Bioprotector Canada

Emissions Comparison Report

Using Bioprotector

Revision 1.0

April 08th, 2009

Approval		
Checked By:	Robert Stirling, P.Eng.	04/08/09 Date

Protocol Data Systems Inc,
EMC Lab, Abbotsford BC, Canada.
SCC ISO/17025 (CAN-P-4E) Accredited Laboratory No. 612
FCC O.A.T.S. Registration Number 96437
Industry Canada O.A.T.S. Registration Number IC3384

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Section I: Report of Measurements Testing Information

Testing Details

TESTED BY: Dan Petrulian - Emissions Testing Comparison

TEST CONDITIONS: Day 1: March 5th, 2009 7.8°C, 43% R.H..

TEST VOLTAGE: 120Vac, 60Hz, as noted in the individual test records

Test Facilities

Protocol Data Systems Inc, EMC Lab
28945 McTavish Rd.
Abbotsford BC, Canada V4X 2E7

SCC ISO/17025 (CAN-P-4E) Accredited Laboratory No. 612
FCC O.A.T.S. Registration Number 96437
Industry Canada O.A.T.S. Registration Number IC3384

Test Equipment List

Manufacturer	Model	Equipment Description	Serial No.	Next Cal
HP	85650A	CDN Quasi-Peak Adapter	2043A00240	18/09/09
HP	85662A	Spectrum Analyzer Display	2318A05184	18/09/09
HP	8566B	Spectrum Analyzer RF Section	2241A02102	18/09/09
HP	85685A	RF-Preselector	3107A01222	18/09/09
EMCO	CPA-30	Ant Log Periodic 200-1000MHZ	563	05/12/09
EMCO	3110B	Ant Biconical 20-300MHz	9401-1850	05/12/09
Rhientech	Custom	Antenna Mast	N/A	N/A
Protocol EMC	Custom	Turntable	N/A	N/A
EMCO	3115	Horn Antenna	N/A	05/12/09

Measurement Uncertainty

Parameter	Uncertainty
Radio Frequency	±1 x 10-5
Total RF power, conducted	±1,5 dB
RF power density, conducted	±3 dB
Spurious emissions, conducted	±3 dB
All emissions, radiated	±3 dB
Temperature	±1°C
Humidity	±5 %
DC and low frequency voltages	±3 %

Equipment Under Test Description

THE TEST SYSTEM: **EUT:**

Manufacturer: Bioprotector World

Name: Bioprotector Canada

Address: P.O. Box 1945
Squamish BC, V8B 0B4.

Contact person: Djordje Banovic

Email: contact@personalbioprotector.com

Phone number: 1877-429-0123

Web site: www.personalbioprotector.com

Product Description:

Bioprotector products, as advertised by the manufacturer, is scientifically proven to substantially reduce electromagnetic radiation from mobile and cordless phones, computers, microwave ovens, TV's, other electrical and electronic devices, substations and power lines.
Electromagnetic radiation in the places where we live and work have a detrimental influence on our physical health, undermining our immune function and metabolism, giving rise to various illnesses and fatigue. Mental health can also be undermined, causing depression, aggression, sleep problems and inability to cope with stress. Both physical and mental problems, caused by the electromagnetic radiation can be decreased or eliminated by using the Bioprotector.

There are three forms of the Bioprotector:
1. Bioprotector {large} (within a 7 meter diameter)
2. Personal Bioprotector (within a 1.5 meter diameter)
3. Cell Phone Personal Bioprotector (for mobile and cordless phones)

Devices used for radiated emissions comparison:
1. Cordless Phone
2. Cell Phone
3. Microwave Oven
4. Wireless computer

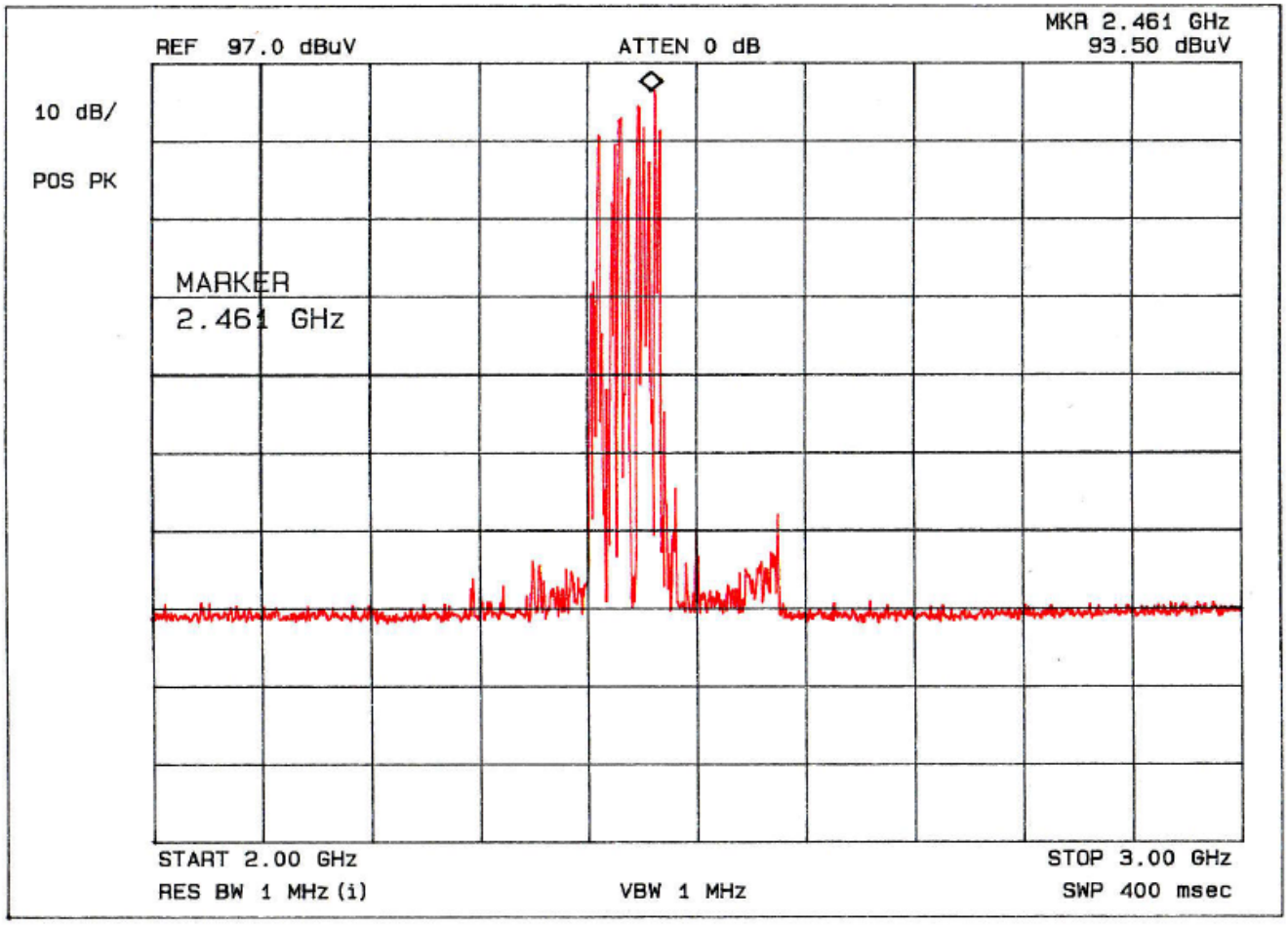
The testing was performed to observe the differences in the radiated emissions from these devices WITH AND WITHOUT THE BIOPROTECTOR.

The entire test was performed in an open area test site as shown in the Pictures..

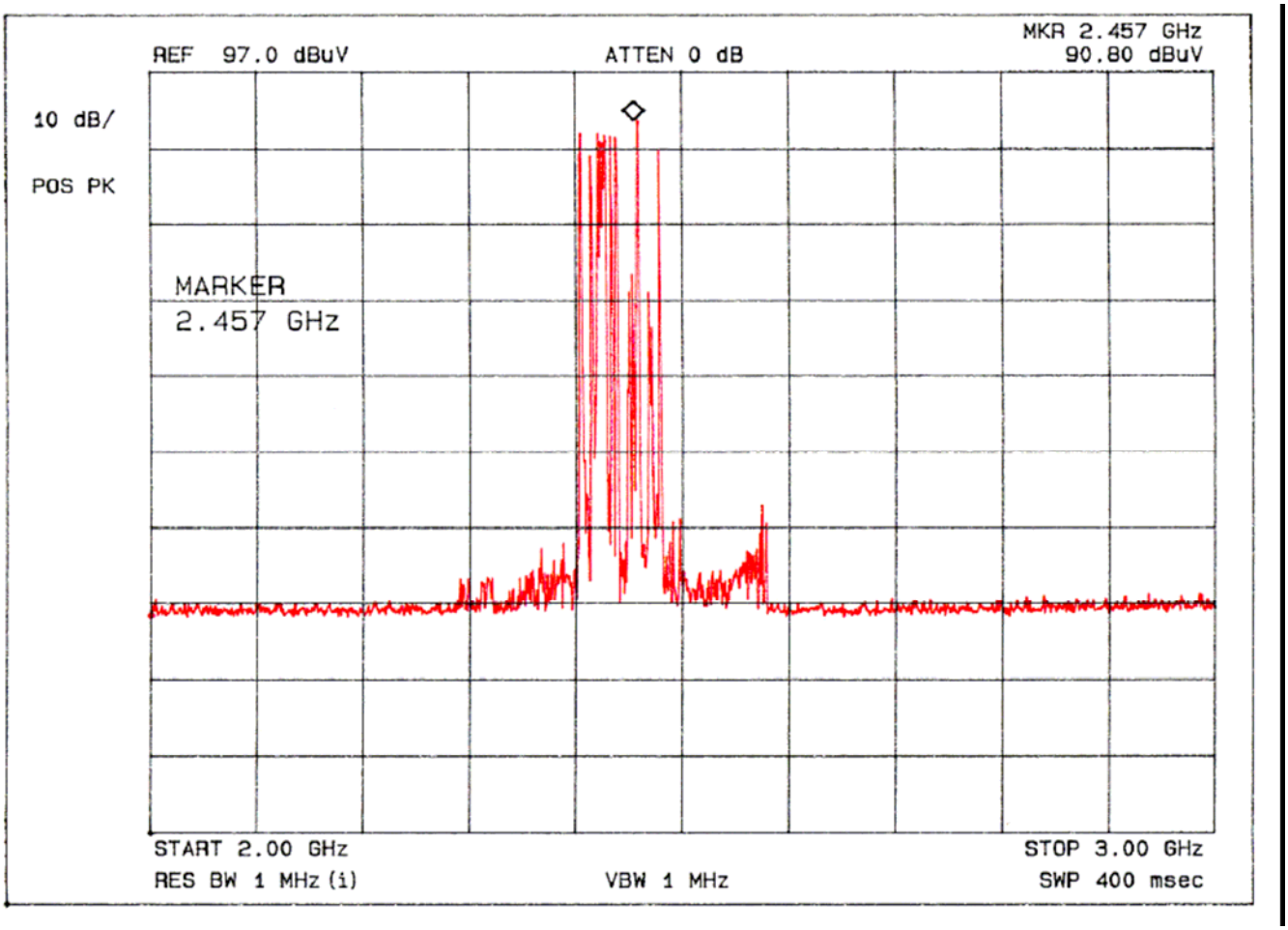
Section II: Report of Measurements

This report shows in the following plots the data observed and measured during the testing of the Bioprotector:

PLOT 1: Cordless phone; electromagnetic emissions measured with no Bioprotector product present

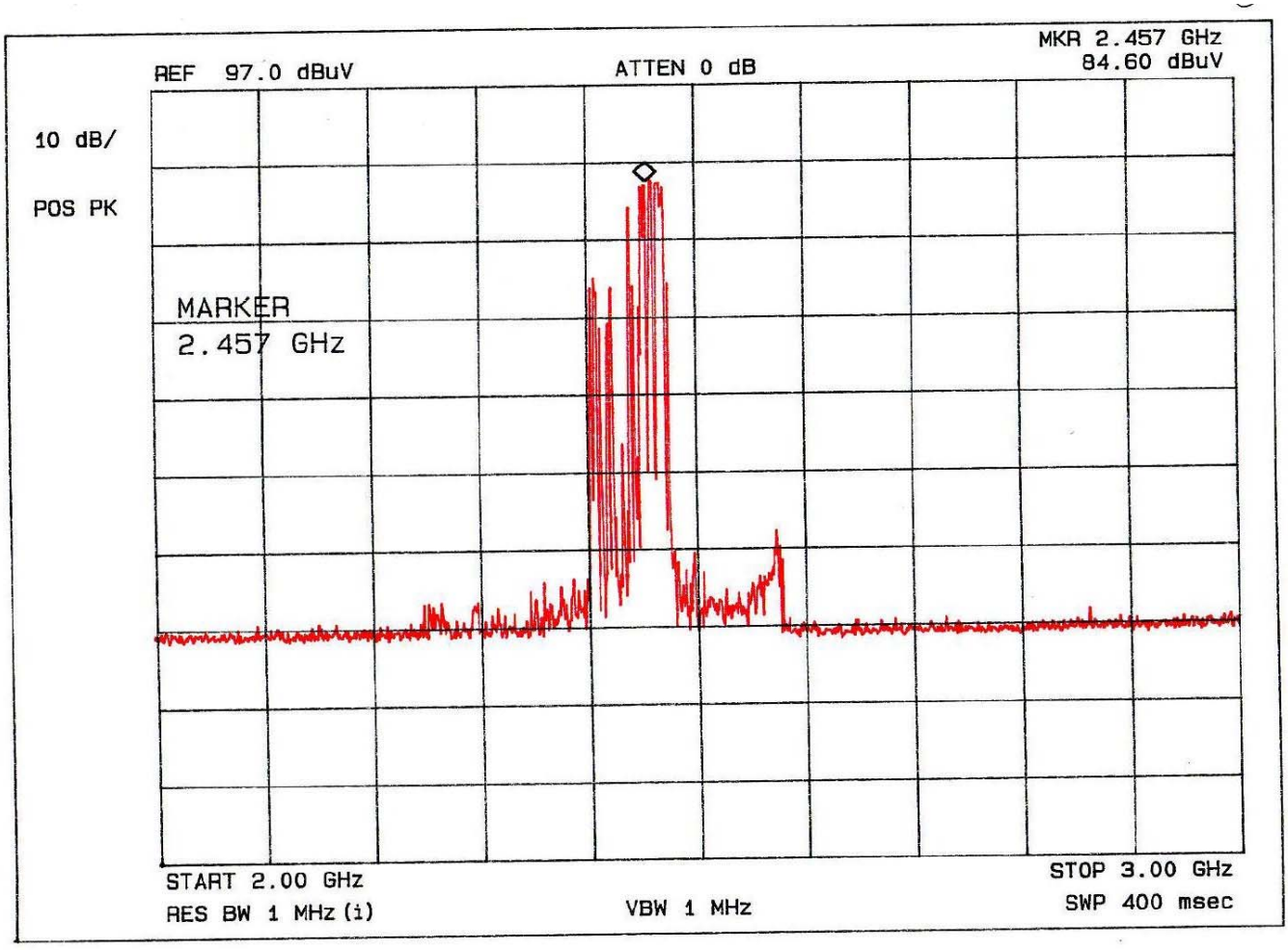


PLOT 2: Cordless phone; electromagnetic emissions measured with the large Bioprotector product under the cordless phone.



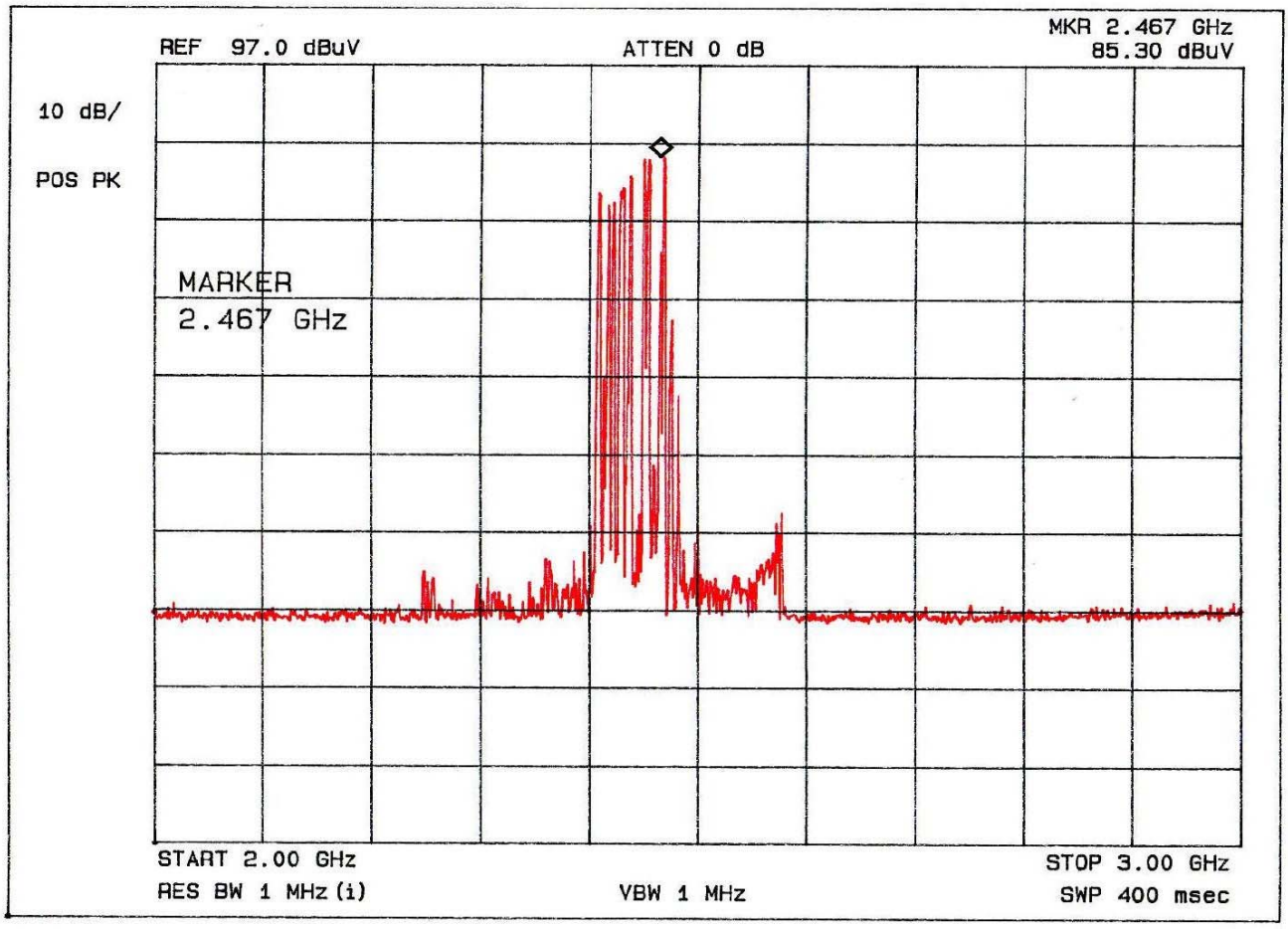
Observation: As per above plot, there is a noticeable improvement in emissions using the large Bioprotector product under the cordless phone.

PLOT 3: Cordless phone; electromagnetic emissions measured with the large Bioprotector next to the phone.



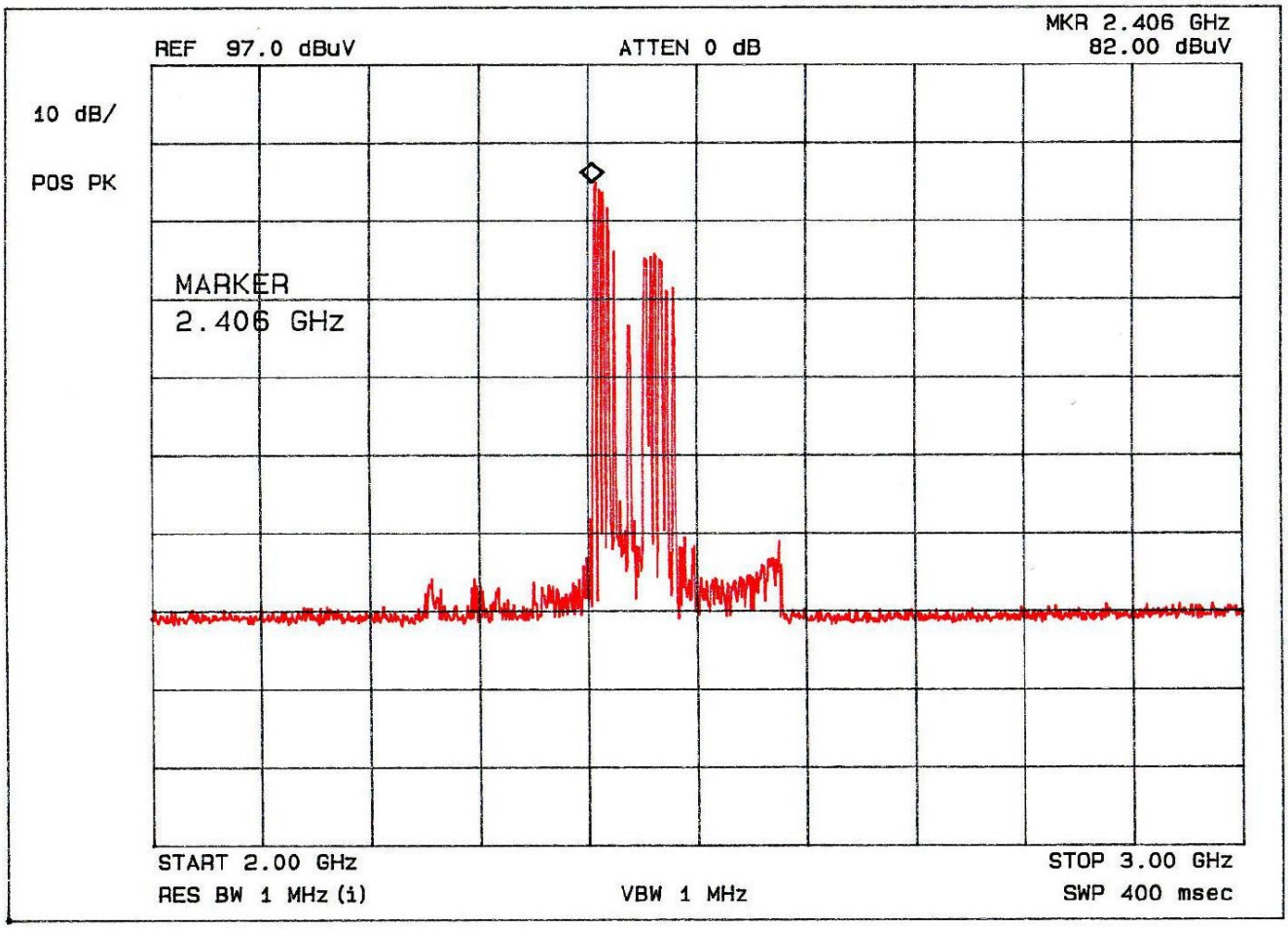
Observation: *In Plot 3, there is an almost 10dB improvement observed as compared to plot 1. The amplitude of some emissions is substantially reduced but moderately to others.*

PLOT 4: Cordless phone; electromagnetic emissions measured with the large Bioprotector product closer to the antenna.



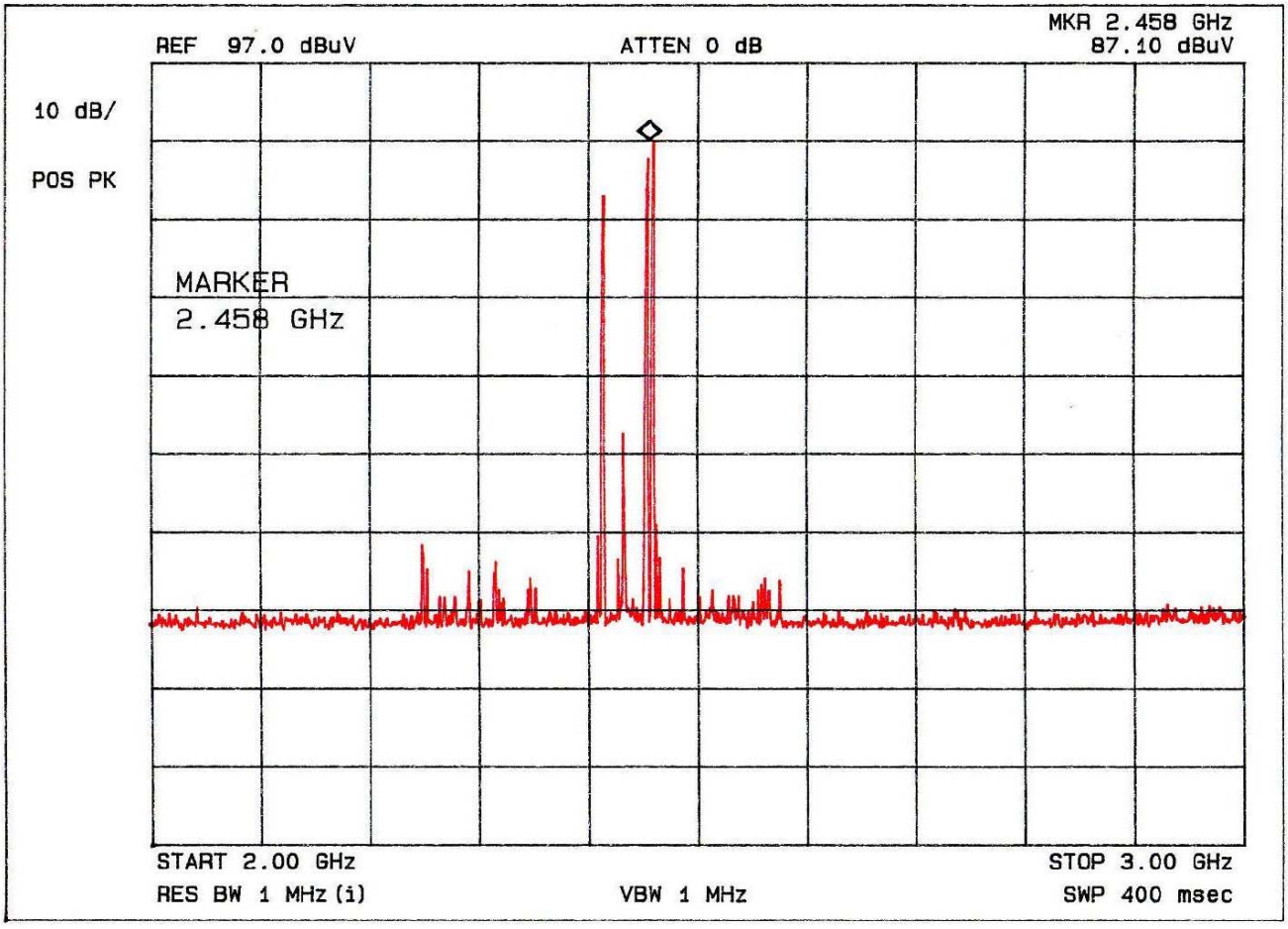
Observation: *In this plot the amplitude of emissions is reduced to some extent.*

PLOT 5: Cordless phone; electromagnetic emissions measured with the large Bioprotector product situated 1m away.



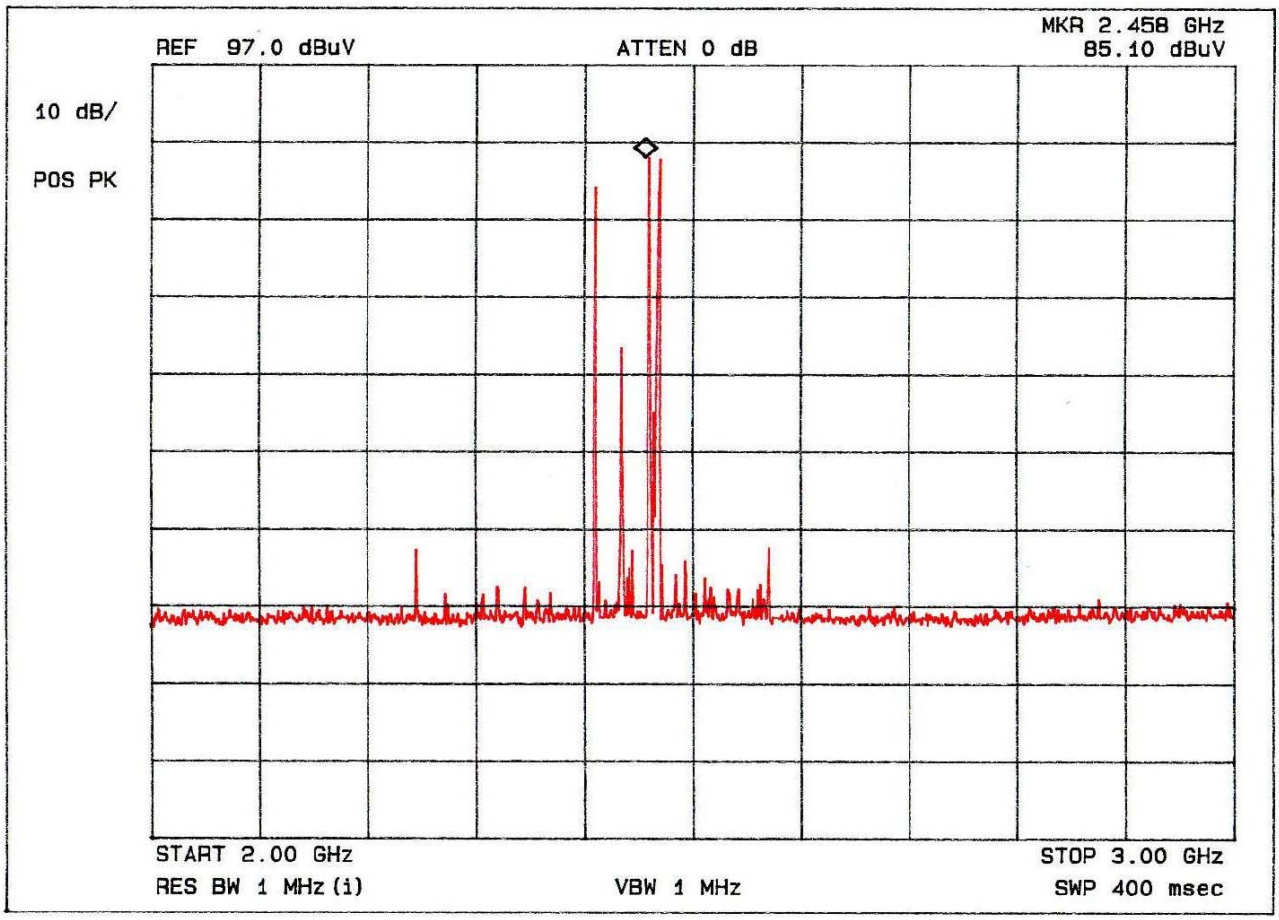
Observation: *This plot shows significant reduction in the emissions.*

PLOT 6: Cordless phone; electromagnetic emissions measured with the large Bioprotector 1m away, and with a Cell Phone Bioprotector product attached.



Observations: This plot shows that most of the emissions are reduced when Cell Phone Bioprotector is used on the cordless phone.

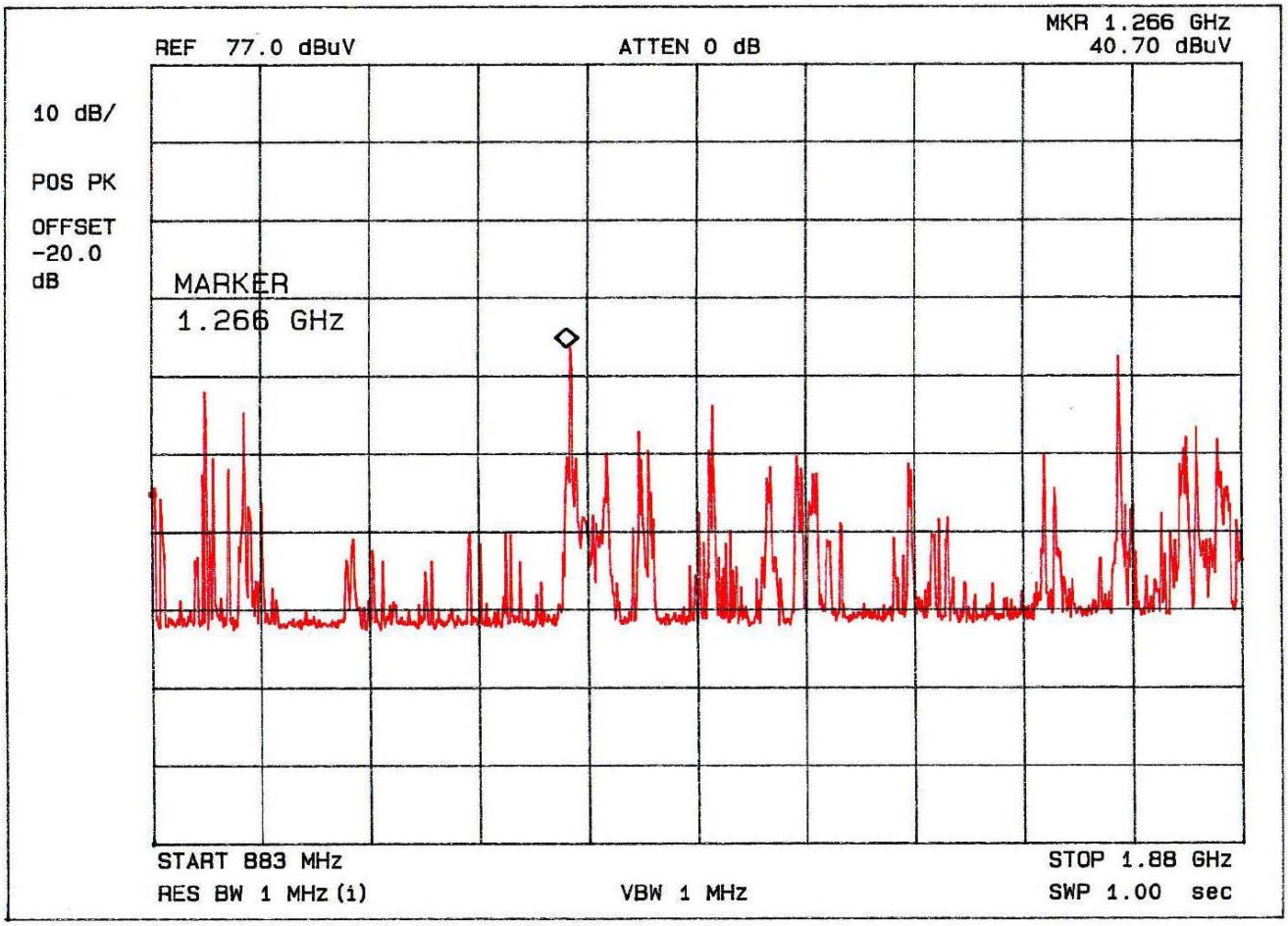
PLOT 7: Cordless phone; electromagnetic emissions measured using only the Cell Phone Bioprotector product, attached to the phone.



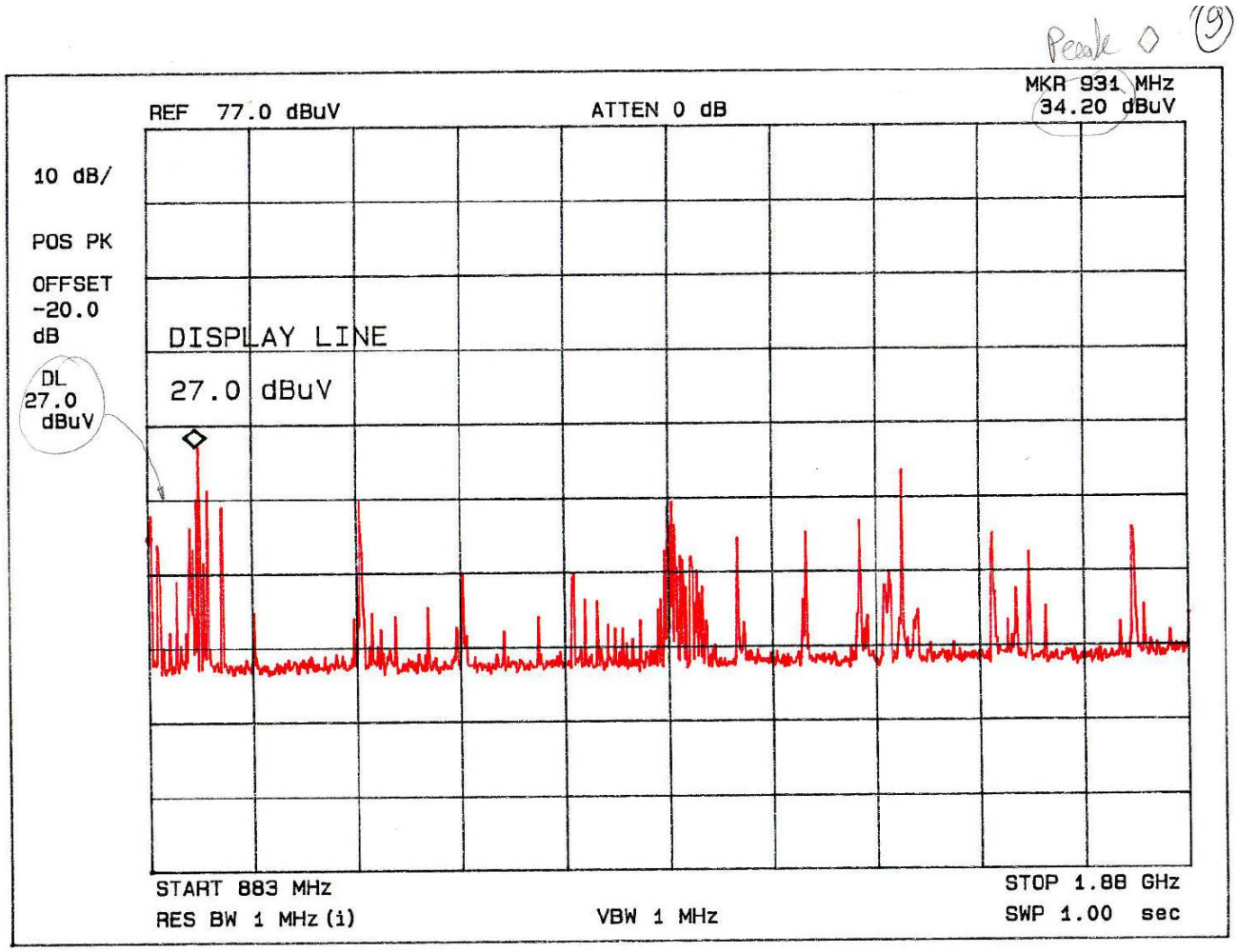
Observation: *This plot also shows that most of the emissions are reduced with the use of the Cell Phone Personal Bioprotector product.*

Note: The functioning of the cordless phone was not affected during the measurements.

PLOT 8: Microwave Oven; electromagnetic emissions measured with the receiving horn antenna in front of the door of the working microwave oven, no Bioprotector product present.

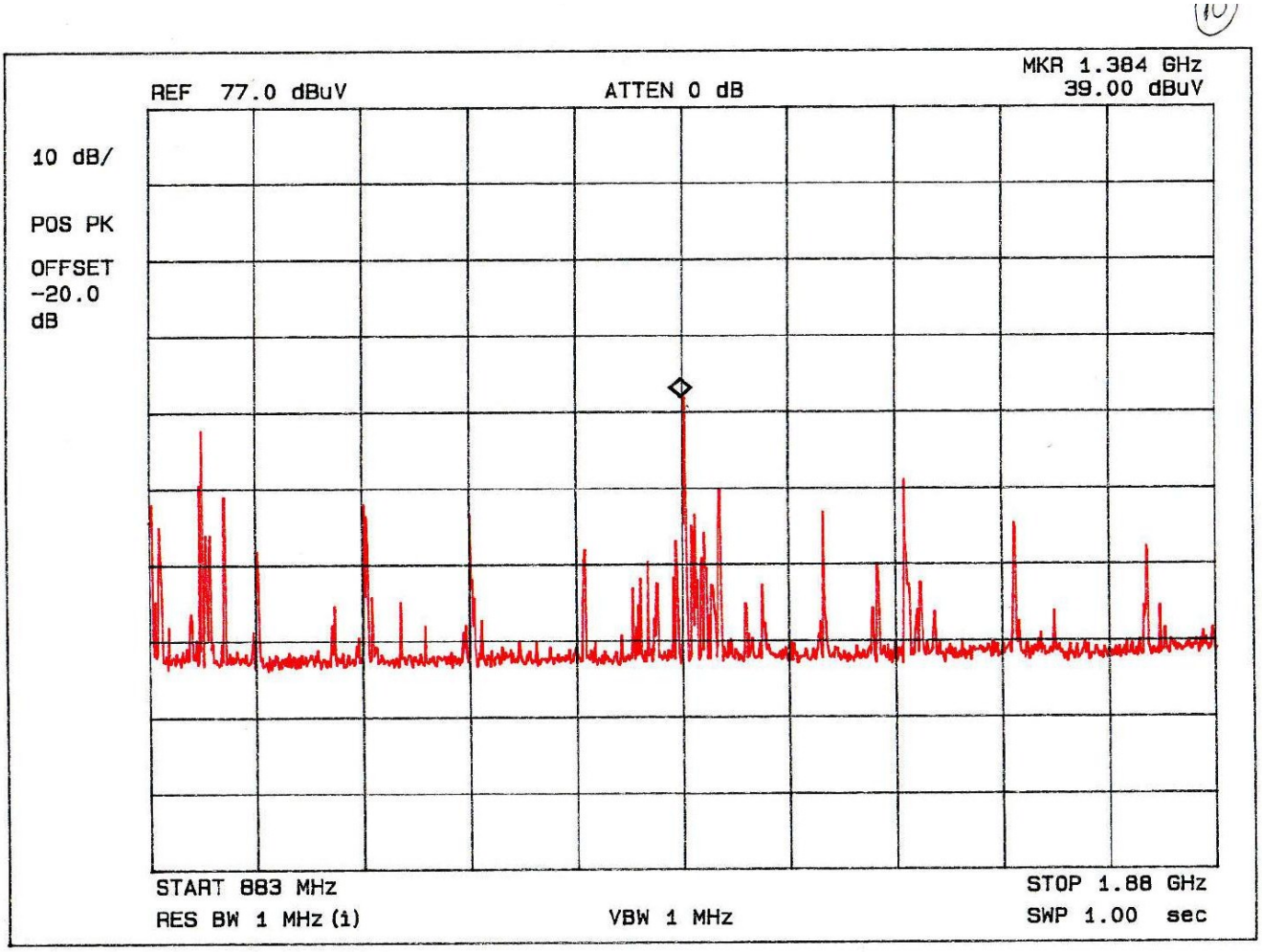


PLOT 9: Microwave oven; electromagnetic emissions measured with horn antenna in the same position, and with the large Bioprotector product on the side of the microwave oven.



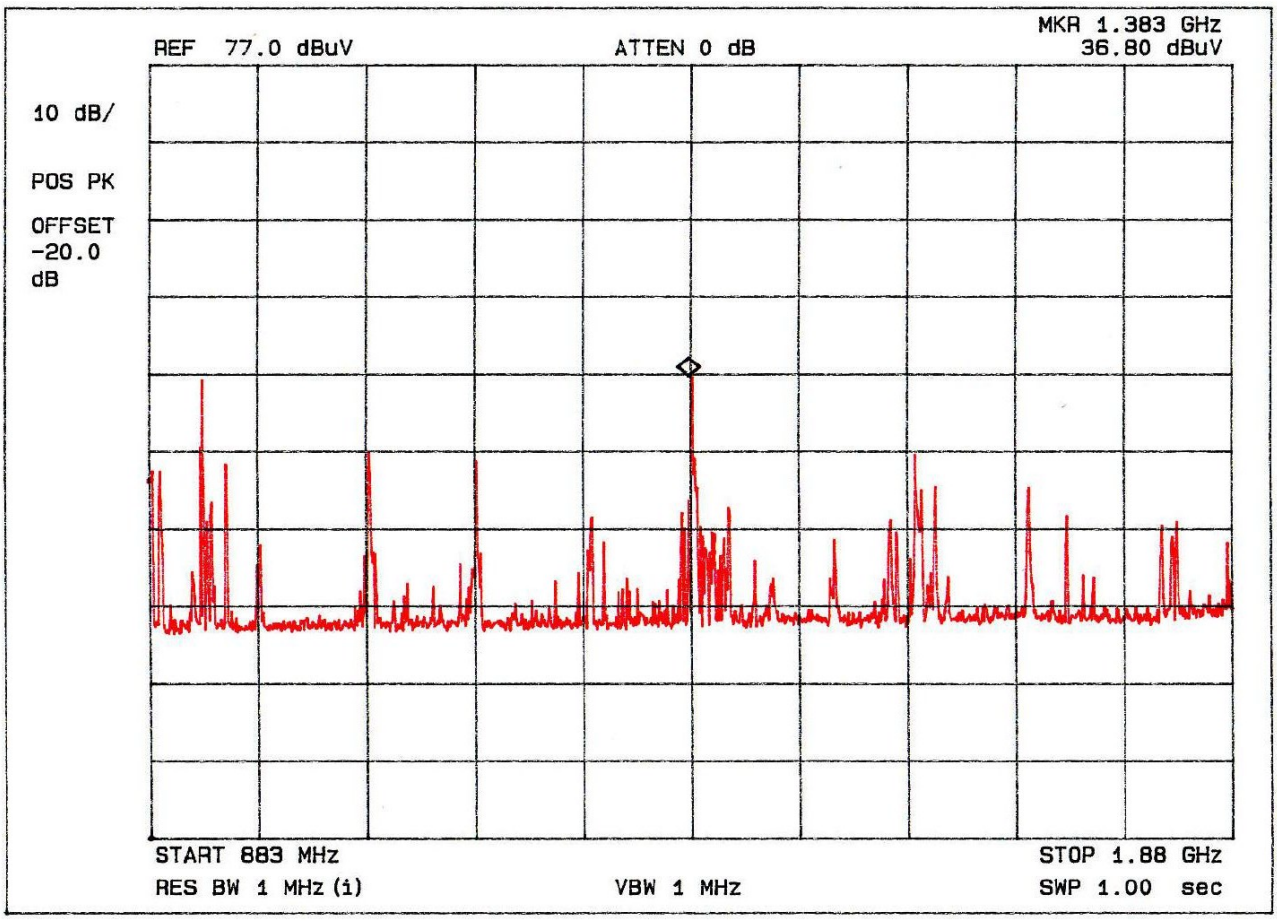
Observation: *This plot shows by using the large Bioprotector product, that a range of emissions was reduced, compared to the plot 8, where no Bioprotector product present.*

PLOT 10: Microwave oven; electromagnetic emissions measured with the receiving horn antenna in the same position, the large Bioprotector product in front of the microwave oven.



Observation: This plot also shows substantial reduction of the electromagnetic emissions compared to plot 8.

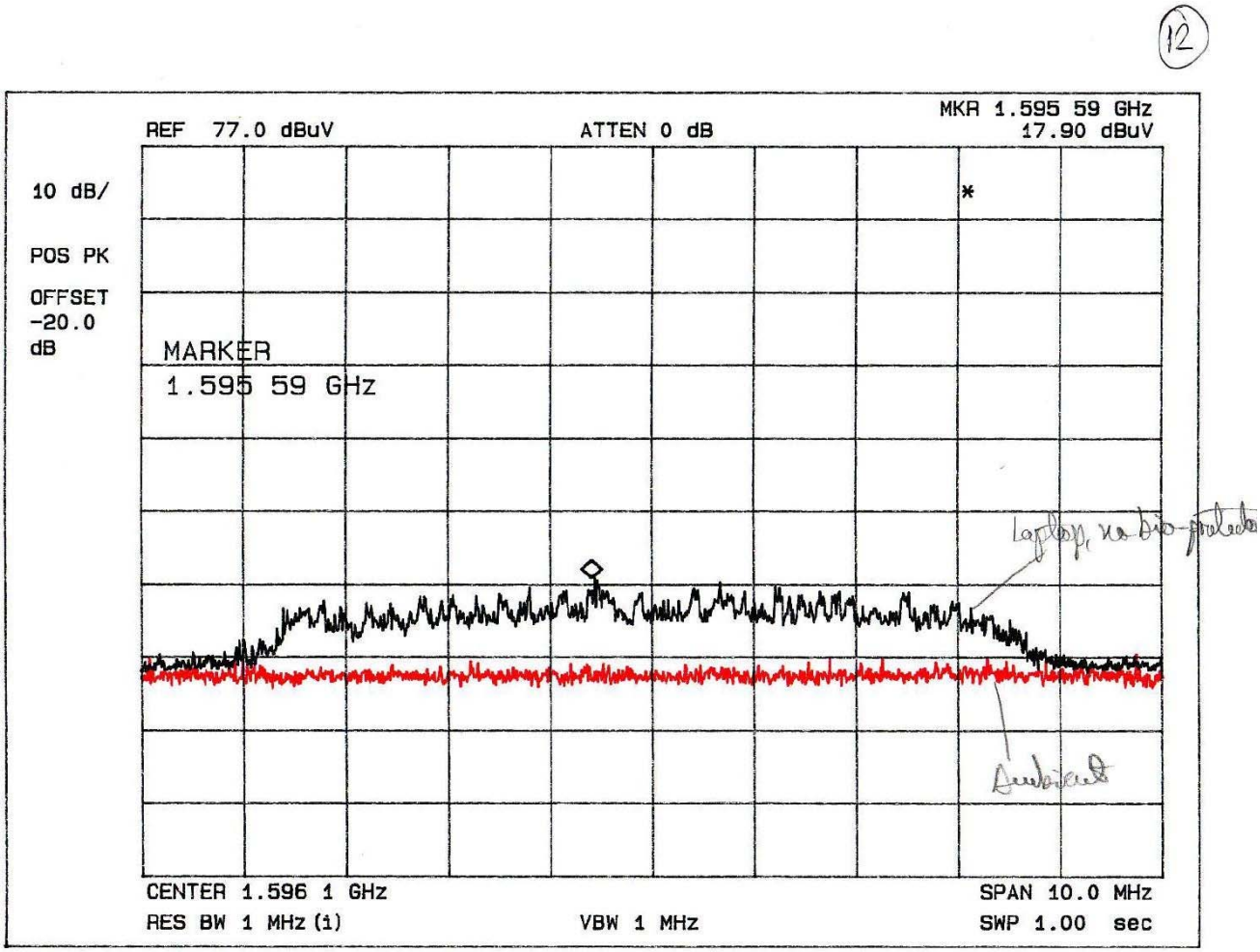
PLOT 11: Microwave oven; electromagnetic emissions measured with the horn antenna in the same position and the large Bioprotector product positioned 2m away.



Observation: Substantial reduction of the emissions is still in effect using the large Bioprotector product at 2m distance.

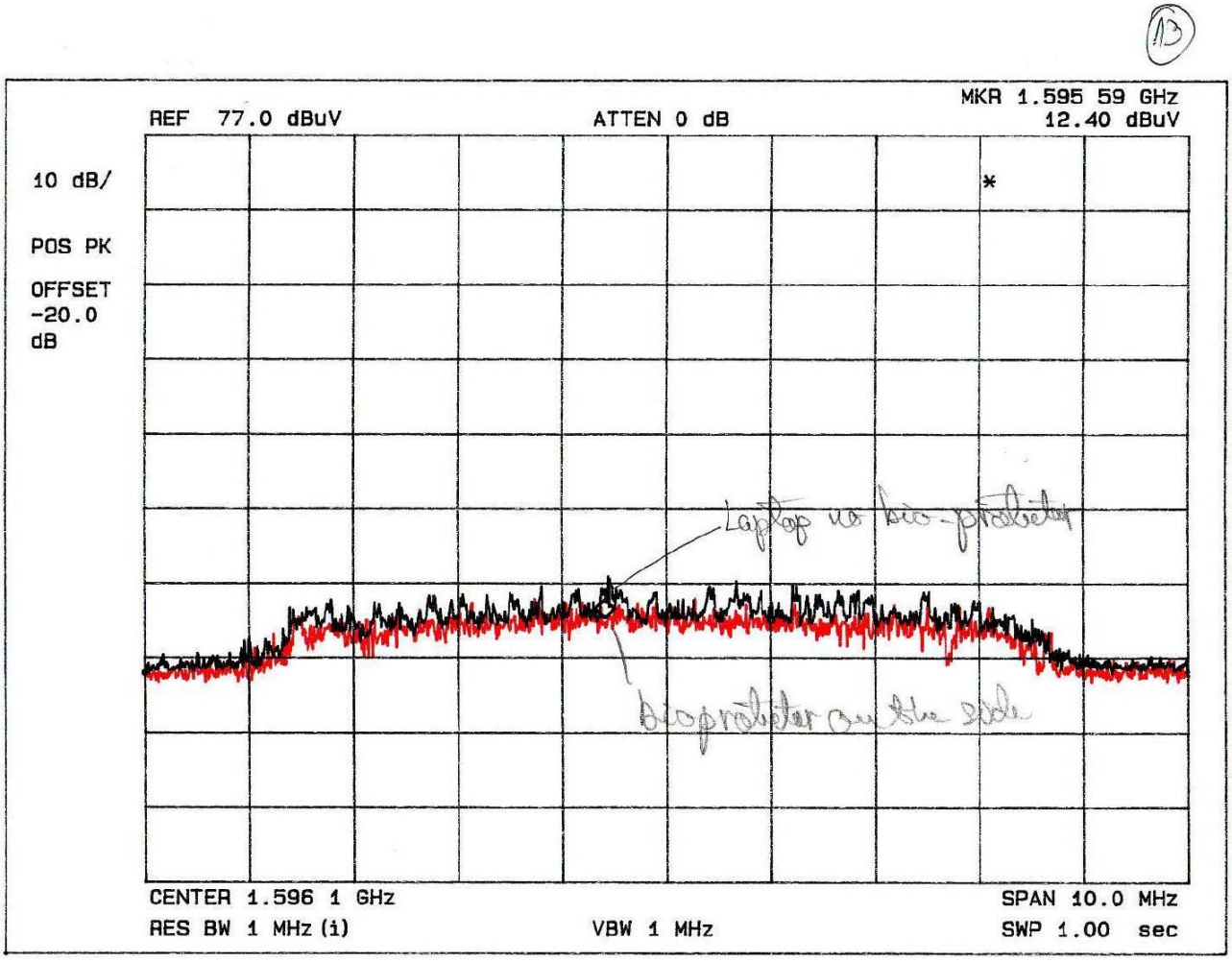
Plot 12: Wireless Internet functioning on a laptop; electromagnetic emissions measured with no Bioprotector present versus ambient electromagnetic emissions.

Red Trace – Ambient electromagnetic emissions.
Black Trace – Laptop electromagnetic emissions in condition stated above.



Plot 13: Wireless Internet functioning on a laptop with the large Bioprotector placed on the side of laptop.

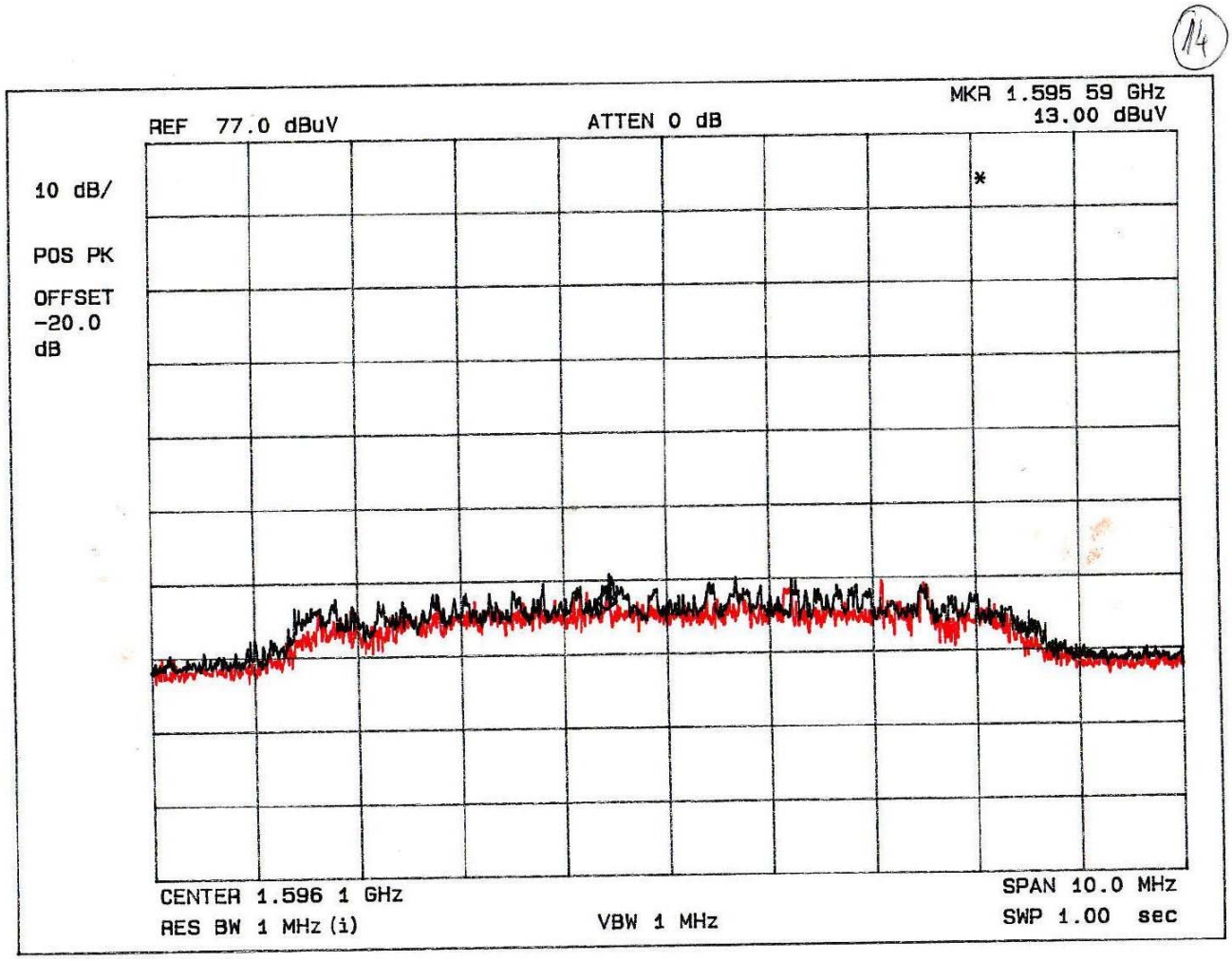
The Laptop Black Trace – Electromagnetic emission with no Bioprotector product present.
Red Trace – Laptop electromagnetic emissions with the Bioprotector product present in the condition stated above.



Observation: *Moderate reduction of the electromagnetic emissions was observed but on the whole length of the signal frequency range.*

PLOT 14: Wireless Internet functioning on a laptop with the large Bioprotector under the Laptop.

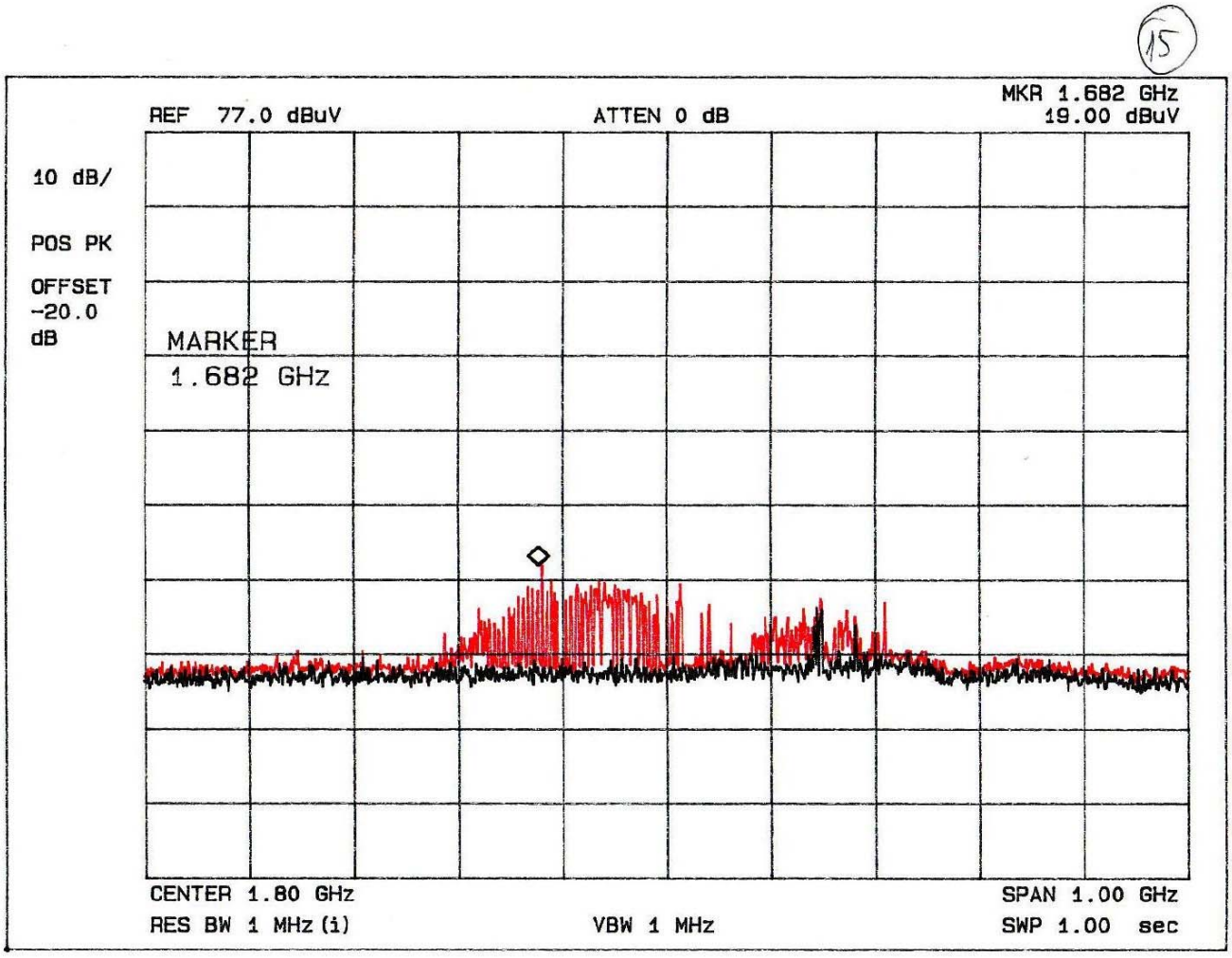
Black Trace – Laptop electromagnetic emission with no Bioprotector product present.
Red Trace – Laptop electromagnetic emissions with Bioprotector present in condition stated above



Observation: Effect is comparable with the result obtained in plot 13.

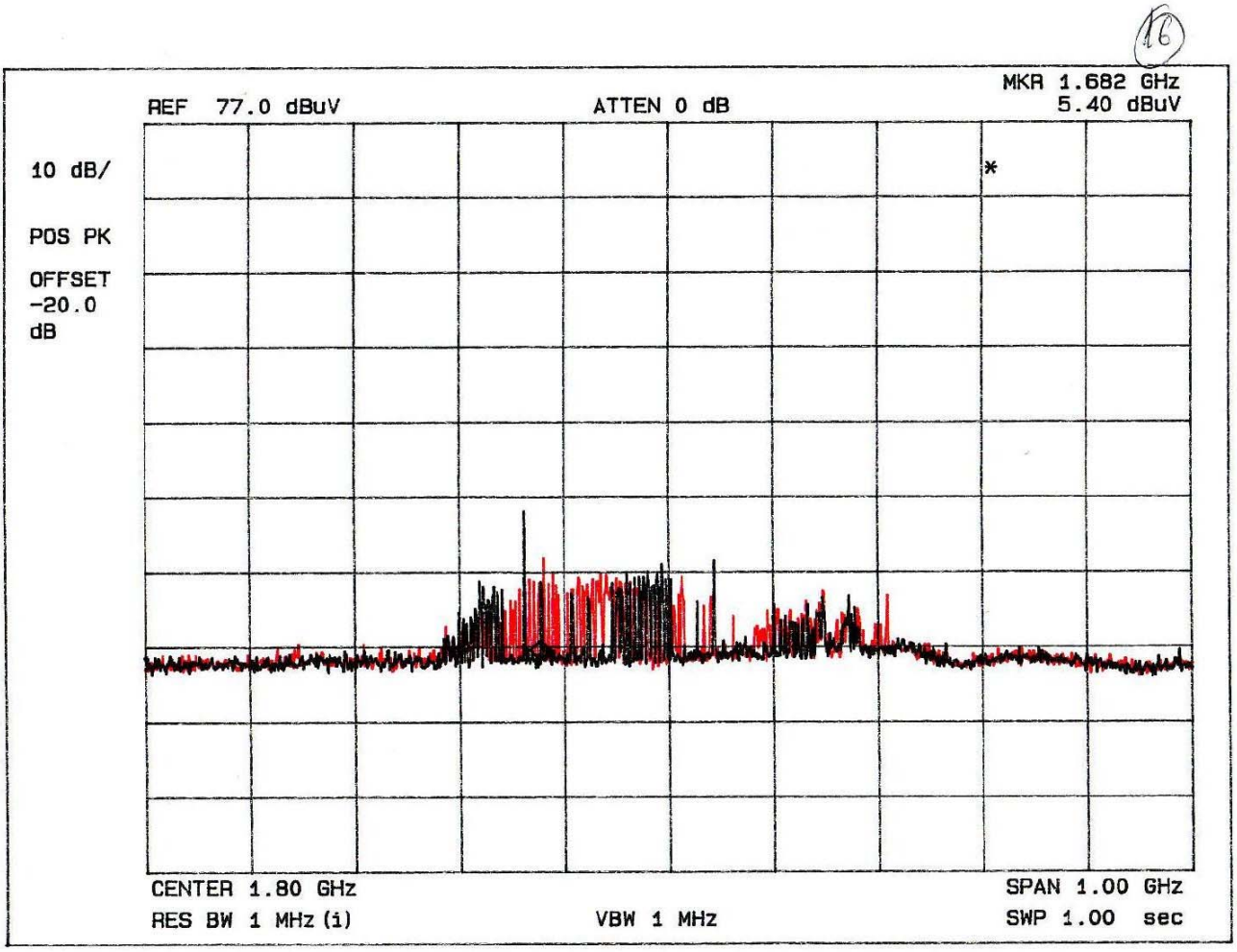
PLOT 15: Cell phone with no Bioprotector product present.

Black Trace – Ambient electromagnetic emission with no Bioprotector product present.
Red Trace - Cell Phone electromagnetic emissions with no Bioprotector product Present.



Plot 16: Cell Phone Bioprotector attached on the upper rear side of the cell phone.

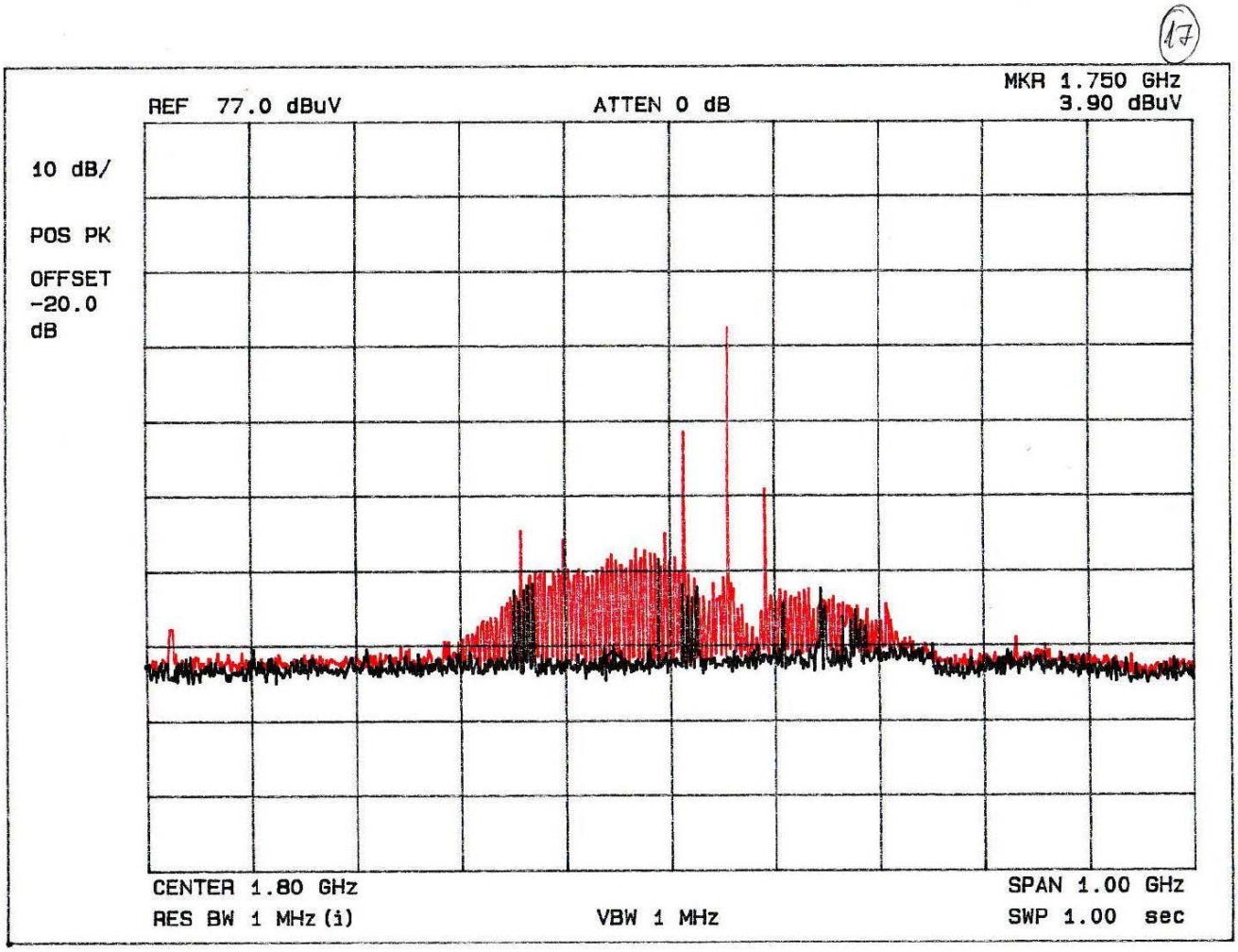
Red Trace- Cell Phone electromagnetic emissions with no Bioprotector product present
Black Trace- Cell Phone electromagnetic emissions with the Cell Phone Bioprotector present



Observation: Some frequency range of the emissions from the Cell Phone was substantially reduced.

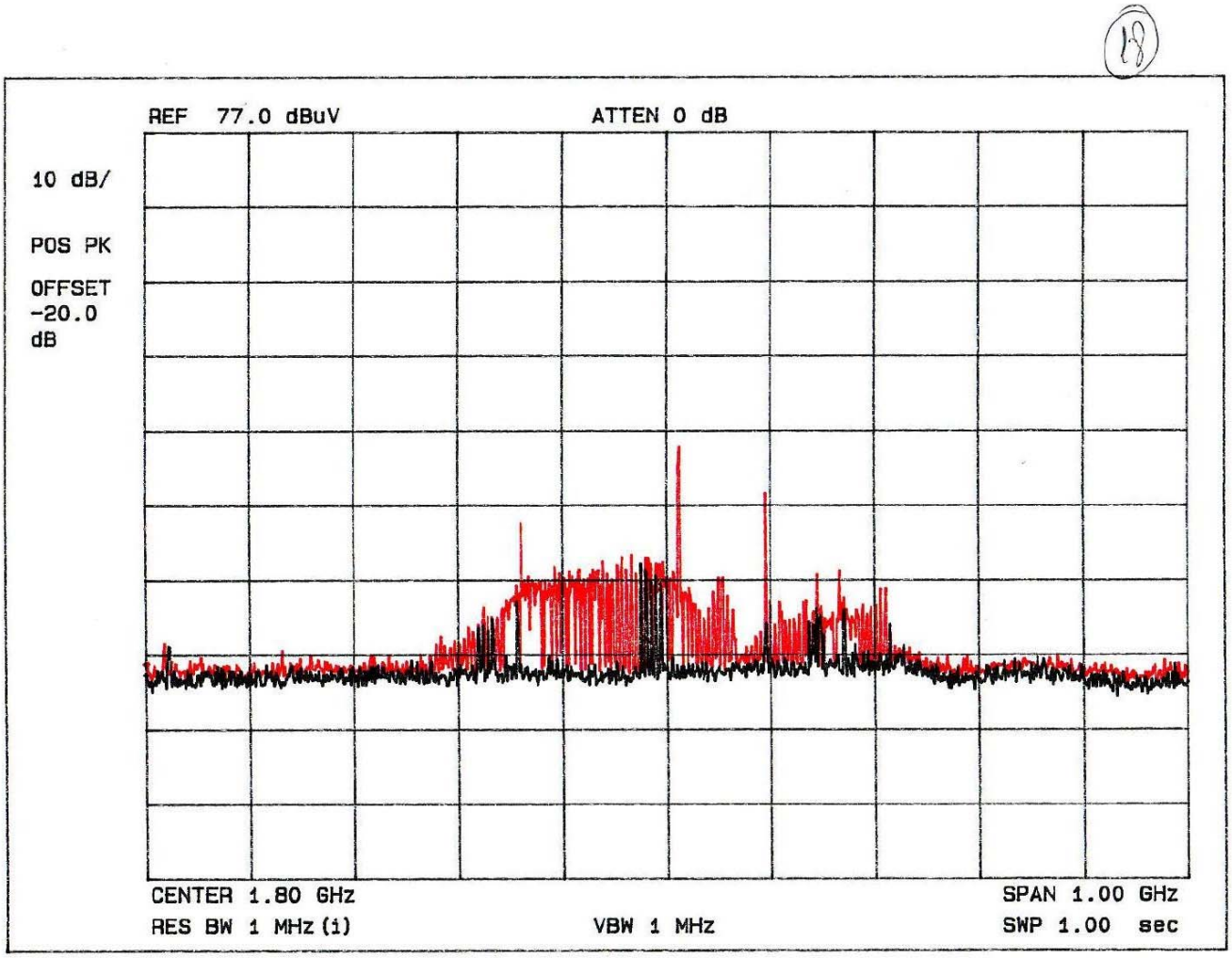
PLOT 17: Cell Phone Bioprotector on the same side as for the Plot 16.

Red Trace- Peak hold measured with Bioprotector product not present.
Black Trace- Cell Phone Bioprotector product mounted on the phone.



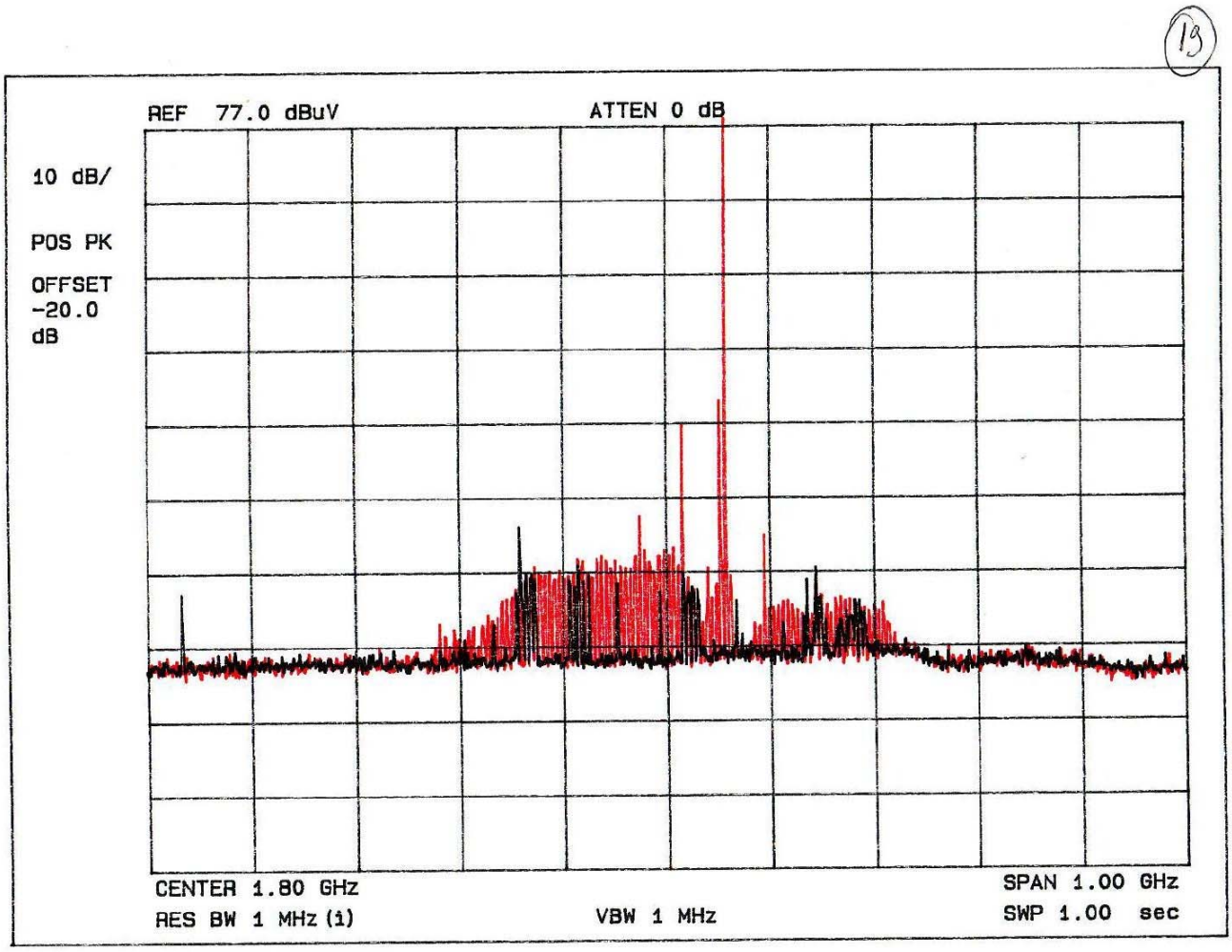
Observation: *Substantial reduction of electromagnetic emissions.*

PLOT 18: **Red Trace - Bioprotector not present**
Black Trace – Cell Phone Bioprotector mounted on the phone



Observation: *Substantial reduction of the electromagnetic radiations from the cell phone.*

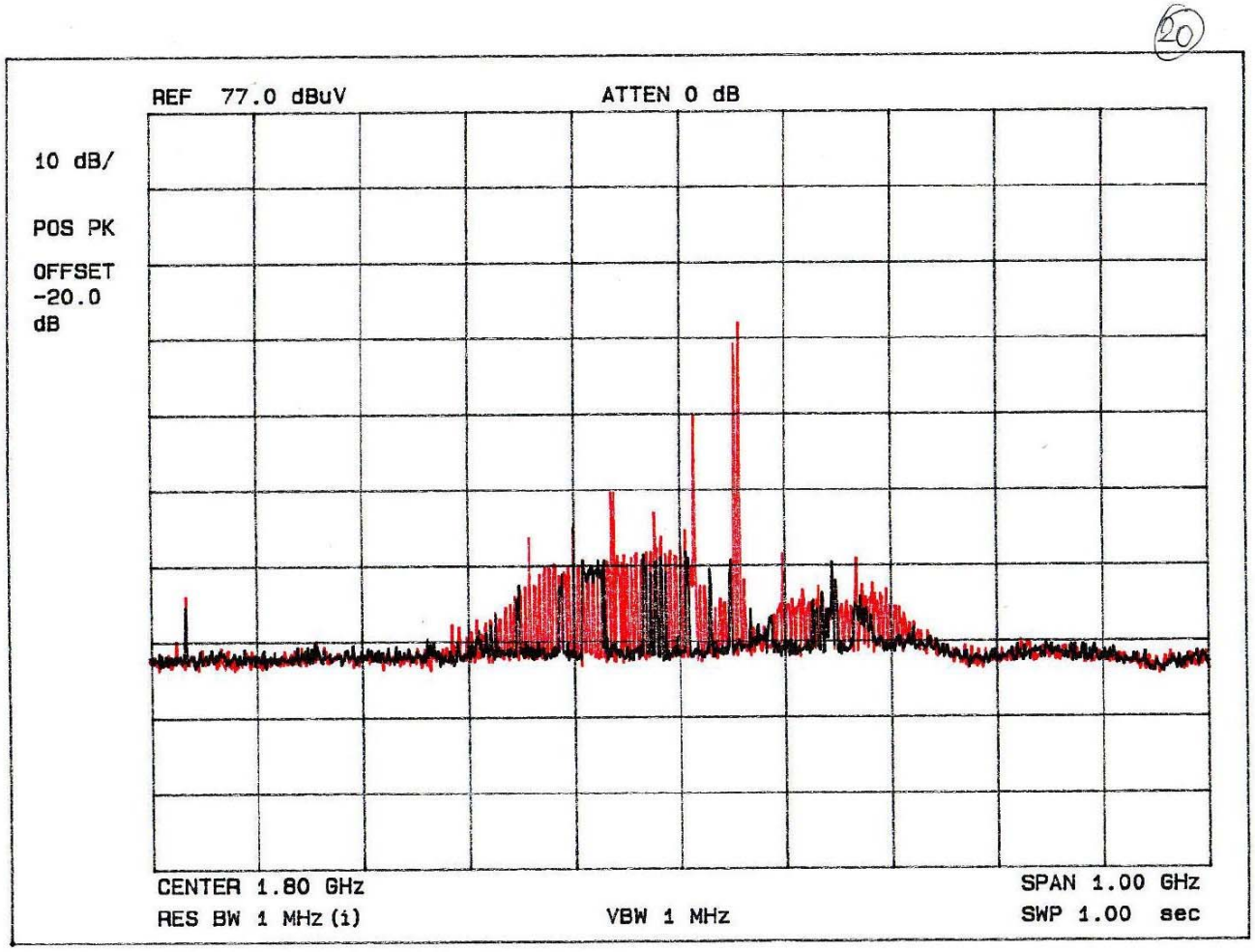
PLOT 19: Cell Phone Bioprotector removed now from the measurement setup.



Observation: When Bioprotector product is removed there is still substantial residual effect on the emissions. Note: Waiting for a while for residual effect of The Bioprotector product to disappear.

PLOT 20: Cell Phone Bioprotector attached high on the rear panel of the cell phone closest to the ear.

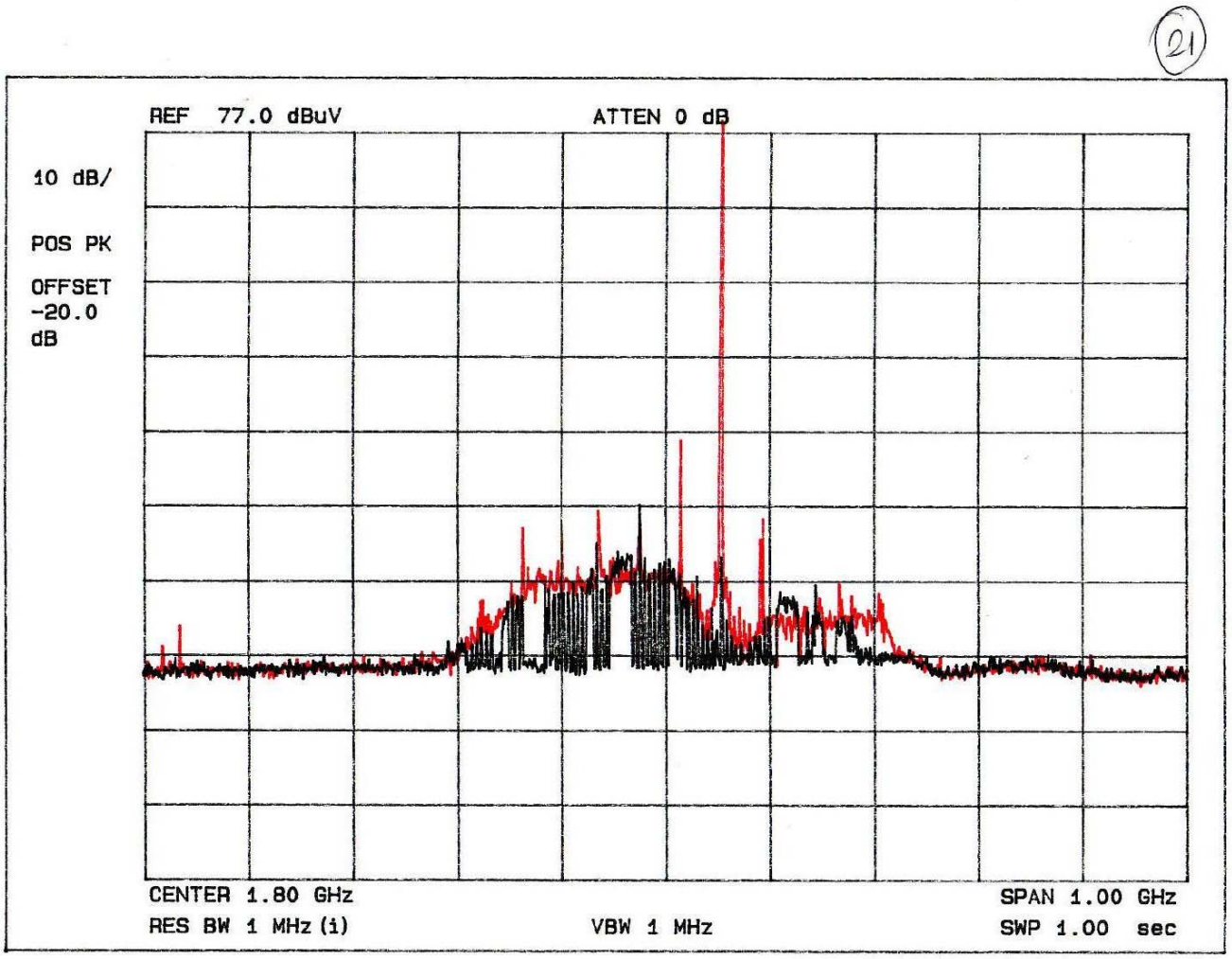
Red Trace- Without Bioprotector product present.
Black Trace- Cell Phone Bioprotector product on the cell phone as stated above.



Observation: *Substantial reduction of the electromagnetic radiation.*

PLOT 21: Cell phone measurement setup.

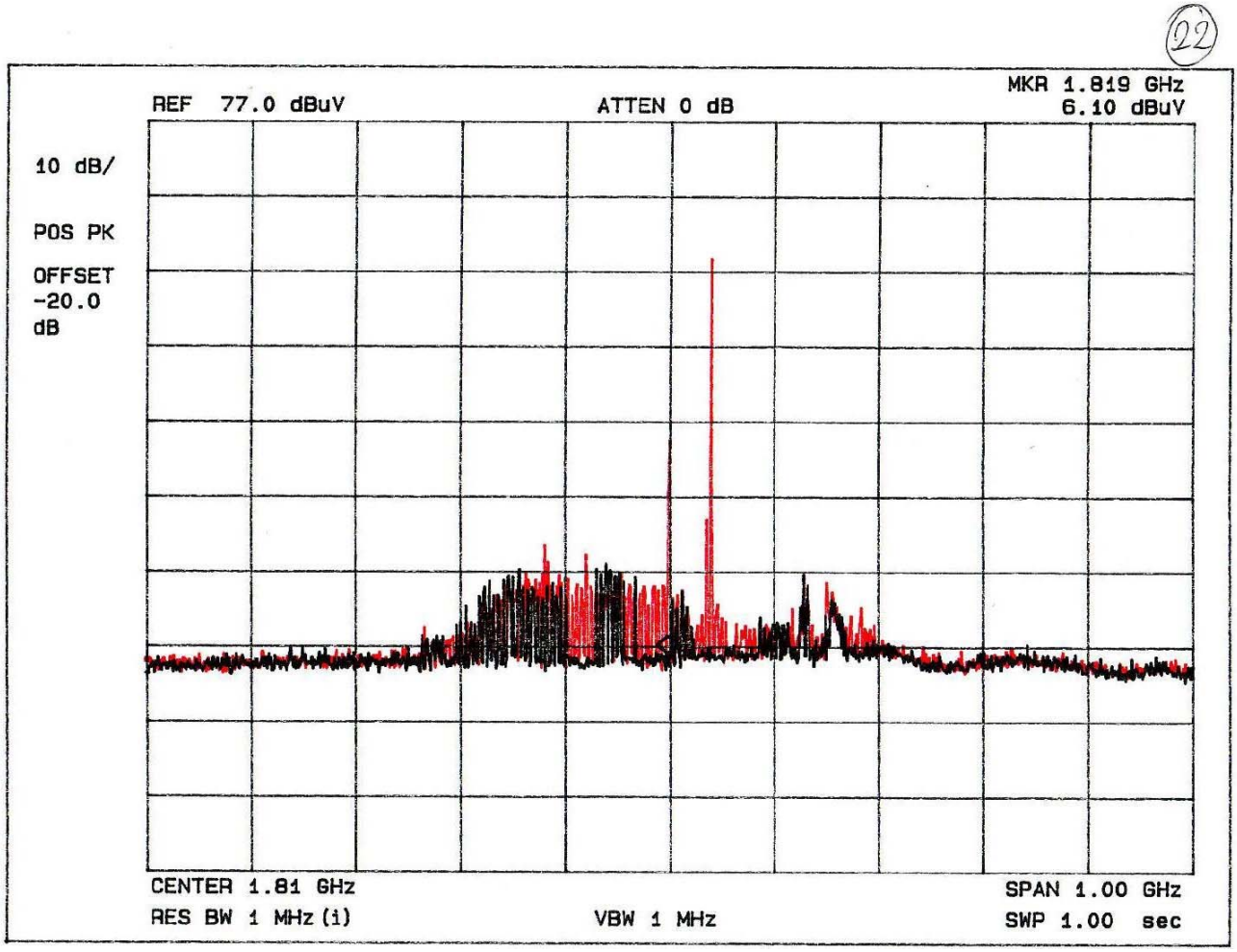
Red Trace - Bioprotector product not present, maximum hold measurement
Black Trace - Both Large Bioprotector and Cell Phone Bioprotector products present.



Observation: No changes were observed by adding the large Bioprotector product after the Cell phone Bioprotector product was present in the test setup.

PLOT 22: Cell phone measurement setup.

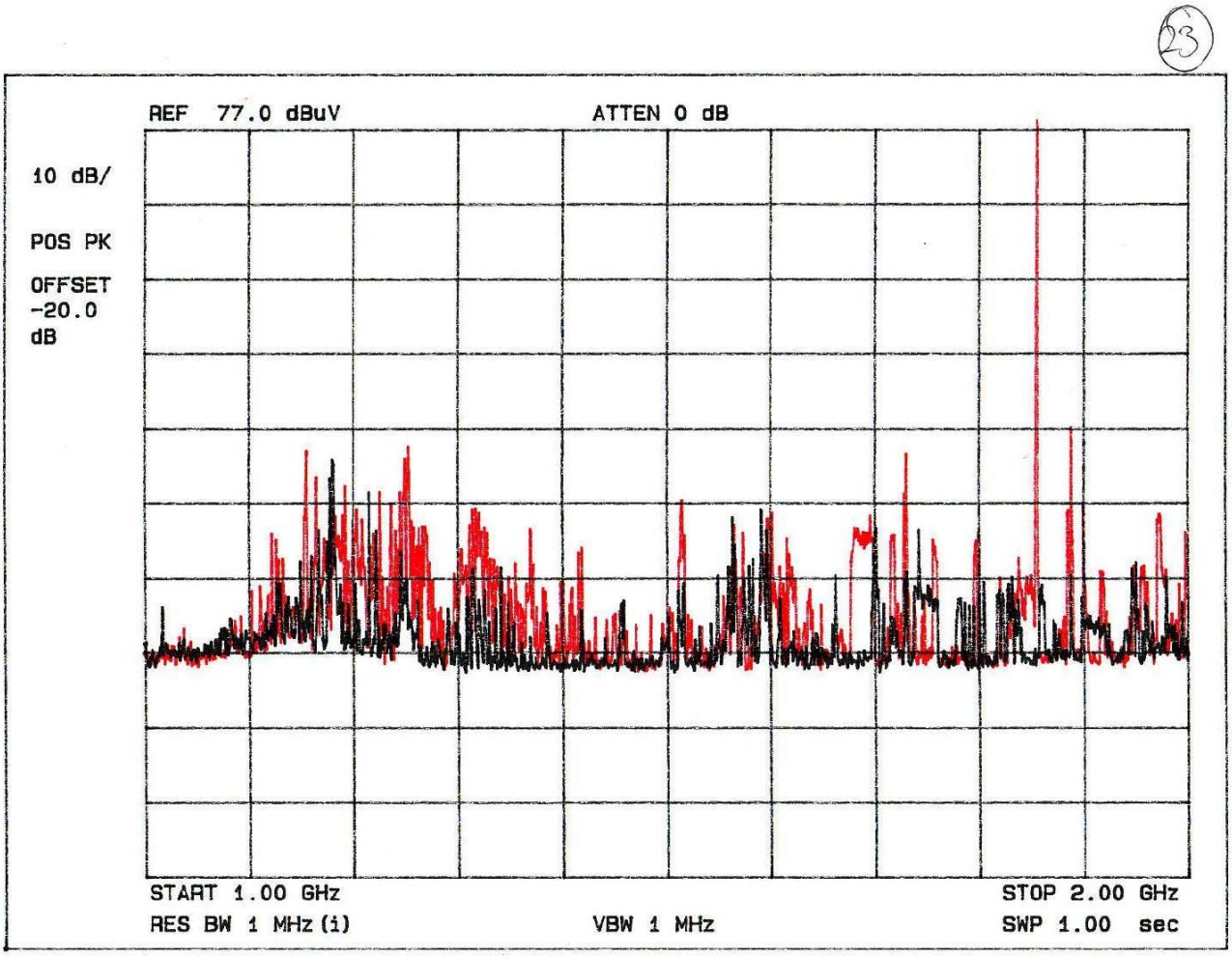
Red Trace – Without Bioprotector product present.
Black Trace – With Cell phone Bioprotector product on the top position rear side.



Observation: New peak hold measurement was performed and residual effect of the Bioprotector was observed.
NOTE: Functioning of the cell phone was not affected during the use of the Cell Phone Bioprotector.

PLOT 23: Cell phone, cordless phone, microwave oven and wireless computer set up together as EUT.

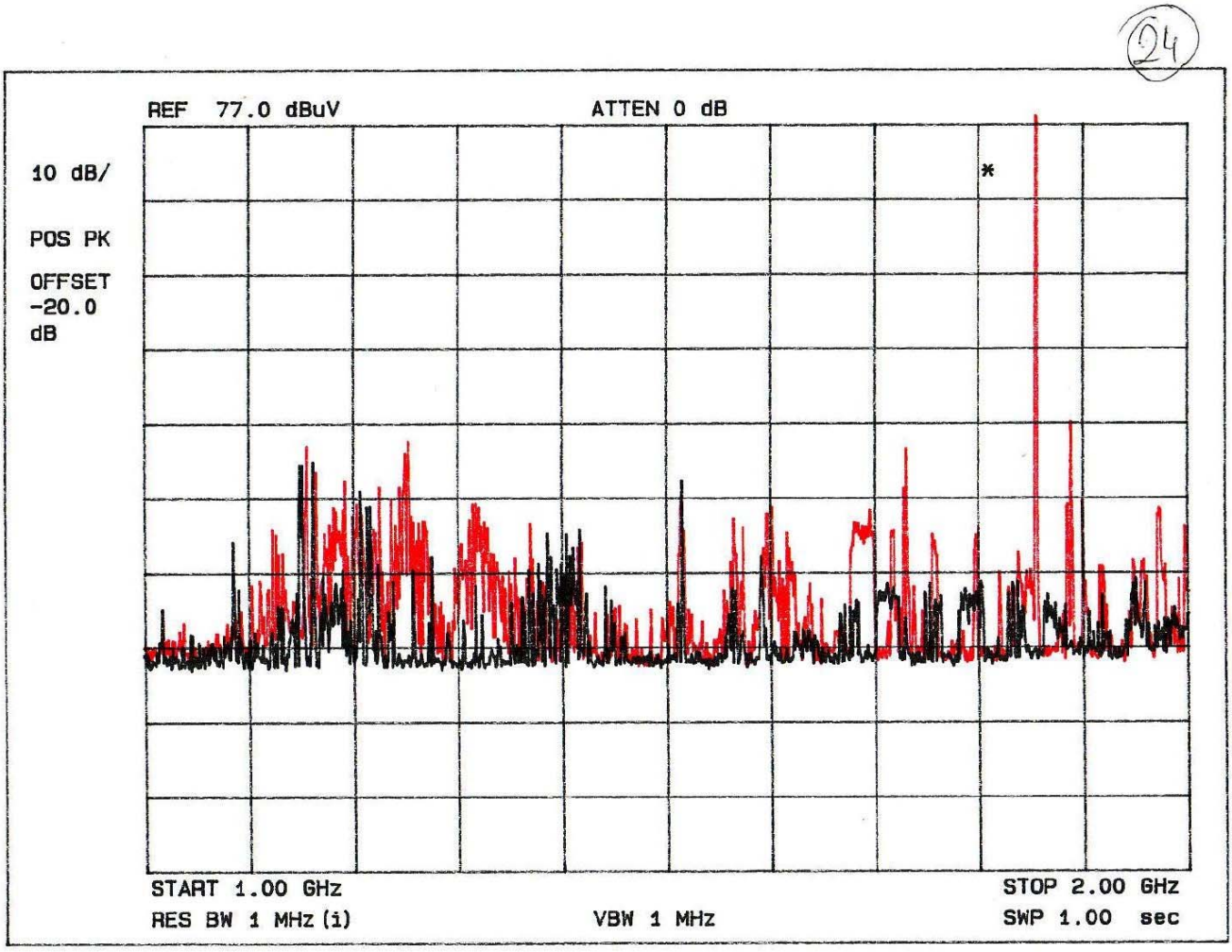
Red Trace: Without Bioprotector product present.
Black Trace: Large Bioprotector product mounted next to all devices and the Cell Phone Bioprotector product mounted on the cordless phone.



Observation: Substantial reduction in the whole range of the frequency range of emissions.

PLOT 24: Same set up as for Plot 23, but with Bioprotector product positioned 10 ft (3m) away from devices.

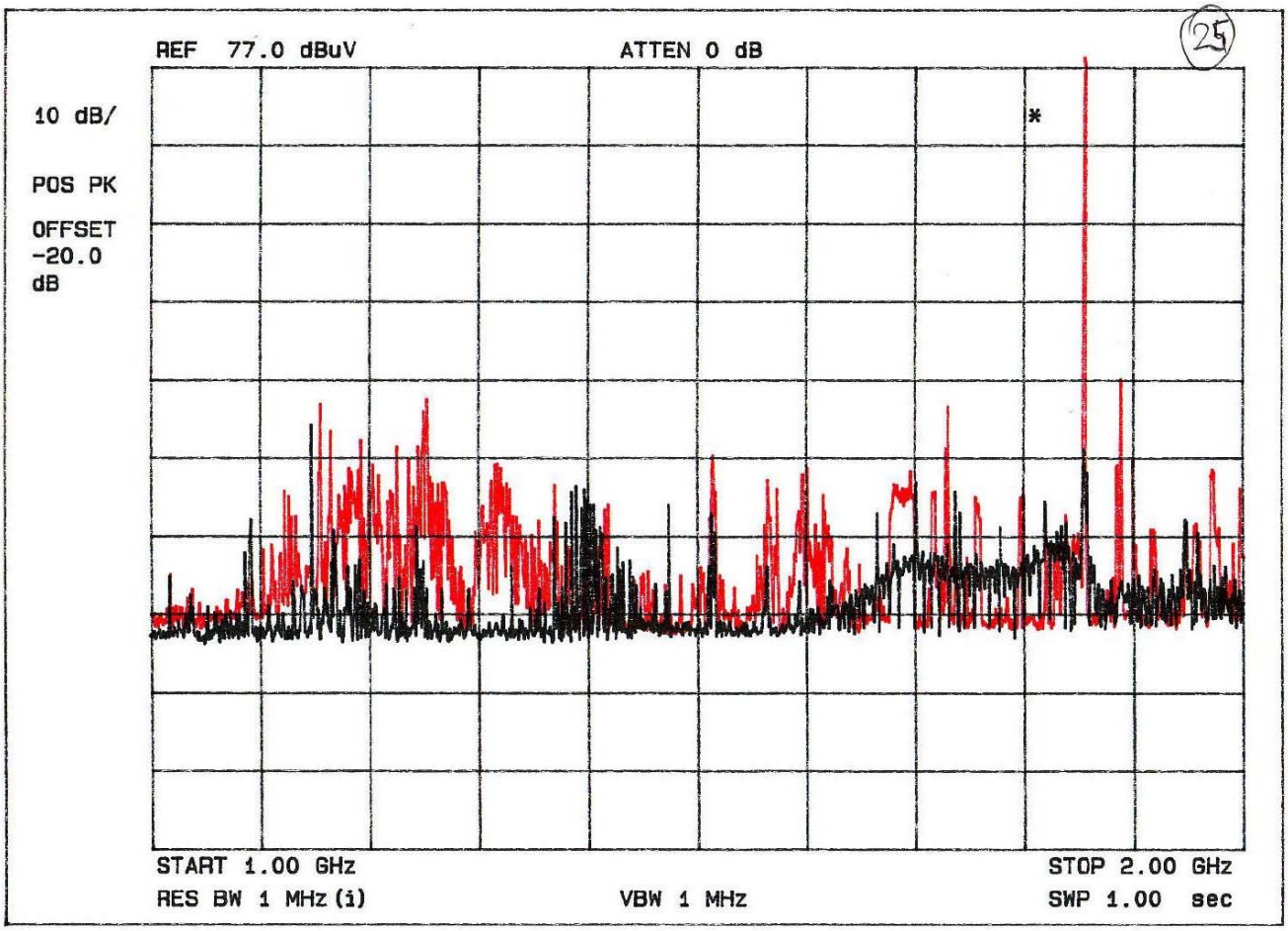
Red Trace: Without Bioprotector product present.
Black Trace: Large Bioprotector product as mentioned above.



Observation: At the distance of 3m the Bioprotector product was still effective.

PLOT 25: Same set up as for Plot 23, but with the large Bioprotector 15 Ft (5m) away from devices.

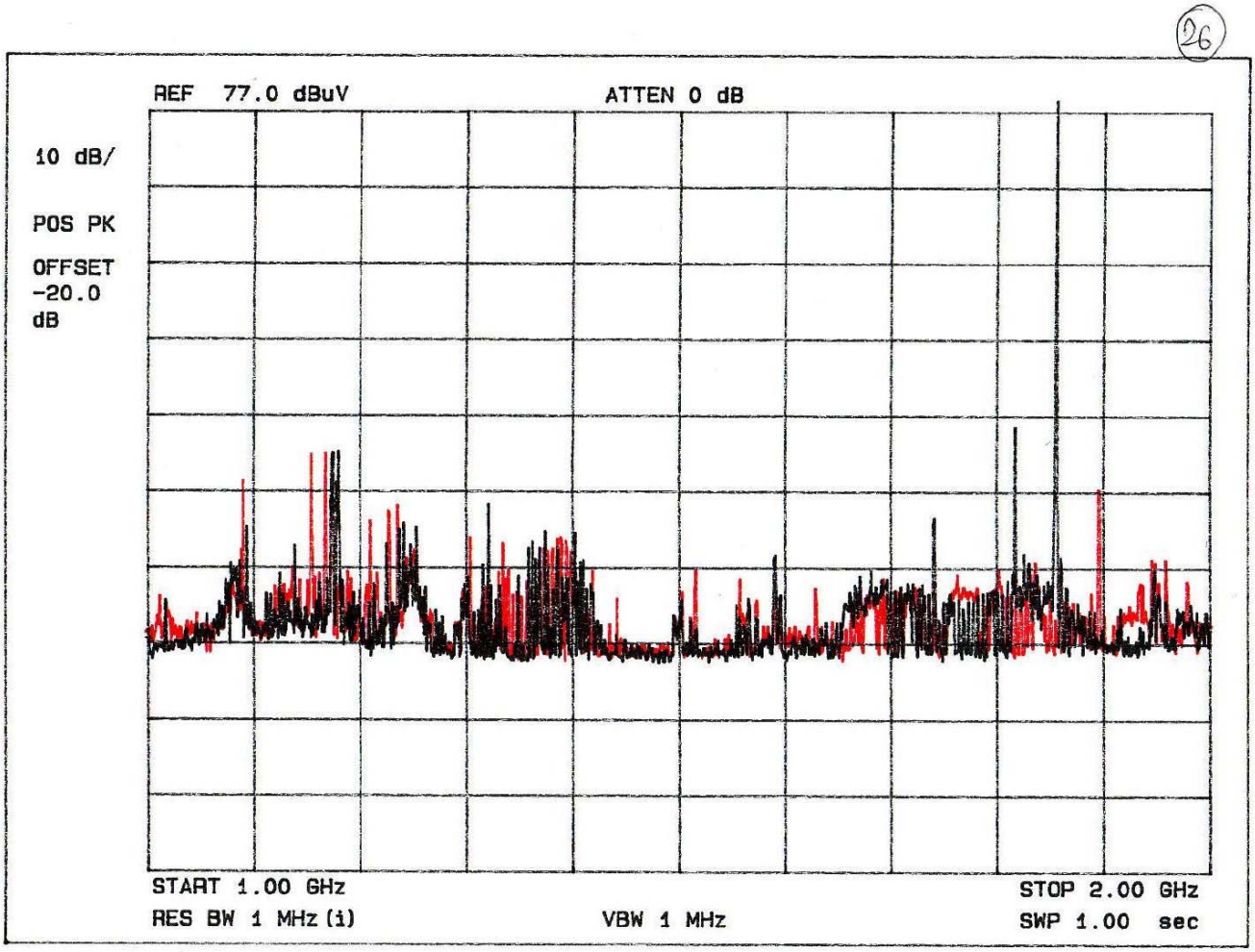
Red Trace: Without Bioprotector product present.
Black Trace: Large Bioprotector product as mentioned above.



Observation: *At 5m away the Bioprotector was still effective on the whole range of the electromagnetic emissions.*

PLOT 26: Same set up as for Plot 23, but with the large Bioprotector 23 Ft (7m) away.

Red Trace: Without Bioprotector product present.
Black Trace: Large Bioprotector product as mentioned above.

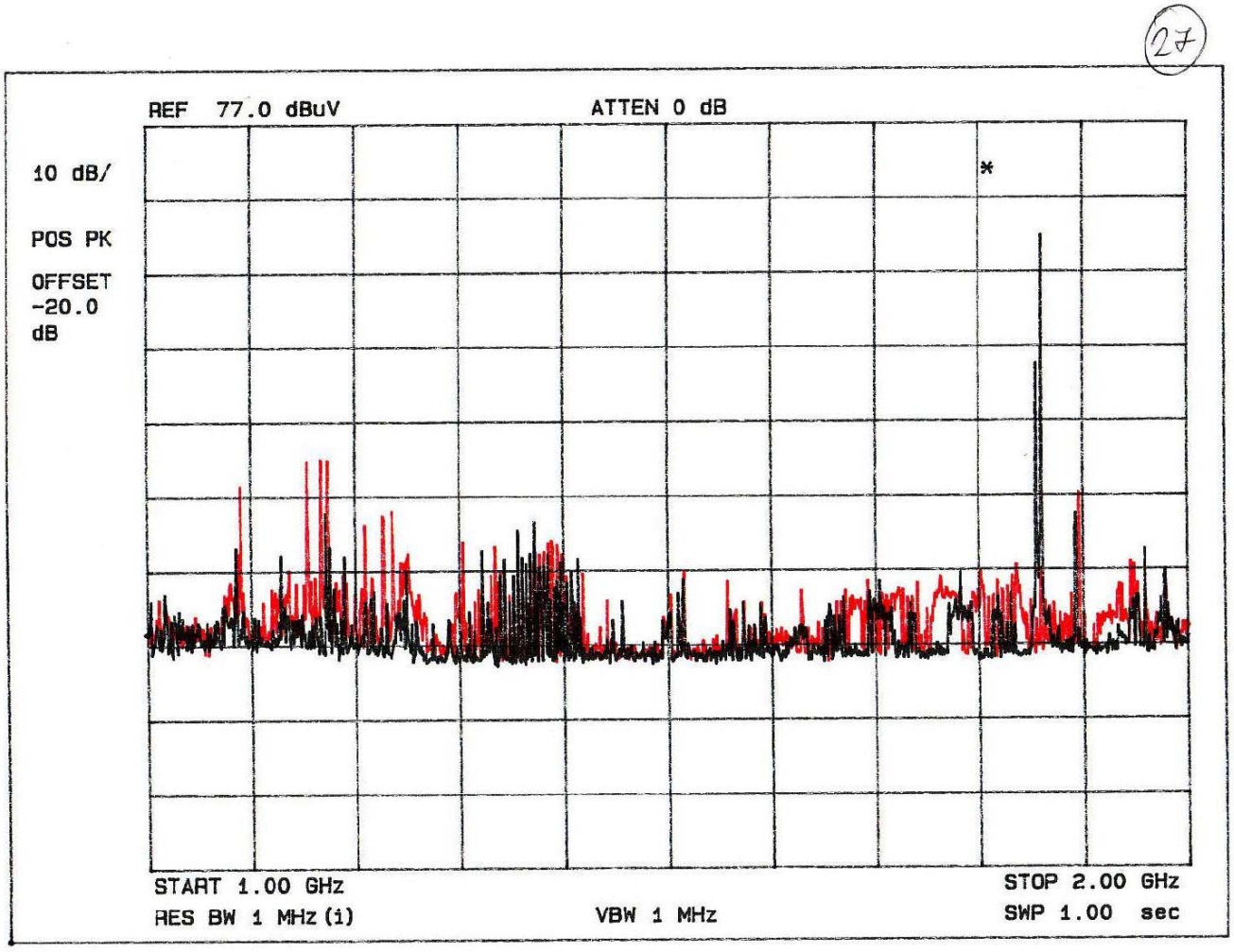


Observation: *At 7m distance, the effect of Bioprotector was reduced.*

Note: New background peak measurement (red). Probable residual influence of the Bioprotector on the measurement affects accuracy.

PLOT 27: Same set up as for Plot 23, but with the large Bioprotector 12 Ft (4 m) away.

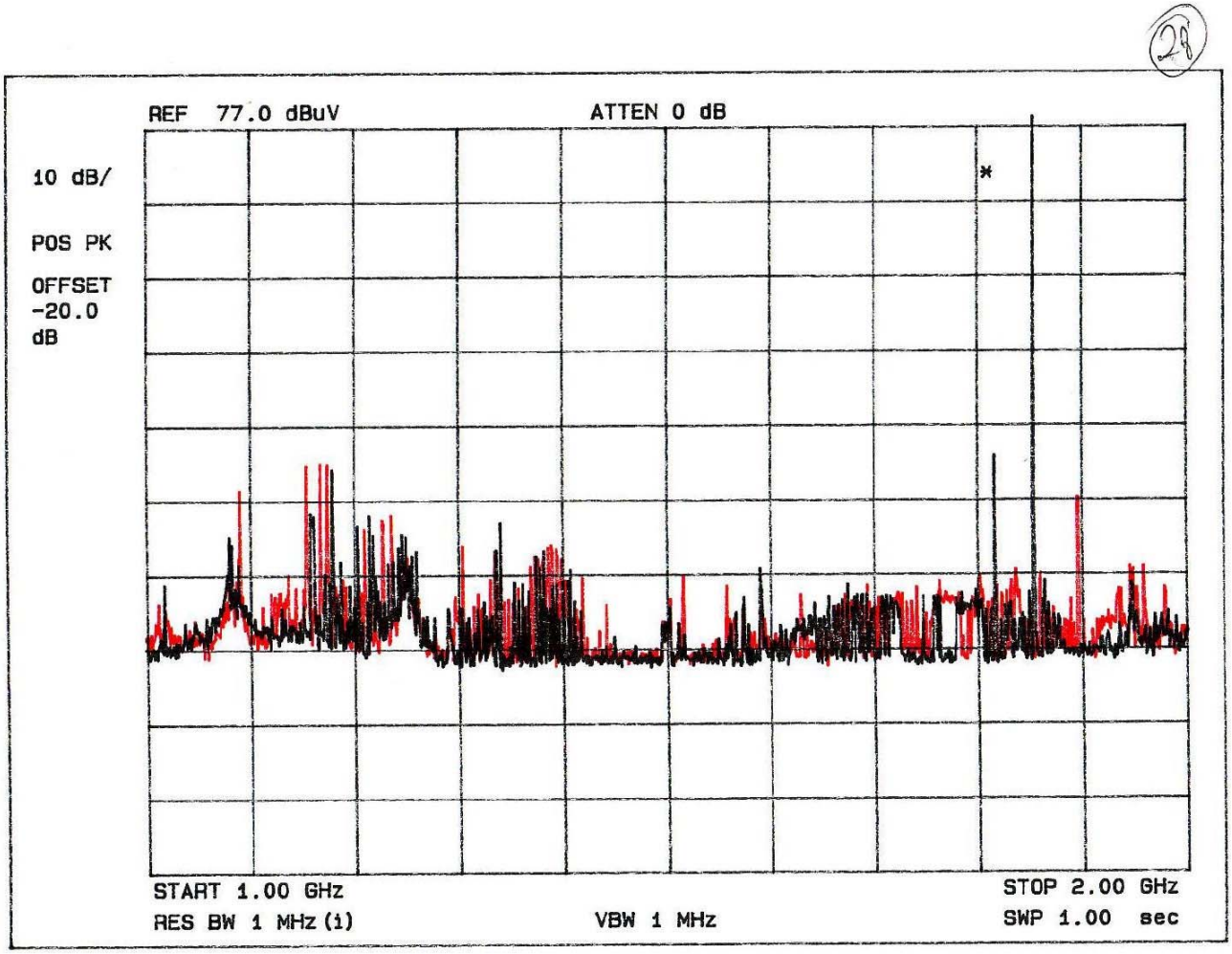
Red Trace: Without Bioprotector product present.
Black Trace: Large Bioprotector product as mentioned above.



Observation: *The large Bioprotector product becomes more effective, but possible residual influence on the background measurement is still affecting accuracy.*

PLOT 28: Same set up as for Plot 23, but with the large Bioprotector 5 feet (1.5 meter) away.

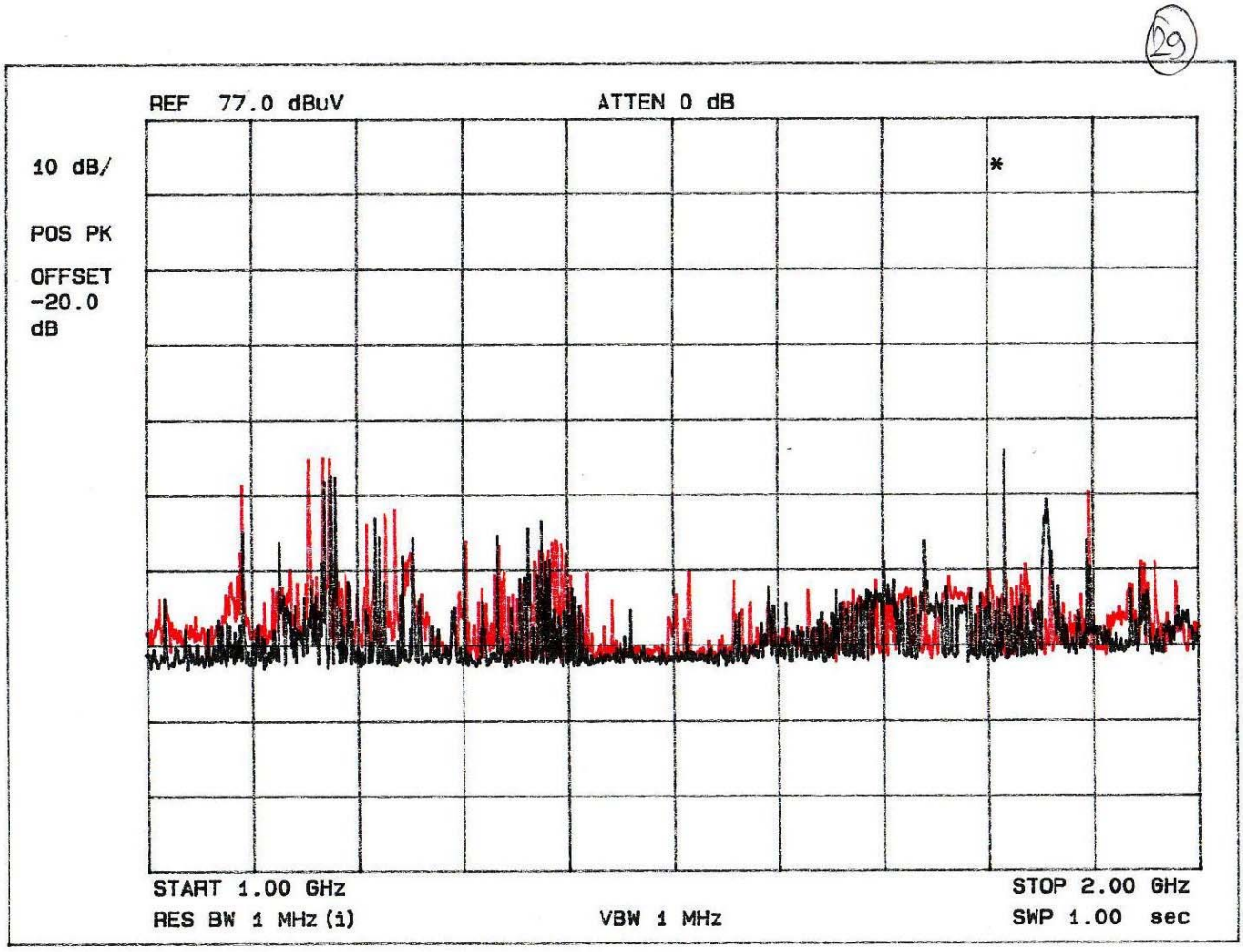
Red Trace: Without Bioprotector product present.
Black Trace: Large Bioprotector product as mentioned above.



Observation: Accuracy of measurement affected due to residual effect of the Bioprotector on the background peak hold measurement performed.

PLOT 29: Same set up as for Plot 23, but with the large Bioprotector product close to devices.

Red Trace: Without Bioprotector product present.
Black Trace: Large Bioprotector product as mentioned above.



Observation: *In Plots 26- 29, accuracy of the measurement was affected due to the residual influence of the Bioprotector.*

Section III: Conclusion and Pictures

Based on the observations and the measurements of the effects of the Bioprotector products, within the limits of the measuring conditions, we conclude that:
The Bioprotector is effective in the reduction of electromagnetic radiation from the tested devices, namely the cell phone,cordless phone, microwave oven and wireless computer.

EUT Pictures

1. Large Bioprotector Product.

2. Cordless Phone test setup, no Bioprotector product present.

3. Cordless Phone test setup, Cell phone Bioprotector product present.

4. Cordless Phone test setup, Large Bioprotector product present.

5. Cordless Phone, Microwave Oven and Laptop test setup, no Bioprotector product present.

6. Cordless Phone, Microwave Oven and Laptop test setup, Large Bioprotector product present.

7. Cell Phone test setup, no Bioprotector product present.

8. Cell Phone test setup, Large Bioprotector product present.