

Type Acceptance Test Report

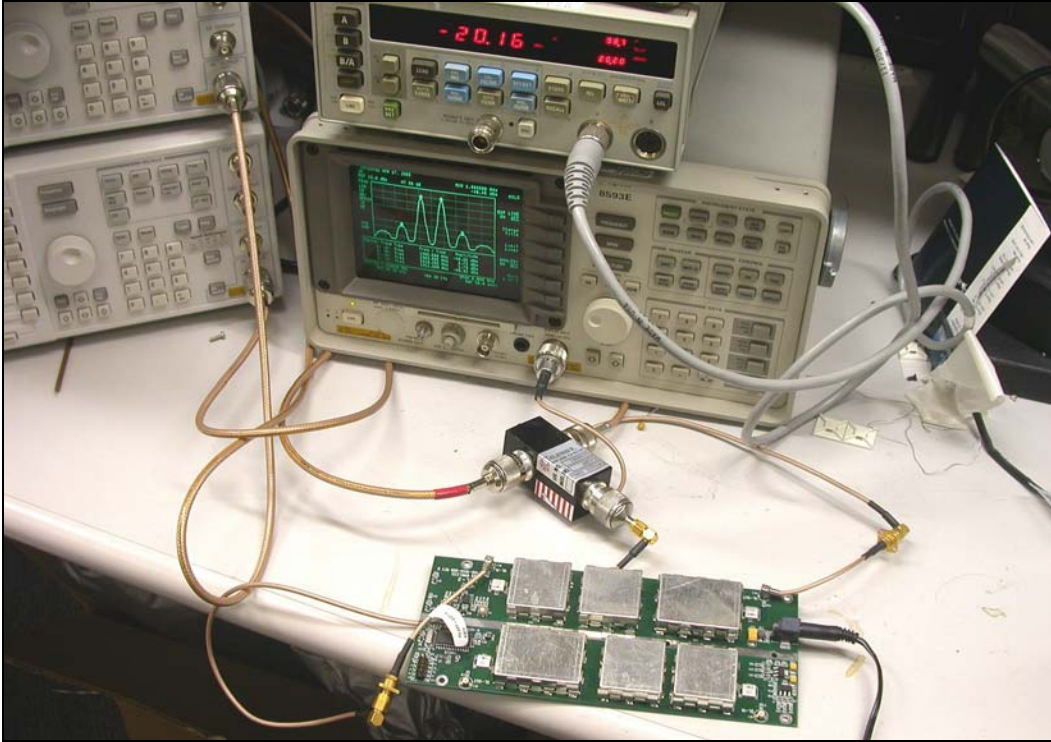
**Multimode PCS Repeater
FCC Rule Parts: 2, 15 & 24**

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

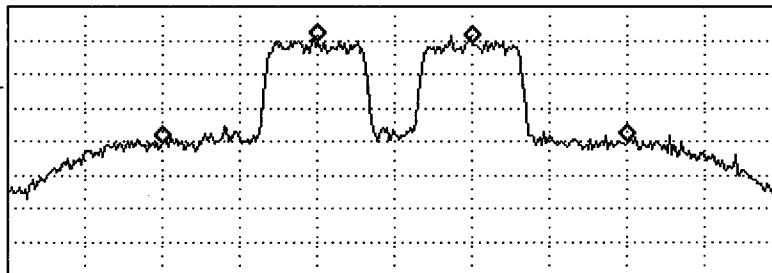
See following pages.

07:09:02 JUN 16, 2003

REF 15.0 dBm AT 30 dB

CDMA MKR 1.84900 GHz
-25.30 dBm

PEAK
LOG
10
dB/
OFFST
.5
dB



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
#RES BW 30 kHz

VBW 30 kHz

SPAN 10.00 MHz
SWP 33.3 msec

CLEAR
WRITE A

MAX
HOLD A

VIEW A

BLANK A

Trace
A B C

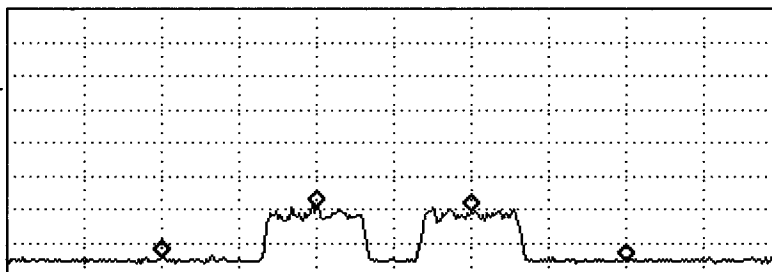
More
1 of 3

07:09:58 JUN 16, 2003

REF 15.0 dBm AT 30 dB

CDMA MKR 1.84900 GHz
-59.92 dBm

PEAK
LOG
10
dB/
OFFST
.5
dB



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
#RES BW 30 kHz

VBW 30 kHz

SPAN 10.00 MHz
SWP 33.3 msec

CLEAR
WRITE A

MAX
HOLD A

VIEW A

BLANK A

Trace
A B C

More
1 of 3

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

CENTER 1.85200 GHz
#RES BW 30 kHz

VBW 30 kHz

SPAN 10.00 MHz
SWP 33.3 msec

CLEAR
WRITE A

MAX
HOLD A

VIEW A

BLANK A

Trace
A B C

More
1 of 3

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

START 20.00 MHz
#RES BW 1.0 MHz

VBW 1 MHz

STOP 100.00 MHz
#SWP 20.0 msec

CLEAR
WRITE A

MAX
HOLD A

VIEW A

BLANK A

Trace
A B C

More
1 of 3

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

START 100.0 MHz
#RES BW 1.0 MHz

VBW 1 MHz

STOP 500.0 MHz
#SWP 1.33 sec

CLEAR
WRITE A

MAX
HOLD A

VIEW A

BLANK A

Trace
A B C

More
1 of 3

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

START 500.0 MHz #RES BW 1.0 MHz VBW 1 MHz STOP 1.0000 GHz #SWP 500 msec

CLEAR
WRITE A

MAX
HOLD A

VIEW A

BLANK A

Trace
A B C

More
1 of 3

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

START 1.0000 GHz #RES BW 1.0 MHz VBW 1 MHz STOP 1.5000 GHz #SWP 500 msec

CLEAR
WRITE A

MAX
HOLD A

VIEW A

BLANK A

Trace
A B C

More
1 of 3

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

START 1.0000 GHz #RES BW 1.0 MHz VBW 1 MHz STOP 1.8500 GHz #SWP 850 msec

CLEAR
WRITE A

MAX
HOLD A

VIEW A

BLANK A

Trace
A B C

More
1 of 3

10:27:26 JUN 16, 2003

MKR 1.8599 GHz

REF 15.0 dBm

AT 30 dB

-25.12 dBm

PEAK
LOG
10
dB/
OFFST
.5
dB

MA SB
SC FC
CORR

START 1.8510 GHz
#RES BW 1.0 MHz

VBW 1 MHz

STOP 2.0000 GHz
#SWP 497 msec

CLEAR
WRITE A

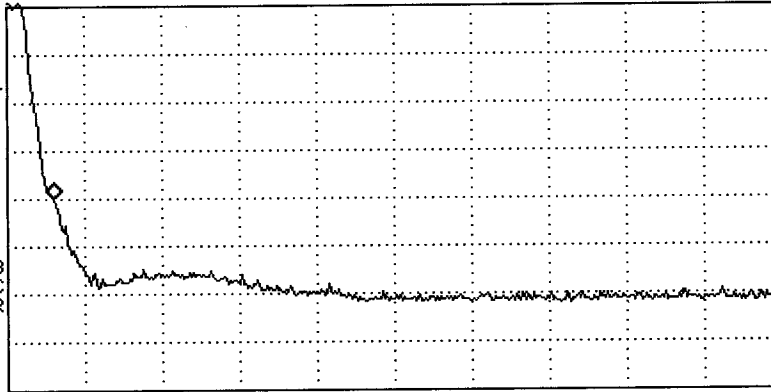
MAX
HOLD A

VIEW A

BLANK A

Trace
A B C

More
1 of 3



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 STOP 2.0000 GHz
#RES BW 30 kHz VBW 30 kHz 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 STOP 2.9000 GHz
#RES BW 1.0 MHz VBW 1 MHz #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

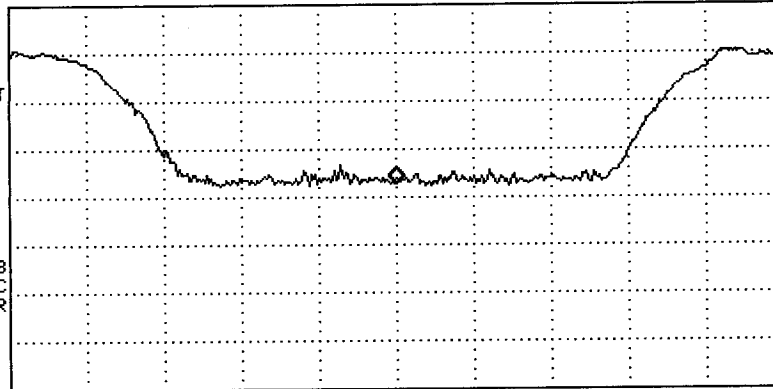
MKR 1.852000 GHz

REF 15.0 dBm AT 30 dB

-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

START 2.900 GHz STOP 10.000 GHz
#RES BW 1.0 MHz VBW 1 MHz #SWP 142 msec

CLEAR
WRITE A

MAX
HOLD A

VIEW A

BLANK A

Trace
A B C

More
1 of 3

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

START 10.00 GHz STOP 20.00 GHz
#RES BW 1.0 MHz VBW 1 MHz #SWP 210 msec

CLEAR
WRITE A

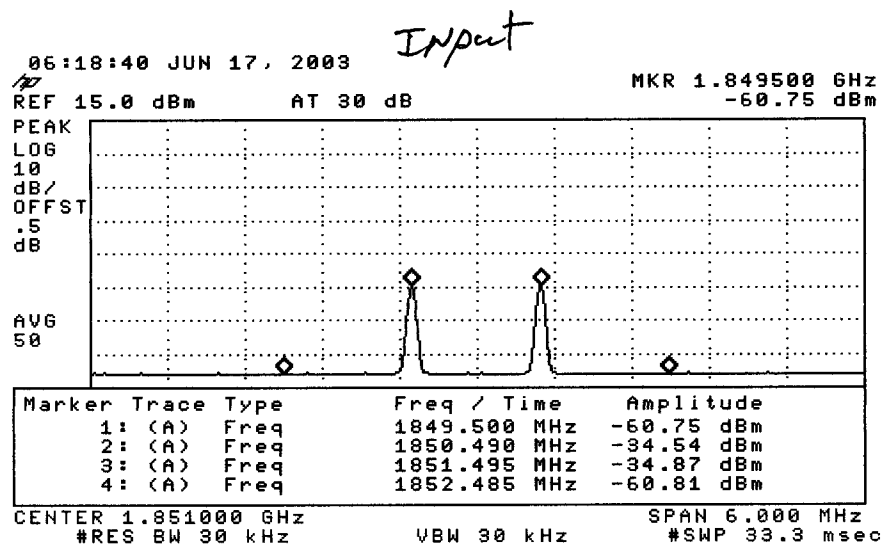
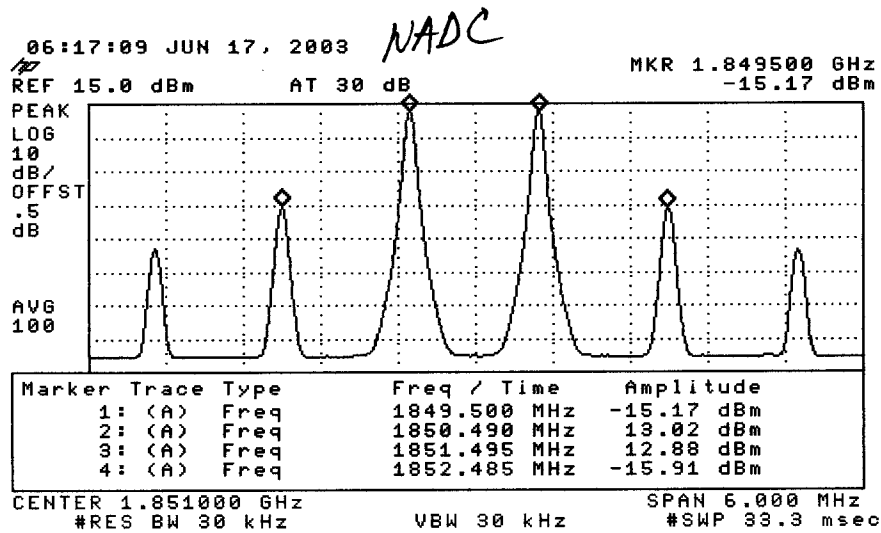
MAX
HOLD A

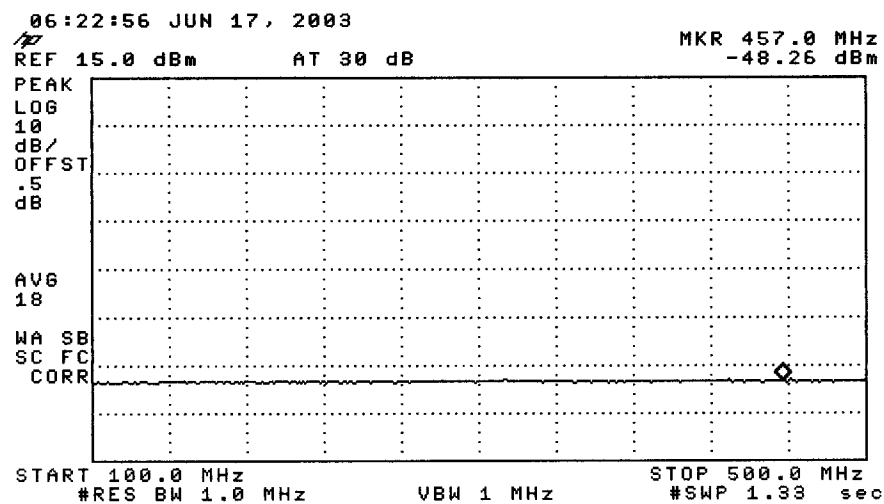
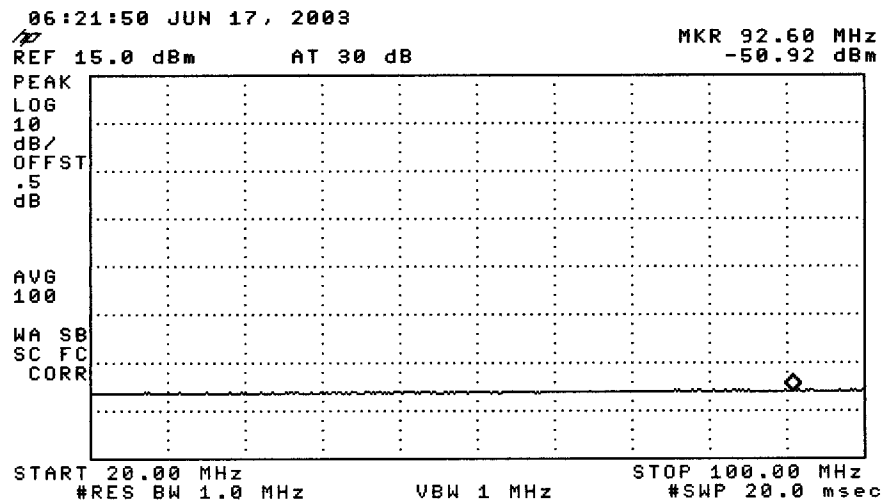
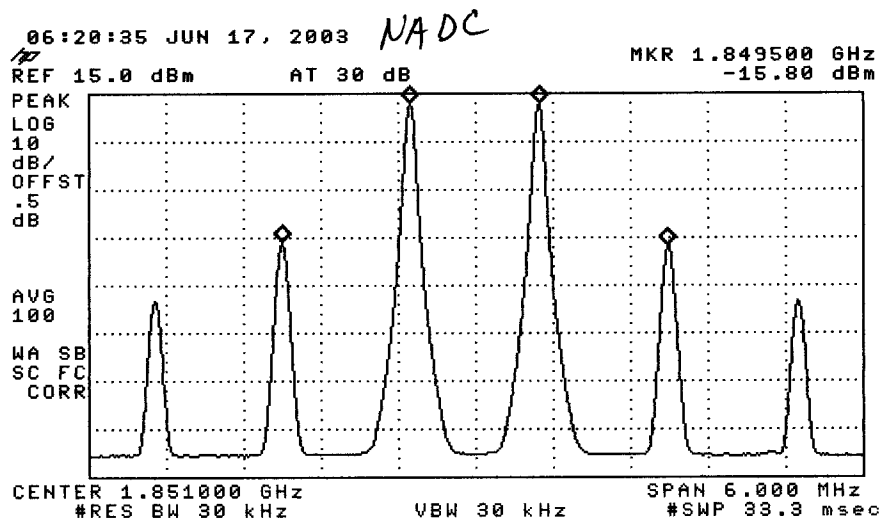
VIEW A

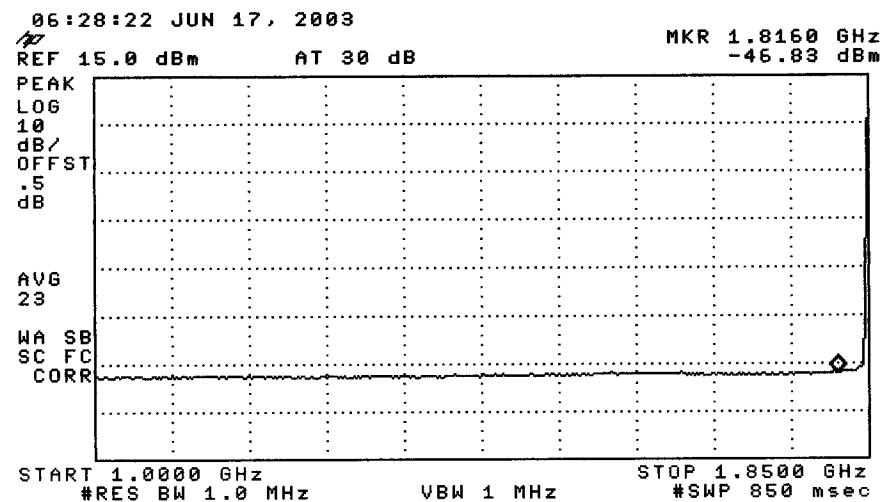
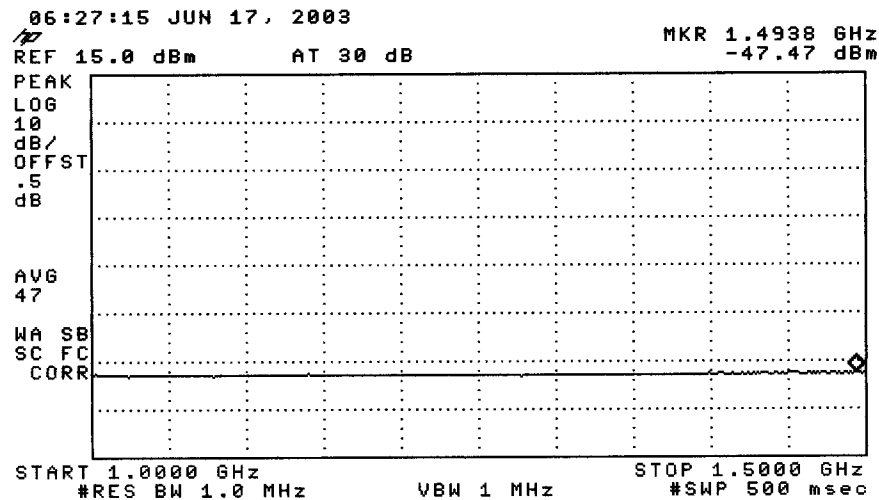
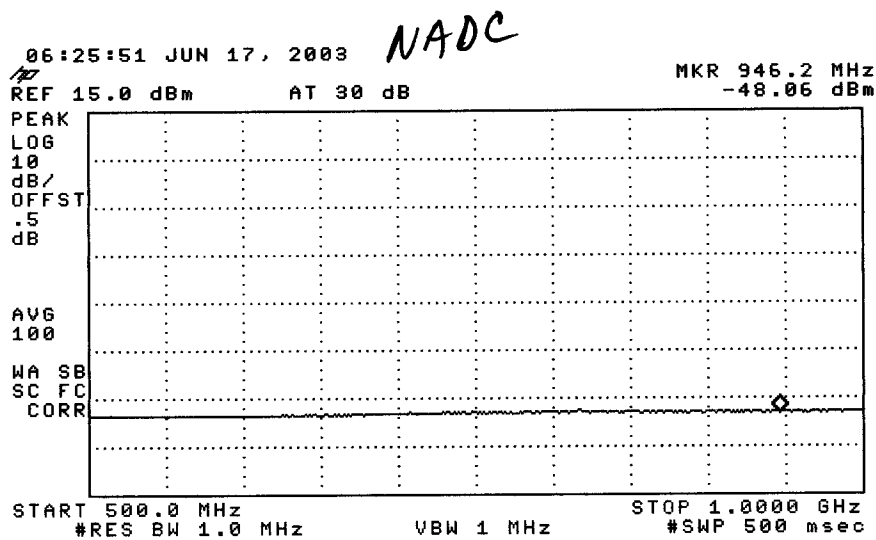
BLANK A

Trace
A B C

More
1 of 3



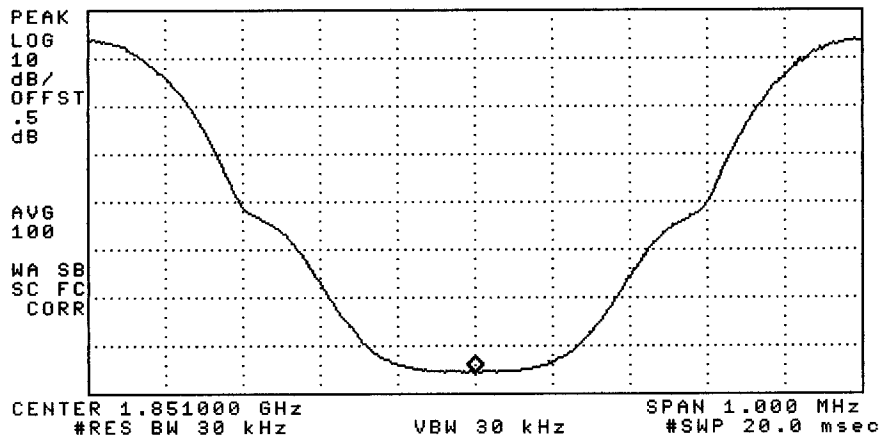




07:20:25 JUN 17, 2003

REF 15.0 dBm AT 30 dB

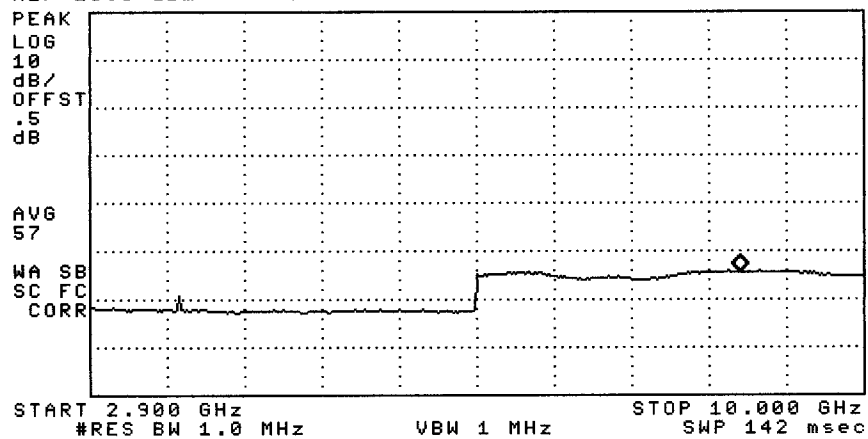
MSM MKR 1.851000 GHz
-60.40 dBm



07:21:44 JUN 17, 2003

REF 15.0 dBm AT 30 dB

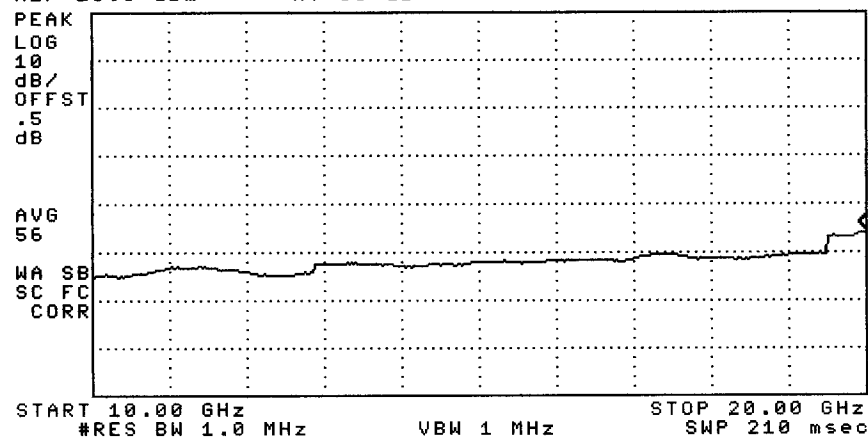
MKR 8.864 GHz
-39.42 dBm



07:22:49 JUN 17, 2003

REF 15.0 dBm AT 30 dB

MKR 20.00 GHz
-30.67 dBm

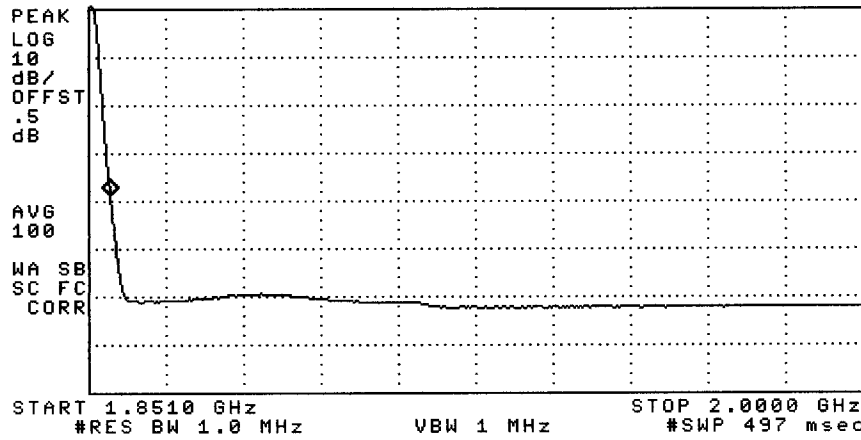


NADC

06:31:28 JUN 17, 2003

REF 15.0 dBm AT 30 dB

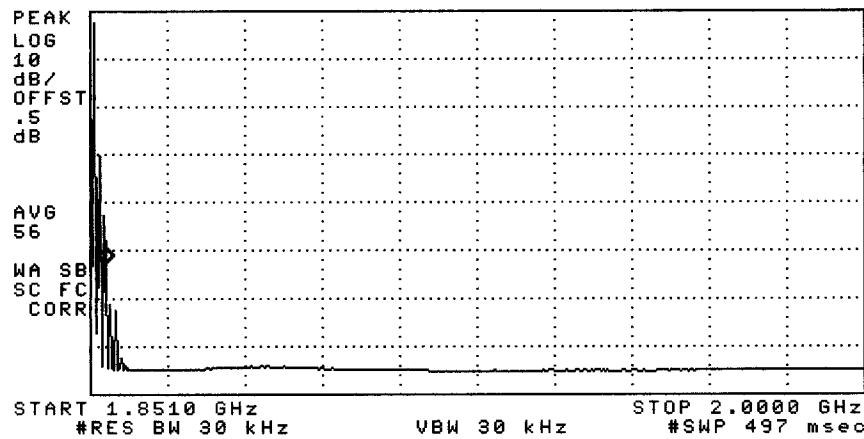
MKR 1.8551 GHz
-23.91 dBm



06:32:40 JUN 17, 2003

REF 15.0 dBm AT 30 dB

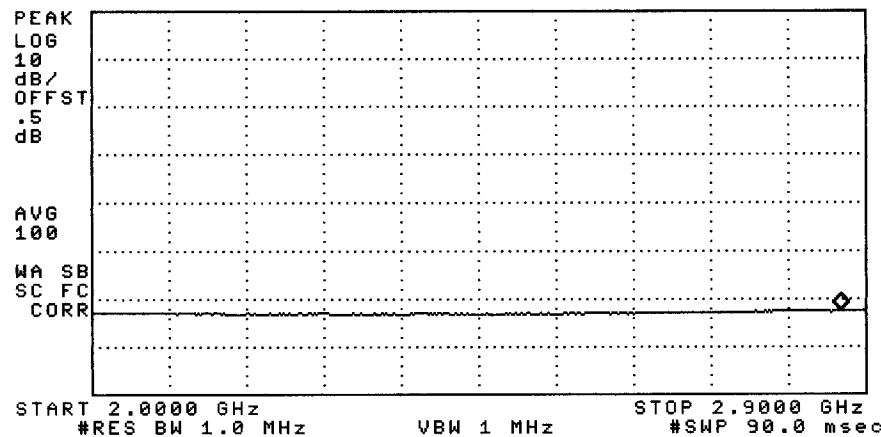
MKR 1.8540 GHz
-37.70 dBm



06:33:51 JUN 17, 2003

REF 15.0 dBm AT 30 dB

MKR 2.8708 GHz
-47.56 dBm



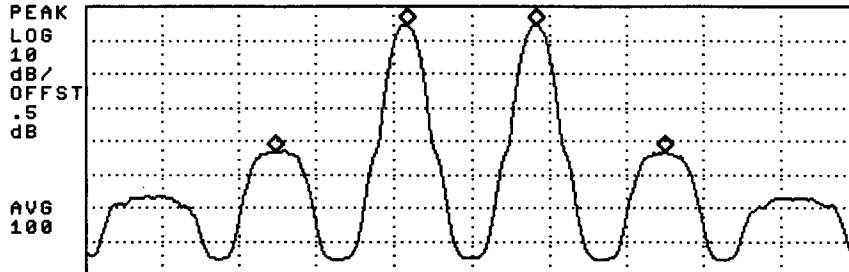
06:51:15 JUN 17, 2003

CSM

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
#RES BW 30 kHz

VBW 30 kHz

SPAN 6.000 MHz
#SWP 33.3 msec

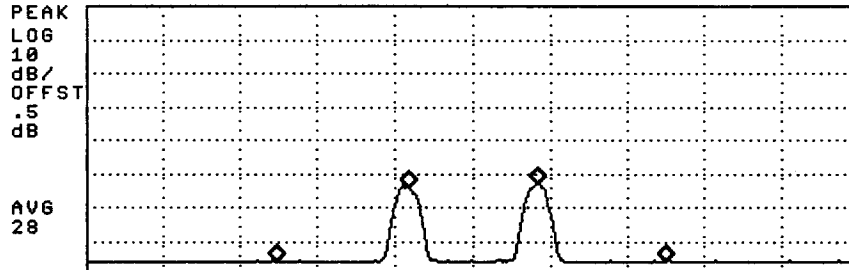
06:52:24 JUN 17, 2003

Input

REF 15.0 dBm

AT 30 dB

MKR 1.852500 GHz
-60.94 dBm

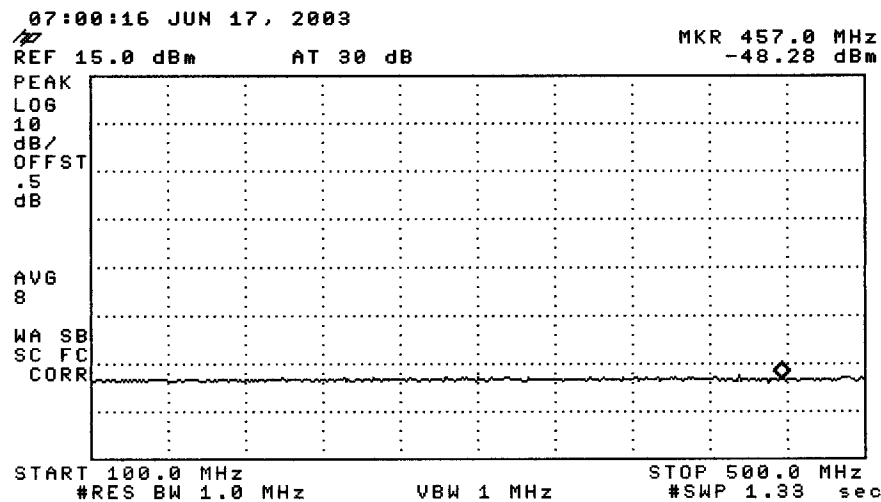
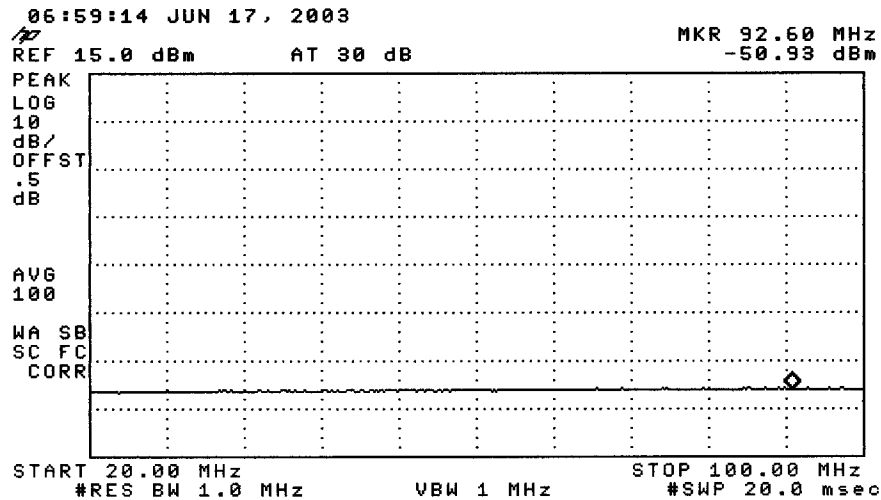
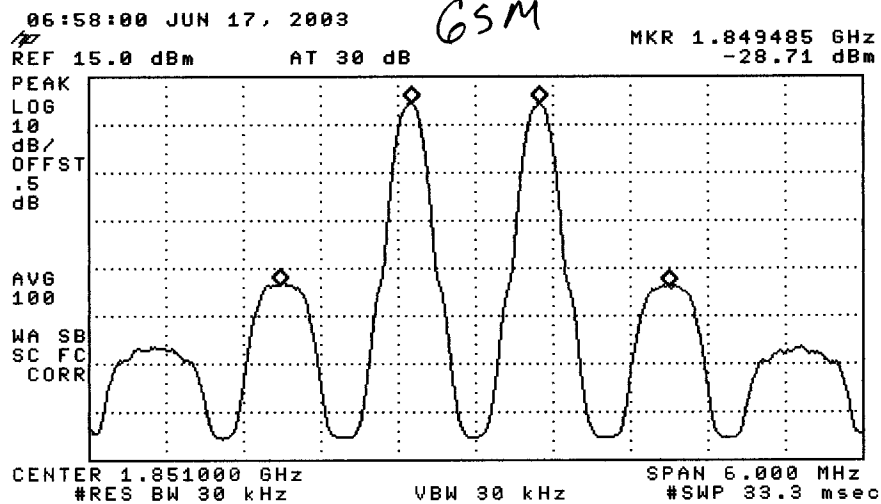


Marker	Trace	Type	Freq / Time	Amplitude
1:	(A)	Freq	1849.485 MHz	-60.82 dBm
2:	(A)	Freq	1850.505 MHz	-38.90 dBm
3:	(A)	Freq	1851.495 MHz	-38.40 dBm
4:	(A)	Freq	1852.500 MHz	-60.94 dBm

CENTER 1.851000 GHz
#RES BW 30 kHz

VBW 30 kHz

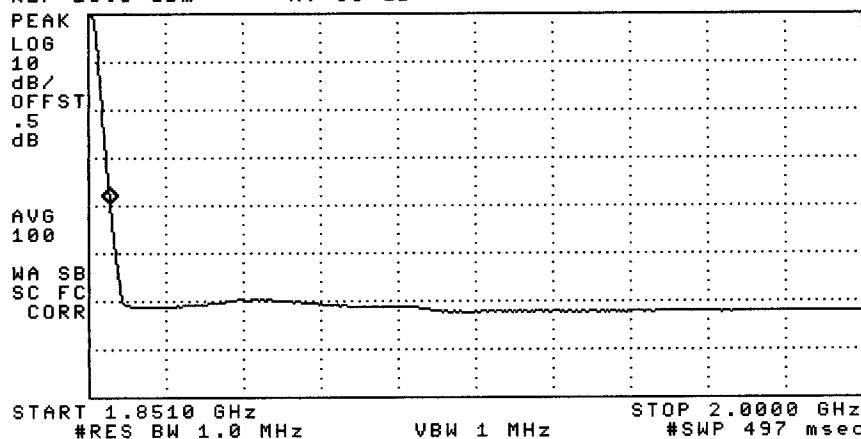
SPAN 6.000 MHz
#SWP 33.3 msec



07:16:11 JUN 17, 2003

REF 15.0 dBm AT 30 dB

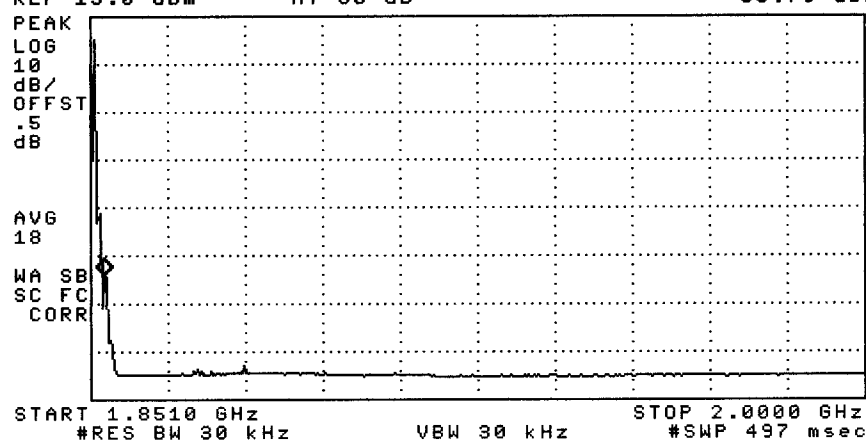
MKR 1.8551 GHz
-24.56 dBm



07:17:17 JUN 17, 2003

REF 15.0 dBm AT 30 dB

MKR 1.8536 GHz
-38.79 dBm



07:18:31 JUN 17, 2003

REF 15.0 dBm AT 30 dB

MKR 2.8708 GHz
-47.39 dBm

