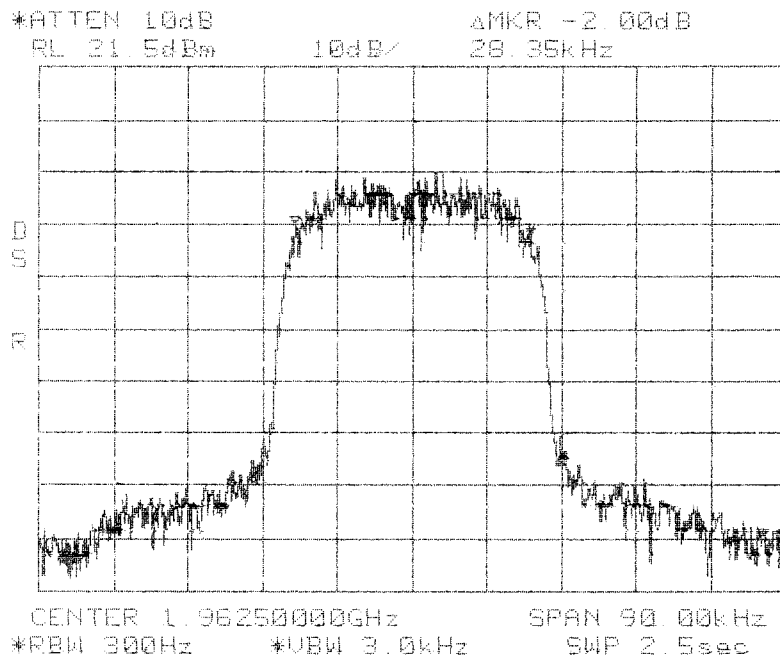
**Occupied Bandwidth
CDMA In
PCS 1900 MHz
DBE Band**



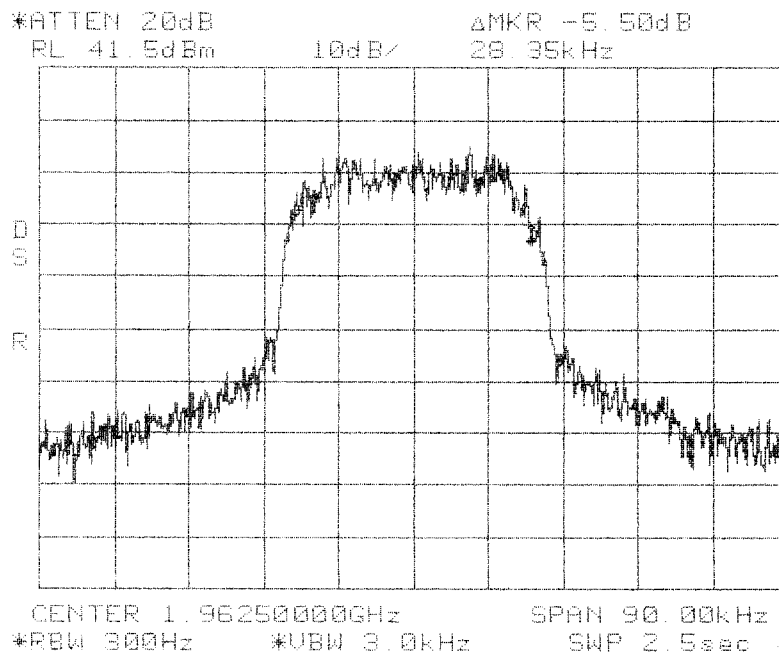
**Occupied Bandwidth
CDMA Out
PCS 1900 MHz
DBE Band**

Center: 1957.5 MHz
Span: 5 MHz
RBW/VBW: 10 kHz / 3 kHz

Center: 1962.5 MHz
Span: 90 kHz
RBW/VBW: 300 Hz / 3 kHz



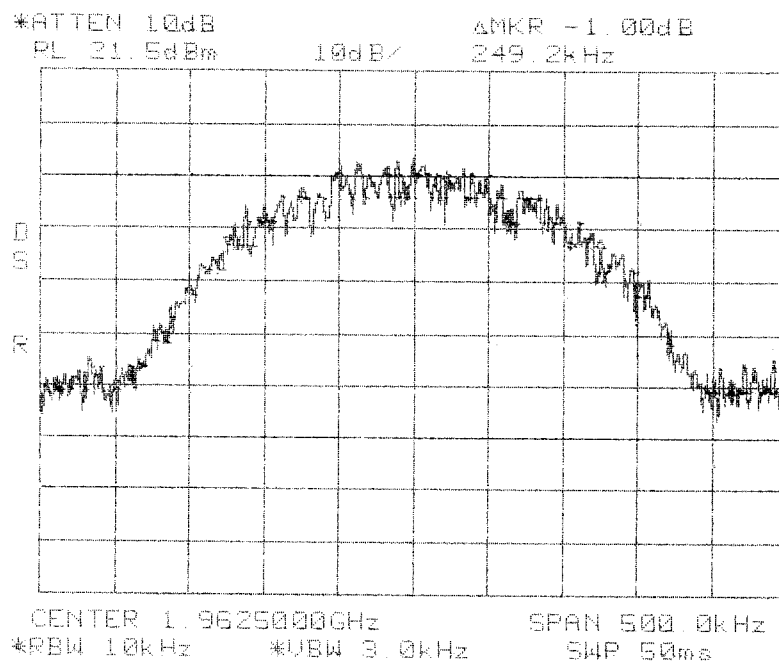
**Occupied Bandwidth
TDMA In
PCS 1900 MHz
BEF Band**



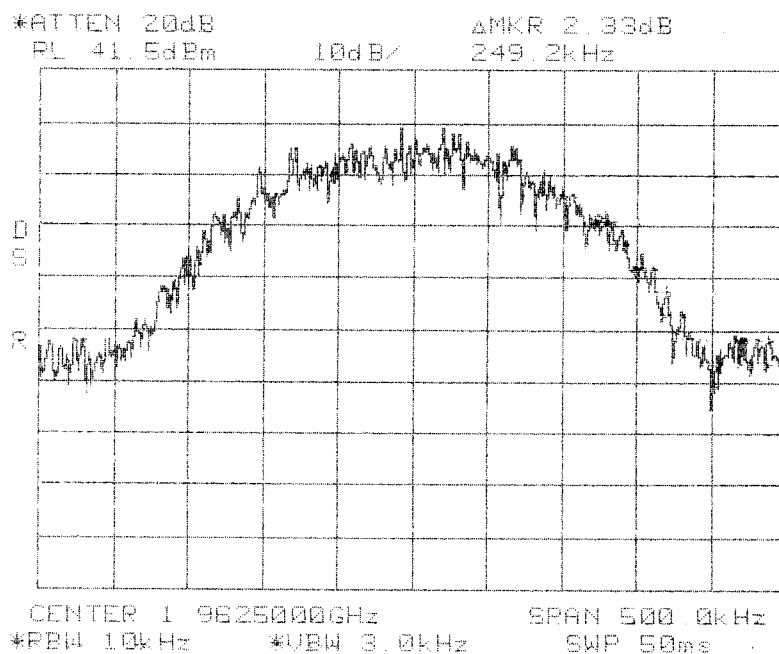
**Occupied Bandwidth
TDMA Out
PCS 1900 MHz
BEF Band**

Center: 1962.5 MHz
Span: 90 kHz
RBW/VBW: 300 Hz / 3 kHz

Center: 1962.5 MHz
Span: 5 MHz
RBW/VBW: 10 kHz / 3 kHz



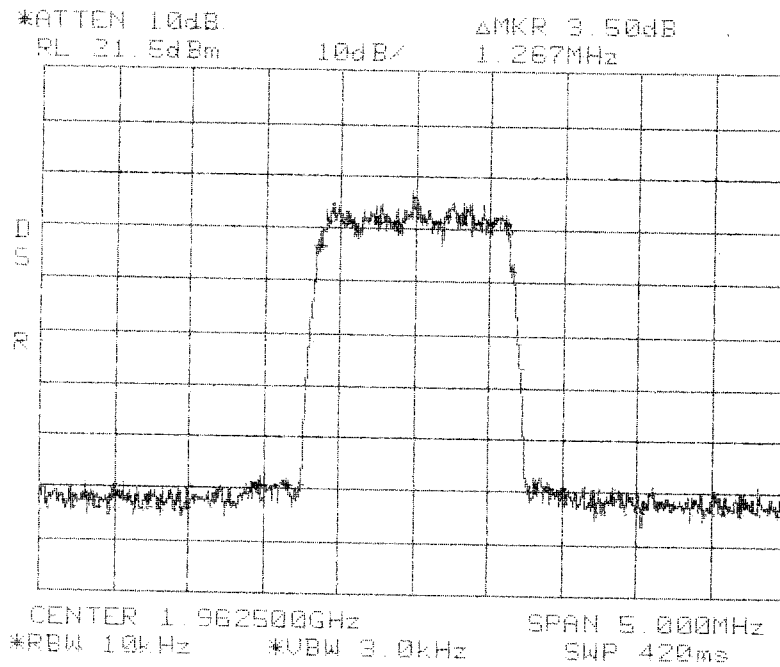
**Occupied Bandwidth
GSM In
PCS 1900 MHz
BEF Band**



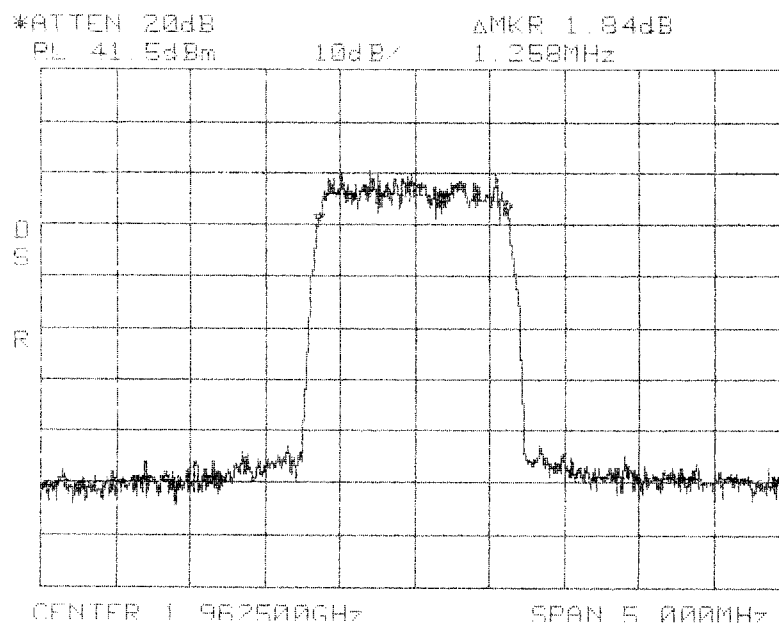
**Occupied Bandwidth
GSM Out
PCS 1900 MHz
BEF Band**

Center: 1962.5 MHz
Span: 5 MHz
RBW/VBW: 10 kHz / 3 kHz

Center: 1962.5 MHz
Span: 5 MHz
RBW/VBW: 10 kHz / 3 kHz



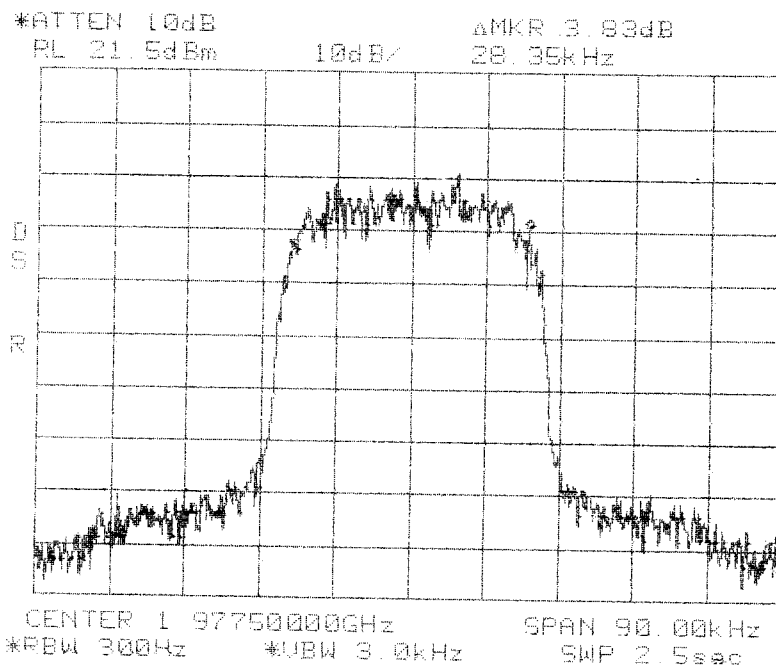
**Occupied Bandwidth
CDMA In
PCS 1900 MHz
BEF Band**



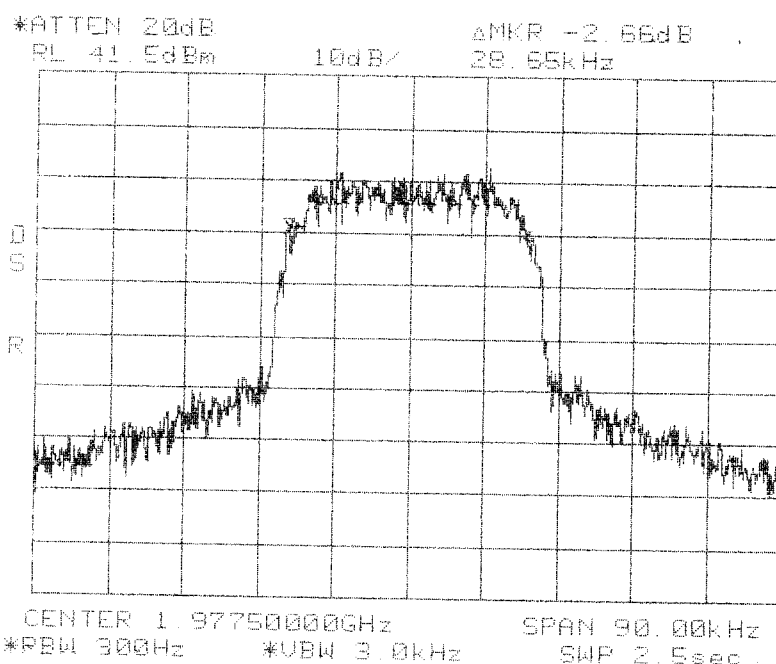
**Occupied Bandwidth
CDMA Out
PCS 1900 MHz
BEF Band**

Center: 1962.5 MHz
Span: 5 MHz
RBW/VBW: 10 kHz / 3 kHz

Center: 1977.5 MHz
Span: 90 kHz
RBW/VBW: 300 Hz / 3 kHz



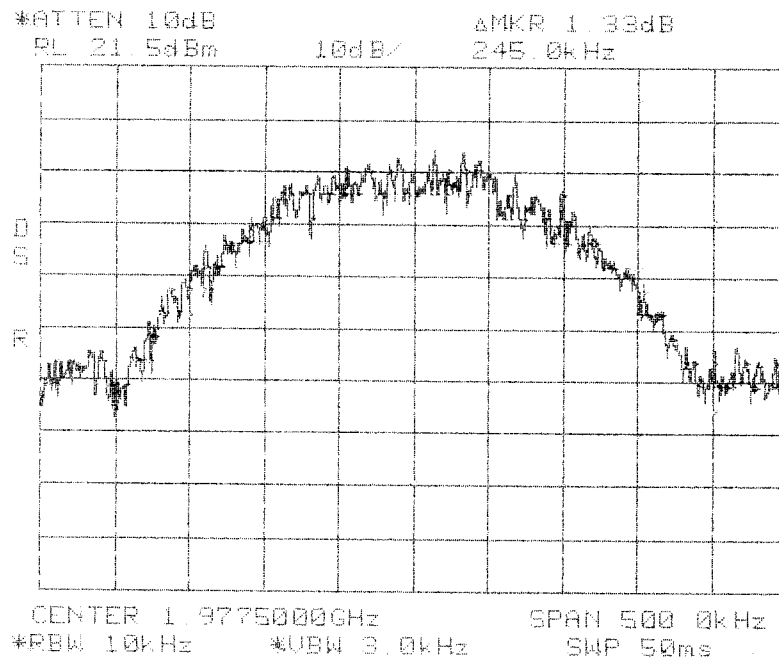
**Occupied Bandwidth
TDMA In
PCS 1900 MHz
EFC Band**



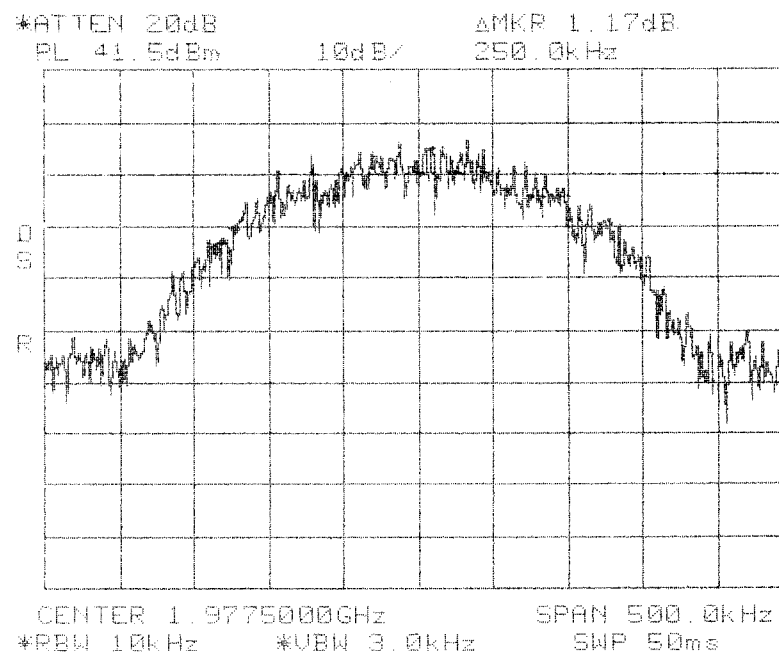
**Occupied Bandwidth
TDMA Out
PCS 1900 MHz
EFC Band**

Center: 1977.5 MHz
Span: 90 kHz
RBW/VBW: 300 Hz / 3 kHz

Center: 1977.5 MHz
Span: 5 MHz
RBW/VBW: 10 kHz / 3 kHz



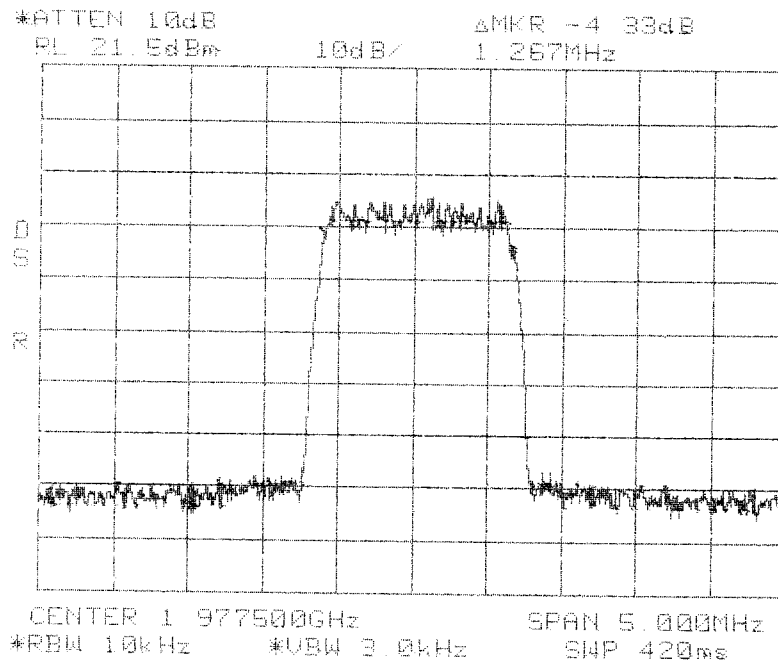
**Occupied Bandwidth
GSM In
PCS 1900 MHz
EFC Band**



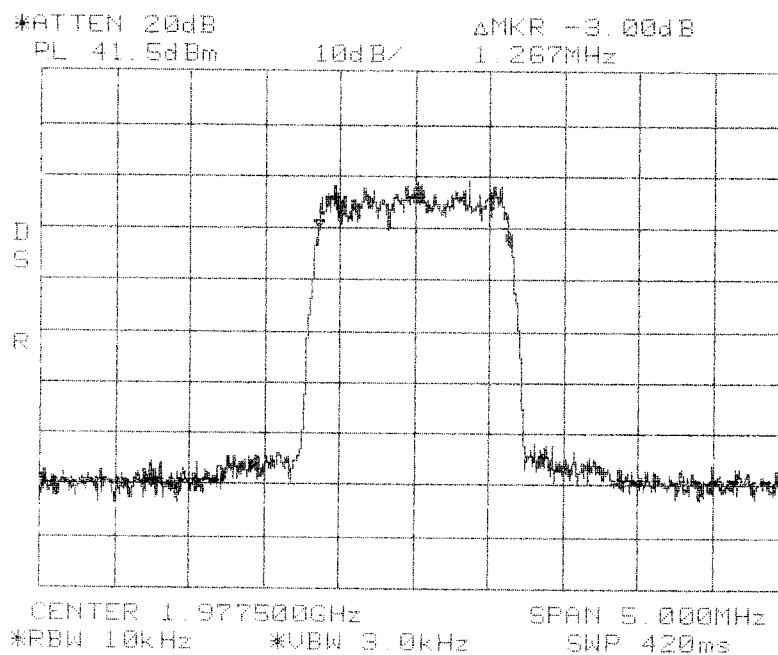
**Occupied Bandwidth
GSM Out
PCS 1900 MHz
EFC Band**

Center: 1977.5 MHz
Span: 5 MHz
RBW/VBW: 10 kHz / 3 kHz

Center: 1977.5 MHz
Span: 5 MHz
RBW/VBW: 10 kHz / 3 kHz



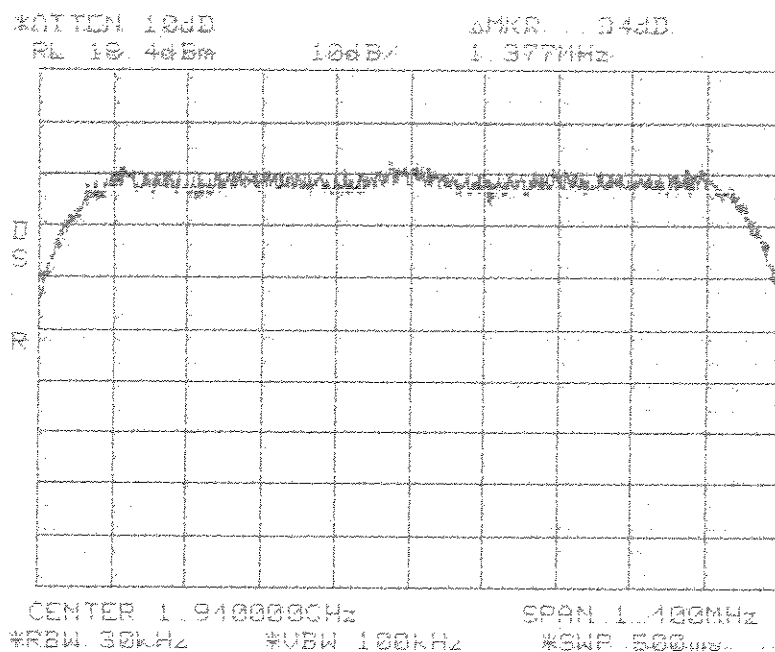
**Occupied Bandwidth
CDMA In
PCS 1900 MHz
EFC Band**



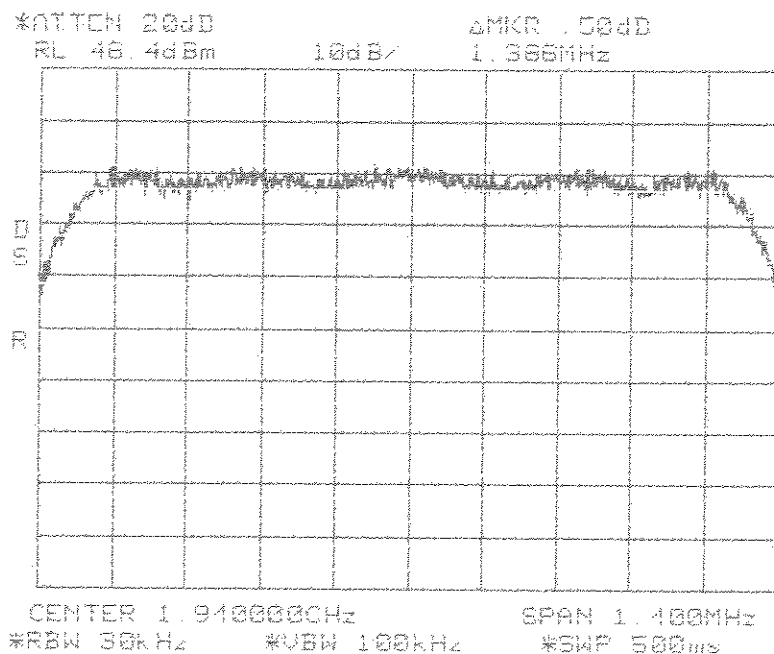
**Occupied Bandwidth
CDMA Out
PCS 1900 MHz
EFC Band**

Center: 1977.5 MHz
Span: 5 MHz
RBW/VBW: 10 kHz / 3 kHz

Span: 1.4 MHz
RBW: 30 kHz
VBW: 100 kHz



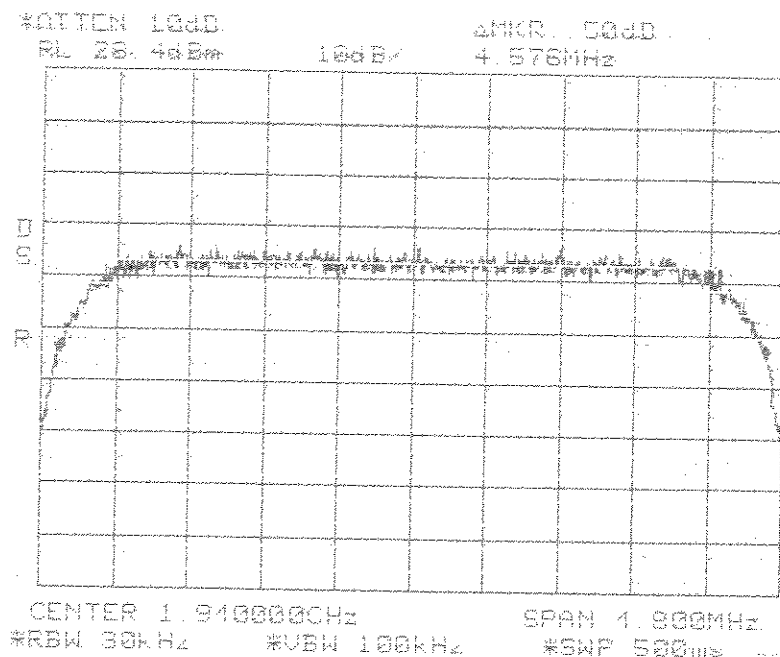
**Occupied Bandwidth
EVDO
Signal In**



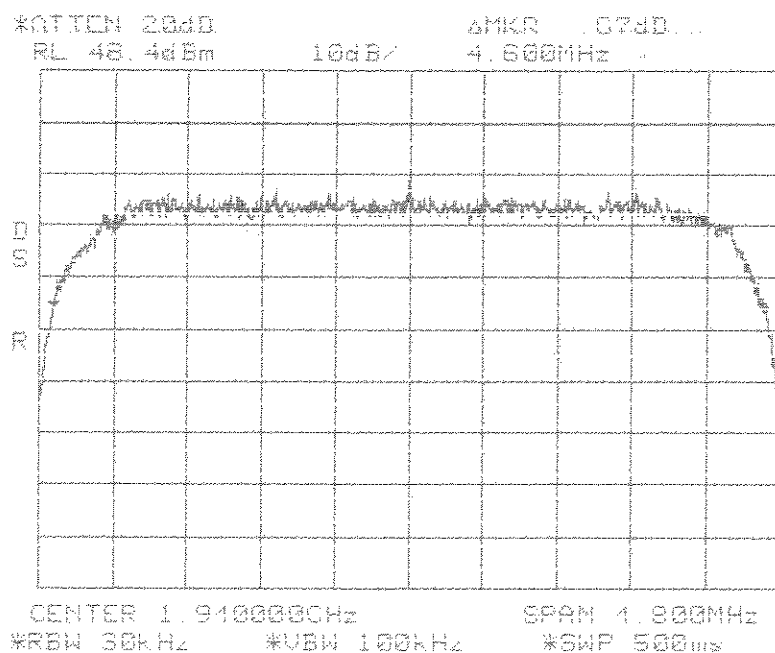
**Occupied Bandwidth
EVDO
Signal Out**

Span: 1.4 MHz
RBW: 30 kHz
VBW: 100 kHz

Span: 4.8 MHz
RBW: 30 kHz
VBW: 100 kHz



**Occupied Bandwidth
W-CDMA
Signal In**



**Occupied Bandwidth
W-CDMA
Signal Out**

Span: 4.8 MHz
RBW: 30 kHz
VBW: 100 kHz

Conducted Emission Limits Test for ADC Inc.

Digivance® Street Coverage Solution

Model Number DGVC-1X1X4X1X200SYS

The out of band emissions were measured directly from the EUT antenna output with a spectrum analyzer from 30 MHz to the 10th harmonic of the highest carrier frequency. Test signals used are FM, TDMA, GSM, and CDMA. The different signals were input one at a time to the EUT. In all cases, the out of band emissions were less than -13dBm from the equation
$$(19\text{dBm} - [43 + 10\log(0.08\text{W})])$$

Band edge compliance is also demonstrated using a FM, TDMA, GSM, and CDMA signal at the upper and lower limits of the band.

The Host unit connects directly to the BTS via coax. The Host unit does not connect to an antenna or amplifier, thus it is a Part 15 device and has been tested and is compliant as such. No FCC ID is necessary.

Industry practice has generally set the input signal power level. Test signal used was $\approx$ -40 dBm input to the Host unit. Industry practice has generally set the output signal power level.

Host Unit:
Range: 24 - 48 VDC
Tested @: 48 VDC
Tested @: 1.25 A

Remote Unit:
Range: 115-230 VAC
Tested @: 120 VAC
Tested @: 4.2 A

Application details for 2.1033(c)(10), and 2.1033(c)(13):

The input to the host unit has a digital attenuation chip (ALC) to provide protection from overdrive with 5-10 millisecond attack time / 100 millisecond decay time and 31 dB of head room, such that single channel operation, or multi-channel operation will not exceed nominal gain of the system.

The frequency stability is derived by the BTS, base transceiver station. This product uses internal frequency stability to keep the signal inside our filter bandwidths. This means that the frequency can change, but the frequency that transmits is still at the original frequency. The remote system uses the data over the fiber optic path to phase/frequency lock to the host. The purpose is to frequency lock the up- and down-conversion local oscillators, and thereby eliminate any end-to-end frequency shift.

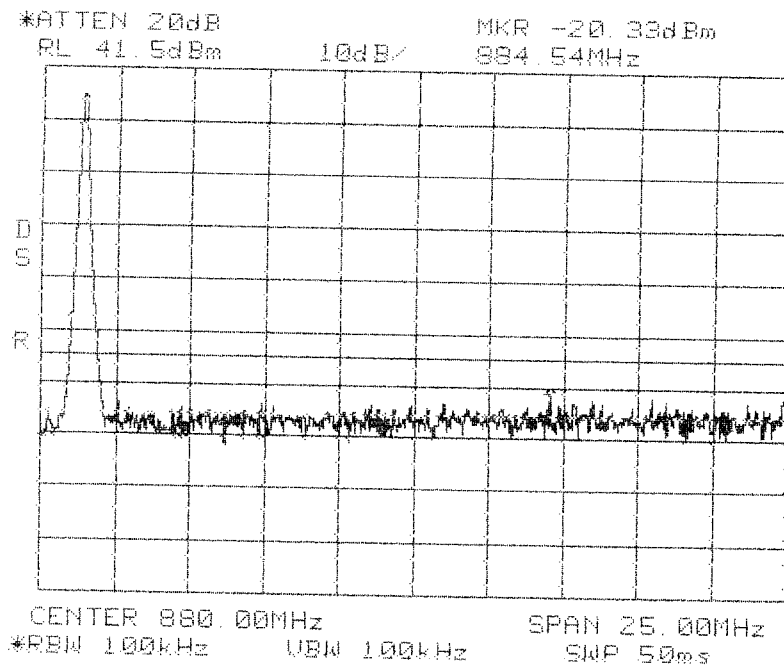
The spurious limitation is completed with the duplexer. The ALC also suppresses in-band spurious by preventing PA overdrive, while the duplexer suppresses out-of-band spurious.

This equipment does not modulate the RF, so there is no modulation limiter. This equipment does not change the modulation of the RF or the occupied bandwidth of any channel. It transports the signal, as is, over an optical link. The RF input is not changed in the RF output.

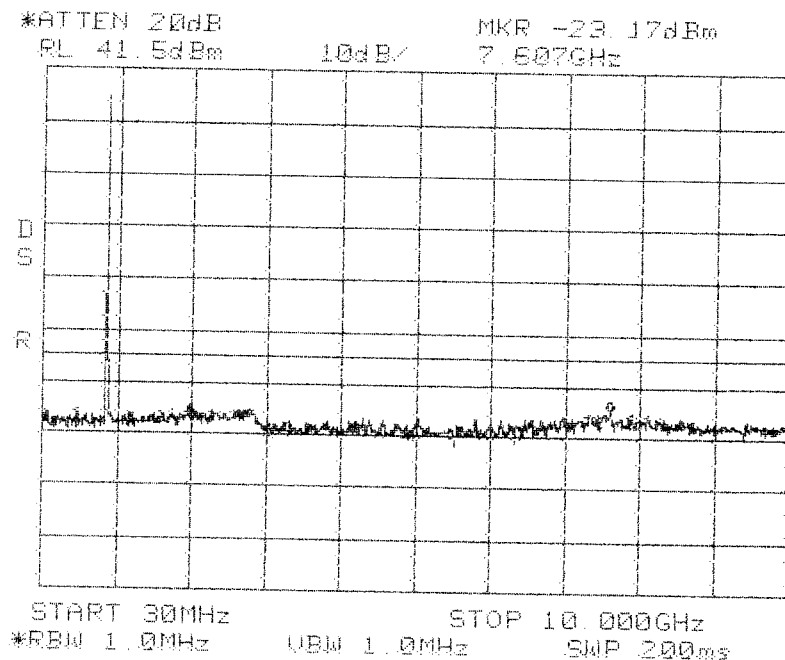
This is a constant gain device, so the setup controls the output. There is an overdrive and overpower limit control that prevents excess power.

Results:
Pass (See plots)

Center: 880.0 MHz
Span: 25 MHz
RBW/VBW: 100 kHz



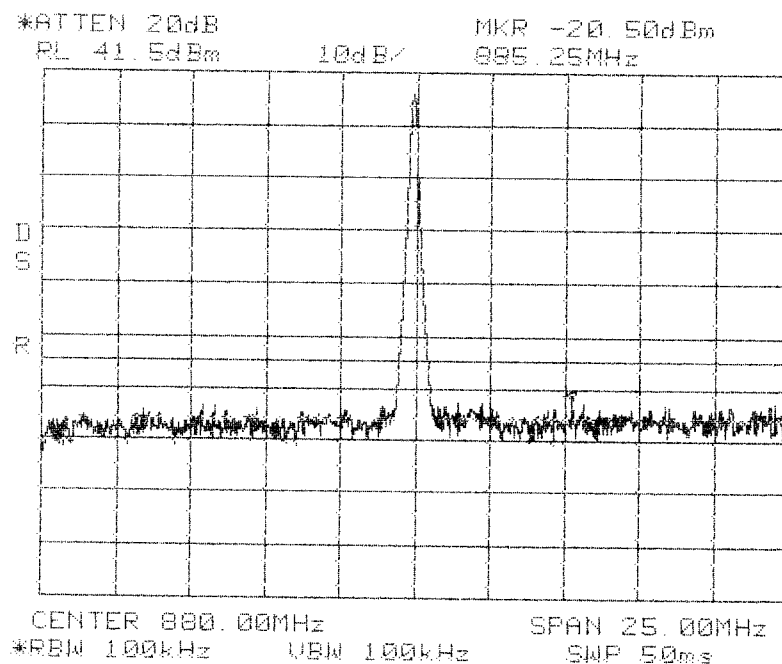
**Conducted Emissions
Low
Cellular 800 MHz
A Band**



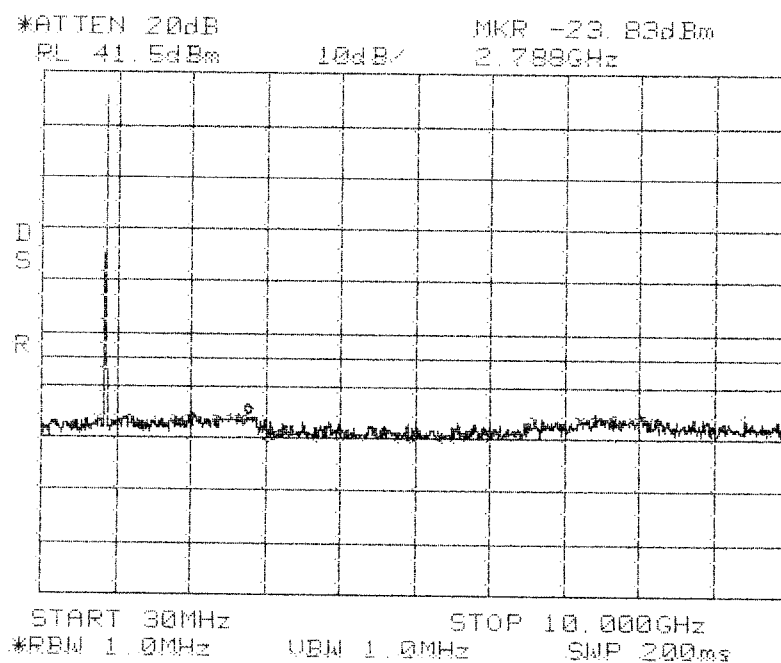
**Conducted Emissions
Low
Cellular 800 MHz
A Band**

Span: 30 MHz to 10 GHz
RBW/VBW: 1 MHz

Center: 880.0 MHz
Span: 25 MHz
RBW/VBW: 100 kHz



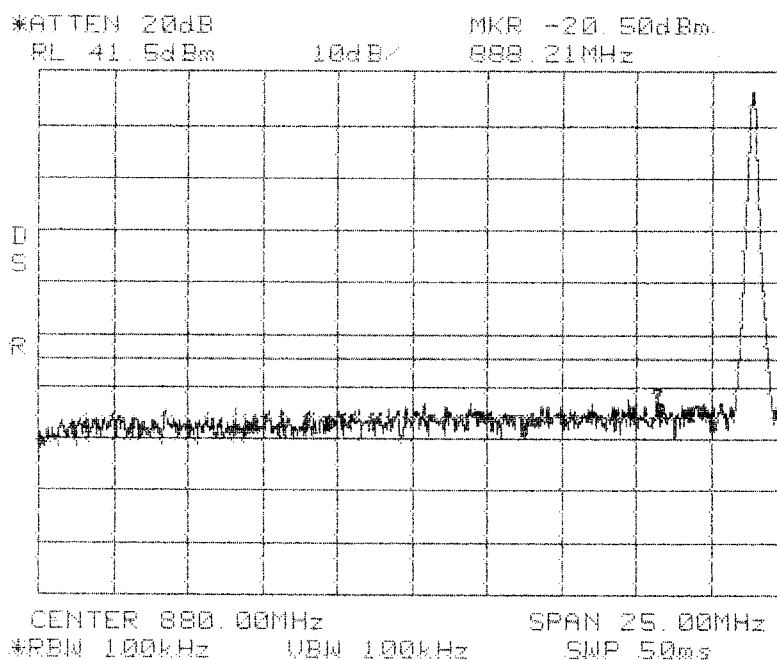
**Conducted Emissions
Mid
Cellular 800 MHz
A Band**



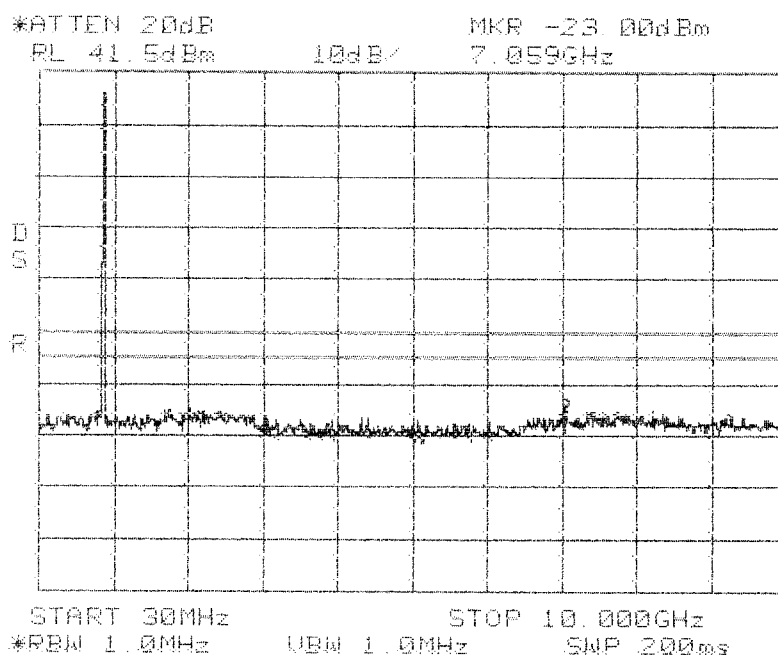
**Conducted Emissions
Mid
Cellular 800 MHz
A Band**

Span: 30 MHz to 10 GHz
RBW/VBW: 1 MHz

Center: 880.0 MHz
Span: 25 MHz
RBW/VBW: 100 kHz



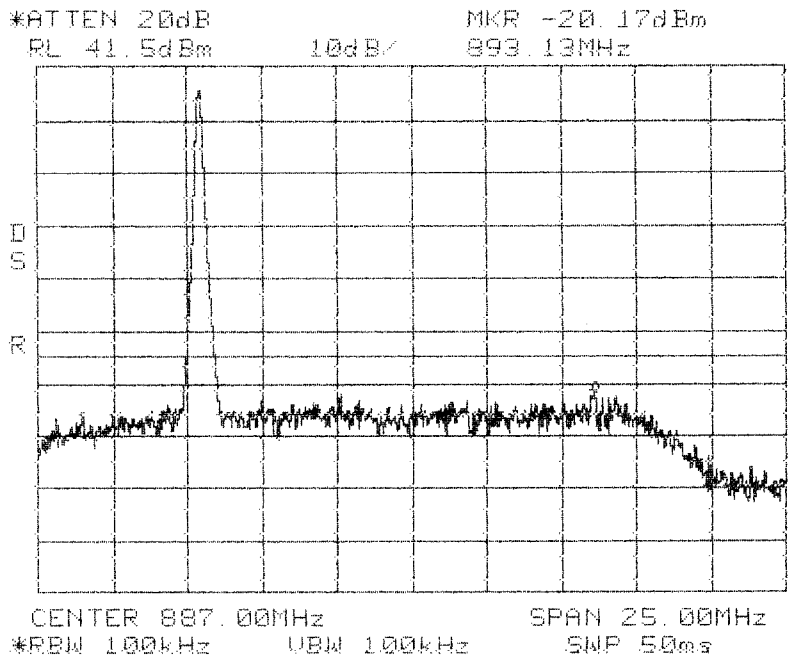
**Conducted Emissions
High
Cellular 800 MHz
A Band**



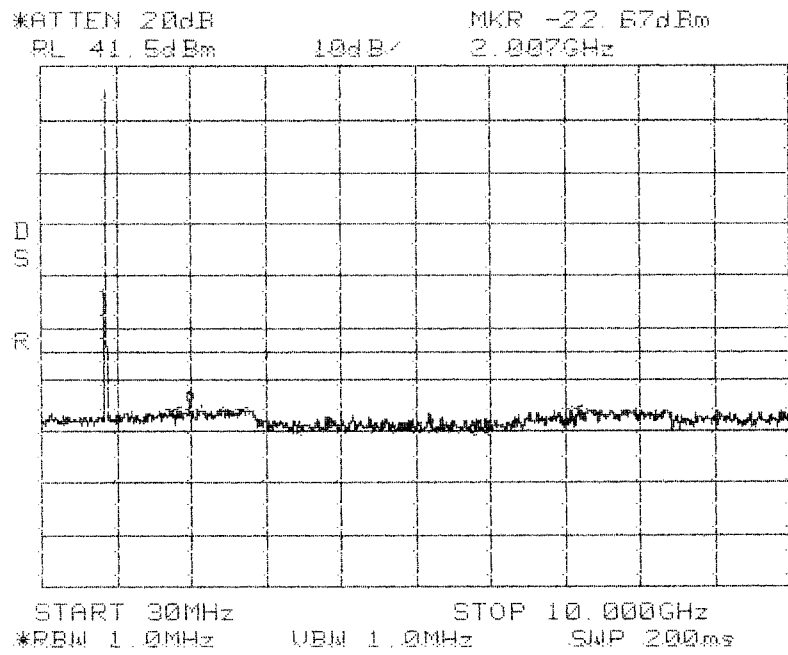
**Conducted Emissions
High
Cellular 800 MHz
A Band**

Span: 30 MHz to 10 GHz
RBW/VBW: 1 MHz

Center: 887.0 MHz
Span: 25 MHz
RBW/VBW: 100 kHz



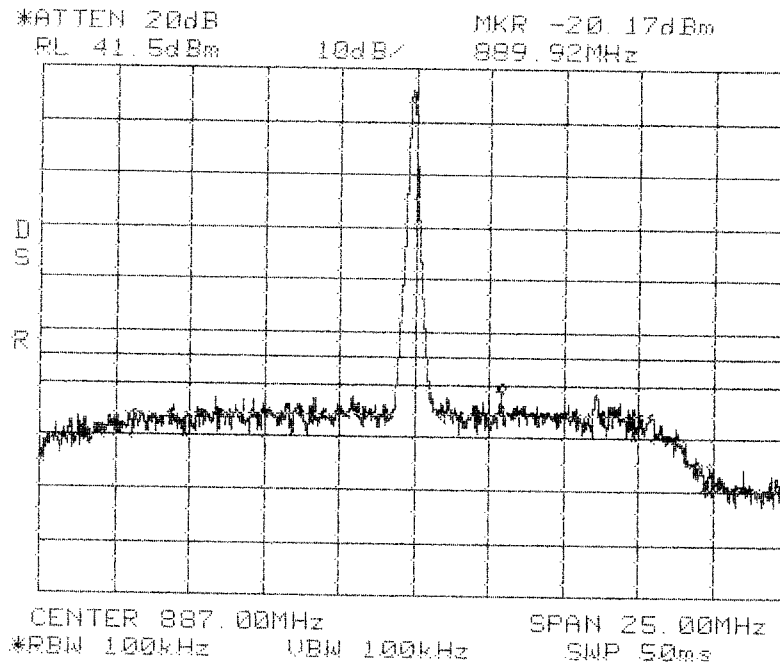
Conducted Emissions
Low
Cellular 800 MHz
B Band



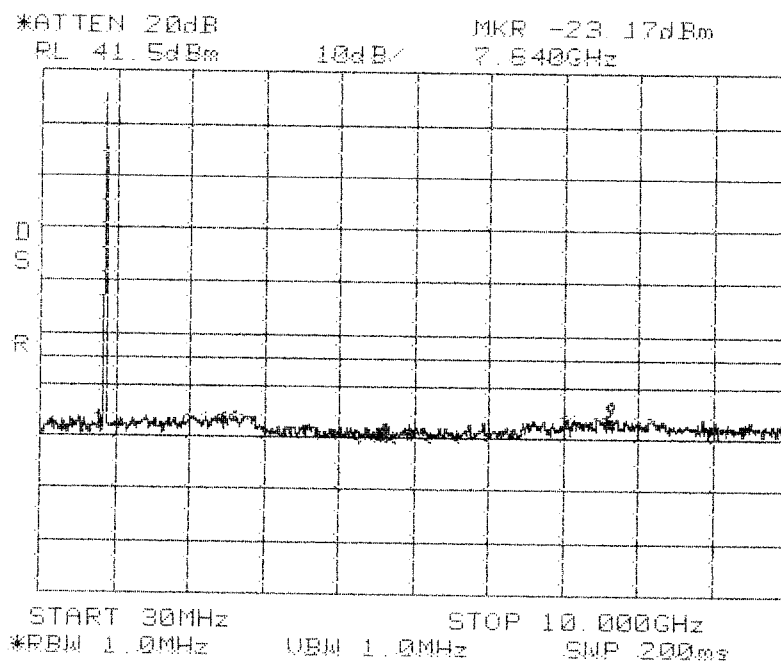
Conducted Emissions
Low
Cellular 800 MHz
B Band

Span: 30 MHz to 10 GHz
RBW/VBW: 1 MHz

Center: 887.0 MHz
Span: 25 MHz
RBW/VBW: 100 kHz



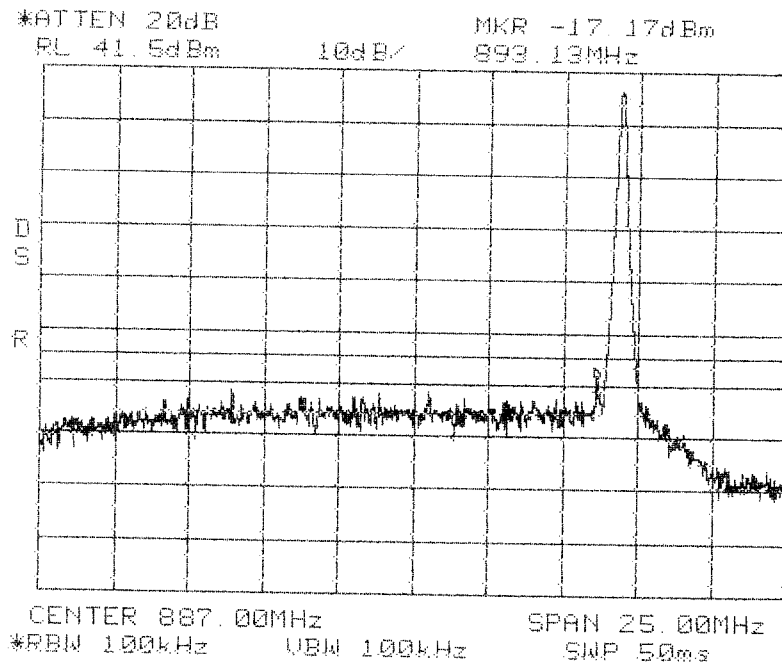
**Conducted Emissions
Mid
Cellular 800 MHz
B Band**



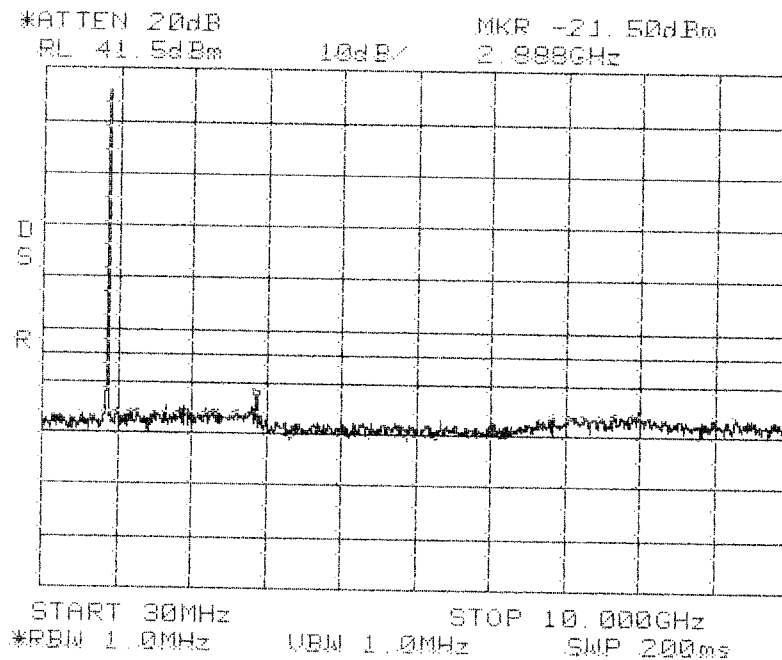
**Conducted Emissions
Mid
Cellular 800 MHz
B Band**

Span: 30 MHz to 10 GHz
RBW/VBW: 1 MHz

Center: 887.0 MHz
Span: 25 MHz
RBW/VBW: 100 kHz



**Conducted Emissions
High
Cellular 800 MHz
B Band**



**Conducted Emissions
High
Cellular 800 MHz
B Band**

Span: 30 MHz to 10 GHz
RBW/VBW: 1 MHz