Type Acceptance Test Report

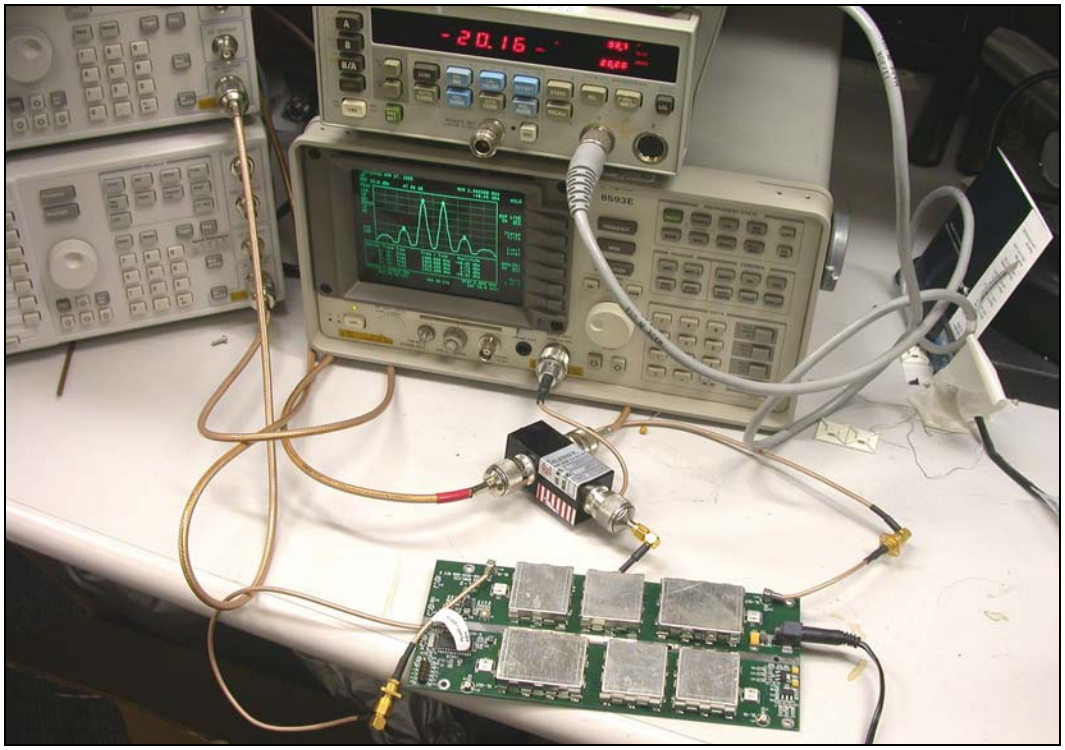
Multimode PCS Repeater
FCC Rule Parts: 2, 15 & 24

ACS Report Number: 03-0089-24TA

Manufacturer: EMS Wireless
Model: Link2Cell

Two Tone Conducted Spurious Emissions Test

Test Setup

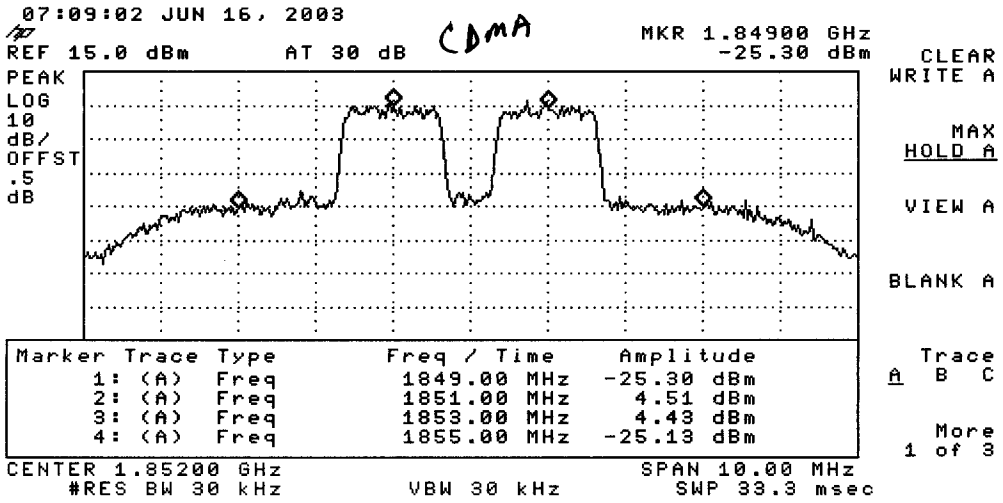


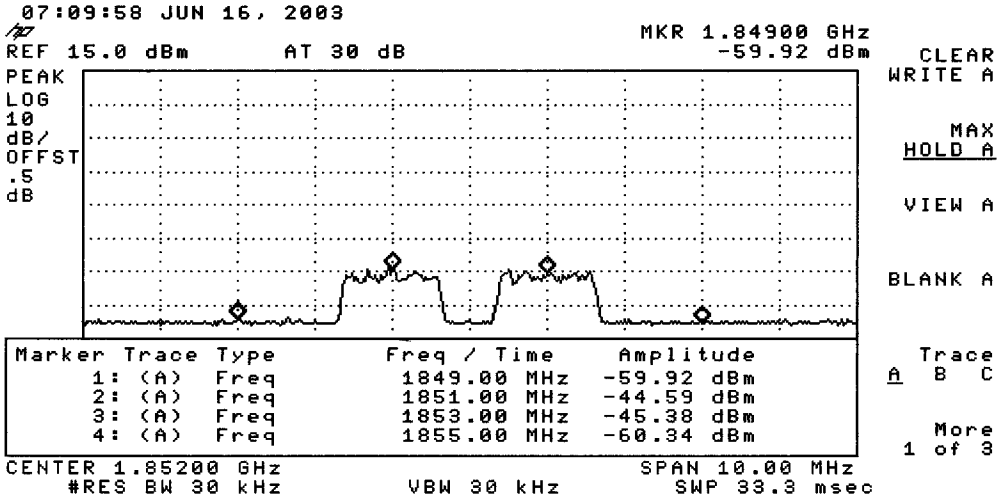
Test Equipment

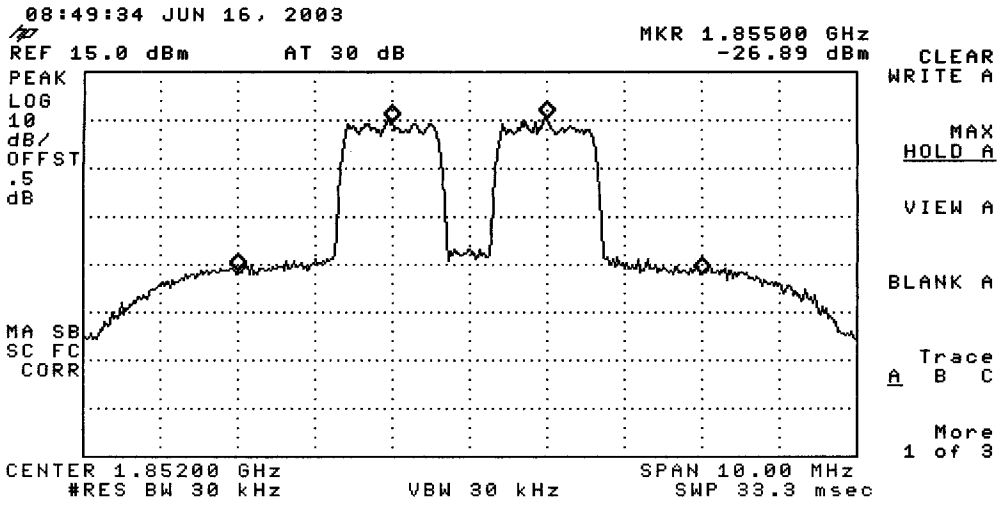
Diagram Number	Equipment Type	MFG	Model	Serial Number	Cal Date	Cal Due
1	RF Signal Generator	Agilent	E4432B	A55445-4	4/5/2003	4/5/2004
2	RF Signal Generator	Agilent	E4432B	A55445-4	4/5/2003	4/5/2004
3	Spectrum Analyzer	Agilent	8593E	A55445-1	4/5/2003	4/5/2004
4	Power Meter	Agilent	438A	A55444-1	4/5/2003	4/5/2004
5	Power Sensor	Agilent	8481A	A55444-2	4/5/2003	4/5/2004
6	Power Divider	Telwave	ANTPD218	N/A		

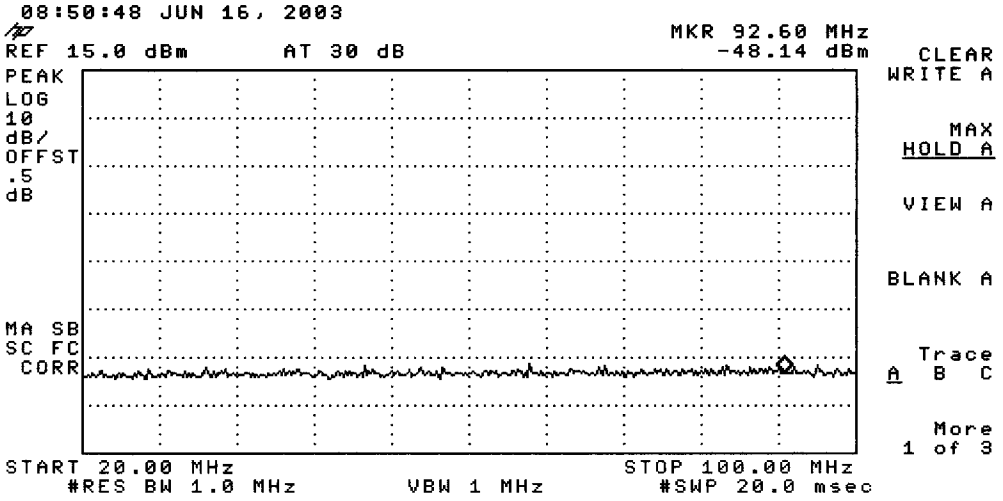
Test Results

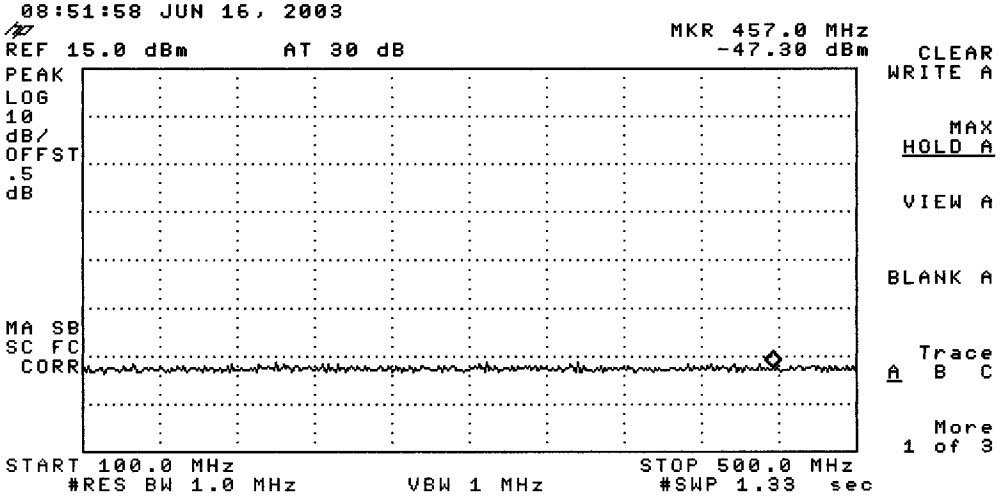
See following pages.

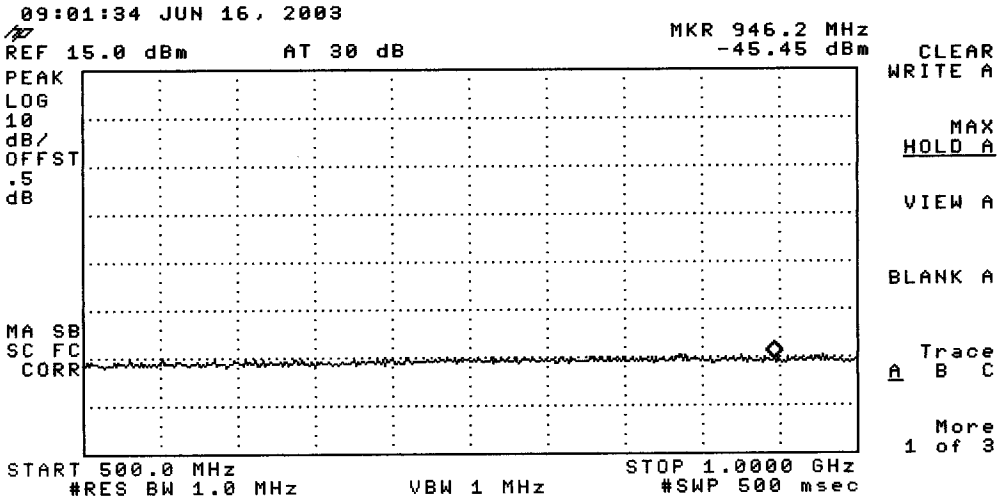

07:09:02 JUN 16, 2003
CDMA
REF 15.0 dBm
AT 30 dB
MKR 1.84900 GHz
-25.30 dBm
PEAK
LOG
10
dB/
OFFST
.5
dB
CLEAR
WRITE A
MAX
HOLD A
VIEW A
BLANK A
Trace
A B C
More
1 of 3
Marker Trace Type Freq / Time Amplitude
1: (A) Freq 1849.00 MHz -25.30 dBm
2: (A) Freq 1851.00 MHz 4.51 dBm
3: (A) Freq 1853.00 MHz 4.43 dBm
4: (A) Freq 1855.00 MHz -25.13 dBm
CENTER 1.85200 GHz
SPAN 10.00 MHz
#RES BW 30 kHz
VBW 30 kHz
SWP 33.3 msec

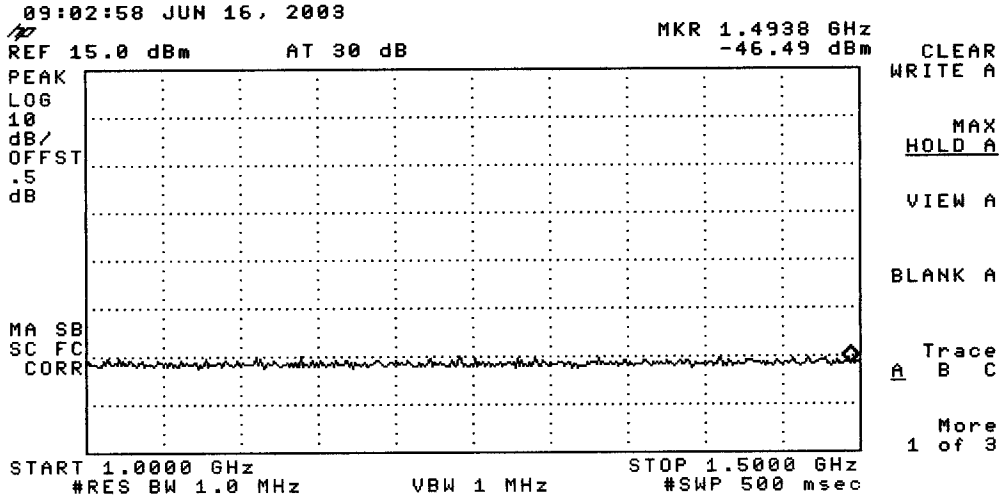

07:09:58 JUN 16, 2003
REF 15.0 dBm
AT 30 dB
MKR 1.84900 GHz
-59.92 dBm
PEAK
LOG
10
dB/
OFFST
.5
dB
CLEAR
WRITE A
MAX
HOLD A
VIEW A
BLANK A
Trace
A B C
More
1 of 3
Marker Trace Type Freq / Time Amplitude
1: (A) Freq 1849.00 MHz -59.92 dBm
2: (A) Freq 1851.00 MHz -44.59 dBm
3: (A) Freq 1853.00 MHz -45.38 dBm
4: (A) Freq 1855.00 MHz -60.34 dBm
CENTER 1.85200 GHz
SPAN 10.00 MHz
#RES BW 30 kHz
VBW 30 kHz
SWP 33.3 msec

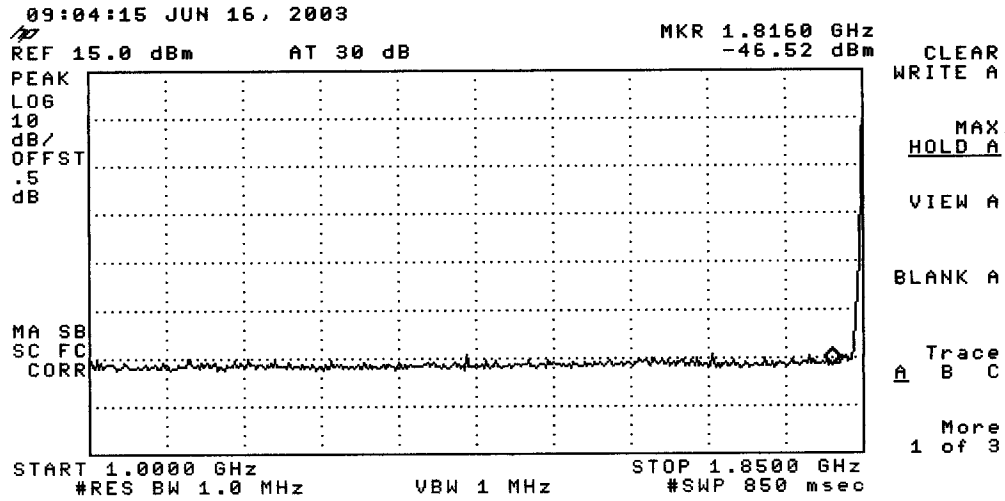

08:49:34 JUN 16, 2003
REF 15.0 dBm
AT 30 dB
MKR 1.85500 GHz
-26.89 dBm
PEAK
LOG
10
dB/
OFFST
.5
dB
MA SB
SC FC
CORR
CLEAR
WRITE A
MAX
HOLD A
VIEW A
BLANK A
Trace
A B C
More
1 of 3
CENTER 1.85200 GHz
#RES BW 30 kHz
VBW 30 kHz
SPAN 10.00 MHz
SWP 33.3 msec

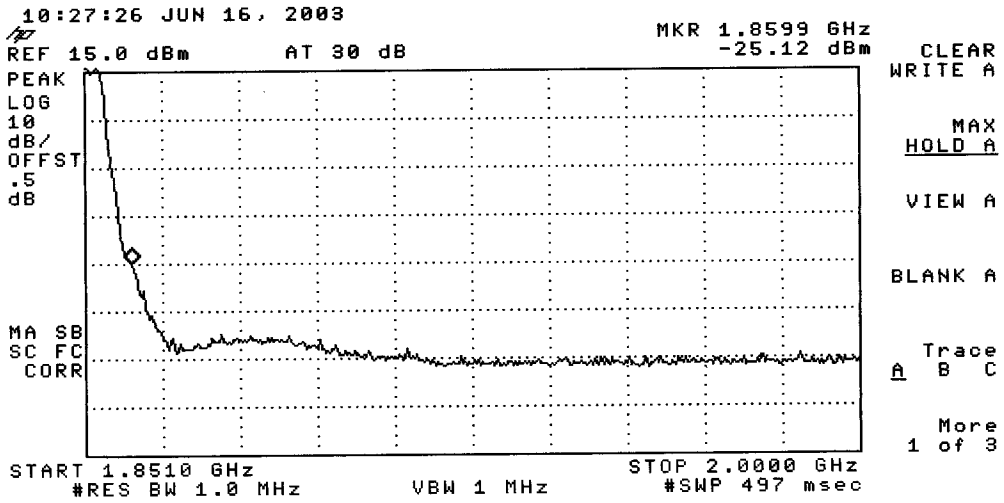

08:50:48 JUN 16, 2003
REF 15.0 dBm
AT 30 dB
MKR 92.60 MHz
-48.14 dBm
PEAK
LOG
10
dB/
OFFST
.5
dB
MA SB
SC FC
CORR
CLEAR
WRITE A
MAX
HOLD A
VIEW A
BLANK A
Trace
A B C
More
1 of 3
START 20.00 MHz
#RES BW 1.0 MHz
VBW 1 MHz
STOP 100.00 MHz
#SWP 20.0 msec

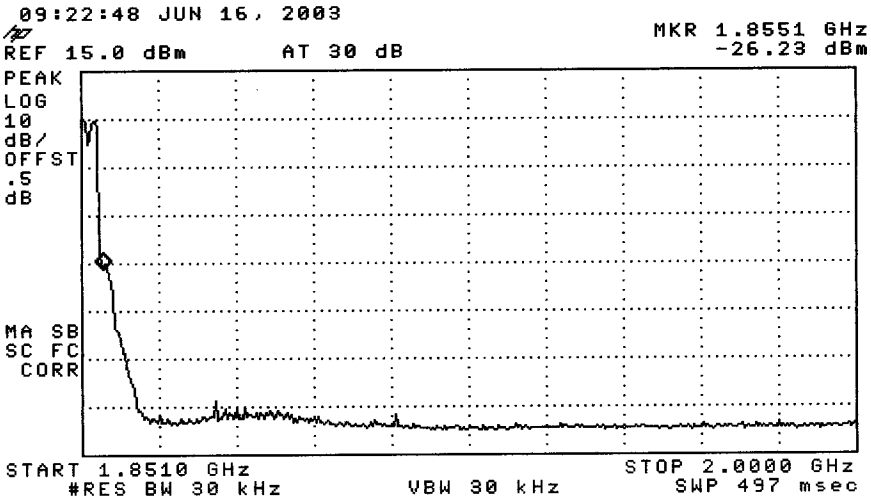

08:51:58 JUN 16, 2003
REF 15.0 dBm
AT 30 dB
MKR 457.0 MHz
-47.30 dBm
PEAK
LOG
10
dB/
OFFST
.5
dB
MA SB
SC FC
CORR
CLEAR
WRITE A
MAX
HOLD A
VIEW A
BLANK A
Trace
A B C
More
1 of 3
START 100.0 MHz
#RES BW 1.0 MHz
VBW 1 MHz
STOP 500.0 MHz
#SWP 1.33 sec

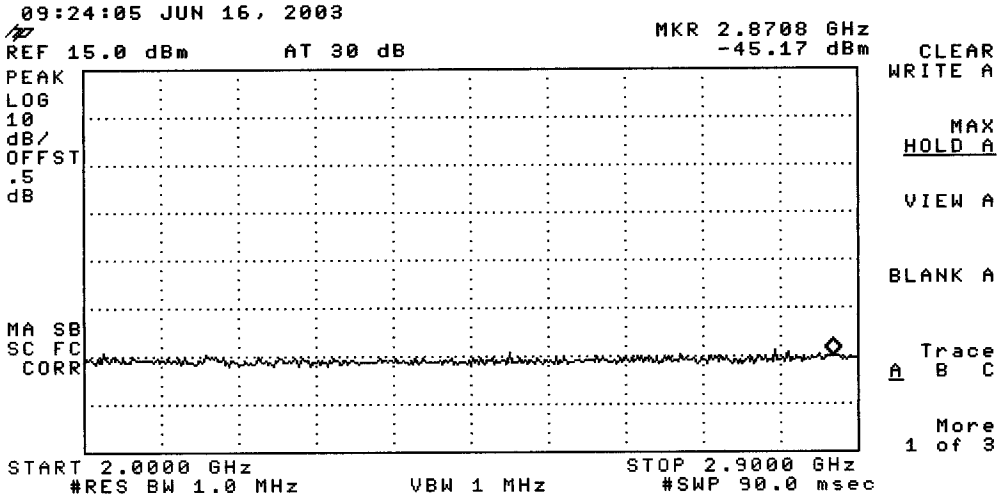

09:01:34 JUN 16, 2003
REF 15.0 dBm
AT 30 dB
MKR 946.2 MHz
-45.45 dBm
PEAK
LOG
10
dB/
OFFST
.5
dB
MA SB
SC FC
CORR
CLEAR
WRITE A
MAX
HOLD A
VIEW A
BLANK A
Trace
A B C
More
1 of 3
START 500.0 MHz
#RES BW 1.0 MHz
VBW 1 MHz
STOP 1.0000 GHz
#SWP 500 msec

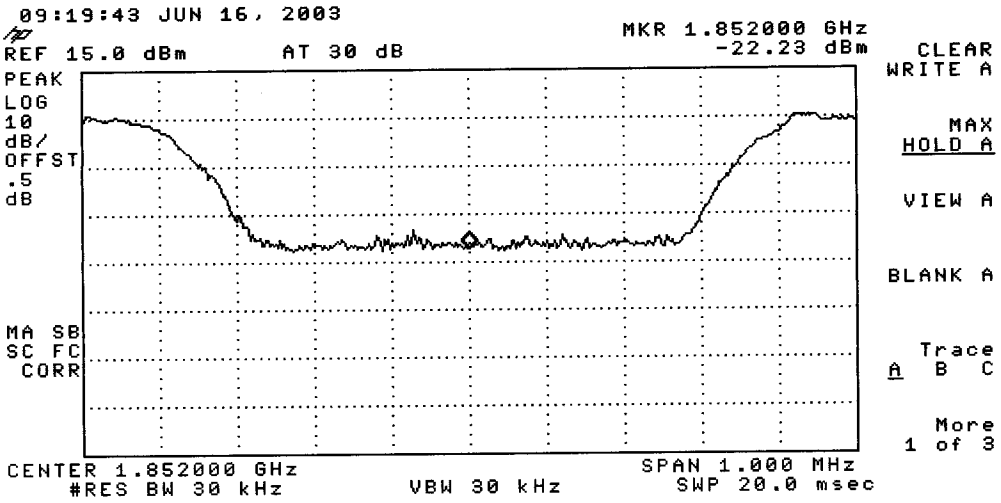

09:02:58 JUN 16, 2003
REF 15.0 dBm
AT 30 dB
MKR 1.4938 GHz
-46.49 dBm
PEAK
LOG
10
dB/
OFFST
.5
dB
MA SB
SC FC
CORR
CLEAR
WRITE A
MAX
HOLD A
VIEW A
BLANK A
Trace
A B C
More
1 of 3
START 1.0000 GHz
#RES BW 1.0 MHz
VBW 1 MHz
STOP 1.5000 GHz
#SWP 500 msec

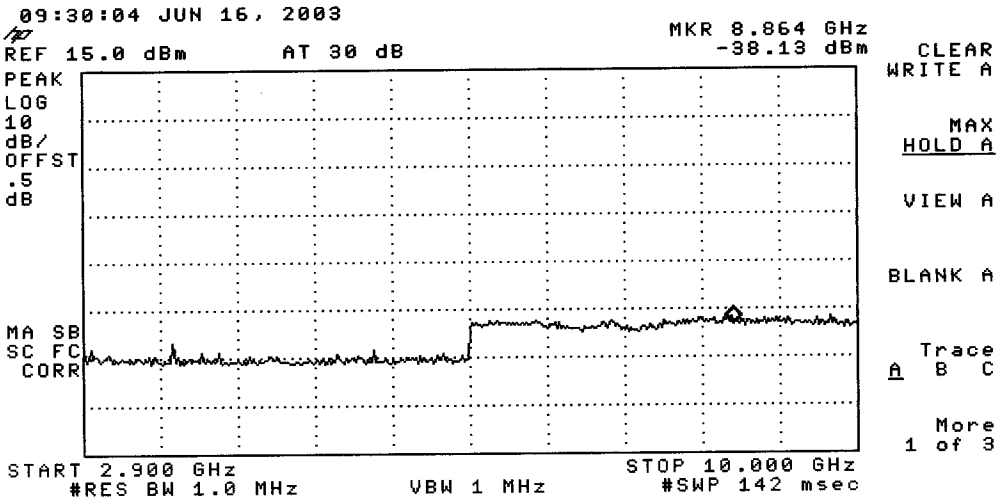

09:04:15 JUN 16, 2003
REF 15.0 dBm
AT 30 dB
MKR 1.8160 GHz
-46.52 dBm
PEAK
LOG
10
dB/
OFFST
.5
dB
MA SB
SC FC
CORR
CLEAR
WRITE A
MAX
HOLD A
VIEW A
BLANK A
Trace
A B C
More
1 of 3
START 1.0000 GHz
#RES BW 1.0 MHz
VBW 1 MHz
STOP 1.8500 GHz
#SWP 850 msec

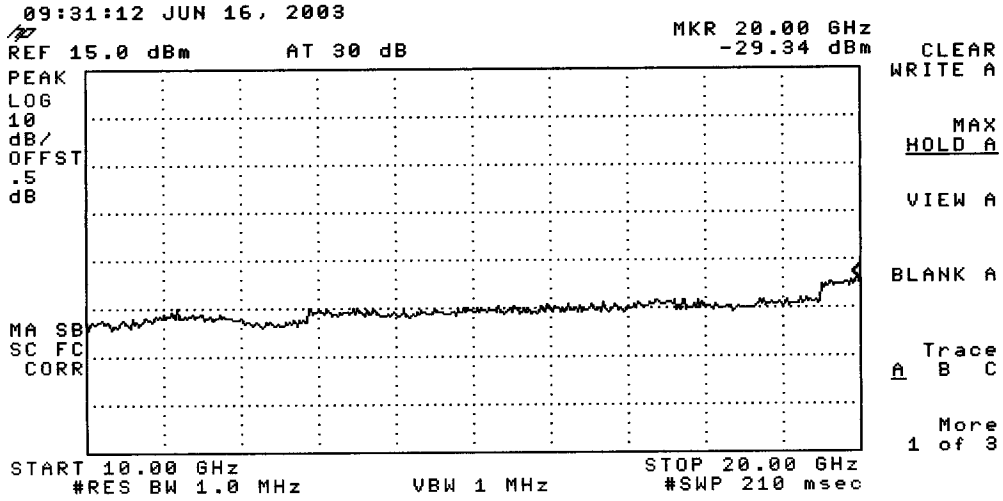

10:27:26 JUN 16, 2003
REF 15.0 dBm
AT 30 dB
MKR 1.8599 GHz
-25.12 dBm
PEAK
LOG
10
dB/
OFFST
.5
dB
MA SB
SC FC
CORR
CLEAR
WRITE A
MAX
HOLD A
VIEW A
BLANK A
Trace
A B C
More
1 of 3
START 1.8510 GHz
#RES BW 1.0 MHz
VBW 1 MHz
STOP 2.0000 GHz
#SWP 497 msec


09:22:48 JUN 16, 2003
REF 15.0 dBm
AT 30 dB
MKR 1.8551 GHz
-26.23 dBm
PEAK
LOG
10
dB/
OFFST
.5
dB
MA SB
SC FC
CORR
START 1.8510 GHz
#RES BW 30 kHz
VBW 30 kHz
STOP 2.0000 GHz
SWP 497 msec

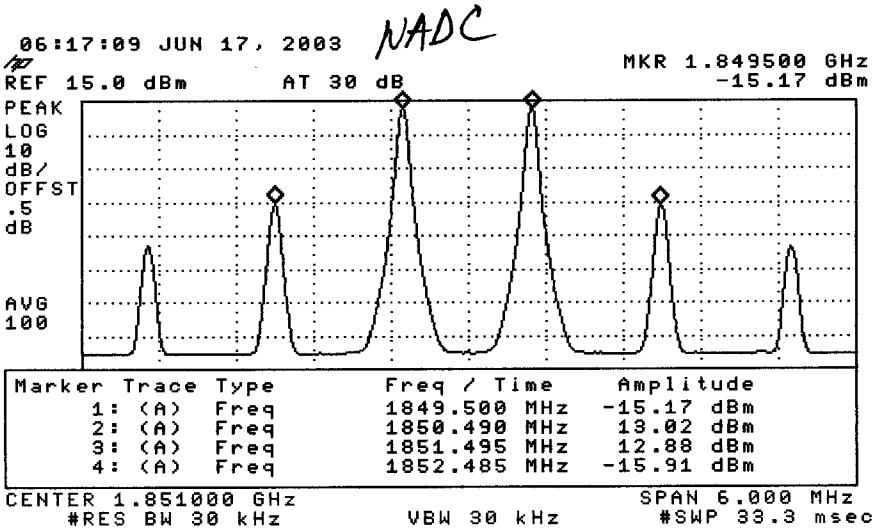

09:24:05 JUN 16, 2003
REF 15.0 dBm
AT 30 dB
MKR 2.8708 GHz
-45.17 dBm
PEAK
LOG
10
dB/
OFFST
.5
dB
MA SB
SC FC
CORR
START 2.0000 GHz
#RES BW 1.0 MHz
VBW 1 MHz
STOP 2.9000 GHz
#SWP 90.0 msec
CLEAR
WRITE A
MAX
HOLD A
VIEW A
BLANK A
Trace
A B C
More
1 of 3


09:19:43 JUN 16, 2003
REF 15.0 dBm
AT 30 dB
MKR 1.852000 GHz
-22.23 dBm
PEAK
LOG
10
dB/
OFFST
.5
dB
MA SB
SC FC
CORR
CLEAR
WRITE A
MAX
HOLD A
VIEW A
BLANK A
Trace
A B C
More
1 of 3
CENTER 1.852000 GHz
#RES BW 30 kHz
VBW 30 kHz
SPAN 1.000 MHz
SWP 20.0 msec

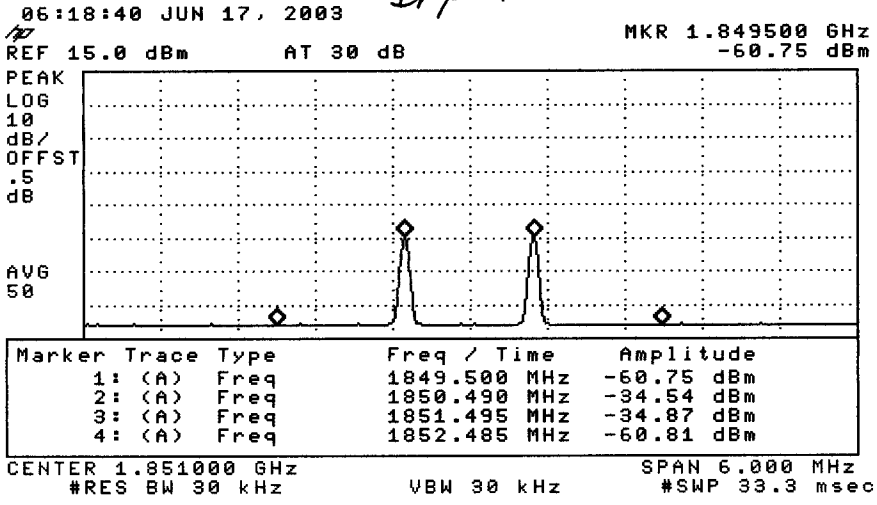

09:30:04 JUN 16, 2003
REF 15.0 dBm
AT 30 dB
MKR 8.864 GHz
-38.13 dBm
PEAK
LOG
10
dB/
OFFST
.5
dB
MA SB
SC FC
CORR
CLEAR
WRITE A
MAX
HOLD A
VIEW A
BLANK A
Trace
A B C
More
1 of 3
START 2.900 GHz
#RES BW 1.0 MHz
VBW 1 MHz
STOP 10.000 GHz
#SWP 142 msec

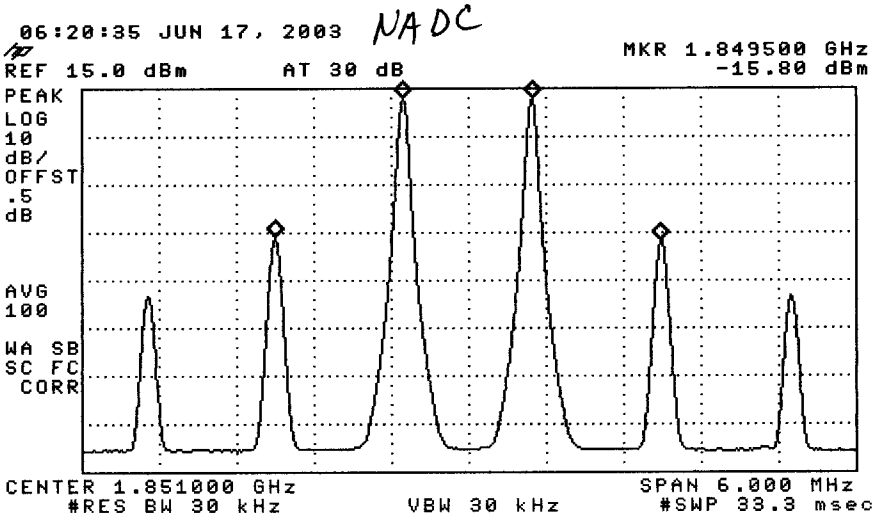

09:31:12 JUN 16, 2003
REF 15.0 dBm
AT 30 dB
MKR 20.00 GHz
-29.34 dBm
PEAK
LOG
10
dB/
OFFST
.5
dB
MA SB
SC FC
CORR
CLEAR
WRITE A
MAX
HOLD A
VIEW A
BLANK A
Trace
A B C
More
1 of 3
START 10.00 GHz
#RES BW 1.0 MHz
VBW 1 MHz
STOP 20.00 GHz
#SWP 210 msec

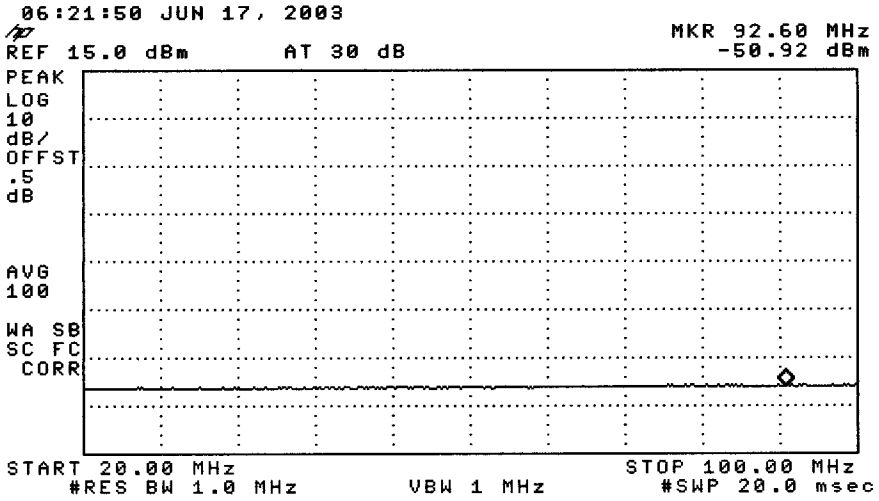
NADC

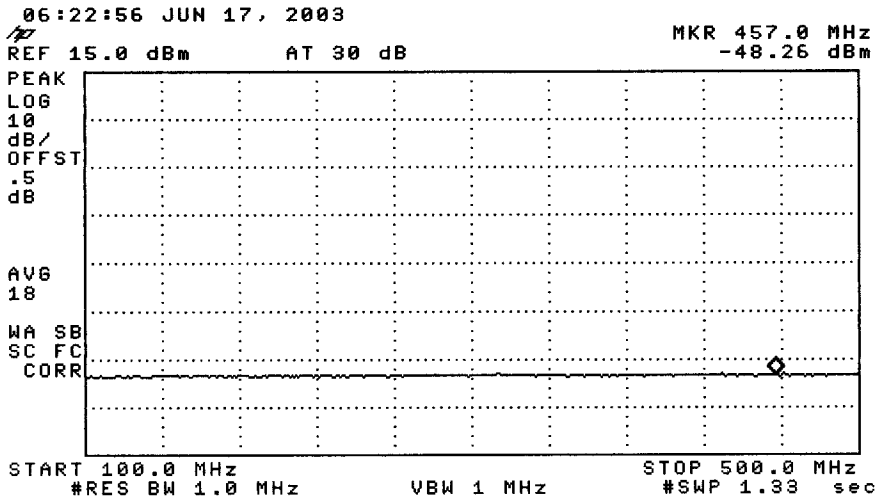

06:17:09 JUN 17, 2003
MKR 1.849500 GHz
REF 15.0 dBm
AT 30 dB
-15.17 dBm
PEAK
LOG
10
dB/
OFFST
.5
dB
AVG
100
Marker Trace Type Freq / Time Amplitude
1: (A) Freq 1849.500 MHz -15.17 dBm
2: (A) Freq 1850.490 MHz 13.02 dBm
3: (A) Freq 1851.495 MHz 12.88 dBm
4: (A) Freq 1852.485 MHz -15.91 dBm
CENTER 1.851000 GHz
SPAN 6.000 MHz
#RES BW 30 kHz
VBW 30 kHz
#SWP 33.3 msec

Input

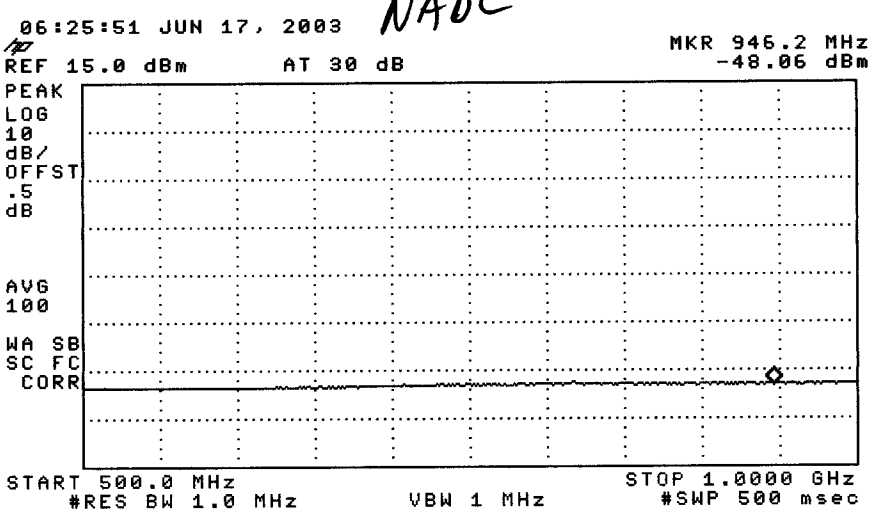

06:18:40 JUN 17, 2003
MKR 1.849500 GHz
REF 15.0 dBm
AT 30 dB
-60.75 dBm
PEAK
LOG
10
dB/
OFFST
.5
dB
AVG
50
Marker Trace Type Freq / Time Amplitude
1: (A) Freq 1849.500 MHz -60.75 dBm
2: (A) Freq 1850.490 MHz -34.54 dBm
3: (A) Freq 1851.495 MHz -34.87 dBm
4: (A) Freq 1852.485 MHz -60.81 dBm
CENTER 1.851000 GHz
SPAN 6.000 MHz
#RES BW 30 kHz
VBW 30 kHz
#SWP 33.3 msec

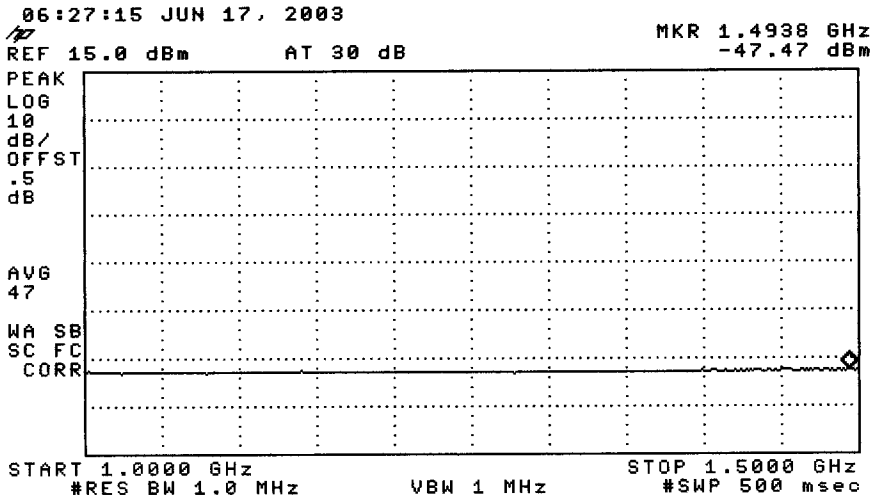

06:20:35 JUN 17, 2003
NADC
REF 15.0 dBm
AT 30 dB
MKR 1.849500 GHz
-15.80 dBm
PEAK
LOG
10
dB/
OFFST
.5
dB
AVG
100
WA SB
SC FC
CORR
CENTER 1.851000 GHz
#RES BW 30 kHz
VBW 30 kHz
SPAN 6.000 MHz
#SWP 33.3 msec

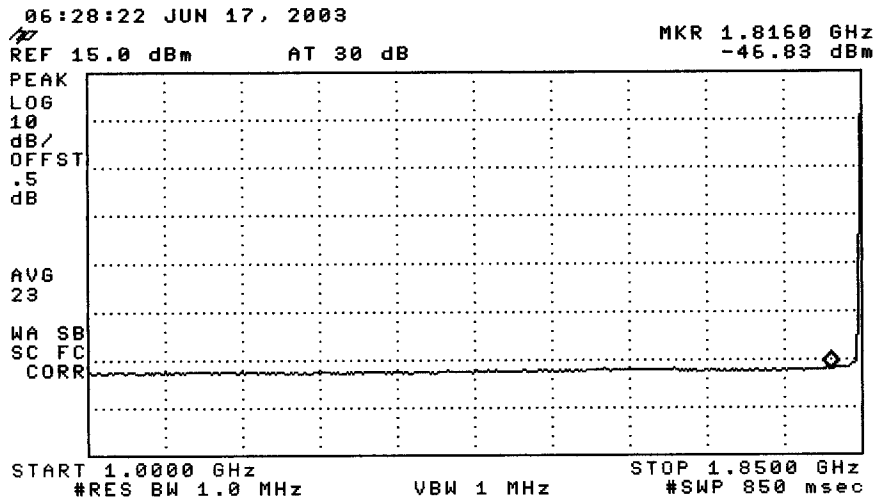

06:21:50 JUN 17, 2003
REF 15.0 dBm
AT 30 dB
MKR 92.60 MHz
-50.92 dBm
PEAK
LOG
10
dB/
OFFST
.5
dB
AVG
100
WA SB
SC FC
CORR
START 20.00 MHz
#RES BW 1.0 MHz
VBW 1 MHz
STOP 100.00 MHz
#SWP 20.0 msec

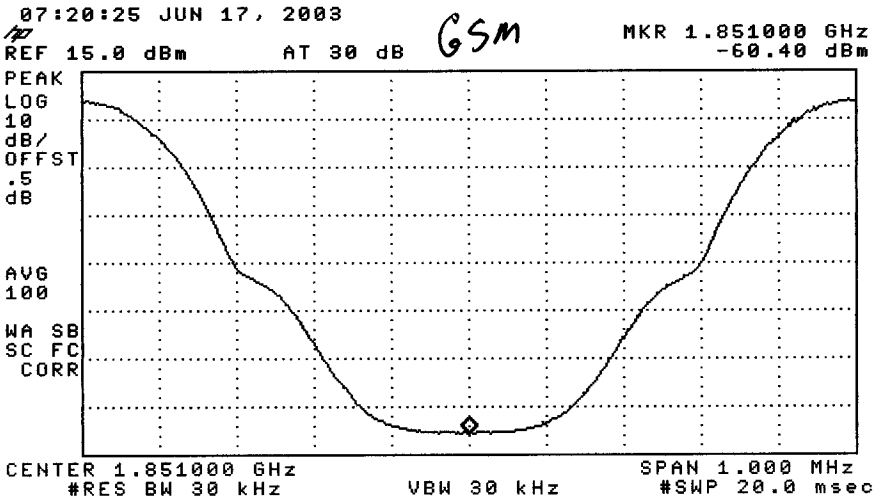

06:22:56 JUN 17, 2003
REF 15.0 dBm
AT 30 dB
MKR 457.0 MHz
-48.26 dBm
PEAK
LOG
10
dB/
OFFST
.5
dB
AVG
18
WA SB
SC FC
CORR
START 100.0 MHz
#RES BW 1.0 MHz
VBW 1 MHz
STOP 500.0 MHz
#SWP 1.33 sec

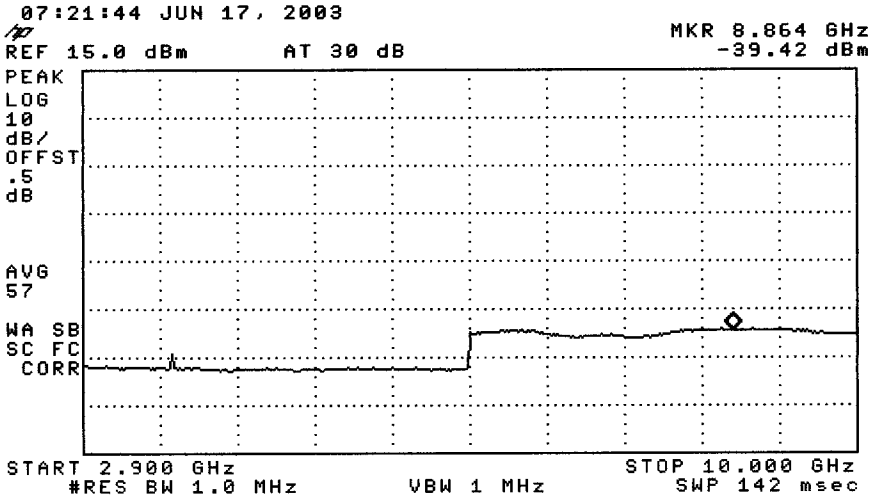
NADC

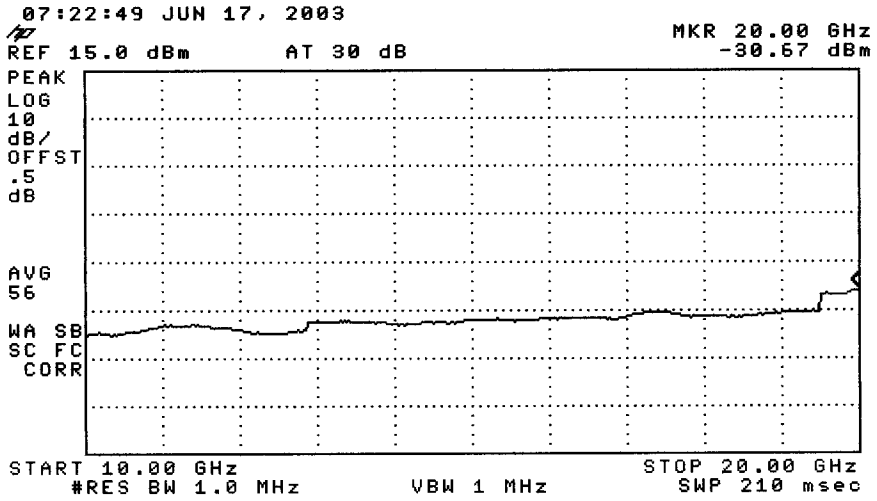

06:25:51 JUN 17, 2003
REF 15.0 dBm
AT 30 dB
MKR 946.2 MHz
-48.06 dBm
PEAK
LOG
10
dB/
OFFST
.5
dB
AVG
100
WA SB
SC FC
CORR
START 500.0 MHz
#RES BW 1.0 MHz
VBW 1 MHz
STOP 1.0000 GHz
#SWP 500 msec


06:27:15 JUN 17, 2003
REF 15.0 dBm
AT 30 dB
MKR 1.4938 GHz
-47.47 dBm
PEAK
LOG
10
dB/
OFFST
.5
dB
AVG
47
WA SB
SC FC
CORR
START 1.0000 GHz
#RES BW 1.0 MHz
VBW 1 MHz
STOP 1.5000 GHz
#SWP 500 msec

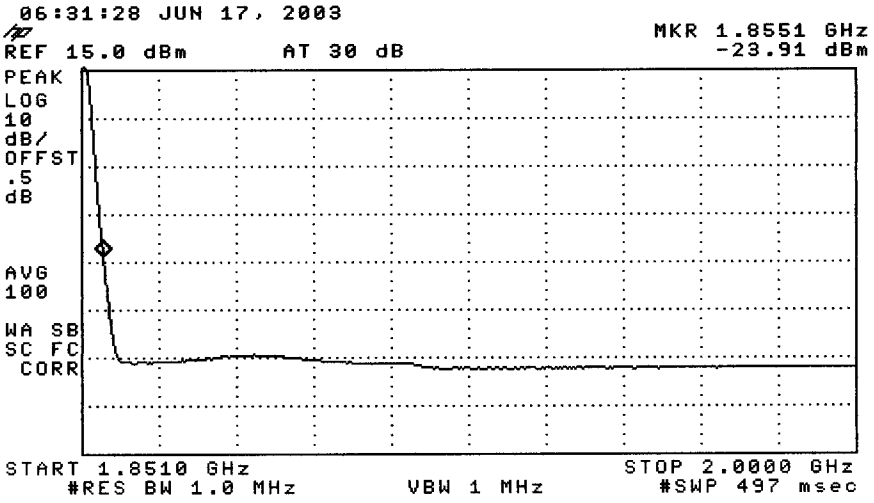

06:28:22 JUN 17, 2003
REF 15.0 dBm
AT 30 dB
MKR 1.8160 GHz
-46.83 dBm
PEAK
LOG
10
dB/
OFFST
.5
dB
AVG
23
WA SB
SC FC
CORR
START 1.0000 GHz
#RES BW 1.0 MHz
VBW 1 MHz
STOP 1.8500 GHz
#SWP 850 msec

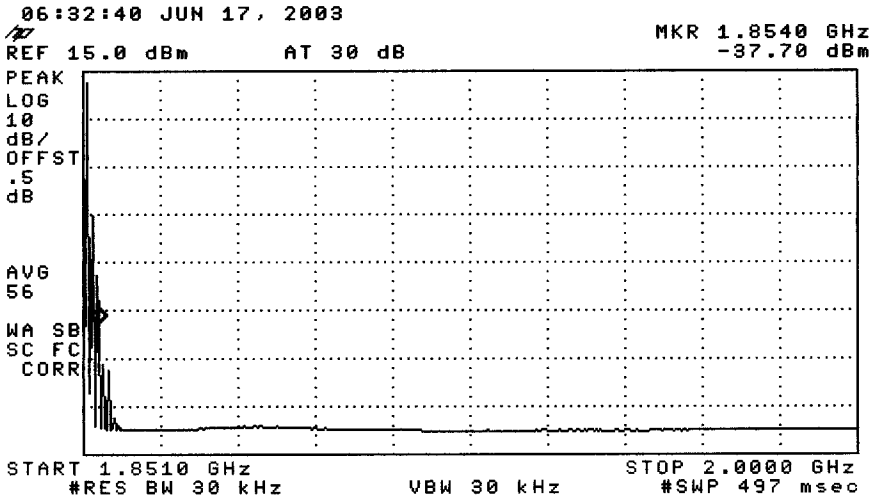

07:20:25 JUN 17, 2003
GSM
REF 15.0 dBm
AT 30 dB
MKR 1.851000 GHz
-60.40 dBm
PEAK
LOG
10
dB/
OFFST
.5
dB
AVG
100
WA SB
SC FC
CORR
CENTER 1.851000 GHz
#RES BW 30 kHz
VBW 30 kHz
SPAN 1.000 MHz
#SWP 20.0 msec

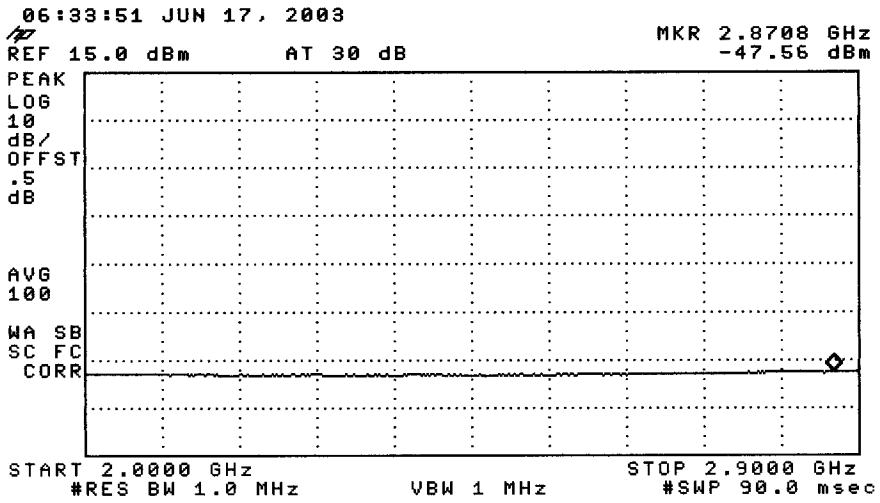

07:21:44 JUN 17, 2003
REF 15.0 dBm
AT 30 dB
MKR 8.864 GHz
-39.42 dBm
PEAK
LOG
10
dB/
OFFST
.5
dB
AVG
57
WA SB
SC FC
CORR
START 2.900 GHz
#RES BW 1.0 MHz
VBW 1 MHz
STOP 10.000 GHz
SWP 142 msec


07:22:49 JUN 17, 2003
REF 15.0 dBm
AT 30 dB
MKR 20.00 GHz
-30.67 dBm
PEAK
LOG
10
dB/
OFFST
.5
dB
AVG
56
WA SB
SC FC
CORR
START 10.00 GHz
#RES BW 1.0 MHz
VBW 1 MHz
STOP 20.00 GHz
SWP 210 msec

NADC

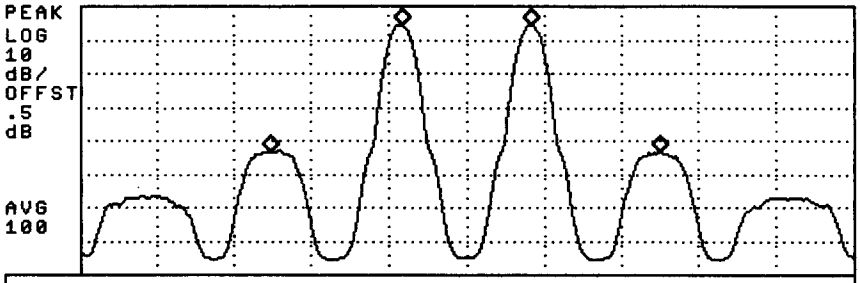

06:31:28 JUN 17, 2003
REF 15.0 dBm
AT 30 dB
MKR 1.8551 GHz
-23.91 dBm
PEAK
LOG
10
dB/
OFFST
.5
dB
AVG
100
WA SB
SC FC
CORR
START 1.8510 GHz
#RES BW 1.0 MHz
VBW 1 MHz
STOP 2.0000 GHz
#SWP 497 msec


06:32:40 JUN 17, 2003
REF 15.0 dBm
AT 30 dB
MKR 1.8540 GHz
-37.70 dBm
PEAK
LOG
10
dB/
OFFST
.5
dB
AVG
56
WA SB
SC FC
CORR
START 1.8510 GHz
#RES BW 30 kHz
VBW 30 kHz
STOP 2.0000 GHz
#SWP 497 msec


06:33:51 JUN 17, 2003
REF 15.0 dBm
AT 30 dB
MKR 2.8708 GHz
-47.56 dBm
PEAK
LOG
10
dB/
OFFST
.5
dB
AVG
100
WA SB
SC FC
CORR
START 2.0000 GHz
#RES BW 1.0 MHz
VBW 1 MHz
STOP 2.9000 GHz
#SWP 90.0 msec

06:51:15 JUN 17, 2003 GSM

REF 15.0 dBm AT 30 dB MKR 1.852500 GHz -28.49 dBm



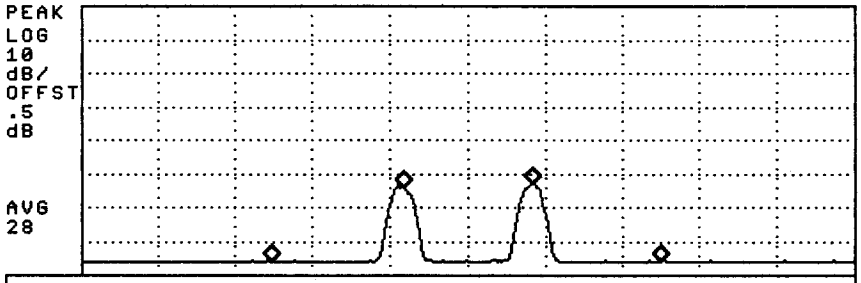
Marker	Trace	Type	Freq / Time	Amplitude
1:	(A)	Freq	1849.485 MHz	-28.54 dBm
2:	(A)	Freq	1850.505 MHz	9.29 dBm
3:	(A)	Freq	1851.495 MHz	9.22 dBm
4:	(A)	Freq	1852.500 MHz	-28.49 dBm

CENTER 1.851000 GHz SPAN 6.000 MHz

#RES BW 30 kHz VBW 30 kHz #SWP 33.3 msec

06:52:24 JUN 17, 2003 Input

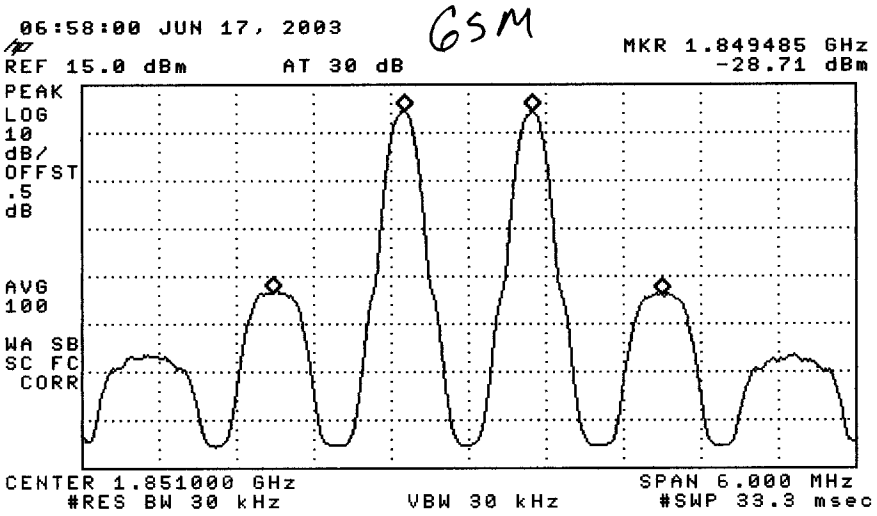
REF 15.0 dBm AT 30 dB MKR 1.852500 GHz -60.94 dBm

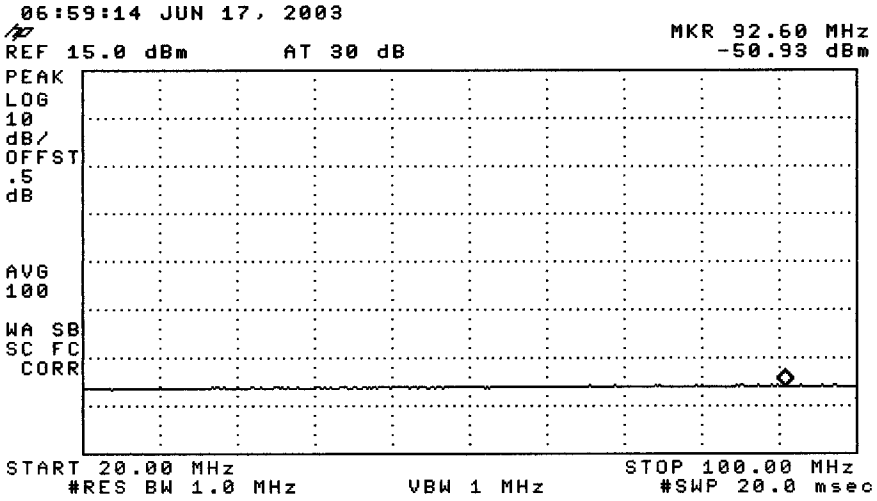


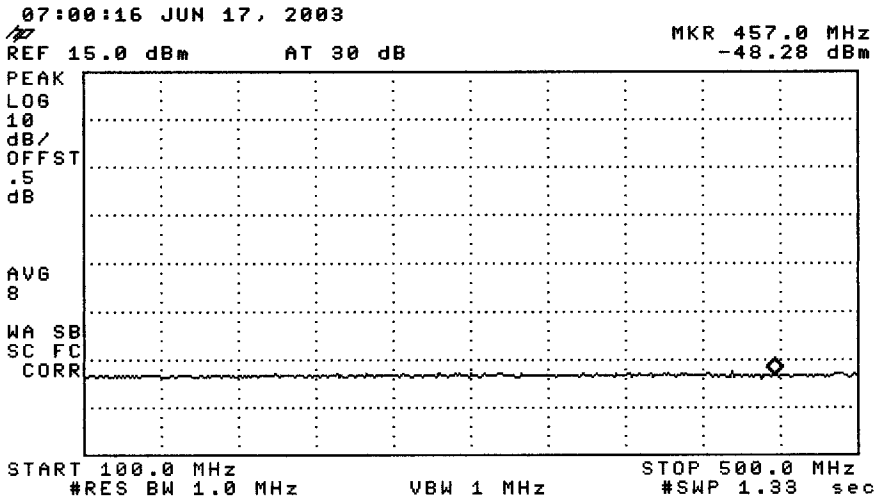
Marker	Trace	Type	Freq / Time	Amplitude
1:	(A)	Freq	1849.485 MHz	-60.82 dBm
2:	(A)	Freq	1850.505 MHz	-38.90 dBm
3:	(A)	Freq	1851.495 MHz	-38.40 dBm
4:	(A)	Freq	1852.500 MHz	-60.94 dBm

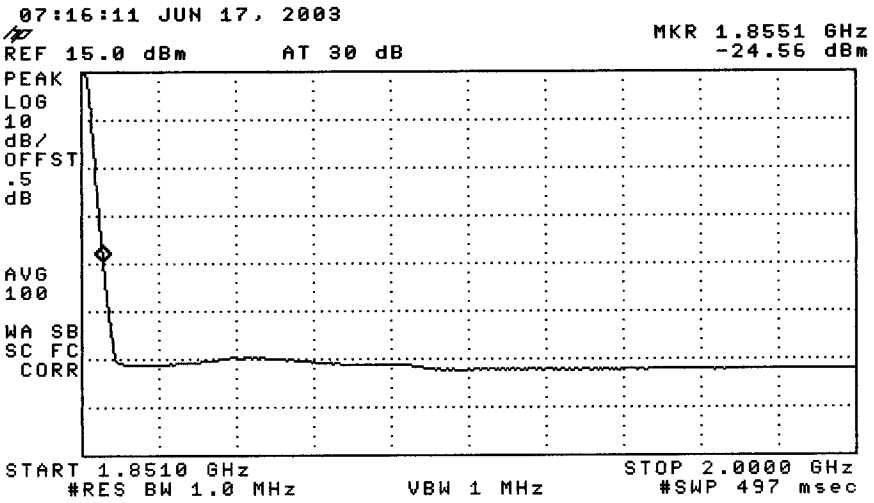
CENTER 1.851000 GHz SPAN 6.000 MHz

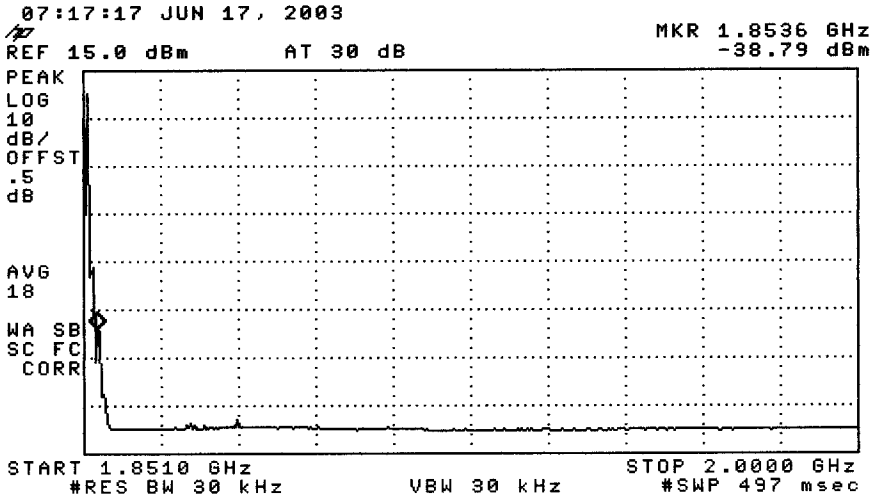
#RES BW 30 kHz VBW 30 kHz #SWP 33.3 msec

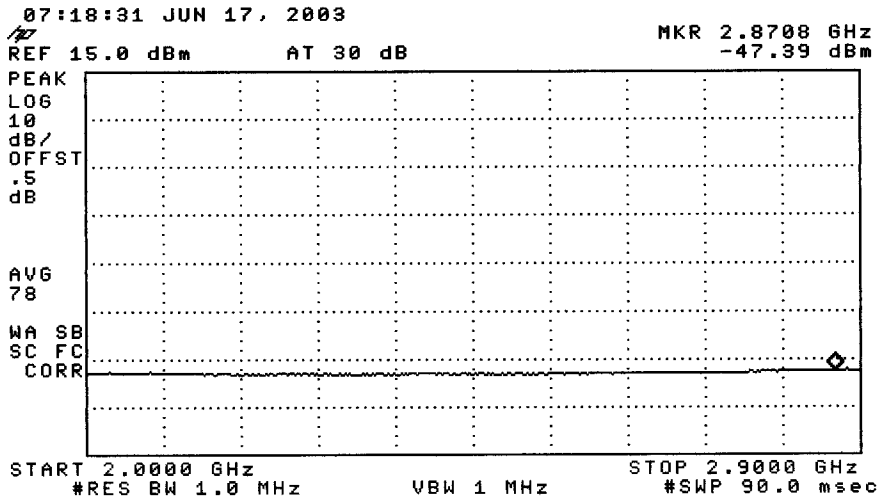

06:58:00 JUN 17, 2003
GSM
REF 15.0 dBm
AT 30 dB
MKR 1.849485 GHz
-28.71 dBm
PEAK
LOG
10
dB/
OFFST
.5
dB
AVG
100
WA SB
SC FC
CORR
CENTER 1.851000 GHz
SPAN 6.000 MHz
#RES BW 30 kHz
VBW 30 kHz
#SWP 33.3 msec


06:59:14 JUN 17, 2003
REF 15.0 dBm
AT 30 dB
MKR 92.60 MHz
-50.93 dBm
PEAK
LOG
10
dB/
OFFST
.5
dB
AVG
100
WA SB
SC FC
CORR
START 20.00 MHz
STOP 100.00 MHz
#RES BW 1.0 MHz
VBW 1 MHz
#SWP 20.0 msec

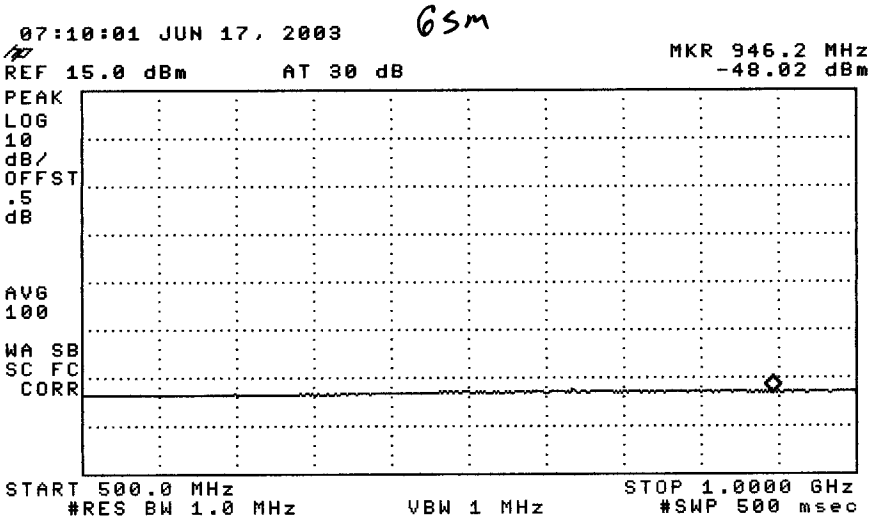

07:00:16 JUN 17, 2003
REF 15.0 dBm
AT 30 dB
MKR 457.0 MHz
-48.28 dBm
PEAK
LOG
10
dB/
OFFST
.5
dB
AVG
8
WA SB
SC FC
CORR
START 100.0 MHz
STOP 500.0 MHz
#RES BW 1.0 MHz
VBW 1 MHz
#SWP 1.33 sec

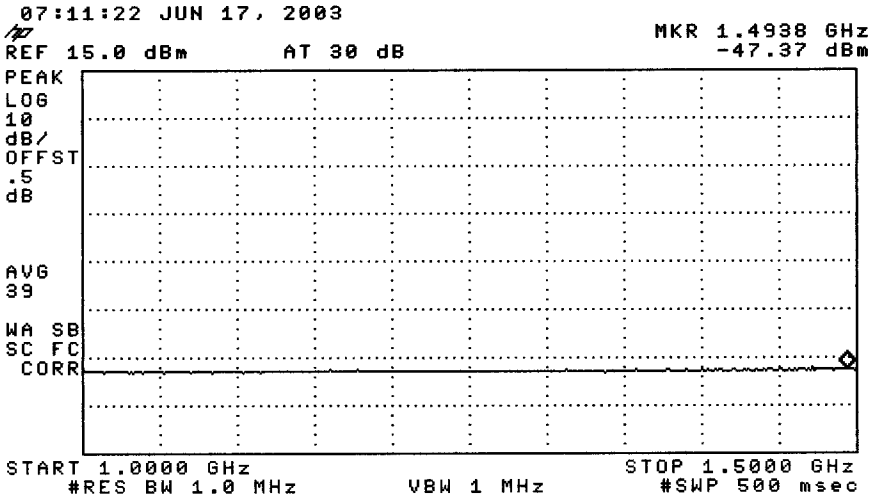

07:16:11 JUN 17, 2003
REF 15.0 dBm
AT 30 dB
MKR 1.8551 GHz
-24.56 dBm
PEAK
LOG
10
dB/
OFFST
.5
dB
AVG
100
WA SB
SC FC
CORR
START 1.8510 GHz
#RES BW 1.0 MHz
VBW 1 MHz
STOP 2.0000 GHz
#SWP 497 msec

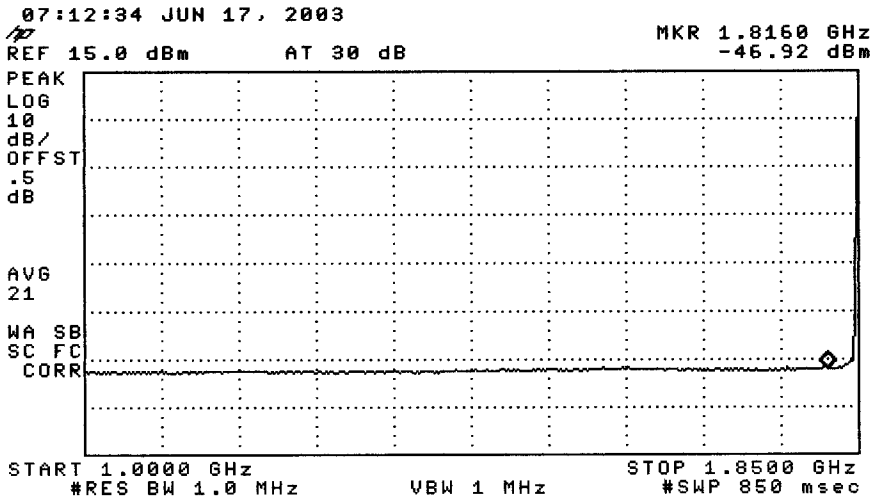

07:17:17 JUN 17, 2003
REF 15.0 dBm
AT 30 dB
MKR 1.8536 GHz
-38.79 dBm
PEAK
LOG
10
dB/
OFFST
.5
dB
AVG
18
WA SB
SC FC
CORR
START 1.8510 GHz
#RES BW 30 kHz
VBW 30 kHz
STOP 2.0000 GHz
#SWP 497 msec


07:18:31 JUN 17, 2003
REF 15.0 dBm
AT 30 dB
MKR 2.8708 GHz
-47.39 dBm
PEAK
LOG
10
dB/
OFFST
.5
dB
AVG
78
WA SB
SC FC
CORR
START 2.0000 GHz
#RES BW 1.0 MHz
VBW 1 MHz
STOP 2.9000 GHz
#SWP 90.0 msec

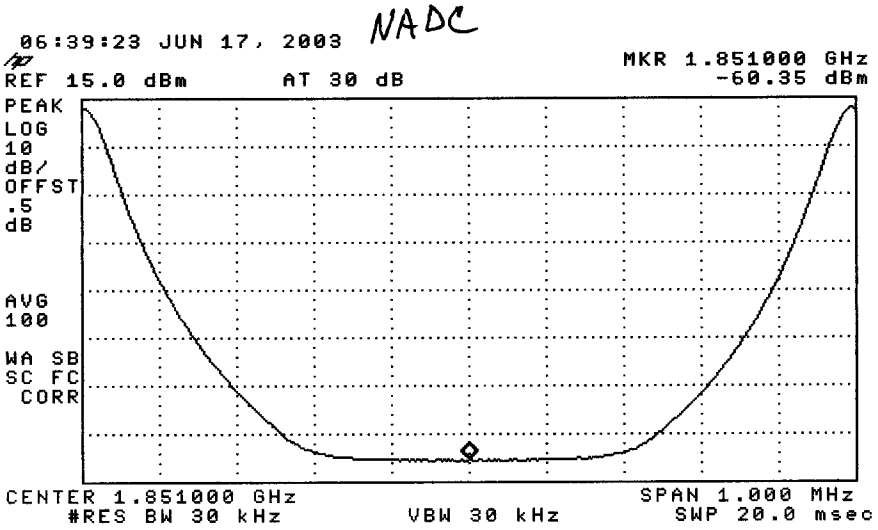
6sm

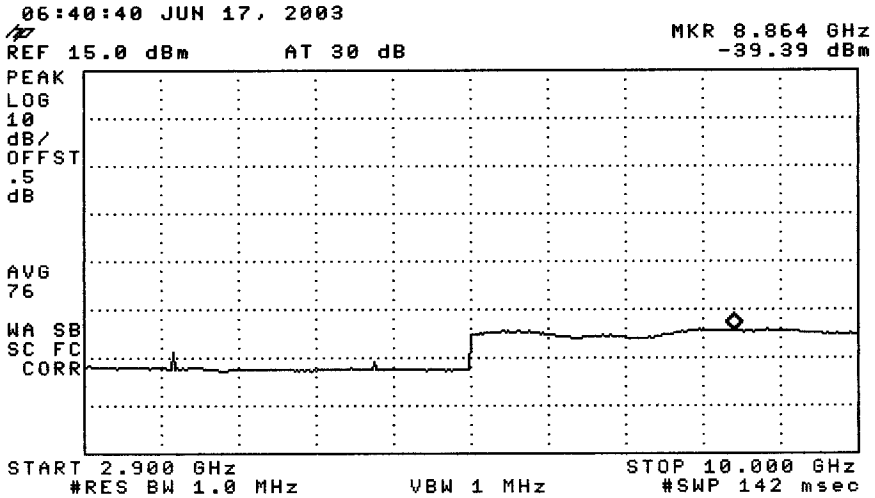

07:10:01 JUN 17, 2003
REF 15.0 dBm
AT 30 dB
MKR 946.2 MHz
-48.02 dBm
PEAK
LOG
10
dB/
OFFST
.5
dB
AVG
100
WA SB
SC FC
CORR
START 500.0 MHz
#RES BW 1.0 MHz
VBW 1 MHz
STOP 1.0000 GHz
#SWP 500 msec

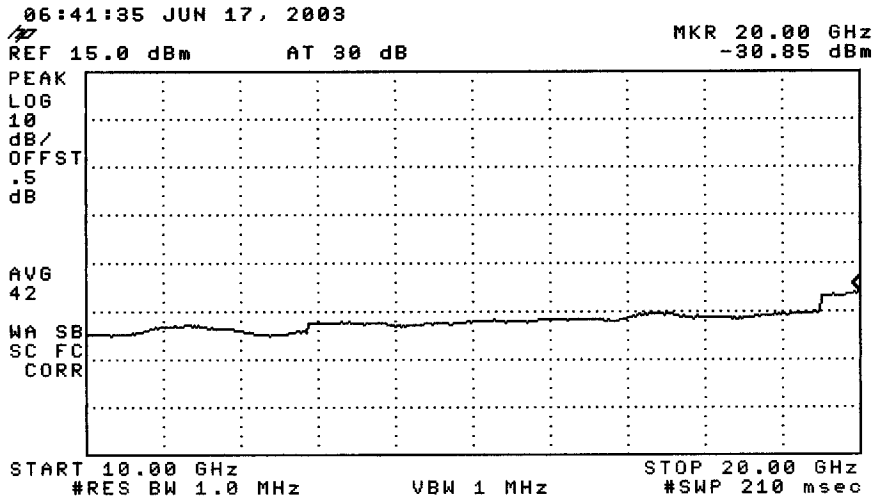

07:11:22 JUN 17, 2003
REF 15.0 dBm
AT 30 dB
MKR 1.4938 GHz
-47.37 dBm
PEAK
LOG
10
dB/
OFFST
.5
dB
AVG
39
WA SB
SC FC
CORR
START 1.0000 GHz
#RES BW 1.0 MHz
VBW 1 MHz
STOP 1.5000 GHz
#SWP 500 msec


07:12:34 JUN 17, 2003
REF 15.0 dBm
AT 30 dB
MKR 1.8160 GHz
-46.92 dBm
PEAK
LOG
10
dB/
OFFST
.5
dB
AVG
21
WA SB
SC FC
CORR
START 1.0000 GHz
#RES BW 1.0 MHz
VBW 1 MHz
STOP 1.8500 GHz
#SWP 850 msec

NADC


06:39:23 JUN 17, 2003
REF 15.0 dBm
AT 30 dB
MKR 1.851000 GHz
-60.35 dBm
PEAK
LOG
10
dB/
OFFST
.5
dB
AVG
100
WA SB
SC FC
CORR
CENTER 1.851000 GHz
#RES BW 30 kHz
VBW 30 kHz
SPAN 1.000 MHz
SWP 20.0 msec


06:40:40 JUN 17, 2003
REF 15.0 dBm
AT 30 dB
MKR 8.864 GHz
-39.39 dBm
PEAK
LOG
10
dB/
OFFST
.5
dB
AVG
76
WA SB
SC FC
CORR
START 2.900 GHz
#RES BW 1.0 MHz
VBW 1 MHz
STOP 10.000 GHz
#SWP 142 msec


06:41:35 JUN 17, 2003
REF 15.0 dBm
AT 30 dB
MKR 20.00 GHz
-30.85 dBm
PEAK
LOG
10
dB/
OFFST
.5
dB
AVG
42
WA SB
SC FC
CORR
START 10.00 GHz
#RES BW 1.0 MHz
VBW 1 MHz
STOP 20.00 GHz
#SWP 210 msec