

TEST RESULT SUMMARY

FCC PART 22 SUBPART H

MANUFACTURER 1 - NAME	Vanu, Inc.
MANUFACTURER'S ADDRESS	One Porter Square, Suite 18 Cambridge MA 02140
NAME OF EQUIPMENT	Vanu Software Radio Base Station
MODEL NUMBER(S)	RAN-1.0
MANUFACTURER 2 - NAME	ADC Inc.
MANUFACTURER'S ADDRESS	PO Box 1101 Minneapolis MN 55440
NAME OF EQUIPMENT	Digivance Wide Band Digital Radio 800 MHz 50-Watt System
MODEL NUMBER(S)	DGVS-112710SYS DGVS-122710SYS
TEST REPORT NUMBER	WC402208.3
TEST DATE	07 May 2004

According to testing performed at TÜV Product Service Inc, the above-mentioned unit is in compliance with the electromagnetic compatibility requirements defined in FCC Part 22 Subpart H.

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 Product Service Inc, as an independent testing laboratory, declares that the equipment tested as specified above conforms to the requirements of FCC Part 22 Subpart H.

Date: 10 September 2004



Location: Taylors Falls MN
USA

J. C. Sausen
Test Technician

J. T. Schneider
Chief Engineer

Not Transferable

EMC EMISSION - TEST REPORT

Test Report File No. : **WC402208.3** Date of issue: 10 September 2004

MANUFACTURER 1 - NAME
MANUFACTURER'S ADDRESS

NAME OF EQUIPMENT
MODEL NUMBER(S)

MANUFACTURER 2 - NAME
MANUFACTURER'S ADDRESS

NAME OF EQUIPMENT
MODEL NUMBER(S)

TEST REPORT NUMBER

TEST DATE

Test Result

Test Project Number
Reference(s)

Total pages including
Appendices

Vanu, Inc.
One Porter Square, Suite 18
Cambridge MA 02140

Vanu Software Radio Base Station
RAN-1.0

ADC Inc.
PO Box 1101
Minneapolis MN 55440

Digivance Wide Band Digital Radio
800 MHz 50-Watt System

DGVS-112710SYS
DGVS-122710SYS

WC402208.3

07 May 2004

Positive Negative

WC402208.3

144

TÜV Product Service Inc is a subcontractor to TÜV Product Service, GmbH according to the principles outlined in ISO/IEC Guide 25 and EN 45001. TÜV Product Service 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 Product Service Inc shall have no liability for any deductions, inferences or generalizations drawn by the client or others from TÜV Product Service 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 or any agency of the US government.

TÜV Product Service 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 - E M I S S I O N S

	Page(s)
A) Documentation	
Test report	1 – 136
Directory	2
Test Regulations	3
B) Test data	
22.355 Frequency tolerance	5 - 7
22.913 Effective Radiated Power Limit	8 - 9
22.915 Modulation requirements	10
22.917 Emission Limitations for cellular	10 - 112
2.1053 Case radiation	113 - 125
EUT Operating Mode and Configuration Information	126
Deviations, General Remarks and Summary	127
Test Equipment List	128
Test Setup Diagrams and Photo(s)	129 - 136
C) Product Information	
Product Information Form	A1 – A8

EMISSIONS TEST REGULATIONS :

The emissions tests were performed according to following regulations:

- EN 50081-1 / 1991

- EN 55011 / 1991

- Group 1

- Group 2

- EN 55013 / 1990

- EN 55014 / 1987

- Class A

- Class B

- EN 55014 / A2:1990

- EN 55014 / 1993

- Household appliances and similar

- Portable tools

- Semiconductor devices

- EN 55015 / 1987

- EN 55015 / A1:1990

- EN 55015 / 1993

- EN 55022 / 1987

- FCC Part 22 Subpart H

- Class A

- Class B

- BS

- VCCI

- FCC

- AS 3548 (1992)

- Class A

- Class B

- CISPR 11 (1990)

- Class A

- Class B

- CISPR 22 (1993)

- Class A

- Class B

- Group 1

- Group 2

- Class A

- Class B

- Class A

- Class B

Environmental conditions in the lab:

	<u>Actual</u>
Temperature	: 23 °C
Relative Humidity	: 28 %
Atmospheric pressure	: 98.0 kPa
Power supply system	: 60 Hz - 115 V - 1-phase

Sign Explanations:

- not applicable
- applicable



22.355 Frequency tolerance

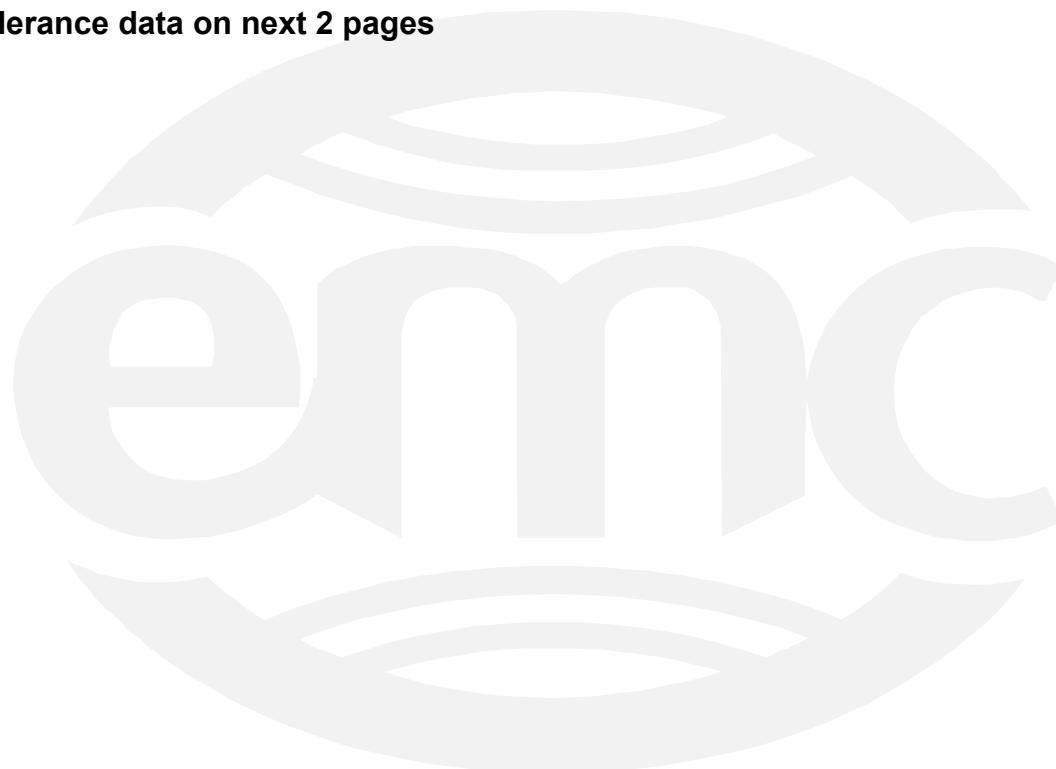
The Frequency Tolerance measurements were performed at the following test location:

- - ADC facility

The EUT Server is specified for indoor use only with temperature range of +10 to +35° C and was tested within its range. The EUT STM and LPA are specified with a temperature range of -30 to +50° C and were tested within their range.

The remote units are placed in the temp chamber and the temp is lowered to -30 degrees C. Incremental temperature increases are administered and test measurements are taken when the units are soaked long enough. When the testing has been completed for the temperatures up to 0 degrees, then the host unit is placed in the temp chamber and testing resumes all the way up to +50 degrees C.

Frequency tolerance data on next 2 pages



Frequency Tolerance Test for ADC Inc
Digivance 800 MHz 50-Watt SDR System
Model Numbers DGVS-112710SYS and DGVS-122710SYS

EUT A Band

Input Voltage	Carrier Frequency	Measured Frequency	Meets requirement?
102 VAC	869.200000 MHz	869.200000 MHz	YES
120 VAC	869.200000 MHz	869.200000 MHz	YES
138 VAC	869.200000 MHz	869.200000 MHz	YES
102 VAC	879.800000 MHz	879.800000 MHz	YES
120 VAC	879.800000 MHz	879.800000 MHz	YES
138 VAC	879.800000 MHz	879.800000 MHz	YES
102 VAC	891.400000 MHz	891.400000 MHz	YES
120 VAC	891.400000 MHz	891.400000 MHz	YES
138 VAC	891.400000 MHz	891.400000 MHz	YES
Temperature	Carrier Frequency	Measured Frequency	Meets requirement?
-30 Deg C	869.200000 MHz	869.200000 MHz	YES
-20 Deg C	869.200000 MHz	869.200000 MHz	YES
-10 Deg C	869.200000 MHz	869.200000 MHz	YES
0 Deg. C	869.200000 MHz	869.200000 MHz	YES
10 Deg C	869.200000 MHz	869.200000 MHz	YES
20 Deg C	869.200000 MHz	869.200000 MHz	YES
30 Deg C	869.200000 MHz	869.200000 MHz	YES
40 Deg C	869.200000 MHz	869.200000 MHz	YES
50 Deg C	869.200000 MHz	869.200000 MHz	YES
-30 Deg C	879.800000 MHz	879.800000 MHz	YES
-20 Deg C	879.800000 MHz	879.800000 MHz	YES
-10 Deg C	879.800000 MHz	879.800000 MHz	YES
0 Deg. C	879.800000 MHz	879.800000 MHz	YES
10 Deg C	879.800000 MHz	879.800000 MHz	YES
20 Deg C	879.800000 MHz	879.800000 MHz	YES
30 Deg C	879.800000 MHz	879.800000 MHz	YES
40 Deg C	879.800000 MHz	879.800000 MHz	YES
50 Deg C	879.800000 MHz	879.800000 MHz	YES
-30 Deg C	891.400000 MHz	891.400000 MHz	YES
-20 Deg C	891.400000 MHz	891.400000 MHz	YES
-10 Deg C	891.400000 MHz	891.400000 MHz	YES
0 Deg. C	891.400000 MHz	891.400000 MHz	YES
10 Deg C	891.400000 MHz	891.400000 MHz	YES
20 Deg C	891.400000 MHz	891.400000 MHz	YES
30 Deg C	891.400000 MHz	891.400000 MHz	YES
40 Deg C	891.400000 MHz	891.400000 MHz	YES
50 Deg C	891.400000 MHz	891.400000 MHz	YES

EUT B Band

Input Voltage	Carrier Frequency	Measured Frequency	Meets requirement?
102 VAC	880.000000 MHz	880.000000 MHz	YES
120 VAC	880.000000 MHz	880.000000 MHz	YES
138 VAC	880.000000 MHz	880.000000 MHz	YES
102 VAC	887.000000 MHz	887.000000 MHz	YES
120 VAC	887.000000 MHz	887.000000 MHz	YES
138 VAC	887.000000 MHz	887.000000 MHz	YES
102 VAC	893.800000 MHz	893.800000 MHz	YES
120 VAC	893.800000 MHz	893.800000 MHz	YES
138 VAC	893.800000 MHz	893.800000 MHz	YES
Temperature	Carrier Frequency	Measured Frequency	Meets requirement?
-30 Deg C	880.000000 MHz	880.000000 MHz	YES
-20 Deg C	880.000000 MHz	880.000000 MHz	YES
-10 Deg C	880.000000 MHz	880.000000 MHz	YES
0 Deg. C	880.000000 MHz	880.000000 MHz	YES
10 Deg C	880.000000 MHz	880.000000 MHz	YES
20 Deg C	880.000000 MHz	880.000000 MHz	YES
30 Deg C	880.000000 MHz	880.000000 MHz	YES
40 Deg C	880.000000 MHz	880.000000 MHz	YES
50 Deg C	880.000000 MHz	880.000000 MHz	YES
-30 Deg C	887.000000 MHz	887.000000 MHz	YES
-20 Deg C	887.000000 MHz	887.000000 MHz	YES
-10 Deg C	887.000000 MHz	887.000000 MHz	YES
0 Deg. C	887.000000 MHz	887.000000 MHz	YES
10 Deg C	887.000000 MHz	887.000000 MHz	YES
20 Deg C	887.000000 MHz	887.000000 MHz	YES
30 Deg C	887.000000 MHz	887.000000 MHz	YES
40 Deg C	887.000000 MHz	887.000000 MHz	YES
50 Deg C	887.000000 MHz	887.000000 MHz	YES
-30 Deg C	893.800000 MHz	893.800000 MHz	YES
-20 Deg C	893.800000 MHz	893.800000 MHz	YES
-10 Deg C	893.800000 MHz	893.800000 MHz	YES
0 Deg. C	893.800000 MHz	893.800000 MHz	YES
10 Deg C	893.800000 MHz	893.800000 MHz	YES
20 Deg C	893.800000 MHz	893.800000 MHz	YES
30 Deg C	893.800000 MHz	893.800000 MHz	YES
40 Deg C	893.800000 MHz	893.800000 MHz	YES
50 Deg C	893.800000 MHz	893.800000 MHz	YES

Note: EUT Server is specified for indoor use only with temperature range of +10 to +35° C and was tested within its range.

Note: EUT STM and LPA are specified with a temperature range of -30 to +50° C and were tested within their range.

22.913 Effective Radiated Power Limit

The Effective Radiated Power Limit measurements were tested at the following test location:

- Test not applicable

- ADC facility

This measurement was made as a direct conducted emission measurement. The output from the EUT antenna connector was connected directly to the spectrum analyzer, which was set up with a 1 MHz resolution bandwidth. The spectrum analyzer level was offset by 20 dB to compensate for the attenuator placed between the EUT and the analyzer, and by 2 dB for the measured cable loss between the EUT and the analyzer.

ERP data on following page



Effective Isotropic Radiated Power Limit Test for ADC Inc.
Digivance 800 MHz 50-Watt SDR System
Model Numbers DGVS-112710SYS and DGVS-122710SYS

This measurement was made as a direct conducted emission measurement. The output from the EUT antenna connector was connected to the spectrum analyzer. The Carrier Output, below, was conducted using a single CW signal. The spectrum analyzer level was offset to compensate for attenuators and cable loss between the EUT and the analyzer.

A CW signal was used at the low, mid and high parts of the selected band. The spectrum analyzer level was offset by 50.5 dB to compensate for attenuators and cable loss between the EUT and the analyzer.

Band A

Carrier Frequency	Carrier Output
869.20 MHz	+ 43.50 dBm
879.80 MHz	+ 44.83 dBm
891.40 MHz	+ 45.33 dBm

Band B

Carrier Frequency	Carrier Output
880.00 MHz	+ 46.00 dBm
887.00 MHz	+ 46.17 dBm
893.80 MHz	+ 47.17 dBm

22.915 Modulation requirements

The Modulation requirement measurements were performed at the following test location:

■ - Test not applicable

- Wild River Lab Large Test Site
- Wild River Lab Small Test Site (Open Area Test Site)
- Oakwood Lab (Open Area Test Site)
- Wild River Lab Screen Room
- New Brighton Lab Shielded Room

The instantaneous frequency deviation measurements and the audio filter characteristics measurements are not applicable to this device – it is an amplifier.

22.917 Emission Limitations for cellular

The Emission limitations for cellular measurements were performed at the following test location:

- Wild River Lab Large Test Site (Open Area Test Site)
- - ADC facility**

at a test distance of:

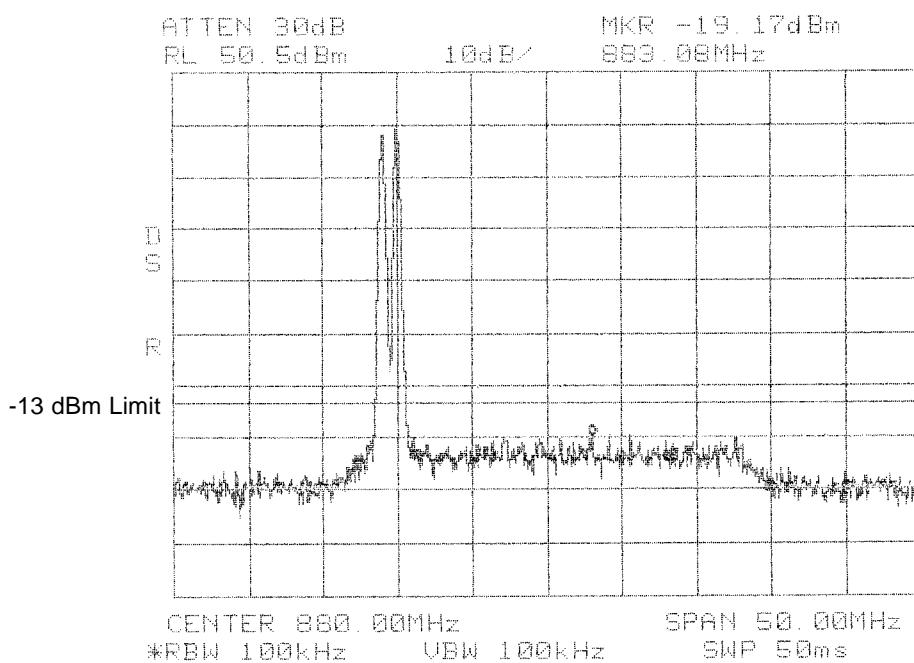
- - 3 meters**
- 10 meters

Inter-Modulation Test for ADC Inc.
Digivance 800 MHz 50-Watt SDR System
Model Numbers DGVS-112710SYS and DGVS-122710SYS

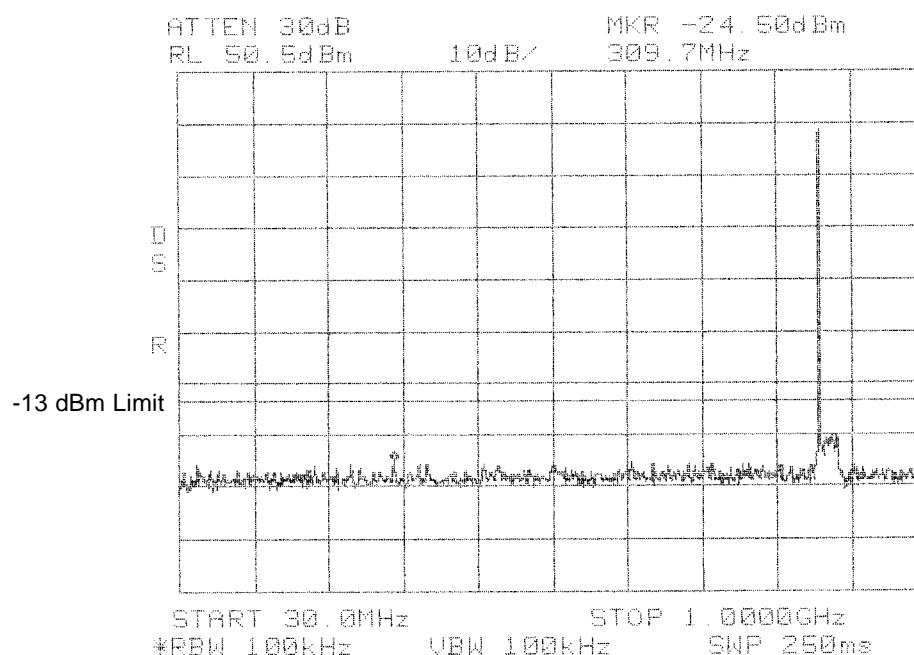
The intermodulation product test was performed for each bandwidth setting of the EUT. Two tests were performed with each modulation type. Test 1 was with two signals input into the EUT at lower end channels. Test 2 was with two signals input into the EUT at upper end channels. The modulation type tested was GSM. An investigation was made from 30 MHz to the 10th harmonic of the highest fundamental frequency (~10 GHz).

Results:

Pass (see plots)



Spikes are carrier signals.

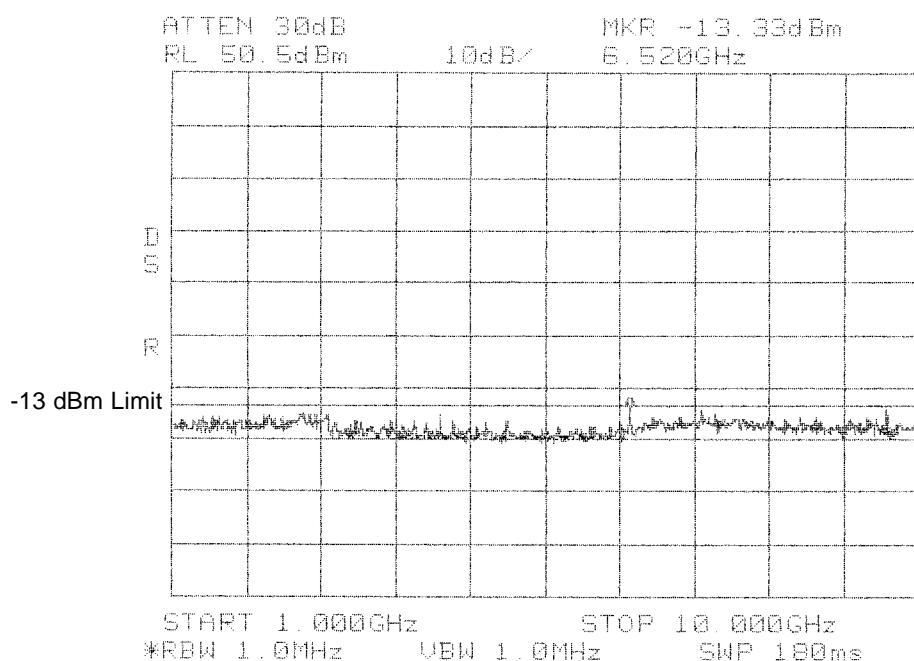


Spikes are carrier signals.

Software Defined Radio
Intermodulation
Low
GSM
A BAND
Channel 128
channel 133

Software Defined Radio
Intermodulation
Low
GSM
A BAND

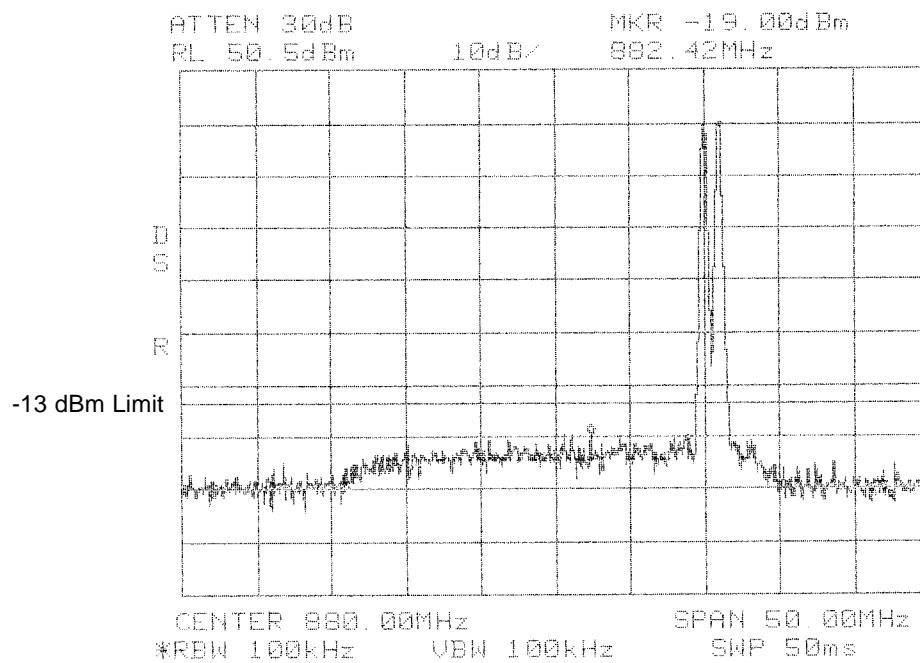
Channel 128
channel 133



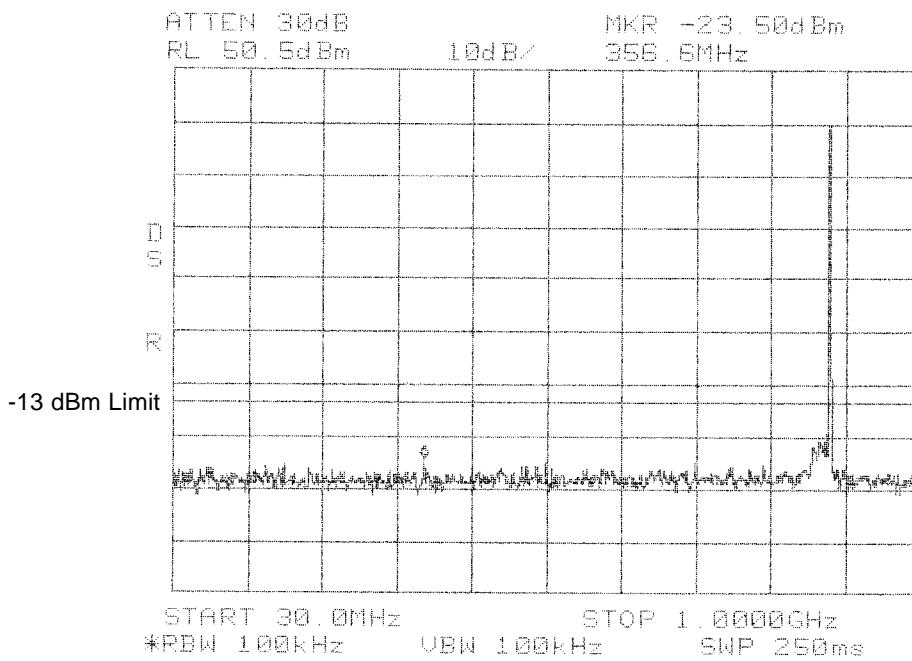
Spikes are carrier signals.

**Software Defined Radio
Intermodulation
Low
GSM
A BAND**

Channel 128
channel 133



Spikes are carrier signals.



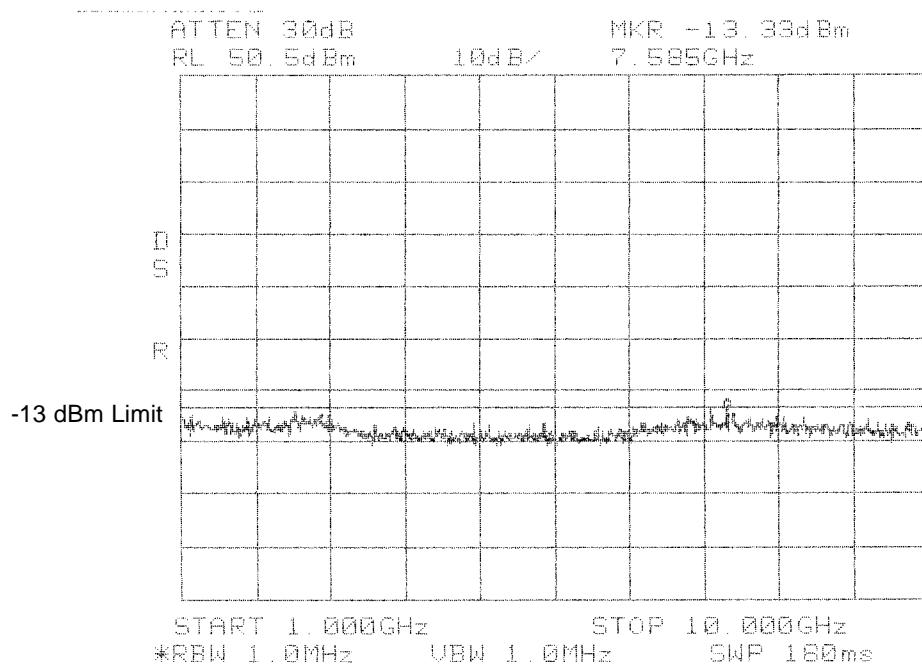
Spikes are carrier signals.

**Software Defined Radio
Intermodulation
High
GSM
A BAND**

Channel 233
channel 238

**Software Defined Radio
Intermodulation
High
GSM
A BAND**

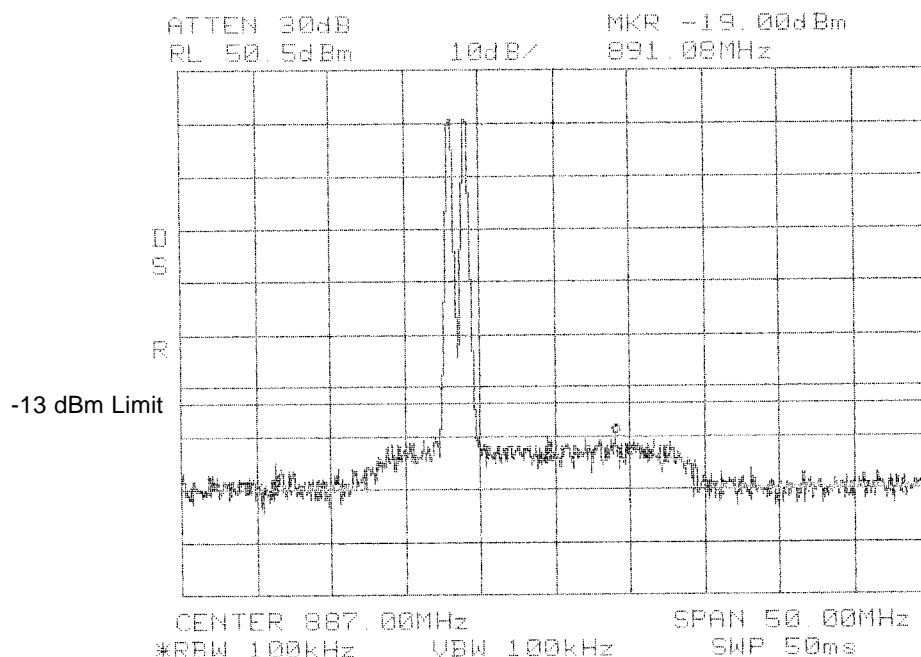
Channel 233
channel 238



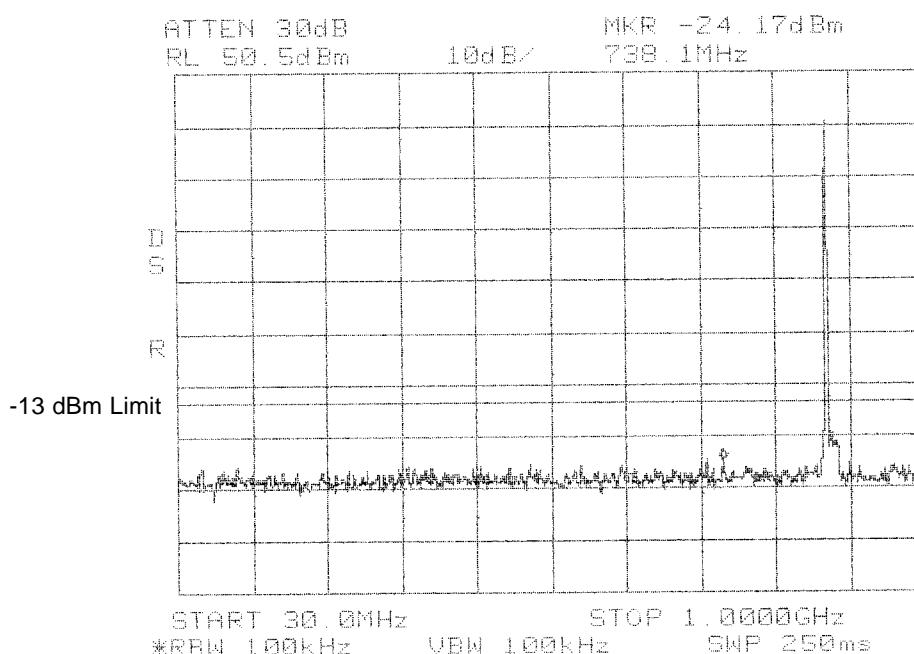
Spikes are carrier signals.

**Software Defined Radio
Intermodulation
High
GSM
A BAND**

Channel 233
channel 238



Spikes are carrier signals.



Spikes are carrier signals.

Software Defined Radio

Intermodulation

Low

GSM

B BAND

Channel 193

Channel 188

Channel 193
Channel 188

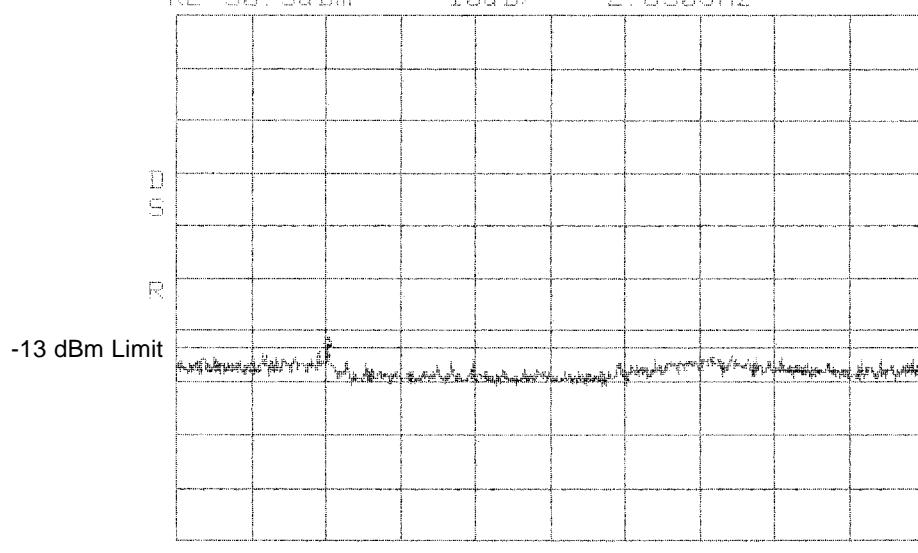
Software Defined Radio Intermodulation Low GSM B BAND

Channel 183
Channel 188

ATTEN 3dB
RL 50, 5dBm

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

MKR -13.17dBm
2.830GHz



Software Defined Radio

Intermodulation

Low

GSM

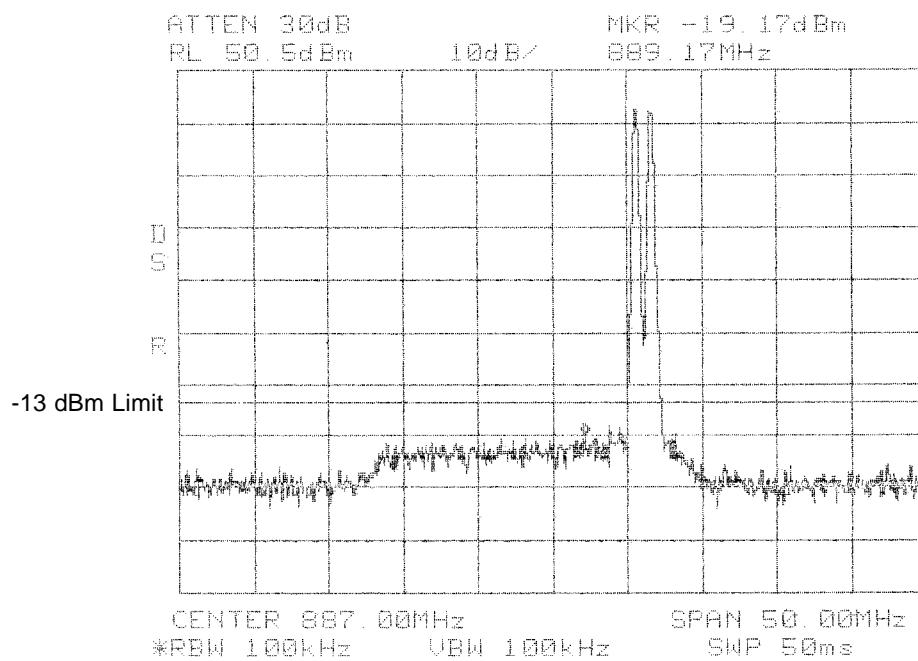
B BAND

Channel 183
Channel 188

-13 dBm Limit

START 1.000GHz STOP 10.000GHz
*RBW 1.0MHz VBW 1.0MHz SWP 100ms

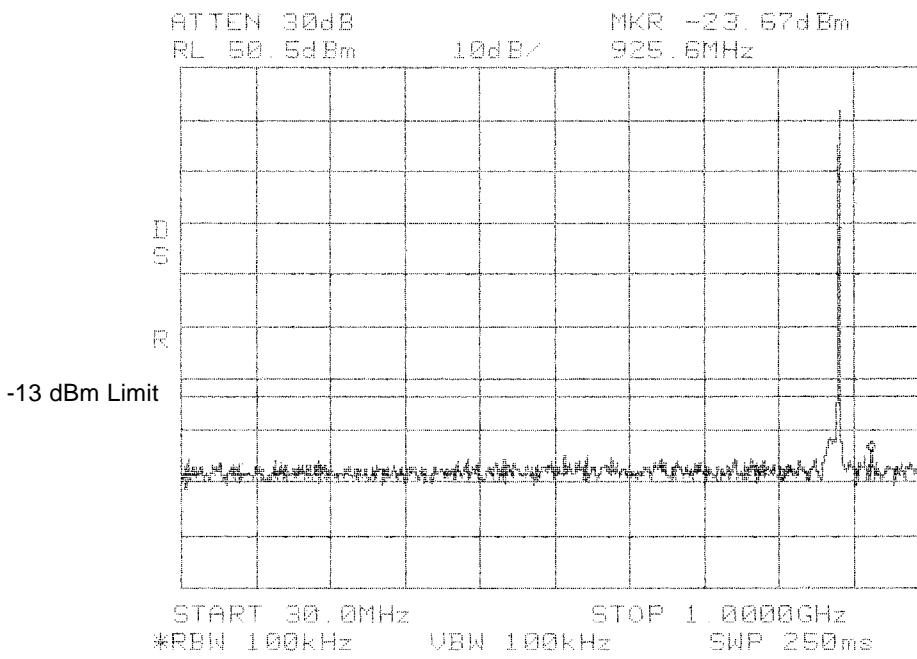
Spikes are carrier signals.



Spikes are carrier signals.

SPAN 50.00MHz
SWP 50ms

channel 246
channel 251



START 30.0MHz STOP 1.00000GHz
RBW 100kHz UVW 100kHz SWP 250ms

Spikes are carrier signals.

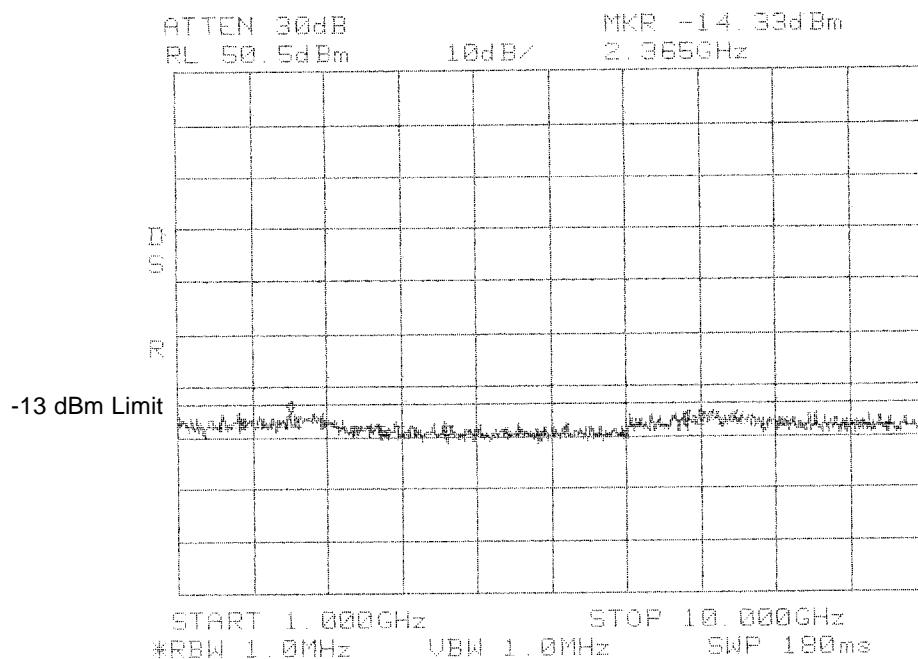
Software Defined Radio Intermodulation High GSM B BAND

Channel 246
channel 251

Software Defined Radio Intermodulation High GSM B BAND

Channel 246

channel 251



Spikes are carrier signals.

**Software Defined Radio
Intermodulation
High
GSM
B BAND**

Channel 246
Channel 251

Conducted Emission Limits Test for ADC Inc.
Digivance 800 MHz 50-Watt SDR System
Model Numbers DGVS-112710SYS and DGVS-122710SYS

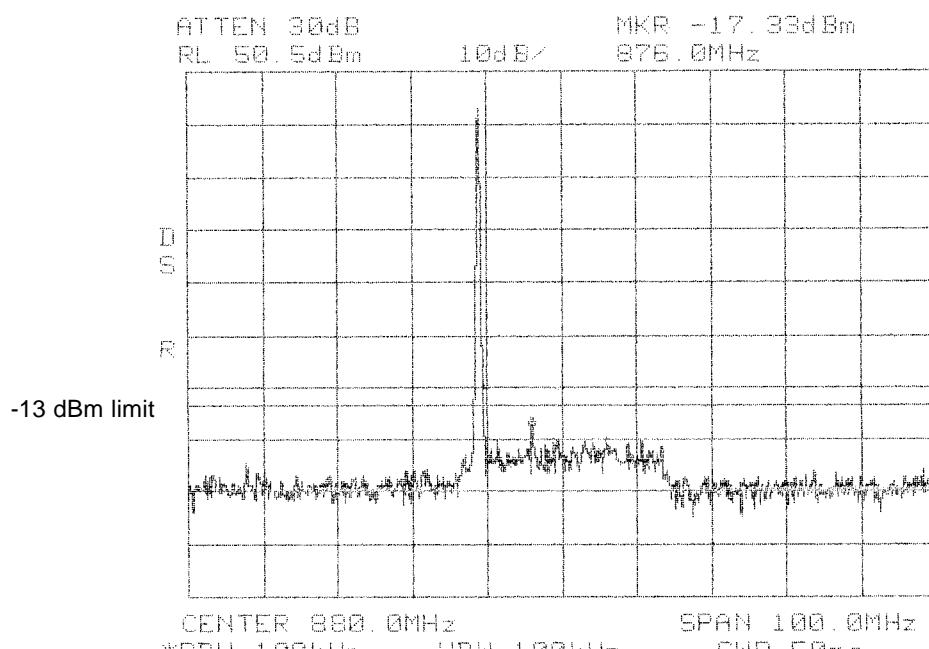
The out of band emissions were measured directly from the EUT antenna output with a spectrum analyzer from 30 MHz to the 10th harmonic of the highest carrier frequency. Test signals used are CW, and GSM. The different signals were input one at a time to the EUT. In all cases, the out of band emissions were less than -13dBm from the equation

$$(19\text{dBm} - [43 + 10\log(0.08W)])$$

Band edge compliance is also demonstrated using a GSM signal at the upper and lower limits of the band and a resolution bandwidth of 1 kHz.

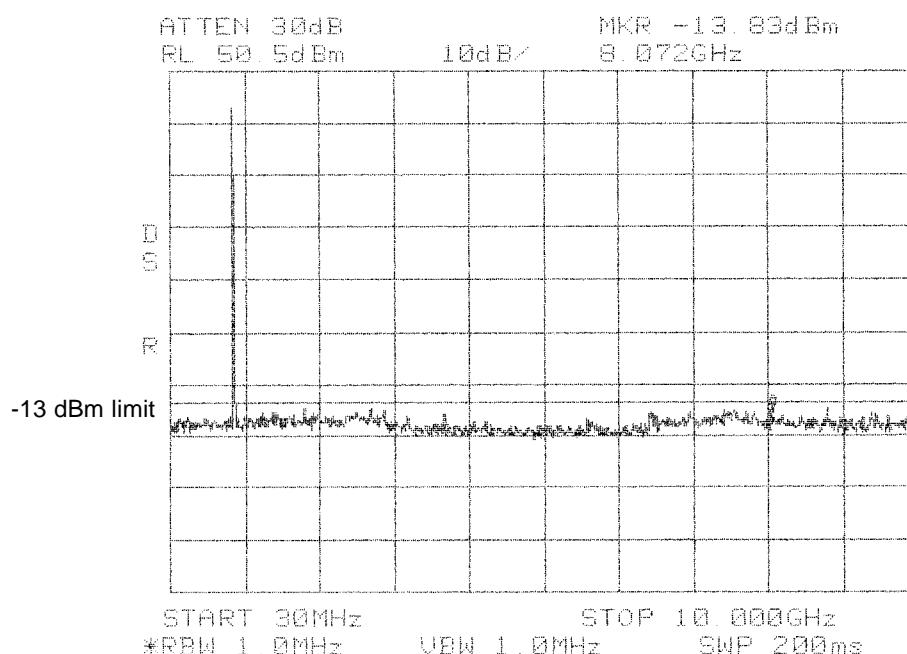
Results:

Pass (see plots)



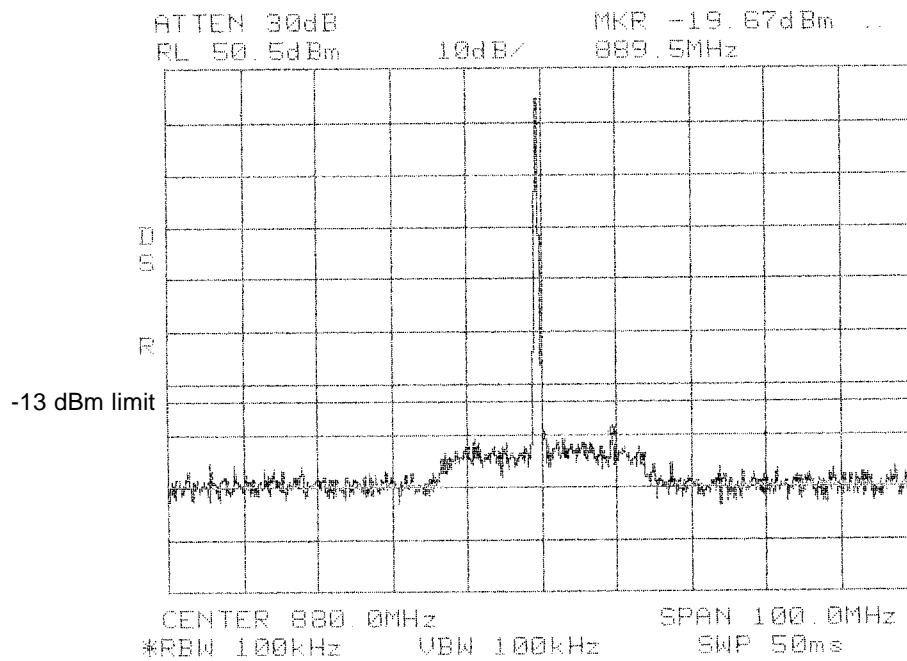
Spikes are carrier signals.

**Software Defined Radio
Conducted Emissions
LOW
A BAND**
Channel 128



Spikes are carrier signals.

**Software Defined Radio
Conducted Emissions
LOW
A BAND**
Channel 128



ATTEN 30dB MKR -14.50dBm
 RL 50 5dBm 10dB/ 7.724GHz

it

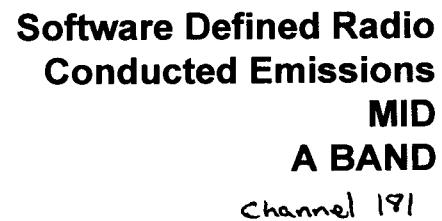
START 30MHz STOP 10.000GHz
 *RBW 1.0MHz VBW 1.0MHz SWP 200ms

Spikes are carrier signals.

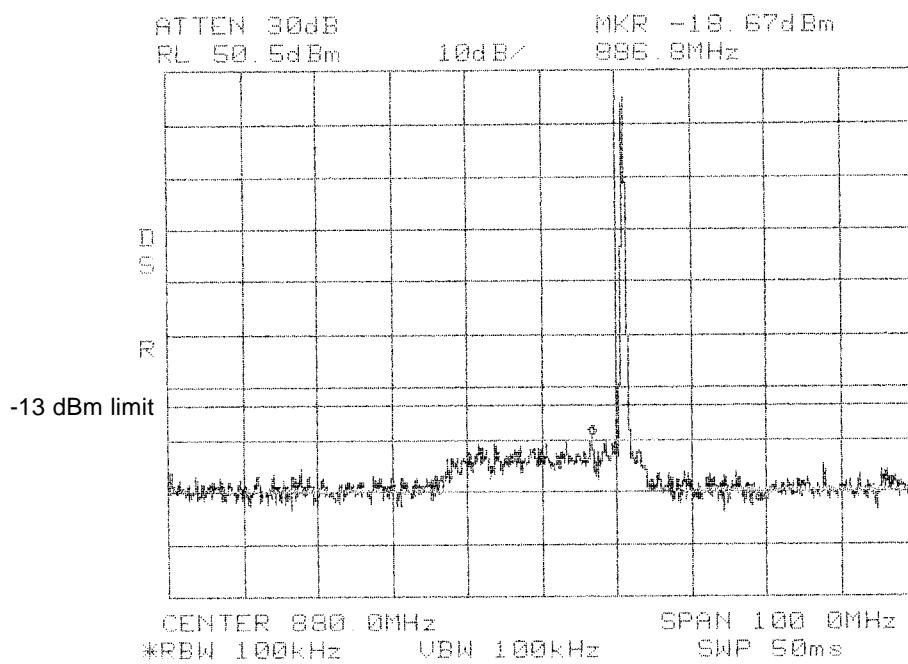
Spikes are carrier signals.

Software Defined Radio Conducted Emissions MID A BAND

Channel 181

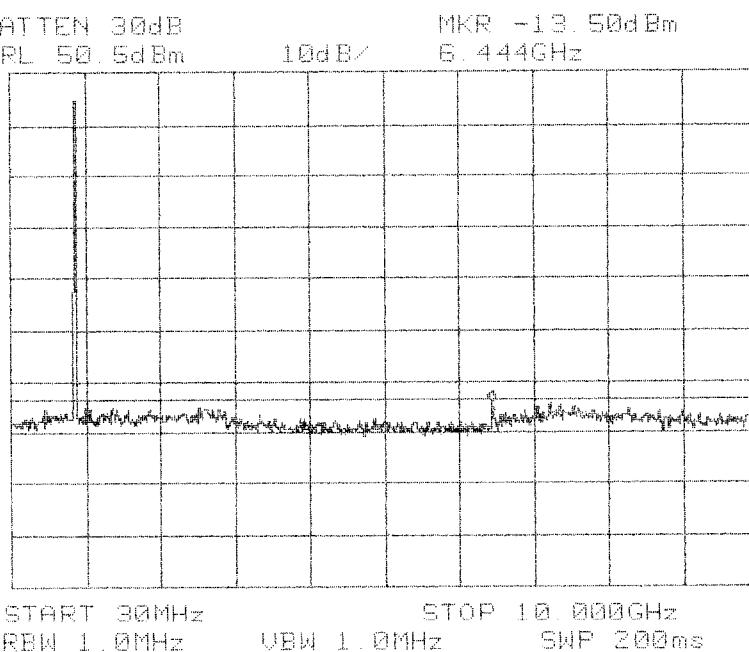


Channel 181



**Software Defined Radio
Conducted Emissions
HIGH
A BAND**

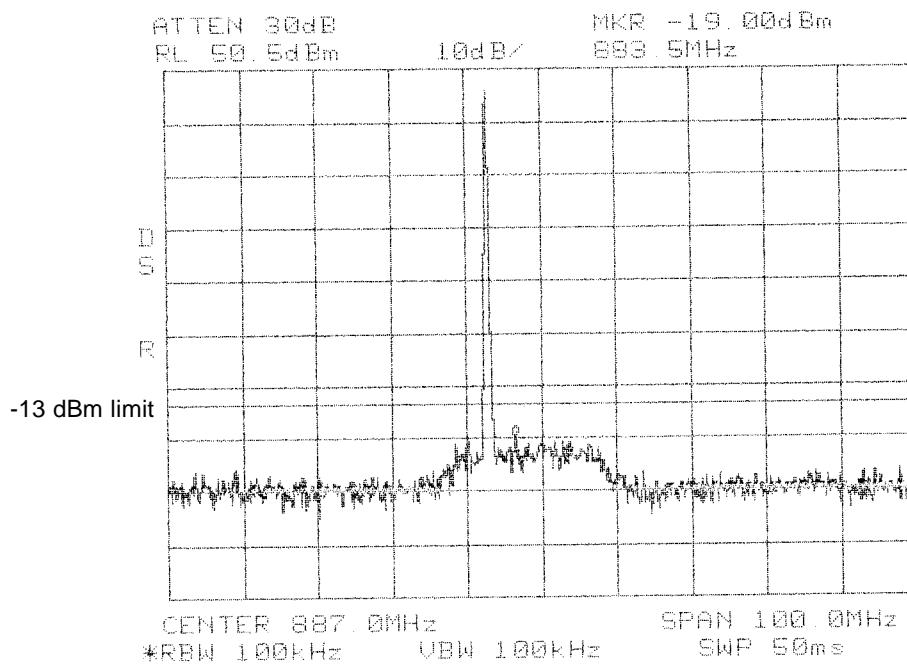
Channel 239



**Software Defined Radio
Conducted Emissions
HIGH
A BAND**

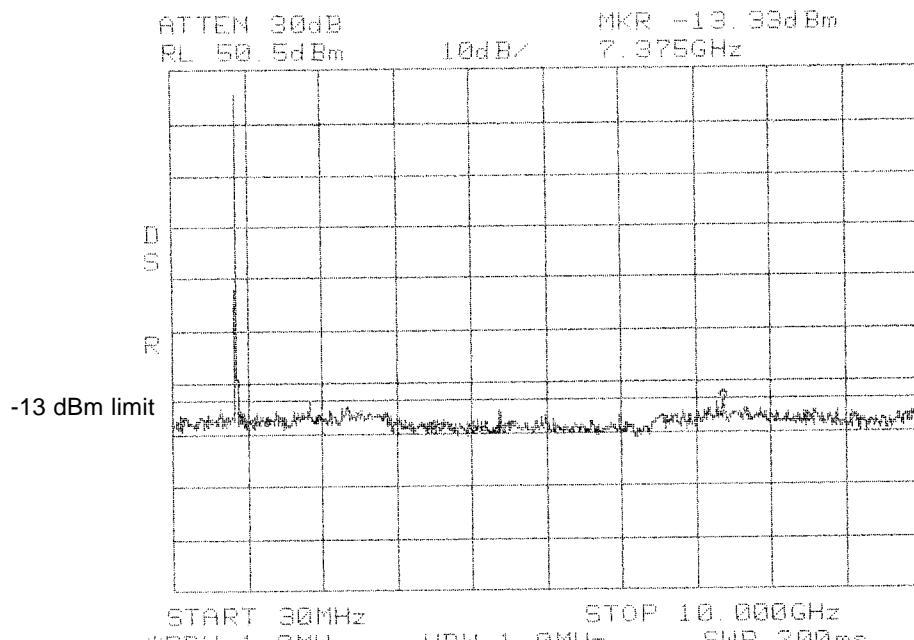
Channel 239

Spikes are carrier signals.



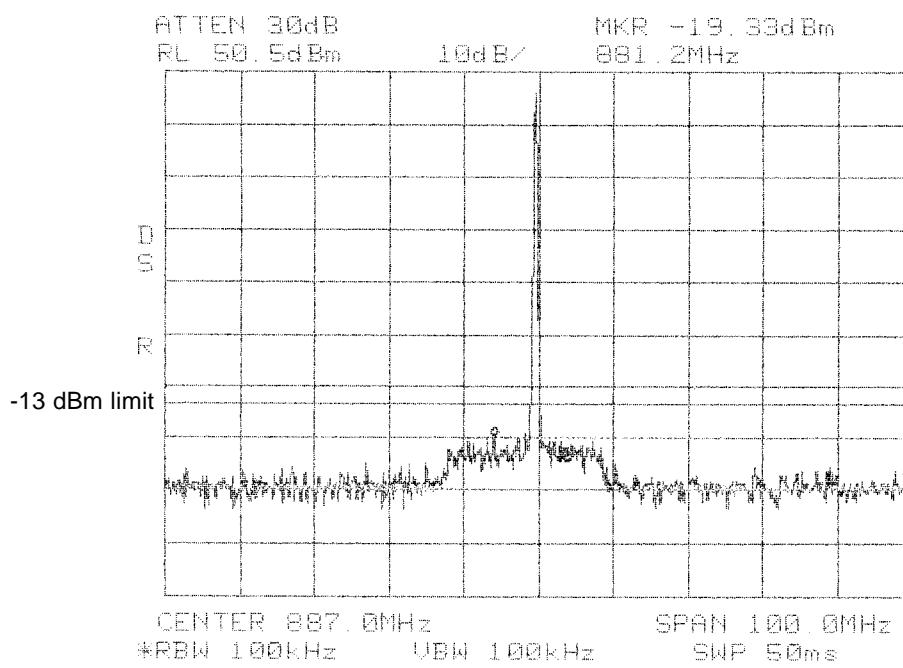
Spikes are carrier signals.

**Software Defined Radio
Conducted Emissions
LOW
B BAND**
Channel 183



Spikes are carrier signals.

**Software Defined Radio
Conducted Emissions
LOW
B BAND**
Channel 183



ATTEN 30dB MKR -13 -17dB
RL 50.5dB 10dB/ 9.106GHz

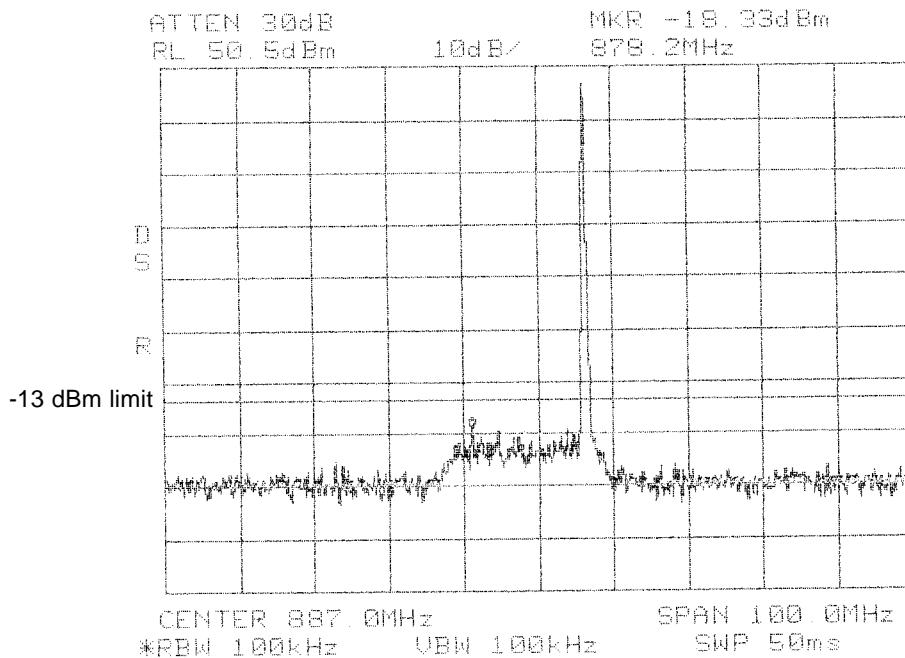
-13 dBm limit

START 30MHz STOP 10.000GHz
 *RBW 1.0MHz VBW 1.0MHz SWP 200ms

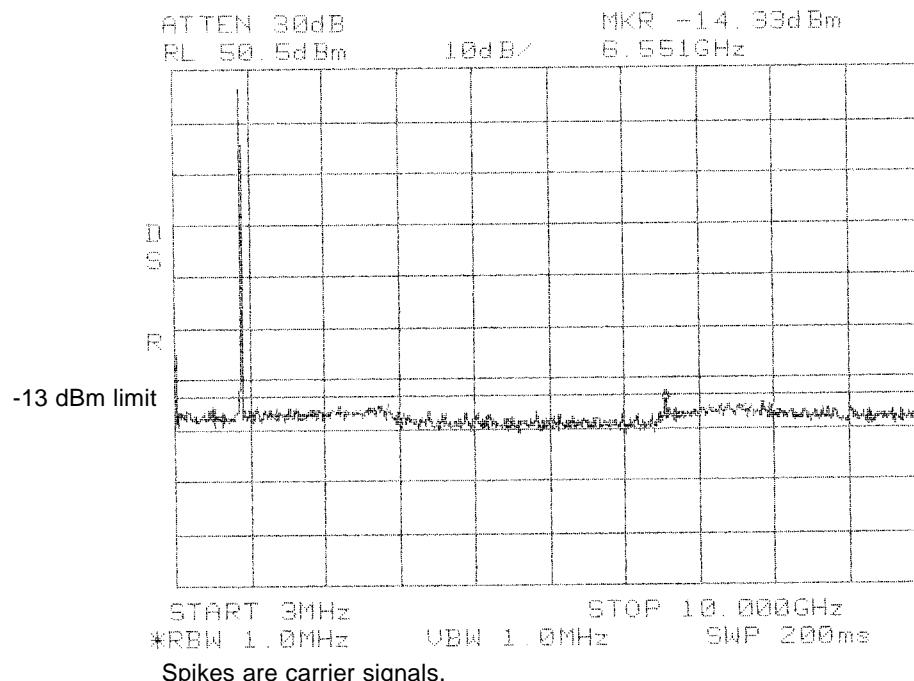
Spikes are carrier signals.

Software Defined Radio Conducted Emissions MID B BAND channel 21

Software Defined Radio Conducted Emissions MID B BAND Channel 21

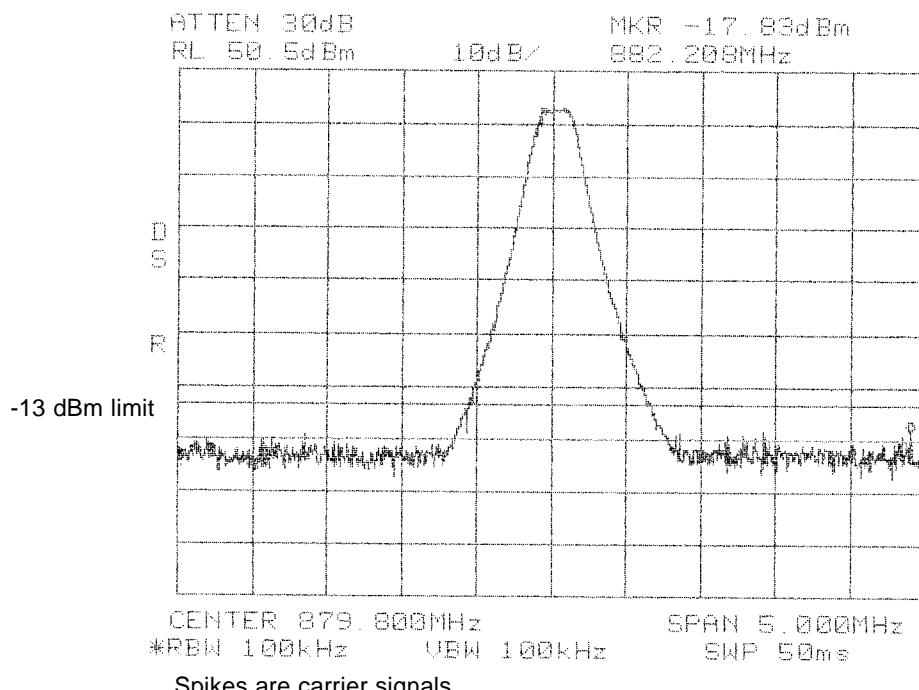


Spikes are carrier signals.



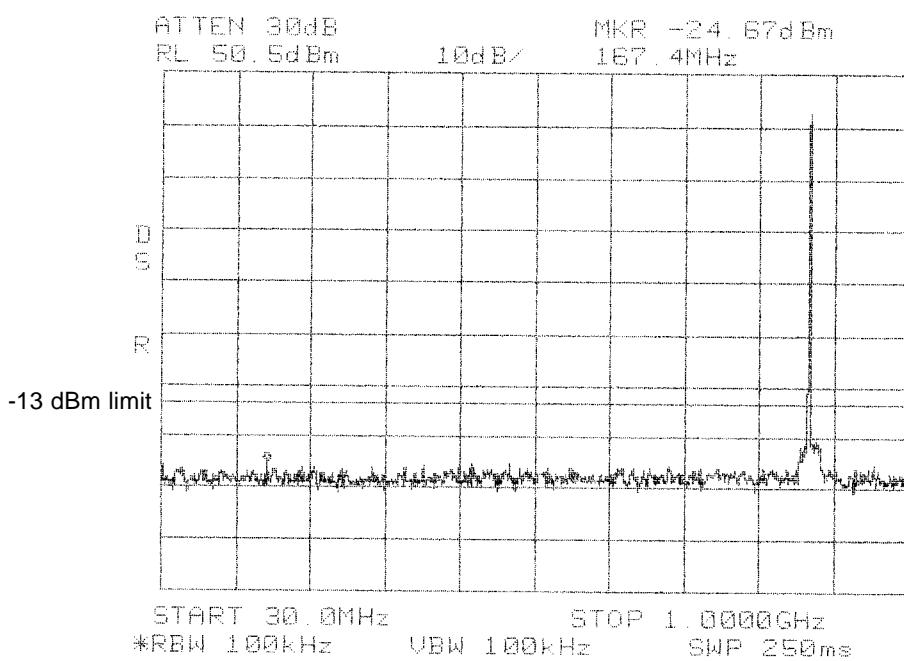
**Software Defined Radio
Conducted Emissions
HIGH
B BAND**
channel 251

**Software Defined Radio
Conducted Emissions
HIGH
B BAND**
channel 251



Software Defined Radio Conducted Emissions GSM A BAND

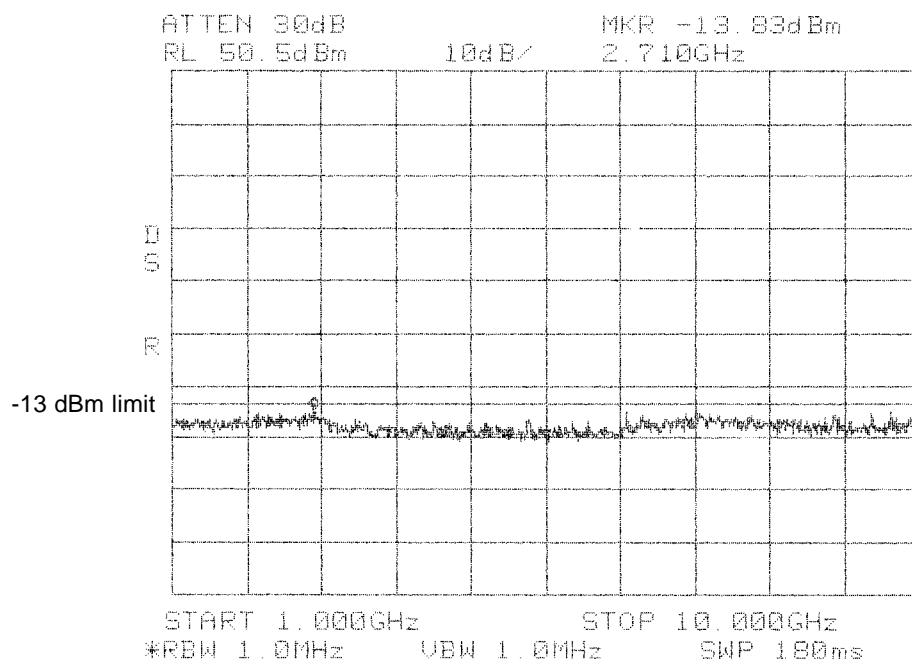
Channel 181



Software Defined Radio Conducted Emissions GSM A BAND

Channel 181

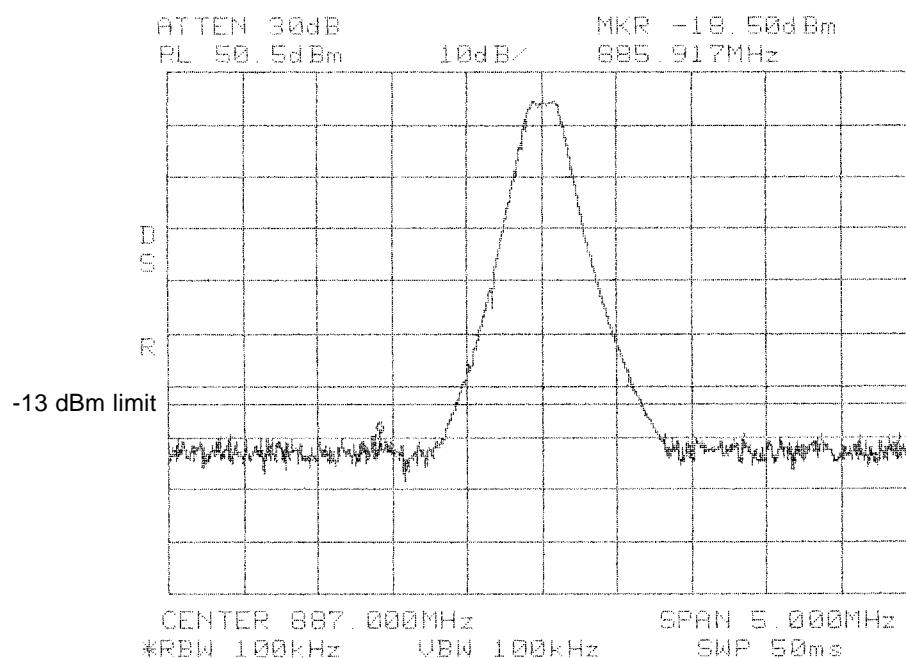
Spikes are carrier signals.



Spikes are carrier signals.

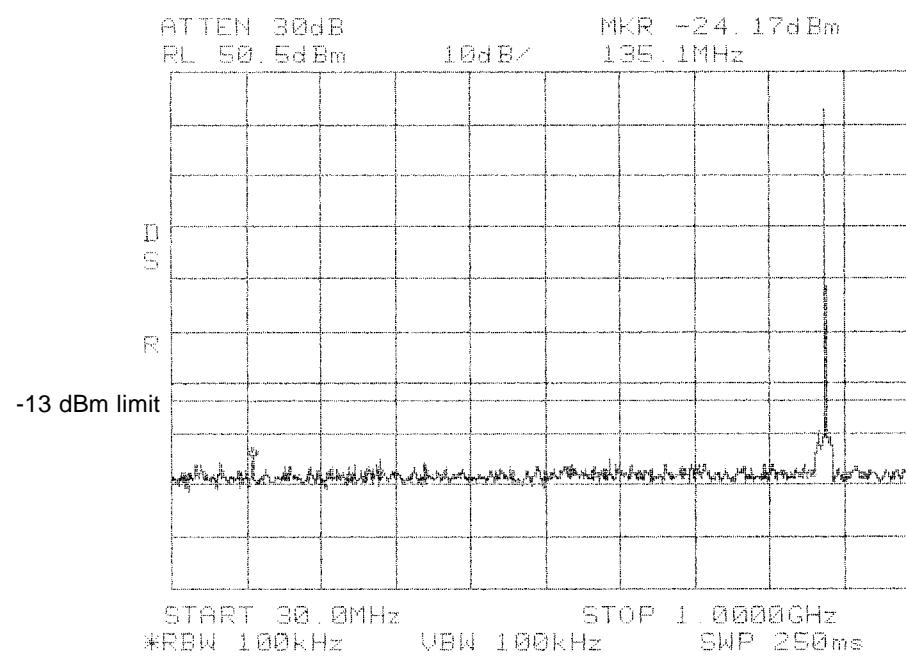
**Software Defined Radio
Conducted Emissions
GSM
A BAND**

Channel 181



**Software Defined Radio
Conducted Emissions
GSM
B BAND**

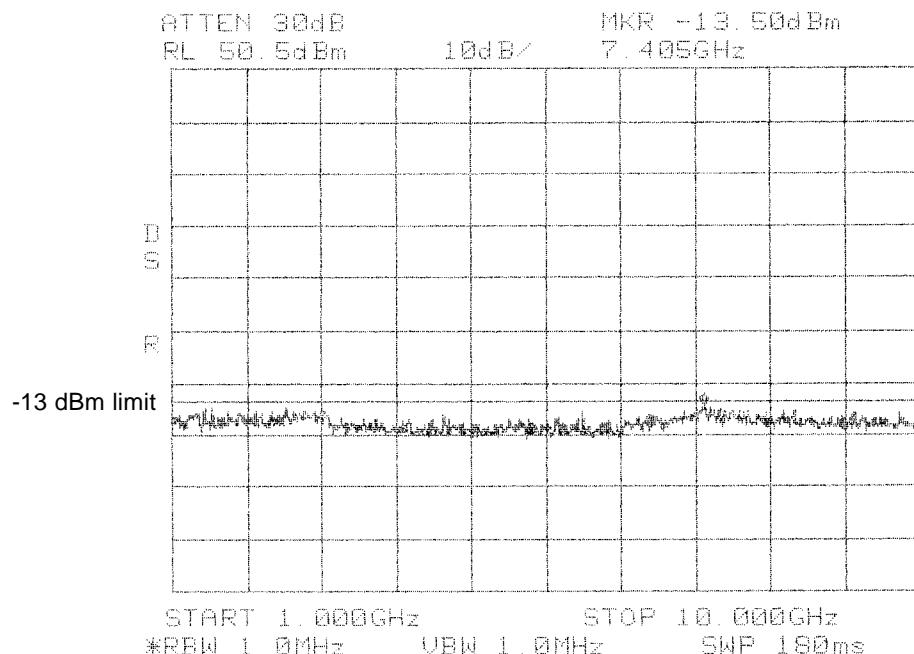
Channel 217



**Software Defined Radio
Conducted Emissions
GSM
B BAND**

Channel 217

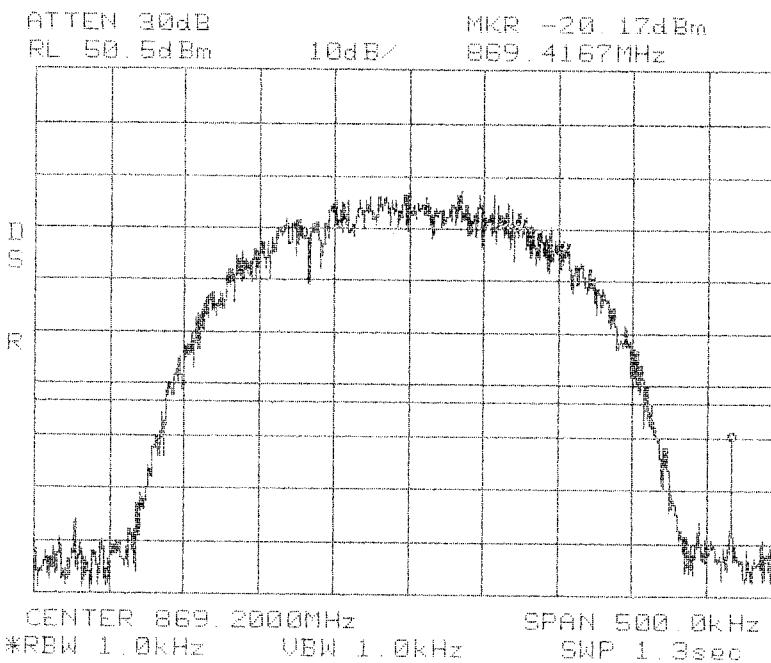
Spikes are carrier signals.



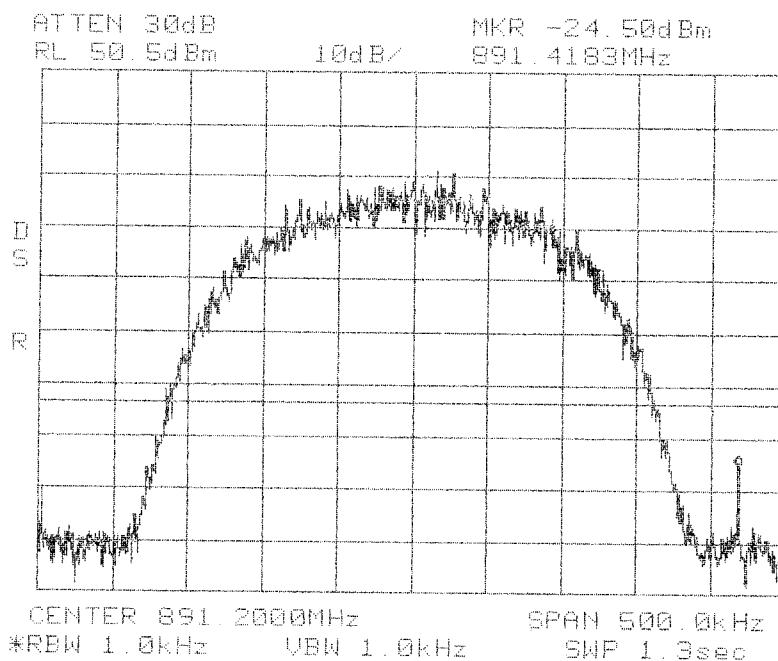
Spikes are carrier signals.

**Software Defined Radio
Conducted Emissions
GSM
B BAND**

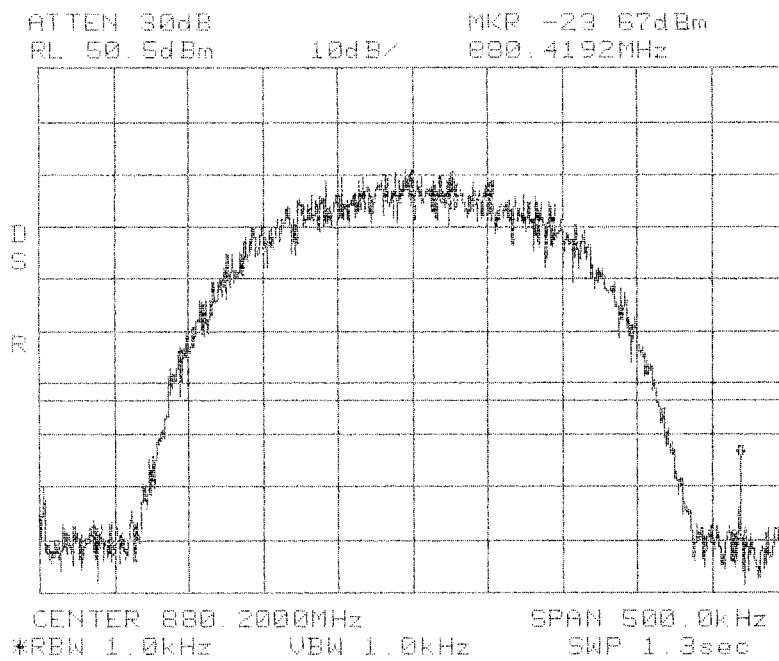
Channel 217



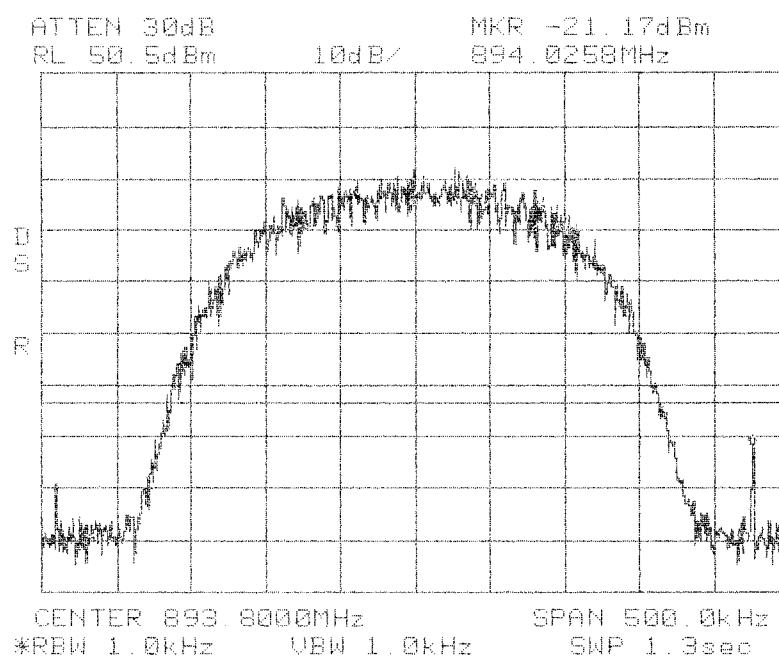
**Software Defined Radio
Conducted Emissions
Band Edge
GSM
A BAND**
Channel 128



**Software Defined Radio
Conducted Emissions
Band Edge
GSM
A BAND**
Channel 238



**Software Defined Radio
Conducted Emissions
Band Edge
GSM
B BAND**
Channel 183



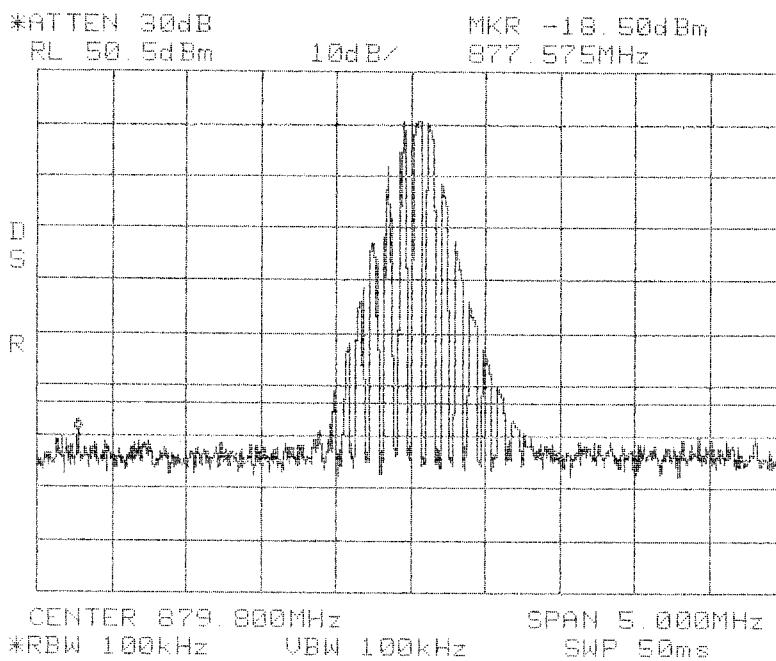
**Software Defined Radio
Conducted Emissions
Band Edge
GSM
B BAND**
Channel 251

Software Test 1 for ADC Inc.
Digivance 800 MHz 50-Watt SDR System
Model Numbers DGVS-112710SYS and DGVS-122710SYS

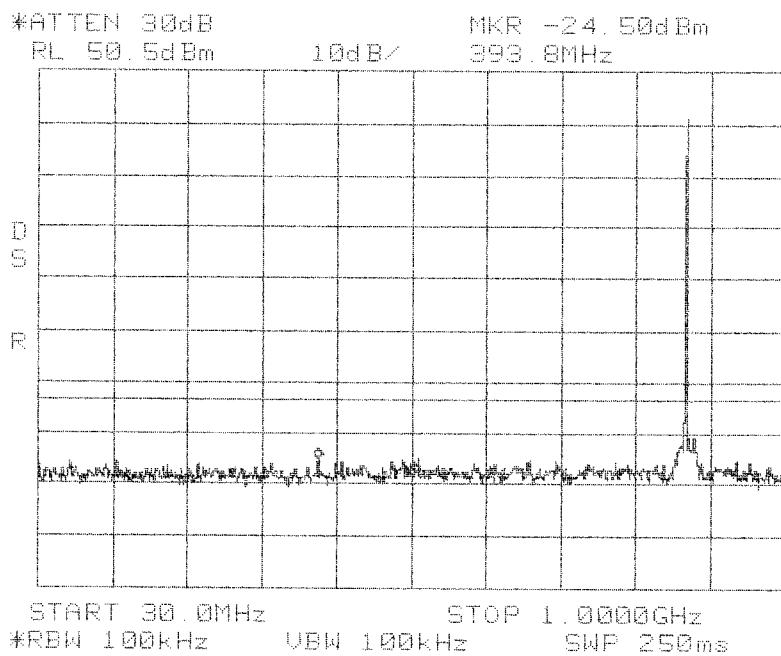
The out of band emissions were measured directly from the EUT antenna output with a spectrum analyzer from 30 MHz to the 10th harmonic of the highest carrier frequency. The Software Test 1 simply simulates a GSM signal syncburst dropout where we are sending the PCIx card the data filling every other page with zeros.

Results:

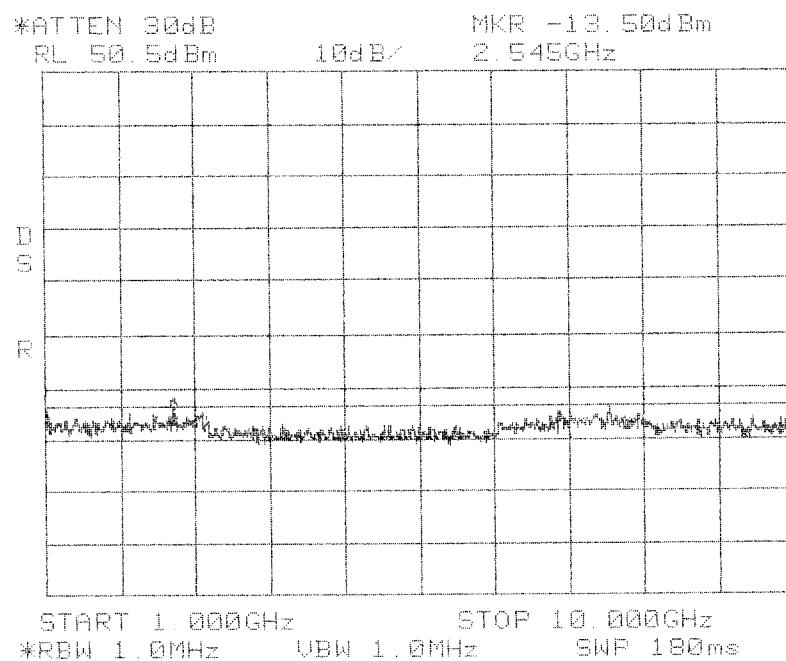
Pass (see plots)



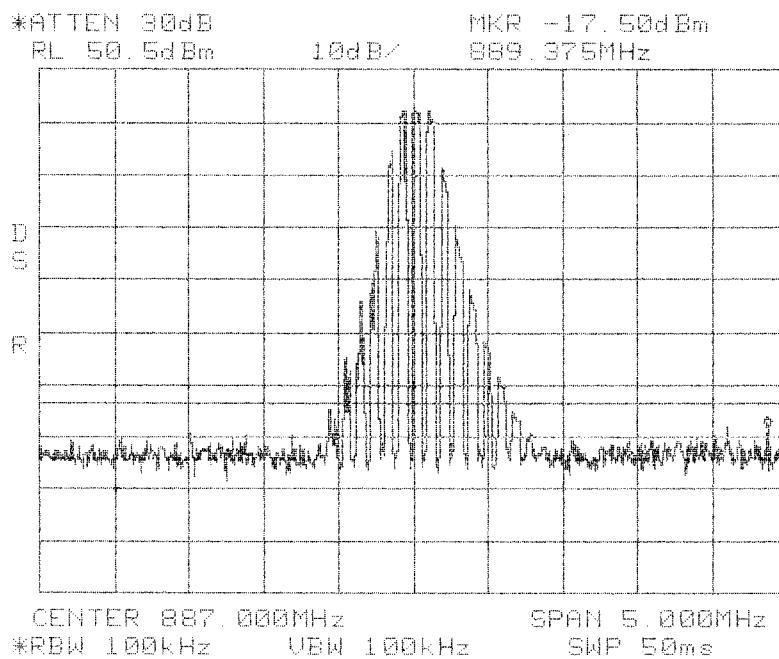
Software Defined Radio
Software Test 1
A Band
 Channel 181



Software Defined Radio
Software Test 1
A Band
 Channel 181

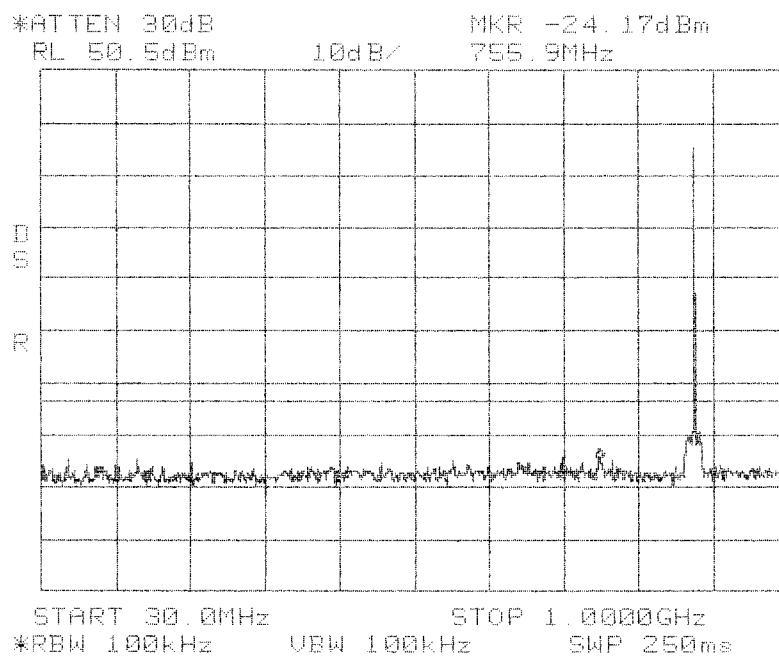


**Software Defined Radio
Software Test 1
A Band**



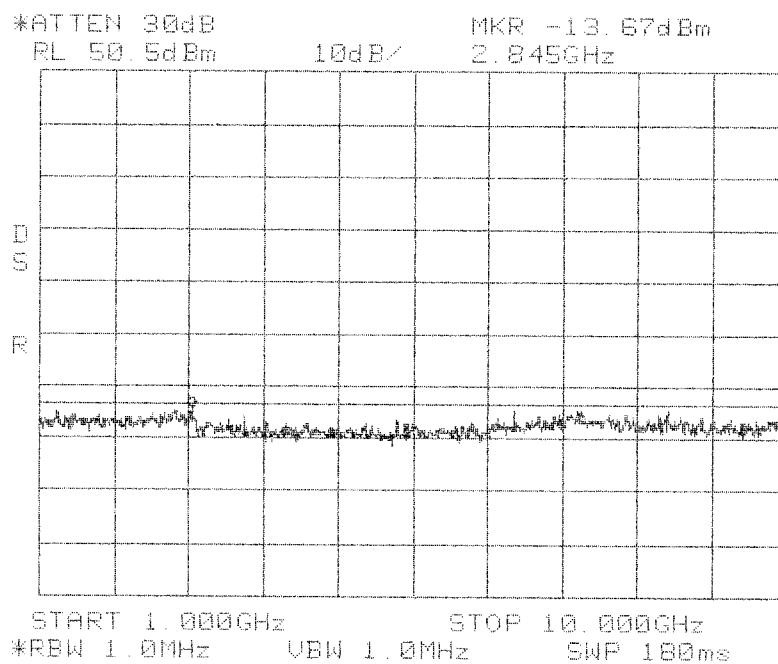
Software Defined Radio
Software Test 1
B Band

Channel 217



Software Defined Radio
Software Test 1
B Band

channel 217



Software Defined Radio
Software Test 1
B Band

channel 217

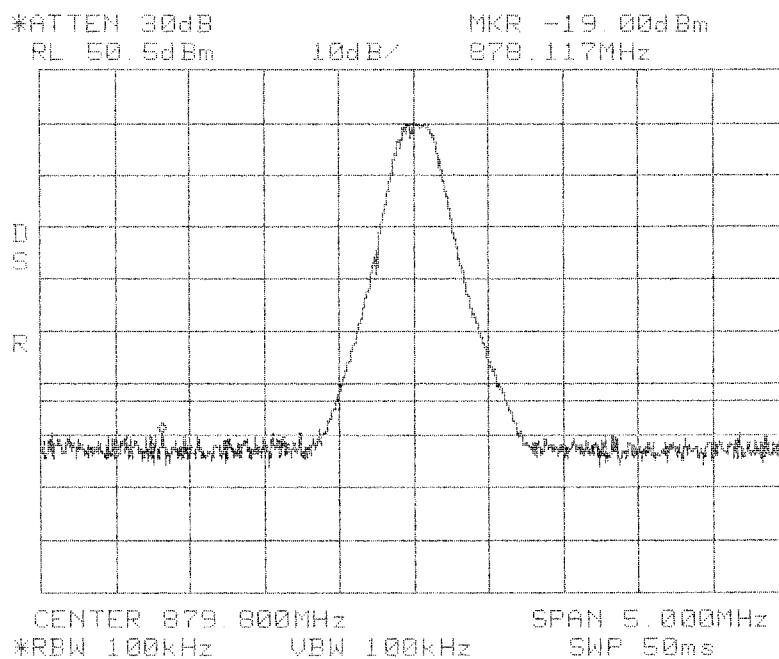
Software Defined Radio
Software Test 1
B Band

Software Test 2 for ADC Inc.
Digivance 800 MHz 50-Watt SDR System
Model Numbers DGVS-112710SYS and DGVS-122710SYS

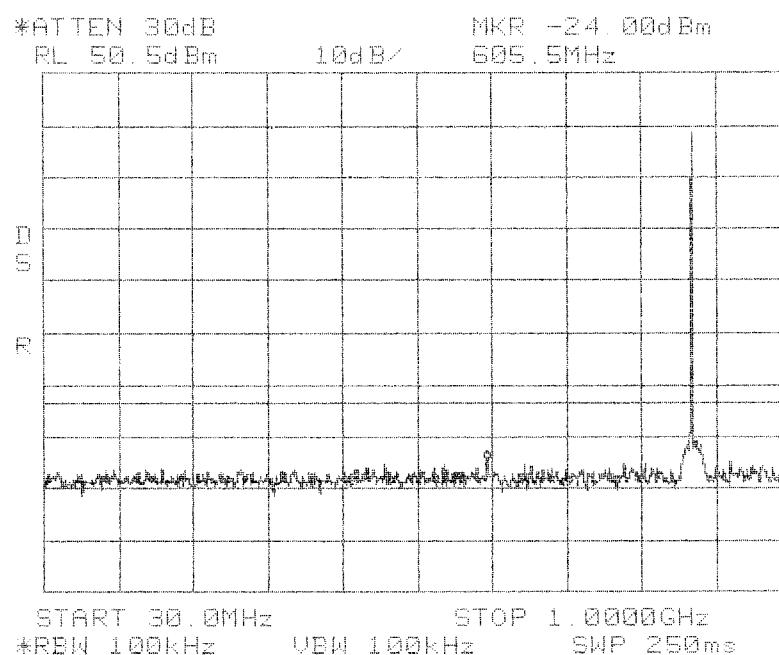
The out of band emissions were measured directly from the EUT antenna output with a spectrum analyzer from 30 MHz to the 10th harmonic of the highest carrier frequency. The Software Test 2 will simply suspend the GSM signal program for seconds at a time every couple of seconds. This should be equivalent to the behavior of the base station if there is a software failure.

Results:

Pass (see plots)



Software Defined Radio
Software Test 2
A Band
Channel 181



Software Defined Radio
Software Test 2
A Band
channel 181

Software Defined Radio

Software Test 2

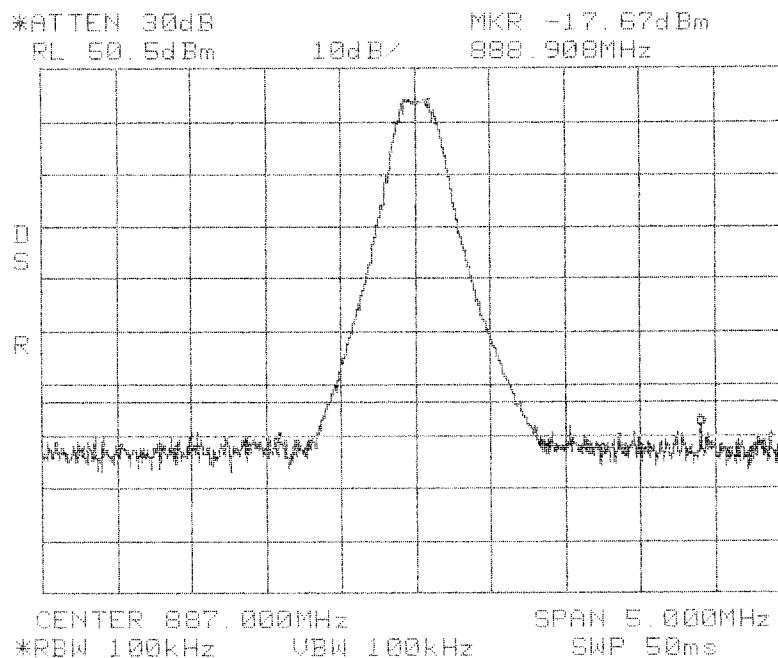
A Band

Channel 181

Software Defined Radio

Software Test 2

A Band



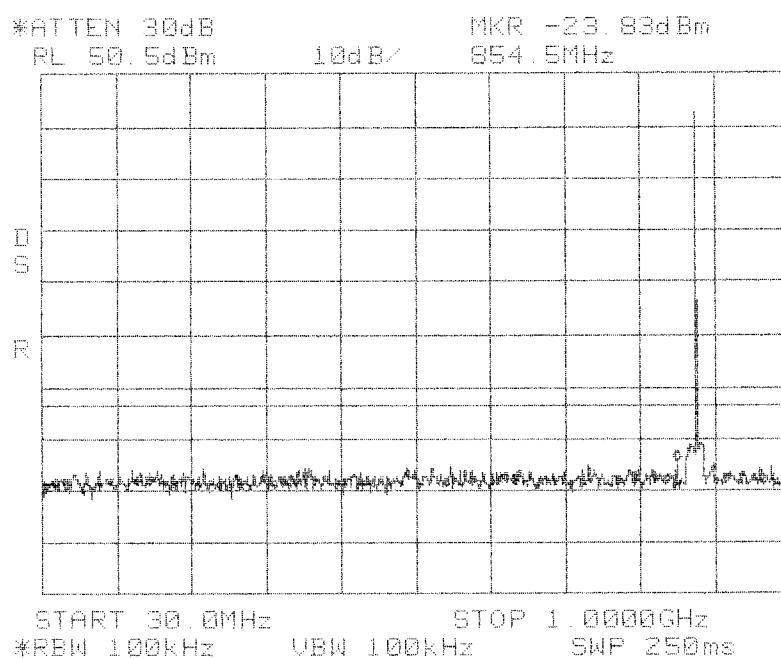
Software Defined Radio

Software Test 2

B Band

Channel 217

Channel 217

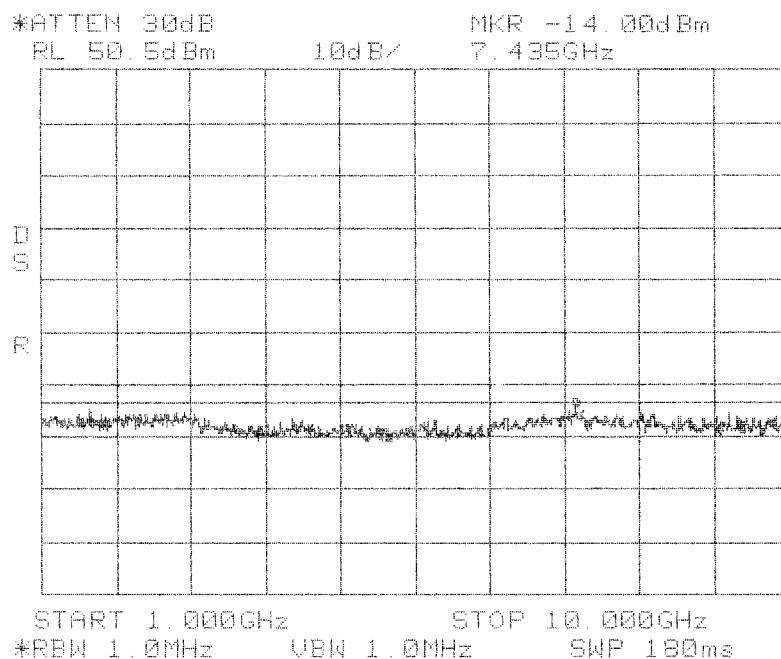


Software Defined Radio

Software Test 2

B Band

Channel 217



Software Defined Radio
Software Test 2
B Band

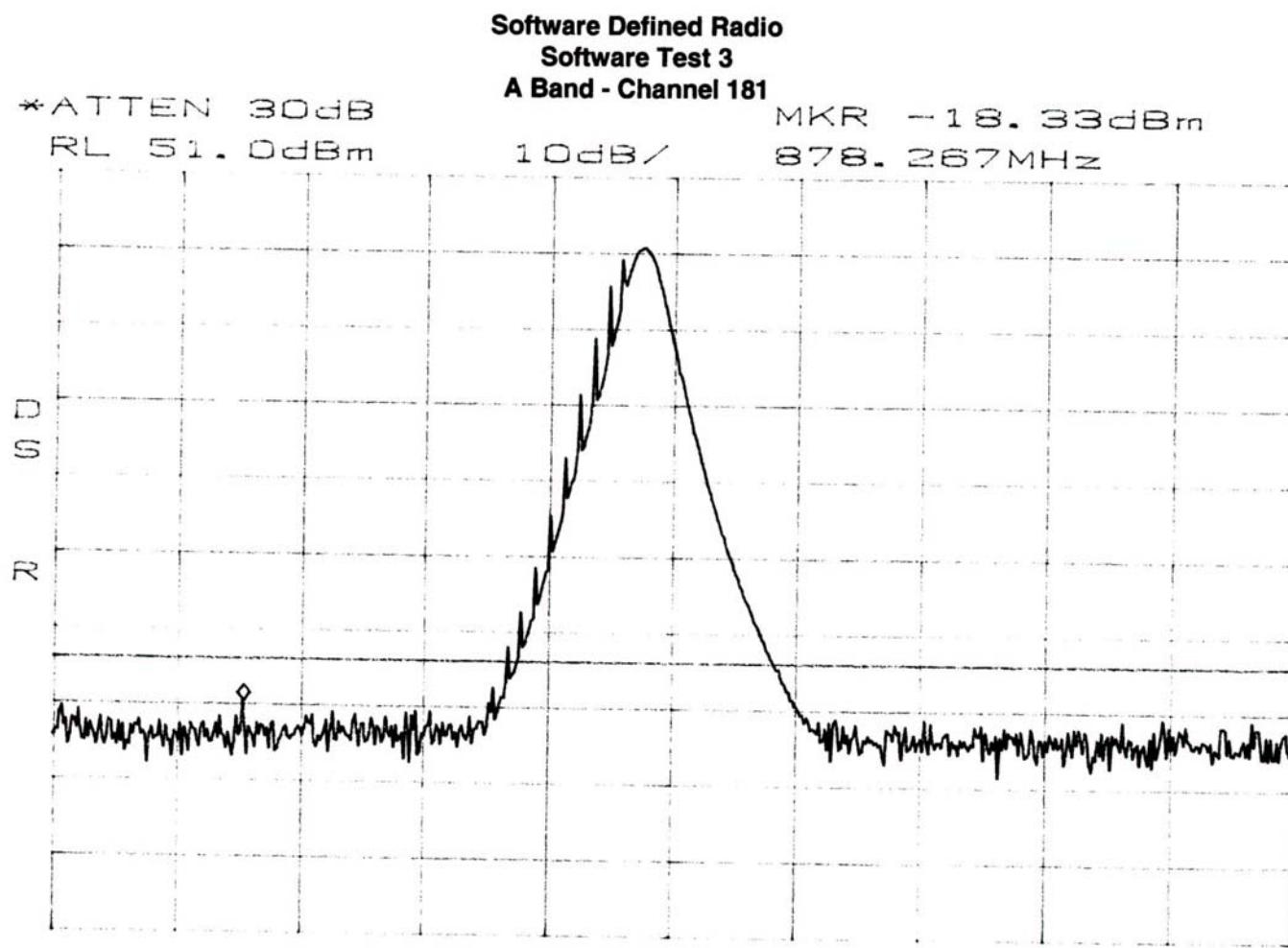
Channel 217

**Software Test 3 for
Digivance 800 MHz 50-Watt SDR System
Model Numbers DGVS-112710SYS and DGVS-122710SYS**

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. The Software Test 3 simulates the GSM signal created from a sequence of all zeros.

Results:

Pass (see plots)



Software Defined Radio

Software Test 3

A Band - Channel 181

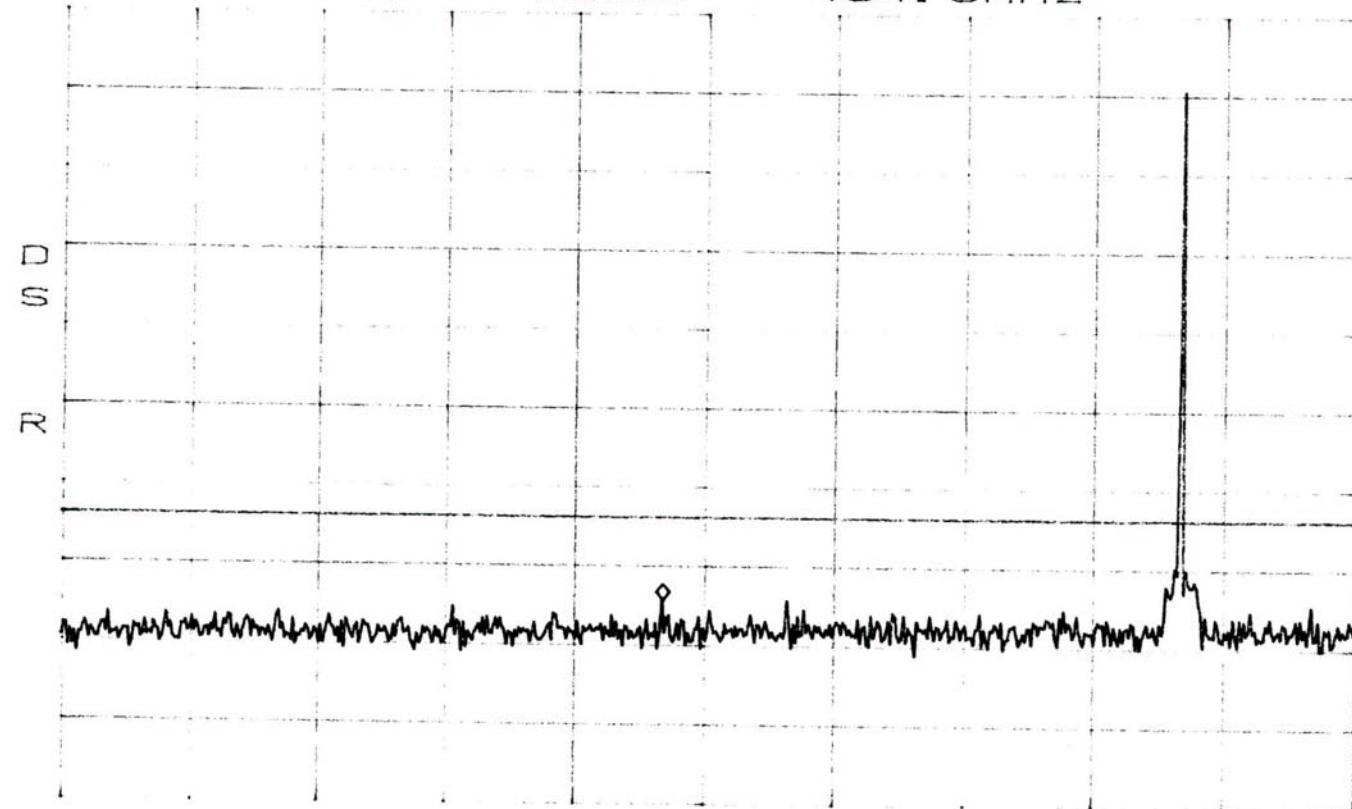
***ATTEN 30dB**

RL 51.0dBm

10dB/

MKR -23.17dBm

484.3MHz



START 30.0MHz

STOP 1.0000GHz

***RBW 100kHz**

VBW 100kHz

SWP 250ms

Software Defined Radio

Software Test 3

A Band - Channel 181

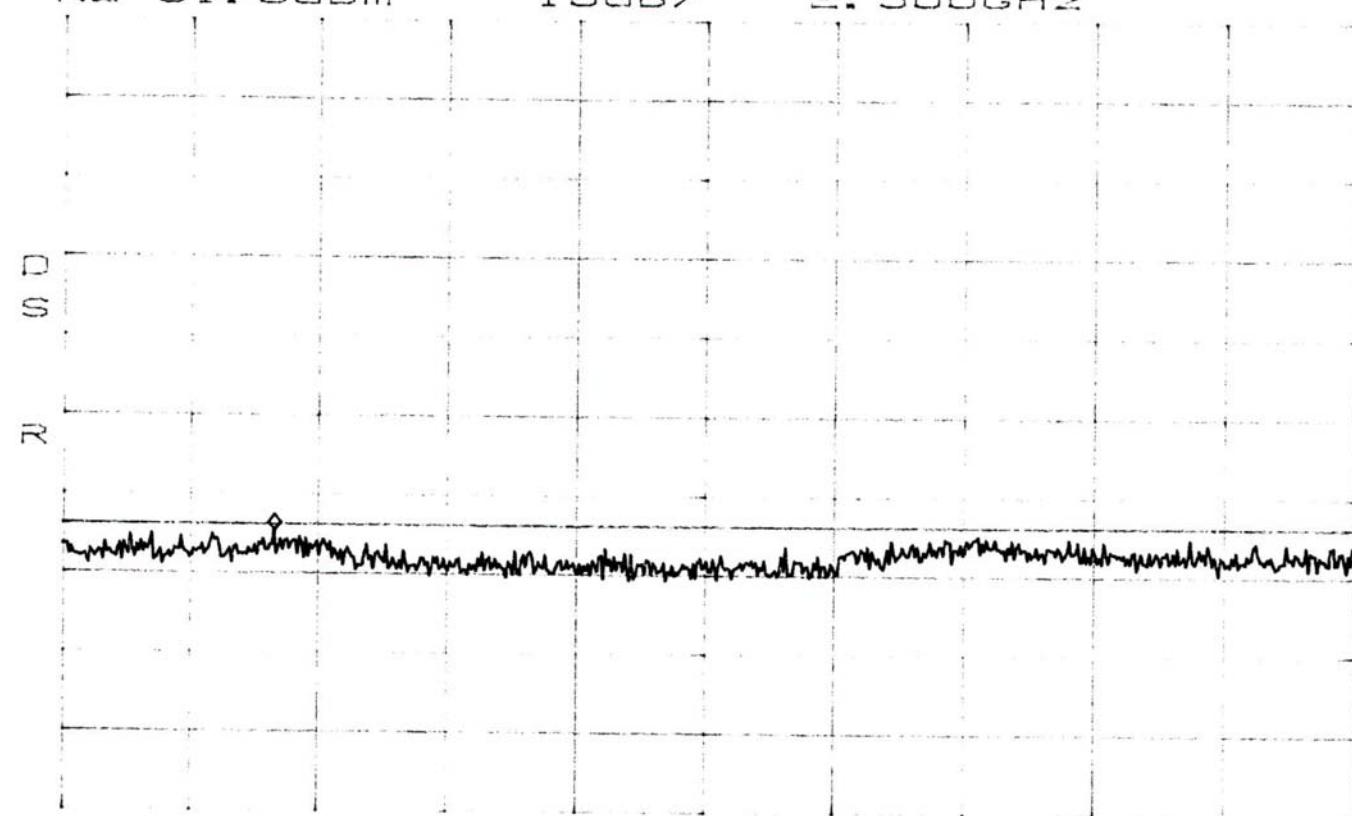
*ATTEN 30dB

RL 51.0dBm

MKR -13.50dBm

10dB/

2.500GHz



START 1.000GHz

STOP 10.000GHz

*RBW 1.0MHz

VBW 1.0MHz

SWP 180ms

Software Defined Radio

Software Test 3

B Band - Channel 217

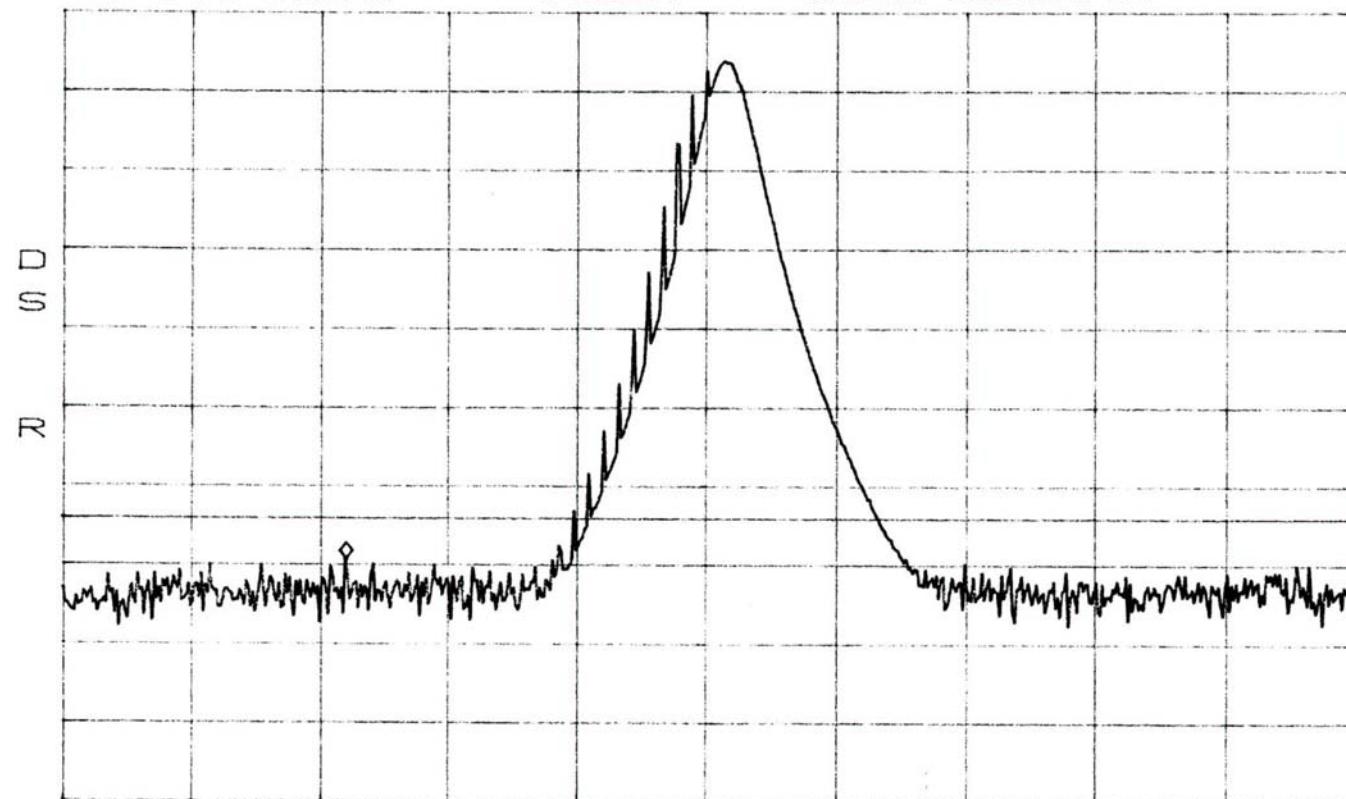
ATTEN 30dB

RL 51.0dBm

10dB/

MKR -18.17dBm

885.600MHz



CENTER 887.000MHz

*RBW 100kHz VBW 100kHz

SPAN 5.000MHz

SWP 50ms

Software Defined Radio

Software Test 3

B Band - Channel 217

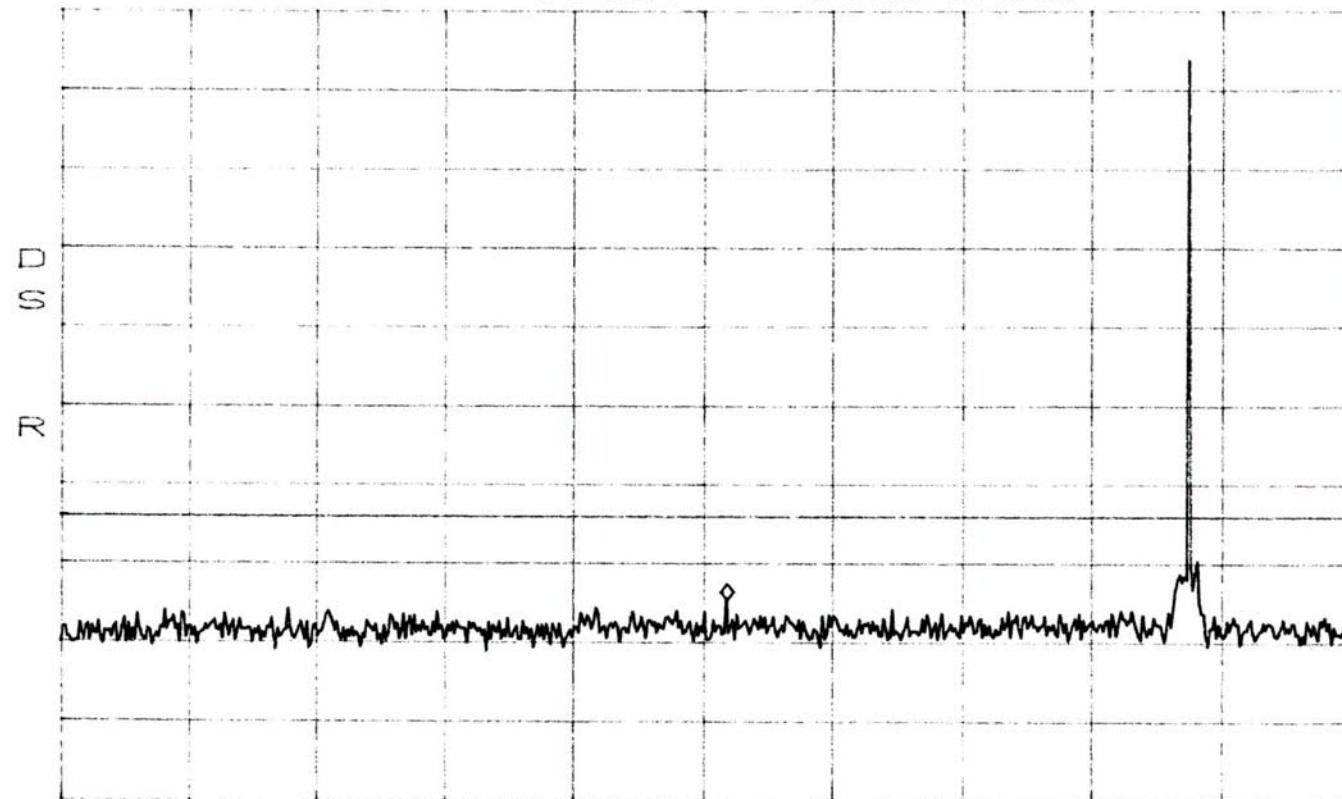
ATTEN 30dB

RL 51.0dBm

10dB/

MKR -23.50dBm

532.8MHz



START 30.0MHz

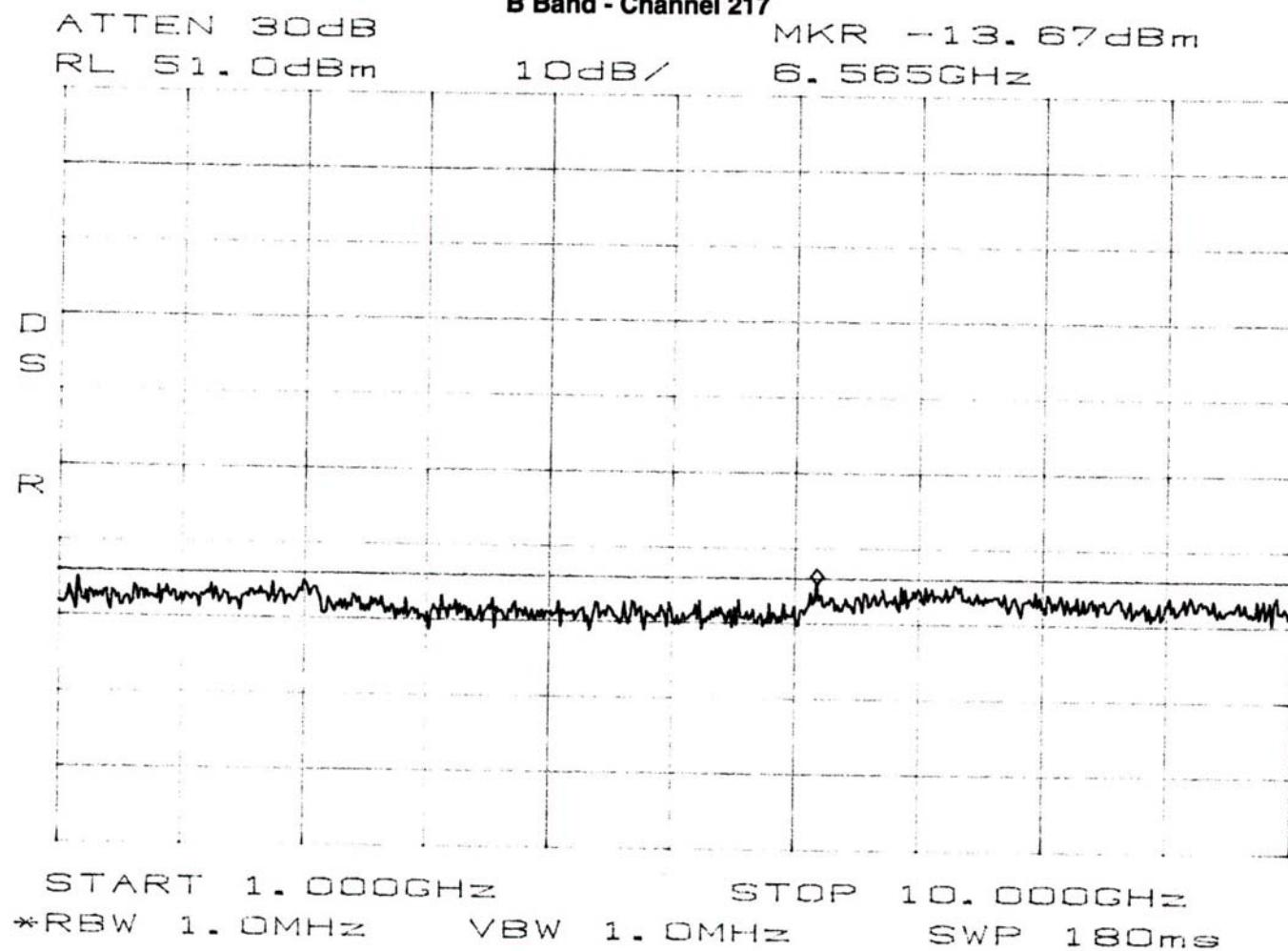
STOP 1.0000GHz

*RBW 100kHz

VBW 100kHz

SWP 250ms

Software Defined Radio
Software Test 3
B Band - Channel 217

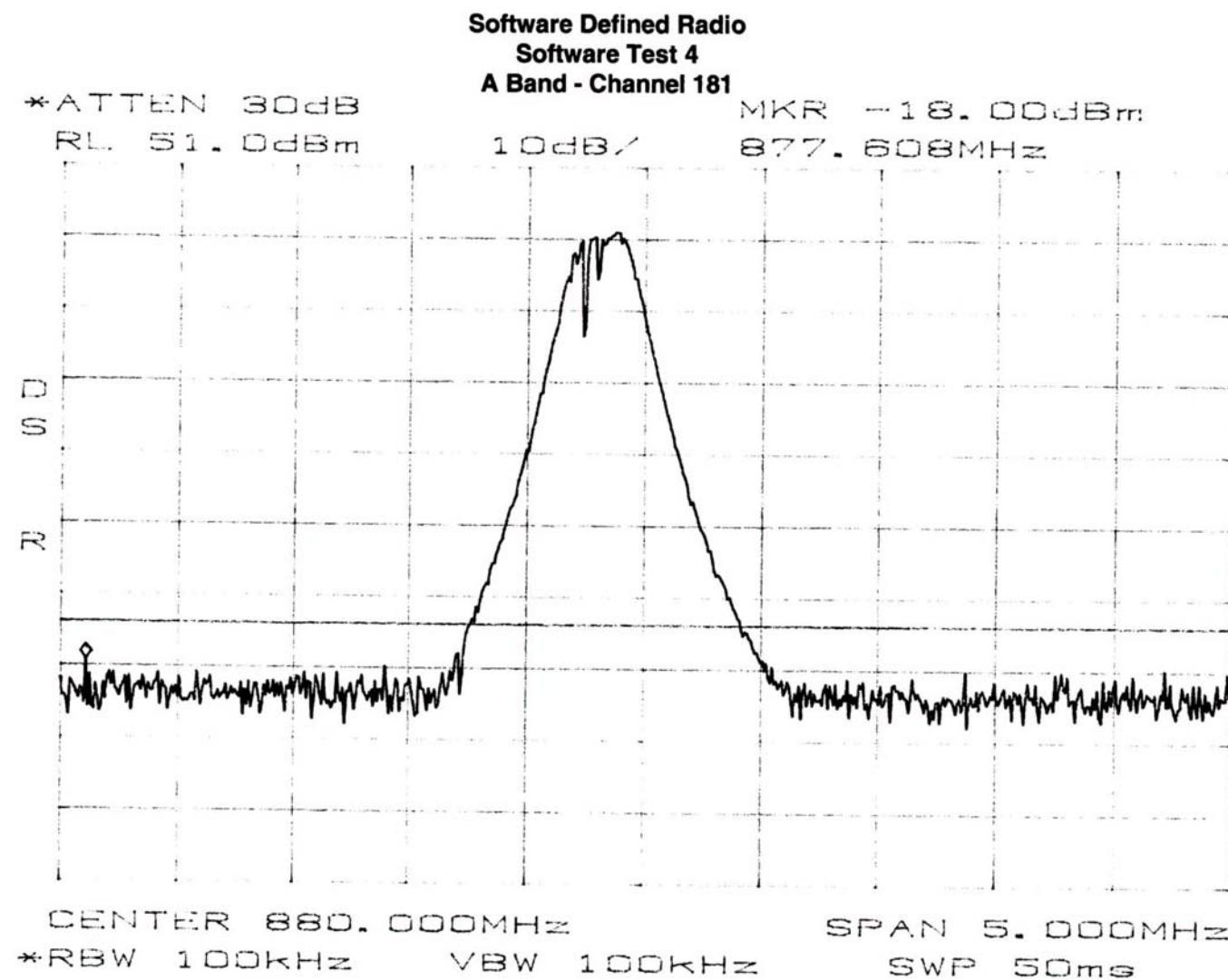


**Software Test 4 for
Digivance 800 MHz 50-Watt SDR System
Model Numbers DGVS-112710SYS and DGVS-122710SYS**

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. The Software Test 4 simulates the GSM signal created from a repeated sequence of 8 bursts of valid traffic channel data followed by 8 bursts of all zeros.

Results:

Pass (see plots)



Software Defined Radio

Software Test 4

A Band - Channel 181

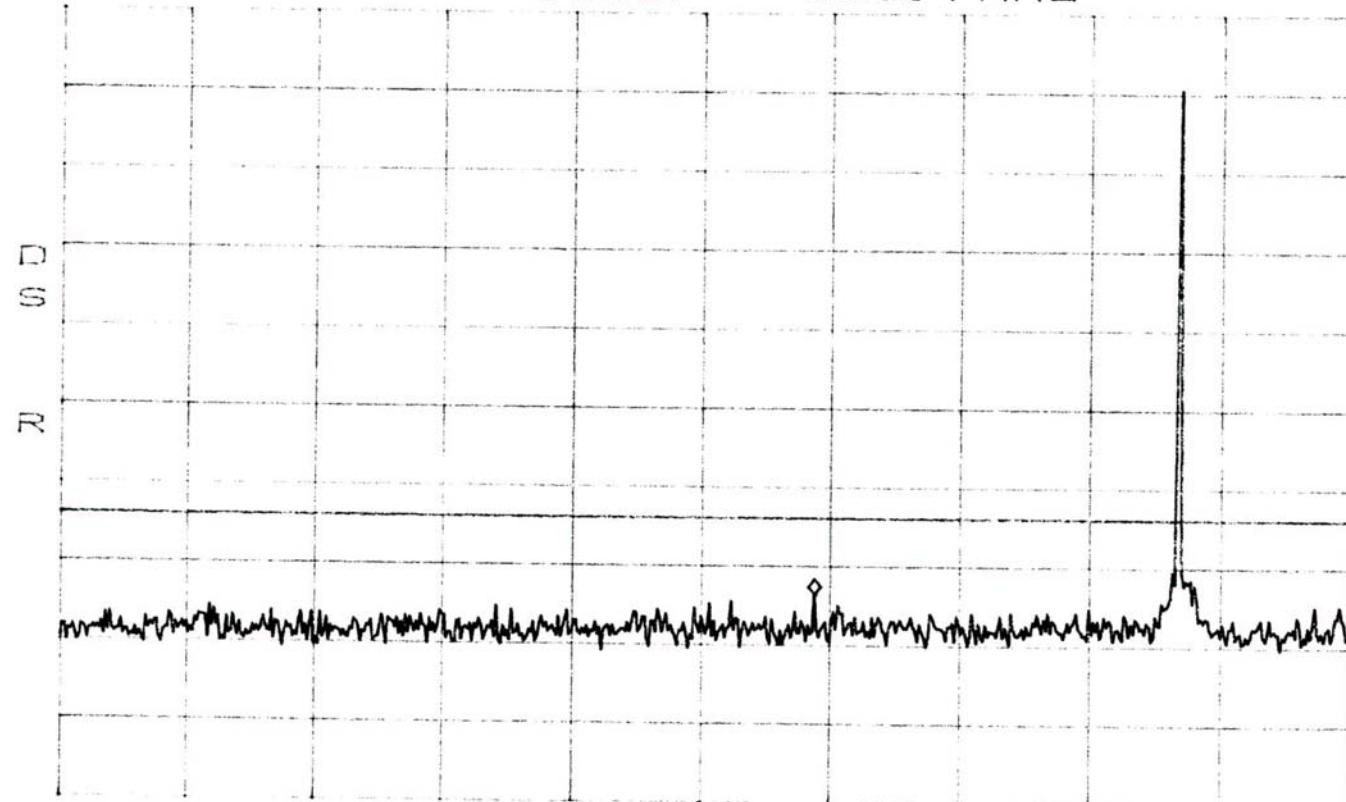
*ATTEN 30dB

RL 51.0dBm

10dB/

MKR -22.50dBm

600.7MHz



START 30.0MHz

STOP 1.0000GHz

*RBW 100kHz

VBW 100kHz

SWP 250ms

**Software Defined Radio
Software Test 4
A Band - Channel 181**

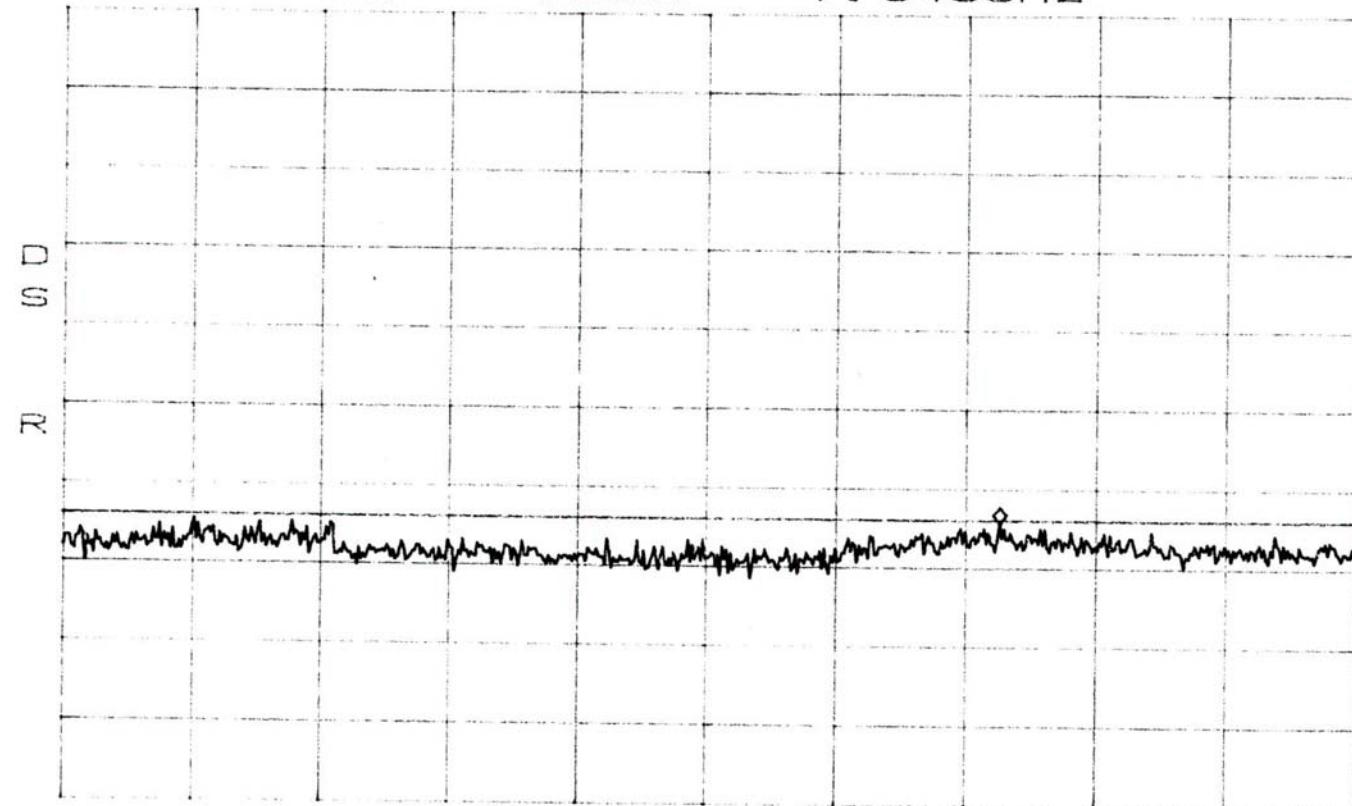
*ATTEN 30dB

RL 51.0dBm

10dB/

MKR -13.17dBm

7.540GHz



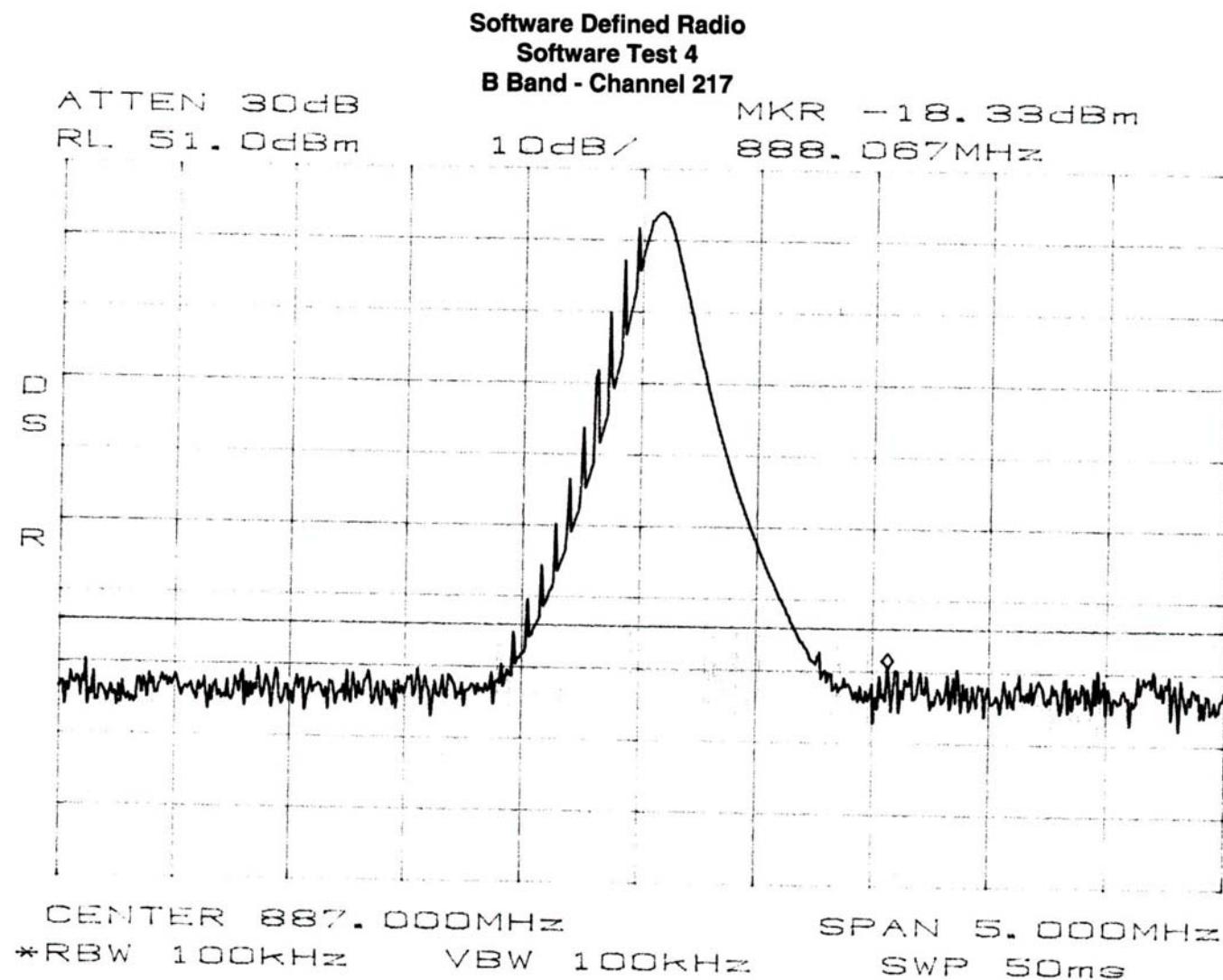
START 1.000GHz

STOP 10.000GHz

*RBW 1.0MHz

VBW 1.0MHz

SWP 180ms



**Software Defined Radio
Software Test 4
B Band - Channel 217**

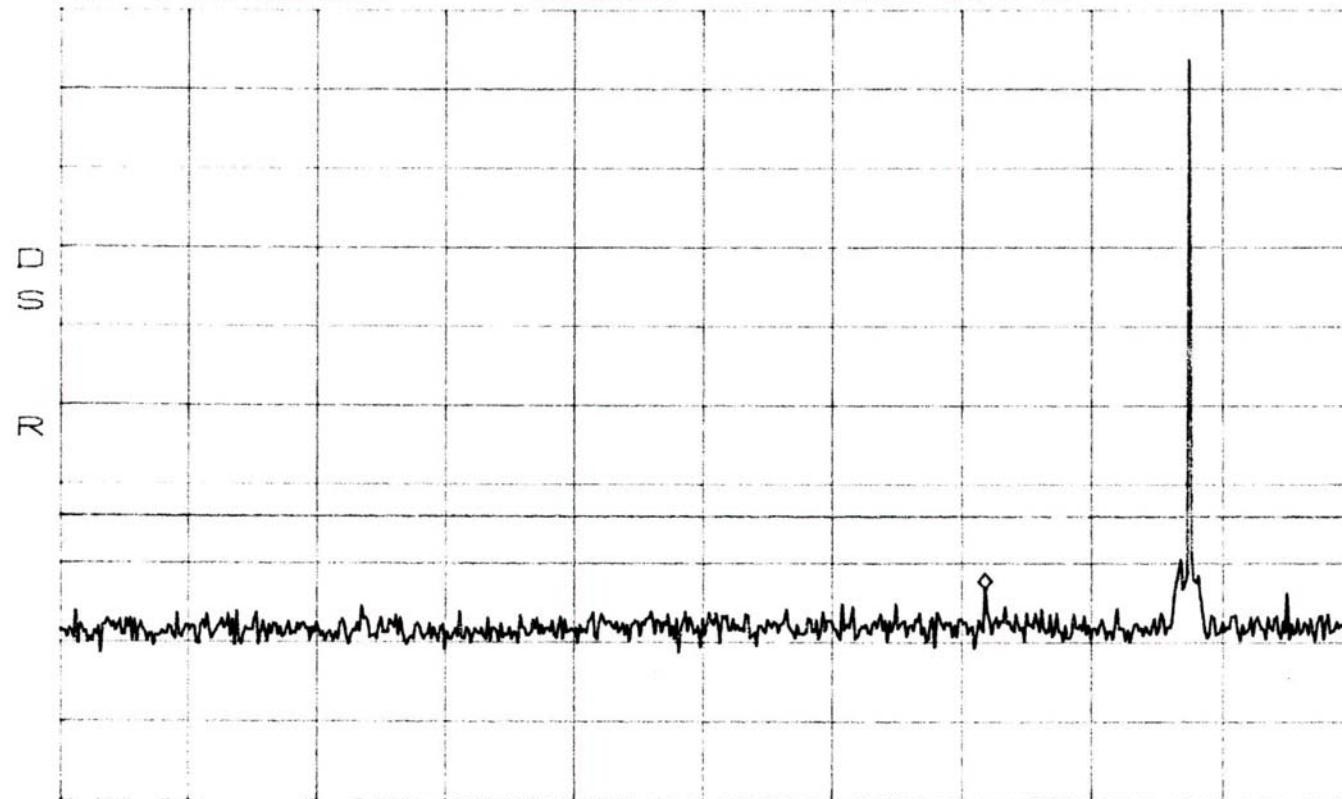
ATTEN 30dB

RL 51.0dBm

10dB/

MKR -22.17dBm

726.8MHz



START 30.0MHz

STOP 1.0000GHz

*RBW 100kHz

VBW 100kHz

SWP 250ms