6 - SPURIOUS EMISSION AT ANTENNA TERMINAL

6.1 Standard Applicable

According to §15.209 (f) and §15.33(a), in some cases the emissions from an intentional radiator must be measured to beyond the tenth harmonic of the highest fundamental frequency designed to be emitted by the intentional radiator because of the incorporation f a digital device. If measurements above the tenth harmonic are so required, the radiated emissions above the tenth harmonic shall comply with the general radiated emission limits applicable to the incorporated digital device, as shown in §15.109 and as based on the frequency of the emission being measured, or, except for emissions contained in the restricted frequency bands shown in §15.205, the limit on spurious emissions specified for the intentional radiator, whichever is the higher limit.

6.2 Measurement Procedure

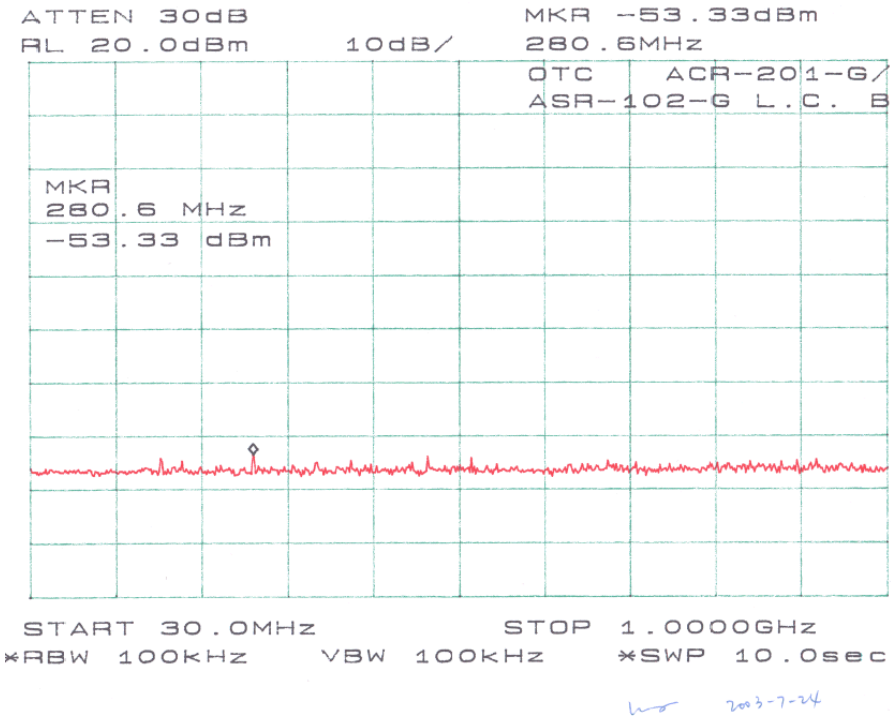
1. Check the calibration of the measuring instrument (SA) using either an internal calibrator or a known signal from an external generator.
2. Position the EUT as shown in figure 4 without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
3. Set the SA on Max-Hold Mode, and then keep the EUT in transmitting mode. Record all the signals from each channel until each one has been recorded.
4. Set the SA on View mode and then plot the result on SA screen.
5. Repeat above procedures until all frequencies measured were complete.

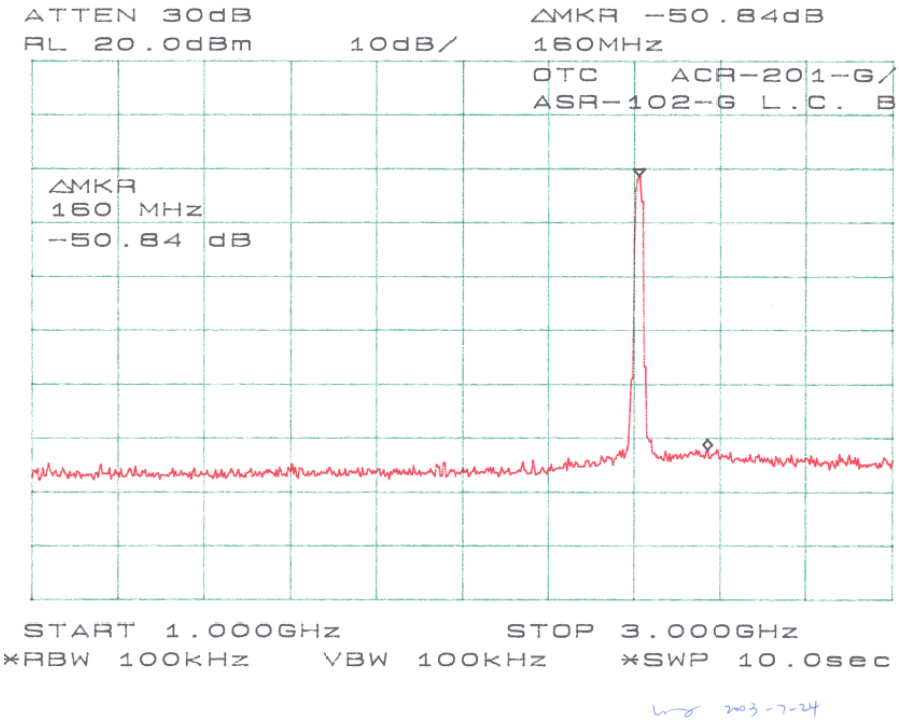
6.3 Test Equipment

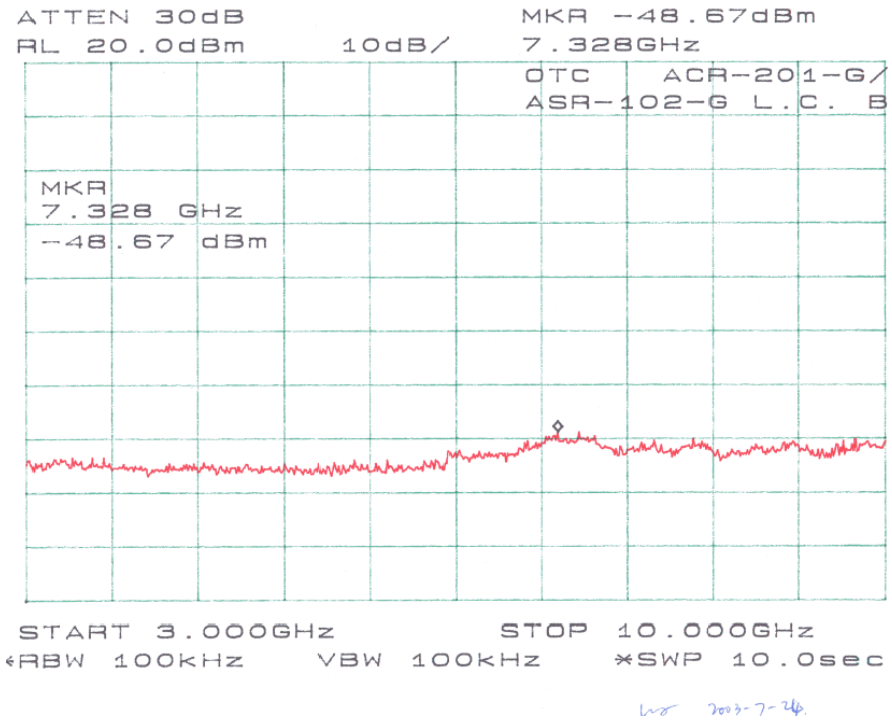
Manufacturer	Model No.	Serial No.	Calibration Due Date
HP	8564E	Spectrum Analyzer	2003-12-06

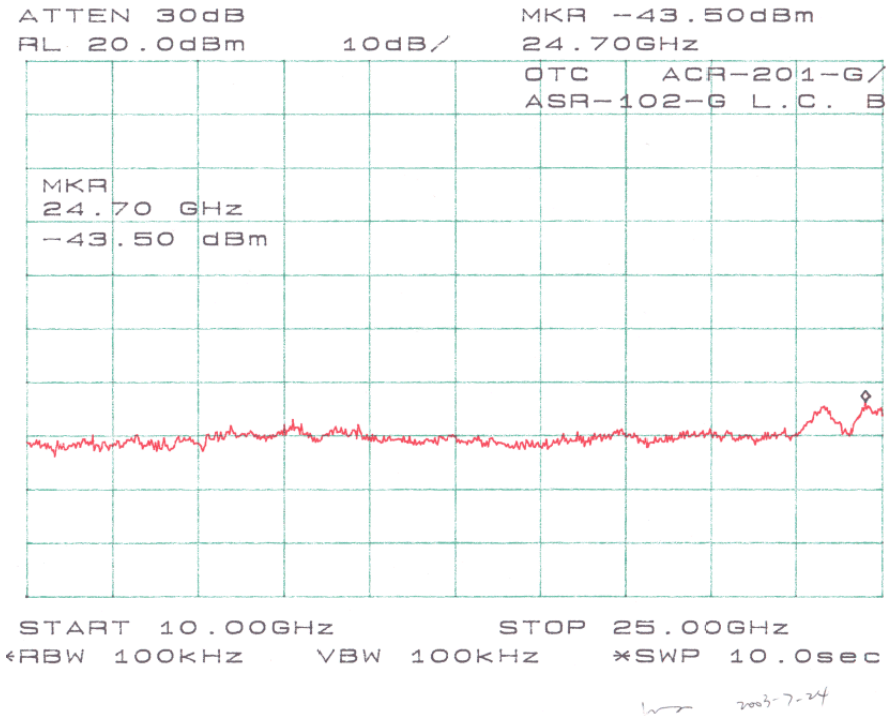
6.4 Measurement Result

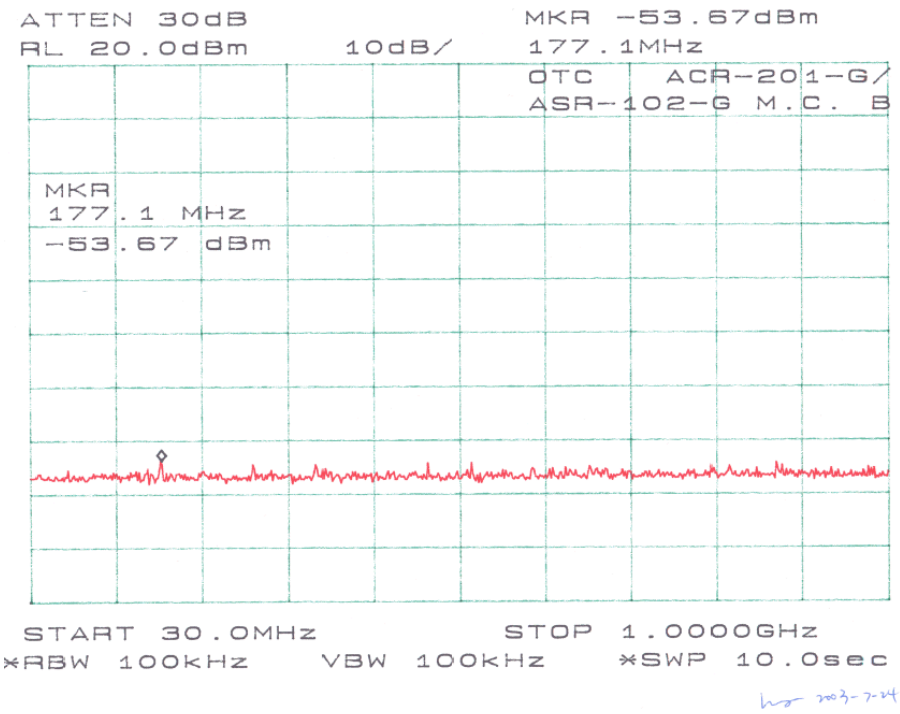
Please refer to following pages for plots of spurious emission.

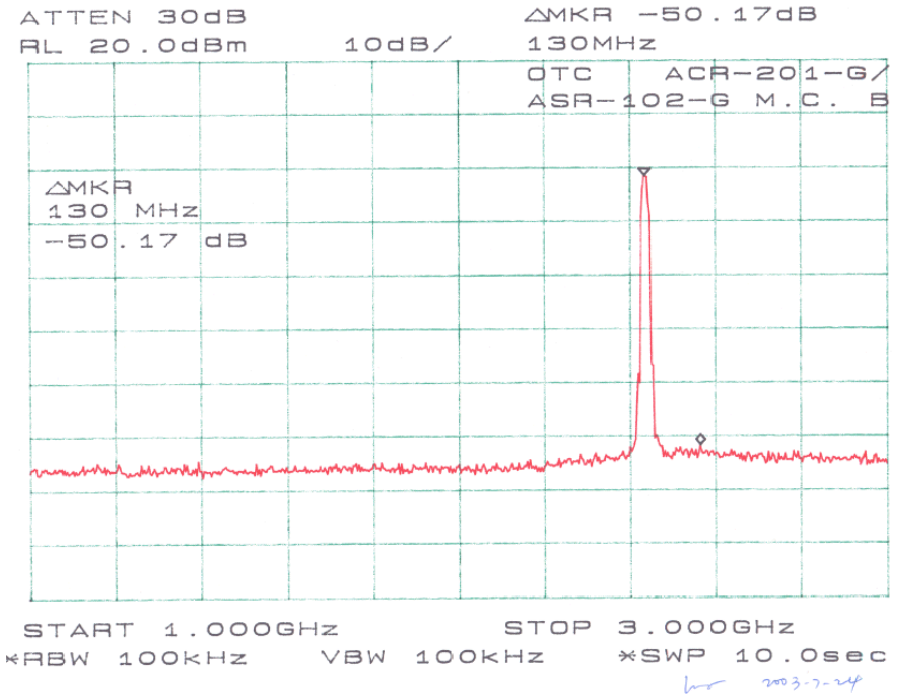

ATTEN 30dB
RL 20.0dBm
10dB/
MKR -53.33dBm
280.6MHz
OTC ACR-201-G/
ASR-102-G L.C. B
MKR
280.6 MHz
-53.33 dBm
START 30.0MHz
STOP 1.0000GHz
*RBW 100kHz
VBW 100kHz
*SWP 10.0sec
2003-7-24

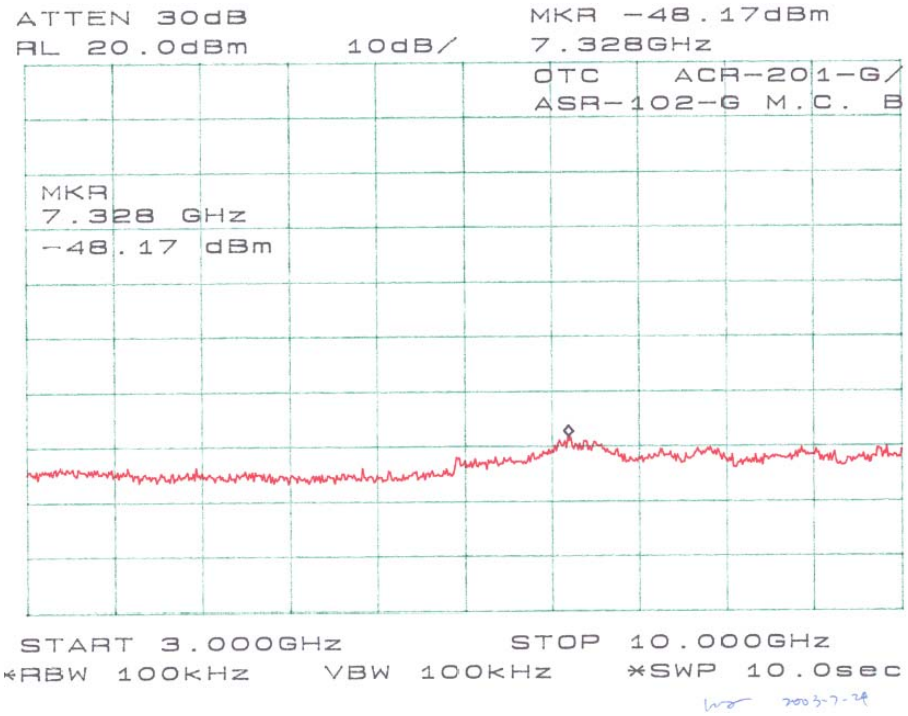

ATTEN 30dB
RL 20.0dBm
10dB/
ΔMKR -50.84dB
160MHz
OTC ACR-201-G/
ASR-102-G L.C. B
ΔMKR
160 MHz
-50.84 dB
START 1.000GHz
STOP 3.000GHz
*RBW 100kHz
VBW 100kHz
*SWP 10.0sec
2003-7-24

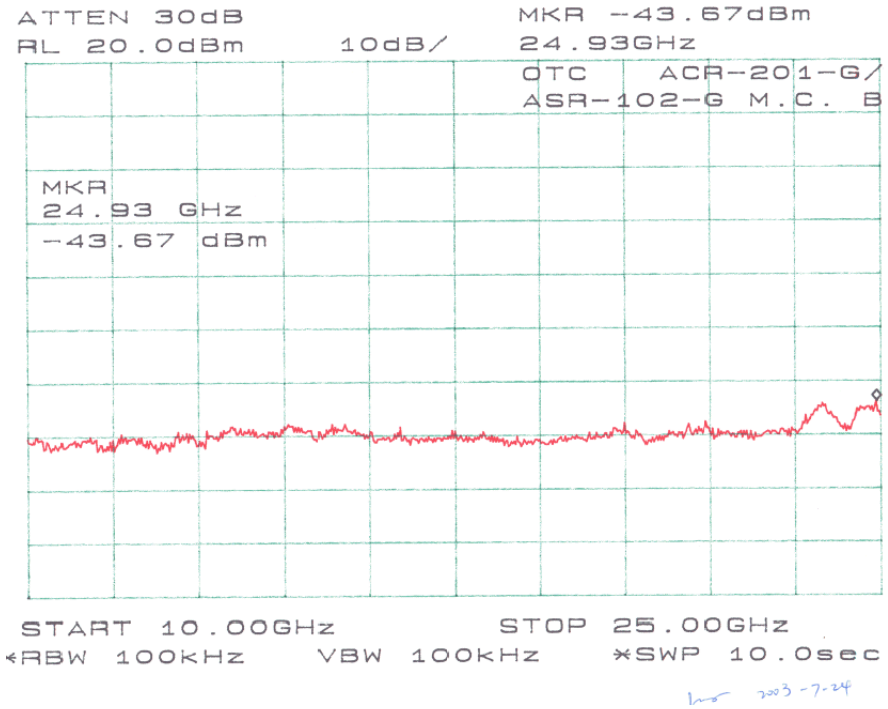

ATTEN 30dB
RL 20.0dBm
10dB/
MKR -48.67dBm
7.328GHz
OTC ACR-201-G/
ASR-102-G L.C. B
MKR
7.328 GHz
-48.67 dBm
START 3.000GHz
STOP 10.000GHz
RBW 100kHz
VBW 100kHz
SWP 10.0sec
2003-7-24.

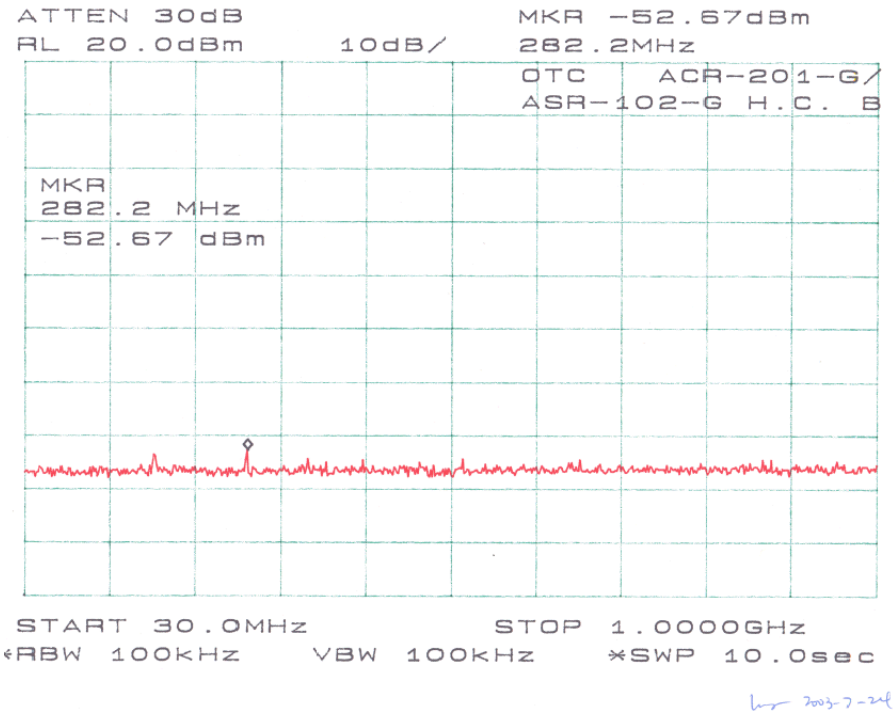

ATTEN 30dB
RL 20.0dBm
10dB/
MKR -43.50dBm
24.70GHz
OTC ACR-201-G/
ASR-102-G L.C. B
MKR
24.70 GHz
-43.50 dBm
START 10.00GHz
STOP 25.00GHz
RBW 100kHz
VBW 100kHz
SWP 10.0sec
2003-7-24

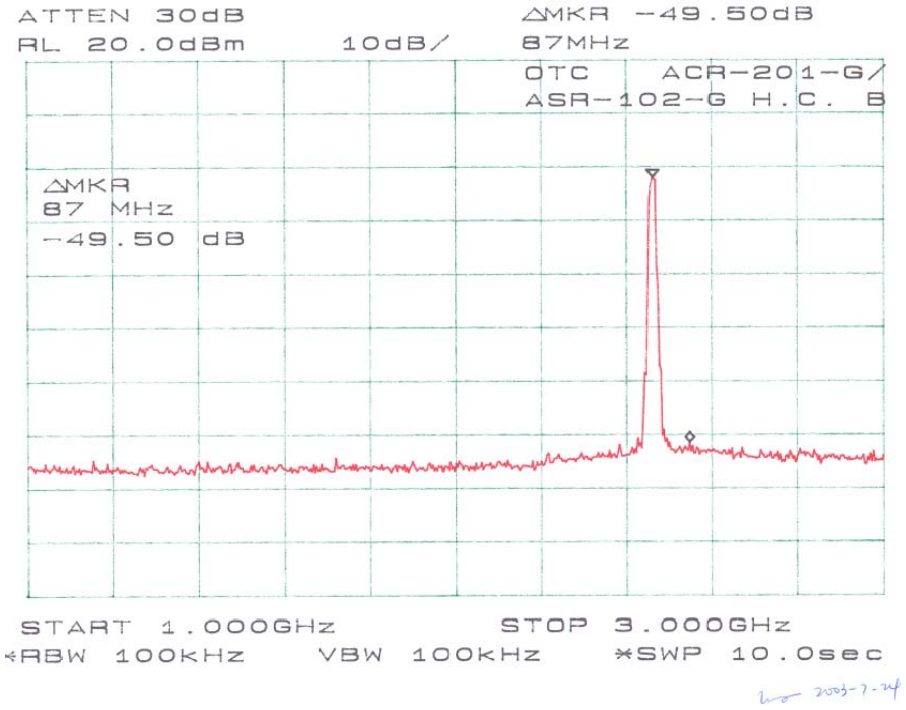

ATTEN 30dB
RL 20.0dBm
10dB/
MKR -53.67dBm
177.1MHz
OTC ACR-201-G/
ASR-102-G M.C. B
MKR
177.1 MHz
-53.67 dBm
START 30.0MHz
STOP 1.0000GHz
*RBW 100kHz
VBW 100kHz
*SWP 10.0sec
2003-7-24

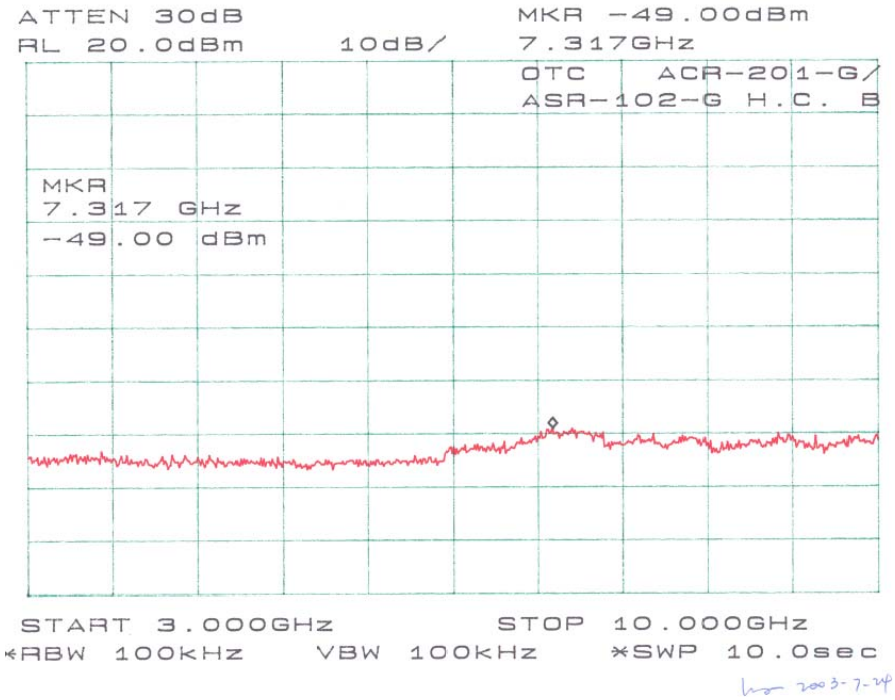

ATTEN 30dB
RL 20.0dBm
10dB/
ΔMKR -50.17dB
130MHz
OTC ACR-201-G/
ASR-102-G M.C. B
ΔMKR
130 MHz
-50.17 dB
START 1.000GHz
STOP 3.000GHz
*RBW 100kHz
VBW 100kHz
*SWP 10.0sec
2003-7-24

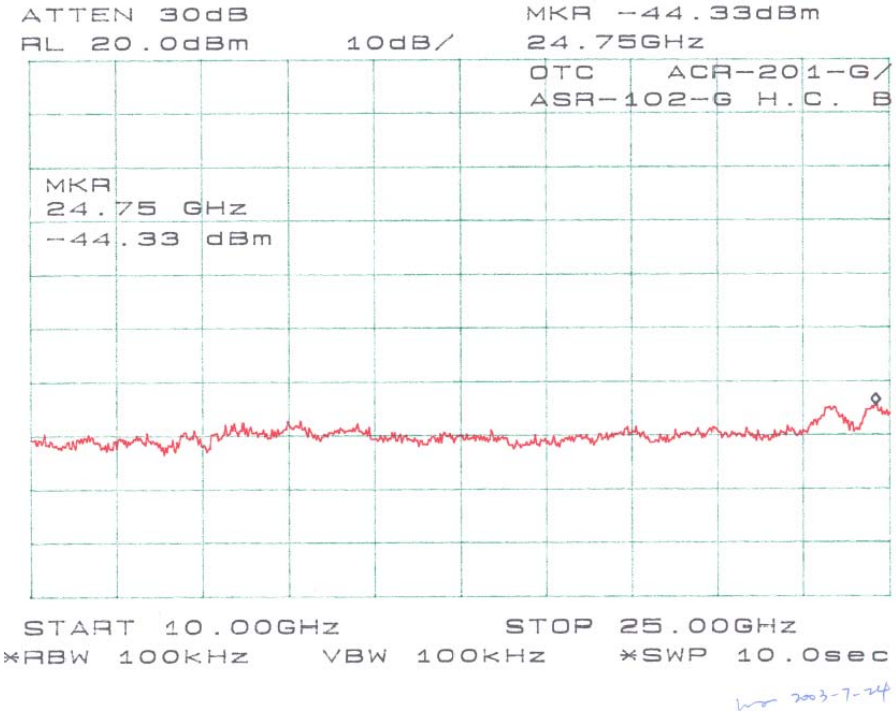

ATTEN 30dB
RL 20.0dBm
10dB/
MKR -48.17dBm
7.328GHz
OTC ACR-201-G/
ASR-102-G M.C. B
MKR
7.328 GHz
-48.17 dBm
START 3.000GHz
STOP 10.000GHz
*RBW 100kHz
VBW 100kHz
*SWP 10.0sec
2003-7-24

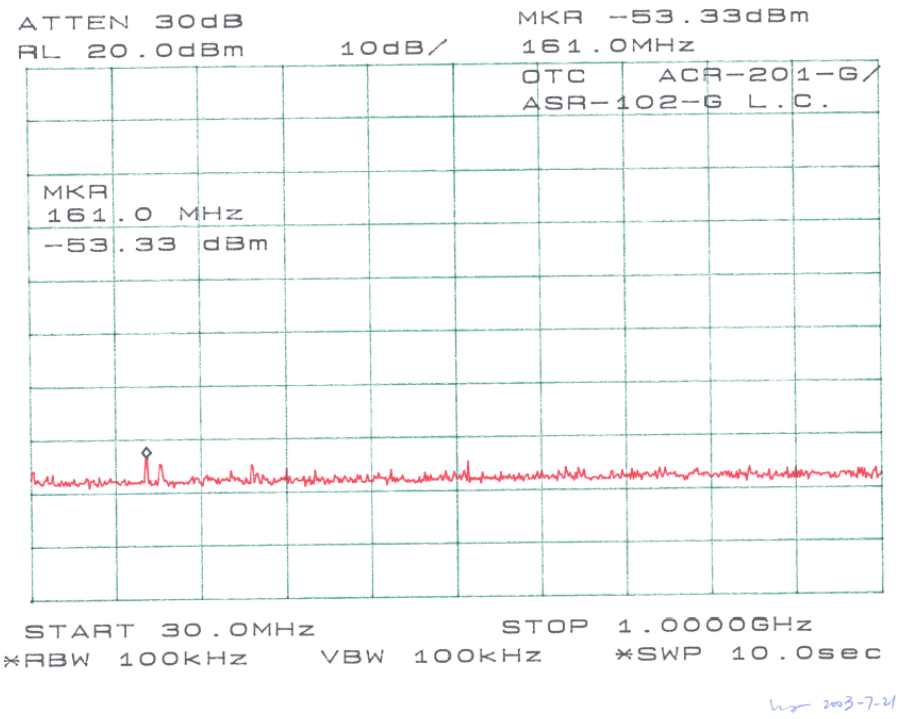

ATTEN 30dB
RL 20.0dBm
10dB/
MKR -43.67dBm
24.93GHz
OTC ACR-201-G/
ASR-102-G M.C. B
MKR
24.93 GHz
-43.67 dBm
START 10.00GHz
STOP 25.00GHz
*RBW 100kHz
VBW 100kHz
*SWP 10.0sec
2003-7-24

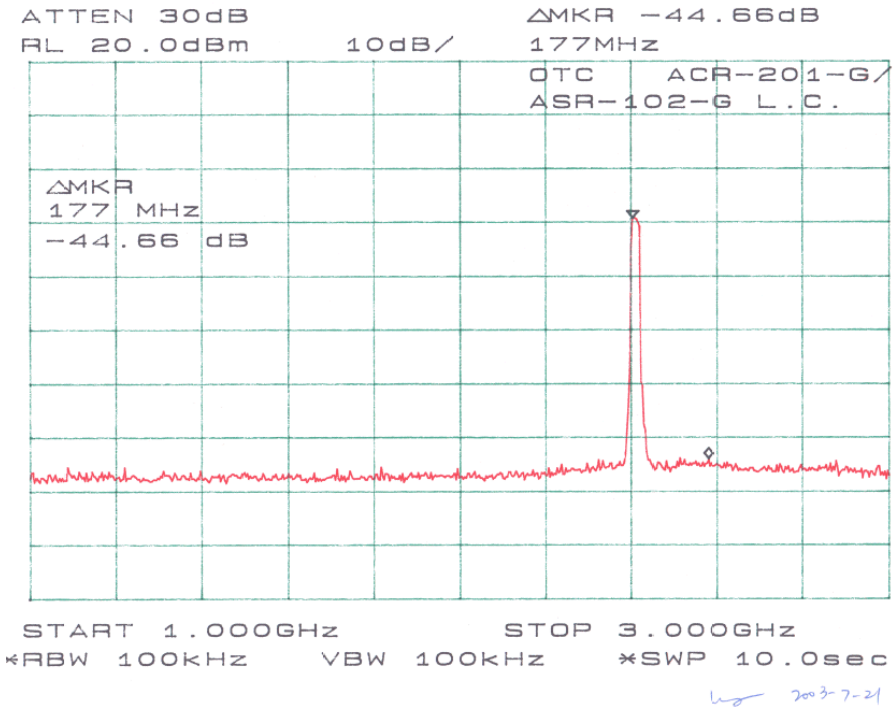

ATTEN 30dB
RL 20.0dBm 10dB/
MKR -52.67dBm
282.2MHz
OTC ACR-201-G/
ASR-102-G H.C. B
MKR
282.2 MHz
-52.67 dBm
START 30.0MHz STOP 1.0000GHz
*RBW 100kHz VBW 100kHz *SWP 10.0sec
2003-7-24

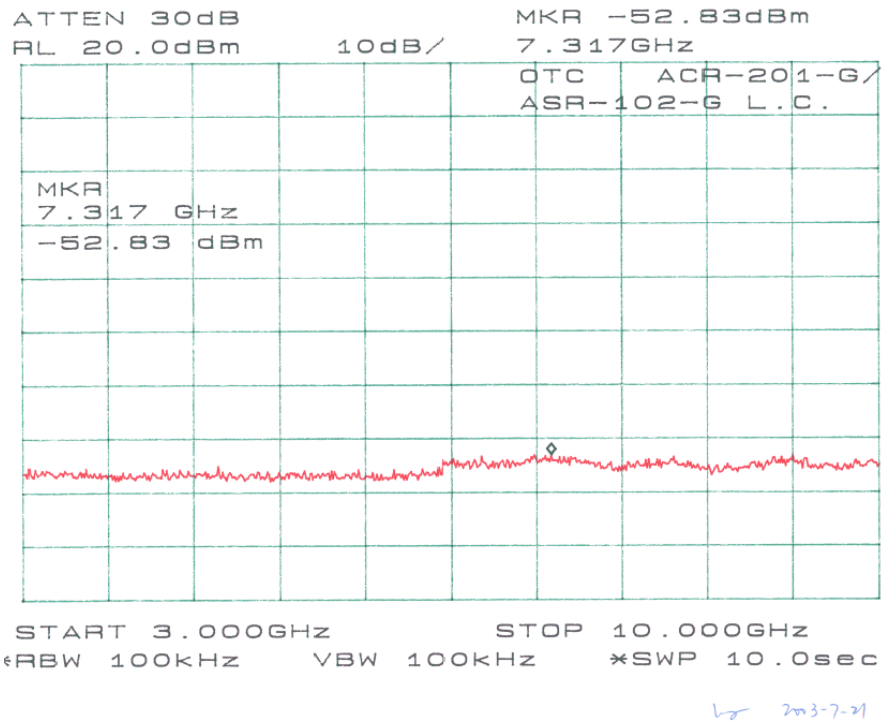

ATTEN 30dB
RL 20.0dBm 10dB/
ΔMKR -49.50dB
87MHz
OTC ACR-201-G/
ASR-102-G H.C. B
ΔMKR
87 MHz
-49.50 dB
START 1.000GHz STOP 3.000GHz
*RBW 100kHz VBW 100kHz *SWP 10.0sec
2003-7-24

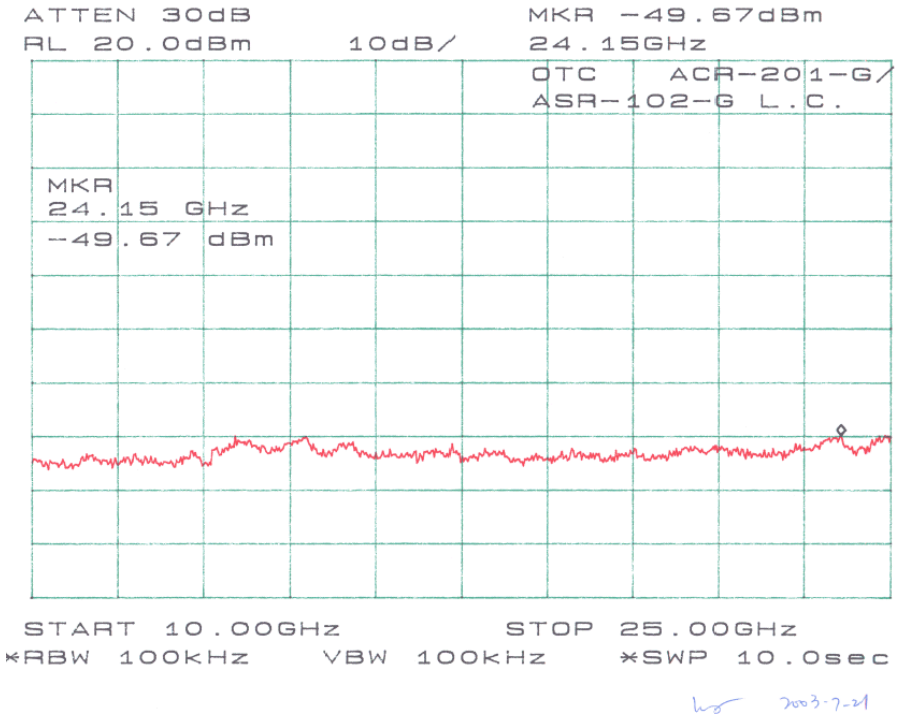

ATTEN 30dB
RL 20.0dBm
10dB/
MKR -49.00dBm
7.317GHz
OTC ACR-201-G/
ASR-102-G H.C. B
MKR
7.317 GHz
-49.00 dBm
START 3.000GHz
STOP 10.000GHz
*RBW 100kHz
VBW 100kHz
*SWP 10.0sec
2003-7-24

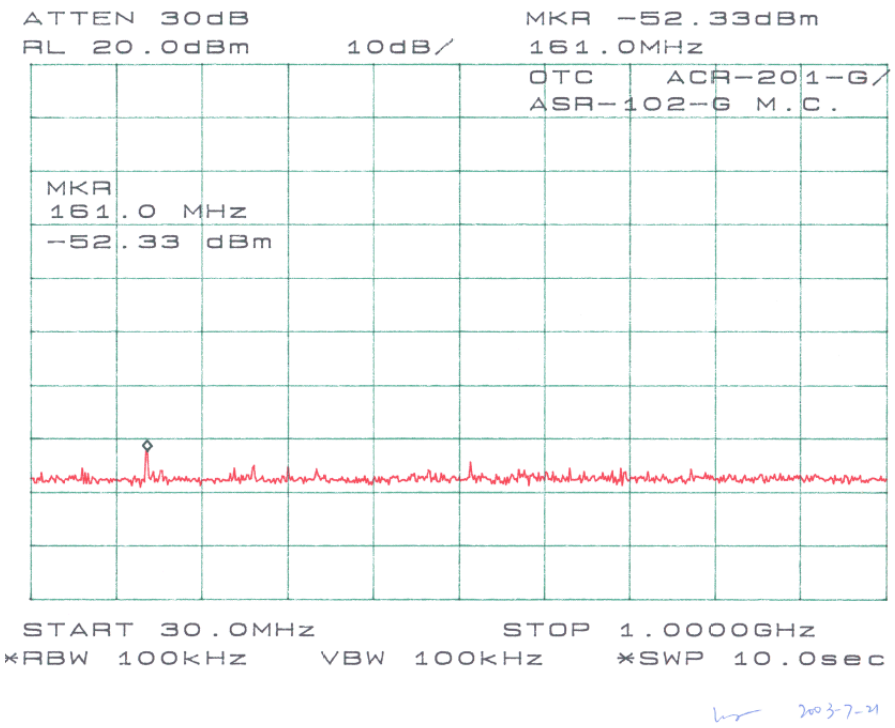

ATTEN 30dB
RL 20.0dBm
10dB/
MKR -44.33dBm
24.75GHz
OTC ACR-201-G/
ASR-102-G H.C. B
MKR
24.75 GHz
-44.33 dBm
START 10.00GHz
STOP 25.00GHz
*RBW 100kHz
VBW 100kHz
*SWP 10.0sec
2003-7-24

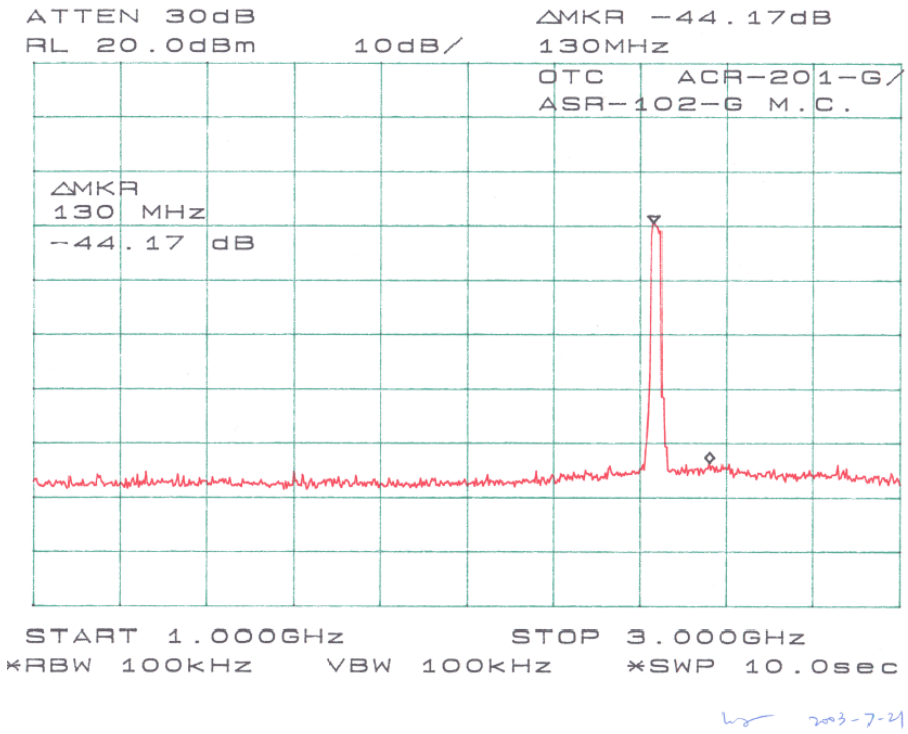

ATTEN 30dB
RL 20.0dBm
10dB/
MKR -53.33dBm
161.0MHz
OTC ACR-201-G/
ASR-102-G L.C.
MKR
161.0 MHz
-53.33 dBm
START 30.0MHz
STOP 1.0000GHz
*RBW 100kHz
VBW 100kHz
*SWP 10.0sec
2003-7-21

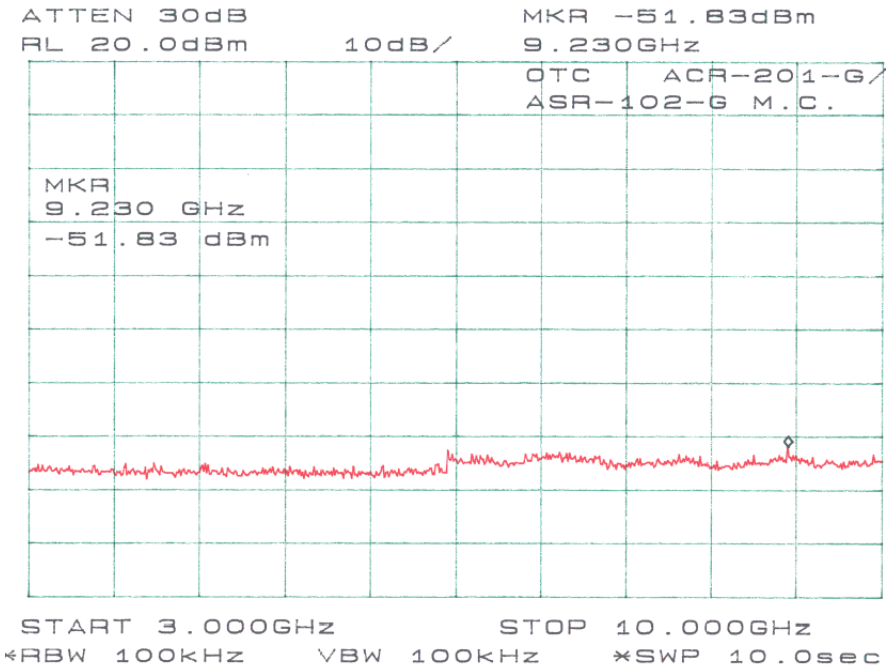

ATTEN 30dB
RL 20.0dBm
10dB/
ΔMKR -44.66dB
177MHz
OTC ACR-201-G/
ASR-102-G L.C.
ΔMKR
177 MHz
-44.66 dB
START 1.000GHz
STOP 3.000GHz
*RBW 100kHz
VBW 100kHz
*SWP 10.0sec
2003-7-21

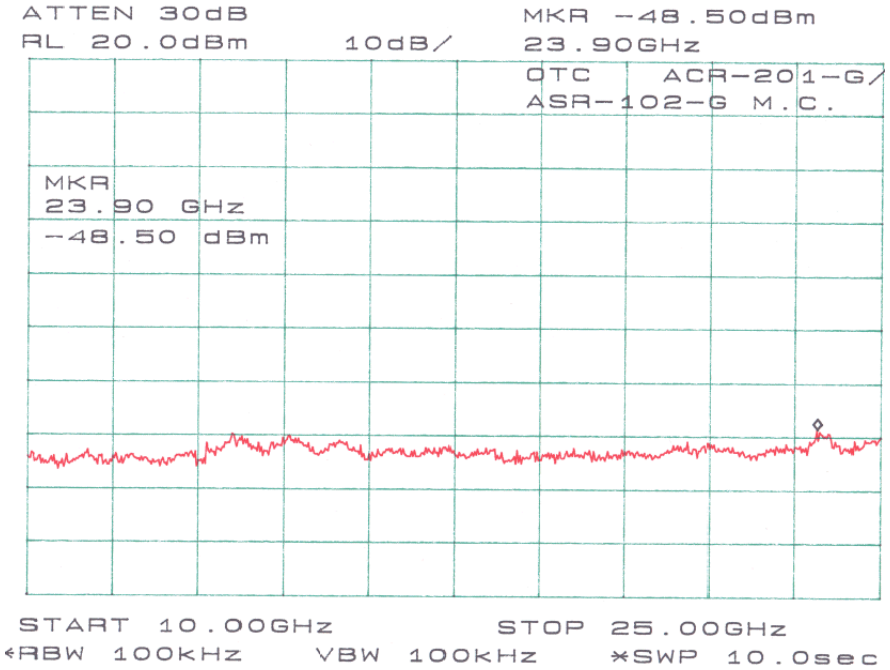

ATTEN 30dB
RL 20.0dBm
10dB/
MKR -52.83dBm
7.317GHz
OTC ACR-201-G/
ASR-102-G L.C.
MKR
7.317 GHz
-52.83 dBm
START 3.000GHz
STOP 10.000GHz
*RBW 100kHz
VBW 100kHz
*SWP 10.0sec
2003-7-21

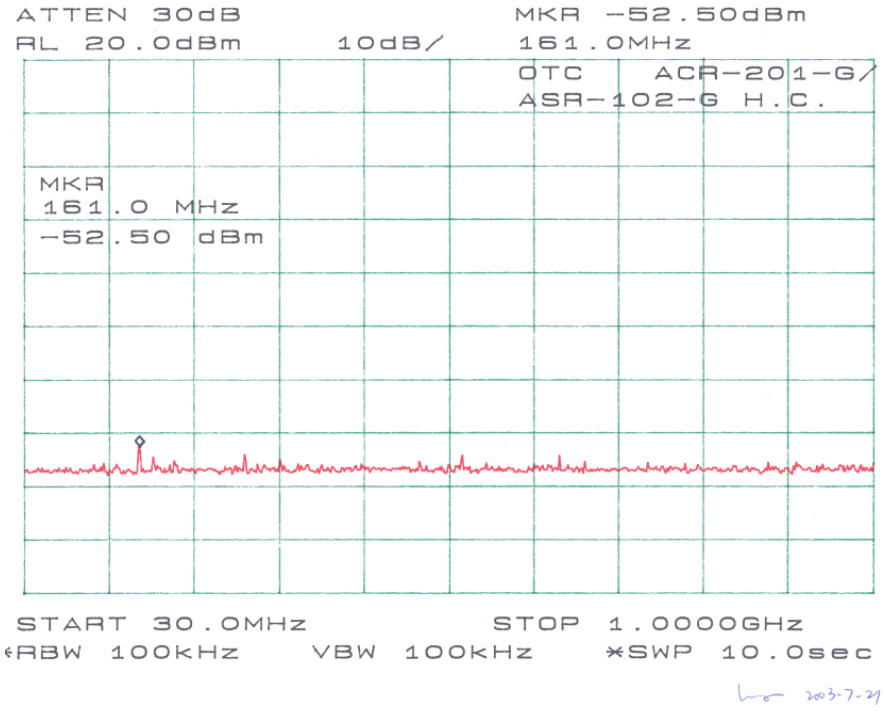

ATTEN 30dB
RL 20.0dBm
10dB/
MKR -49.67dBm
24.15GHz
OTC ACR-201-G/
ASR-102-G L.C.
MKR
24.15 GHz
-49.67 dBm
START 10.00GHz
STOP 25.00GHz
*RBW 100kHz
VBW 100kHz
*SWP 10.0sec
2003-7-21

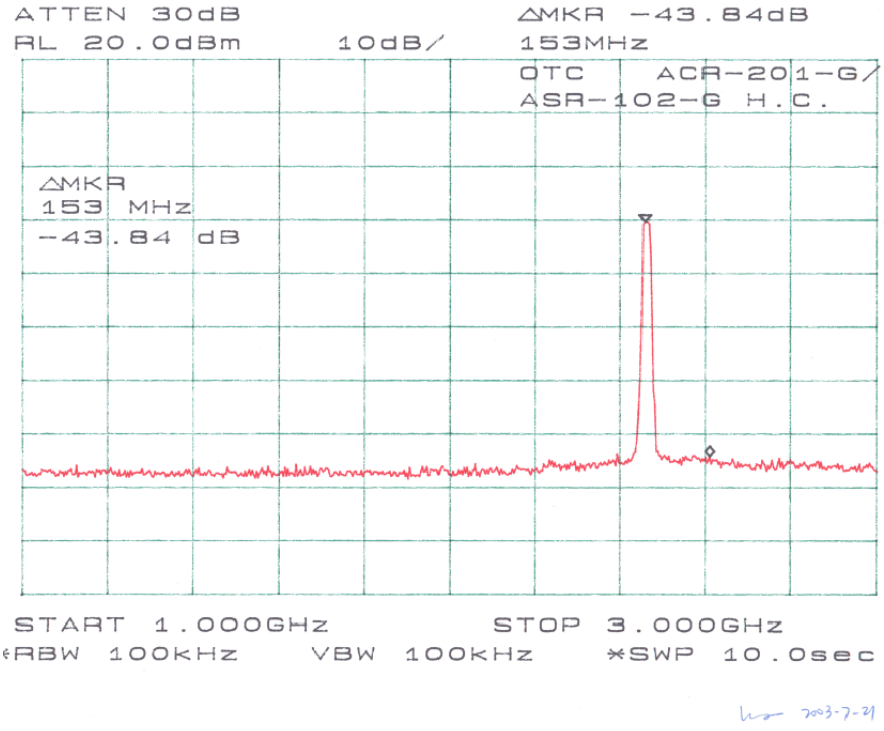

ATTEN 30dB
RL 20.0dBm
10dB/
MKR -52.33dBm
161.0MHz
OTC ACR-201-G/
ASR-102-G M.C.
MKR
161.0 MHz
-52.33 dBm
START 30.0MHz
STOP 1.0000GHz
*RBW 100kHz
VBW 100kHz
*SWP 10.0sec
2003-7-21

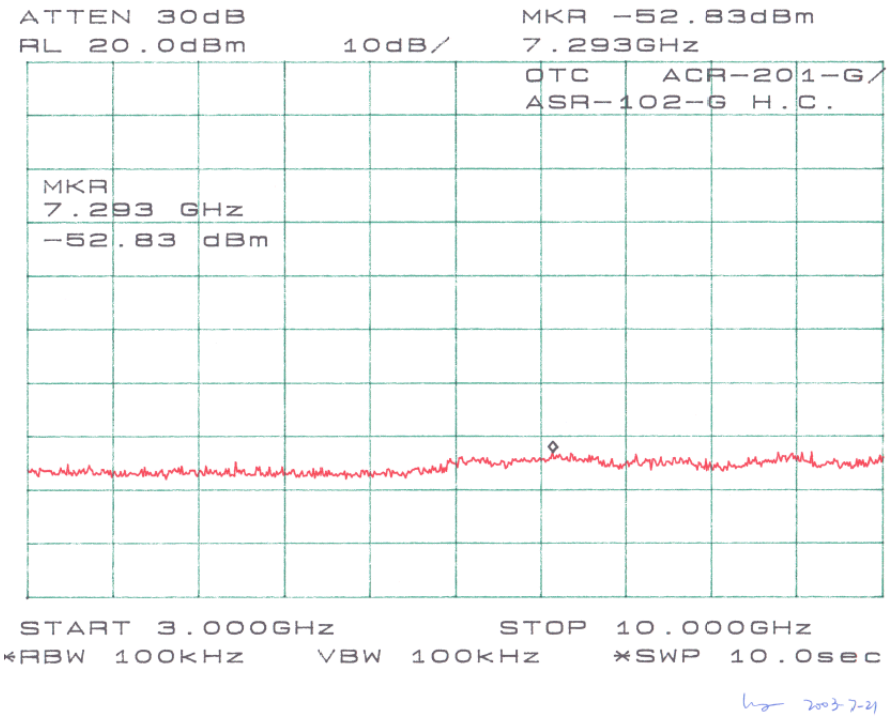

ATTEN 30dB
RL 20.0dBm
10dB/
ΔMKR -44.17dB
130MHz
OTC ACR-201-G/
ASR-102-G M.C.
ΔMKR
130 MHz
-44.17 dB
START 1.000GHz
STOP 3.000GHz
*RBW 100kHz
VBW 100kHz
*SWP 10.0sec
2003-7-21

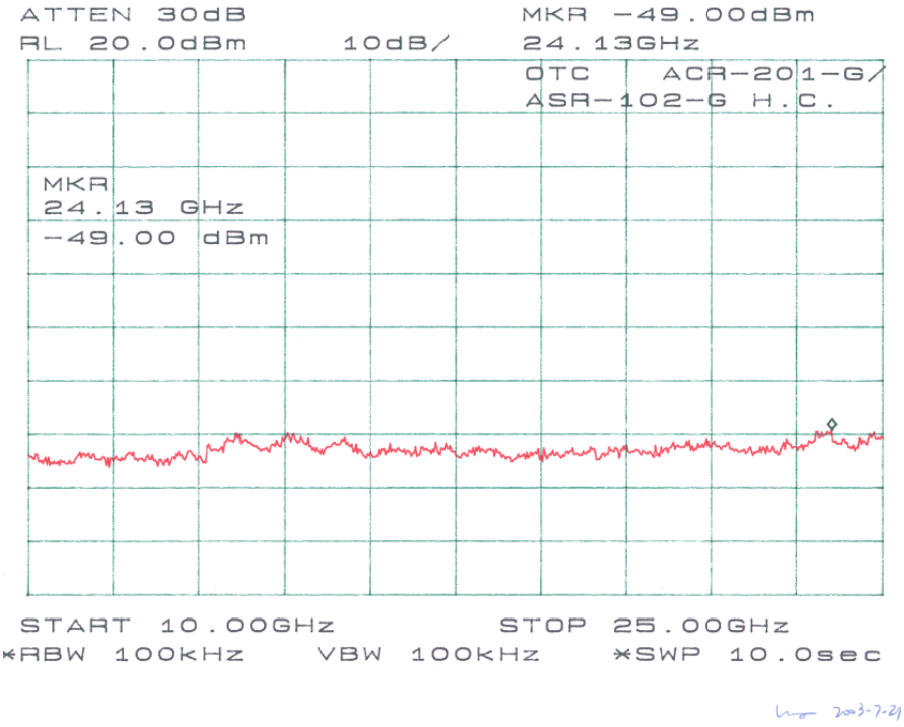

ATTEN 30dB
RL 20.0dBm
10dB/
MKR -51.83dBm
9.230GHz
OTC ACR-201-G/
ASR-102-G M.C.
MKR
9.230 GHz
-51.83 dBm
START 3.000GHz
STOP 10.000GHz
*RBW 100kHz
VBW 100kHz
*SWP 10.0sec


ATTEN 30dB
RL 20.0dBm
10dB/
MKR -48.50dBm
23.90GHz
OTC ACR-201-G/
ASR-102-G M.C.
MKR
23.90 GHz
-48.50 dBm
START 10.00GHz
STOP 25.00GHz
*RBW 100kHz
VBW 100kHz
*SWP 10.0sec


ATTEN 30dB
RL 20.0dBm 10dB/
MKR -52.50dBm
161.0MHz
OTC ACR-201-G/
ASR-102-G H.C.
MKR
161.0 MHz
-52.50 dBm
START 30.0MHz STOP 1.0000GHz
RBW 100kHz VBW 100kHz SWP 10.0sec
2003-7-21


ATTEN 30dB
RL 20.0dBm 10dB/
ΔMKR -43.84dB
153MHz
OTC ACR-201-G/
ASR-102-G H.C.
ΔMKR
153 MHz
-43.84 dB
START 1.000GHz STOP 3.000GHz
RBW 100kHz VBW 100kHz SWP 10.0sec
2003-7-21


ATTEN 30dB
RL 20.0dBm 10dB/
MKR -52.83dBm
7.293GHz
OTC ACR-201-G/
ASR-102-G H.C.
MKR
7.293 GHz
-52.83 dBm
START 3.000GHz STOP 10.000GHz
*RBW 100kHz VBW 100kHz *SWP 10.0sec
2003-7-21


ATTEN 30dB
RL 20.0dBm 10dB/
MKR -49.00dBm
24.13GHz
OTC ACR-201-G/
ASR-102-G H.C.
MKR
24.13 GHz
-49.00 dBm
START 10.00GHz STOP 25.00GHz
*RBW 100kHz VBW 100kHz *SWP 10.0sec
2003-7-21

7 - PEAK POWER SPECTRAL DENSITY

7.1 Standard Applicable

According to §15.247 (d), digitally modulated systems, the peak power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

7.2 Measurement Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT was set without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
3. Adjust the center frequency of SA on any frequency be measured and set SA to 6MHz span mode. And then, set RBW and VBW of spectrum analyzer to proper value.
4. Repeat above procedures until all frequencies measured were complete.

7.3 Test Equipment

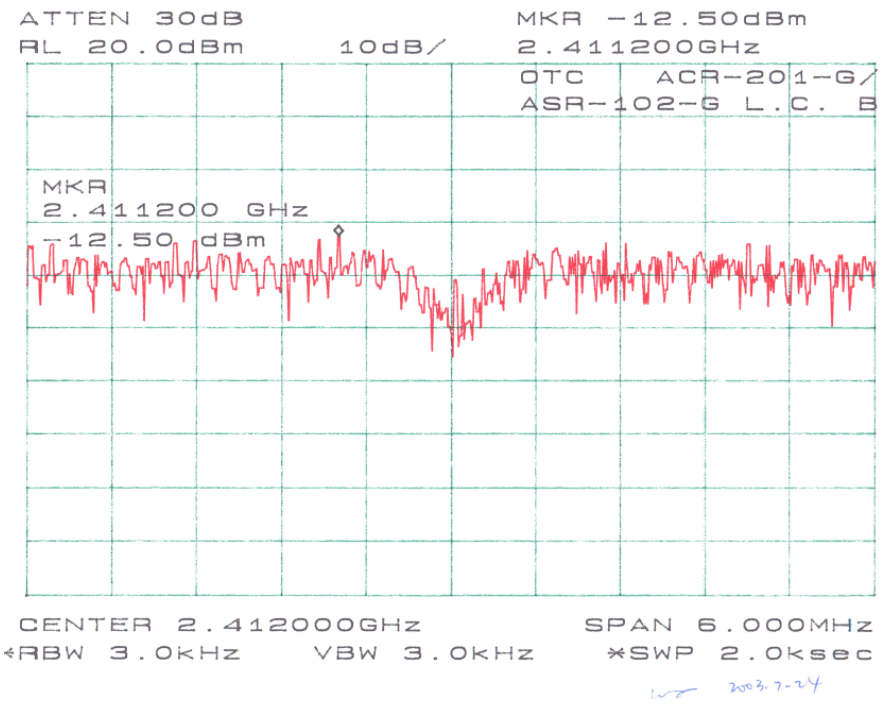
Manufacturer	Model No.	Serial No.	Calibration Due Date
HP	8564E	Spectrum Analyzer	2003-12-06

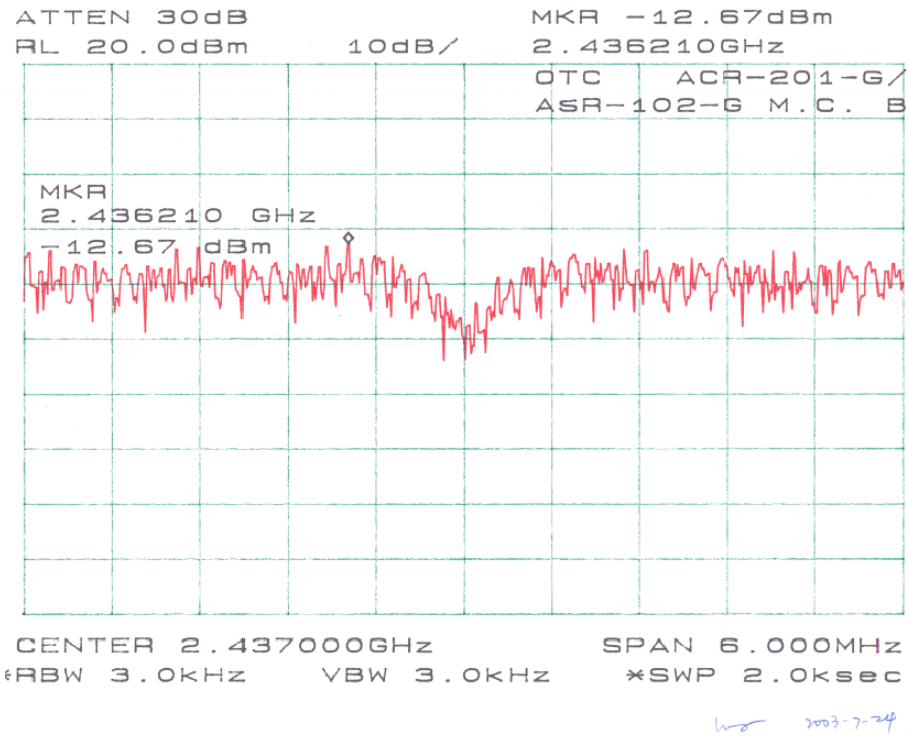
7.4 Measurement Results

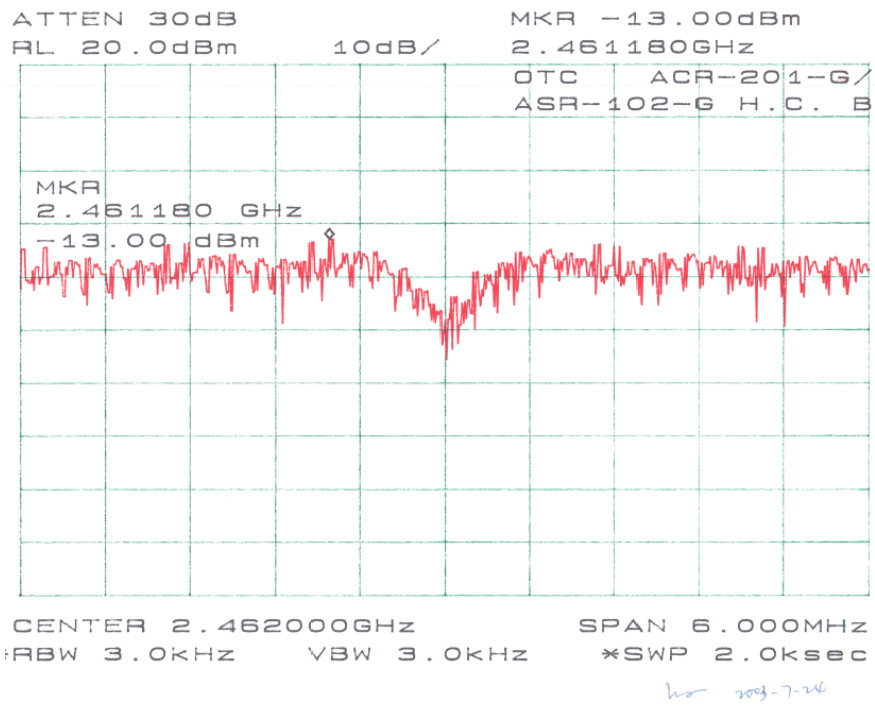
	Frequency (MHz)	Peak Power Spectral Density (dBm)	Standard (dBm)	Result
802.11b	2412	-12.50	≤ 8	Compliant
	2437	-12.67	≤ 8	Compliant
	2462	-13.00	≤ 8	Compliant
802.11g	2412	-20.00	≤ 8	Compliant
	2437	-25.83	≤ 8	Compliant
	2462	-26.50	≤ 8	Compliant

7.5 Plot of Peak Power Spectral Density

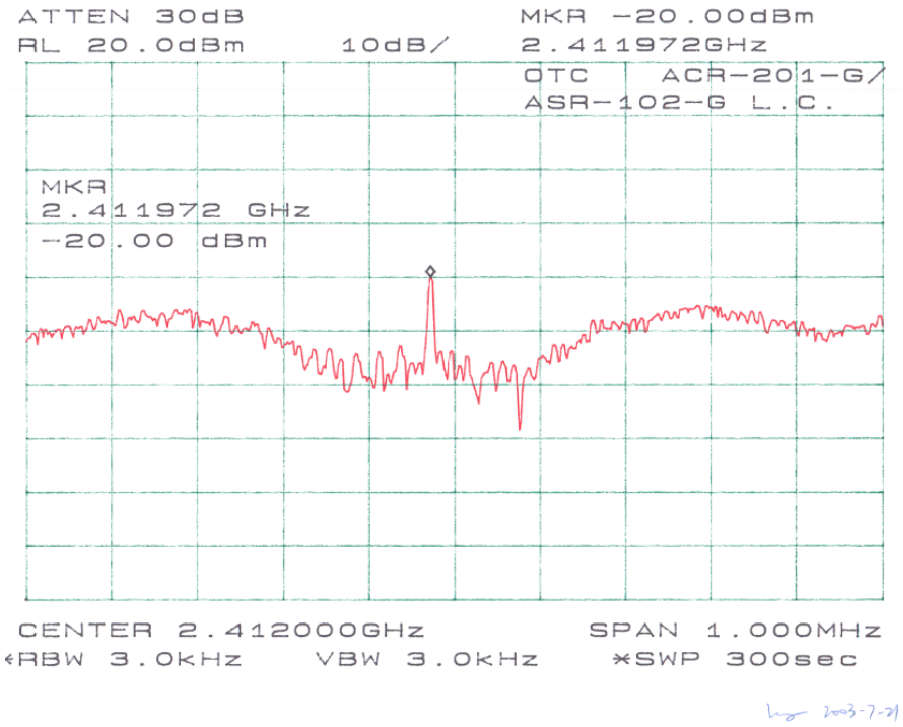
Please refer to following pages for plots of peak power spectral density.


ATTEN 30dB
RL 20.0dBm 10dB/
MKR -12.50dBm
2.411200GHz
OTC ACR-201-G/
ASR-102-G L.C. B
MKR
2.411200 GHz
-12.50 dBm
CENTER 2.412000GHz
SPAN 6.000MHz
RBW 3.0kHz VBW 3.0kHz
SWP 2.0ksec
2003.7-24

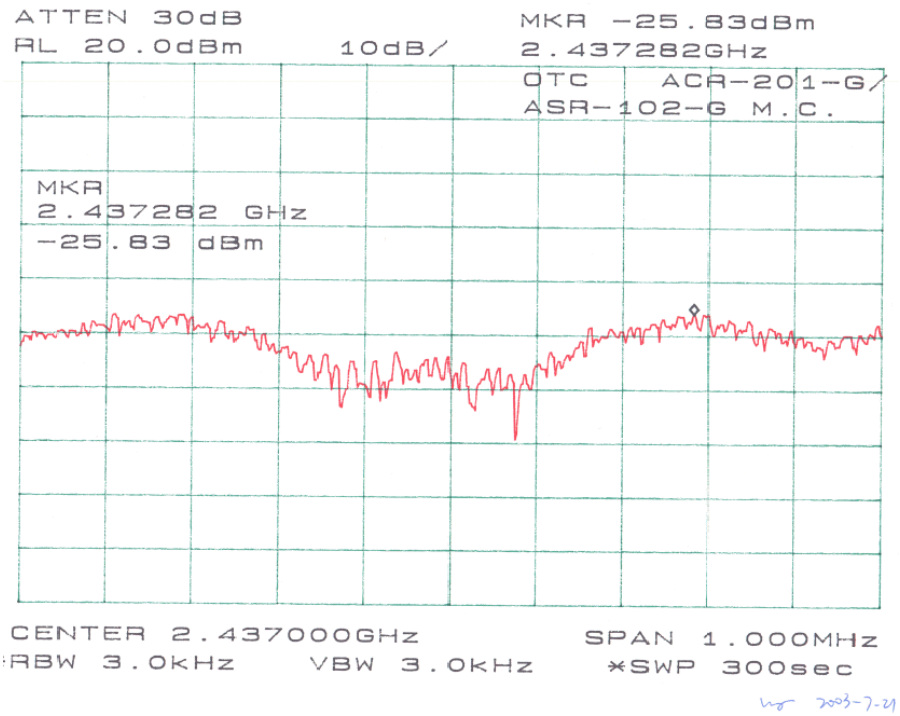

ATTEN 30dB
RL 20.0dBm 10dB/
MKR -12.67dBm
2.436210GHz
OTC ACR-201-G/
ASR-102-G M.C. B
MKR
2.436210 GHz
-12.67 dBm
CENTER 2.437000GHz
SPAN 6.000MHz
RBW 3.0kHz VBW 3.0kHz
SWP 2.0ksec
2003-7-24

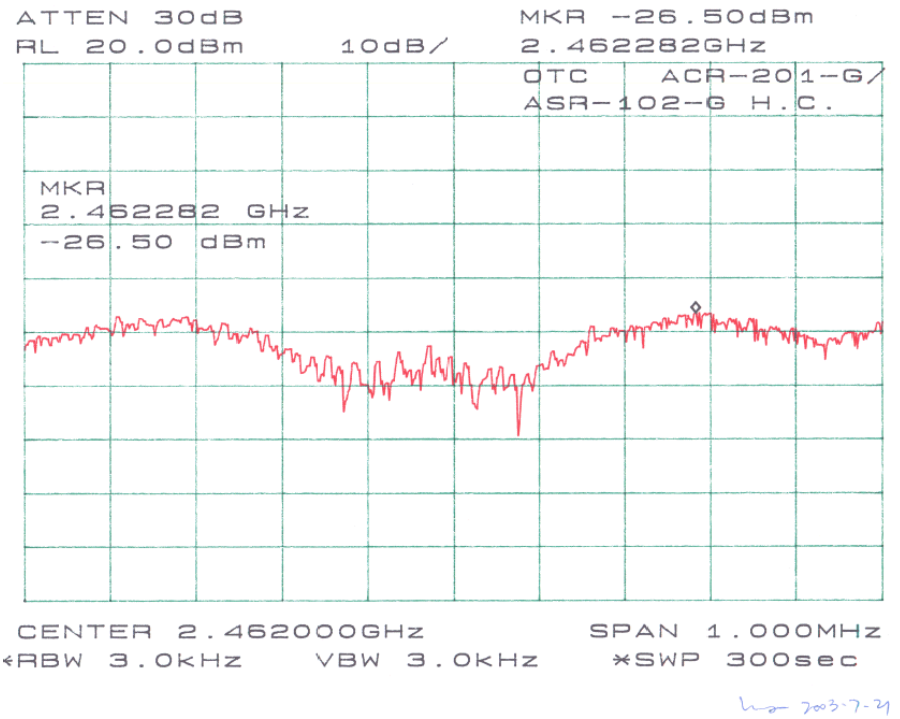


2003-7-24



2003-7-21


ATTEN 30dB
RL 20.0dBm
10dB/
MKR -25.83dBm
2.437282GHz
OTC ACR-201-G/
ASR-102-G M.C.
MKR
2.437282 GHz
-25.83 dBm
CENTER 2.437000GHz
SPAN 1.000MHz
RBW 3.0kHz
VBW 3.0kHz
*SWP 300sec
2003-7-21


ATTEN 30dB
RL 20.0dBm
10dB/
MKR -26.50dBm
2.462282GHz
OTC ACR-201-G/
ASR-102-G H.C.
MKR
2.462282 GHz
-26.50 dBm
CENTER 2.462000GHz
SPAN 1.000MHz
RBW 3.0kHz
VBW 3.0kHz
*SWP 300sec
2003-7-21