

10 POWER DENSITY MEASUREMENT

10.1 Standard Applicable

According to 15.247(d), for direct sequence systems, the transmitted power density averaged over any 1 second interval shall not be greater than 8 dBm in any 3 kHz bandwidth within these bands.

10.2 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 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 EUT 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 spectrum analyzer on highest level appearing on spectral display within a 300 kHz frequency span.
4. Set the spectrum analyzer on a 3 kHz resolution bandwidth and 30 kHz video bandwidth as well as max. hold function.
5. Repeat above procedures until all measured frequencies were complete.

10.3 Measurement Equipment

Equipment	Manufacturer	Model No.	Next Cal. Due
Spectrum Analyzer	Hewlett-Packard	8564E	04/16/2003
Attenuator	Weinschel Engineering	1	N/A
Plotter	Hewlett-Packard	7440A	N/A

10.4 Measurement Data

Test Date : Dec. 24, 2002 Temperature : 25 Humidity: 65 %

- a) Channel 01 : Maximun Power Density of 3 kHz Bandwidth is -1.67dBm
- b) Channel 06 : Maximun Power Density of 3 kHz Bandwidth is -4.67 dBm
- c) Channel 11 : Maximun Power Density of 3 kHz Bandwidth is -6.67dBm

Note : 1. Please see appendix 5 for Plotted Data

2. The expanded uncertainty of the power density tests is 2dB.

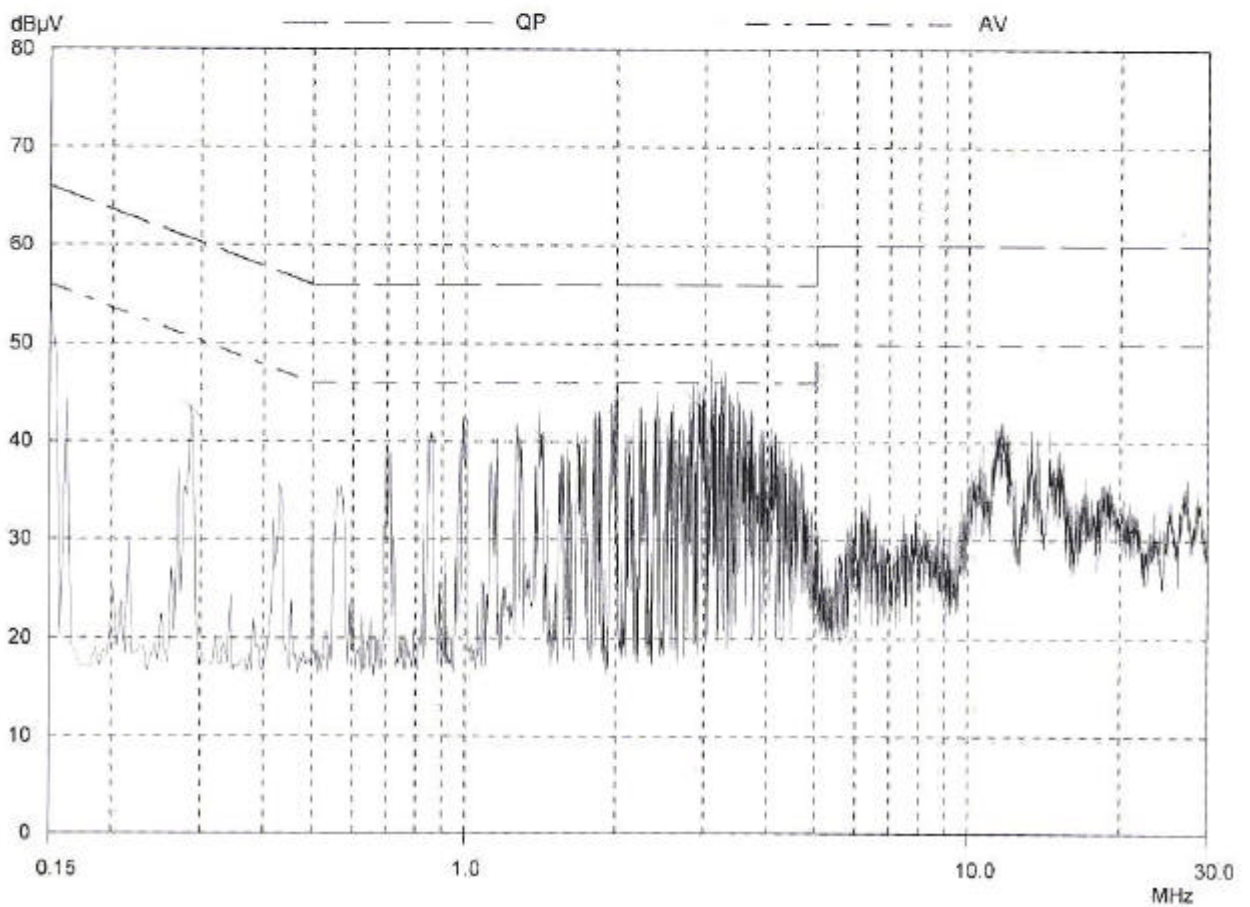
Appendix 1 : Ploted Datas of Power Line Conducted Emissions

CONDUCTION EMISSION TEST

Peak Value

EUT: Wireless Access Router with 4-port switch & Wireless Presentation Gateway
Manuf:
Op Cond: CH LO
Operator:
Test Spec:
Comment:
N
Result File: lo-qp-n.dat : New Measurement

Final Measurement: Detector: X QP
 Meas Time: 1sec
 Peaks: 8
 Acc Margin: 25 dB

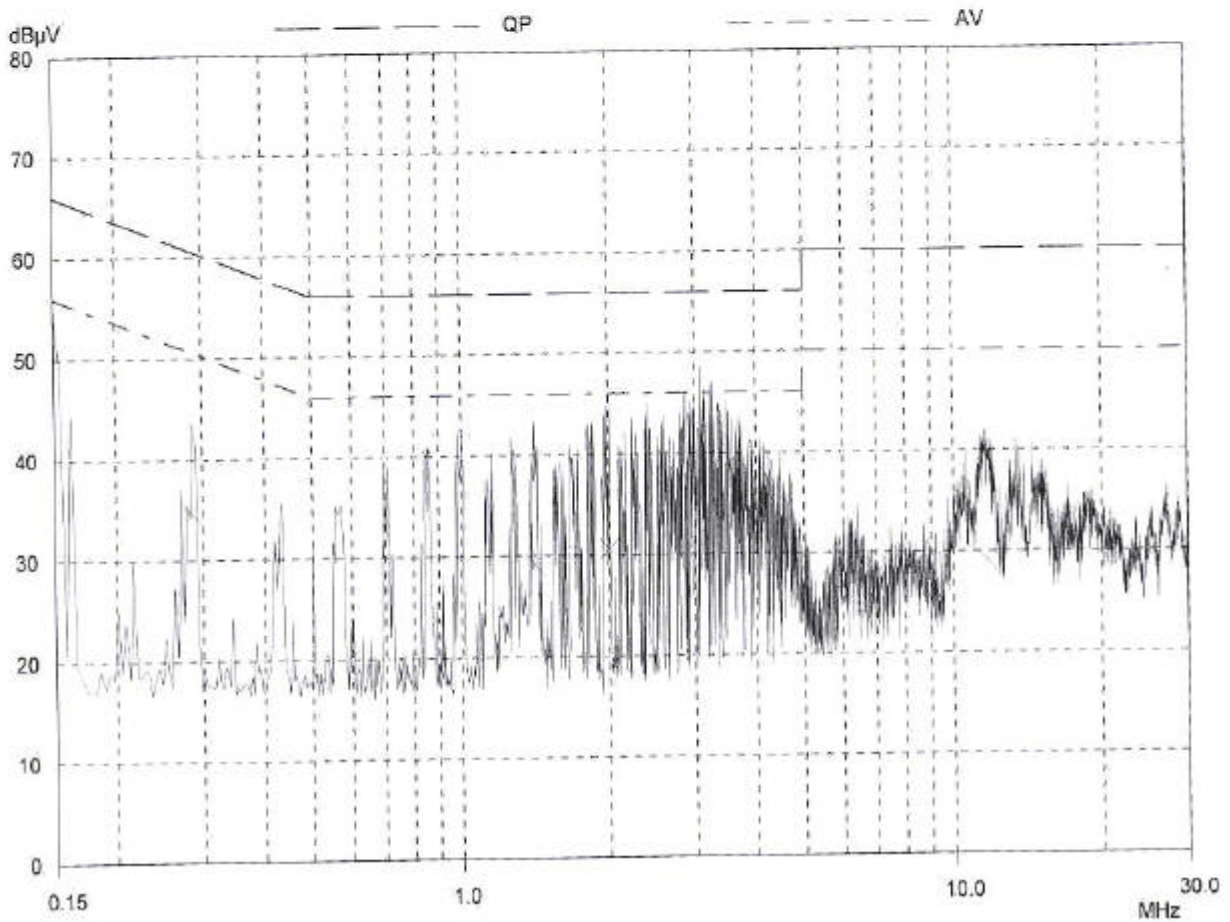


CONDUCTION EMISSION TEST

Peak Value

EUT: Wireless Access Router with 4-port switch & Wireless Presentation Gateway
Manuf:
Op Cond: CH LO
Operator:
Test Spec:
Comment:
Result File: N
lo-qp-a.dat : New Measurement

Final Measurement: Detector: X AV
 Meas Time: 1sec
 Peaks: 8
 Acc Margin: 25 dB



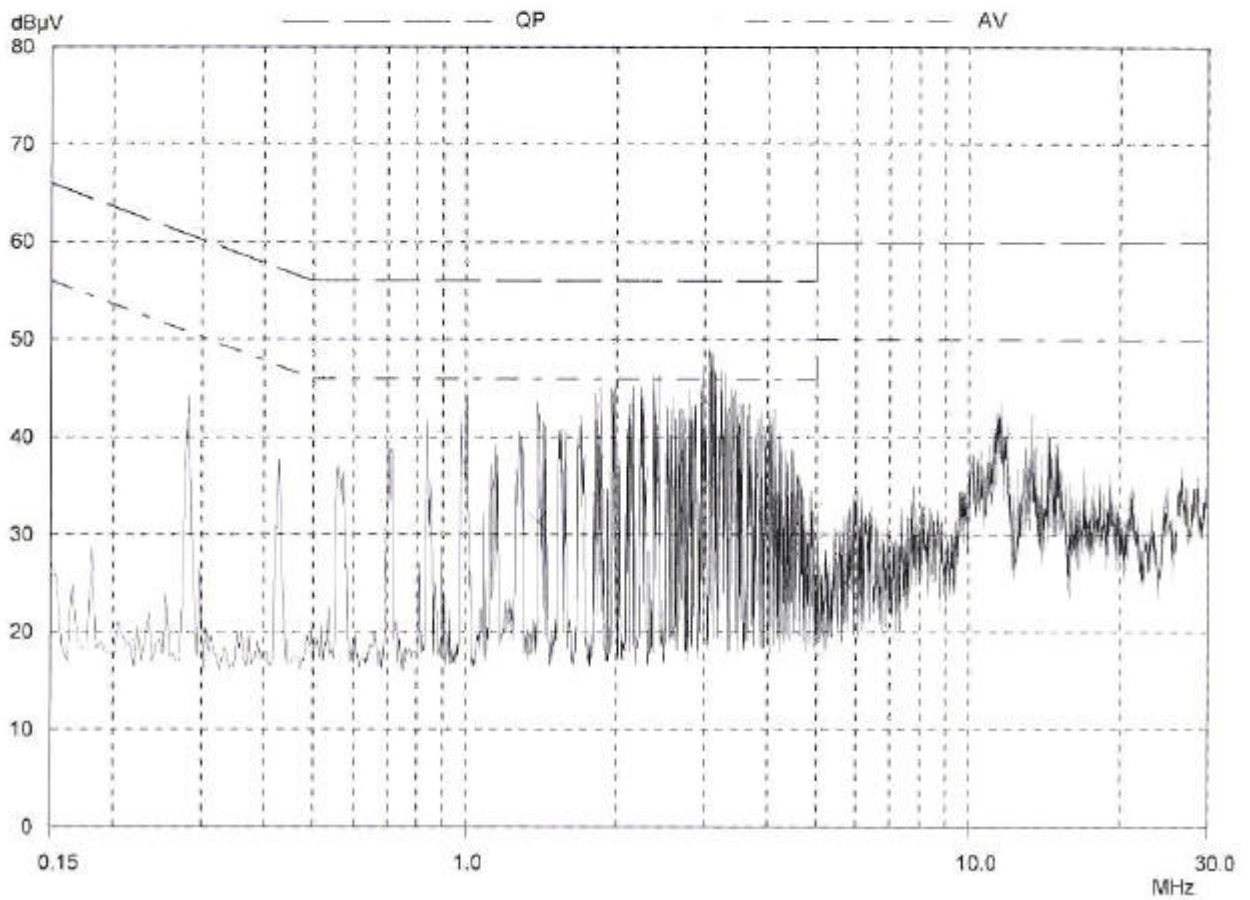
CONDUCTION EMISSION TEST

Peak Value

EUT: Wireless Access Router with 4-port switch & Wireless Presentation Gateway
Manuf:
Op Cond: CH LO
Operator:
Test Spec:
Comment:

Result File: L1
lo-qp-11.dat : New Measurement

Final Measurement: Detector: X QP
 Meas Time: 1sec
 Peaks: 8
 Acc Margin: 25 dB

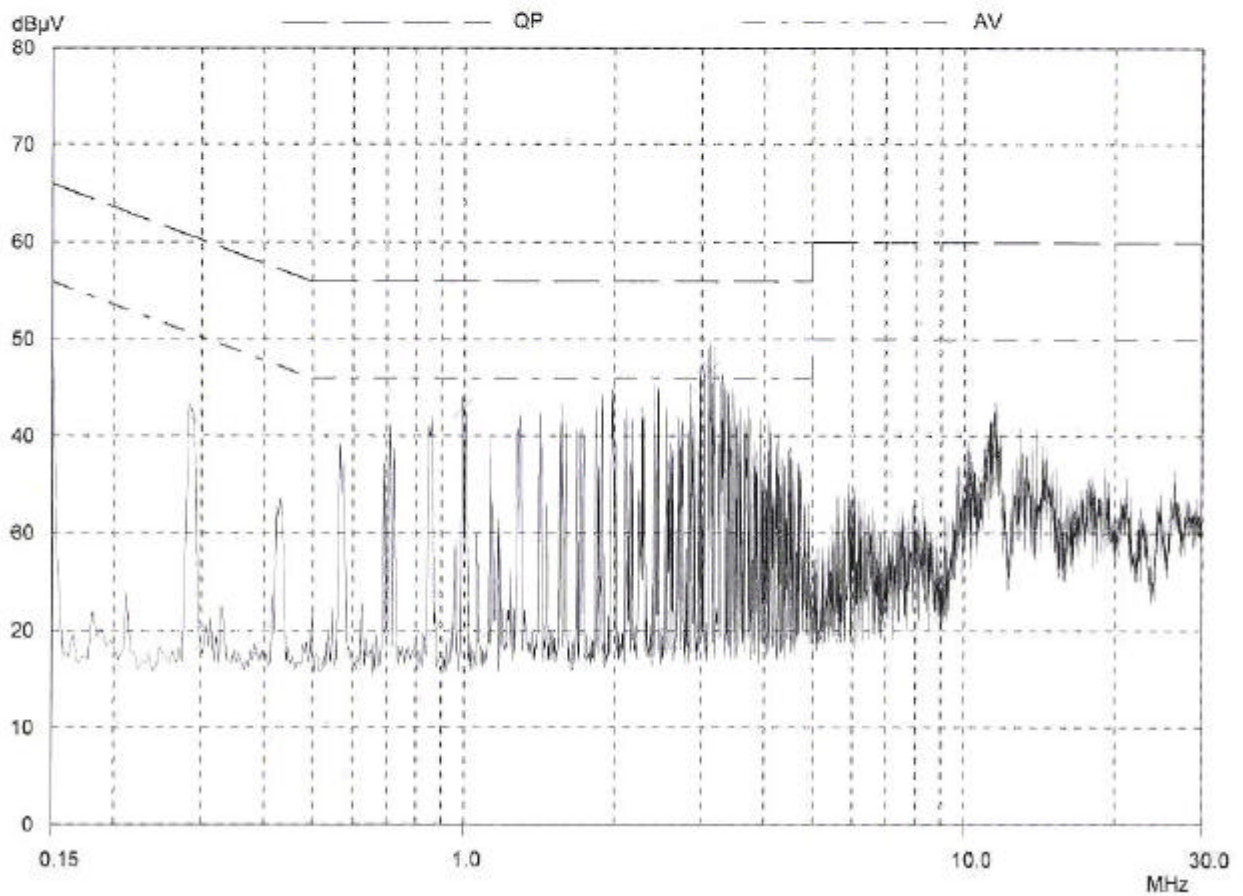


CONDUCTION EMISSION TEST

Peak Value

EUT: Wireless Access Router with 4-port switch & Wireless Presentation Gateway
Manuf:
Op Cond: CH MI
Operator:
Test Spec:
Comment:
N
Result File: mi-qp-n.dat : New Measurement

Final Measurement: Detector: X QP
 Meas Time: 1sec
 Peaks: 8
 Acc Margin: 25 dB

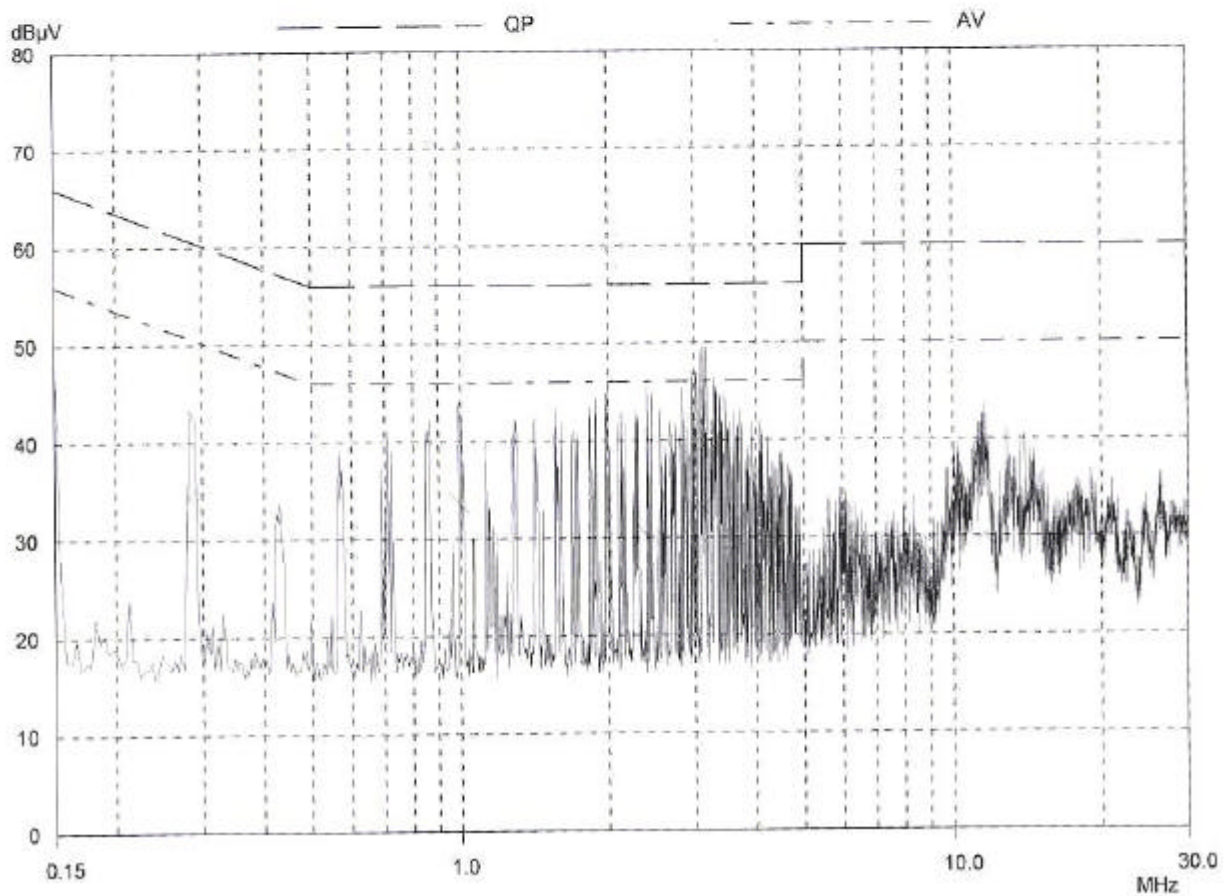


CONDUCTION EMISSION TEST

Peak Value

EUT: Wireless Access Router with 4-port switch & Wireless Presentation Gateway
Manuf:
Op Cond: CH MI
Operator:
Test Spec:
Comment:
Result File: N
mi-qp-a.dat : New Measurement

Final Measurement: Detector: X AV
 Meas Time: 1sec
 Peaks: 8
 Acc Margin: 25 dB

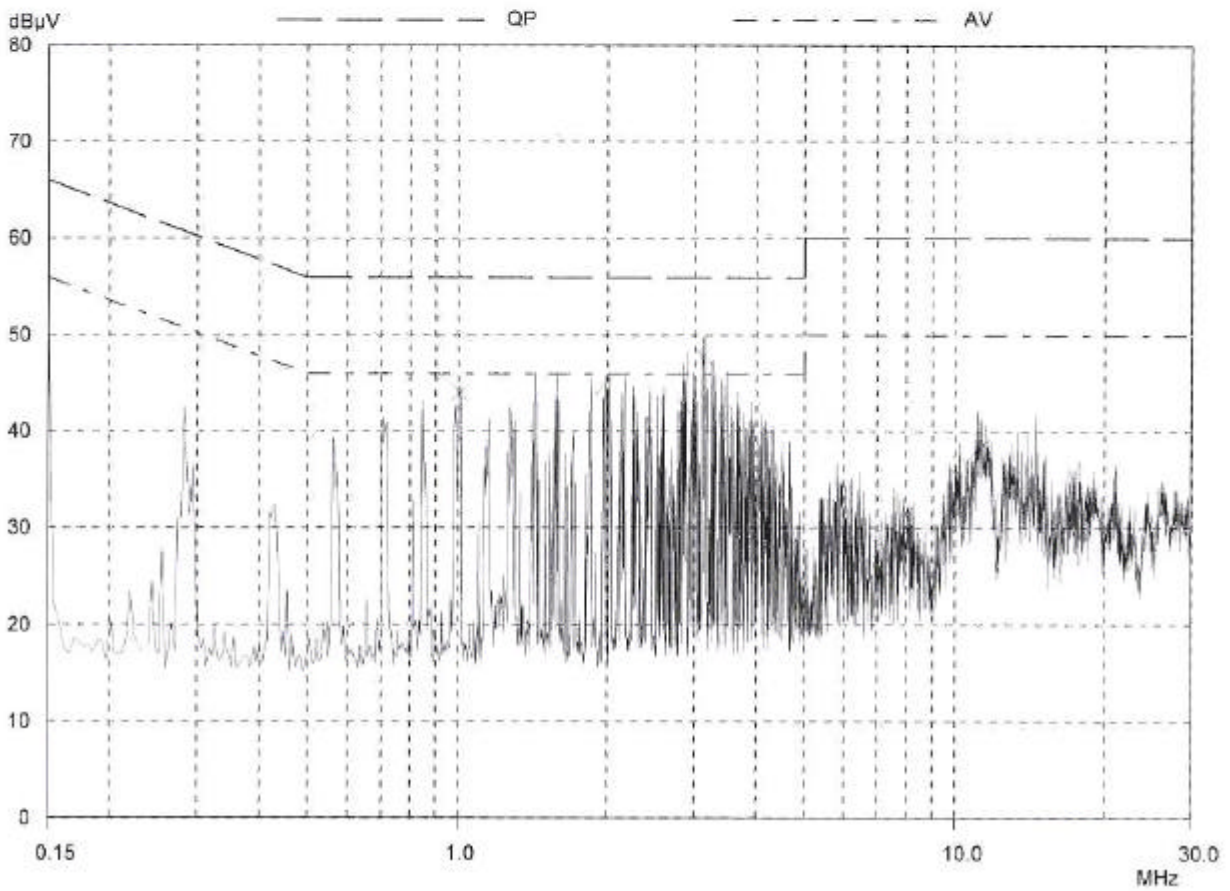


CONDUCTION EMISSION TEST

Peak Value

EUT: Wireless Access Router with 4-port switch & Wireless Presentation Gateway
Manuf:
Op Cond: CH MI
Operator:
Test Spec:
Comment:
Result File: L1
mi-gp-l1.dat : New Measurement

Final Measurement: Detector: X QP
 Meas Time: 1sec
 Peaks: 8
 Acc Margin: 25 dB

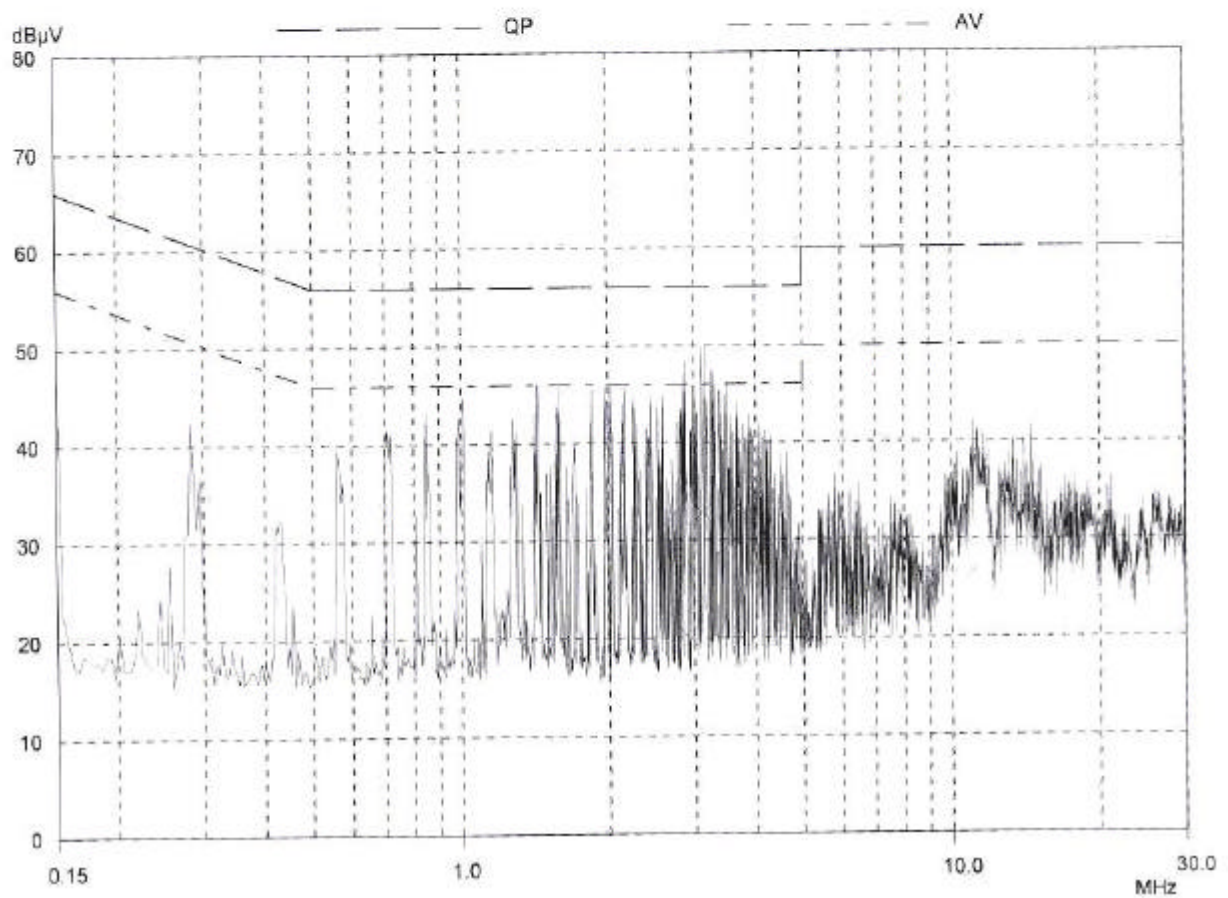


CONDUCTION EMISSION TEST

Peak Value

EUT: Wireless Access Router with 4-port switch & Wireless Presentation Gateway
Manuf:
Op Cond: CH MI
Operator:
Test Spec:
Comment:
L1
Result File: mi-a-f1.dat : New Measurement

Final Measurement: Detector: X AV
 Meas Time: 1sec
 Peaks: 8
 Acc Margin: 25 dB

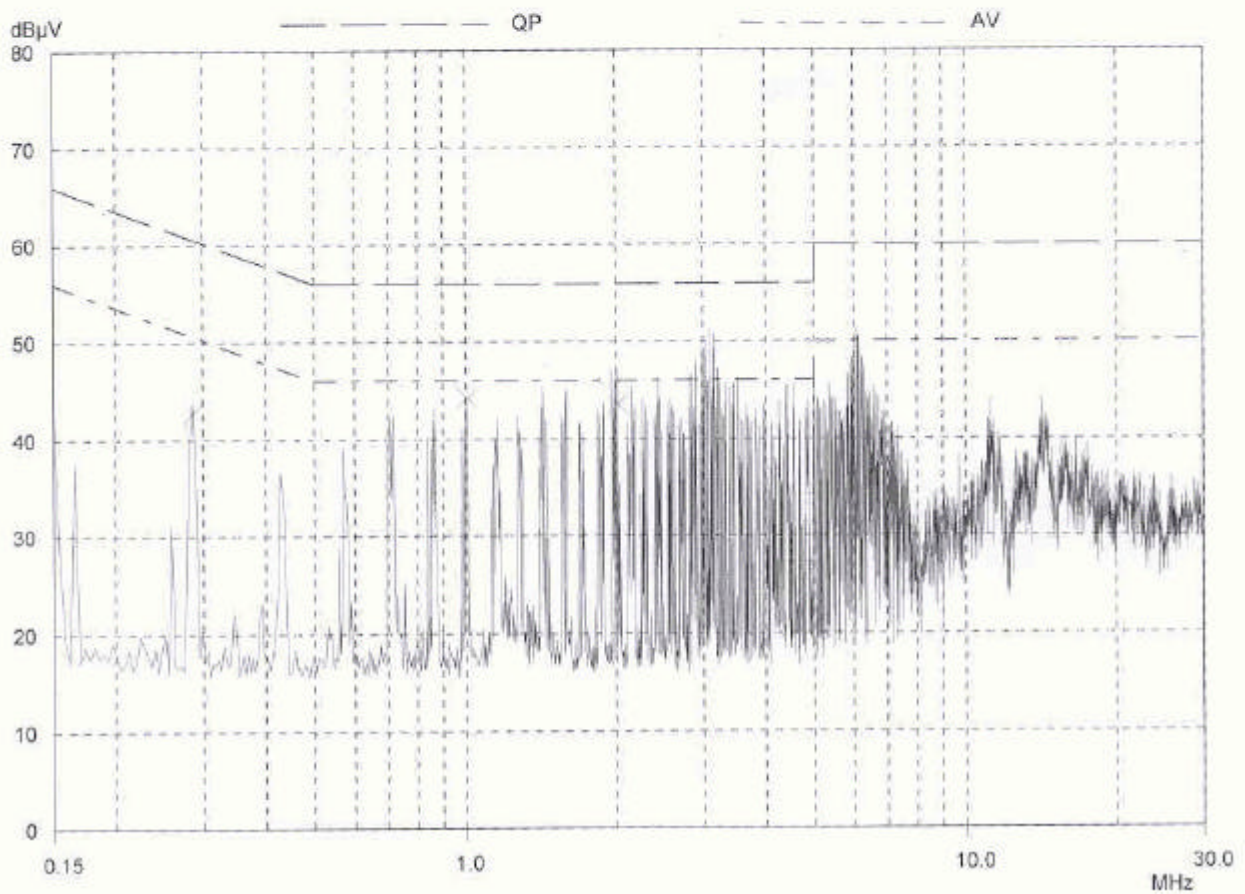


CONDUCTION EMISSION TEST

Peak Value

EUT: Wireless Access Router with 4-port switch & Wireless Presentation Gateway
Manuf:
Op Cond: CH HI
Operator:
Test Spec:
Comment:
Result File: N
 hi-qp-n.dat : New Measurement

Final Measurement: Detector: X QP
 Meas Time: 1sec
 Peaks: 8
 Acc Margin: 25 dB

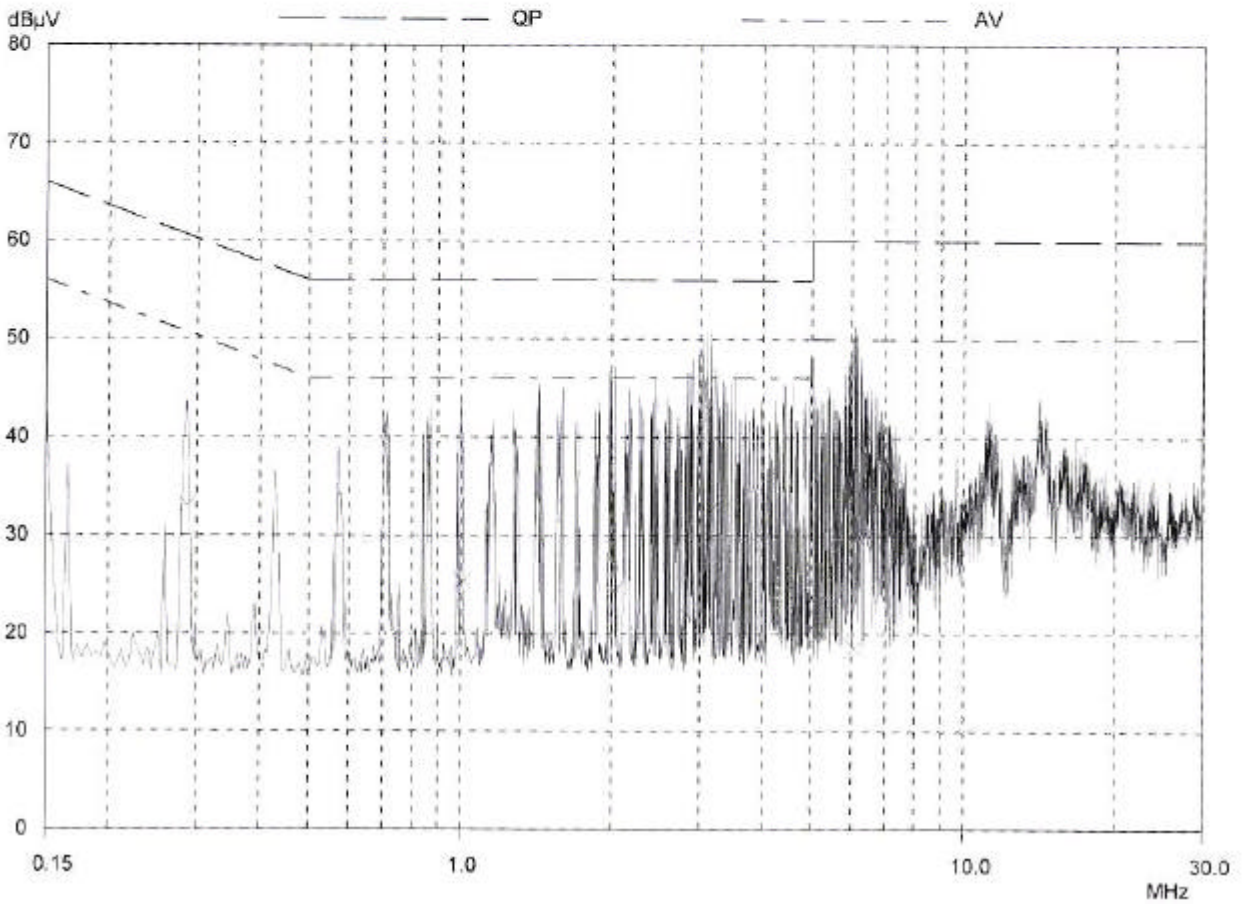


CONDUCTION EMISSION TEST

Peak Value

EUT: Wireless Access Router with 4-port switch & Wireless Presentation Gateway
Manuf:
Op Cond: CH HI
Operator:
Test Spec:
Comment:
N
Result File: hi-a-n.dat : New Measurement

Final Measurement: Detector: X AV
 Meas Time: 1sec
 Peaks: 8
 Acc Margin: 25 dB

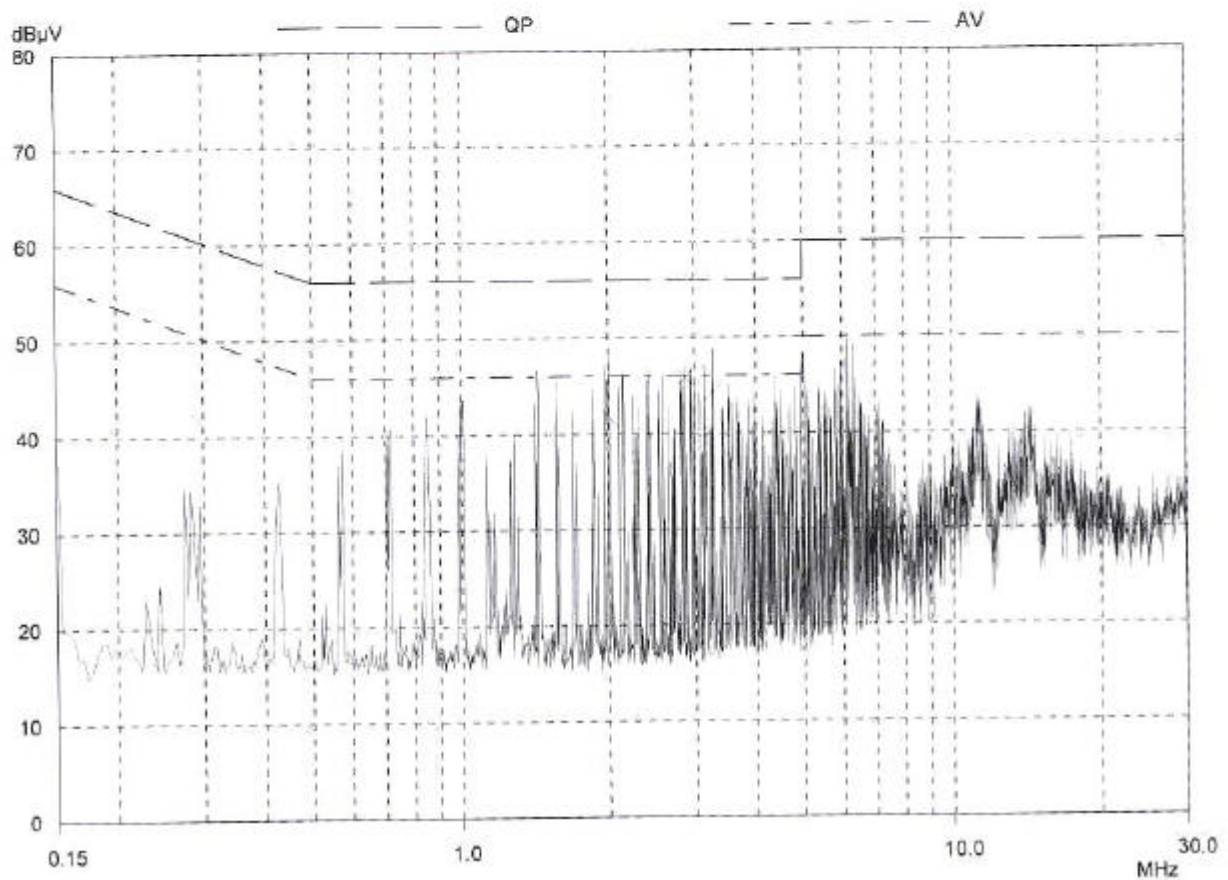


CONDUCTION EMISSION TEST

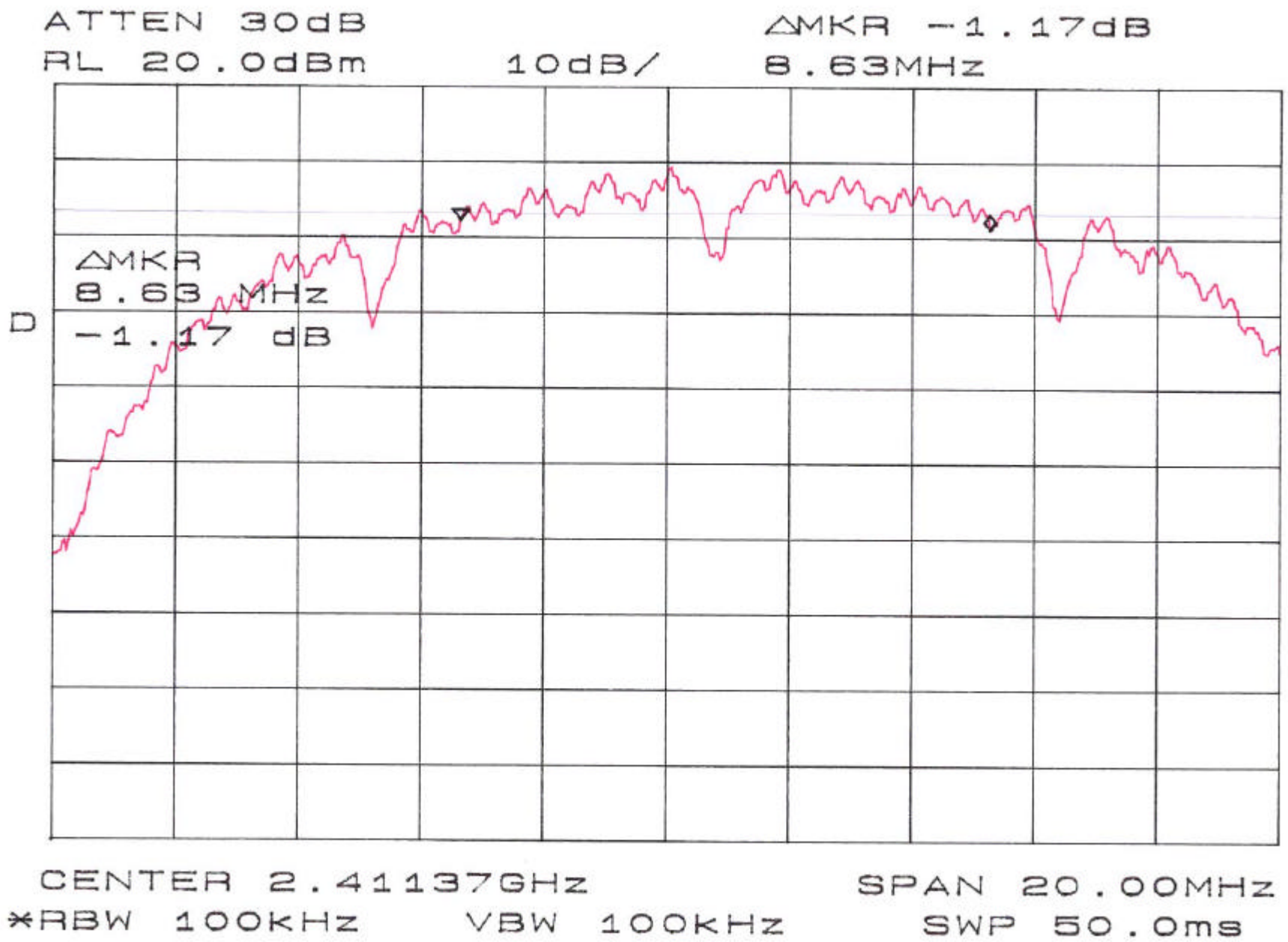
Peak Value

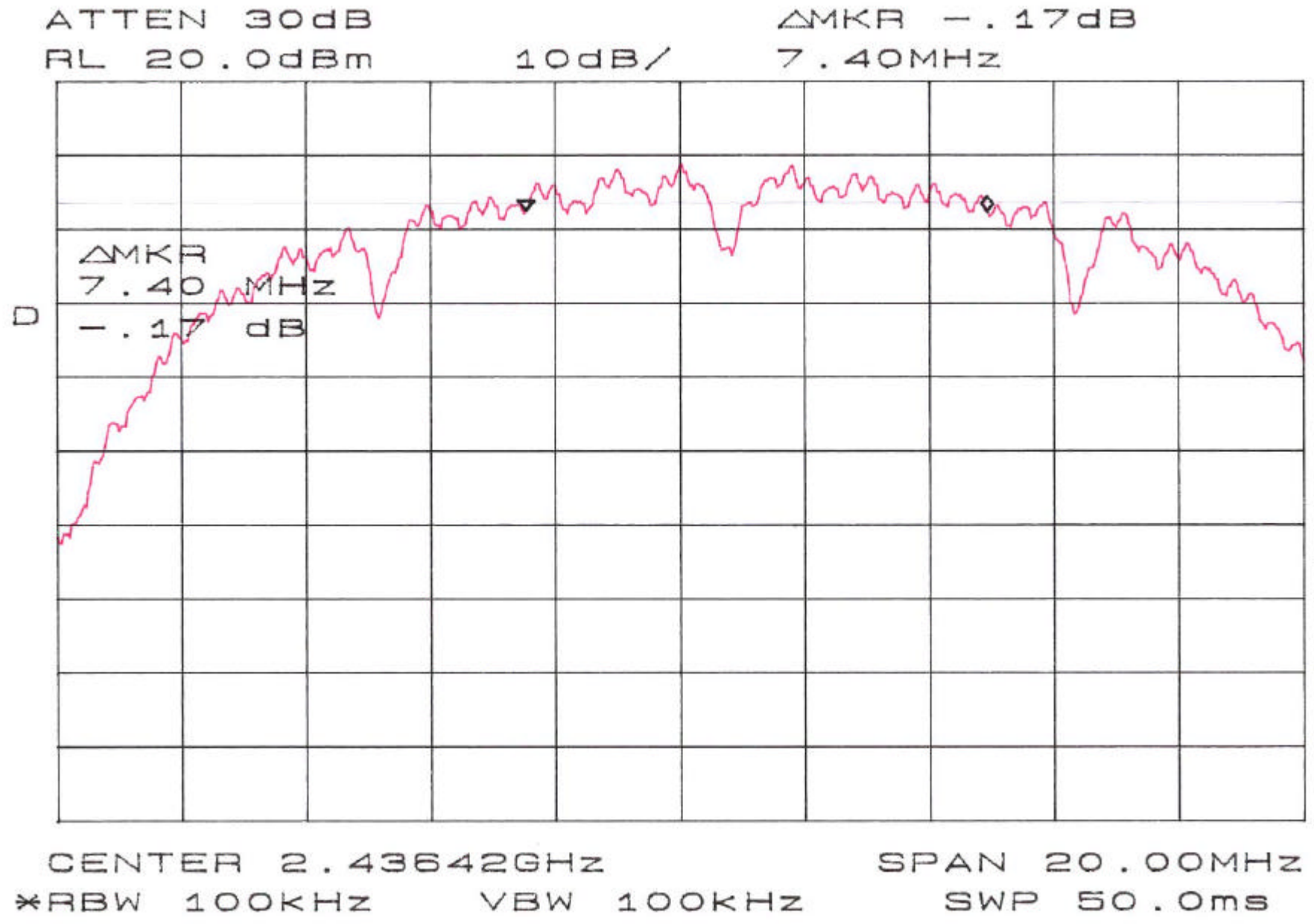
EUT: Wireless Access Router with 4-port switch & Wireless Presentation Gateway
Manuf:
Op Cond: CH HI
Operator:
Test Spec:
Comment:
Result File: L1
 hi-QP-L.dat : New Measurement

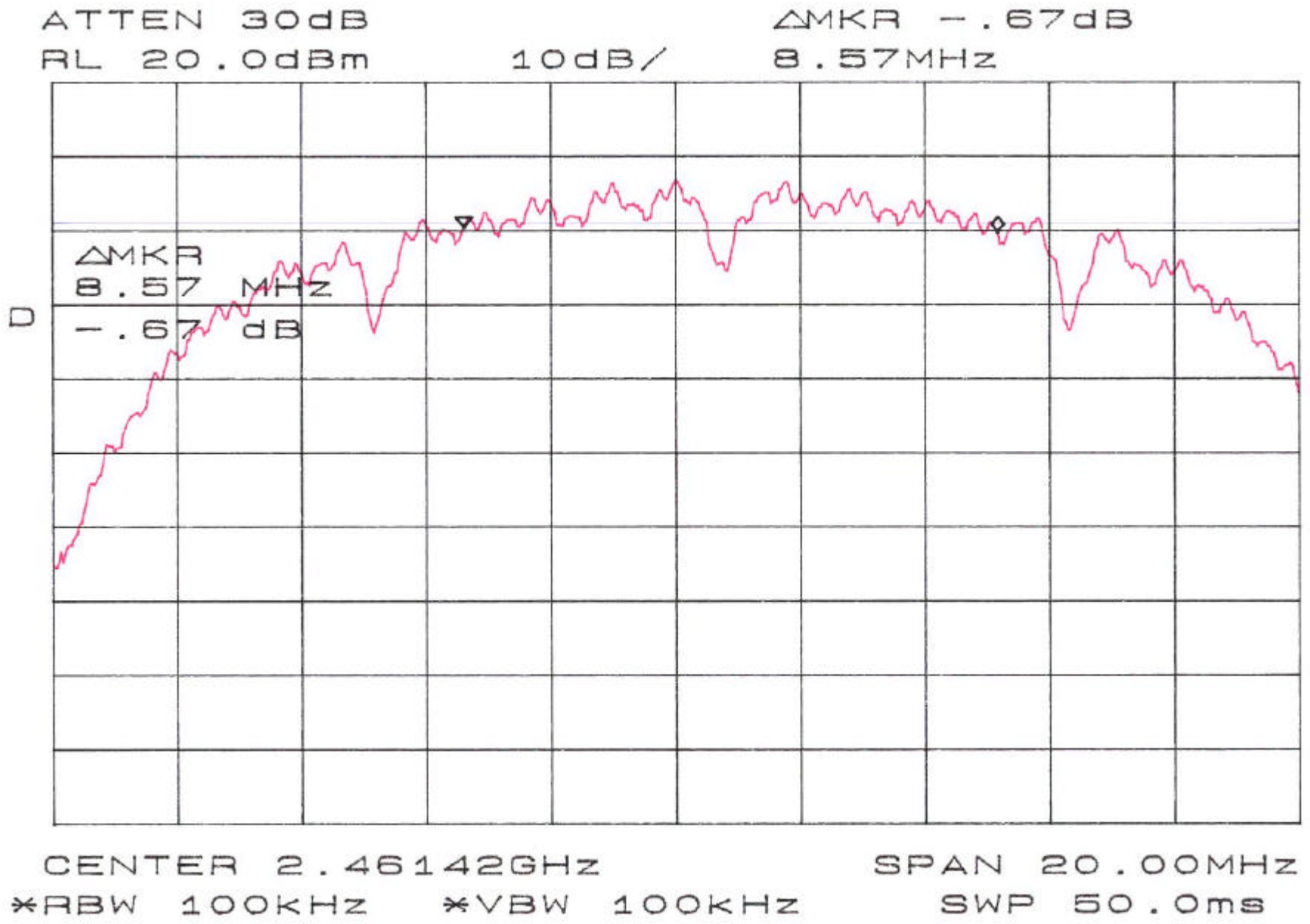
Final Measurement: Detector: X QP
 Meas Time: 1sec
 Peaks: 8
 Acc Margin: 25 dB



Appendix 2 : Ploted Datas of Emissions Bandwidth





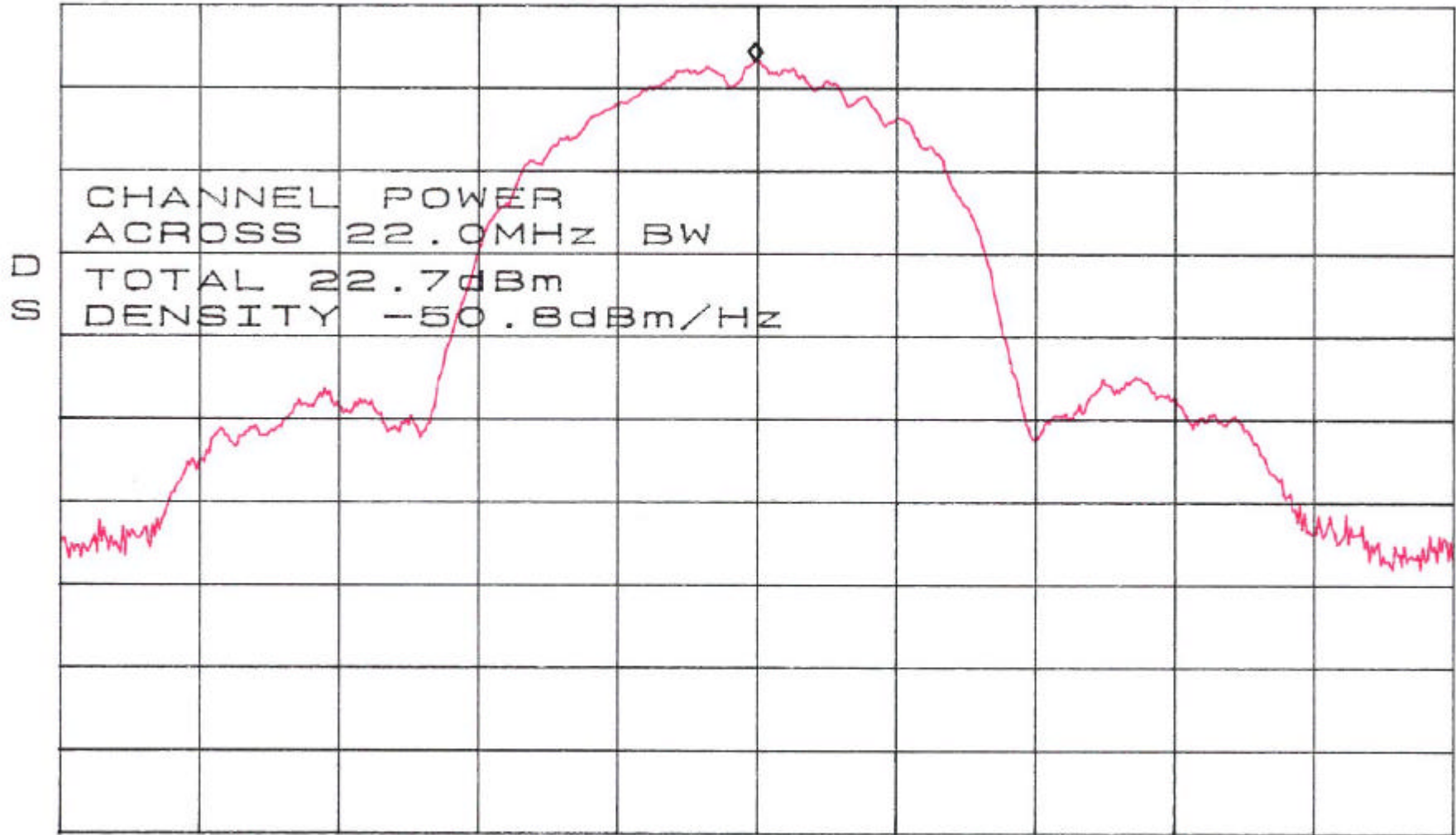


Appendix 3 : Ploted Datas of Output Peak Power

ATTEN 30dB
RL 20.0dBm

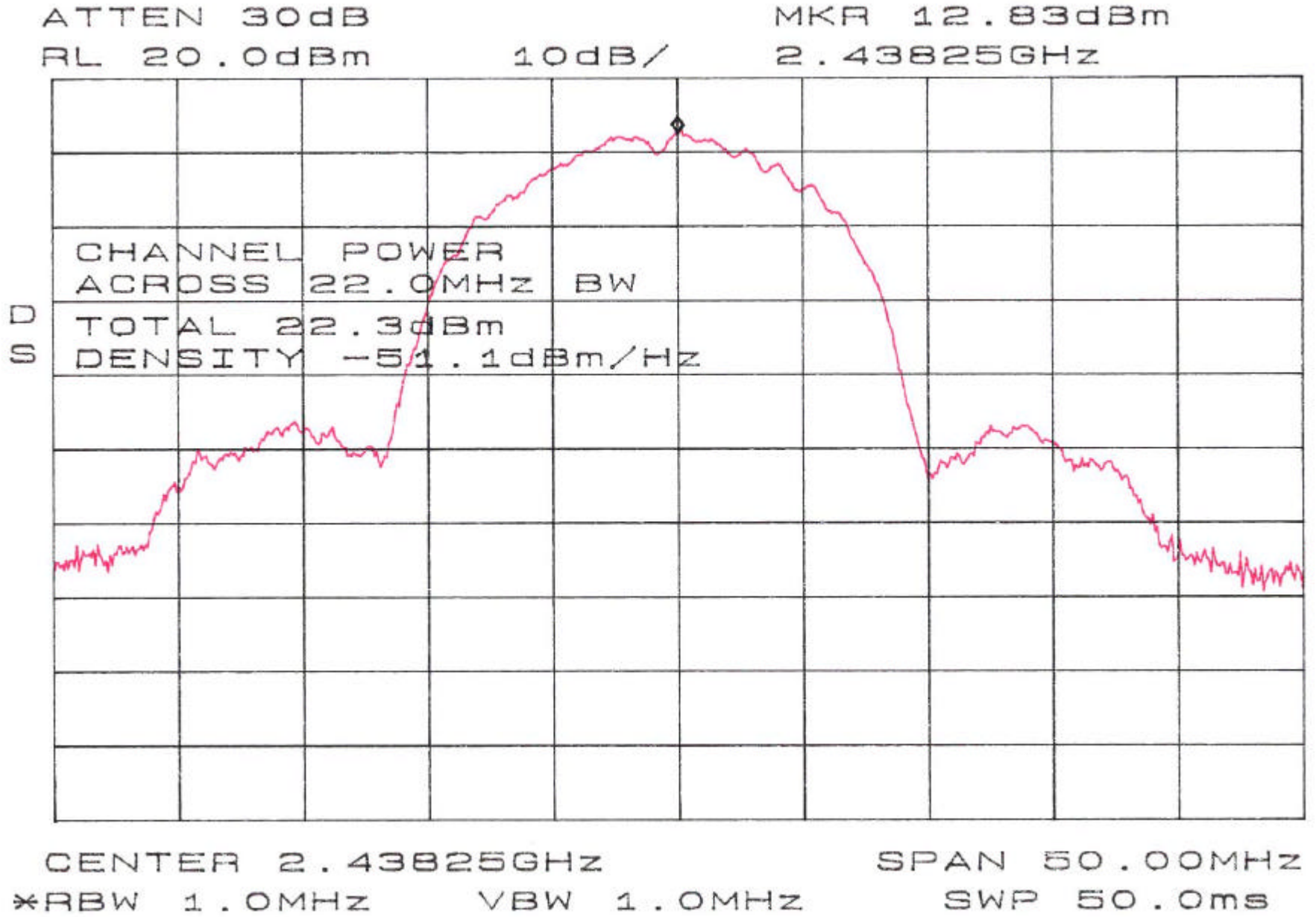
MKR 13.50dBm
2.41325GHz

10dB/



CENTER 2.41333GHz
*RBW 1.0MHz VBW 1.0MHz

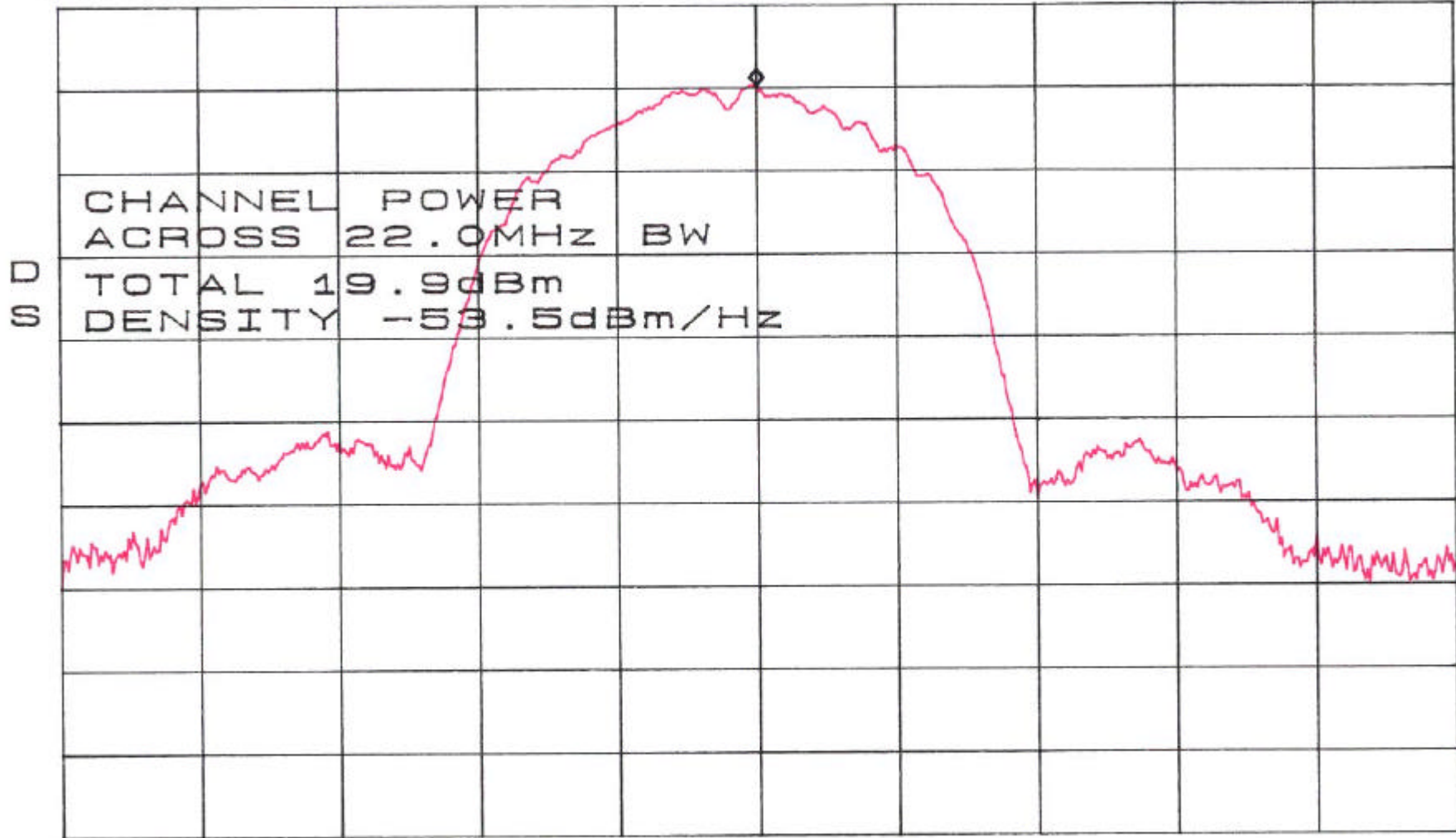
SPAN 50.00MHz
SWP 50.0ms



ATTEN 30dB
RL 20.0dBm

10dB/

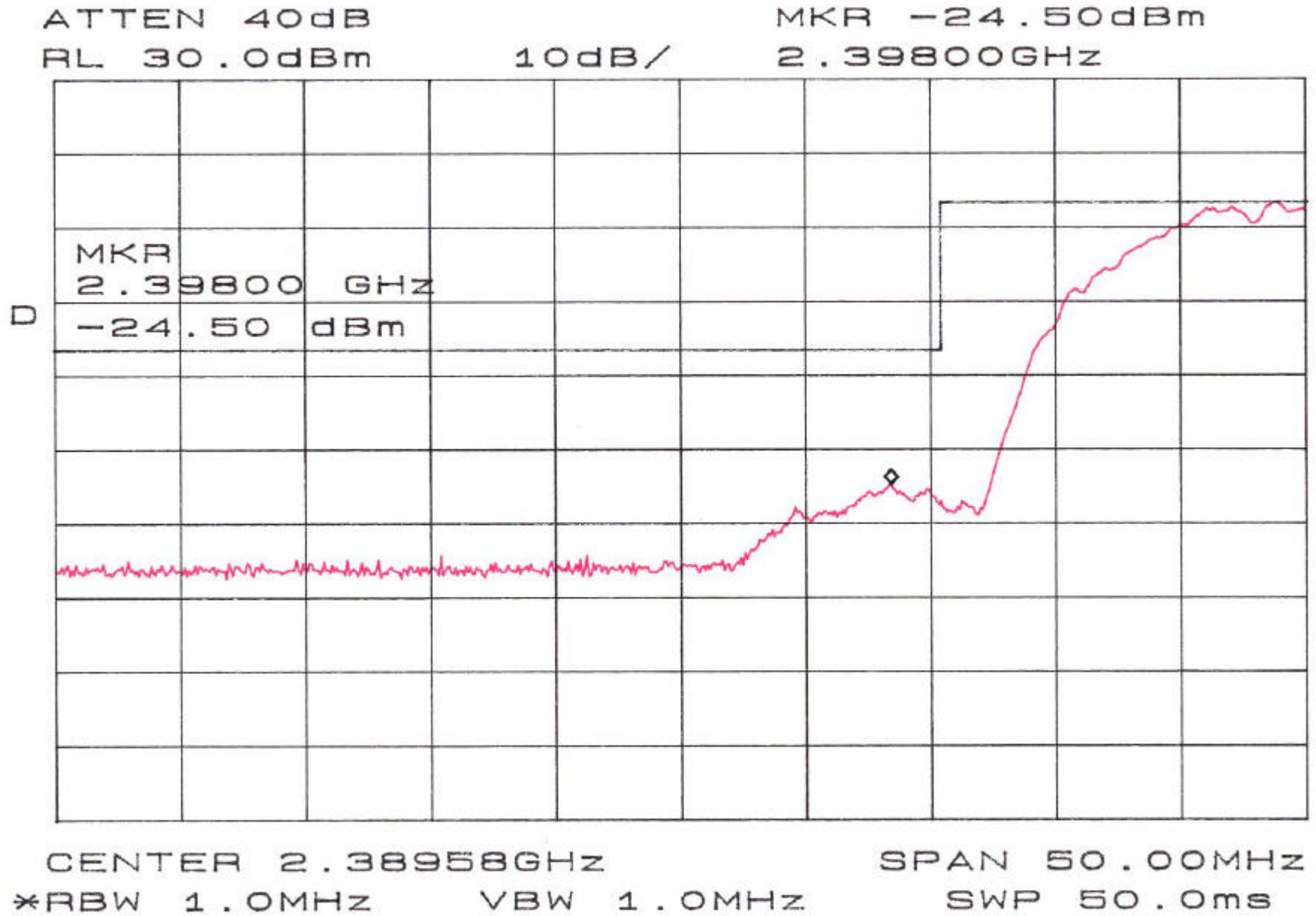
MKR 10.33dBm
2.46342GHz

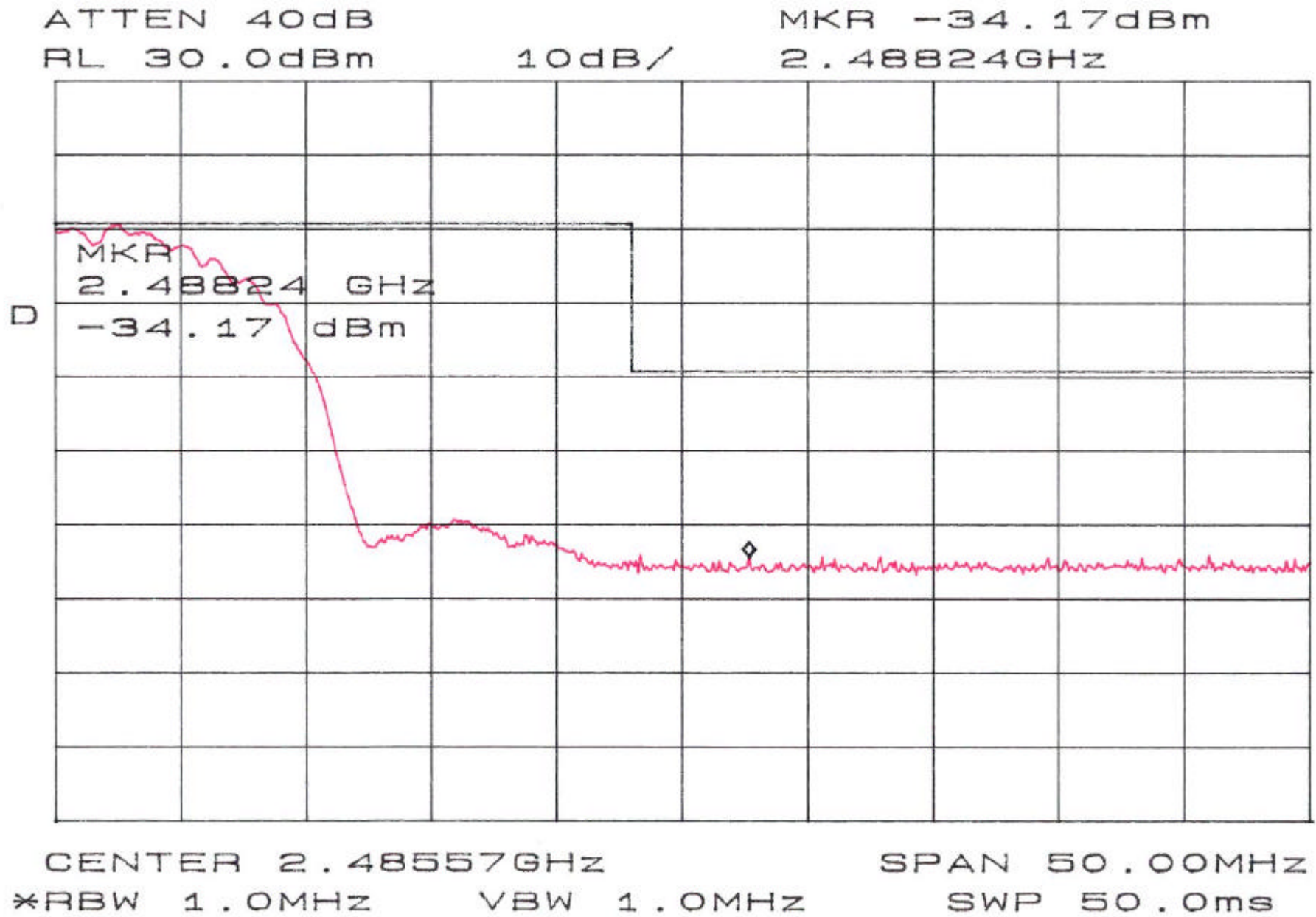


CENTER 2.46342GHz
*RBW 1.0MHz VBW 1.0MHz

SPAN 50.00MHz
SWP 50.0ms

Appendix 4 : Ploted Datas of Band Edge Emission



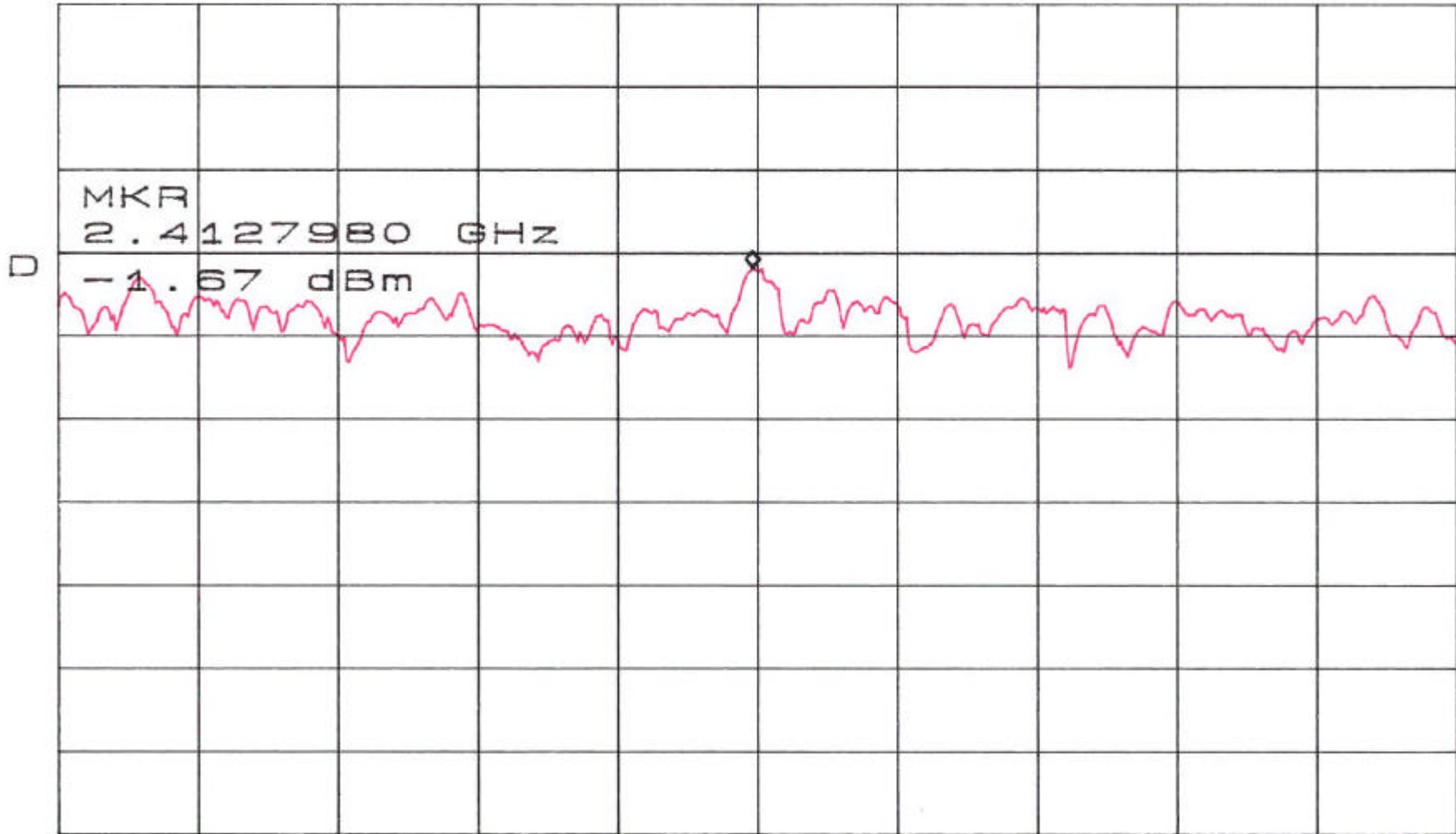


Appendix 5 : Ploted Datas of Power Density

ATTEN 40dB
RL 30.0dBm

10dB/

MKR -1.67dBm
2.4127980GHz



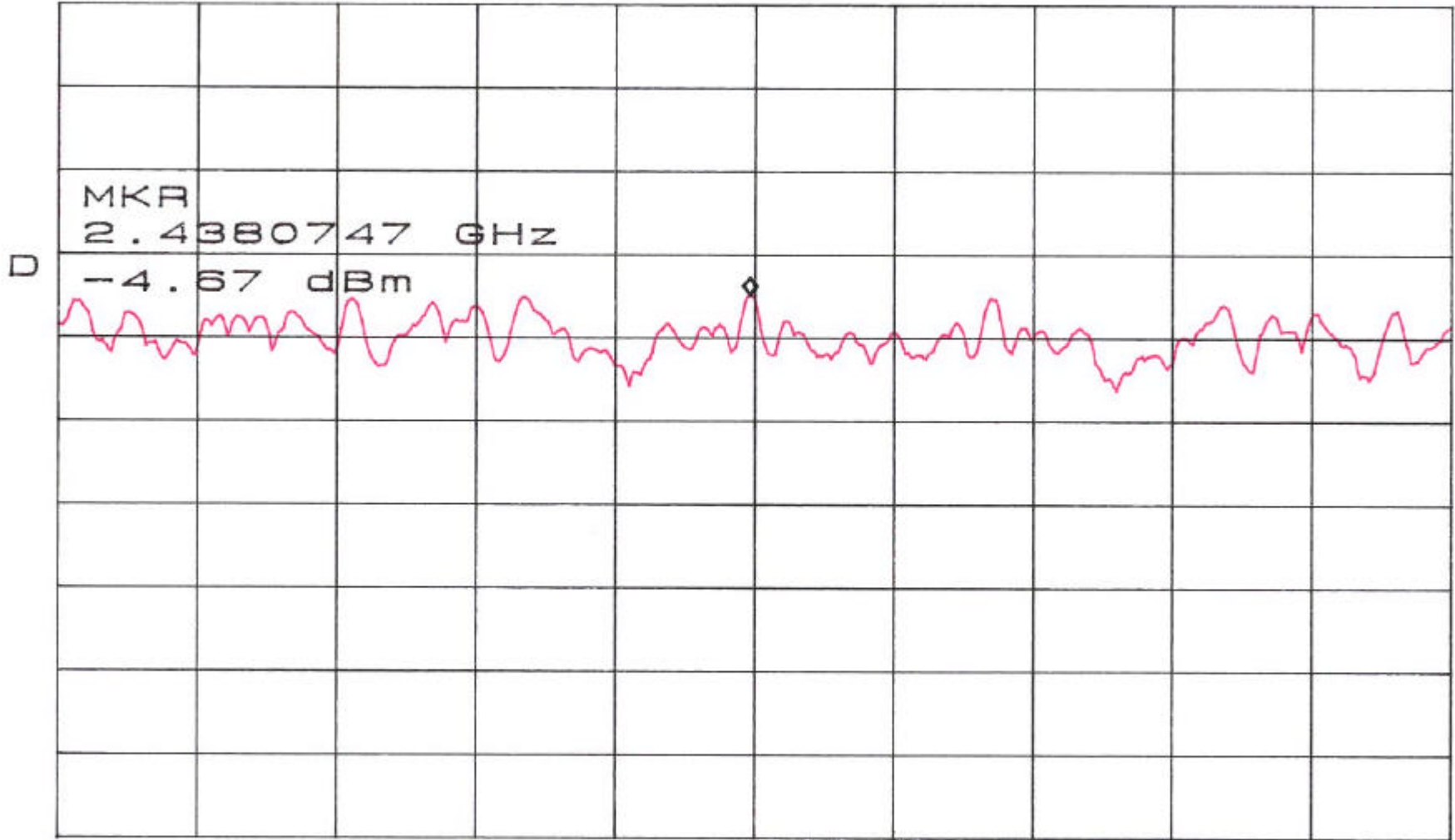
CENTER 2.4127990GHz
*RBW 3.0KHZ *VBW 30KHZ

SPAN 300.0KHZ
*SWP 100sec

ATTEN 40dB
RL 30.0dBm

10dB/

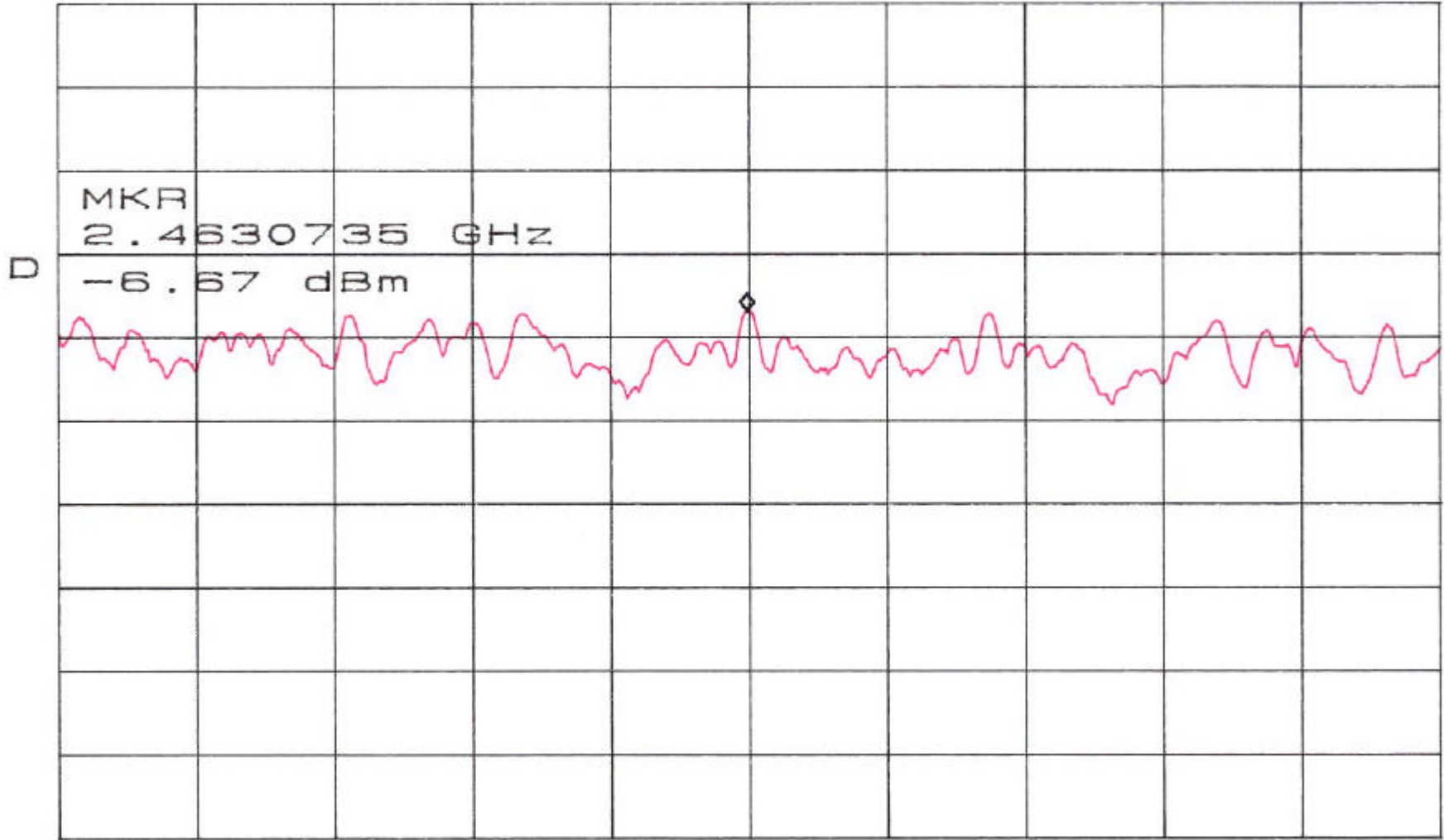
MKR -4.67dBm
2.4380747GHz



CENTER 2.4380757GHz
*RBW 3.0KHZ *VBW 30KHZ

SPAN 300.0KHZ
*SWP 100sec

ATTEN 40dB
RL 30.0dBm
10dB/
MKR -6.67dBm
2.4630735GHz



CENTER 2.4630740GHz
*RBW 3.0KHZ *VBW 30KHZ
SPAN 300.0KHZ
*SWP 100sec