ORIGINAL

RECEIVED

MAY 2 9 1997

Federal Communications Commission
Office of Secretary

WILKINSON, BARKER, KNAUER & QUINN

LAW OFFICES
1735 NEW YORK AVENUE, N.W.
WASHINGTON, D. C. 20006-5209

(202) 783-4141

TELECOPIER
(202) 783-5851
(202) 833-2360

GERMAN OFFICE
GOETHESTRASSE 23
60313 FRANKFURT A.M., GERMANY
011-49-69-20876
011-49-69-297-8453 (TELECOPIER)

DOCKET FILE COPY ORIGINAL

May 29, 1997

VIA HAND DELIVERY

William F. Caton
Secretary
Federal Communications Commission
1919 M Street, N.W.
Washington, DC 20554

Re: *Amendment of Parts 21 and 74 to Enhance the Ability of Multipoint Distribution Service and Instructional Television Fixed Service Licensees to Engage in Fixed Two-Way Transmissions — RM-9060*

Dear Mr. Caton:

On behalf of the Petitioners who submitted the Petition for Rulemaking in the above-referenced proceeding, we are submitting herewith seven loose-leaf binders containing copies of the spectrum analyzer output for each of the 13, 056 data files referenced at page 21 of Harter, "Field Test Report: Accumulation of Return Path Transmissions in Two-Way Wireless Cable Systems." This material is being submitted to assure that the Commission and interested members of the public have full access to the test results that were employed to validate the methodology proposed by the Petitioners for analyzing the potential for interference from response station transmitters.

Should you have any questions regarding this submission, please contact the undersigned.

Very truly yours,

Paul J. Sinderbrand
Counsel to the Petitioners

PJS/jmg
Enclosure

cc: Keith Larson
Charles Dziedzic
Michael Jacobs

No. of Copies rec'd 0
List ABCDE

RECEIVED

MAY 2 9 1997

Federal Communications Commission
Office of Secretary

HARDIN & ASSOCIATES, INC.
• WIRELESS COMMUNICATIONS •

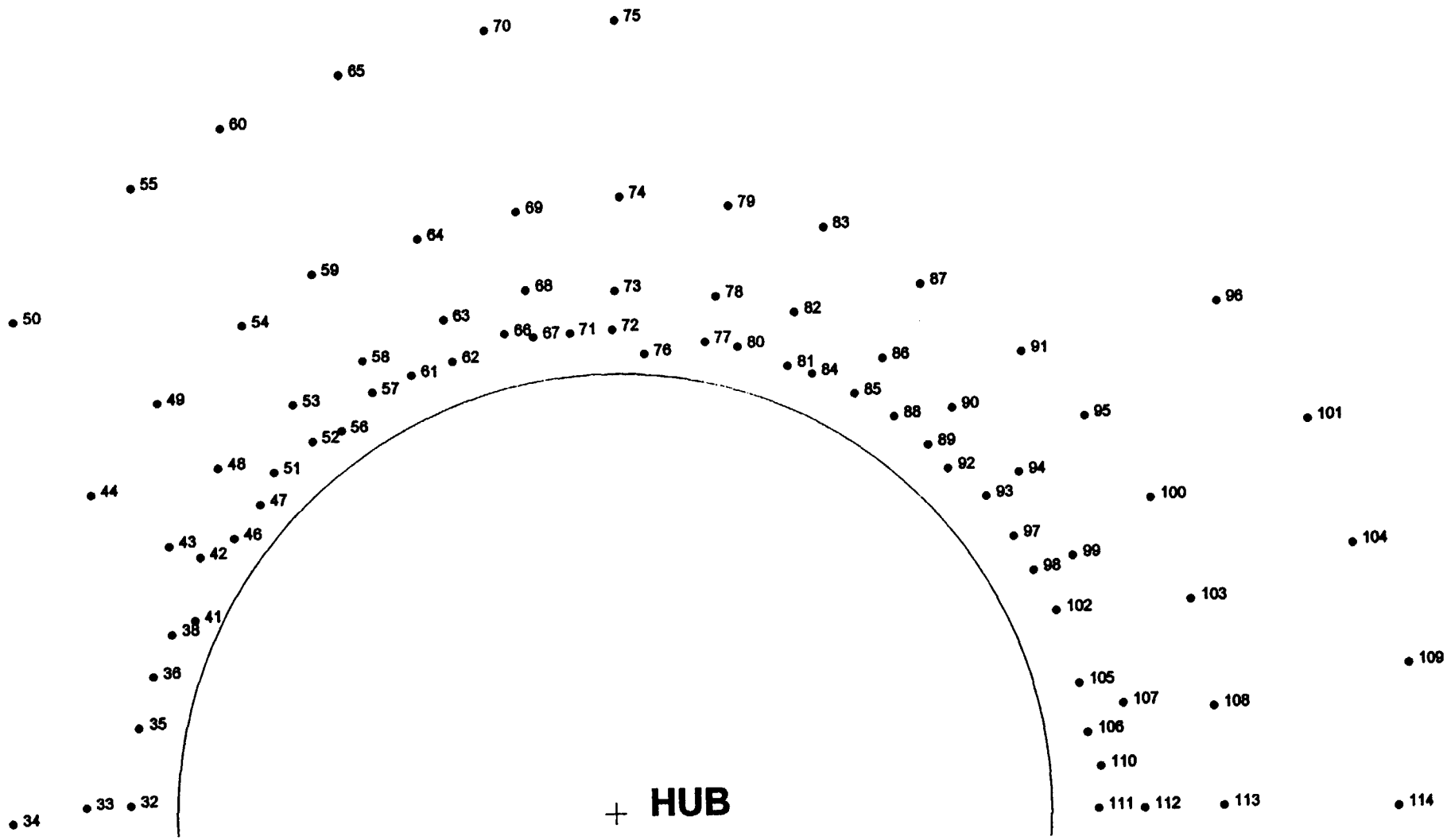
DOCKET FILE COPY ORIGINAL

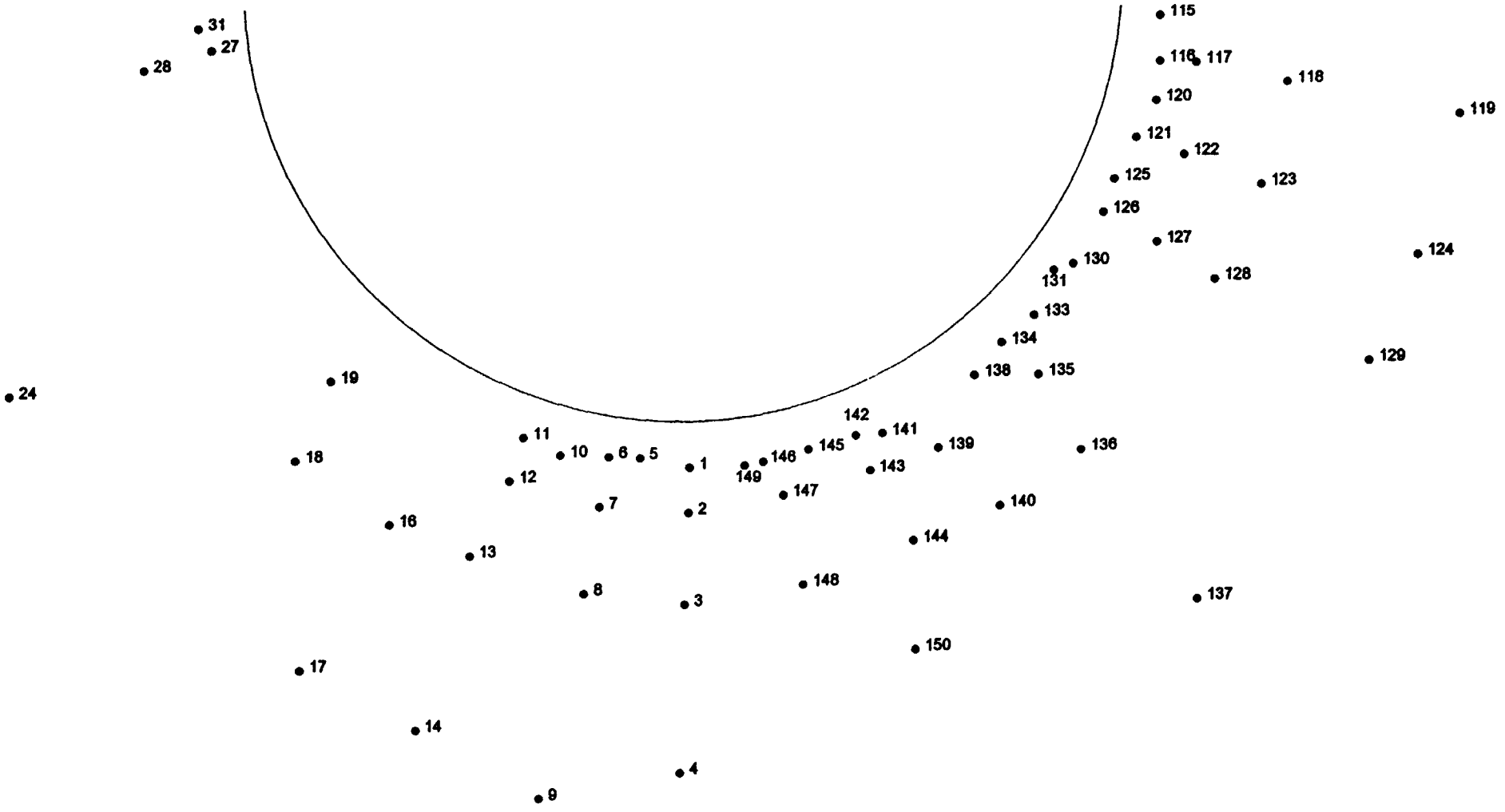
TUCSON FIELD TEST DATA

VOLUME I

12 dBi Antenna

Sites 1 - 59


70
75
65
60
55
74
69
79
83
64
59
68
73
78
87
96
50
54
63
82
66
67
71
72
77
80
91
58
62
76
81
84
86
61
57
85
49
53
88
90
95
101
52
56
89
48
51
92
94
44
47
93
100
43
46
97
104
42
99
98
103
102
41
38
109
36
105
107
108
35
106
110
33
32
111
112
113
114
34
HUB

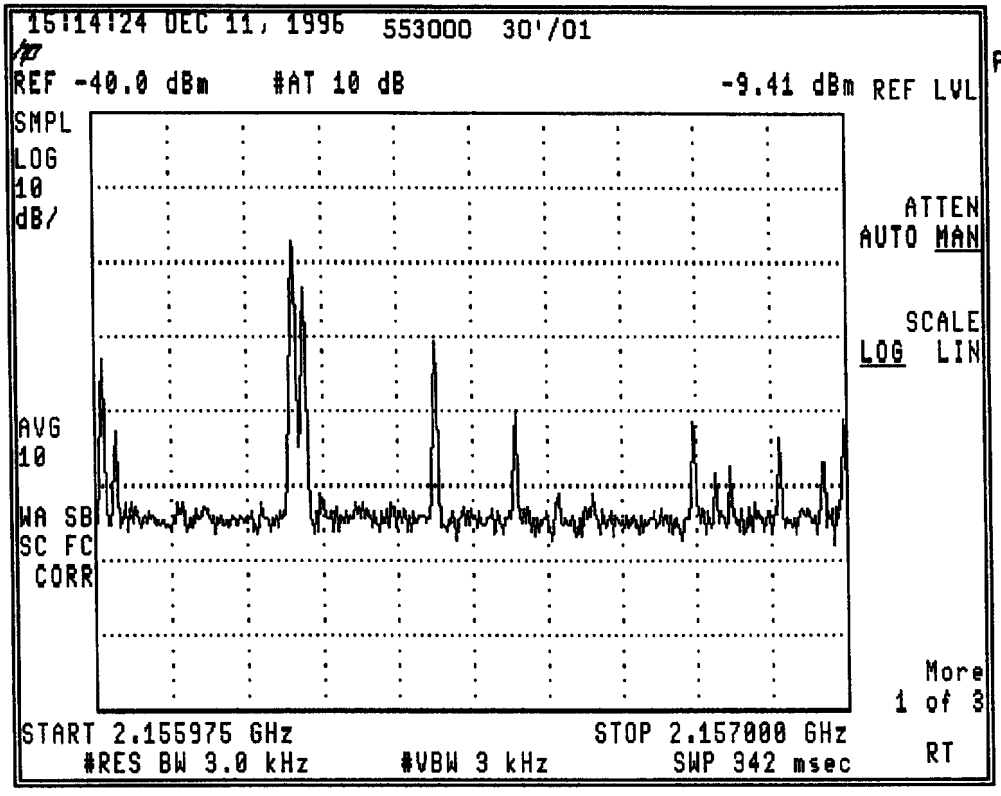

31
27
28
115
116
117
118
120
119
121
122
125
123
126
127
124
130
131
128
133
134
129
138
135
24
19
142
141
11
10
6
5
1
146
145
139
136
18
149
143
12
147
7
2
140
16
144
13
148
8
3
137
150
17
14
4
9

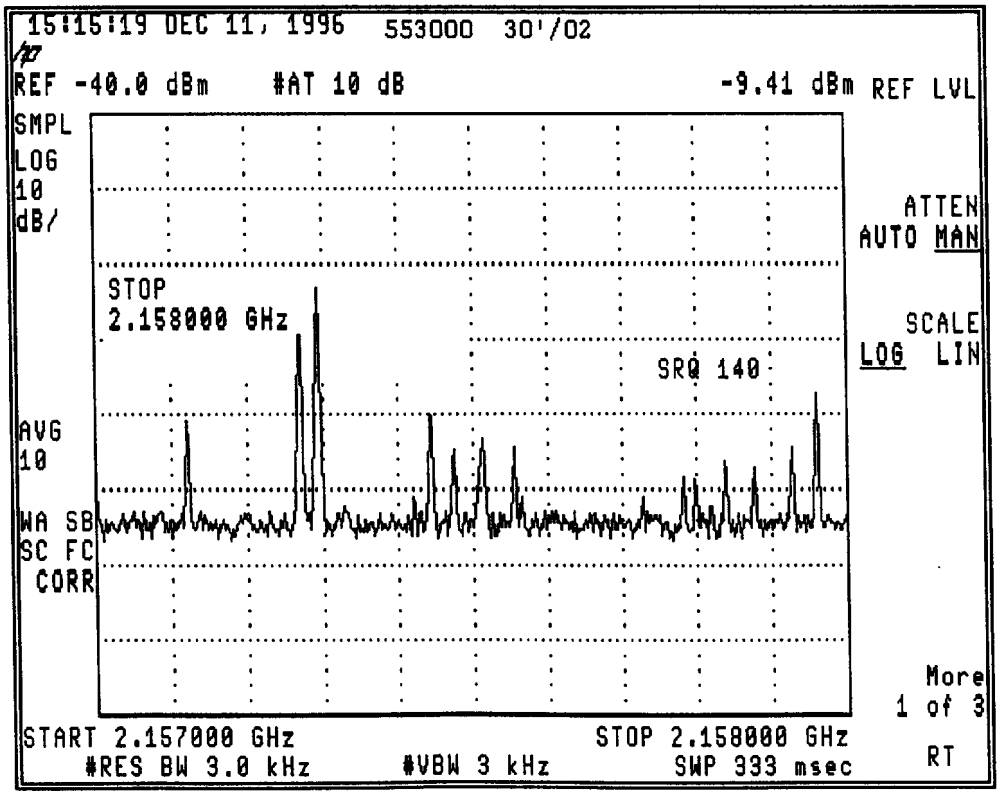
SITE 1

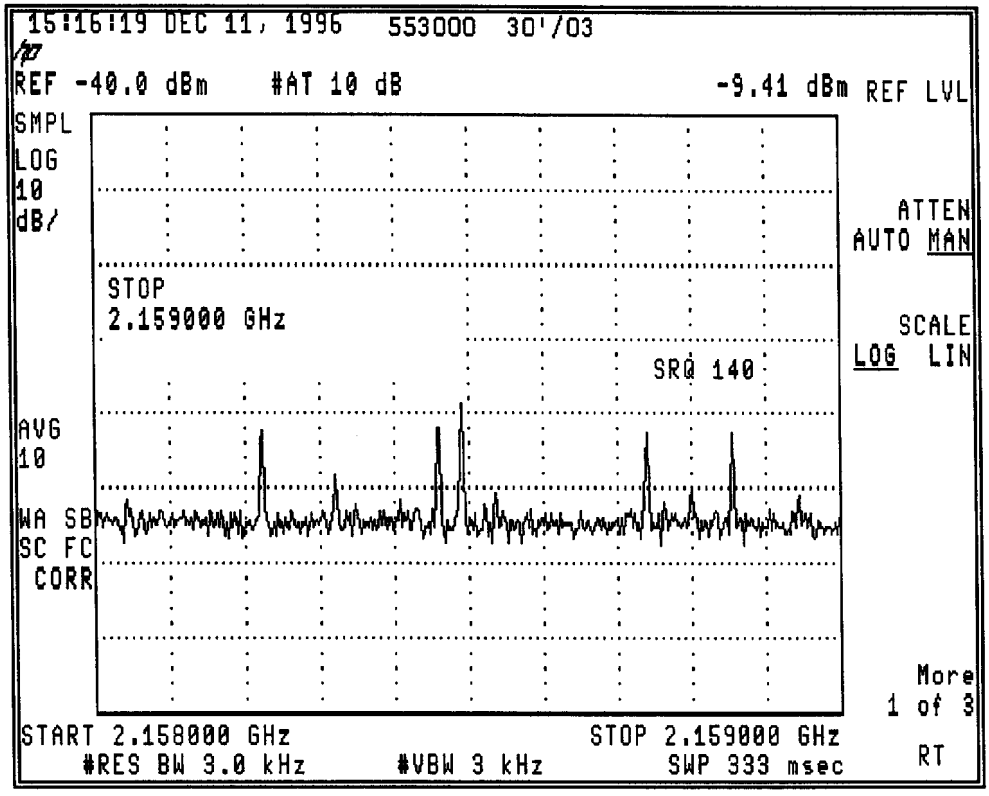
RECEIVED

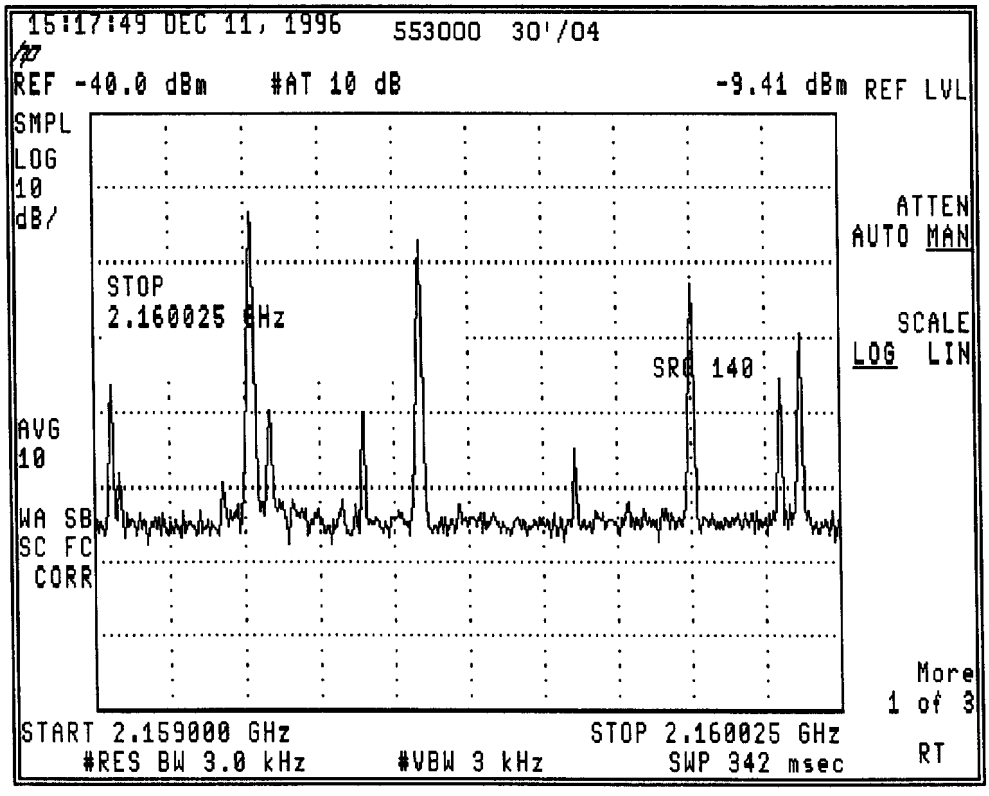
MAY 2 9 1997

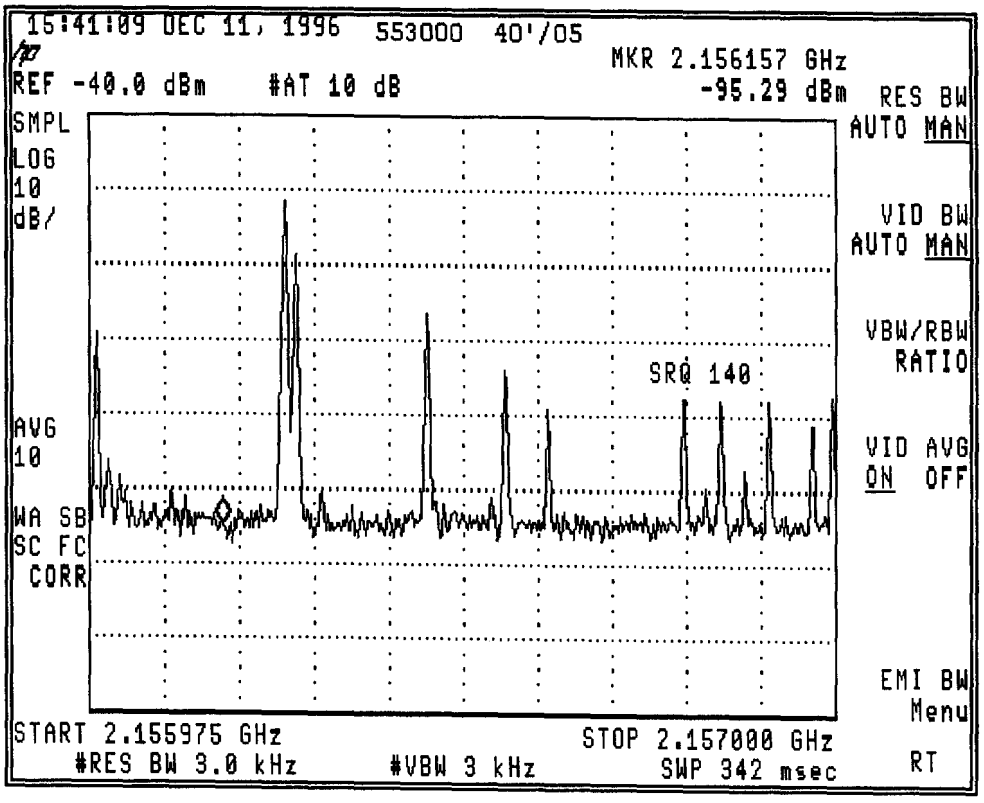
Federal Communications Commissi
Office of Secretary

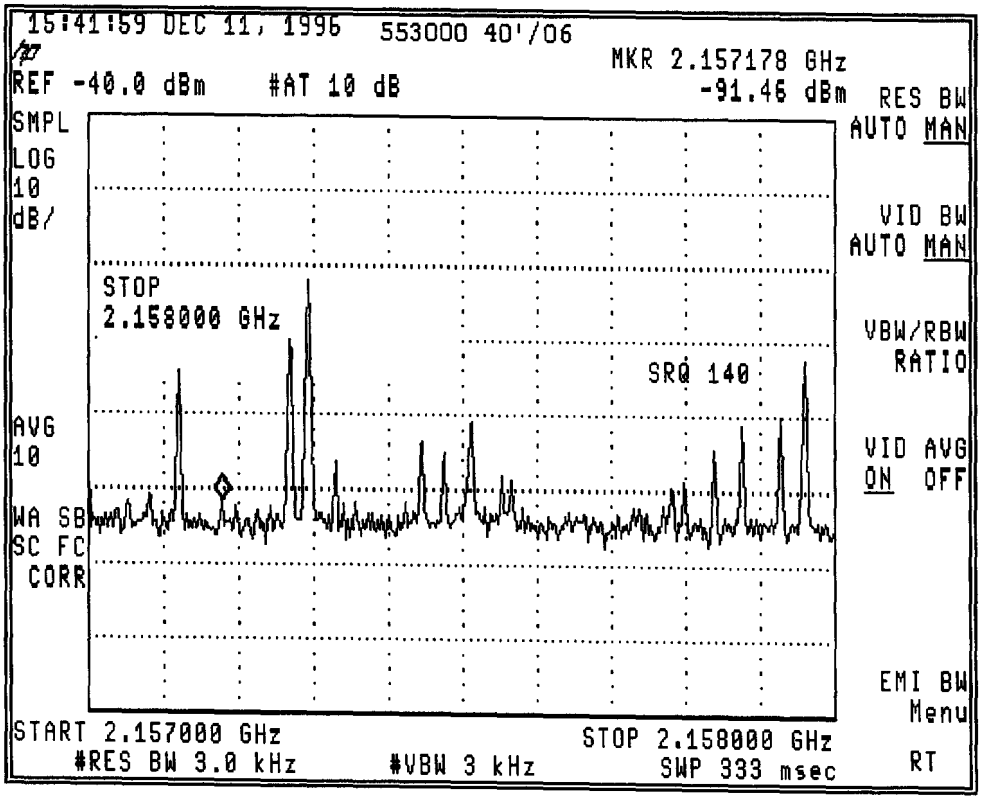


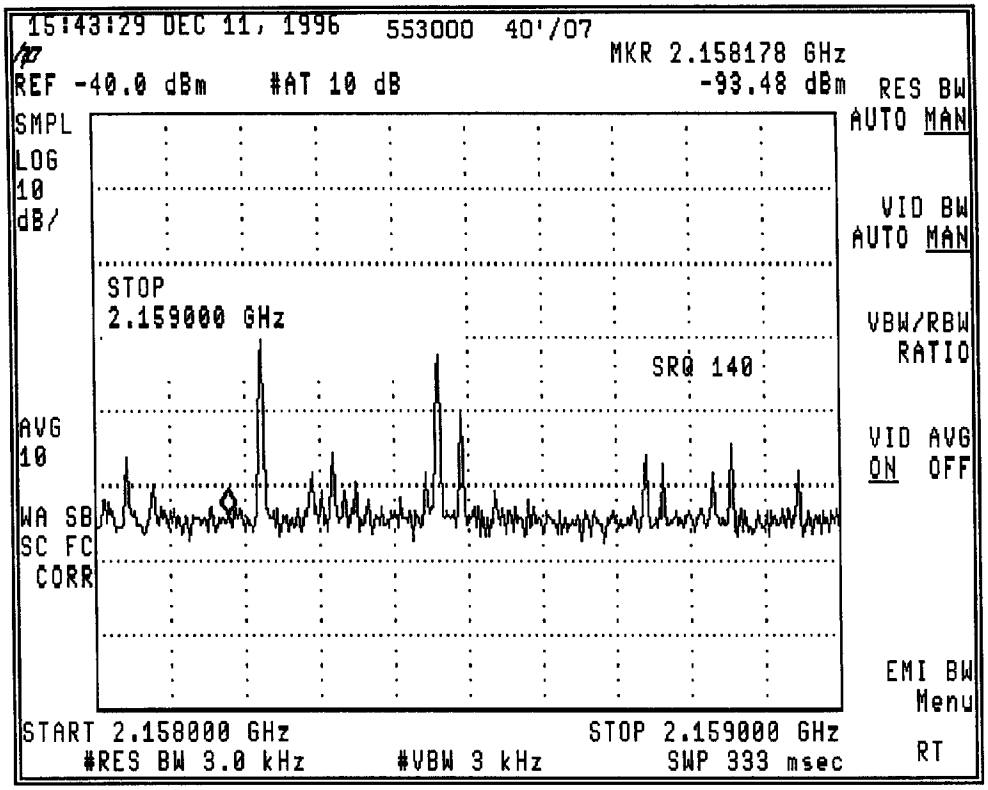


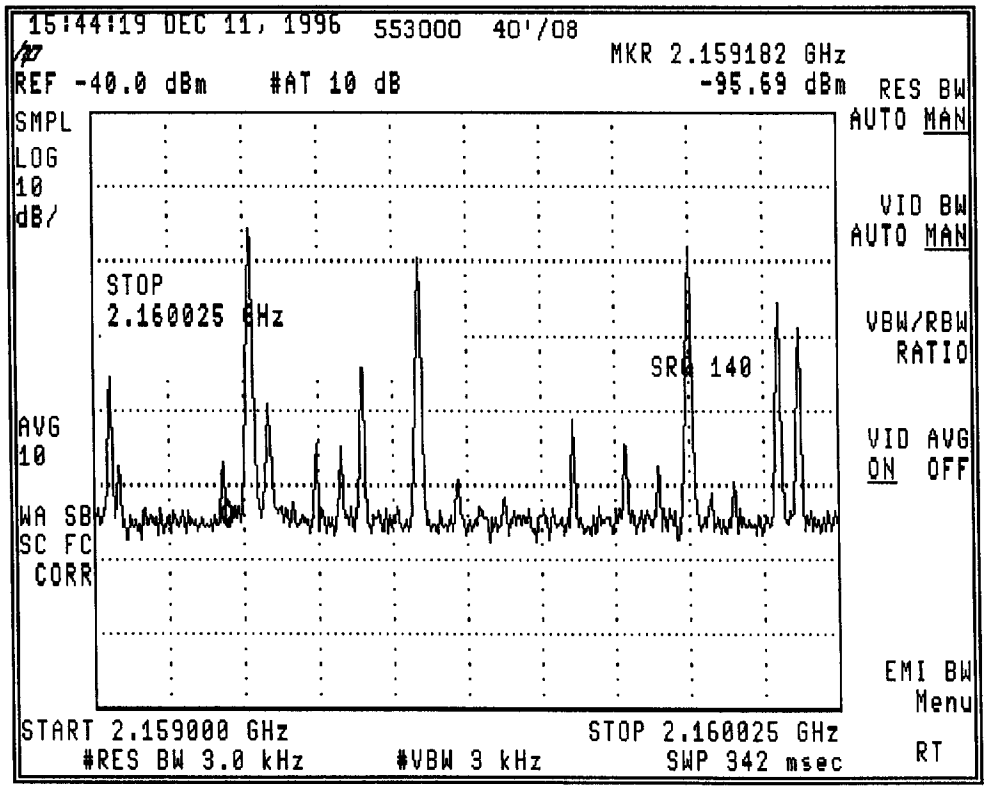

15:16:19 DEC 11, 1996 553000 30'/03
REF -40.0 dBm #AT 10 dB -9.41 dBm REF LVL
SMPL
LOG
10
dB/
ATTEN
AUTO MAN
STOP
2.159000 GHz
SCALE
LOG LIN
SRQ 140
AVG
10
WA SB
SC FC
CORR
More
1 of 3
START 2.158000 GHz
STOP 2.159000 GHz
#RES BW 3.0 kHz
#VBW 3 kHz
SWP 333 msec
RT

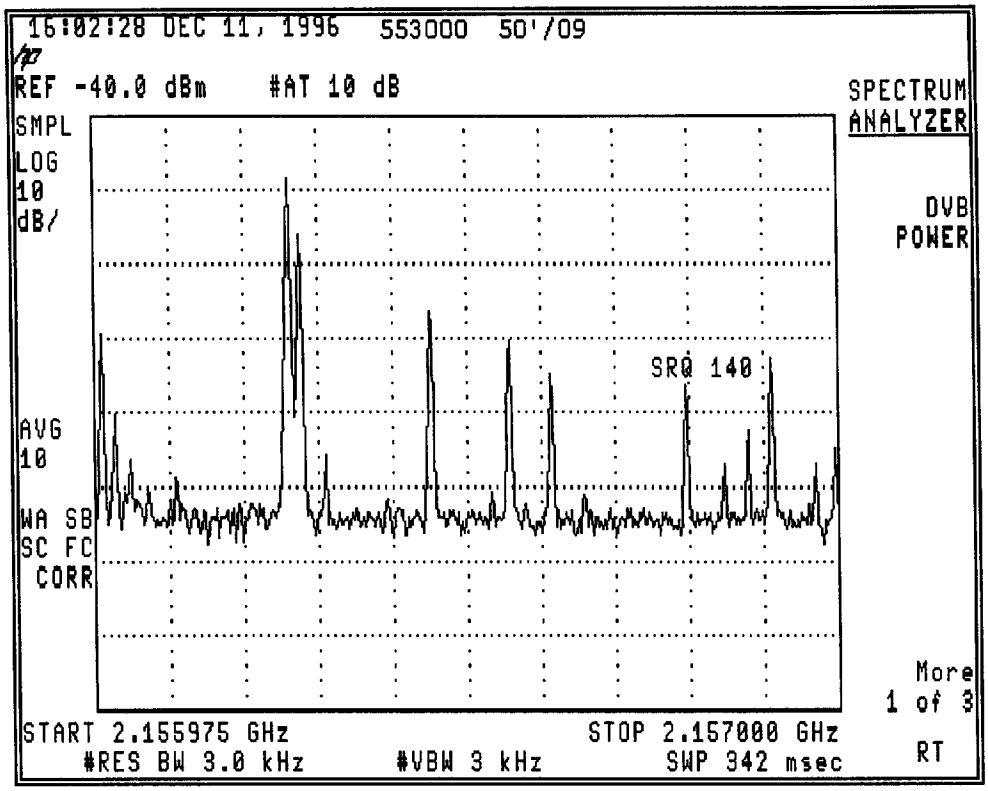

15:17:49 DEC 11, 1996 553000 30'/04
REF -40.0 dBm #AT 10 dB -9.41 dBm REF LVL
SMPL
LOG
10
dB/
ATTEN
AUTO MAN
STOP
2.160025 GHz
SCALE
LOG LIN
SRQ 140
AVG
10
WA SB
SC FC
CORR
More
1 of 3
START 2.159000 GHz
STOP 2.160025 GHz
#RES BW 3.0 kHz
#VBW 3 kHz
SWP 342 msec
RT

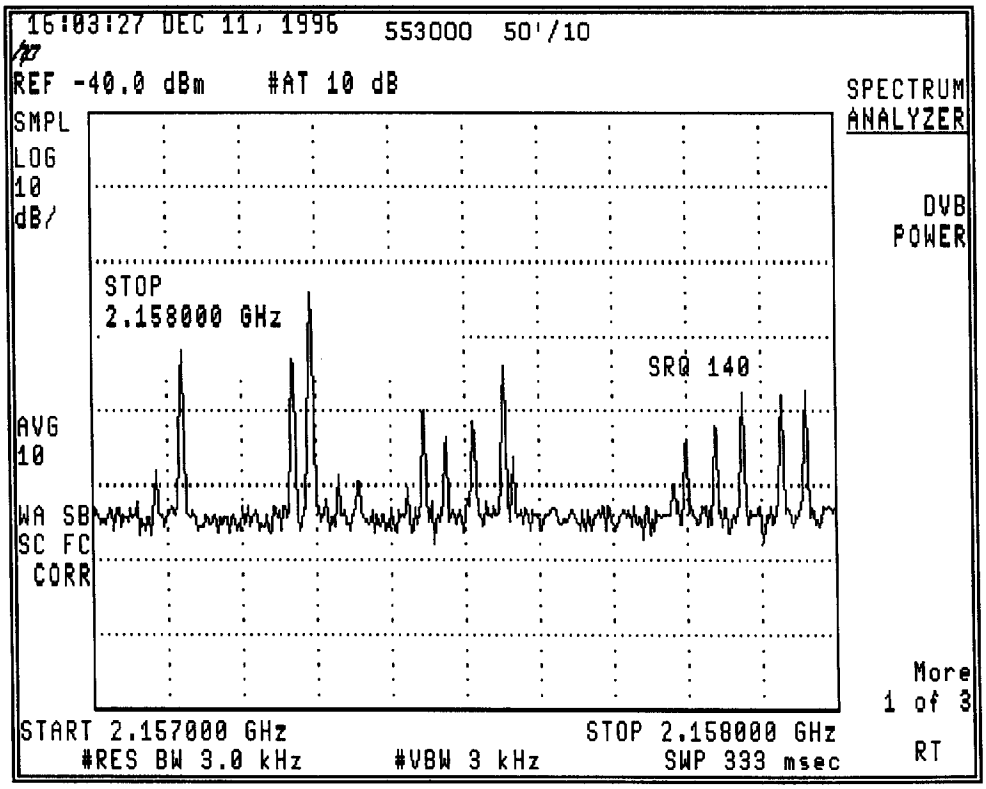

15:41:09 DEC 11, 1996 553000 40'/05
MKR 2.156157 GHz
REF -40.0 dBm #AT 10 dB
-95.29 dBm
RES BW
AUTO MAN
SMPL
LOG
10
dB/
VID BW
AUTO MAN
VBW/RBW
RATIO
SRQ 140
AVG
10
VID AVG
ON OFF
WA SB
SC FC
CORR
EMI BW
Menu
START 2.155975 GHz
STOP 2.157000 GHz
#RES BW 3.0 kHz
#VBW 3 kHz
SWP 342 msec
RT

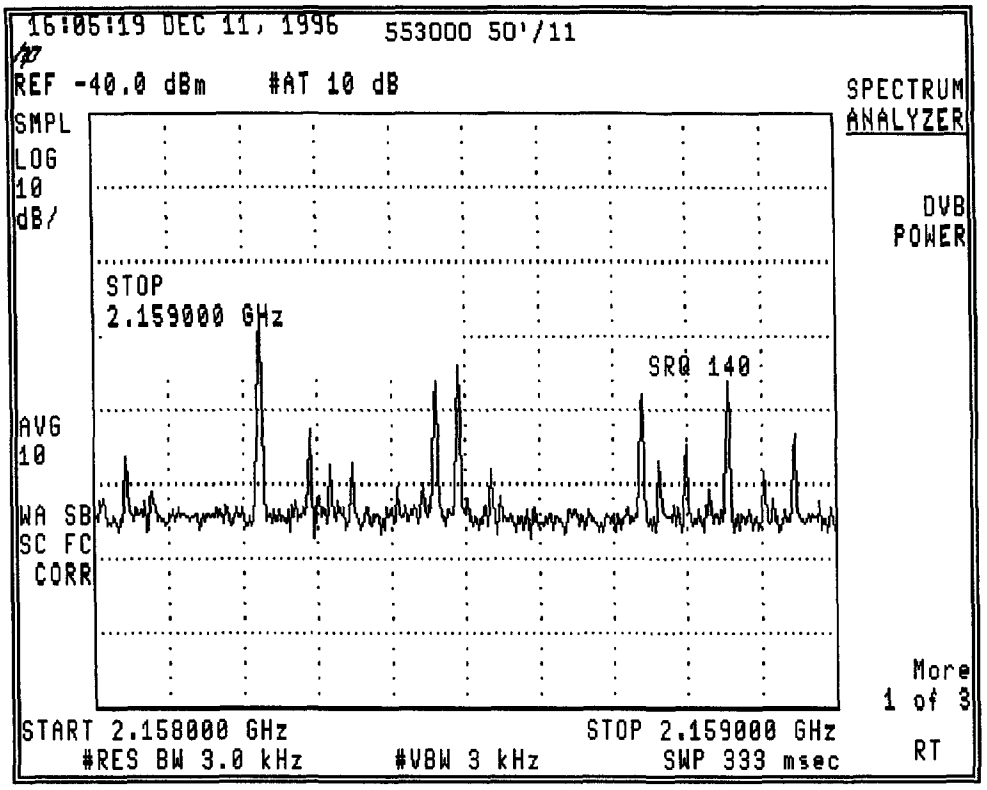

15:41:59 DEC 11, 1996 553000 40'/06
MKR 2.157178 GHz
REF -40.0 dBm #AT 10 dB
-91.46 dBm
RES BW
AUTO MAN
SMPL
LOG
10
dB/
VID BW
AUTO MAN
STOP
2.158000 GHz
VBW/RBW
RATIO
SRQ 140
AVG
10
VID AVG
ON OFF
WA SB
SC FC
CORR
EMI BW
Menu
START 2.157000 GHz
STOP 2.158000 GHz
#RES BW 3.0 kHz
#VBW 3 kHz
SWP 333 msec
RT

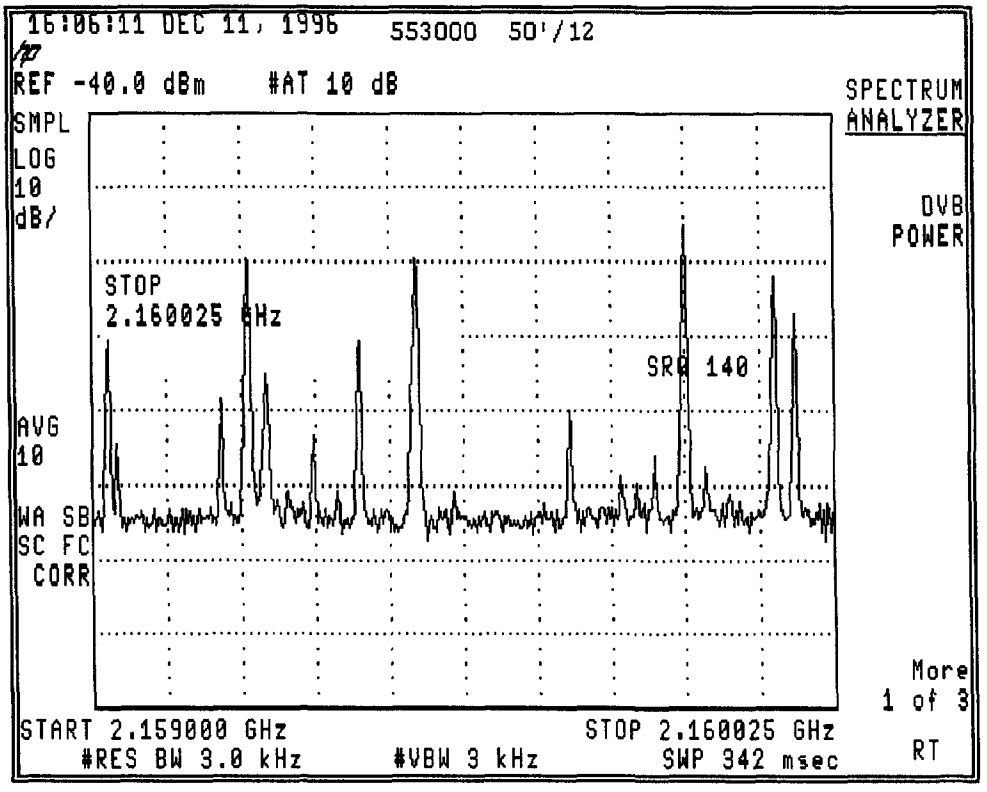

15:43:29 DEC 11, 1996 553000 40'/07
MKR 2.158178 GHz
REF -40.0 dBm #AT 10 dB
-93.48 dBm
RES BW
AUTO MAN
SMPL
LOG
10
dB/
VID BW
AUTO MAN
STOP
2.159000 GHz
VBW/RBW
RATIO
SRQ 140
AVG
10
VID AVG
ON OFF
WA SB
SC FC
CORR
EMI BW
Menu
START 2.158000 GHz
STOP 2.159000 GHz
#RES BW 3.0 kHz
#VBW 3 kHz
SWP 333 msec
RT


15:44:19 DEC 11, 1996 553000 40'/08
MKR 2.159182 GHz
REF -40.0 dBm #AT 10 dB
-95.69 dBm
RES BW
AUTO MAN
SMPL
LOG
10
dB/
VID BW
AUTO MAN
STOP
2.160025 GHz
VBW/RBW
RATIO
SRQ 140
AVG
10
VID AVG
ON OFF
WA SB
SC FC
CORR
EMI BW
Menu
START 2.159000 GHz
STOP 2.160025 GHz
#RES BW 3.0 kHz
#VBW 3 kHz
SWP 342 msec
RT

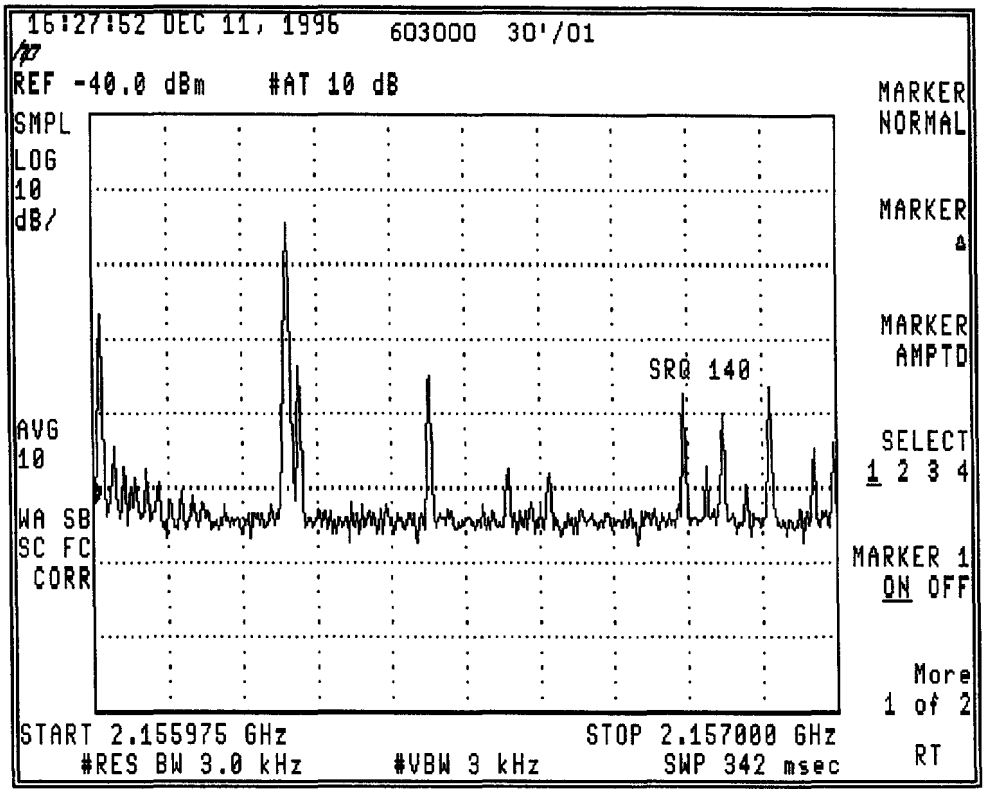

16:02:28 DEC 11, 1996 553000 50'/09
REF -40.0 dBm #AT 10 dB
SPECTRUM ANALYZER
SMPL
LOG
10
dB/
DVB POWER
SRQ 140
AVG
10
WA SB
SC FC
CORR
More
1 of 3
START 2.155975 GHz
STOP 2.157000 GHz
#RES BW 3.0 kHz
#VBW 3 kHz
SWP 342 msec
RT

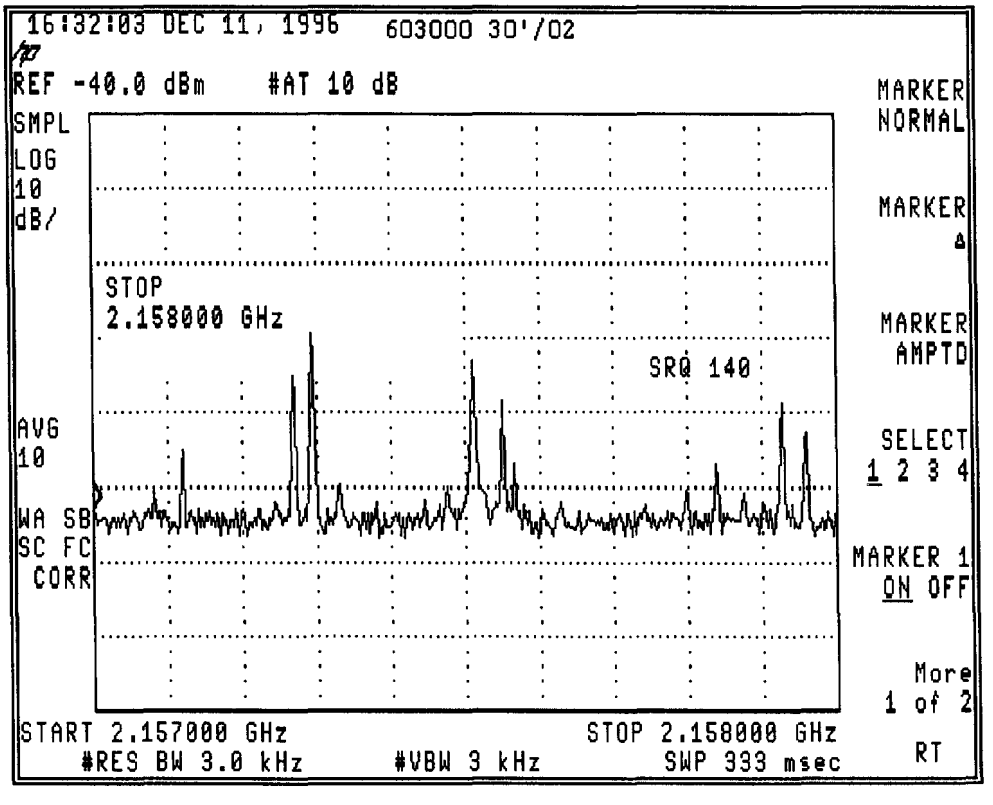

16:03:27 DEC 11, 1996 553000 50'/10
REF -40.0 dBm #AT 10 dB
SPECTRUM ANALYZER
SMPL
LOG
10
dB/
DVB POWER
STOP
2.158000 GHz
SRQ 140
AVG
10
WA SB
SC FC
CORR
More
1 of 3
START 2.157000 GHz
STOP 2.158000 GHz
#RES BW 3.0 kHz
#VBW 3 kHz
SWP 333 msec
RT

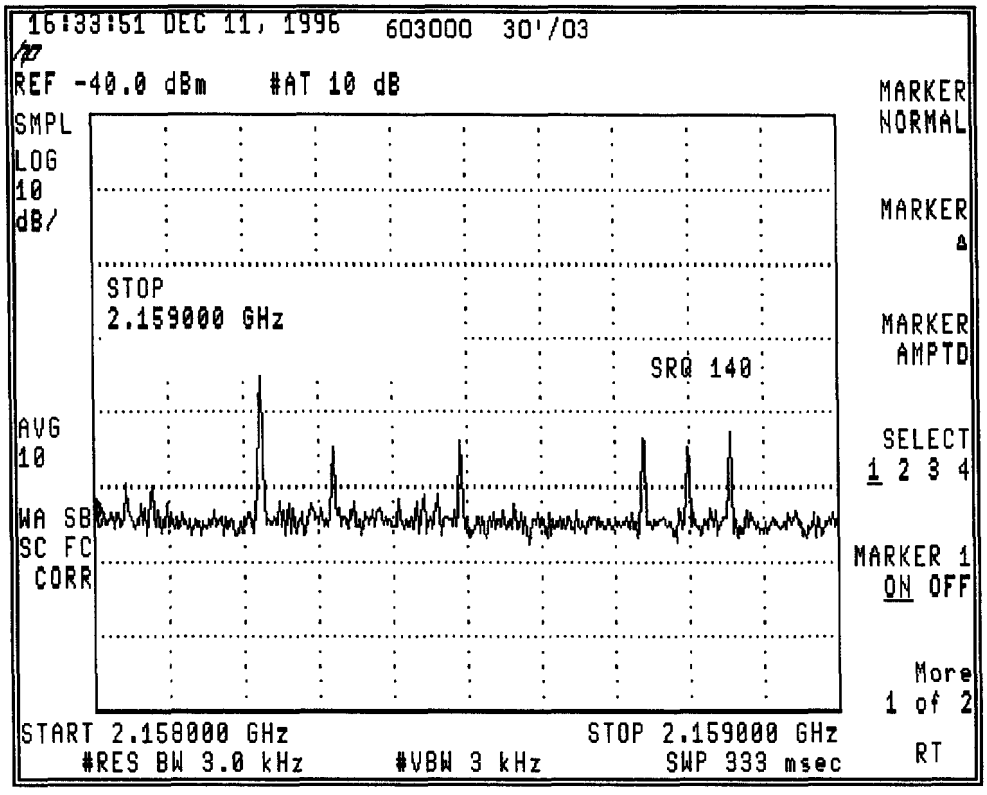

16:05:19 DEC 11, 1996
553000 50'/11
REF -40.0 dBm
#AT 10 dB
SPECTRUM
ANALYZER
SMPL
LOG
10
dB/
DVB
POWER
STOP
2.159000 GHz
SR0 140
AVG
10
WA SB
SC FC
CORR
More
1 of 3
START 2.158000 GHz
STOP 2.159000 GHz
#RES BW 3.0 kHz
#VBW 3 kHz
SWP 333 msec
RT

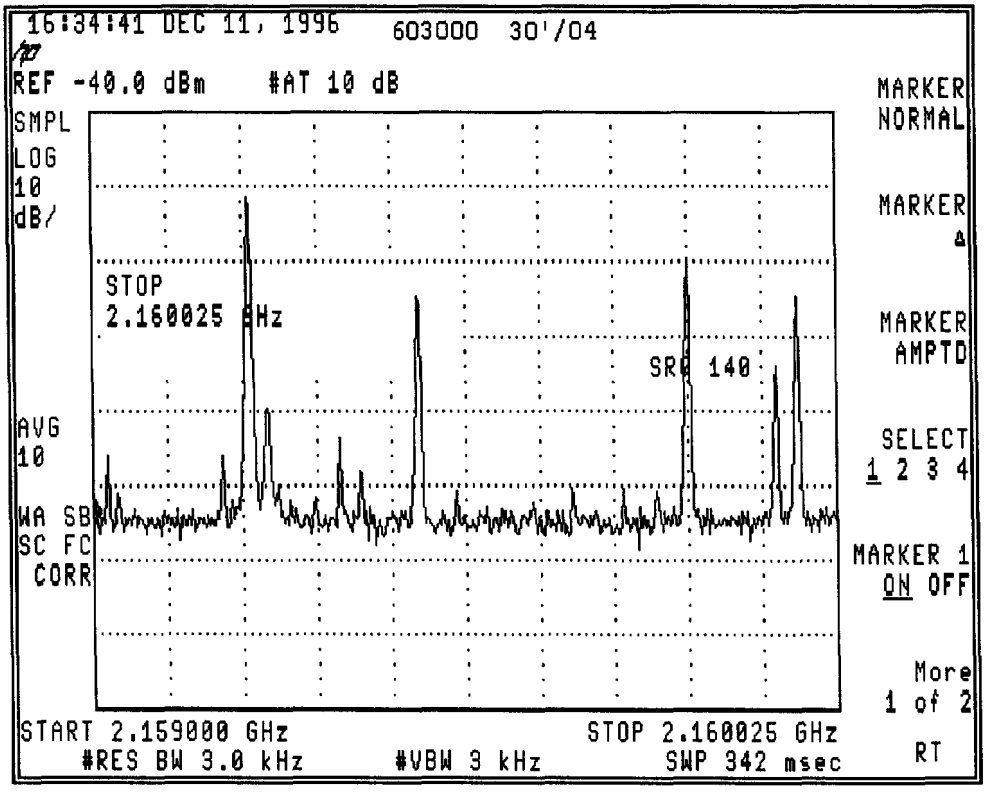

16:06:11 DEC 11, 1996
553000 50'/12
REF -40.0 dBm
#AT 10 dB
SPECTRUM
ANALYZER
SMPL
LOG
10
dB/
DVB
POWER
STOP
2.160025 GHz
SR0 140
AVG
10
WA SB
SC FC
CORR
More
1 of 3
START 2.159000 GHz
STOP 2.160025 GHz
#RES BW 3.0 kHz
#VBW 3 kHz
SWP 342 msec
RT

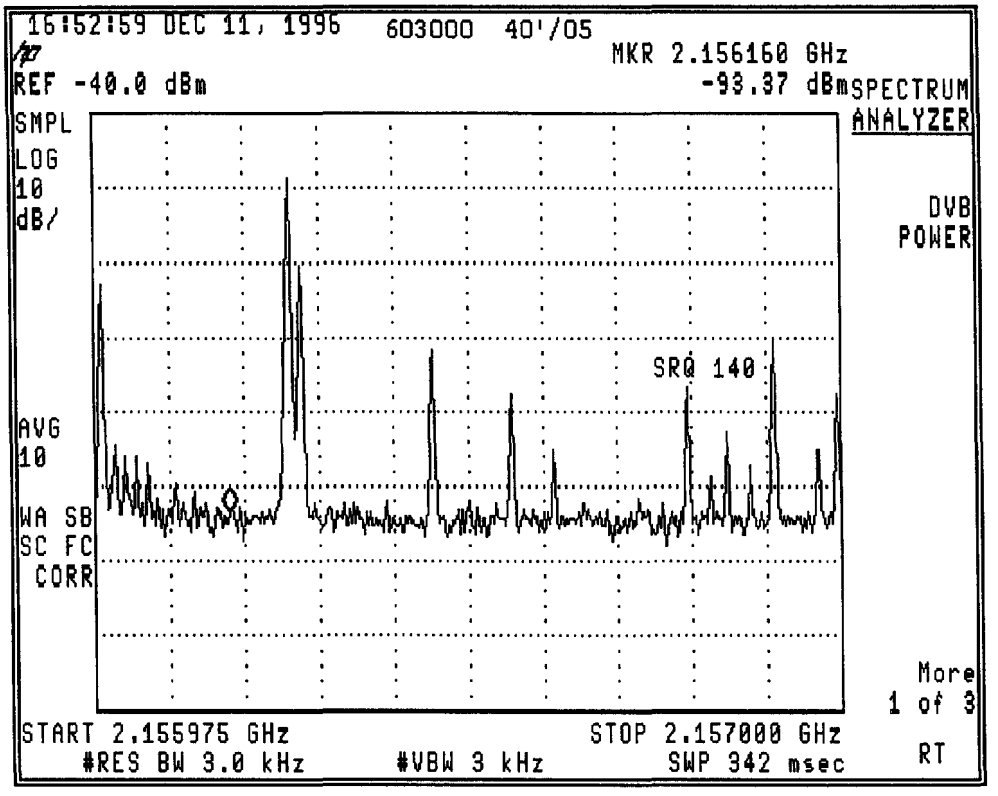
SITE 2

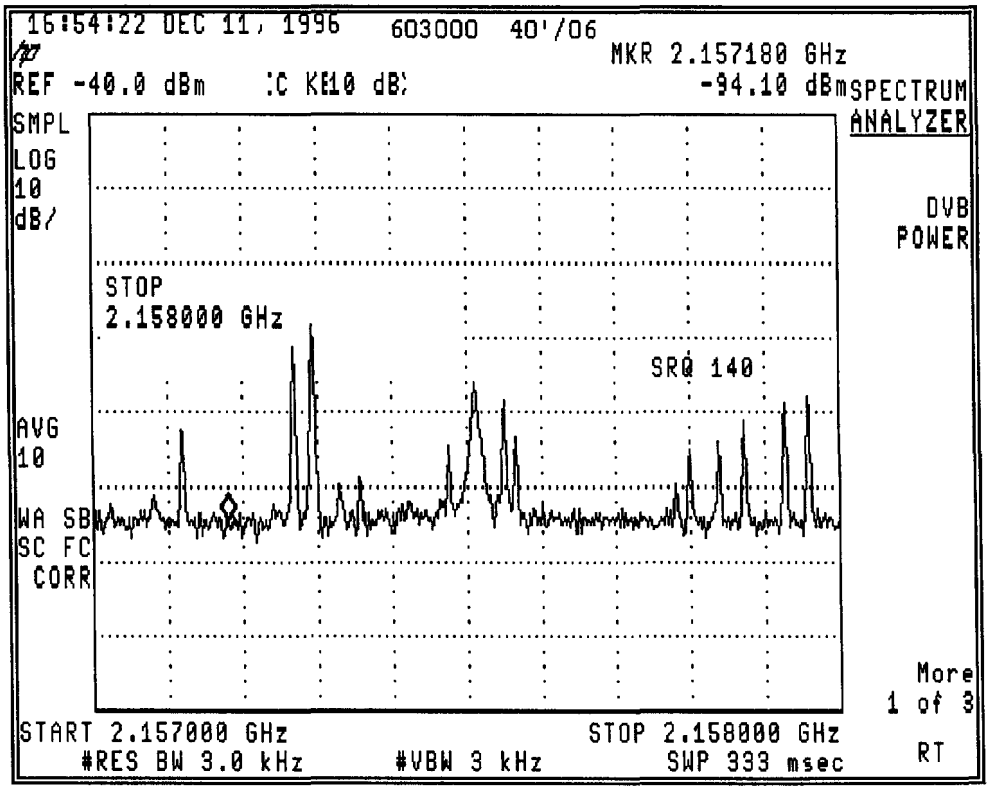

16:27:52 DEC 11, 1996
603000 30'/01
REF -40.0 dBm
#AT 10 dB
SMPL
LOG
10
dB/
AVG
10
WA SB
SC FC
CORR
SRQ 140
MARKER
NORMAL
MARKER
Δ
MARKER
AMPTD
SELECT
1 2 3 4
MARKER 1
ON OFF
More
1 of 2
RT
START 2.155975 GHz
STOP 2.157000 GHz
#RES BW 3.0 kHz
#VBW 3 kHz
SWP 342 msec

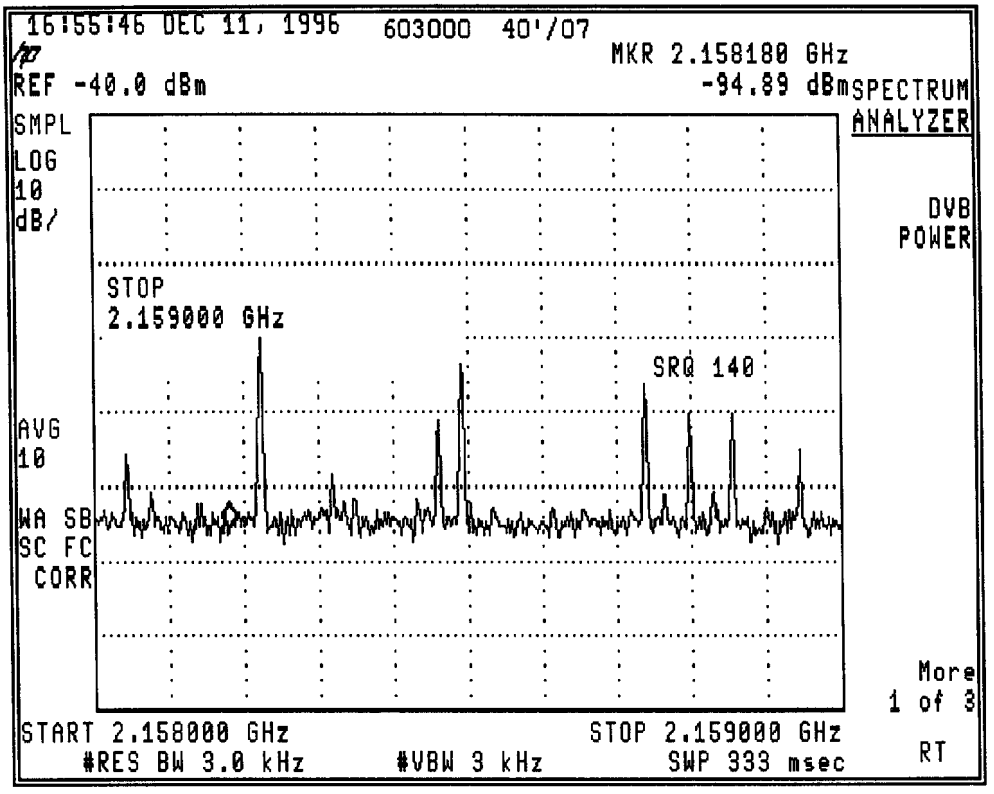

16:32:03 DEC 11, 1996
603000 30'/02
REF -40.0 dBm
#AT 10 dB
SMPL
LOG
10
dB/
STOP
2.158000 GHz
AVG
10
WA SB
SC FC
CORR
SRQ 140
MARKER
NORMAL
MARKER
Δ
MARKER
AMPTD
SELECT
1 2 3 4
MARKER 1
ON OFF
More
1 of 2
RT
START 2.157000 GHz
STOP 2.158000 GHz
#RES BW 3.0 kHz
#VBW 3 kHz
SWP 333 msec

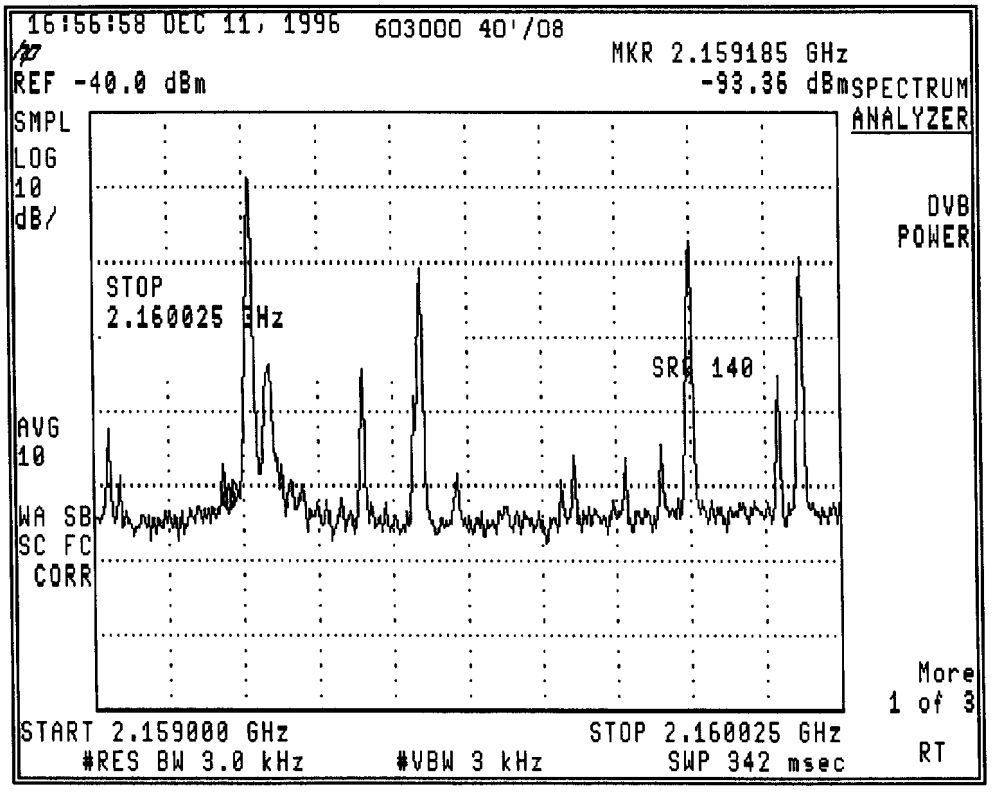

16:33:51 DEC 11, 1996 603000 30'/03
REF -40.0 dBm #AT 10 dB
SMPL
LOG
10
dB/
STOP
2.159000 GHz
SRQ 140
AVG
10
WA SB
SC FC
CORR
MARKER
NORMAL
MARKER
Δ
MARKER
AMPTD
SELECT
1 2 3 4
MARKER 1
ON OFF
More
1 of 2
START 2.158000 GHz
STOP 2.159000 GHz
#RES BW 3.0 kHz
#VBW 3 kHz
SWP 333 msec
RT

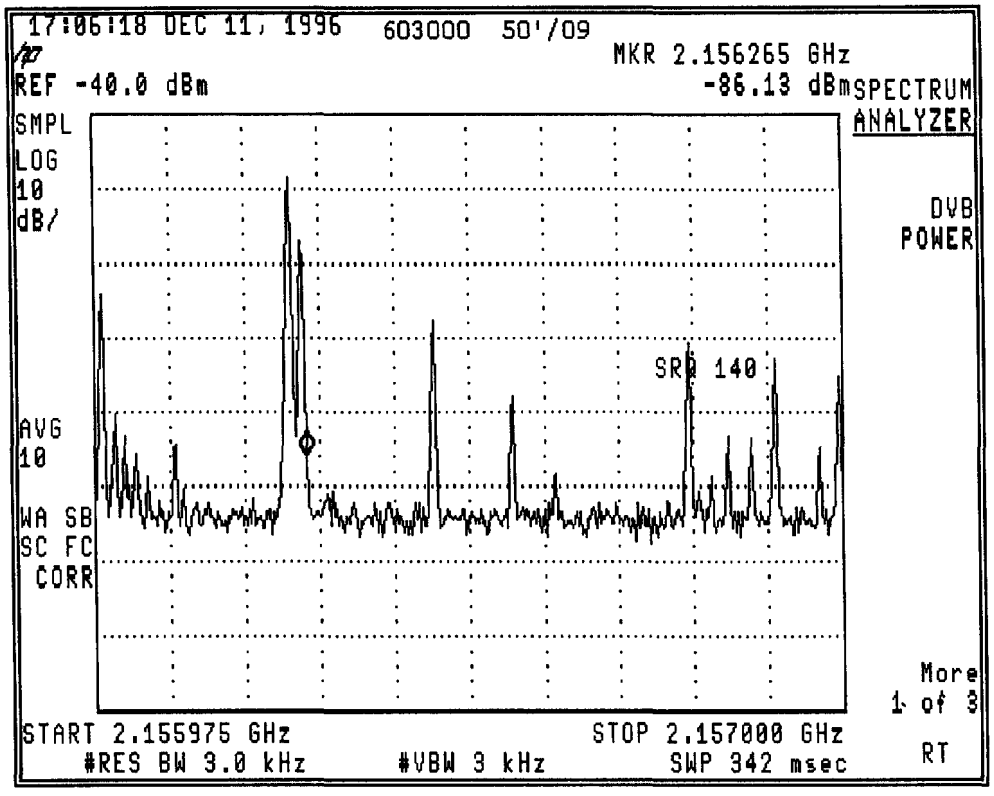

16:34:41 DEC 11, 1996 603000 30'/04
REF -40.0 dBm #AT 10 dB
SMPL
LOG
10
dB/
STOP
2.160025 GHz
SRQ 140
AVG
10
WA SB
SC FC
CORR
MARKER
NORMAL
MARKER
Δ
MARKER
AMPTD
SELECT
1 2 3 4
MARKER 1
ON OFF
More
1 of 2
START 2.159000 GHz
STOP 2.160025 GHz
#RES BW 3.0 kHz
#VBW 3 kHz
SWP 342 msec
RT

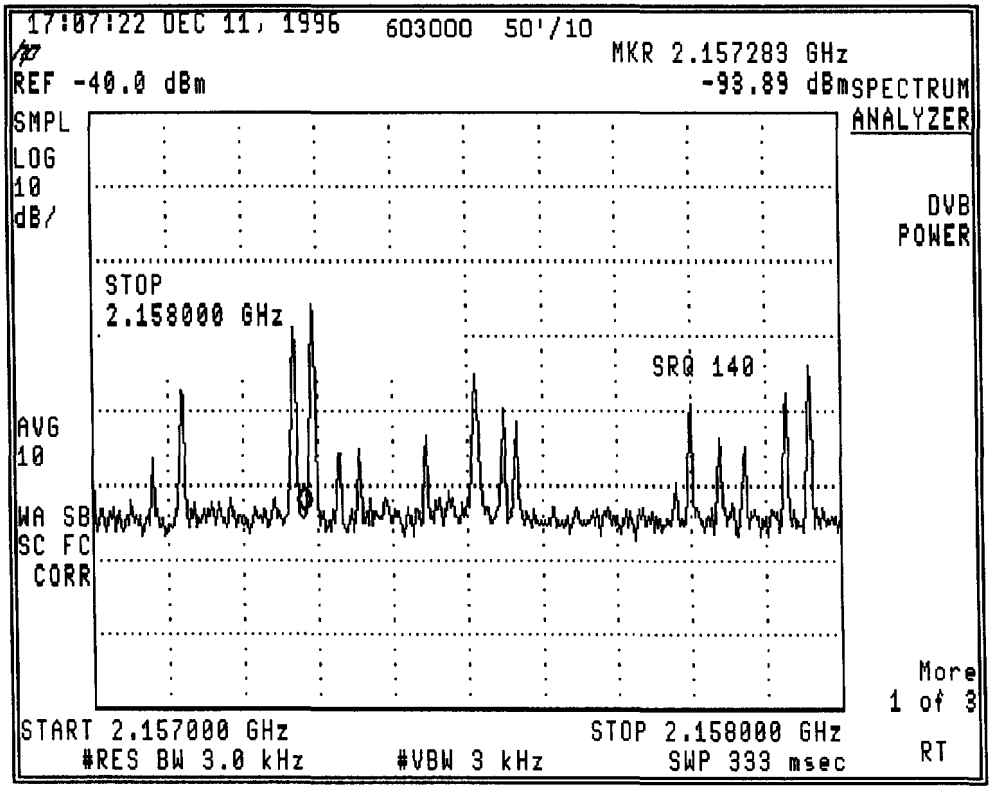

16:52:59 DEC 11, 1996 603000 40'/05
MKR 2.156160 GHz
REF -40.0 dBm
-93.37 dBm
SPECTRUM ANALYZER
SMPL
LOG
10
dB/
DVB POWER
SRØ 140
AVG
10
WA SB
SC FC
CORR
More
1 of 3
START 2.155975 GHz
STOP 2.157000 GHz
#RES BW 3.0 kHz
#VBW 3 kHz
SWP 342 msec
RT

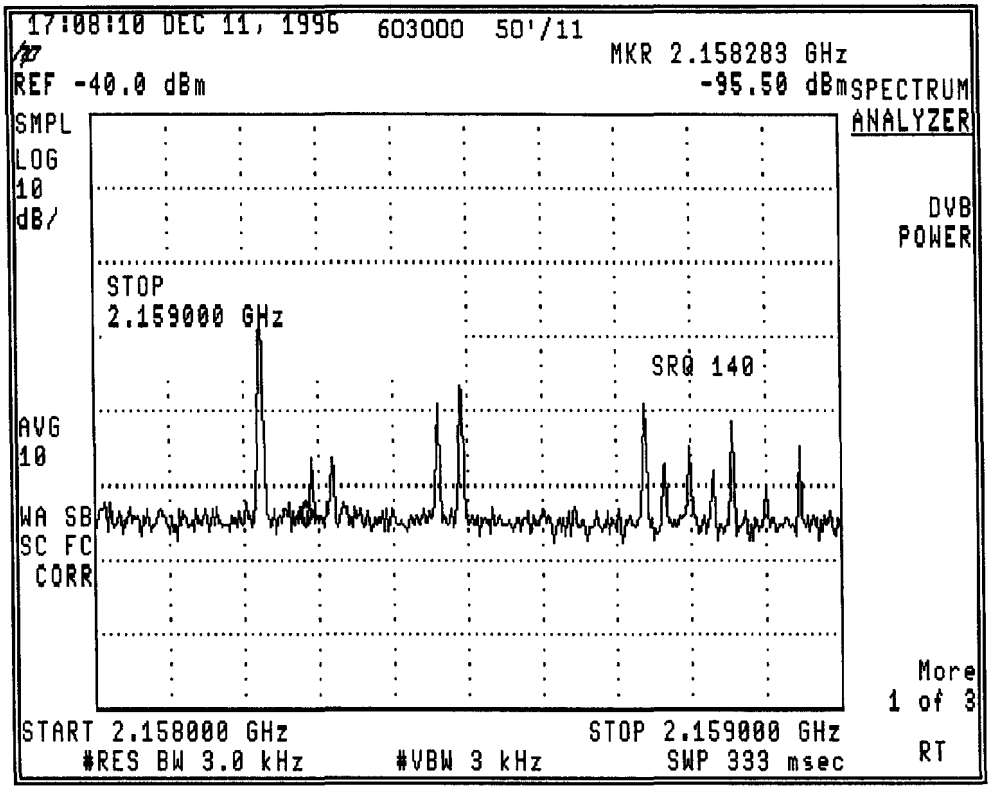

16:54:22 DEC 11, 1996 603000 40'/06
MKR 2.157180 GHz
REF -40.0 dBm
-94.10 dBm
SPECTRUM ANALYZER
SMPL
LOG
10
dB/
DVB POWER
STOP
2.158000 GHz
SRØ 140
AVG
10
WA SB
SC FC
CORR
More
1 of 3
START 2.157000 GHz
STOP 2.158000 GHz
#RES BW 3.0 kHz
#VBW 3 kHz
SWP 333 msec
RT

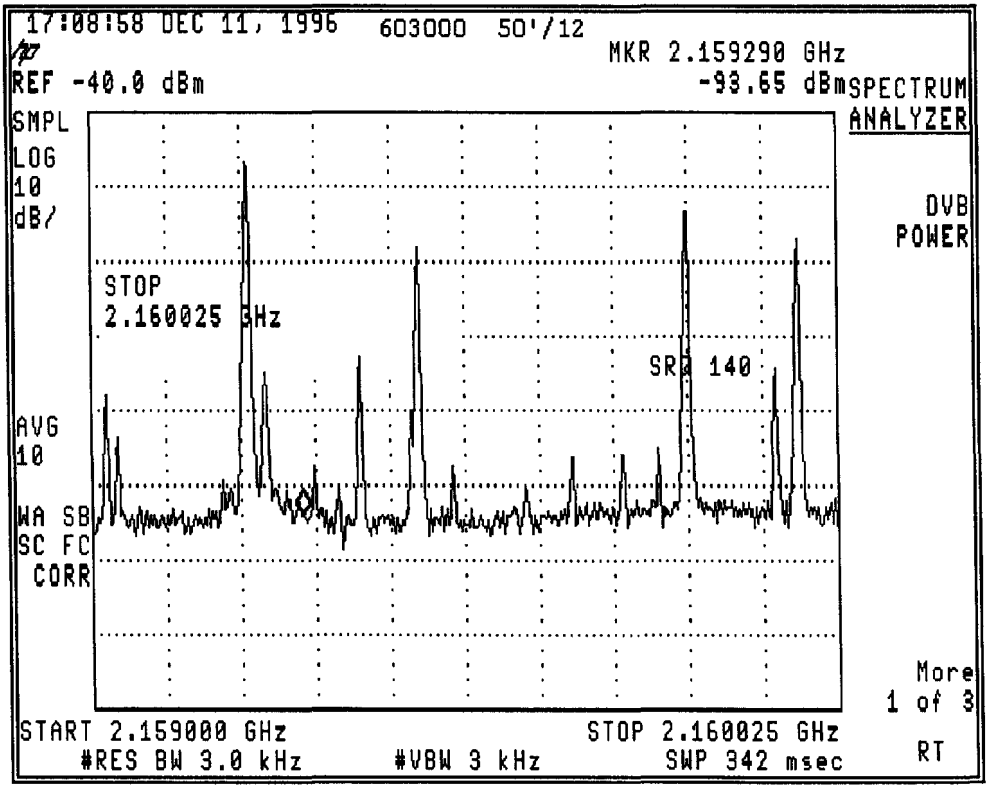

16:55:46 DEC 11, 1996 603000 40'/07
MKR 2.158180 GHz
REF -40.0 dBm
-94.89 dBm
SPECTRUM ANALYZER
SMPL
LOG
10
dB/
DVB POWER
STOP
2.159000 GHz
SRQ 140
AVG
10
WA SB
SC FC
CORR
More
1 of 3
START 2.158000 GHz
STOP 2.159000 GHz
#RES BW 3.0 kHz
#VBW 3 kHz
SWP 333 msec
RT


16:56:58 DEC 11, 1996 603000 40'/08
MKR 2.159185 GHz
REF -40.0 dBm
-93.36 dBm
SPECTRUM ANALYZER
SMPL
LOG
10
dB/
DVB POWER
STOP
2.160025 GHz
SRQ 140
AVG
10
WA SB
SC FC
CORR
More
1 of 3
START 2.159000 GHz
STOP 2.160025 GHz
#RES BW 3.0 kHz
#VBW 3 kHz
SWP 342 msec
RT

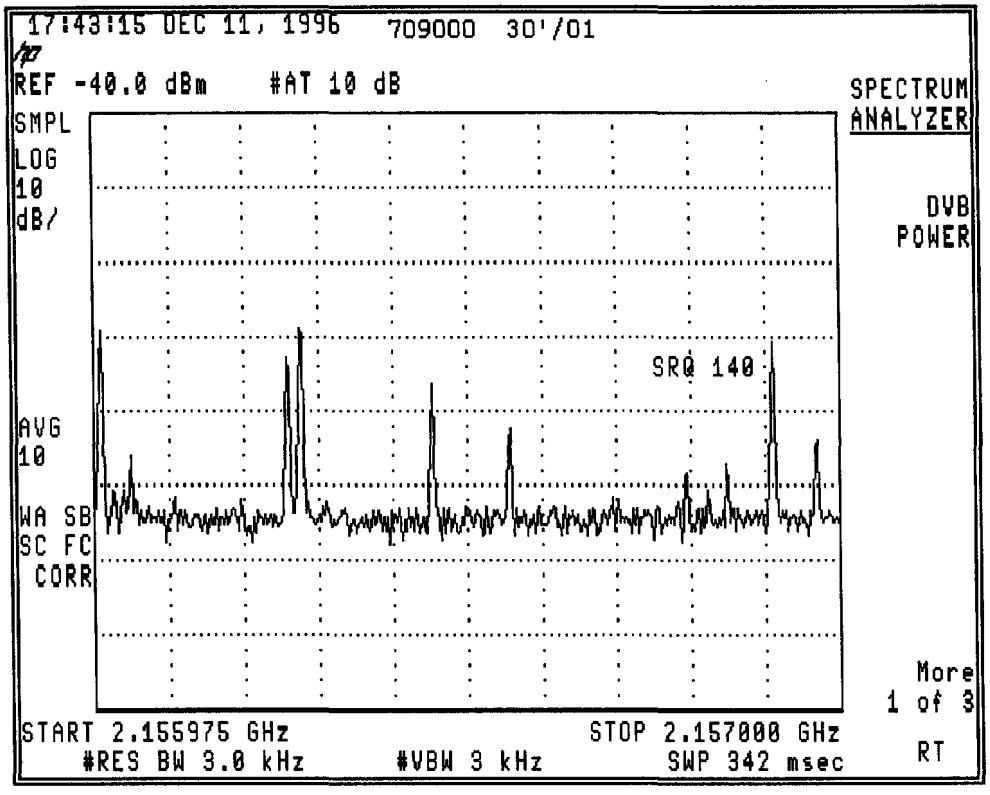

17:06:18 DEC 11, 1996 603000 50'/09
MKR 2.156265 GHz
REF -40.0 dBm
-86.13 dBm
SPECTRUM ANALYZER
SMPL
LOG
10
dB/
DVB POWER
SR0 140
AVG
10
WA SB
SC FC
CORR
More
1 of 3
START 2.155975 GHz
STOP 2.157000 GHz
#RES BW 3.0 kHz
#VBW 3 kHz
SWP 342 msec
RT

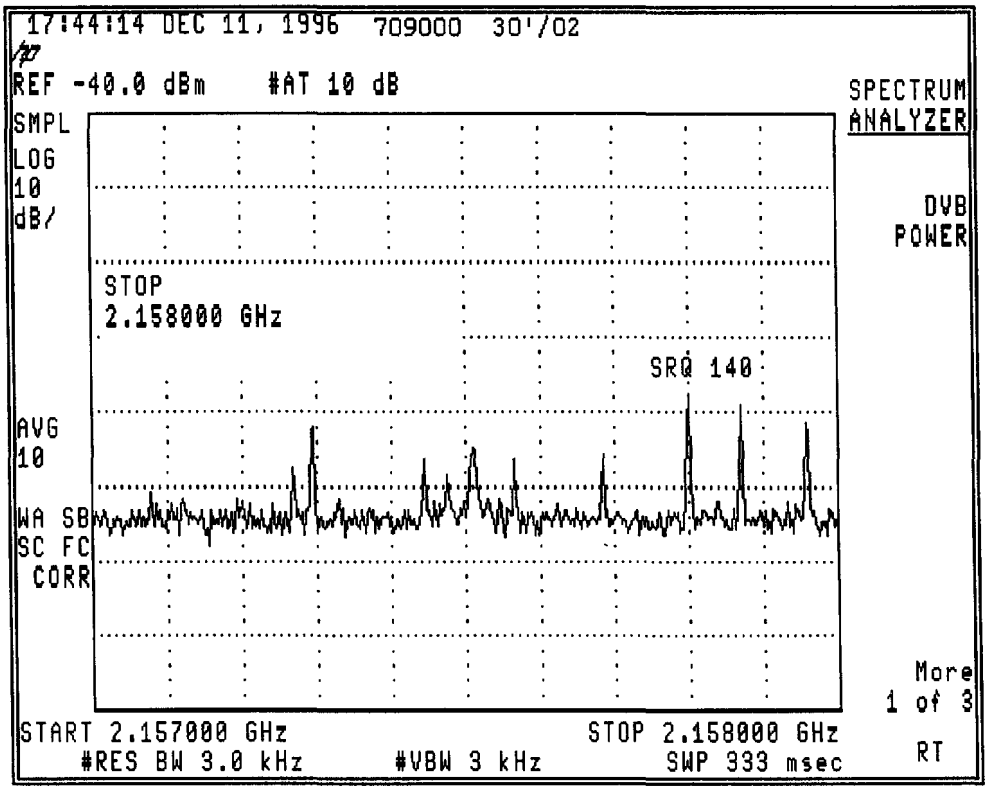

17:07:22 DEC 11, 1996 603000 50'/10
MKR 2.157283 GHz
REF -40.0 dBm
-93.89 dBm
SPECTRUM ANALYZER
SMPL
LOG
10
dB/
DVB POWER
STOP
2.158000 GHz
SR0 140
AVG
10
WA SB
SC FC
CORR
More
1 of 3
START 2.157000 GHz
STOP 2.158000 GHz
#RES BW 3.0 kHz
#VBW 3 kHz
SWP 333 msec
RT

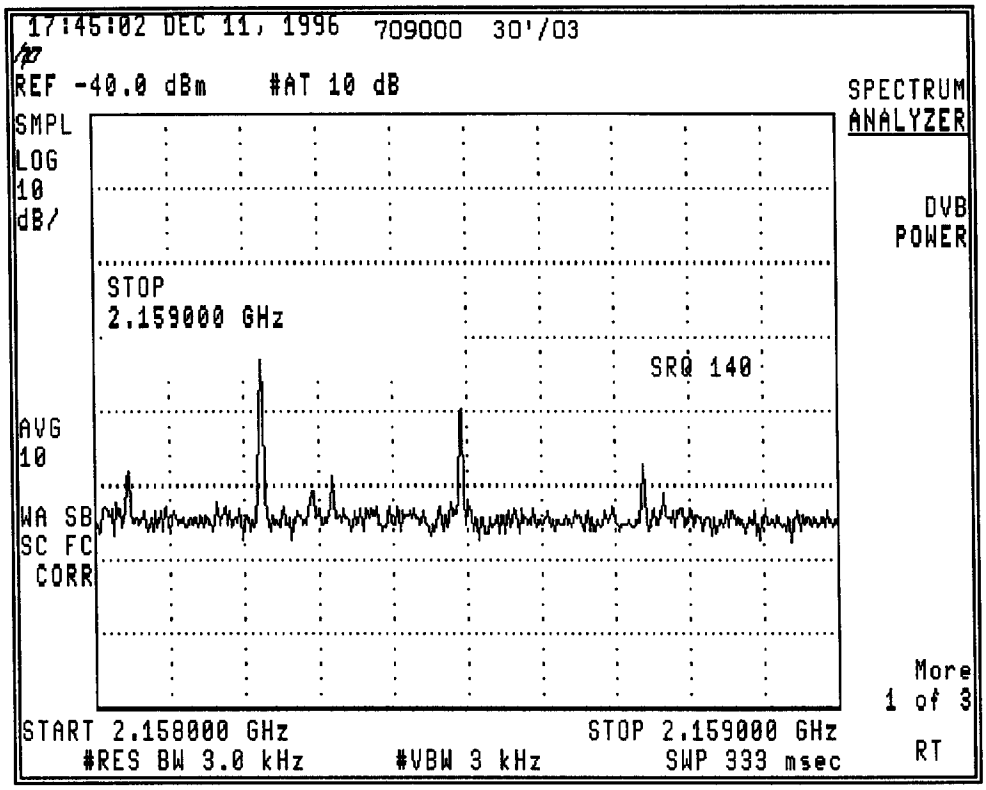

17:08:10 DEC 11, 1996 603000 50'/11
MKR 2.158283 GHz
REF -40.0 dBm
-95.50 dBm
SPECTRUM ANALYZER
SMPL
LOG
10
dB/
DVB POWER
STOP
2.159000 GHz
SRQ 140
AVG
10
WA SB
SC FC
CORR
More
1 of 3
START 2.158000 GHz
STOP 2.159000 GHz
#RES BW 3.0 kHz
#VBW 3 kHz
SWP 333 msec
RT

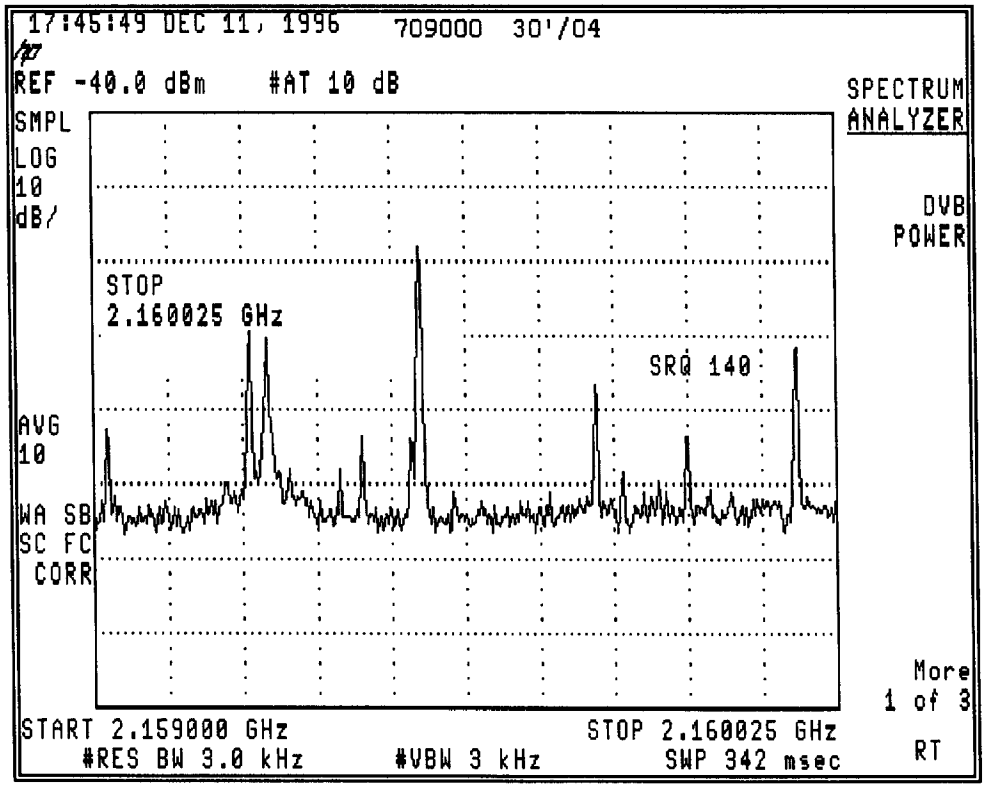

17:08:58 DEC 11, 1996 603000 50'/12
MKR 2.159290 GHz
REF -40.0 dBm
-93.65 dBm
SPECTRUM ANALYZER
SMPL
LOG
10
dB/
DVB POWER
STOP
2.160025 GHz
SRQ 140
AVG
10
WA SB
SC FC
CORR
More
1 of 3
START 2.159000 GHz
STOP 2.160025 GHz
#RES BW 3.0 kHz
#VBW 3 kHz
SWP 342 msec
RT

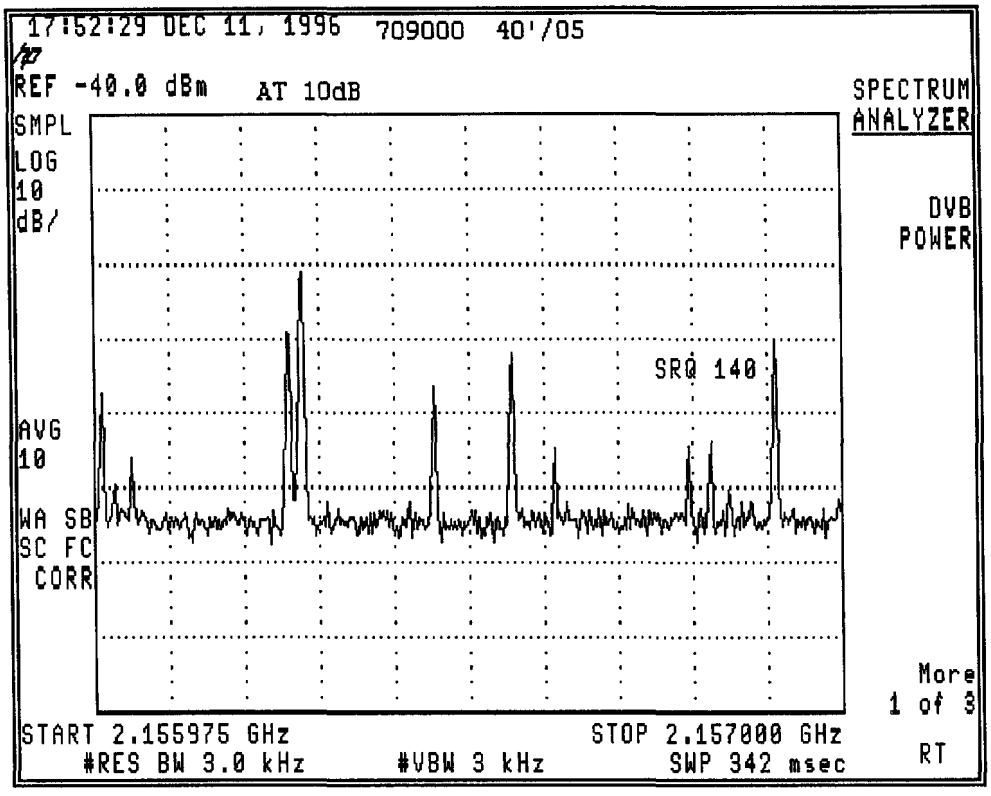
SITE 3

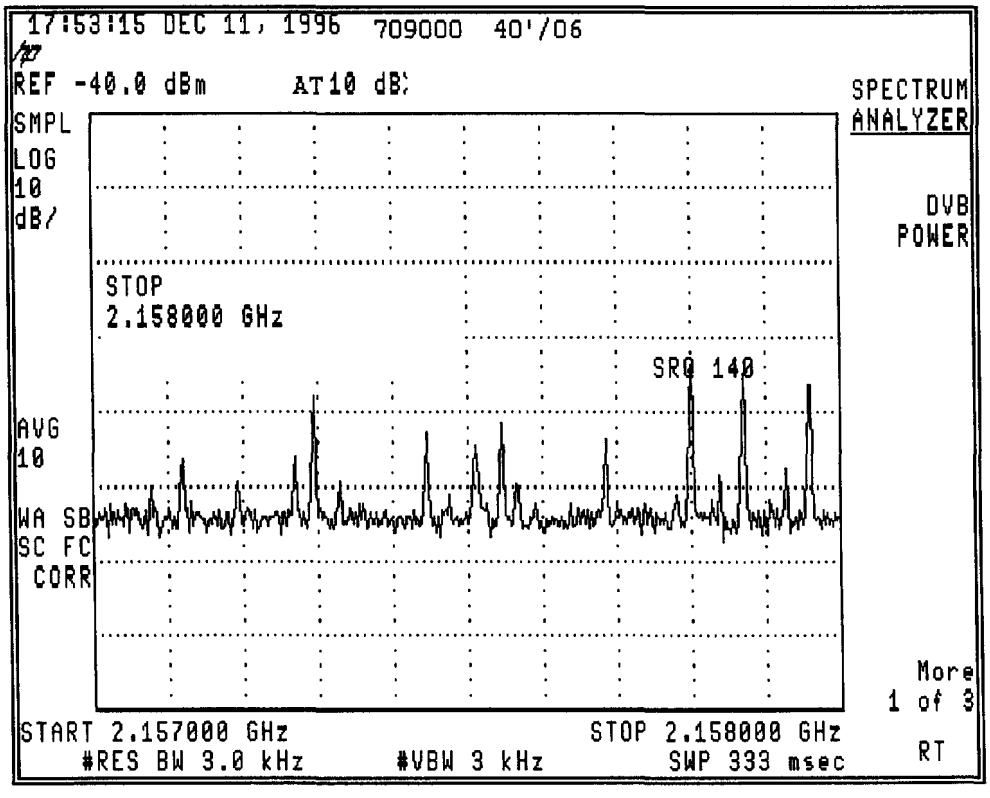

17:43:15 DEC 11, 1996 709000 30'/01
REF -40.0 dBm #AT 10 dB
SPECTRUM ANALYZER
SMPL
LOG
10
dB/
DVB POWER
SRQ 140
AVG
10
WA SB
SC FC
CORR
More
1 of 3
START 2.155975 GHz
STOP 2.157000 GHz
#RES BW 3.0 kHz
#VBW 3 kHz
SWP 342 msec
RT

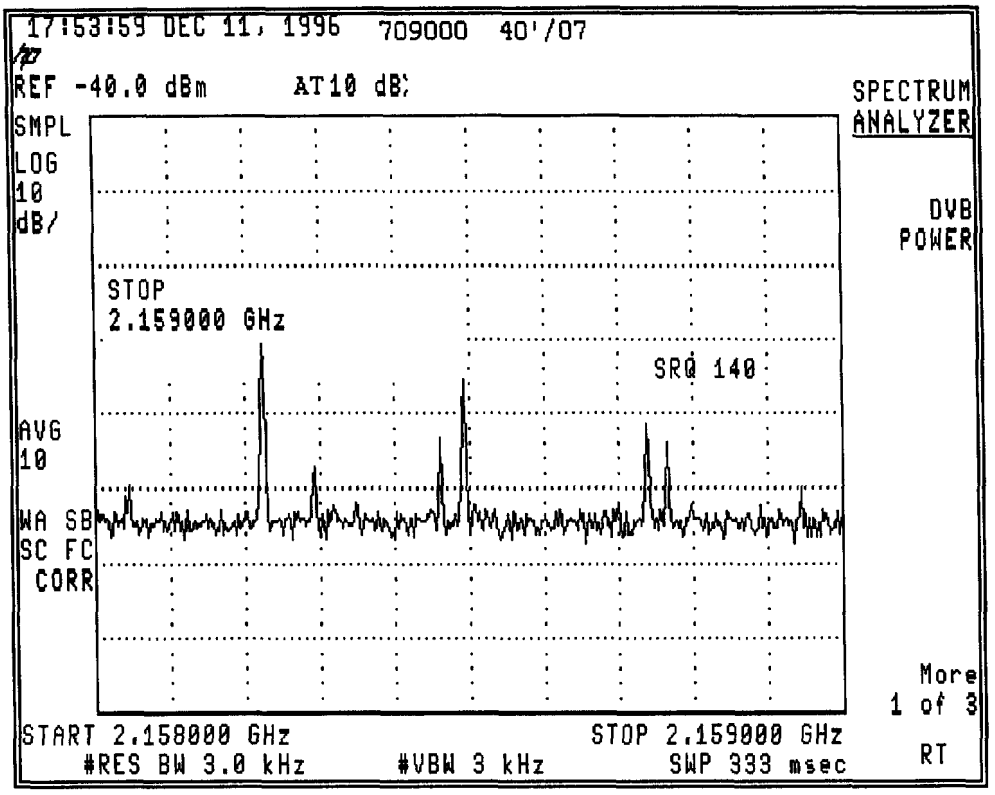

17:44:14 DEC 11, 1996 709000 30'/02
REF -40.0 dBm #AT 10 dB
SPECTRUM ANALYZER
SMPL
LOG
10
dB/
DVB POWER
STOP
2.158000 GHz
SRQ 140
AVG
10
WA SB
SC FC
CORR
More
1 of 3
START 2.157000 GHz
STOP 2.158000 GHz
#RES BW 3.0 kHz
#VBW 3 kHz
SWP 333 msec
RT

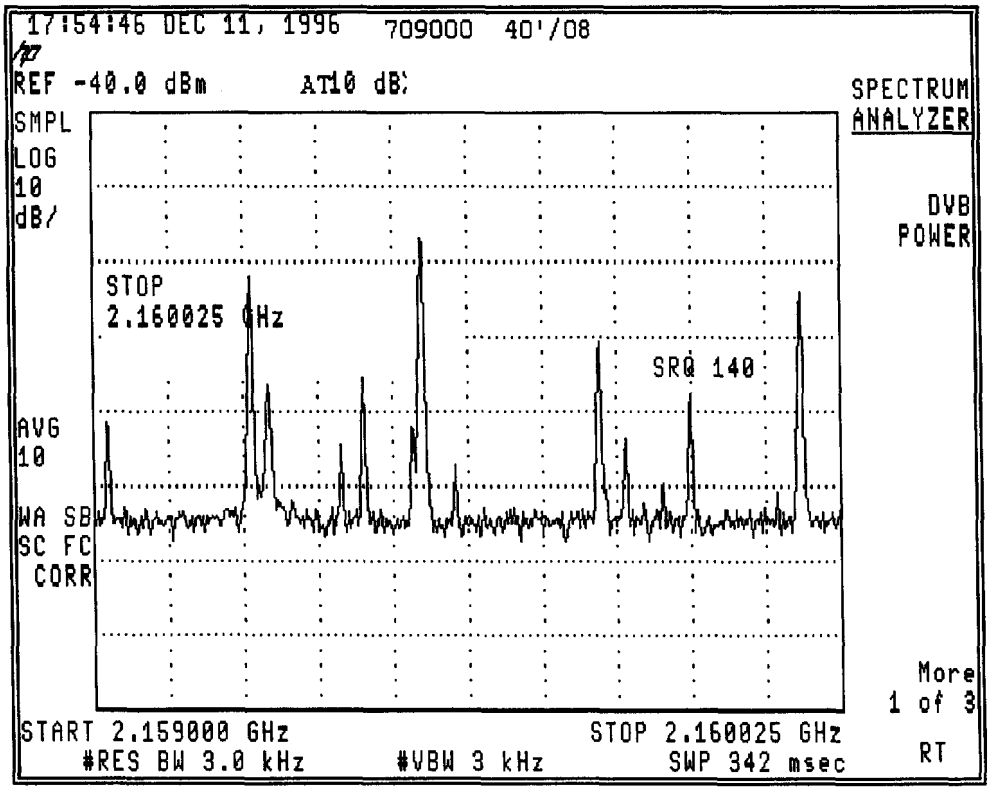

17:45:02 DEC 11, 1996 709000 30'/03
REF -40.0 dBm #AT 10 dB
SPECTRUM ANALYZER
SMPL
LOG
10
dB/
DVB POWER
STOP
2.159000 GHz
SRQ 140
AVG
10
WA SB
SC FC
CORR
More
1 of 3
START 2.158000 GHz
STOP 2.159000 GHz
#RES BW 3.0 kHz
#VBW 3 kHz
SWP 333 msec
RT

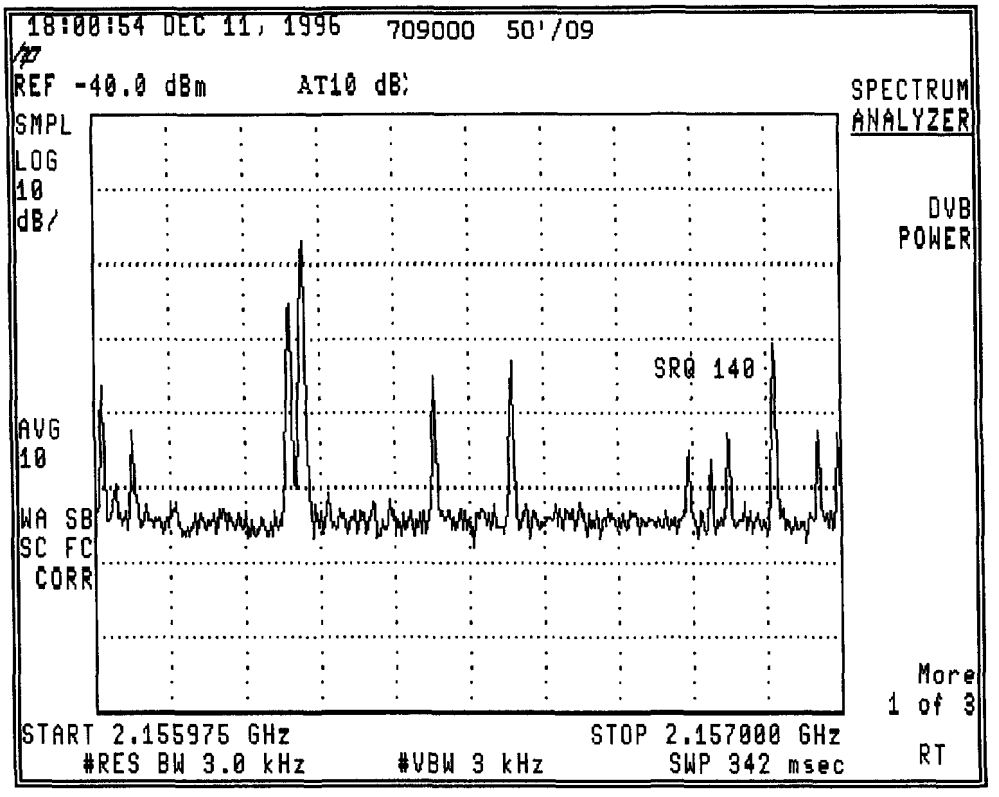

17:45:49 DEC 11, 1996 709000 30'/04
REF -40.0 dBm #AT 10 dB
SPECTRUM ANALYZER
SMPL
LOG
10
dB/
DVB POWER
STOP
2.160025 GHz
SRQ 140
AVG
10
WA SB
SC FC
CORR
More
1 of 3
START 2.159000 GHz
STOP 2.160025 GHz
#RES BW 3.0 kHz
#VBW 3 kHz
SWP 342 msec
RT

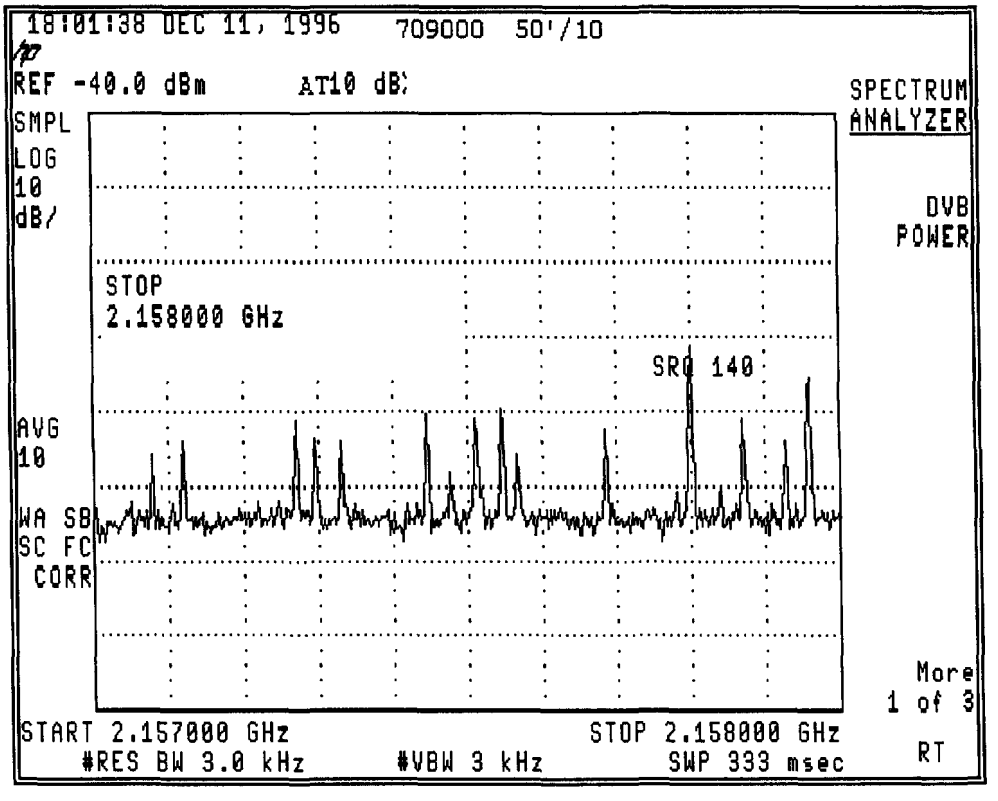

17:52:29 DEC 11, 1996 709000 40'/05
REF -40.0 dBm AT 10dB
SPECTRUM ANALYZER
SMPL
LOG
10
dB/
DVB POWER
SRQ 140
AVG
10
WA SB
SC FC
CORR
More
1 of 3
START 2.155975 GHz
STOP 2.157000 GHz
#RES BW 3.0 kHz
#VBW 3 kHz
SWP 342 msec
RT

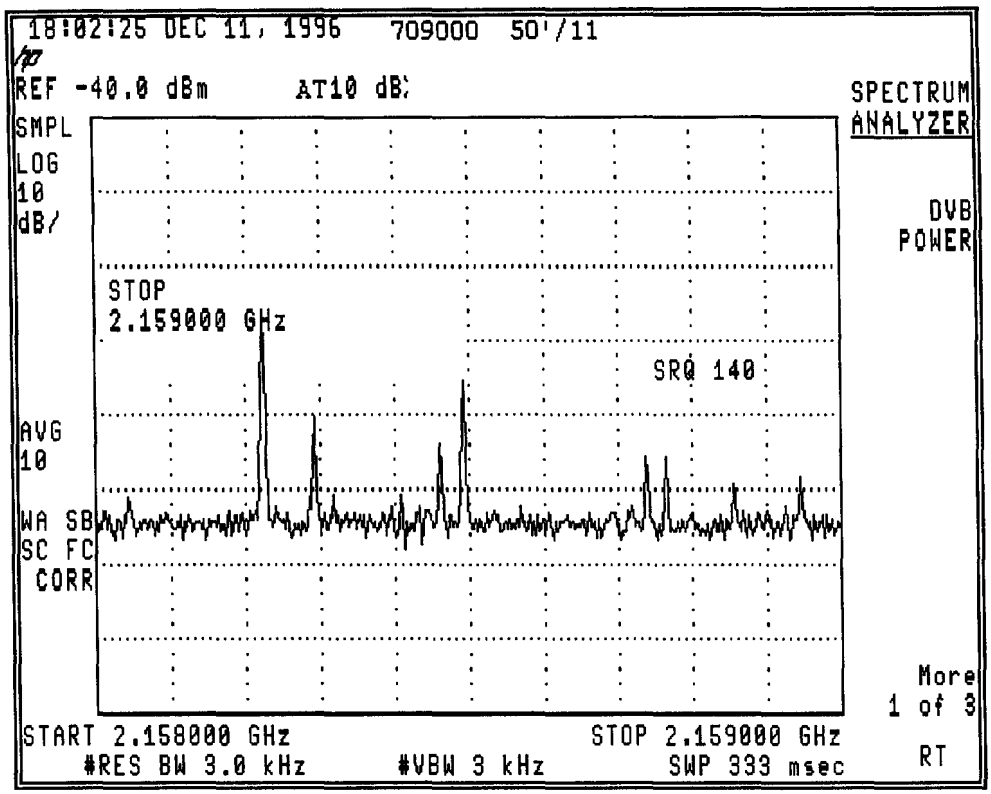

17:53:15 DEC 11, 1996 709000 40'/06
REF -40.0 dBm AT10 dB
SPECTRUM ANALYZER
SMPL
LOG
10
dB/
DVB POWER
STOP
2.158000 GHz
SRQ 140
AVG
10
WA SB
SC FC
CORR
More
1 of 3
START 2.157000 GHz
STOP 2.158000 GHz
#RES BW 3.0 kHz
#VBW 3 kHz
SWP 333 msec
RT

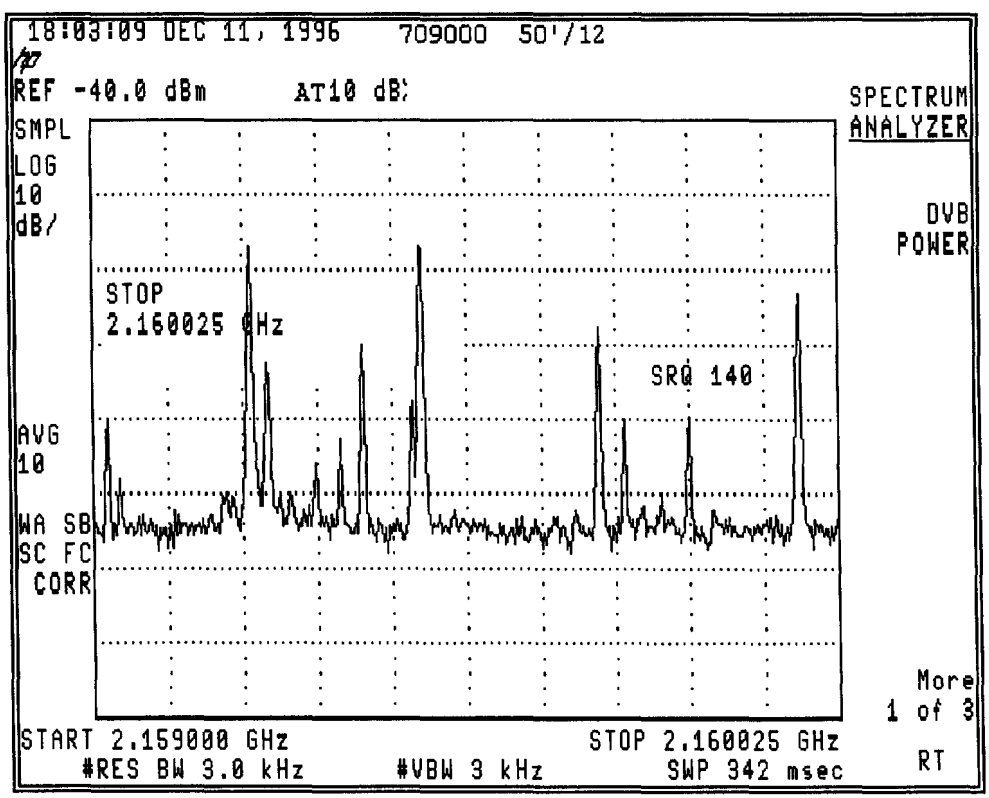

17:53:59 DEC 11, 1996 709000 40'/07
REF -40.0 dBm AT10 dB
SPECTRUM ANALYZER
SMPL
LOG
10
dB/
DVB POWER
STOP
2.159000 GHz
SRQ 140
AVG
10
WA SB
SC FC
CORR
More
1 of 3
START 2.158000 GHz
STOP 2.159000 GHz
#RES BW 3.0 kHz
#VBW 3 kHz
SWP 333 msec
RT


17:54:46 DEC 11, 1996 709000 40'/08
REF -40.0 dBm AT10 dB
SPECTRUM ANALYZER
SMPL
LOG
10
dB/
DVB POWER
STOP
2.160025 GHz
SRQ 140
AVG
10
WA SB
SC FC
CORR
More
1 of 3
START 2.159000 GHz
STOP 2.160025 GHz
#RES BW 3.0 kHz
#VBW 3 kHz
SWP 342 msec
RT


18:00:54 DEC 11, 1996 709000 50'/09
REF -40.0 dBm AT10 dB
SPECTRUM ANALYZER
SMPL
LOG
10
dB/
DVB POWER
SRQ 140
AVG
10
WA SB
SC FC
CORR
More 1 of 3
START 2.155975 GHz
STOP 2.157000 GHz
#RES BW 3.0 kHz
#VBW 3 kHz
SWP 342 msec
RT


18:01:38 DEC 11, 1996 709000 50'/10
REF -40.0 dBm AT10 dB
SPECTRUM ANALYZER
SMPL
LOG
10
dB/
DVB POWER
STOP
2.158000 GHz
SRQ 140
AVG
10
WA SB
SC FC
CORR
More 1 of 3
START 2.157000 GHz
STOP 2.158000 GHz
#RES BW 3.0 kHz
#VBW 3 kHz
SWP 333 msec
RT


18:02:25 DEC 11, 1996 709000 50'/11
REF -40.0 dBm AT10 dB
SPECTRUM ANALYZER
SMPL
LOG
10
dB/
DVB POWER
STOP
2.159000 GHz
SRØ 140
AVG
10
WA SB
SC FC
CORR
More
1 of 3
START 2.158000 GHz
STOP 2.159000 GHz
#RES BW 3.0 kHz
#VBW 3 kHz
SWP 333 msec
RT


18:03:09 DEC 11, 1996 709000 50'/12
REF -40.0 dBm AT10 dB
SPECTRUM ANALYZER
SMPL
LOG
10
dB/
DVB POWER
STOP
2.160025 GHz
SRØ 140
AVG
10
WA SB
SC FC
CORR
More
1 of 3
START 2.159000 GHz
STOP 2.160025 GHz
#RES BW 3.0 kHz
#VBW 3 kHz
SWP 342 msec
RT