FCC Part 15
EMI TEST REPORT

of

E.U.T. : Cordless Telephone

MODEL : SDC820
FCC ID. : O2BSDC820

for

APPLICANT : Solomon Wireless Tech. Corp.

ADDRESS : 2F, NO. 2, LANE 47, SEC. 3, NAN KANG ROAD, TAIPEI, TAIWAN, R.O.C.

Test Performed by

ELECTRONICS TESTING CENTER, TAIWAN
NO. 8 LANE 29, WENMIMG ROAD,
LOSHAN TSUN, KWEISHAN HSIANG,
TAOYUAN, TAIWAN, R.O.C.

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Report Number : ET89R-06-081

TEST REPORT CERTIFICATION

Applicant	: Solomon Wireless Tech. Corp. 2F, NO. 2, LANE 47, SEC. 3, NAN KANG ROAD, TAIPEI, TAIWAN, R.O.C.
Manufacturer	: Solomon Wireless Tech. Corp. 2F, NO. 2, LANE 47, SEC. 3, NAN KANG ROAD, TAIPEI, TAIWAN, R.O.C.
Description of EUT	:
a) Type of EUT	: Cordless Telephone
b) Trade Name	: SOLOMON
c) Model No.	: SDC820
d) Adaptor	: Model : 309030010013 Input : AC 110V, 60Hz, 6W Output : DC 9V, 300mA
Regulation Applied	: FCC Rules and Regulations Part 15 Subpart C(1999)

I HEREBY CERTIFY THAT: The data shown in this report were made in accordance with the procedures given in ANSI C63.4, and the energy emitted by the device was founded to be within the limits applicable. I assume full responsibility for accuracy and completeness of these data.

Note: 1. The result of the testing report relate only to the item tested.
2. The testing report shall not be reproduced expect in full, without the written approval of ETC.

Issued Date : SEP. 25, 2000

Test Engineer : S. S. Liou
(S. S. Liou)

Approve & Authorized Signer : Will Yauo
Will Yauo, Supervisor
EMI Test Site of ELECTRONICS TESTING CENTER, TAIWAN

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1 GENERAL INFORMATION

1.1 Product Description

a) Type of EUT : Cordless Telephone

b) Trade Name : SOLOMON

c) Model No. : SDC820

d) Adaptor : Model : 309030010013
Input : AC 110VAC, 60Hz, 6W
Output : DC 9V, 5300mA

1.2 Characteristics of Device

This Cordless Telephone using the direct sequence spread spectrum technology. The base unit plugs into a standard analogue telephone jack and provides a digital wireless communication link with the handset using the 902 to 928 MHz ISM band.

1.3 Test Methodology

For Cordless Telephone, both conducted and radiated emissions were performed according to the procedures illustrated in ANSI C63.4(1992). Other required measurements were illustrated in separate sections of this test report for details.

1.4 Test Facility

The open area test site and conducted measurement facility used to collect the radiated data is located on the roof top of Building at No.34, Lin 5, Ding Fu Tsun, Linkou Hsiang, Taipei Hsien, Taiwan, R.O.C.

This site has been fully described in a report submitted to your office, and accepted in a letter dated Feb. 10, 2000.

2 PROVISIONS APPLICABLE

2.1 Definition

Unintentional radiator:
A device that intentionally generates and radio frequency energy for use within the device, or that sends radio frequency signals by conduction to associated equipment via connecting wiring, but which is not intended to emit RF energy by radiation or induction.

Class A Digital Device:
A digital device which is marketed for use in commercial or business environment; exclusive of a device which is market for use by the general public, or which is intended to be used in the home.

Class B Digital Device :
A digital device which is marketed for use in a residential environment notwithstanding use in a commercial, business of industrial environment. Example of such devices that are marketed for the general public.

Note : A manufacturer may also qualify a device intended to be marketed in a commercial, business, or industrial environment as a Class B digital device, and in fact is encouraged to do so, provided the device complies with the technical specifications for a Class B Digital Device. In the event that a particular type of device has been found to repeatedly cause harmful interference to radio communications, the Commission may classify such a digital device as a Class B Digital Device, Regardless of its intended use.

Intentional radiator:
A device that intentionally generates and emits radio frequency energy by radiation or induction.

2.2 Requirement for Compliance

(1) Conducted Emission Requirement

For unintentional device, according to § 15.107(a) Line Conducted Emission Limits is as following:

Frequency MHz	Emissions μV	Emissions dBμV
0.45 - 30.0	250	48.0

For intentional device, according to § 15.207(a) Line Conducted Emission Limits is same as above table.

(2) Radiated Emission Requirement

For unintentional device, according to § 15.109(a), except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Frequency MHz	Distance Meters	Radiated dBμV/m	Radiated μV/m
30 - 88	3	40.0	100
88 - 216	3	43.5	150
216 - 960	3	46.0	200
above 960	3	54.0	500

For intentional device, according to § 15.209(a), the general requirement of field strength of radiated emissions from intentional radiators at a distance of 3 meters shall not exceed the above table.

(3) Antenna Requirement

For intentional device, according to § 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

(4) Bandwidth Requirement

For direct sequence system, according to 15.247(a)(2), the minimum 6dB bandwidth shall be at least 500 kHz.

(5) Output Power Requirement

For direct sequence system, according to 15.247(b), the maximum peak output power of the transmitter shall not exceed 1 Watt. If transmitting antennas of directional gain greater than 6 dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(6) 100 kHz Bandwidth of Frequency Band Edges Requirement

According to 15.247(c), if any 100 kHz bandwidth outside these frequency bands, the radio frequency power that is produced by the modulation products of the spreading sequence, the information sequence and the carrier frequency shall be either at least 20 dB below that in any 100 kHz bandwidth within the band that contains the highest level of the desired power or shall not exceed the general levels specified in § 15.209(a), whichever results in the lesser attenuation.

(7) Power Density Requirement

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.

(8) Processing Gain Requirement

According to 15.247(e), the processing gain of a direct sequence system shall be at least 10 dB. The processing gain shall be determined from the ratio in dB of the signal to noise ratio with the system spreading code turned off to the signal to noise ratio with the system spreading code turned on, as measured at the demodulated output of the receiver.

2.3 Restricted Bands of Operation

Only spurious emissions are permitted in any of the frequency bands listed below :

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42-16.423	399.9-410	4.5-5.25
0.495 - 0.505 **	16.69475 - 16.69525	608-614	5.35-5.46
2.1735 - 2.1905	16.80425 - 16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475 - 156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2655-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3360-4400	Above 38.6
13.36-13.41			

** : Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz

2.4 Labeling Requirement

The device shall bear the following statement in a conspicuous location on the device :

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions : (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

2.5 User Information

The users manual or instruction manual for an intentional or unintentional radiator shall caution the user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

For a Class B digital device or peripheral, the instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual.

The Federal Communications Commission Radio Frequency Interference Statement includes the following paragraph.

This equipment has been tested and found to comply with the limits for a Class B Digital Device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction may cause harmful interference to radio communication. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

-- Reorient or relocate the receiving antenna.

-- Increase the separation between the equipment and receiver.

-- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

-- Consult the dealer or an experienced radio / TV technician for help.

3. SYSTEM TEST CONFIGURATION

3.1 Justification

For both radiated and conducted emissions below 1 GHz, the system was configured for testing in a typical fashion as a customer would normally use it. The peripherals other than EUT were connected in normally standing by situation.

All measurement were intentional to maximum the emissions from EUT by varying the connection cables, therefore, the test result is sure to meet the applicable requirement.

3.2 Devices for Tested System

Device	Manufacture	Model / FCC ID.	Description
Cordless Telephone *	Solomon Wireless Tech. Corp.	SDC820 O2BSDC820	1.8m AC adaptor unshielded cord

Remark "*" means equipment under test.

4 RADIATED EMISSION MEASUREMENT

4.1 Applicable Standard

For intentional radiators, according to § 15.249 (a), operation within the frequency band of 902 to 928 MHz, the fundamental field strength shall not exceed 94 dBuV/m and the harmonics shall not exceed 54 dBuV/m. For out band emission except for harmonics shall be comply with § 15.209 or at least attenuated by 50 dB below the level of the fundamental.

4.2 Measurement Procedure

1. Setup the configuration per figure 5 and 6 for frequencies measured below and above 1 GHz respectively.
2. For emission frequencies measured below 1 GHz, a pre-scan is performed in a shielded chamber to determine the accurate frequencies of higher emissions will be checked on a open test site. As the same purpose, for emission frequencies measured above 1 GHz, a pre-scan also be performed with a 1 meter measuring distance before final test.
3. For emission frequencies measured below and above 1 GHz, set the spectrum analyzer on a 100 kHz and 1 MHz resolution bandwidth respectively for each frequency measured in step 2.
4. The search antenna is to be raised and lowered over a range from 1 to 4 meters in horizontally polarized orientation. Position the highness when the highest value is indicated on spectrum analyzer, then change the orientation of EUT on test table over a range from 0 ° to 360 ° with a speed as slow as possible, and keep the azimuth that highest emission is indicated on the spectrum analyzer. Vary the antenna position again and record the highest value as a final reading.
5. Repeat step 4 until all frequencies need to be measured were complete.
6. Repeat step 5 with search antenna in vertical polarized orientations.
7. Check the three frequencies of highest emission with varying the placement of cables associated with EUT to obtain the worse case and record the result.

Figure 1 : Frequencies measured below 1 GHz configuration

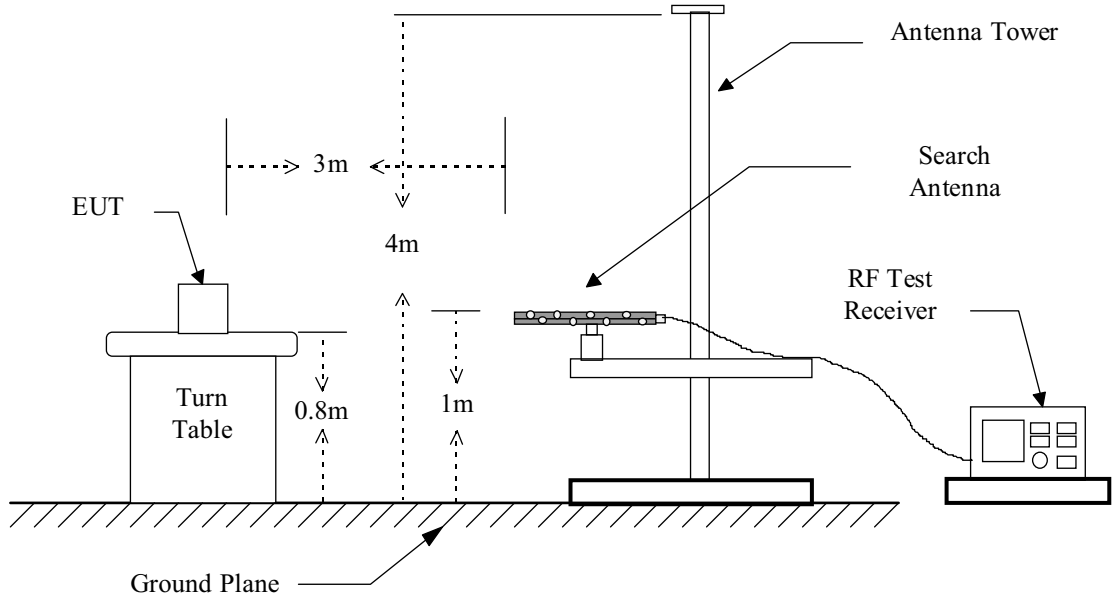
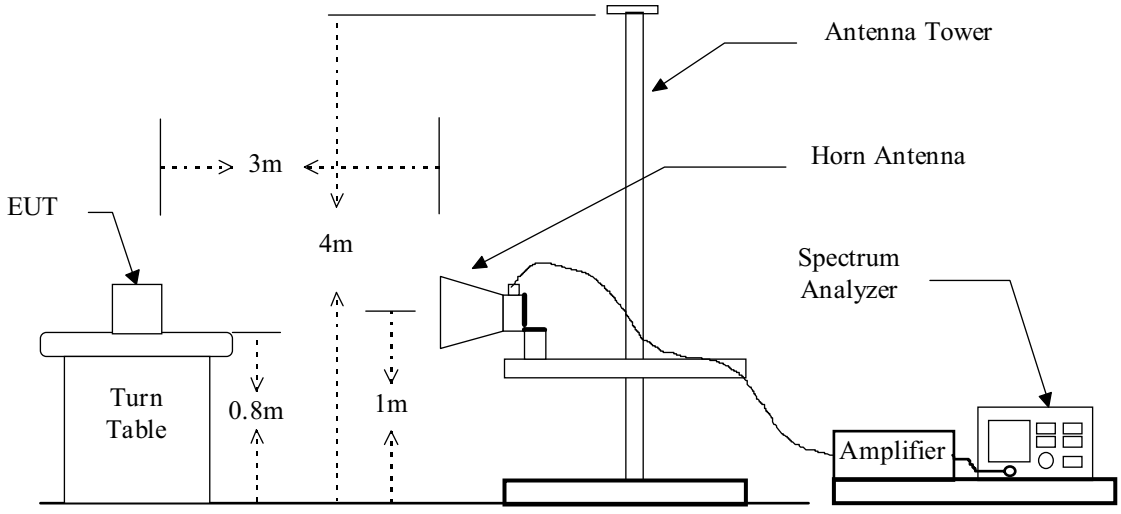


Figure 2 : Frequencies measured above 1 GHz configuration



4.3 Measuring Instrument

The following instrument are used for radiated emissions measurement :

Equipment	Manufacturer	Model No.	Next Cal. Date
Spectrum Analyzer	Hewlett-Packard	8568B	01/05/2001
Pre-selector	Hewlett-Packard	85685A	01/10/2001
Quasi Peak Detector	Hewlett-Packard	85650A	01/10/2001
Spectrum Analyzer	Adventest	R3271	09/09/2001
RF Test Receiver	Rohde & Schwarz	ESVS 30	07/27/2001
Horn Antenna	EMCO	3115	05/09/2001
Horn Antenna	EMCO	3116	04/02/2001
Log periodic Antenna	EMCO	3146	11/03/2000
Biconical Antenna	EMCO	3110B	11/03/2000
Preamplifier	Hewlett-Packard	8449B	05/09/2001
Preamplifier	Hewlett-Packard	8447D	01/18/2001

Measuring instrument setup in measured frequency band when specified detector function is used :

Frequency Band (MHz)	Instrument	Function	Resolution bandwidth	Video Bandwidth
30 to 1000	RF Test Receiver	Quasi-Peak	120 kHz	N/A
	Spectrum Analyzer	Peak	100 kHz	100 kHz
Above 1000	Spectrum Analyzer	Peak	1 MHz	1 MHz
	Spectrum Analyzer	Average	1 MHz	300 Hz

4.4 Radiated Emission Data

4.4.1 Fundamental & Harmonics

A. CH 0

Operation Mode : Handset

Fundamental Frequency : 903.605 MHz

Test Date : JUL. 03, 2000 Temperature : 25 ℃ Humidity : 65%

Frequency (MHz)	Reading (dBuV) H Peak	H Ave	V Peak	V Ave	Factor (dB) Corr.	Result @3m (dBuV/m) Peak	Result @3m (dBuV/m) Ave	Limit @3m (dBuV/m) Peak	Limit @3m (dBuV/m) Ave.	Margin (dB)	Table Deg. (Deg.)	Ant. High (m)
1805.490	61.2	31.3	65.6	40.7	-5.7	59.9	35.0	74.0	54.0	-14.1	0	1.00
2709.790	44.8	---	41.3	---	-2.1	42.7	---	74.0	54.0	-11.3	0	1.20
3617.130	35.2	---	45.5	---	0.5	46.0	---	74.0	54.0	-8.0	90	1.10
4516.160	39.2	---	47.7	---	2.0	49.7	---	74.0	54.0	-4.3	180	1.20
5421.630	---	---	---	---	4.2	---	---	74.0	54.0	---	---	---
6325.235	---	---	---	---	4.5	---	---	74.0	54.0	---	---	---
7228.840	---	---	---	---	5.8	---	---	74.0	54.0	---	---	---
8132.445	---	---	---	---	6.5	---	---	74.0	54.0	---	---	---
9036.050	---	---	---	---	7.0	---	---	74.0	54.0	---	---	---

Note :

1. Remark "*" means Q.P limit is employed.
2. Item of margin shown in above table refer to average limit.
3. It is considered that the results of average comply with average or Q.P limit when measuring data with a peak function detector meet the average or Q.P limit.
4. Remark "---" means that the emissions level is too low to be measured.
5. Item "Margin" referred to Average limit while there is only peak result.

B. CH 15

Operation Mode : Handset

Fundamental Frequency : 914.334 MHz

Test Date : JUL. 03, 2000 Temperature : 25 ℃ Humidity : 65%

Frequency (MHz)	Reading (dBuV) H Peak	H Ave	V Peak	V Ave	Factor (dB) Corr.	Result @3m (dBuV/m) Peak	Result @3m (dBuV/m) Ave	Limit @3m (dBuV/m) Peak	Limit @3m (dBuV/m) Ave.	Margin (dB)	Table Deg. (Deg.)	Ant. High (m)
1827.830	60.8	37.7	68.0	43.7	-5.6	62.4	38.1	74.0	54.0	-11.6	0	1.00
2746.660	40.2	---	46.5	---	-2.0	44.5	---	74.0	54.0	-9.5	0	1.00
3662.330	37.8	---	43.8	---	0.6	44.4	---	74.0	54.0	-9.6	0	1.10
4572.040	38.3	---	47.3	---	2.1	49.4	---	74.0	54.0	-4.6	180	1.00
5486.130	32.8	---	38.0	---	4.4	42.4	---	74.0	54.0	-11.6	90	1.20
6400.338	---	---	---	---	4.5	---	---	74.0	54.0	---	---	---
7314.672	---	---	---	---	5.9	---	---	74.0	54.0	---	---	---
8229.006	---	---	---	---	6.6	---	---	74.0	54.0	---	---	---
9143.340	---	---	---	---	7.1	---	---	74.0	54.0	---	---	---

Note :

1. Remark "*" means Q.P limit is employed.
2. Item of margin shown in above table refer to average limit.
3. It is considered that the results of average comply with average or Q.P limit when measuring data with a peak function detector meet the average or Q.P limit.
4. Remark "---" means that the emissions level is too low to be measured.
5. Item "Margin" referred to Average limit while there is only peak result.

C. CH 30

Operation Mode : Handset

Fundamental Frequency : 926.510 MHz

Test Date : JUL. 03, 2000 Temperature : 25 ℃ Humidity : 65%

Frequency (MHz)	Reading (dBuV) H Peak	H Ave	V Peak	V Ave	Factor (dB) Corr.	Result @3m (dBuV/m) Peak	Result @3m (dBuV/m) Ave	Limit @3m (dBuV/m) Peak	Limit @3m (dBuV/m) Ave.	Margin (dB)	Table Deg. (Deg.)	Ant. High (m)
1850.180	57.3	---	64.7	38.5	-5.5	59.2	33.0	74.0	54.0	-14.8	0	1.00
2776.990	46.7	---	44.0	---	-1.9	44.8	---	74.0	54.0	-9.2	0	1.20
3707.070	35.1	---	41.7	---	0.8	42.5	---	74.0	54.0	-11.5	90	1.00
4628.400	36.3	---	38.7	---	2.2	40.9	---	74.0	54.0	-13.1	180	1.00
5559.060	---	---	---	---	4.4	---	---	74.0	54.0	---	---	---
6485.570	---	---	---	---	4.5	---	---	74.0	54.0	---	---	---
7412.080	---	---	---	---	6.1	---	---	74.0	54.0	---	---	---
8338.590	---	---	---	---	6.7	---	---	74.0	54.0	---	---	---
9265.100	---	---	---	---	7.1	---	---	74.0	54.0	---	---	---

Note :

1. Remark "*" means Q.P limit is employed.
2. Item of margin shown in above table refer to average limit.
3. It is considered that the results of average comply with average or Q.P limit when measuring data with a peak function detector meet the average or Q.P limit.
4. Remark "---" means that the emissions level is too low to be measured.
5. Item "Margin" referred to Average limit while there is only peak result.

D. CH 0

Operation Mode : Base Unit

Fundamental Frequency : 903.670 MHz

Test Date : JUL. 03, 2000 Temperature : 25 ℃ Humidity : 65%

Frequency (MHz)	Reading (dBuV) H Peak	H Ave	V Peak	V Ave	Factor (dB) Corr.	Result @3m (dBuV/m) Peak	Result @3m (dBuV/m) Ave	Limit @3m (dBuV/m) Peak	Limit @3m (dBuV/m) Ave.	Margin (dB)	Table Deg. (Deg.)	Ant. High (m)
1806.710	77.6	50.7	78.4	56.8	-5.7	72.7	51.1	74.0	54.0	-1.3	90	1.20
2709.935	59.3	30.3	60.7	39.0	-2.1	58.6	36.9	74.0	54.0	-15.4	180	1.20
3619.977	48.8	---	43.2	---	0.5	49.3	---	74.0	54.0	-4.7	90	1.10
4521.790	46.5	---	46.7	---	2.0	48.7	---	74.0	54.0	-5.3	180	1.30
5422.020	---	---	---	---	4.2	---	---	74.0	54.0	---	---	---
6325.690	---	---	---	---	4.5	---	---	74.0	54.0	---	---	---
7229.360	---	---	---	---	5.8	---	---	74.0	54.0	---	---	---
8133.030	---	---	---	---	6.5	---	---	74.0	54.0	---	---	---
9036.700	---	---	---	---	7.0	---	---	74.0	54.0	---	---	---

Note :

1. Remark "*" means Q.P limit is employed.
2. Item of margin shown in above table refer to average limit.
3. It is considered that the results of average comply with average or Q.P limit when measuring data with a peak function detector meet the average or Q.P limit.
4. Remark "---" means that the emissions level is too low to be measured.
5. Item "Margin" referred to Average limit while there is only peak result.

E. CH 15

Operation Mode : Base Unit

Fundamental Frequency : 914.830 MHz

Test Date : JUL. 03, 2000 Temperature : 25 ℃ Humidity : 65%

Frequency (MHz)	Reading (dBuV) H Peak	H Ave	V Peak	V Ave	Factor (dB) Corr.	Result @3m (dBuV/m) Peak	Result @3m (dBuV/m) Ave	Limit @3m (dBuV/m) Peak	Limit @3m (dBuV/m) Ave.	Margin (dB)	Table Deg. (Deg.)	Ant. High (m)
1828.310	75.5	52.5	78.7	57.8	-5.6	73.1	52.2	74.0	54.0	-0.9	90	1.20
2742.390	62.3	36.3	68.0	40.5	-2.0	66.0	38.5	74.0	54.0	-8.0	180	1.20
3662.250	46.0	---	45.3	---	0.6	46.6	---	74.0	54.0	-7.4	90	1.00
4571.970	44.3	---	47.5	---	2.1	49.6	---	74.0	54.0	-4.4	180	1.20
5488.980	---	---	---	---	4.4	---	---	74.0	54.0	---	---	---
6403.810	---	---	---	---	4.5	---	---	74.0	54.0	---	---	---
7318.640	---	---	---	---	5.9	---	---	74.0	54.0	---	---	---
8233.470	---	---	---	---	6.6	---	---	74.0	54.0	---	---	---
9148.300	---	---	---	---	7.1	---	---	74.0	54.0	---	---	---

Note :

1. Remark "*" means Q.P limit is employed.
2. Item of margin shown in above table refer to average limit.
3. It is considered that the results of average comply with average or Q.P limit when measuring data with a peak function detector meet the average or Q.P limit.
4. Remark "---" means that the emissions level is too low to be measured.
5. Item "Margin" referred to Average limit while there is only peak result.

F. CH 30

Operation Mode : Base Unit

Fundamental Frequency : 926.300 MHz

Test Date : JUL. 03, 2000 Temperature : 25 ℃ Humidity : 65%

Frequency (MHz)	Reading (dBuV) H Peak	H Ave	V Peak	V Ave	Factor (dB) Corr.	Result @3m (dBuV/m) Peak	Result @3m (dBuV/m) Ave	Limit @3m (dBuV/m) Peak	Limit @3m (dBuV/m) Ave.	Margin (dB)	Table Deg. (Deg.)	Ant. High (m)
1850.730	75.2	50.0	78.6	52.2	-5.5	73.1	46.7	74.0	54.0	-0.9	90	1.10
2776.150	55.3	28.5	61.5	31.0	-1.9	59.6	29.1	74.0	54.0	-14.4	180	1.20
3707.320	43.3	---	43.8	---	0.8	44.6	---	74.0	54.0	-9.4	90	1.20
4626.860	45.2	---	45.7	---	2.2	47.9	---	74.0	54.0	-6.1	180	1.20
5557.800	---	---	---	---	4.4	---	---	74.0	54.0	---	---	---
6484.100	---	---	---	---	4.5	---	---	74.0	54.0	---	---	---
7410.400	---	---	---	---	6.1	---	---	74.0	54.0	---	---	---
8336.700	---	---	---	---	6.7	---	---	74.0	54.0	---	---	---
9263.000	---	---	---	---	7.1	---	---	74.0	54.0	---	---	---

Note :

1. Remark "*" means Q.P limit is employed.
2. Item of margin shown in above table refer to average limit.
3. It is considered that the results of average comply with average or Q.P limit when measuring data with a peak function detector meet the average or Q.P limit.
4. Remark "---" means that the emissions level is too low to be measured.
5. Item "Margin" referred to Average limit while there is only peak result.

4.4.2 Other Spurious

A. Handset

Operation Mode : TX/RX

Test Date : JUL. 03, 2000 Temperature : 28 ℃ Humidity : 70%

Frequency (MHz)	Ant-Pol H/V	Meter Reading (dBuV)	Corrected Factor (dB)	Result @3m (dBuV/m) Q.P	Limit @3m (dBuV/m) Q.P	Margin (dB)	Table Degree (Deg.)	Ant. High (m)
264.050	H	39.2	-3.8	35.4	46.0	-10.6	180	2.10
312.050	H	48.1	-6.9	41.2	46.0	-4.8	180	2.00
648.021	H	39.9	-2.9	37.0	46.0	-9.0	180	1.60
672.014	H	36.8	-1.2	35.6	46.0	-10.4	90	2.00
696.029	H	39.2	-1.0	38.2	46.0	-7.8	90	2.10
744.043	H	36.4	-0.4	36.0	46.0	-10.0	180	2.10

B. Base Unit

Operation Mode : TX/RX

Test Date : JUL. 03, 2000 Temperature : 28 ℃ Humidity : 70%

Frequency (MHz)	Ant-Pol H/V	Meter Reading (dBuV)	Corrected Factor (dB)	Result @3m (dBuV/m) Q.P	Limit @3m (dBuV/m) Q.P	Margin (dB)	Table Degree (Deg.)	Ant. High (m)
72.050	V	48.6	-16.2	32.4	40.0	-7.6	180	1.20
120.043	H	47.0	-10.8	36.2	43.5	-7.3	180	1.80
168.043	V	47.7	-9.1	38.6	43.5	-4.9	180	1.20
192.043	H	45.9	-8.1	37.8	43.5	-5.7	90	2.20
216.043	H	50.5	-6.1	44.4	46.0	-1.6	180	2.10
240.029	H	44.3	-4.5	39.8	46.0	-6.2	180	1.80
288.029	H	41.3	-2.1	39.2	46.0	-6.8	90	1.90

Operation Mode : Charge

Test Date : JUL. 03, 2000 Temperature : 28 ℃ Humidity : 70%

Frequency (MHz)	Ant-Pol H/V	Meter Reading (dBuV)	Corrected Factor (dB)	Result @3m (dBuV/m) Q.P	Limit @3m (dBuV/m) Q.P	Margin (dB)	Table Degree (Deg.)	Ant. High (m)
72.050	V	50.4	-16.2	34.2	40.0	-5.8	180	1.20
120.050	H	49.2	-10.8	38.4	43.5	-5.1	180	1.80
144.043	V	48.3	-10.5	37.8	43.5	-5.7	90	1.00
168.043	V	50.1	-9.1	41.0	43.5	-2.5	180	1.20
216.036	H	48.5	-6.1	42.4	46.0	-3.6	180	2.00
240.036	H	45.1	-4.5	40.6	46.0	-5.4	180	1.90
384.036	H	46.9	-6.1	40.8	46.0	-5.2	180	1.90
432.036	H	45.5	-5.5	40.0	46.0	-6.0	180	2.10

4.5 Field Strength Calculation

The field strength is calculated by adding the Antenna Factor, High Pass Filter Loss(if used) and Cable Loss, and subtracting the Amplifier Gain (if any) from the measured reading. The basic equation calculation is as follows:

Result = Reading + Corrected Factor

where Corrected Factor

= Antenna FACTOR + Cable Loss + High Pass Filter Loss - Amplifier Gain

4.6 Photos of Radiation Measuring Setup

(Mode : Handset)

Please see setup photos in Exhibit F.

(Mode : Base Unit)

Please see setup photos in Exhibit F.

5 CONDUCTED EMISSION MEASUREMENT

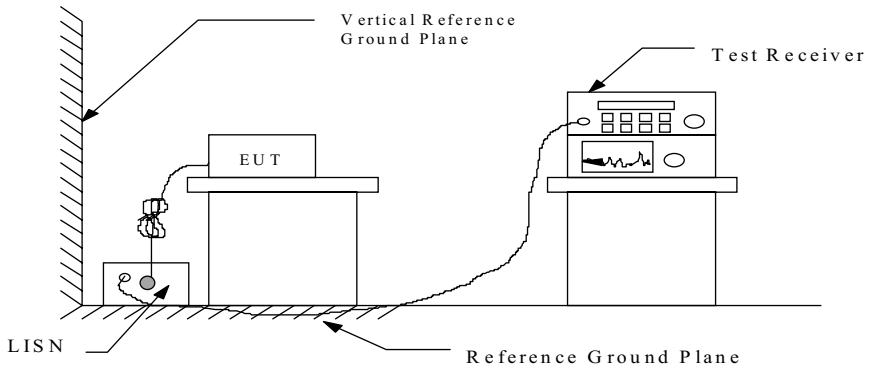
5.1 Standard Applicable

For intentional device, Line Conducted Emission Limits are in accordance to § 15.207(a), any emissions level shall not exceed 48 dBuV.

5.2 Measurement Procedure

1. Setup the configuration per figure 3.
2. A preliminary scan with a spectrum monitor is performed to identify the frequency of emission that has the highest amplitude relative to the limit by operating the EUT in selected modes of operation, typical cable positions, and with a typical system configuration.
3. Record the 6 or 8 highest emissions relative to the limit.
4. Measure each frequency obtained from step 3 by a test receiver set on quasi peak detector function, and then record the accuracy frequency and emission level. If all emissions measured in the specified band are attenuated more than 20 dB from the limit, this step would be ignored, and the peak detector function would be used.
5. Confirm the highest three emissions with variation of the EUT cable configuration and record the final data.
6. Repeat all above procedures on measuring each operation mode of EUT.

Figure 3 : Conducted emissions measurement configuration



5.3 Conducted Emission Data

A. CH 0

Operation Mode : Base Unit
Test Date : JUL. 08, 2000 Temperature : 22 ℃ Humidity: 65%

Frequency	Reading (dBuV)		Factor	Result (dBuV)		Limit	Margin
(MHz)	Va	Vb	(dB)	Va	Vb	(dBuV)	(dB)
0.4851	17.1	15.8	0.2	17.3	16.0	48.0	-30.7
0.9319	17.0	16.5	0.3	17.3	16.8	48.0	-30.7
1.2979	17.2	17.2	0.3	17.5	17.5	48.0	-30.5
3.3468	17.6	17.5	0.3	17.9	17.8	48.0	-30.1
5.7239	18.9	16.3	0.4	19.3	16.7	48.0	-28.7
11.4722	19.1	17.6	0.6	19.7	18.2	48.0	-28.3

B. CH 15

Operation Mode : Base Unit
Test Date : JUL. 08, 2000 Temperature : 22 ℃ Humidity: 65%

Frequency	Reading (dBuV)		Factor	Result (dBuV)		Limit	Margin
(MHz)	Va	Vb	(dB)	Va	Vb	(dBuV)	(dB)
0.4851	16.8	15.6	0.2	17.0	15.8	48.0	-31.0
0.9319	17.1	16.5	0.3	17.4	16.8	48.0	-30.6
1.2979	17.5	17.0	0.3	17.8	17.3	48.0	-30.2
3.3468	17.5	17.6	0.3	17.8	17.9	48.0	-30.1
5.7239	18.7	16.7	0.4	19.1	17.1	48.0	-28.9
11.4722	19.2	17.5	0.6	19.8	18.1	48.0	-28.2

C. CH 30

Operation Mode : Base Unit
Test Date : JUL. 08, 2000 Temperature : 22 ℃ Humidity: 65%

Frequency	Reading (dBuV)		Factor	Result (dBuV)		Limit	Margin
(MHz)	Va	Vb	(dB)	Va	Vb	(dBuV)	(dB)
0.4851	17.2	15.9	0.2	17.4	16.1	48.0	-30.6
0.9319	17.1	16.5	0.3	17.4	16.8	48.0	-30.6
1.2979	17.6	17.1	0.3	17.9	17.4	48.0	-30.1
3.3468	17.5	17.4	0.3	17.8	17.7	48.0	-30.2
5.7239	18.7	16.3	0.4	19.1	16.7	48.0	-28.9
11.4722	19.0	17.8	0.6	19.6	18.4	48.0	-28.4

D. Base Unit

Operation Mode : Charge
Test Date : JUL. 08, 2000 Temperature : 22 ℃ Humidity: 65%

Frequency	Reading (dBuV)		Factor	Result (dBuV)		Limit	Margin
(MHz)	Va	Vb	(dB)	Va	Vb	(dBuV)	(dB)
0.4851	17.0	15.8	0.2	17.2	16.0	48.0	-30.8
0.9319	17.0	16.6	0.3	17.3	16.9	48.0	-30.7
1.2979	17.4	17.0	0.3	17.7	17.3	48.0	-30.3
3.3468	17.6	17.6	0.3	17.9	17.9	48.0	-30.1
5.7239	18.8	16.4	0.4	19.2	16.8	48.0	-28.8
11.4722	19.0	17.6	0.6	19.6	18.2	48.0	-28.4

Note : Please see appendix 1 for Plotted Data

5.4 Result Data Calculation

The result data is calculated by adding the LISN Factor to the measured reading. The basic equation with a sample calculation is as follows:

RESULT = READING + LISN FACTOR

Assume a receiver reading of 22.5 dB μ V is obtained, and LISN Factor is 0.1 dB, then the total of disturbance voltage is 22.6 dB μ V.

RESULT = 22.5 + 0.1 = 22.6 dB μ V
Level in μ V = Common Antilogarithm[(22.6 dB μ V)/20]
= 13.48 μ V

5.5 Conducted Measurement Equipment

The following test equipment are used during the conducted test .

Equipment	Manufacturer	Model No.	Next Cal. Date
RF Test Receiver	Rohde and Schwarz	ESH3	01/03/2001
Spectrum Monitor	Rohde and Schwarz	EZM	N.C.R.
Line Impedance Stabilization network	Kyoritsu	KNW-407	12/01/2000
Plotter	Hewlett-Packard	7440A	N/A
Shielded Room	Riken	N/A	N.C.R.

5.6 Photos of Conduction Measuring Setup

(Mode : Base Unit)

Please see setup photos in Exhibit F.

(Mode : Charge)

Please see setup photos in Exhibit F.

6 ANTENNA REQUIREMENT

6.1 Standard Applicable

For intentional device, according to § 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

And according to § 15.247 (b), if transmitting antennas of directional gain greater than 6 dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

6.2 Antenna Construction and Directional Gain

The antenna terminal of this unit is designed to be mounted permanently on the device. Please see construction Photos Of Exhibit B for details.

The directional gain of antenna used for transmitting is 0dBi.

7 EMISSION BANDWIDTH MEASUREMENT

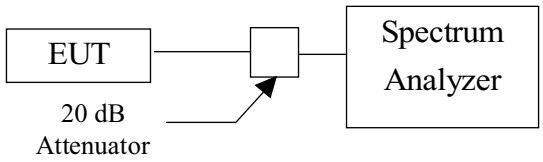
7.1 Standard Applicable

According to 15.247(a)(2), for direct sequence system, the minimum 6dB bandwidth shall be at least 500 kHz.

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 as shown in figure 5 without connection to measurement instrument. Turn on the EUT and connect it to measurement instrument . Then set it to any one convenient frequency within its operating range. Set a reference level on the measuring instrument equal to the highest peak value.
3. Measure the frequency difference of two frequencies that were attenuated 6 dB from the reference level. Record the frequency difference as the emission bandwidth.
4. Repeat above procedures until all frequencies measured were complete.

Figure 4: Emission bandwidth measurement configuration.



7.3 Measurement Equipment

Equipment	Manufacturer	Model No.	Next Cal. Due
RF Test Receiver	Rohde & Schwarz	ESBI	10/01/2000
Plotter	Hewlett-Packard	7440A	N/A
Attenuator	Weinschel Engineering	AS3667	N/A

7.4 Measurement Data

Test Date : JUL. 09, 2000 Temperature : 22 ℃ Humidity: 65 %

Handset

a) Channel 0 : 6 dB Emission Bandwidth is 1.800 MHz > 500 KHz.
b) Channel 15 : 6 dB Emission Bandwidth is 1.721 MHz > 500 KHz.
c) Channel 30 : 6 dB Emission Bandwidth is 1.743 MHz > 500 KHz.

Base Unit

a) Channel 0 : 6 dB Emission Bandwidth is 1.900 MHz > 500 KHz.
b) Channel 15 : 6 dB Emission Bandwidth is 2.014 MHz > 500 KHz.
c) Channel 30 : 6 dB Emission Bandwidth is 2.057 MHz > 500 KHz.

Note : Please see appendix 2 for Plotted Data

8 OUTPUT POWER MEASUREMENT

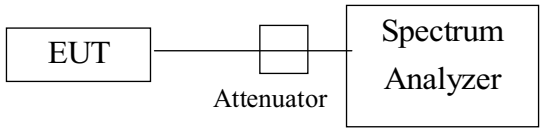
8.1 Standard Applicable

For direct sequence system, according to 15.247(b), the maximum peak output power of the transmitter shall not exceed 1 Watt. If transmitting antennas of directional gain greater than 6 dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

8.2 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 5 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 RBW of spectrum analyzer to 3 MHz and VBW to 3 MHz.
4. Measure the highest amplitude appearing on spectral display and record the level to calculate result data.
5. Repeat above procedures until all frequencies measured were complete.

Figure 5: Output power and measurement configuration.



8.3 Measurement Equipment

Equipment	Manufacturer	Model No.	Next Cal. Due
RF Test Receiver	Rohde & Schwarz	ESBI	10/01/2000
Plotter	Hewlett-Packard	7440A	N/A

8.4 Measurement Data

Test Date : JUL. 08, 2000 Temperature : 22 ℃ Humidity: 65 %

Handset

a) Channel 0 : Output Peak Power is 17.22 dBm or 52.72mW
b) Channel 15 : Output Peak Power is 16.72 dBm or 46.99mW
c) Channel 30 : Output Peak Power is 17.63 dBm or 57.94mW

Base Unit

a) Channel 0 : Output Peak Power is 18.44 dBm or 69.82mW
b) Channel 15 : Output Peak Power is 18.50 dBm or 70.79mW
c) Channel 30 : Output Peak Power is 18.53 dBm or 71.29mW

Note : Please see appendix 3 for Plotted Data

9 100 kHz BANDWIDTH OF BAND EDGES MEASUREMENT

9.1 Standard Applicable

According to 15.247(c), if any 100 kHz bandwidth outside these frequency bands, the radio frequency power that is produced by the modulation products of the spreading sequence, the information sequence and the carrier frequency shall be either at least 20 dB below that in any 100 kHz bandwidth within the band that contains the highest level of the desired power or shall not exceed the general levels specified in § 15.209(a), whichever results in the lesser attenuation.

9.2 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 5 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 both RBW and VBW of spectrum analyzer to 300 kHz with a convenient frequency span including 100kHz bandwidth from band edge.
4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
5. Repeat above procedures until all measured frequencies were complete.

9.3 Measurement Equipment

Equipment	Manufacturer	Model No.	Next Cal. Due
RF Test Receiver	Rohde & Schwarz	ESBI	10/01/2000
Attenuator	Weinschel Engineering	1	N/A
Plotter	Hewlett-Packard	7440A	N/A

9.4 Measurement Data

Test Date : JUL. 08, 2000 Temperature : 22 ℃ Humidity: 65 %

Handset

a) Lower Band Edge : attenuated more than 20dB.
b) Upper Band Edge : attenuated more than 20dB.

Base Unit

a) Lower Band Edge : attenuated more than 20dB.
b) Upper Band Edge : attenuated more than 20dB.

Note : Please see appendix 4 for Plotted Data

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 300 kHz video bandwidth as well as max. hold function. Also turn on SA level corrected function by 21 dB and then record the measurement result.
5. Repeat above procedures until all measured frequencies were complete.

10.3 Measurement Equipment

Equipment	Manufacturer	Model No.	Next Cal. Due
RF Test Receiver	Rohde & Schwarz	ESBI	10/01/2000
Attenuator	Weinschel Engineering	1	N/A
Plotter	Hewlett-Packard	7440A	N/A

10.4 Measurement Data

Test Date : JUL. 08, 2000 Temperature : 22 ℃ Humidity: 65 %

Handset

a) Channel 0 : Maximum Power Density of 3 kHz Bandwidth is 1.47 dBm
b) Channel 15 : Maximum Power Density of 3 kHz Bandwidth is 0.63 dBm
c) Channel 30 : Maximum Power Density of 3 kHz Bandwidth is 2.31 dBm

Base Unit

a) Channel 0 : Maximum Power Density of 3 kHz Bandwidth is 1.17 dBm
b) Channel 15 : Maximum Power Density of 3 kHz Bandwidth is 5.72 dBm
c) Channel 30 : Maximum Power Density of 3 kHz Bandwidth is 3.91 dBm

Note : Please see appendix 5 for Plotted Data

11 PROCESSING GAIN MEASUREMENT

11.1 Standard Applicable

According to 15.247(e), the processing gain of a direct sequence system shall be at least 10 dB. The processing gain shall be determined from the ratio in dB of the signal to noise ratio with the system spreading code turned off to the signal to noise ratio with the system spreading code turned on, as measured at the demodulated output of the receiver.

11.2 Measurement Description

11.2.1 Summary

This document describes how to processing gain was measured for the level One LXT810B digital spread spectrum telephone transceiver. Included are specifications, test setup, and test results.

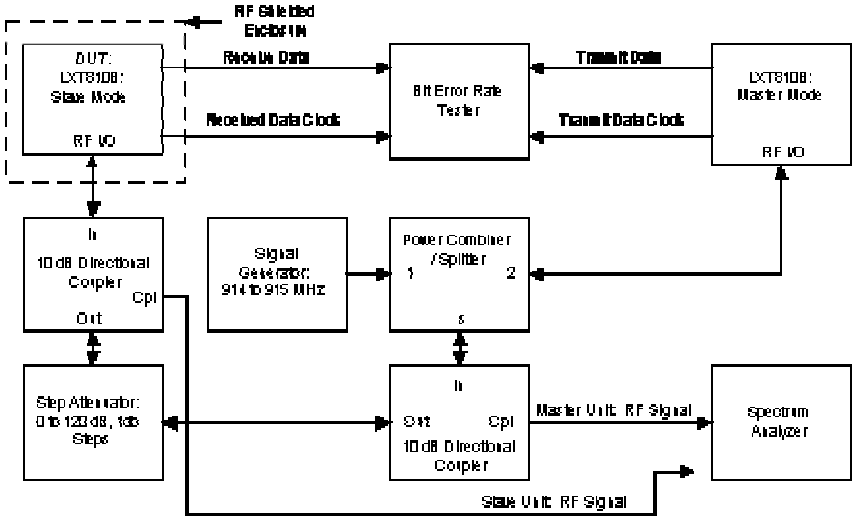
11.2.2 Requirements

According to the FCC requirement for direct sequence spread spectrum systems, the minimum processing gain is 10dB. The CW jamming method was used to determine the LXT810B processing gain. The processing gain was calculated using the following equation:

$G_p=S/I+J/S+L_{sys}$ where:

G_p=Processing Gain
S/I= Signal to noise required for a given error probability. In this case 1×10^{-4} was used.
J/S= Jammer to signal ratio required to produce given error probability.
L_{sys}= System loss to due non ideal performance. Maximum allowed by the FCC is 2.0dB.

The S/I ratio was determined to be 11.0dB according to Jakes "Microwave Mobile Communications". Page 229 indicates the relevant showing error probability Vs S/I for a non-coherent FM system with a peak deviation equal to .35 of the modulation frequency: $F_d= .35F_s$.
Given a minimum processing gain for 10dB, the minimum allowable J/S ratio is –3.0dB.
The processing gain was measured using the test setup shown in the following figure:



The following test equipment was used for this setup:

- □ LDB810 Demonstration system: Used Lxt810b RFIC s.
- □ Hewlett Packard ESG D3000A Signal Generator
- □ Hewlett Packard HP8563E Spectrum Analyzer
- □ Hewlett Packard HP 8494A and Hp 8496A Step Attenuators
- □ Mini Circuits ZFDC-10-5 10dB Directional Coupler (2)
- □ Ram STE-3000 Shielded Test Enclosure
- □ Telecommunication Techniques Corp. Firebird MC6000 Communication Analyzer (BER tester) with Lab Interface Card
- □ Semflex SMA cables

The LDB810 demonstration system was set up at the middle channel 915.0 MHz. The LXT810B base band 3dB bandwidth is less than 1.0 MHz; therefore, the signal generator was used to inject a C / W jammer from 914.0 MHz to 916.0 MHz in 50 kHz increments. The DUT received input power was set at -49.7 dBm. The jammer power was adjusted to achieve a bit error rate of 1x10-4 at each jammer frequency. The jammer power was recorded and the processing gain calculated for each jammer frequency from 914.0 MHz to 916.0 MHz.

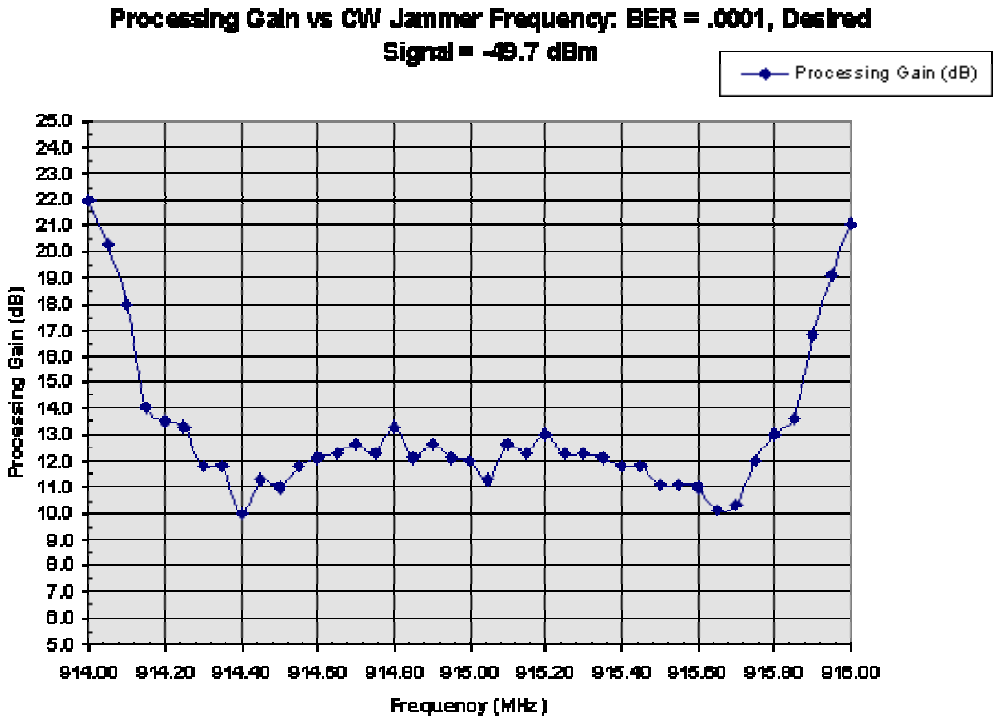
11.2.3 Test Results

The worse case processing gain was 10.0 dB for jamming frequencies of 914.40 MHz and 915.65 MHz. For all other jamming frequencies, the processing gain was greater than 10.0 dB. All of the measured test data is recorded in the following figure:

Channel Frequency =	915.00MHz
Bit Error Rate =	1.00E-0.4
Required S/N for BER =	11.0dB
System Losses =	2.0dB
Signal Strength at Receiver =	-49.7dBm

Jammer Frequency (MHz)	Jammer Power (dBm)	Jammer to Signal RatioJ/S (dB)	Processing Gain (dB)
914.000	-40.7	9.0	22.0
914.050	-42.4	7.3	20.3
914.100	-44.7	5.0	18.0
914.150	-48.7	1.0	14.0
914.200	-49.2	0.5	13.5
914.250	-49.4	0.3	13.3
914.300	-50.9	-1.2	11.8
914.350	-50.9	-1.2	11.8
914.400	-52.7	-3.0	10.0
914.450	-51.4	-1.7	11.3
914.500	-51.7	-2.0	11.0
914.550	-50.9	-1.2	11.8
914.600	-50.6	-0.9	12.1
914.650	-50.4	-0.7	12.3
914.700	-50.1	-0.4	12.6
914.750	-50.4	-0.7	12.3
914.800	-49.4	0.3	13.3
914.850	-50.6	-0.9	12.1
914.900	-50.1	-0.4	12.6
914.950	-50.6	-0.9	12.1
915.000	-20.7	-1.0	12.0
915.050	-51.4	-1.7	11.3
915.100	-50.1	-0.4	12.6
915.150	-50.4	-0.7	12.3
915.200	-49.7	0.0	13.0
915.250	-50.4	-0.7	12.3
915.300	-50.4	-0.7	12.3
915.350	-50.6	-0.9	12.1
915.400	-50.9	-1.2	11.8
915.450	-50.9	-1.2	11.8
915.500	-51.6	-1.9	11.1
915.550	-51.6	-1.9	11.1
915.600	-51.7	-2.0	11.0
915.650	-52.6	-2.9	10.1
915.700	-52.4	-2.7	10.3
915.750	-50.7	-1.0	12.0
915.800	-49.7	0.0	13.0
915.850	-49.1	0.6	13.6
915.900	-45.9	3.8	16.8
915.950	-43.6	6.1	19.1
916.000	-41.6	8.1	21.1

The processing gain Vs jammer frequency is shown in Figure 7:



11.2.4 Conclusions

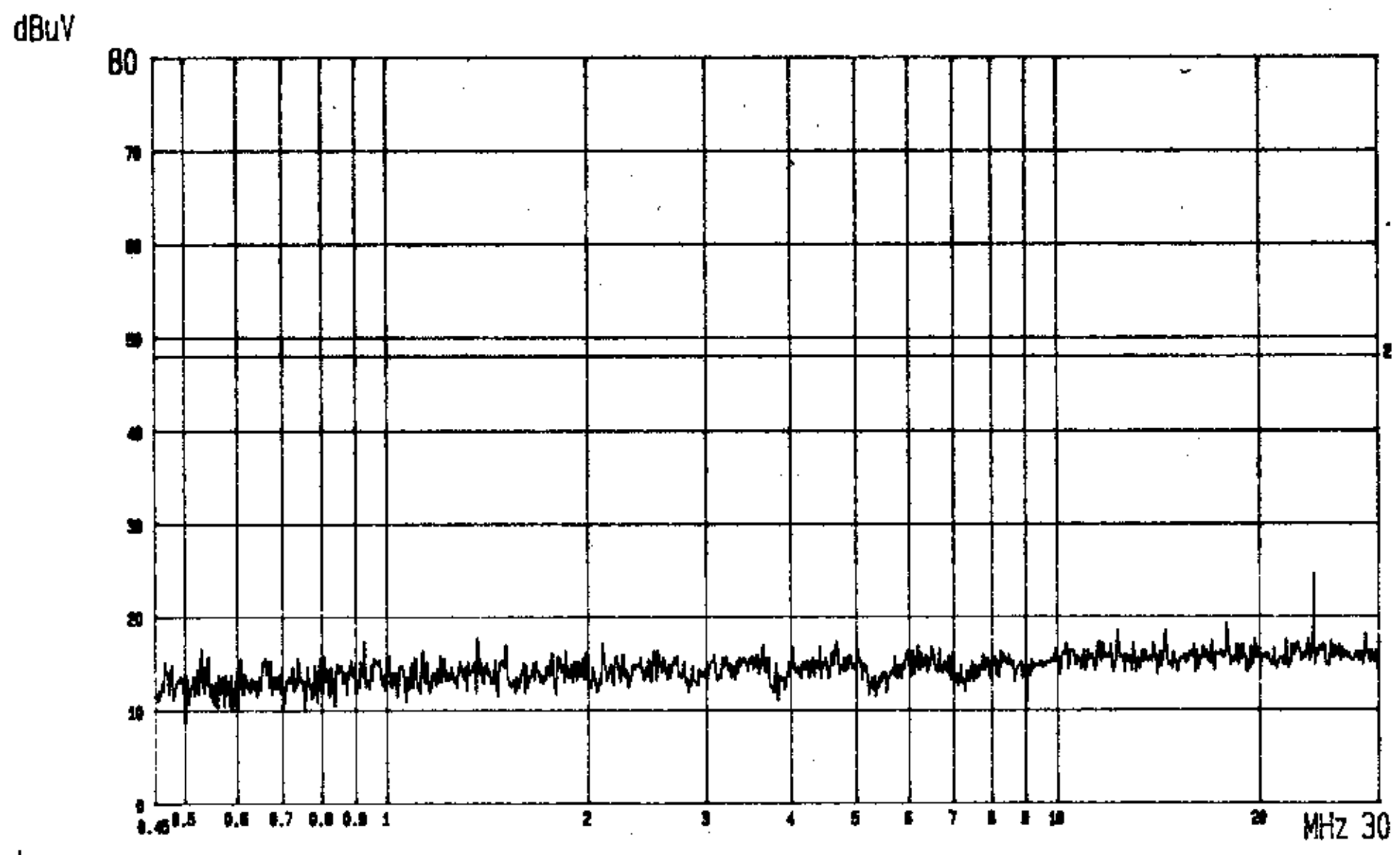
The LXT810B meets the 10.0 dB requirement for processing gain. The worse case processing gain of 10 dB was only seen at 914.40MHz and 915.65MHz. The FCC allows the worst 20% of the data to be ignored.

11.3 Measurement Data

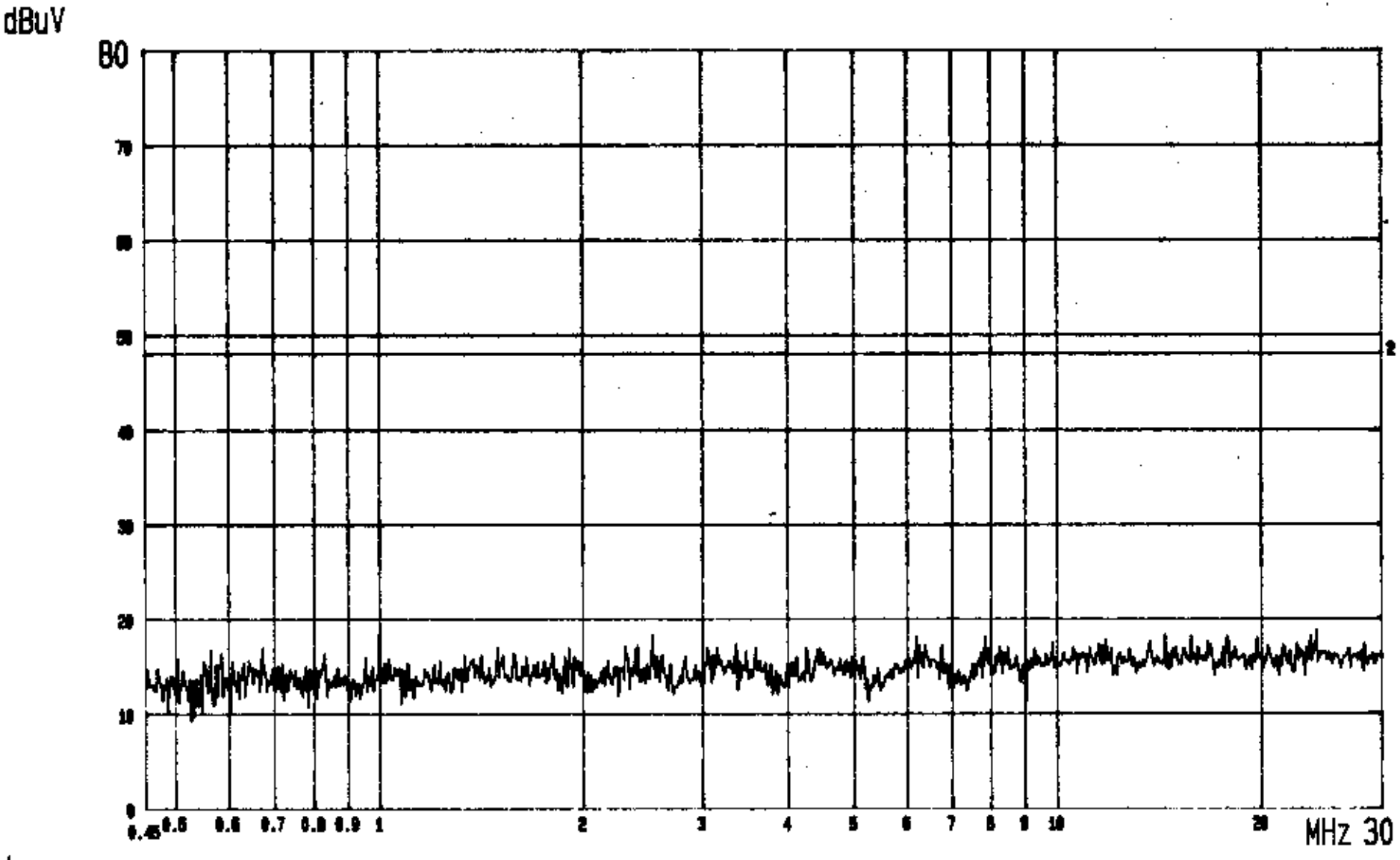
Test Date : JUL. 08, 2000 Temperature : 22 ℃ Humidity: 65 %

The processing gain is greater then 10 dB, please see Page 38 for details.

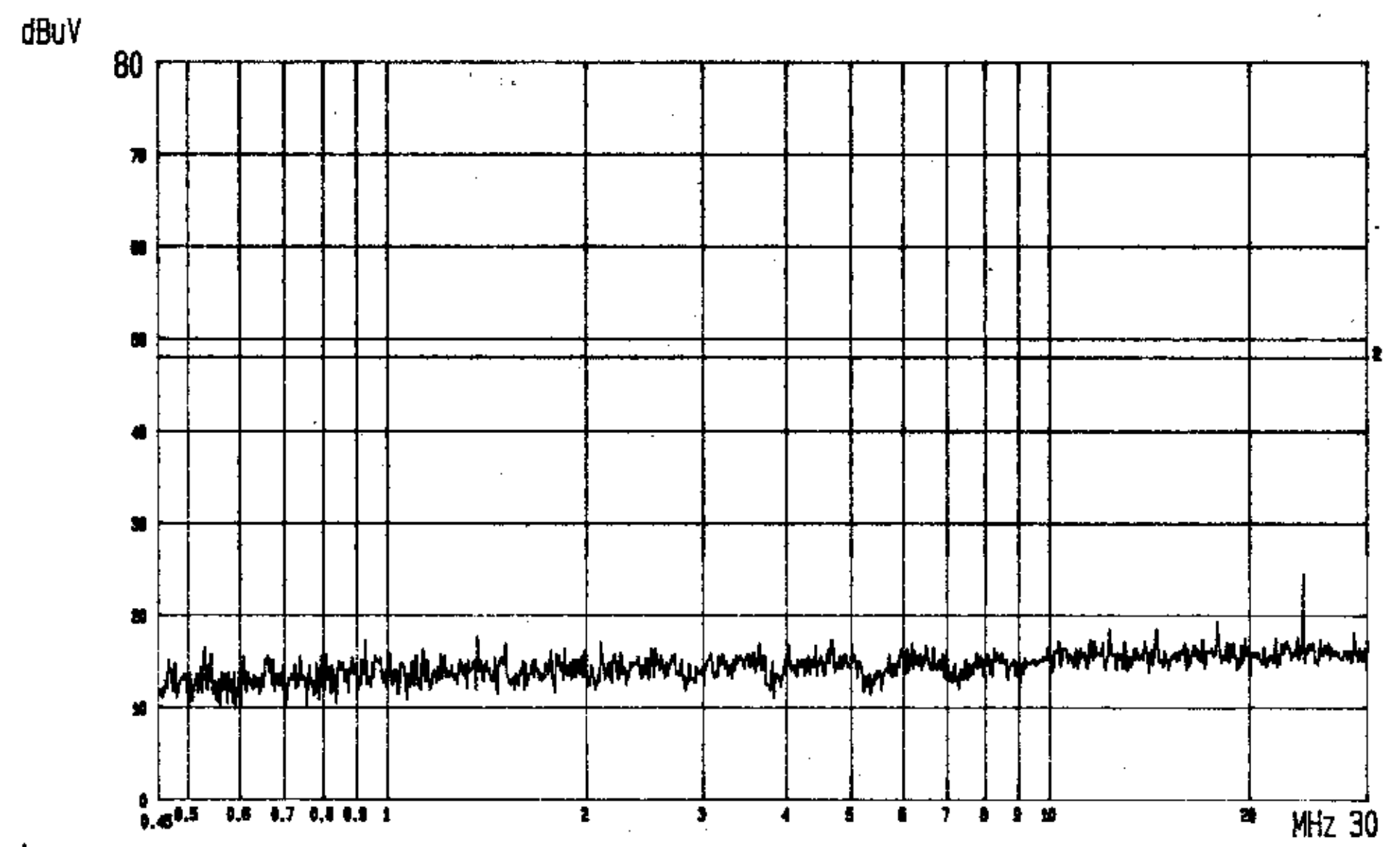
Appendix 1 : Plotted Data of Power Line Conducted Emissions



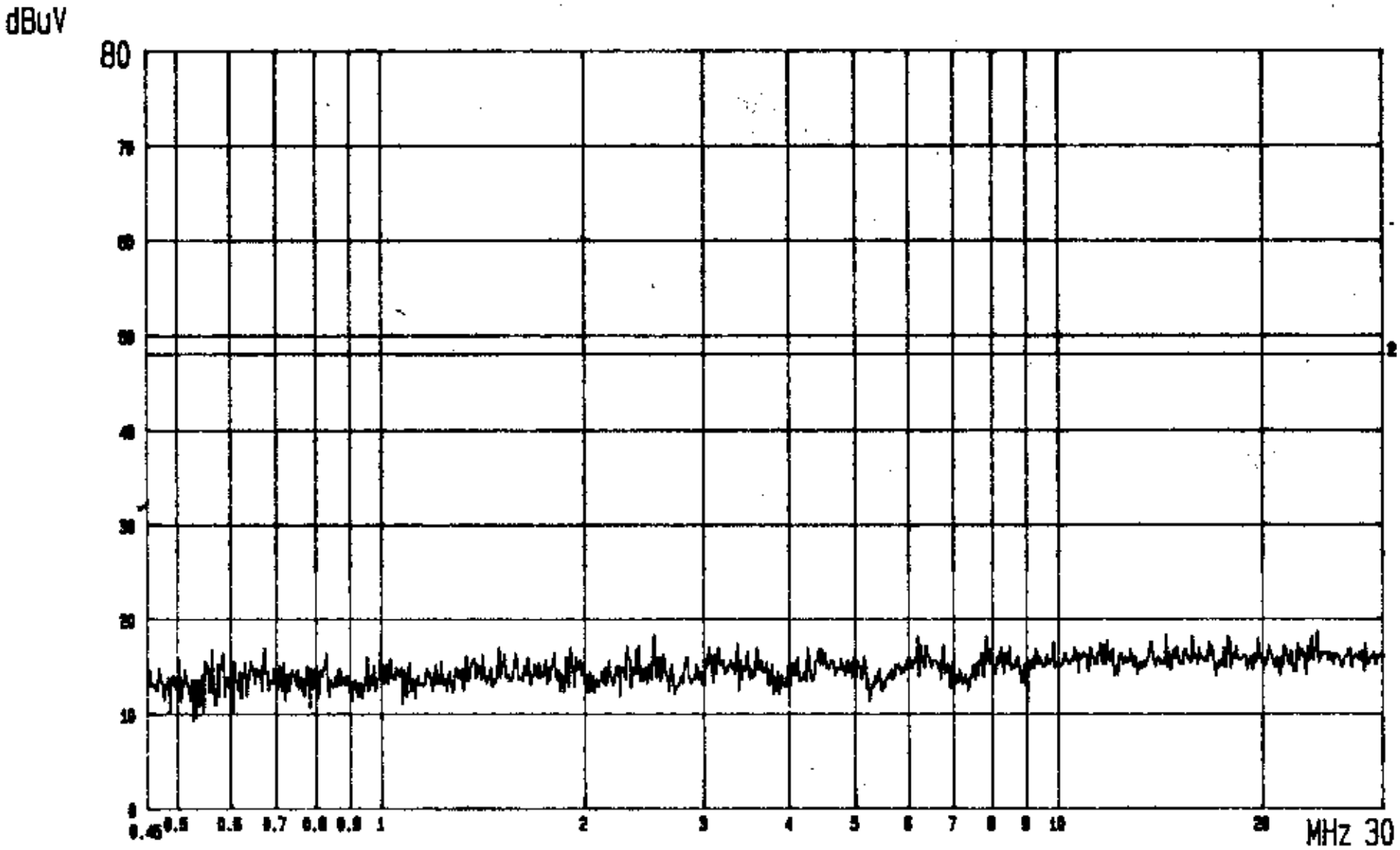
FCC CONDUCTED TEST
MODEL: SDC820 MODE: CH0
EUT: CORDLESS TELEPHONE
POWER: 120V/60Hz
2: QP. CLASS B LIMIT
LISN: Va ETC EMI LAB.



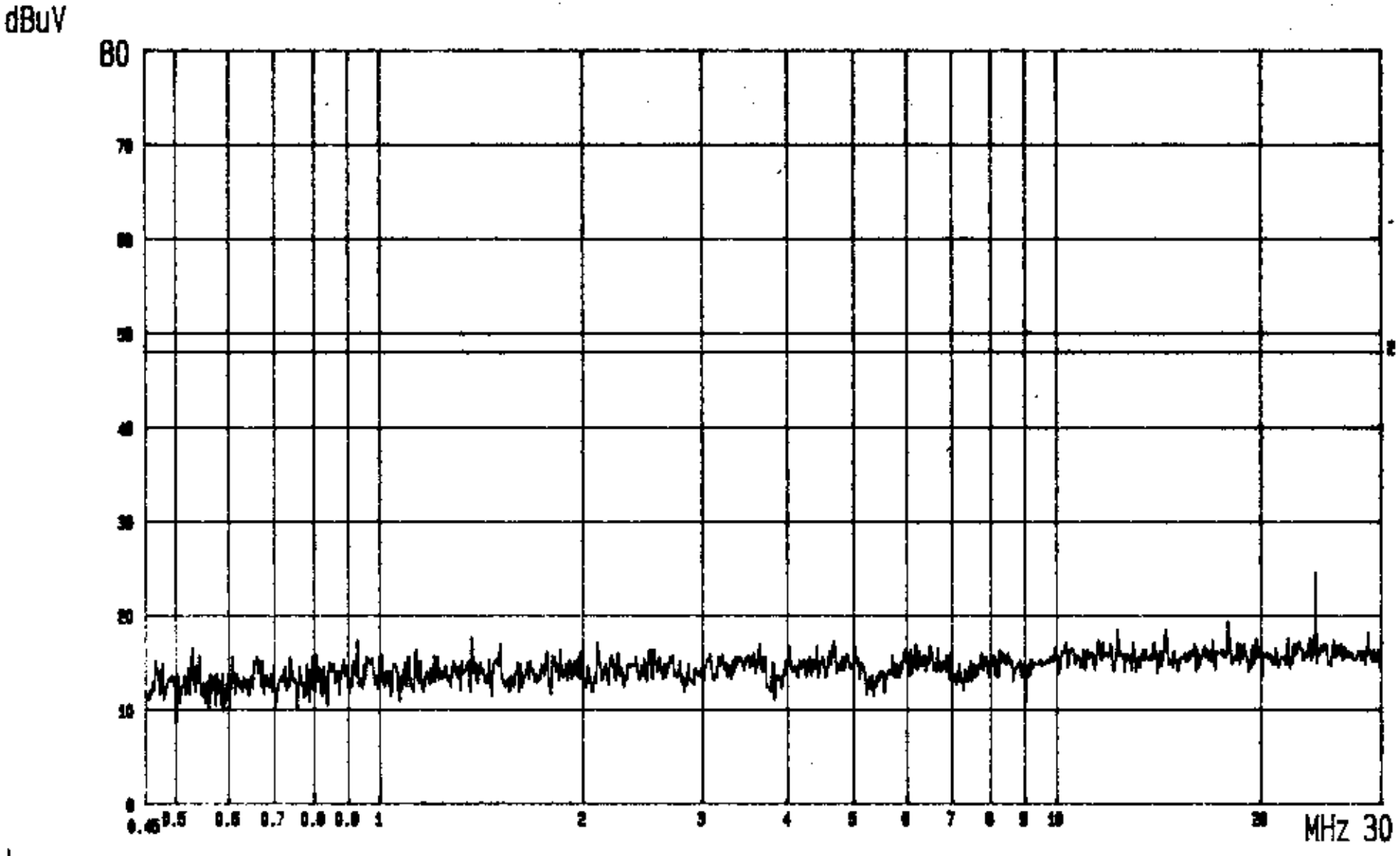
FCC CONDUCTED TEST
MODEL: SDC820 MODE: CH0
EUT: CORDLESS TELEPHONE
POWER: 120V/60Hz
2: QP. CLASS B LIMIT
LISN: Vb ETC EMI LAB.



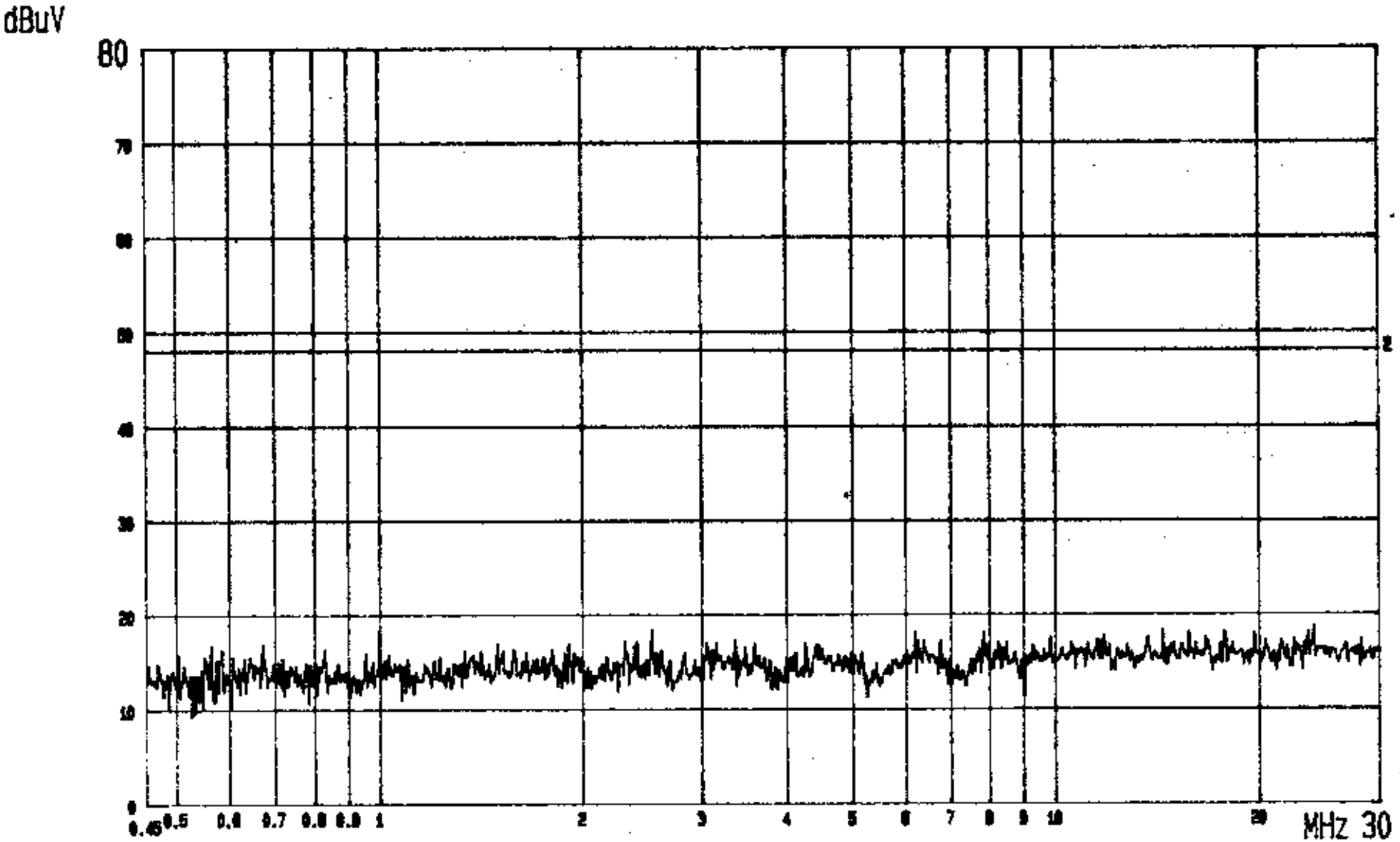
FCC CONDUCTED TEST
MODEL: SDC820 MODE: CH15
EUT: CORDLESS TELEPHONE
POWER: 120V/60Hz
2: QP. CLASS B LIMIT
LISN: Va ETC EMI LAB.



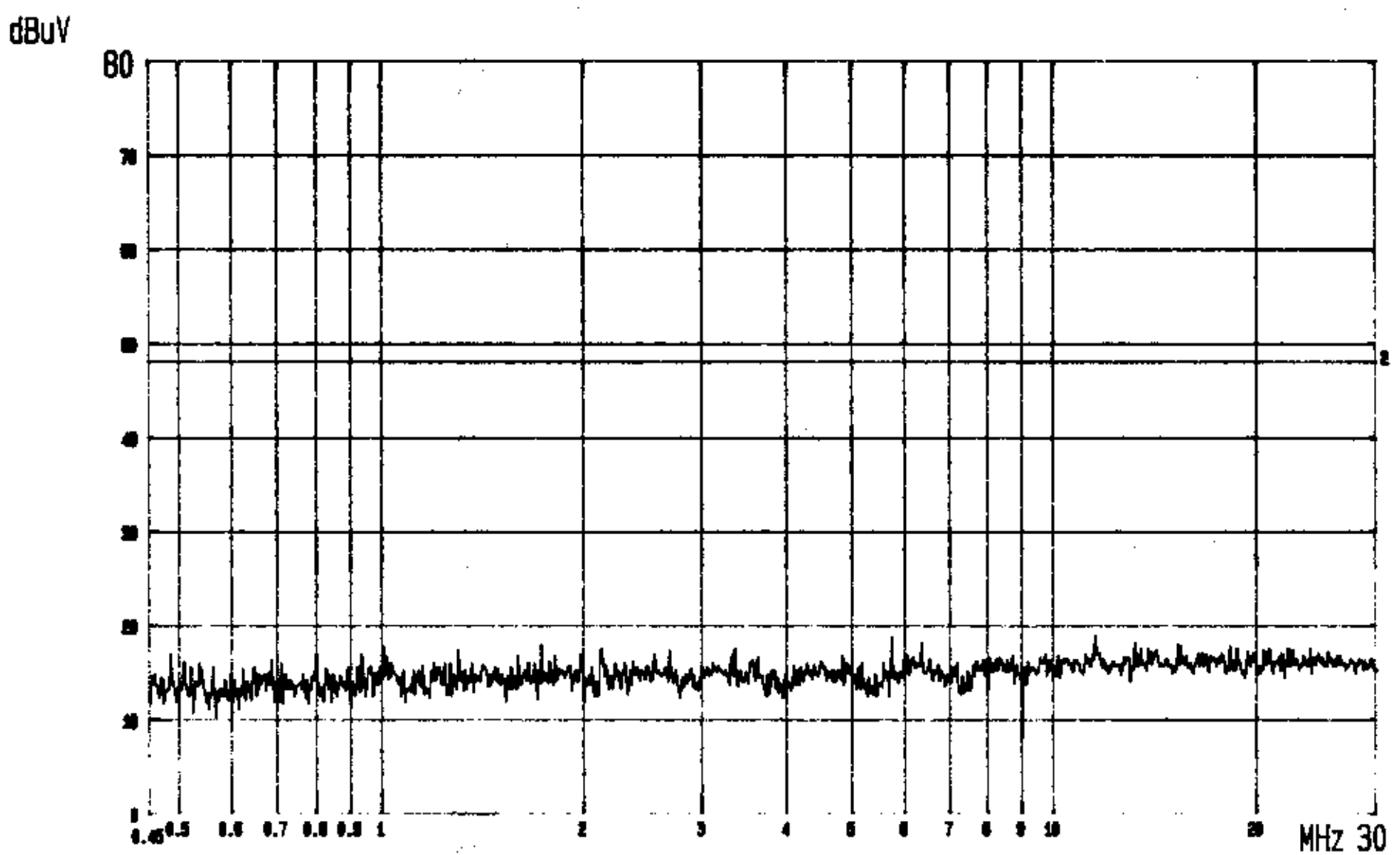
FCC CONDUCTED TEST
MODEL: SDC820 MODE: CH15
EUT: CORDLESS TELEPHONE
POWER: 120V/60Hz
2: QP. CLASS B LIMIT
LISN: Vb ETC EMI LAB.



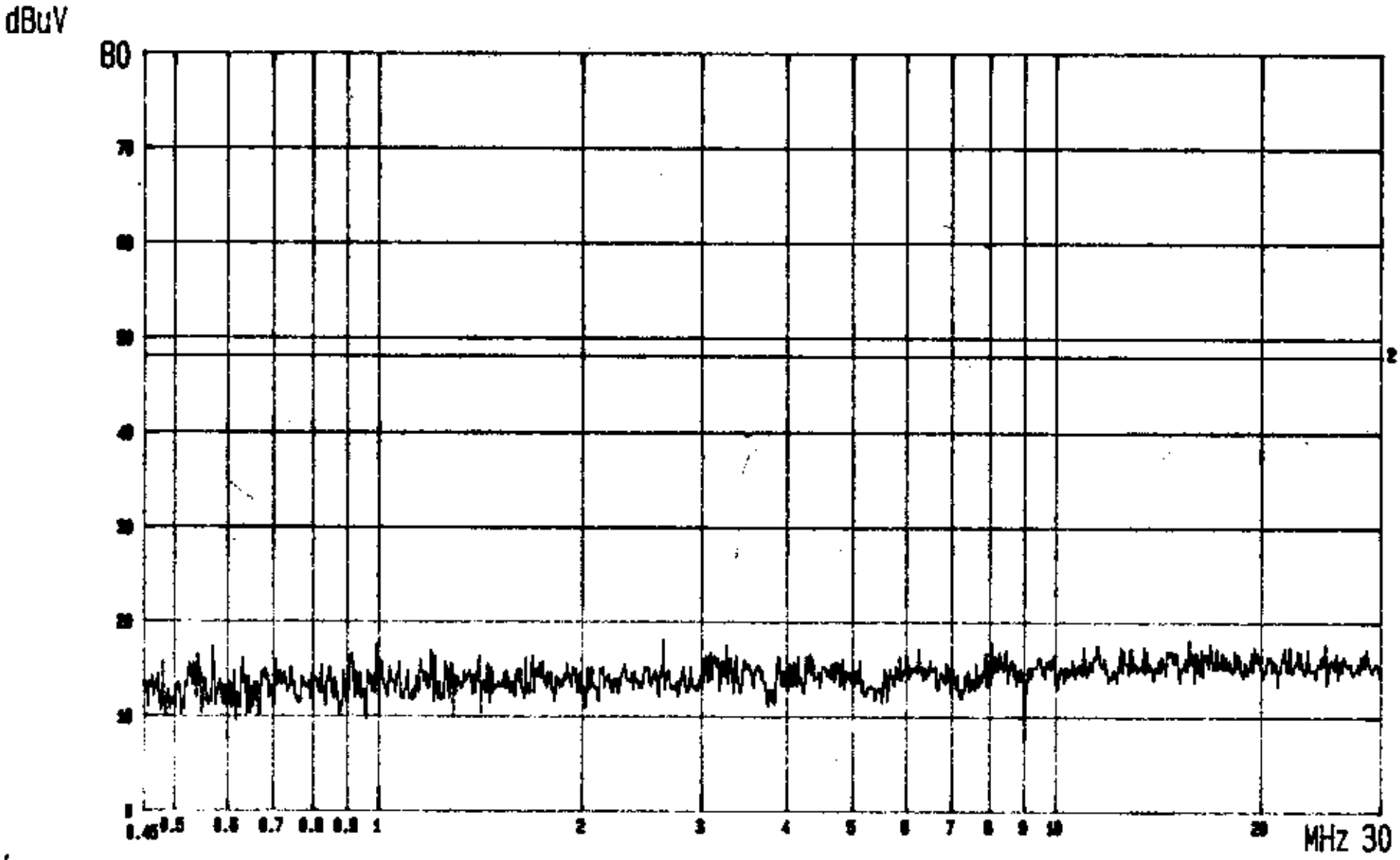
FCC CONDUCTED TEST
MODEL: SDC820 MODE: CH30
EUT: CORDLESS TELEPHONE
POWER: 120V/60Hz
2: QP. CLASS B LIMIT
LISN: Va ETC EMI LAB.



FCC CONDUCTED TEST
MODEL: SDC820 MODE: CH30
EUT: CORDLESS TELEPHONE
POWER: 120V/60Hz
2: QP. CLASS B LIMIT
LISN: Vb ETC EMI LAB.

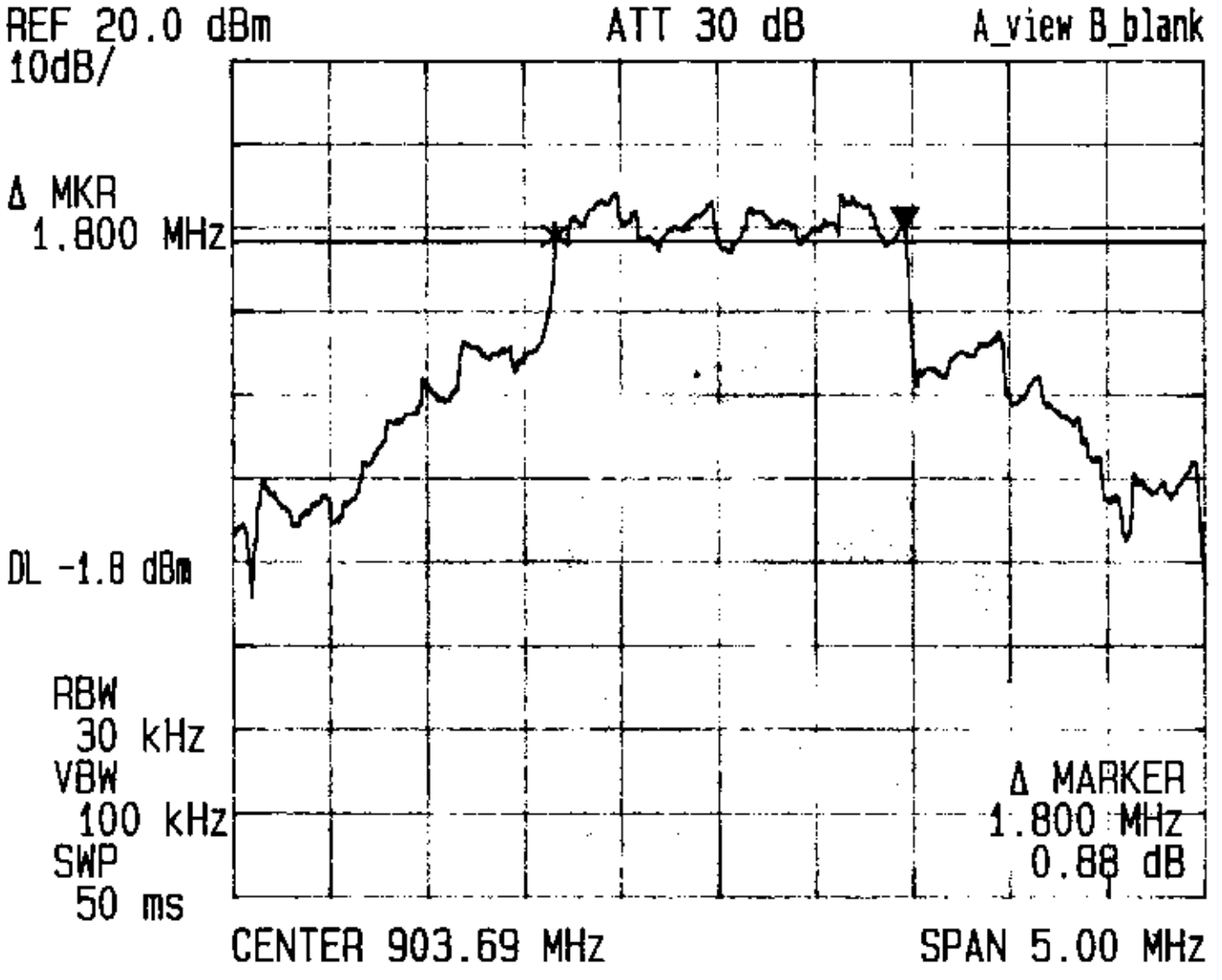


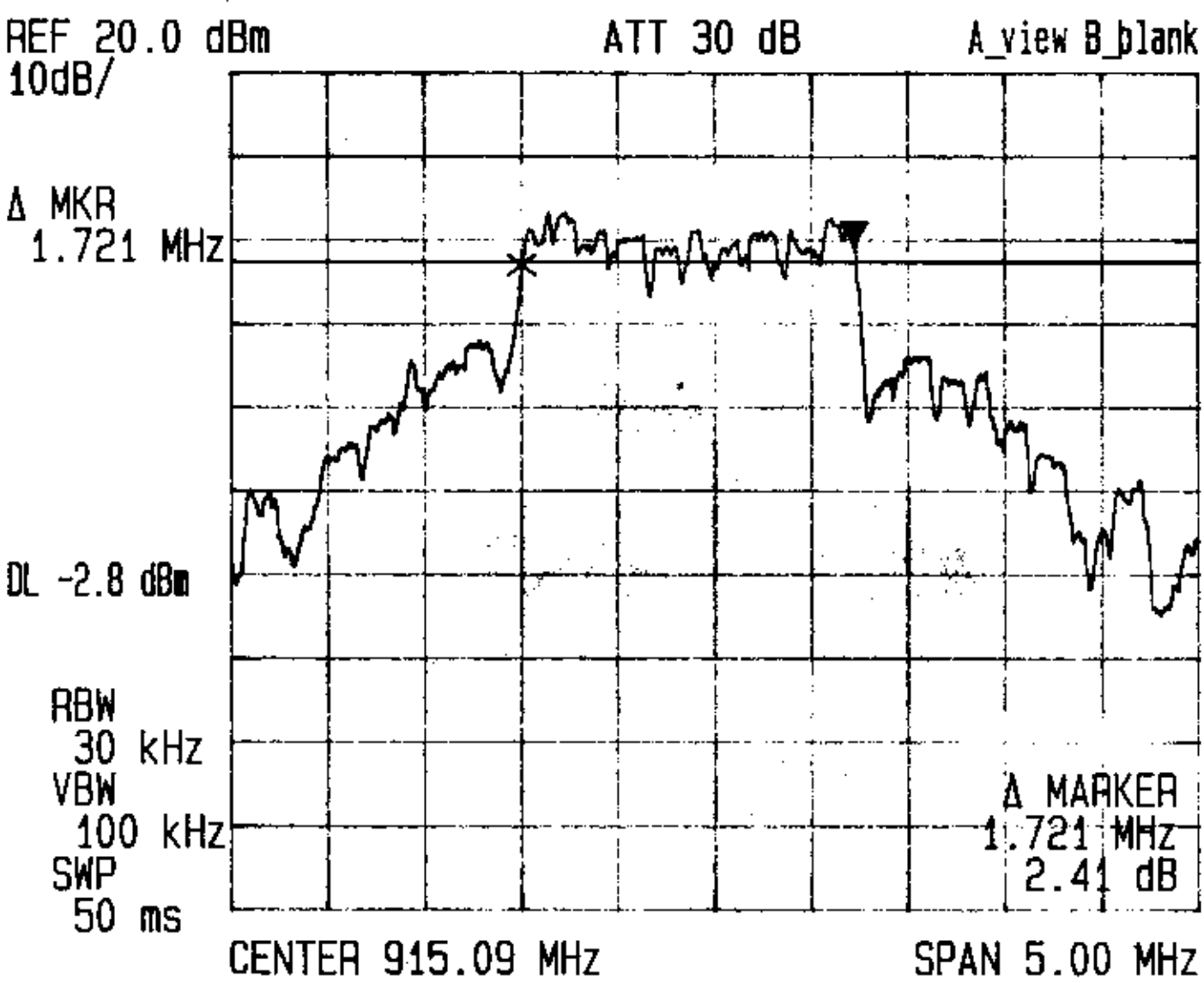
FCC CONDUCTED TEST EUT: CORDLESS TELEPHONE 2: QP. LIMIT
MODEL: SDC820 MODE: CHARGE POWER: 120V/60Hz LISN: Va ETC EMI LAB.

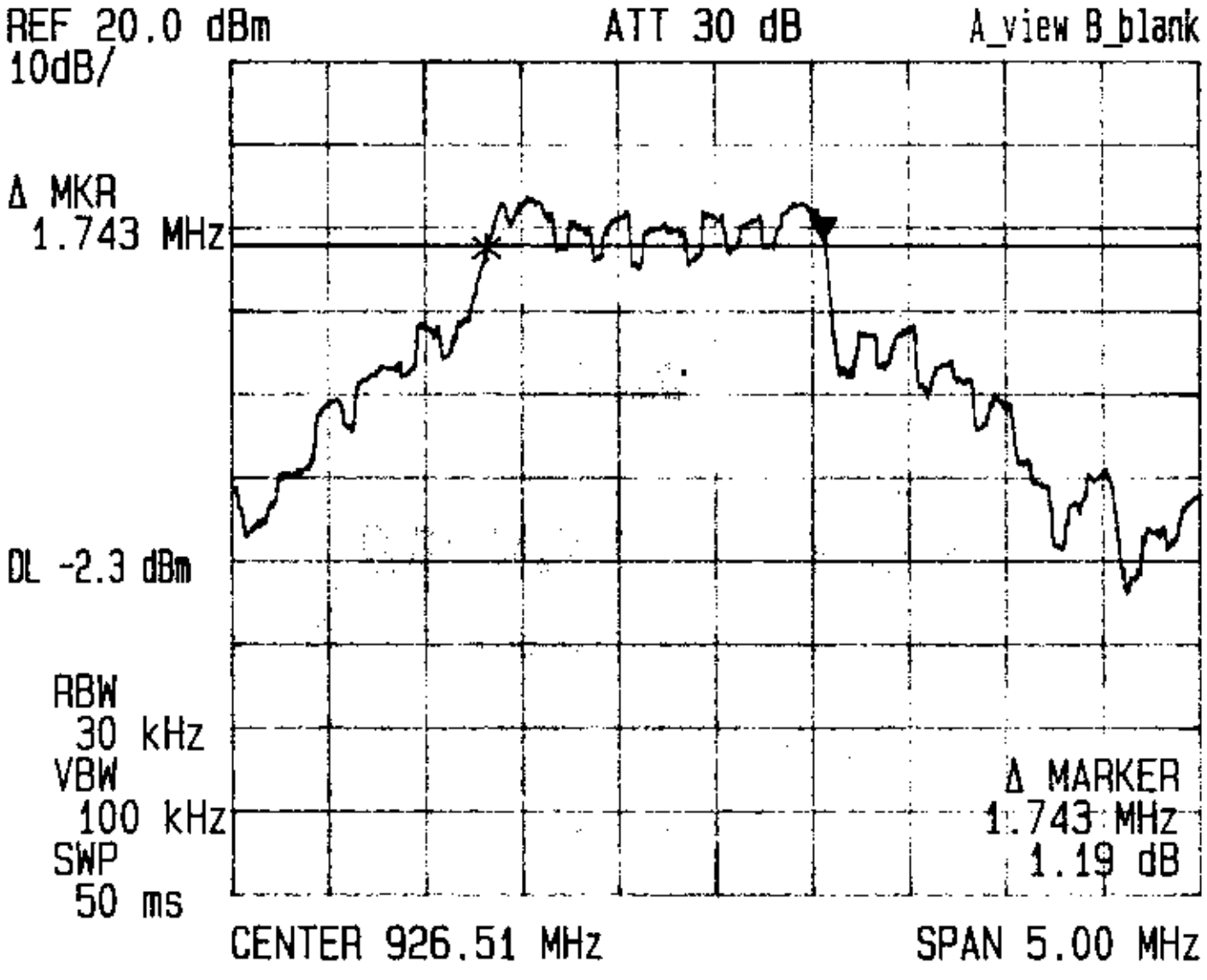


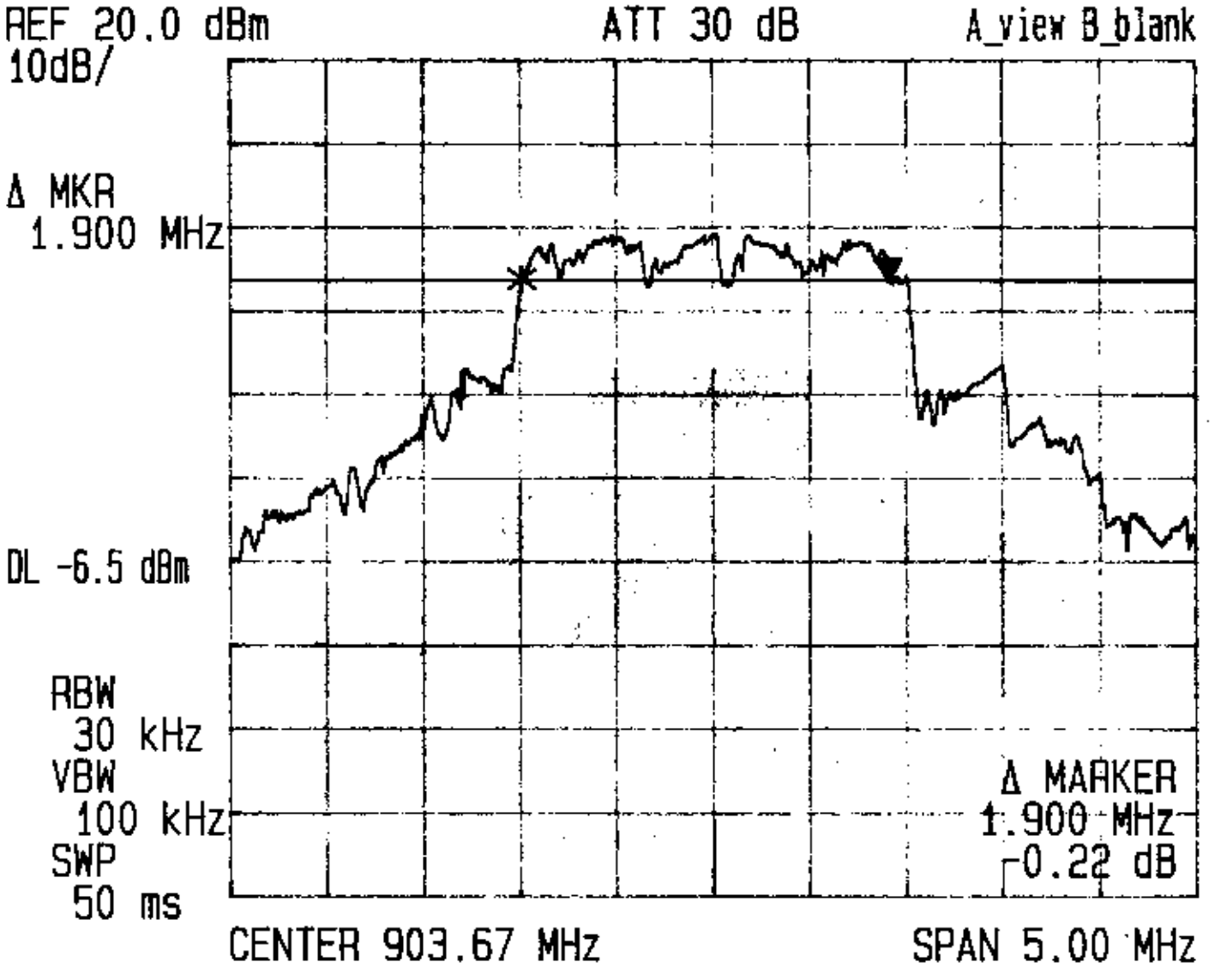
FCC CONDUCTED TEST EUT: CORDLESS TELEPHONE 2: QP. LIMIT
MODEL: SDC820 MODE: CHARGE POWER: 120V/60Hz LISN: Vb ETC EMI LAB.

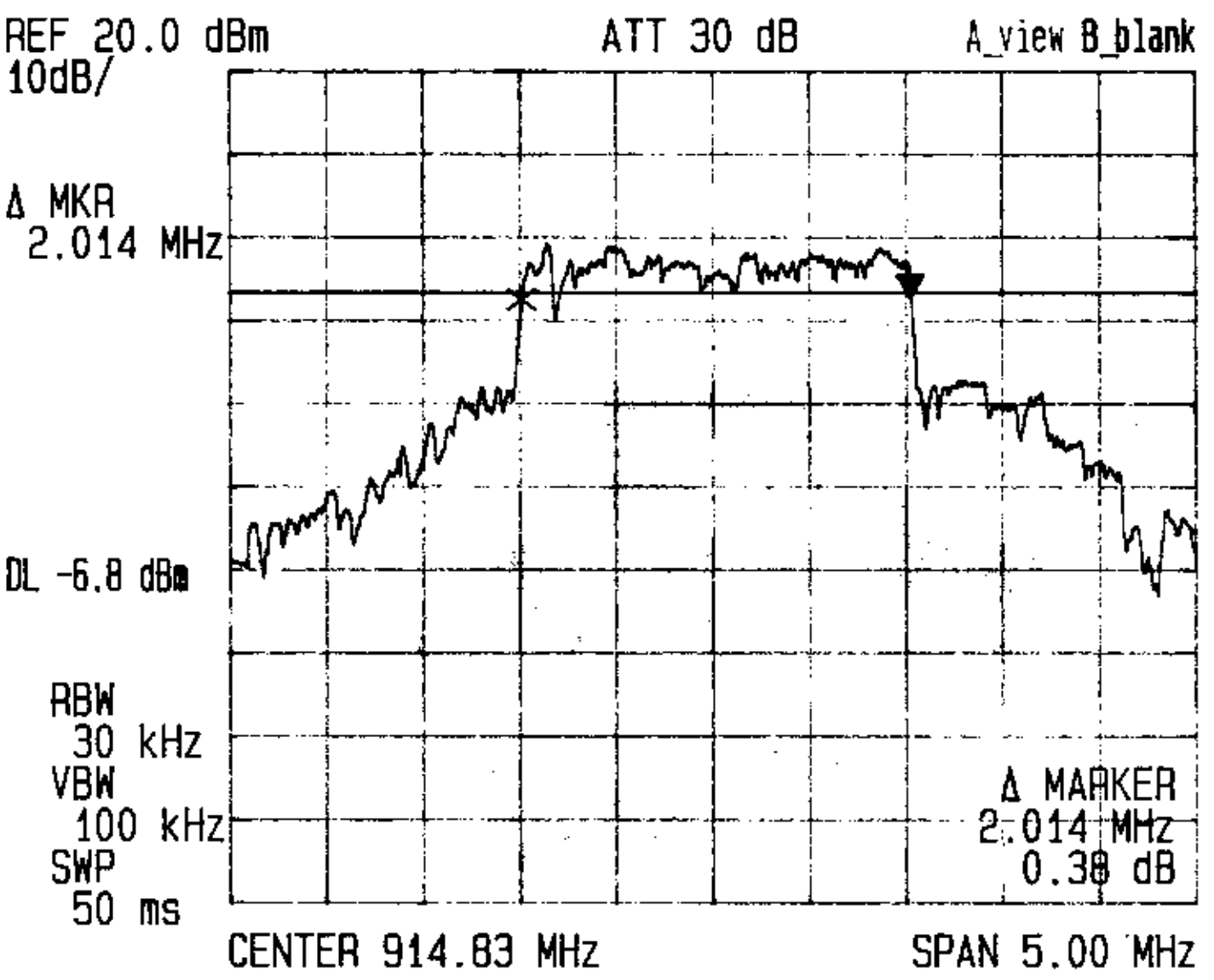
Appendix 2 : Plotted Data of Emissions Bandwidth

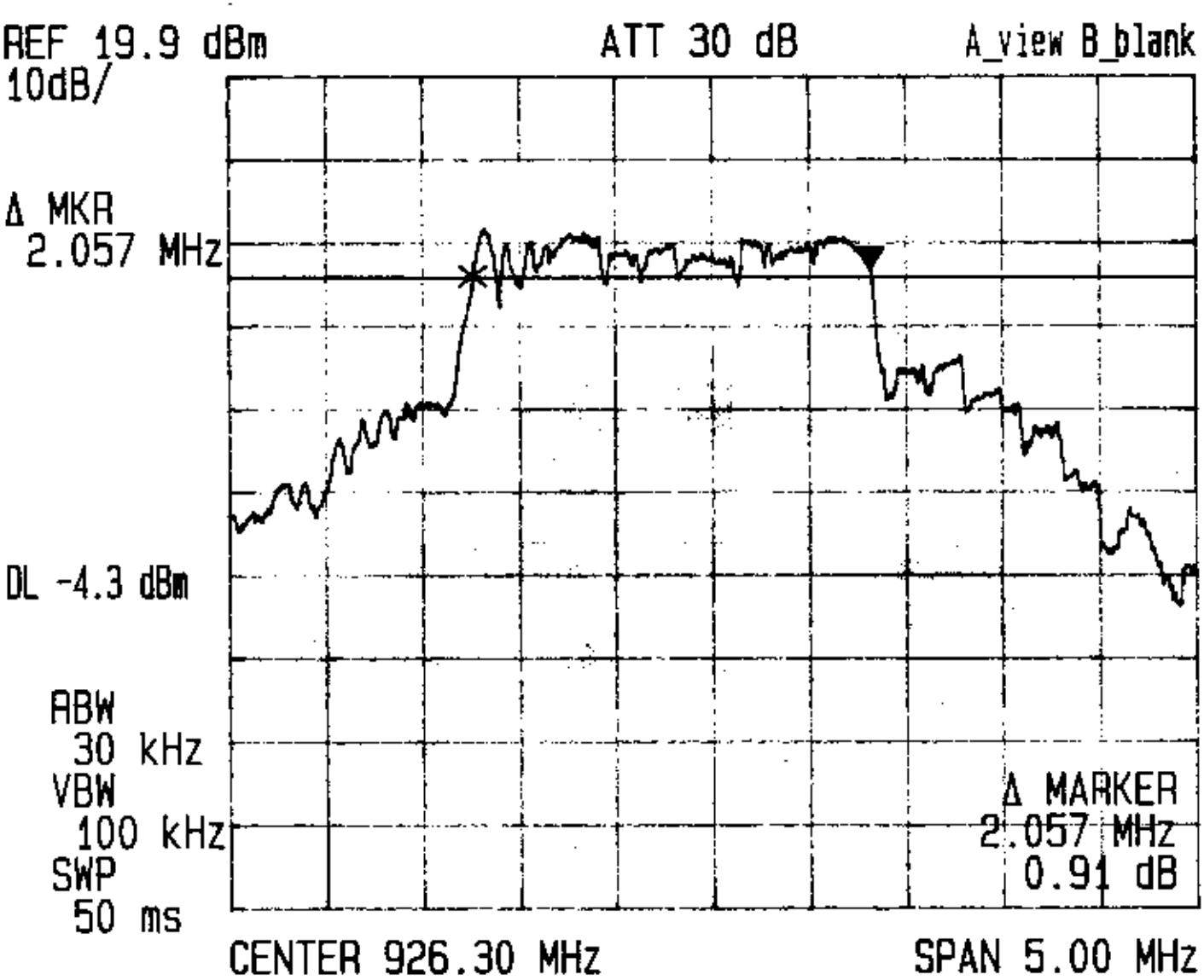

REF 20.0 dBm
ATT 30 dB
A_view B_blank
10dB/
Δ MKR
1.800 MHz
DL -1.8 dBm
RBW
30 kHz
VBW
100 kHz
SWP
50 ms
Δ MARKER
1.800 MHz
0.88 dB
CENTER 903.69 MHz
SPAN 5.00 MHz


REF 20.0 dBm
ATT 30 dB
A_view B_blank
10dB/
Δ MKR
1.721 MHz
DL -2.8 dBm
RBW
30 kHz
VBW
100 kHz
SWP
50 ms
Δ MARKER
1.721 MHz
2.41 dB
CENTER 915.09 MHz
SPAN 5.00 MHz

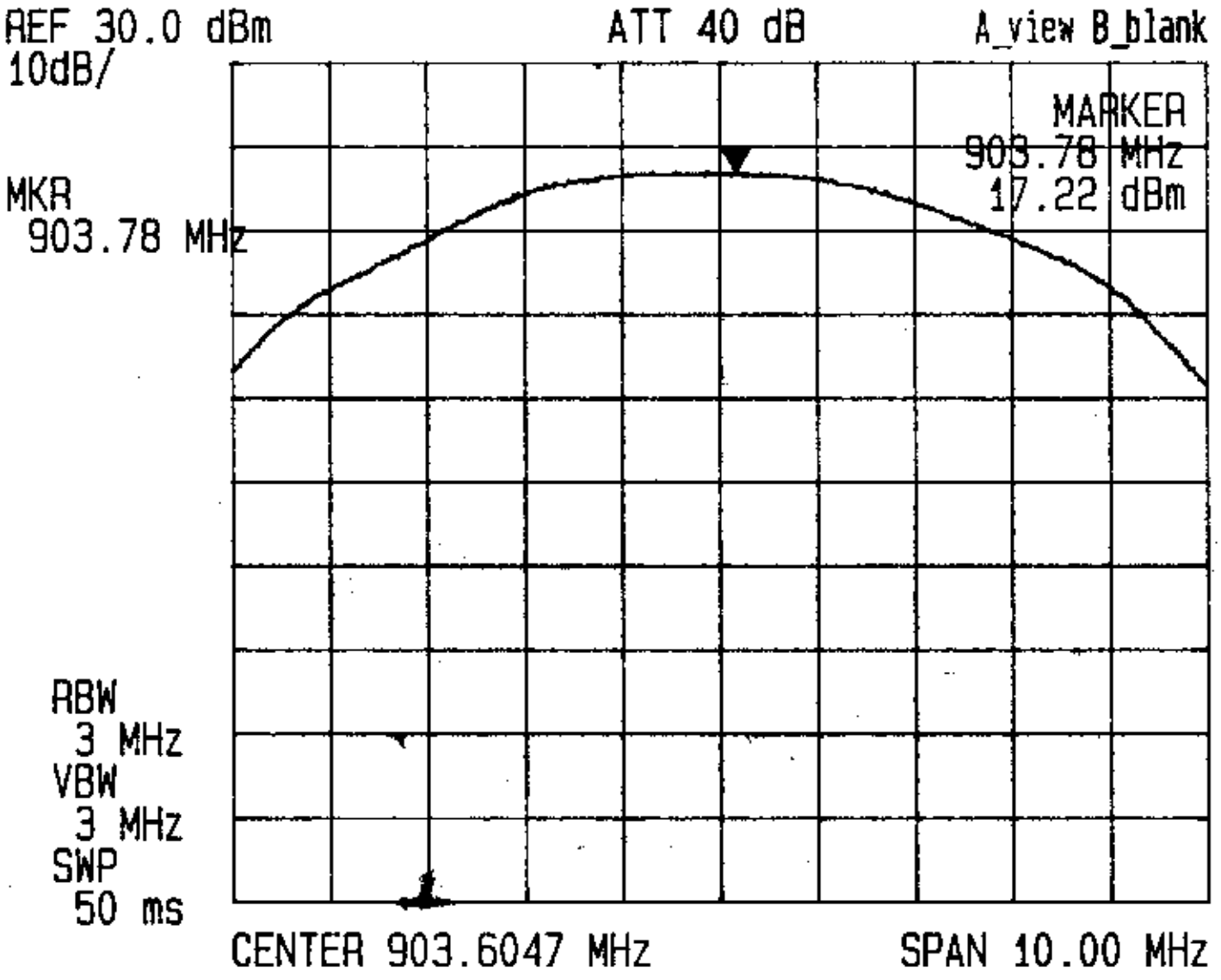

REF 20.0 dBm
ATT 30 dB
A_view B_blank
10dB/
Δ MKR
1.743 MHz
DL -2.3 dBm
RBW
30 kHz
VBW
100 kHz
SWP
50 ms
Δ MARKER
1.743 MHz
1.19 dB
CENTER 926.51 MHz
SPAN 5.00 MHz

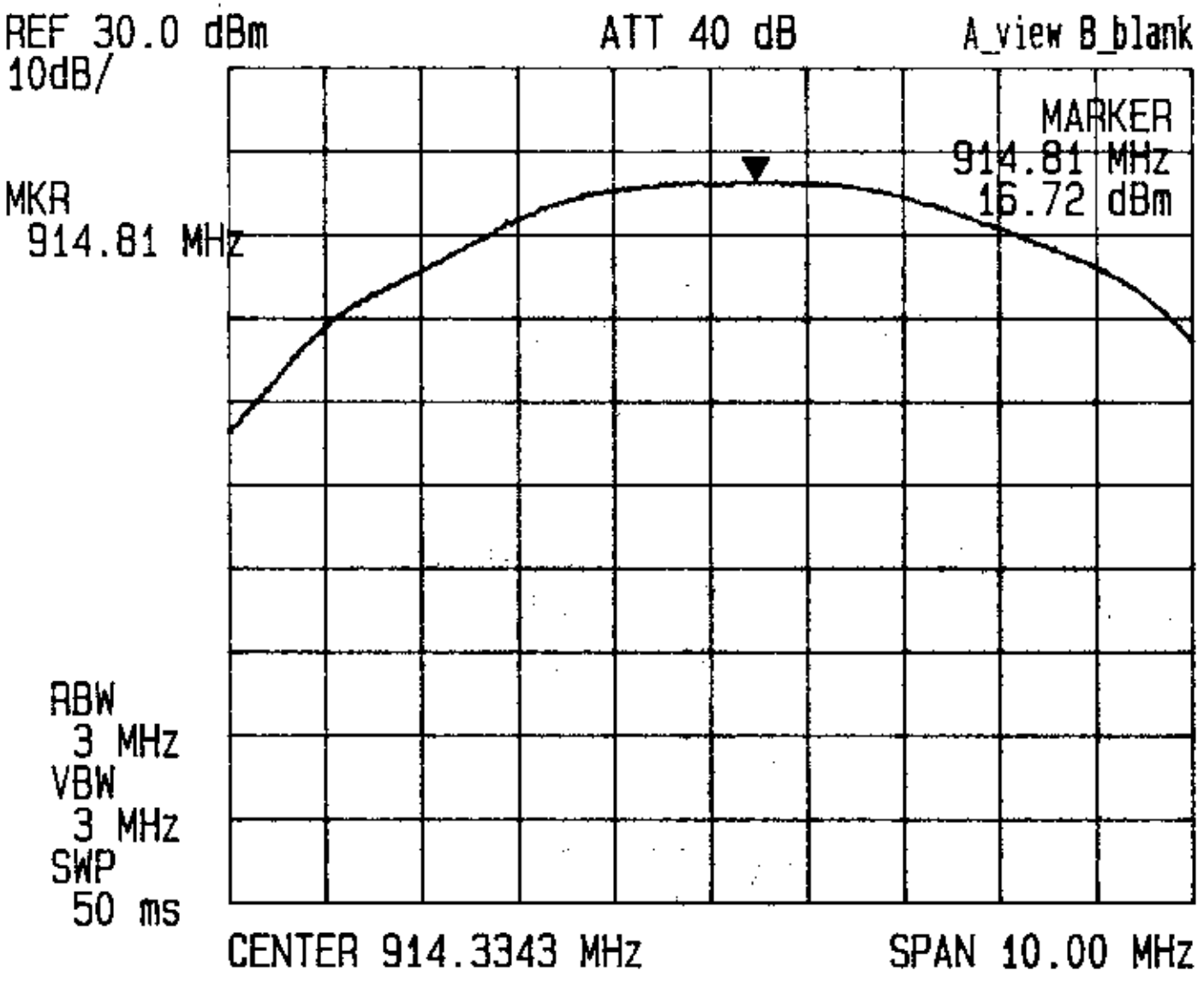

REF 20.0 dBm
ATT 30 dB
A_view B_blank
10dB/
Δ MKR
1.900 MHz
DL -6.5 dBm
RBW
30 kHz
VBW
100 kHz
SWP
50 ms
Δ MARKER
1.900 MHz
-0.22 dB
CENTER 903.67 MHz
SPAN 5.00 MHz

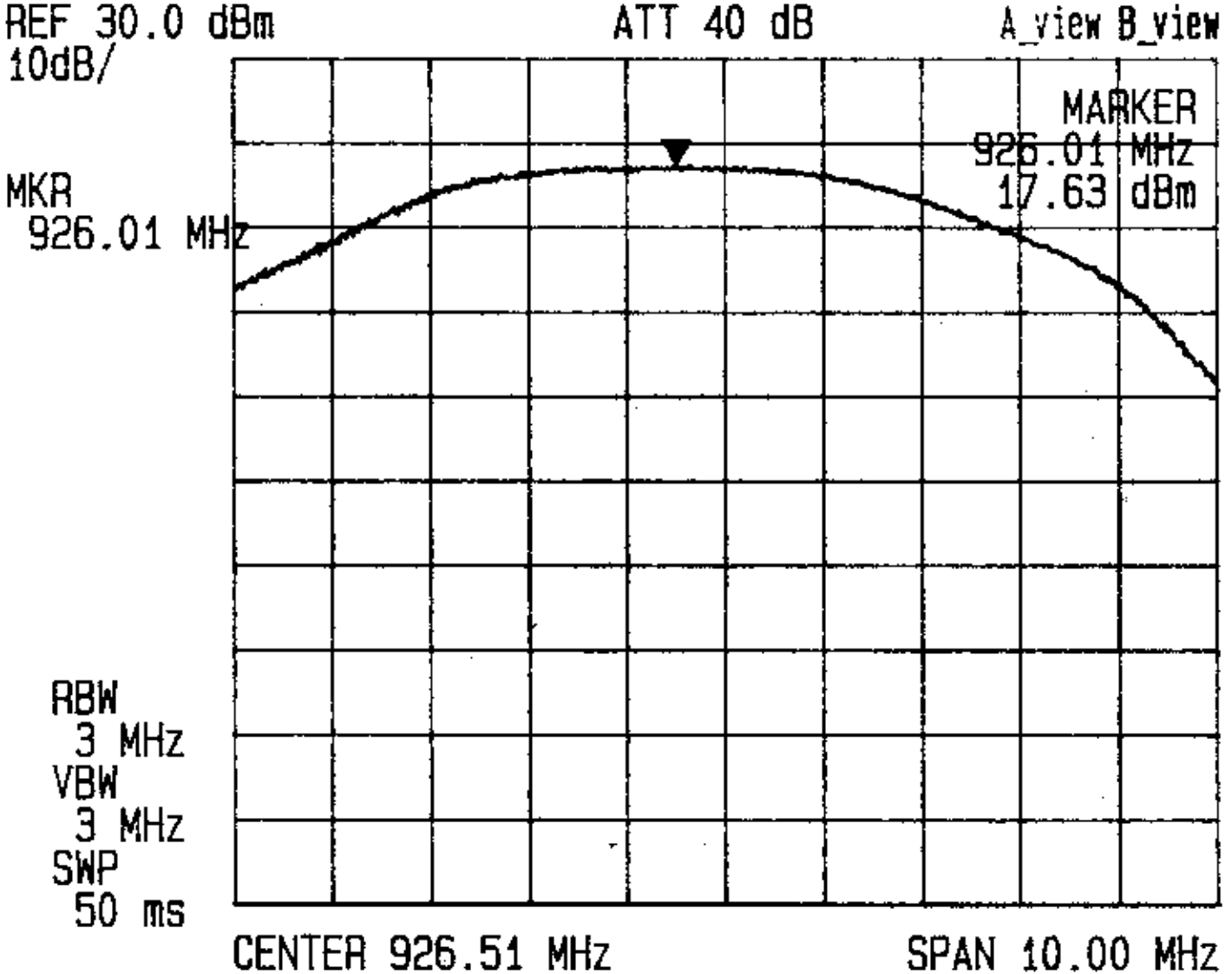

REF 20.0 dBm
ATT 30 dB
A_view B_blank
10dB/
Δ MKR
2.014 MHz
DL -6.8 dBm
RBW
30 kHz
VBW
100 kHz
SWP
50 ms
Δ MARKER
2.014 MHz
0.38 dB
CENTER 914.83 MHz
SPAN 5.00 MHz

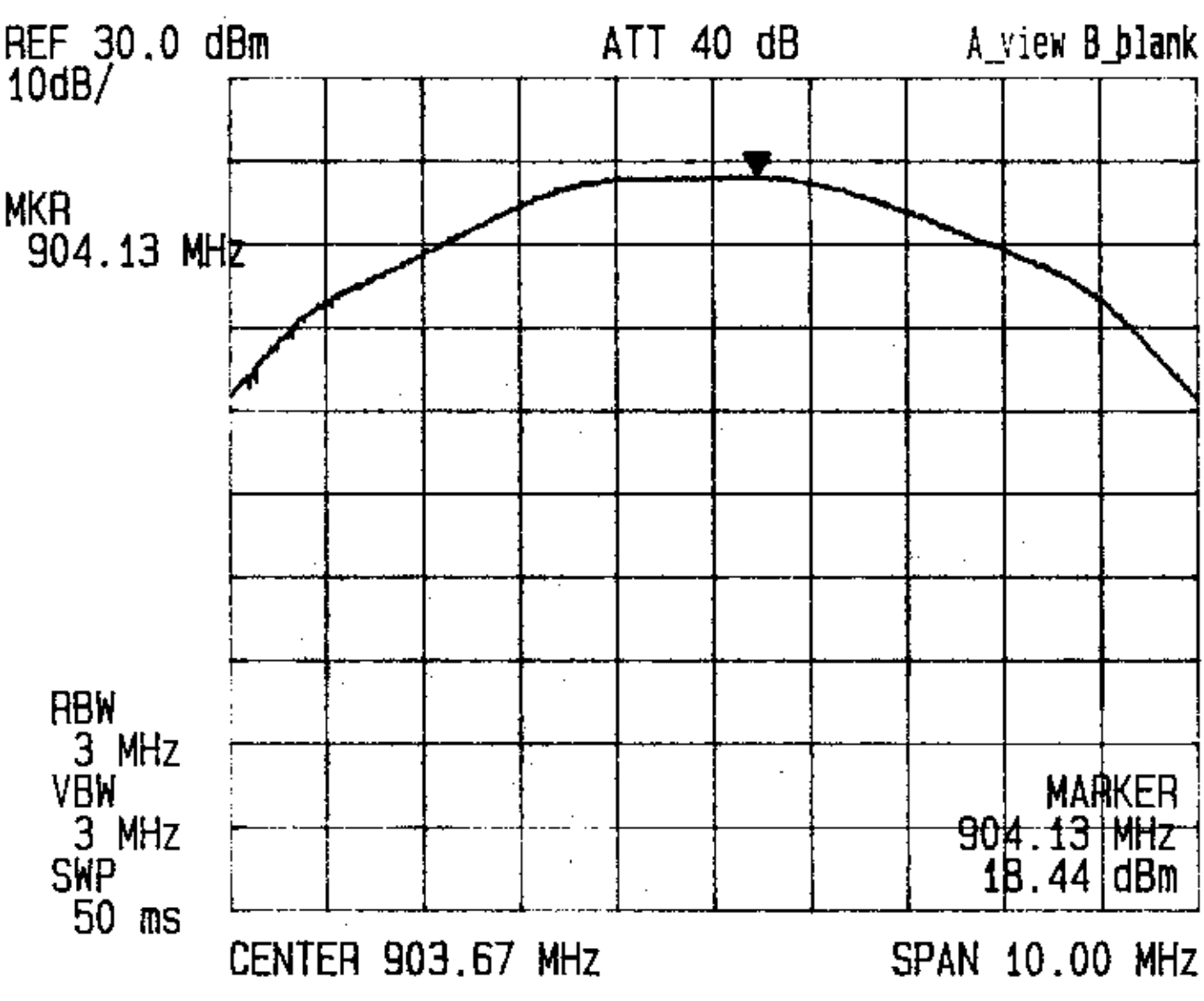

REF 19.9 dBm
ATT 30 dB
A_view B_blank
10dB/
Δ MKR
2.057 MHz
DL -4.3 dBm
RBW
30 kHz
VBW
100 kHz
SWP
50 ms
Δ MARKER
2.057 MHz
0.91 dB
CENTER 926.30 MHz
SPAN 5.00 MHz

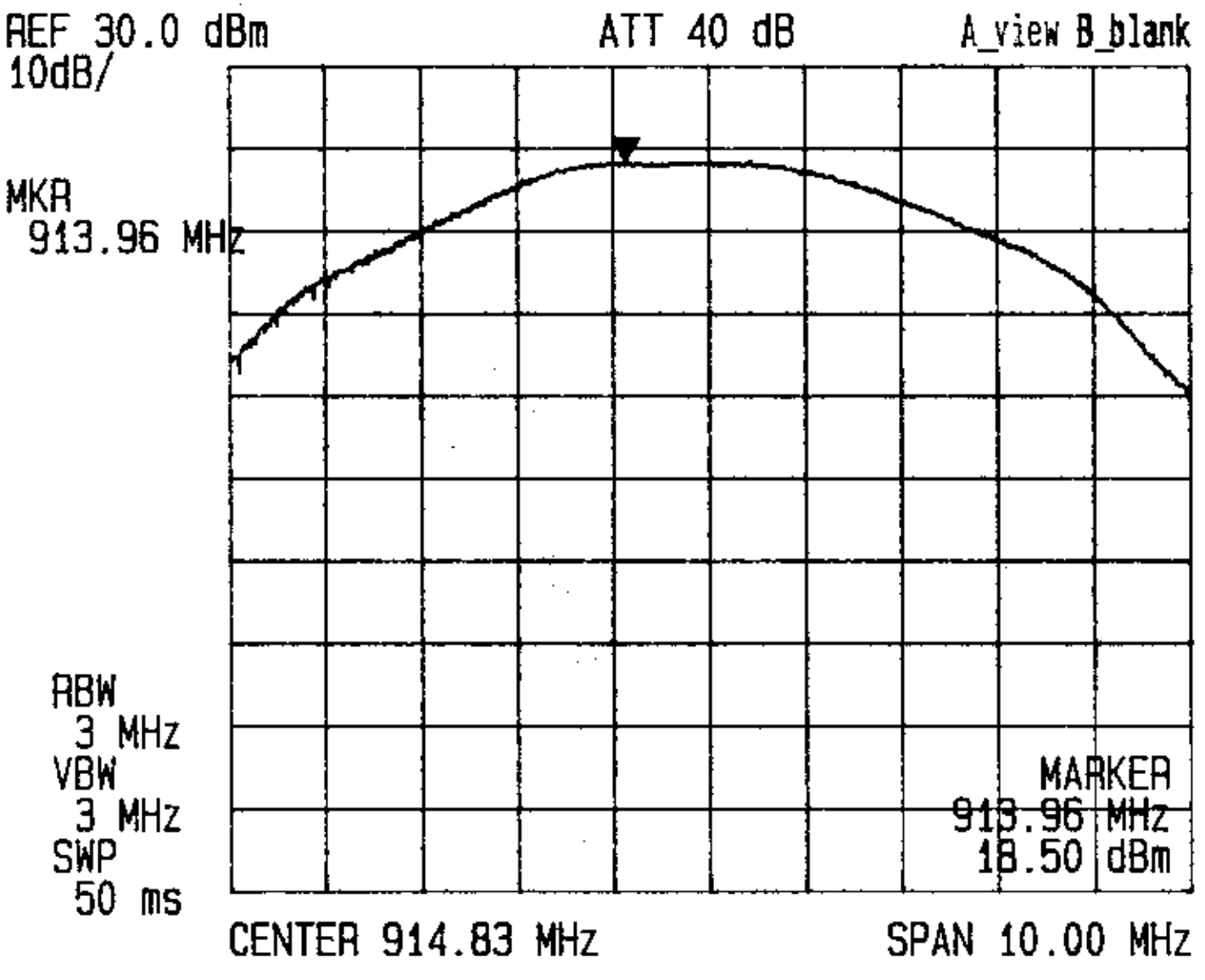
Appendix 3 : Plotted Data of Output Peak Power

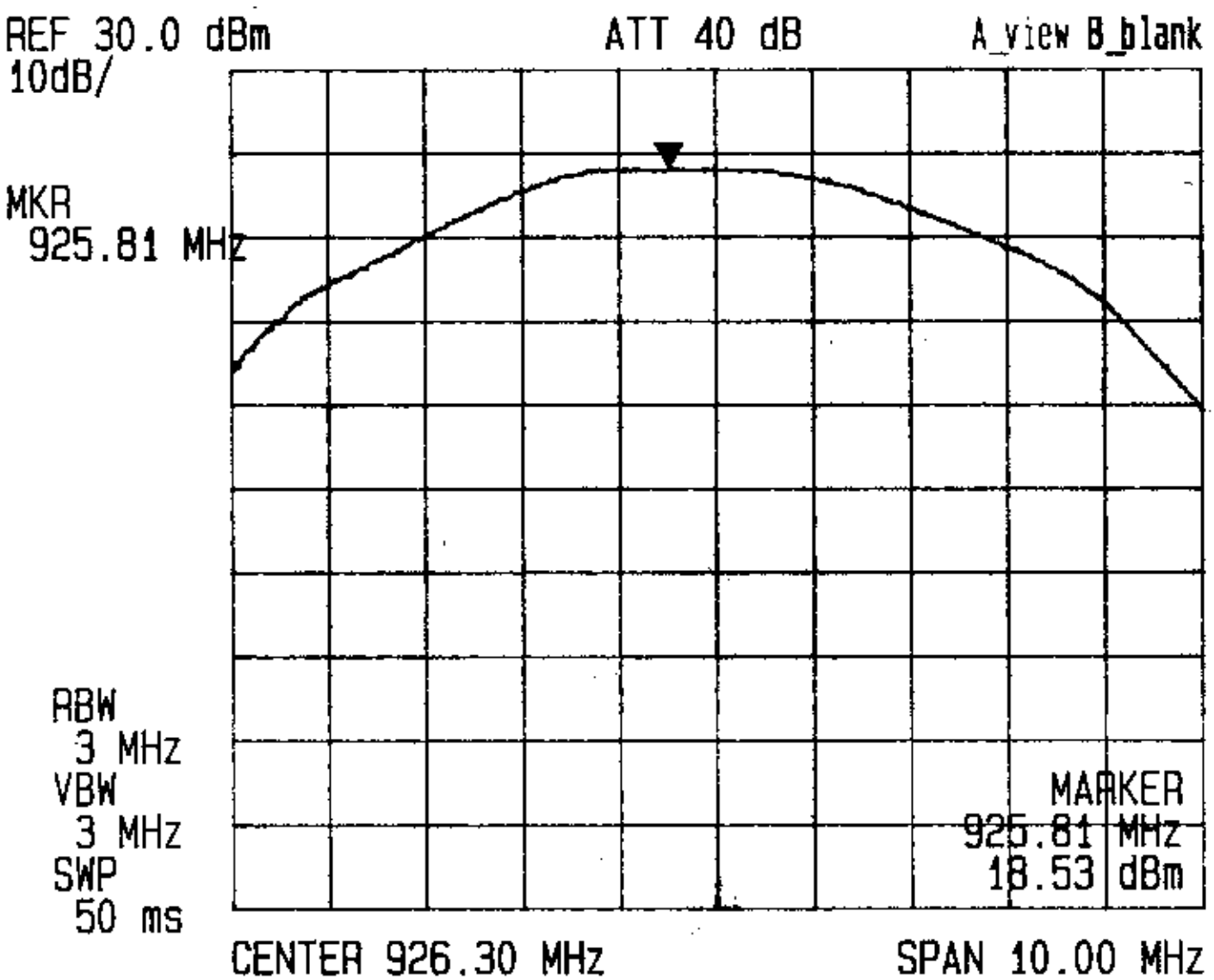

REF 30.0 dBm
10dB/
ATT 40 dB
A_view B_blank
MARKER
903.78 MHz
17.22 dBm
MKR
903.78 MHz
RBW
3 MHz
VBW
3 MHz
SWP
50 ms
CENTER 903.6047 MHz
SPAN 10.00 MHz


REF 30.0 dBm
10dB/
ATT 40 dB
A_view B_blank
MARKER
914.81 MHz
16.72 dBm
MKR
914.81 MHz
RBW
3 MHz
VBW
3 MHz
SWP
50 ms
CENTER 914.3343 MHz
SPAN 10.00 MHz

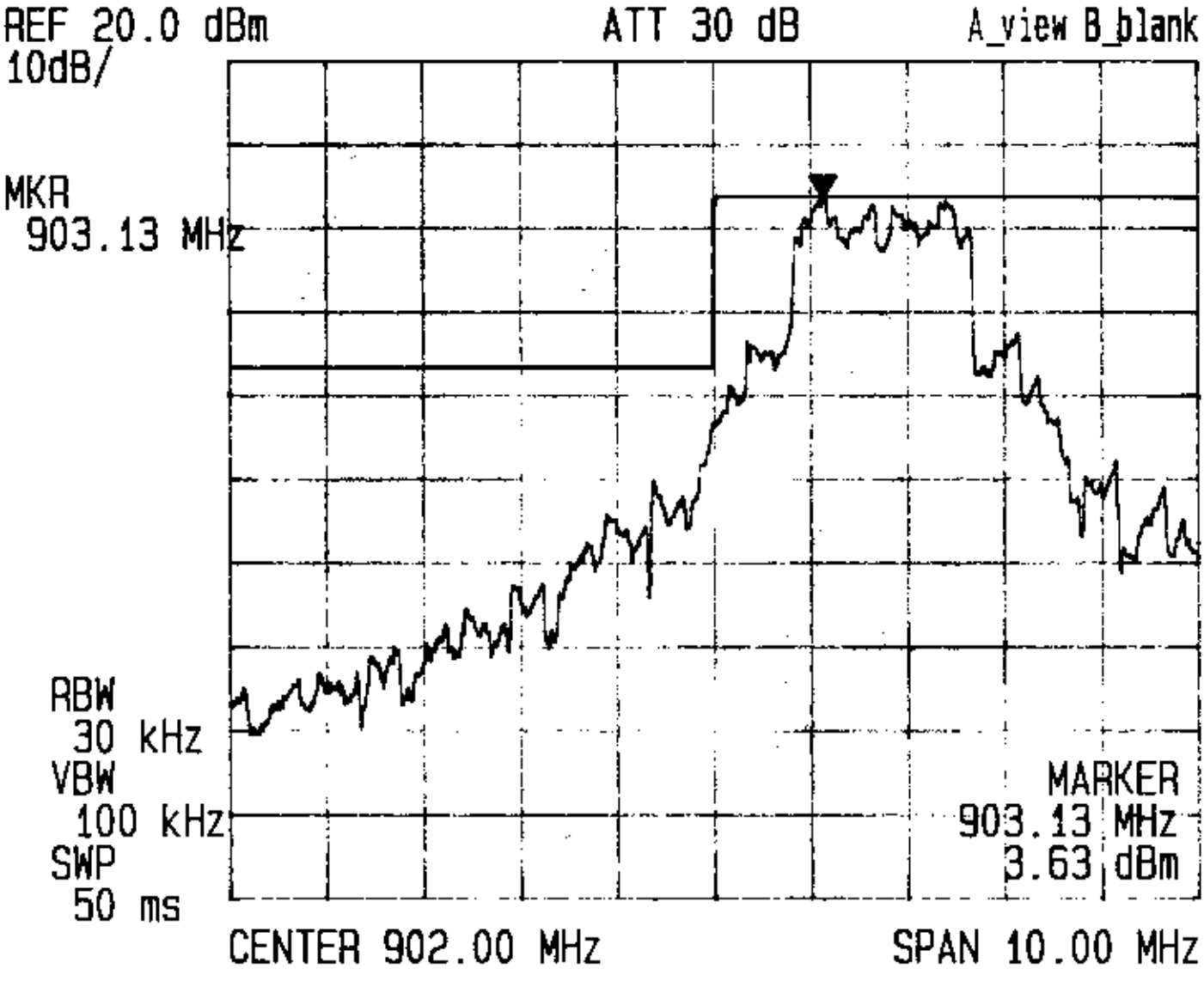

REF 30.0 dBm
10dB/
ATT 40 dB
A_view B_view
MARKER
926.01 MHz
17.63 dBm
MKR
926.01 MHz
RBW
3 MHz
VBW
3 MHz
SWP
50 ms
CENTER 926.51 MHz
SPAN 10.00 MHz

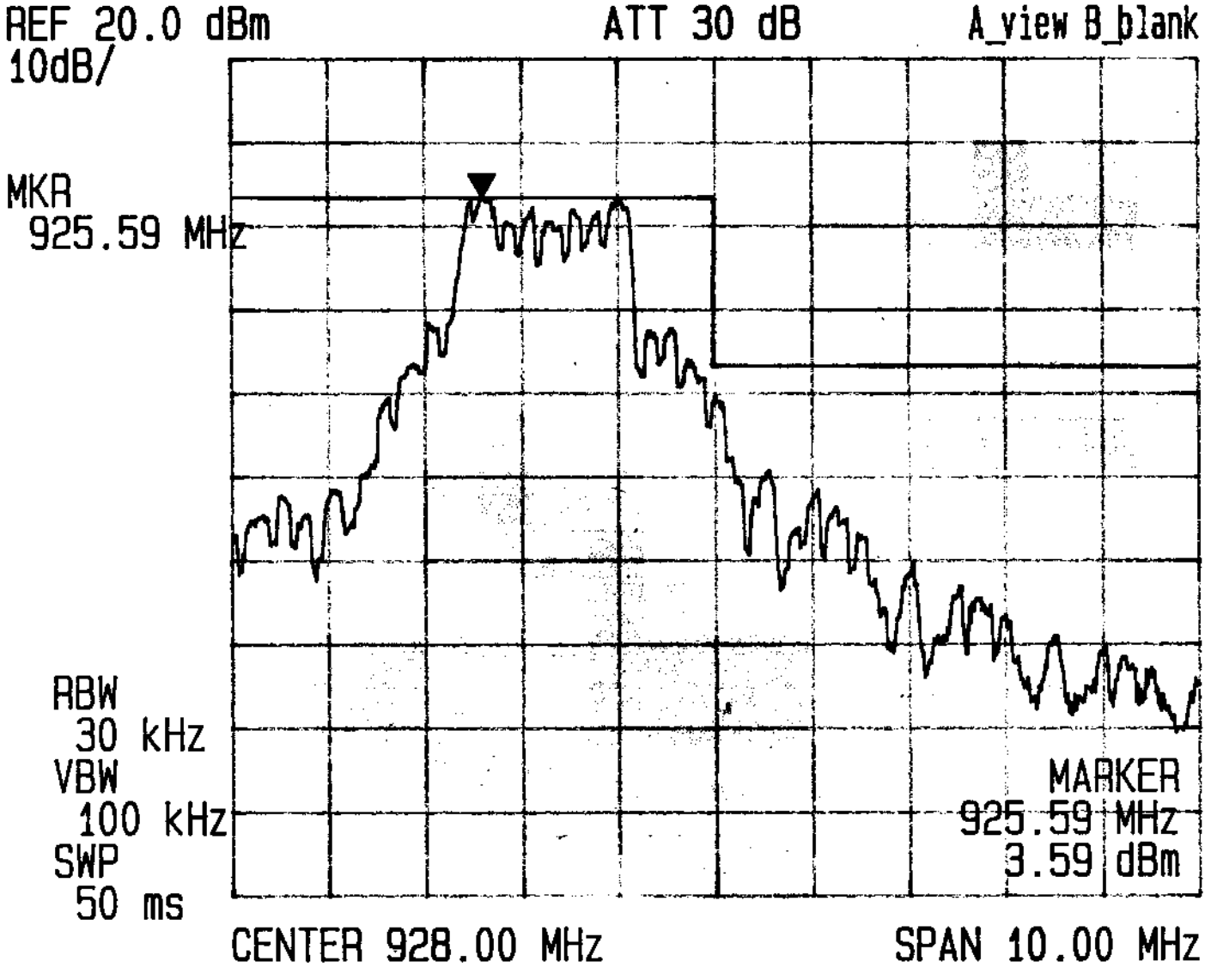

REF 30.0 dBm
ATT 40 dB
A_view B_blank
10dB/
MKR
904.13 MHz
RBW
3 MHz
VBW
3 MHz
SWP
50 ms
MARKER
904.13 MHz
18.44 dBm
CENTER 903.67 MHz
SPAN 10.00 MHz

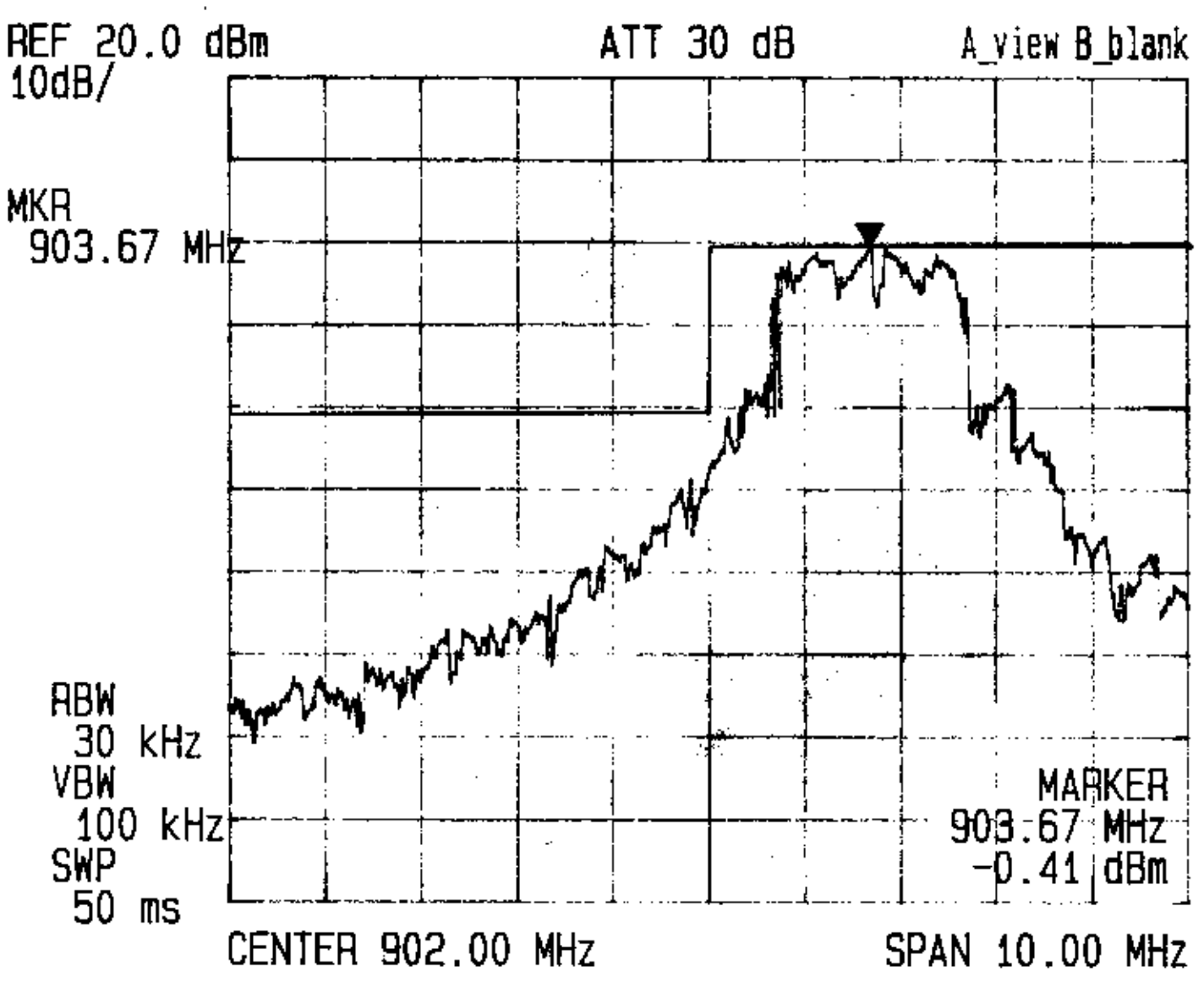

REF 30.0 dBm
ATT 40 dB
A_view B_blank
10dB/
MKR
913.96 MHz
RBW
3 MHz
VBW
3 MHz
SWP
50 ms
MARKER
913.96 MHz
18.50 dBm
CENTER 914.83 MHz
SPAN 10.00 MHz

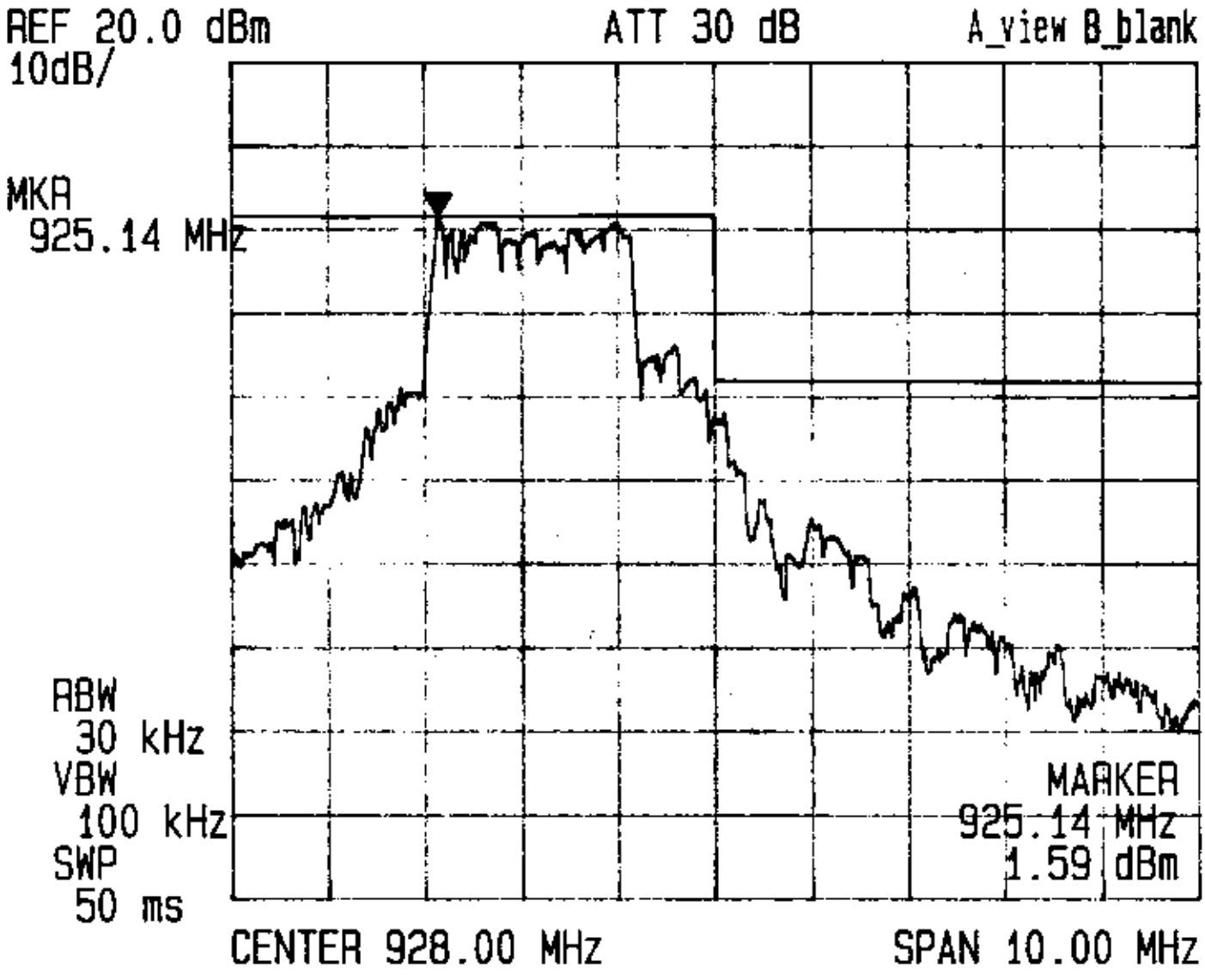

REF 30.0 dBm
ATT 40 dB
A_view B_blank
10dB/
MKR
925.81 MHz
RBW
3 MHz
VBW
3 MHz
SWP
50 ms
MARKER
925.81 MHz
18.53 dBm
CENTER 926.30 MHz
SPAN 10.00 MHz

Appendix 4 : Plotted Data of Band Edge Emission

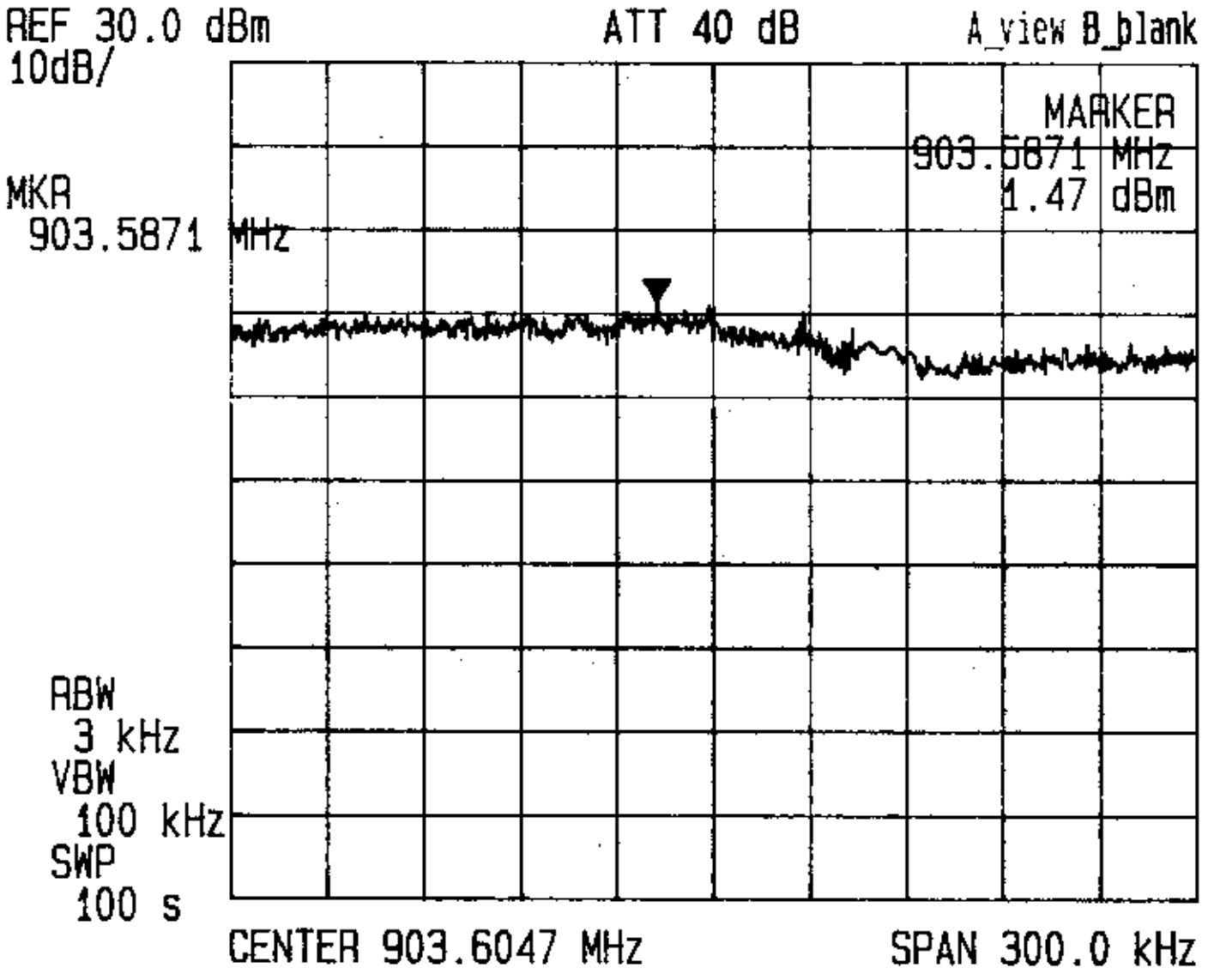

REF 20.0 dBm
ATT 30 dB
A_view B_blank
10dB/
MKR
903.13 MHz
RBW
30 kHz
VBW
100 kHz
SWP
50 ms
MARKER
903.13 MHz
3.63 dBm
CENTER 902.00 MHz
SPAN 10.00 MHz

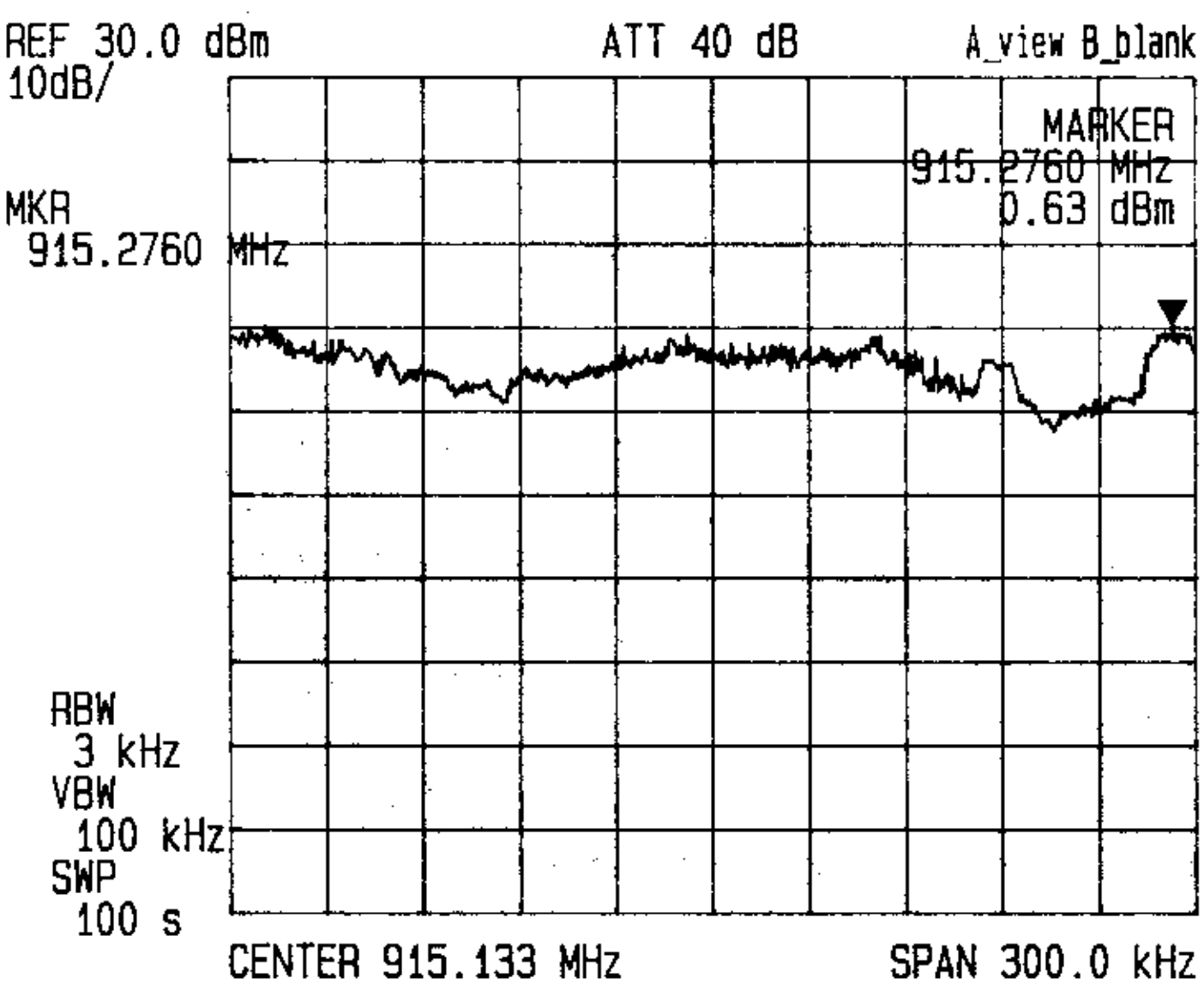

REF 20.0 dBm
ATT 30 dB
A_view B_blank
10dB/
MKR
925.59 MHz
RBW
30 kHz
VBW
100 kHz
SWP
50 ms
MARKER
925.59 MHz
3.59 dBm
CENTER 928.00 MHz
SPAN 10.00 MHz

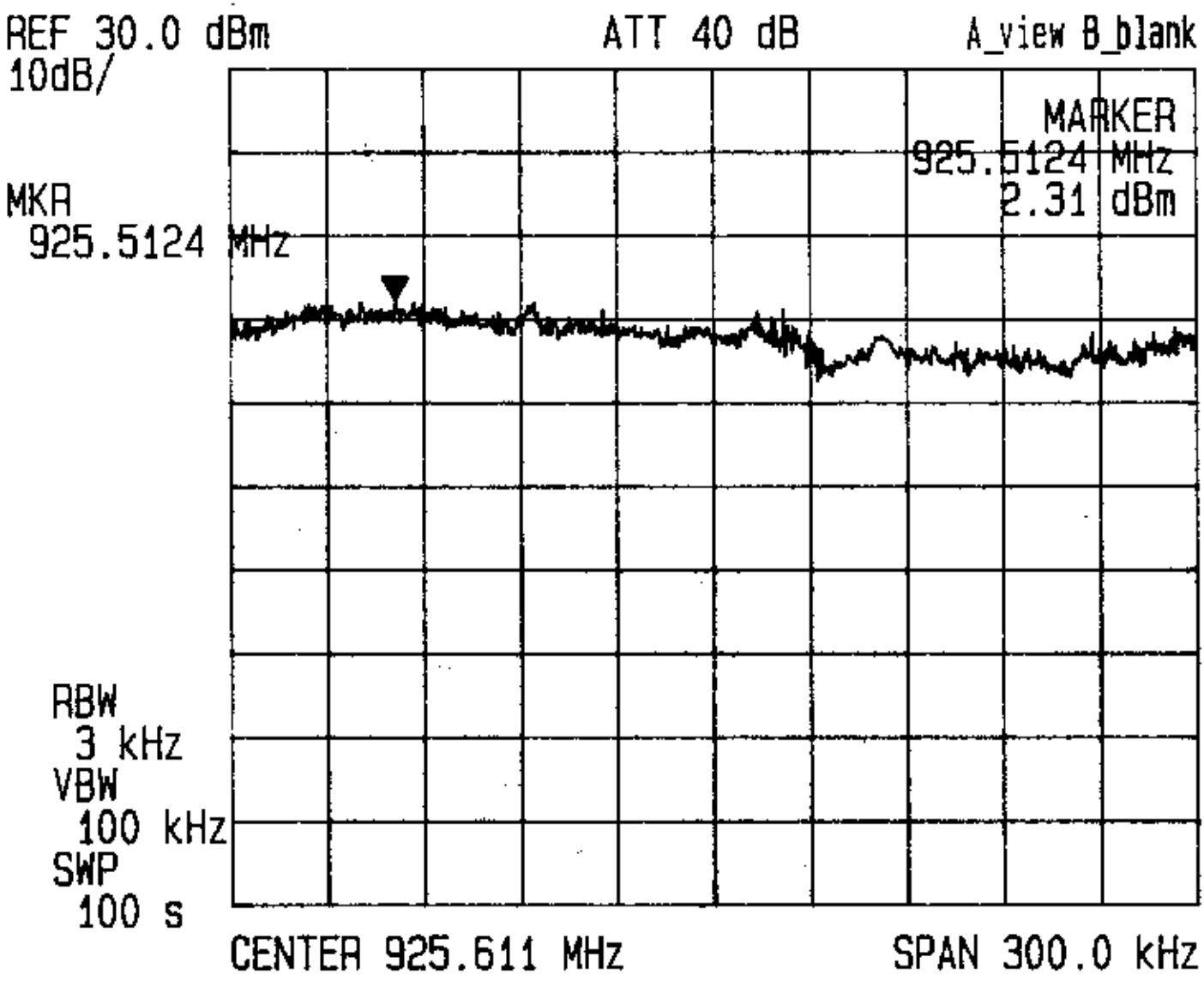

REF 20.0 dBm
10dB/
ATT 30 dB
A_view B_blank
MKR
903.67 MHz
RBW
30 kHz
VBW
100 kHz
SWP
50 ms
MARKER
903.67 MHz
-0.41 dBm
CENTER 902.00 MHz
SPAN 10.00 MHz

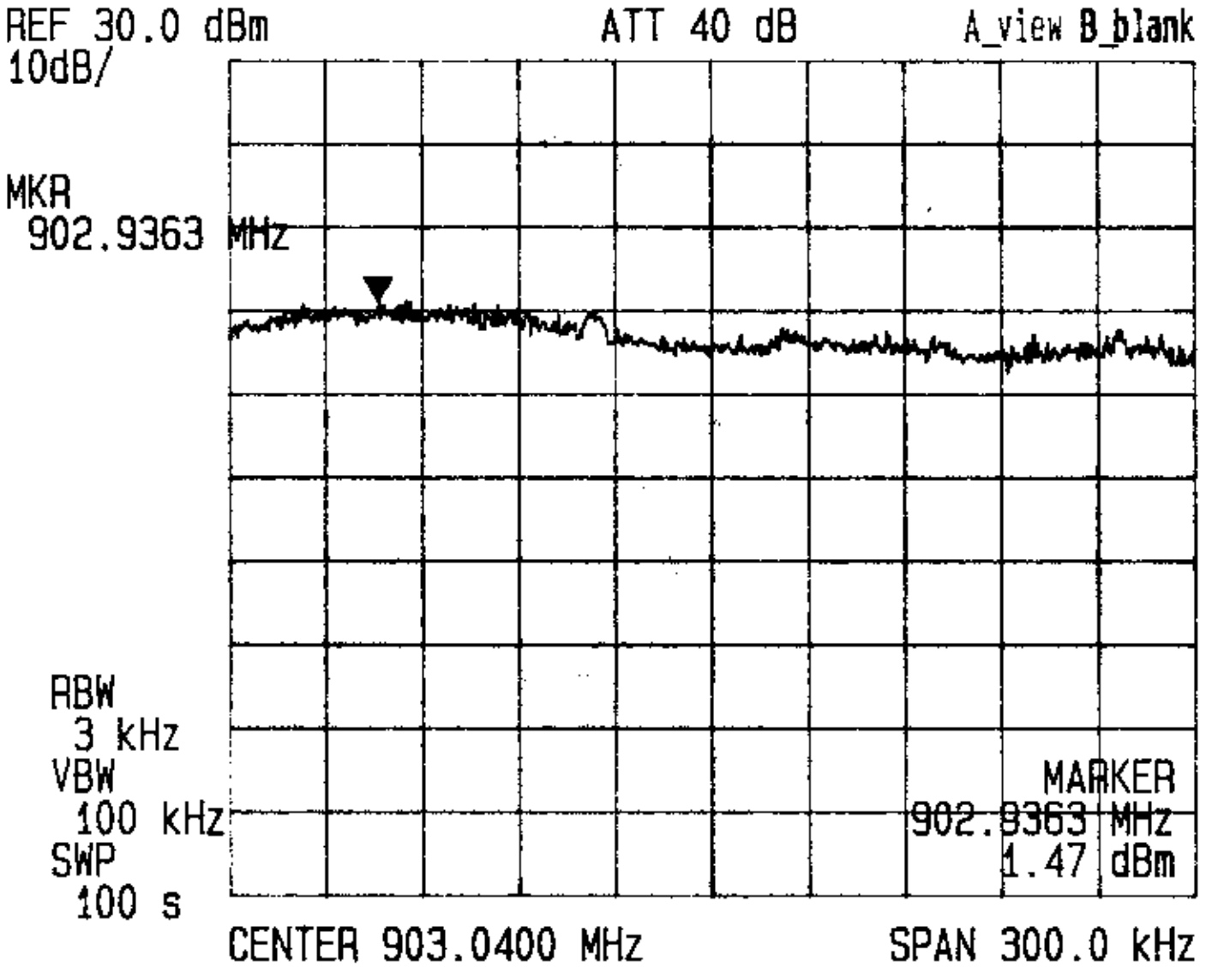

REF 20.0 dBm
ATT 30 dB
A_view B_blank
10dB/
MKA
925.14 MHz
RBW
30 kHz
VBW
100 kHz
SWP
50 ms
MARKER
925.14 MHz
1.59 dBm
CENTER 928.00 MHz
SPAN 10.00 MHz

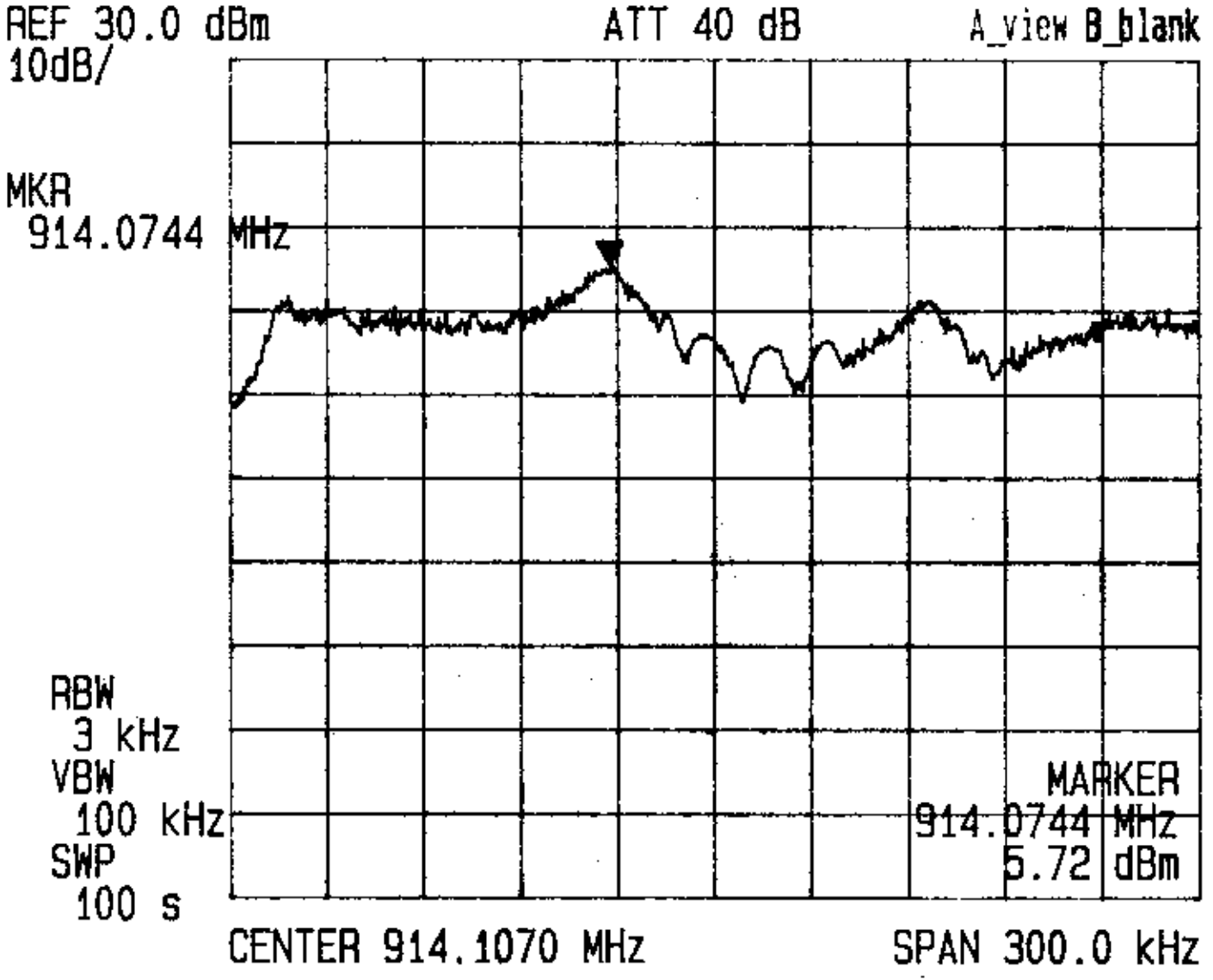
Appendix 5 : Plotted Data of Power Density

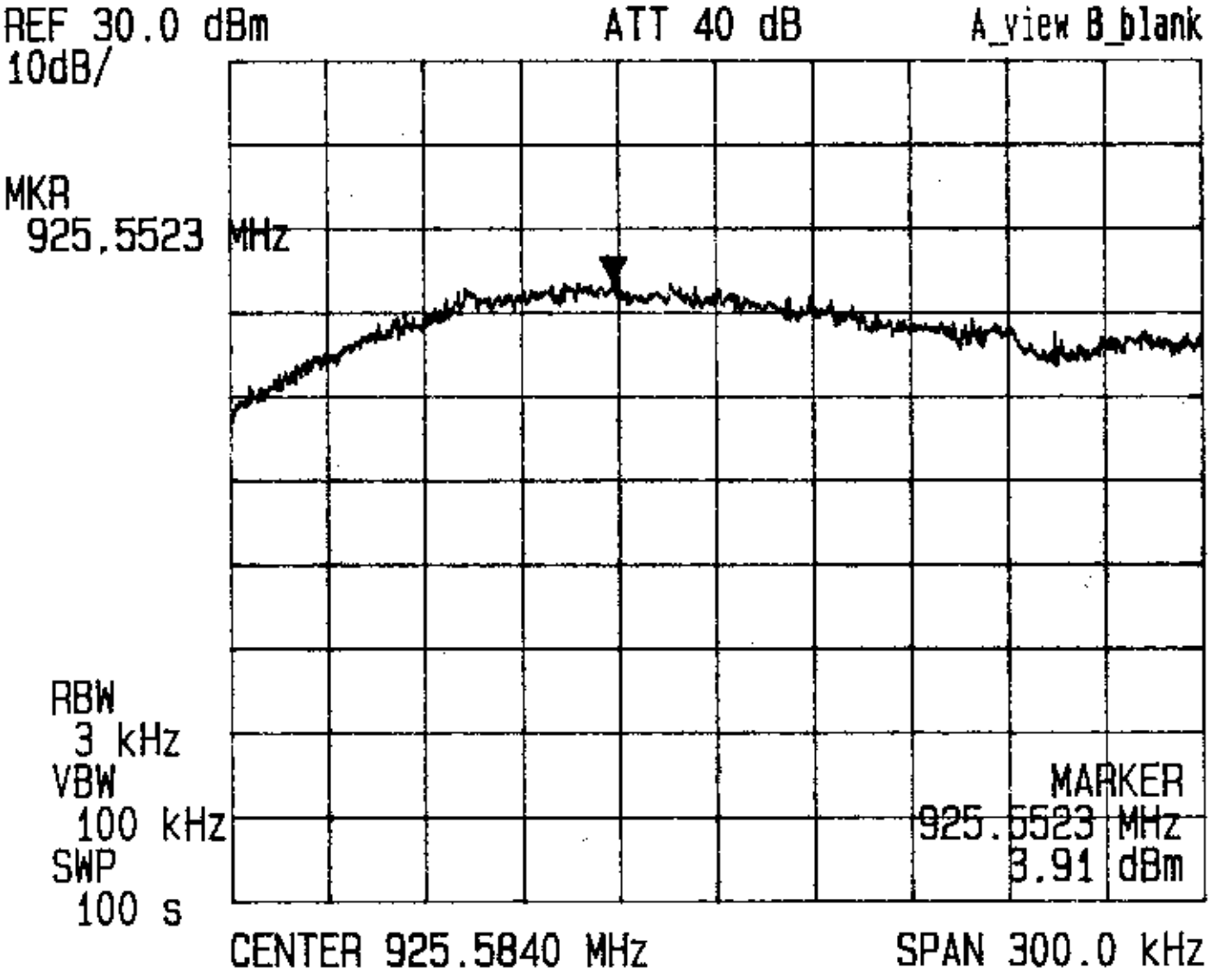

REF 30.0 dBm
10dB/
ATT 40 dB
A_view B_blank
MARKER
903.5871 MHz
1.47 dBm
MKR
903.5871 MHz
RBW
3 kHz
VBW
100 kHz
SWP
100 s
CENTER 903.6047 MHz
SPAN 300.0 kHz


REF 30.0 dBm
ATT 40 dB
A_view B_blank
10dB/
MARKER
915.2760 MHz
0.63 dBm
MKR
915.2760 MHz
RBW
3 kHz
VBW
100 kHz
SWP
100 s
CENTER 915.133 MHz
SPAN 300.0 kHz


REF 30.0 dBm
ATT 40 dB
A_view B_blank
10dB/
MARKER
925.5124 MHz
2.31 dBm
MKR
925.5124 MHz
RBW
3 kHz
VBW
100 kHz
SWP
100 s
CENTER 925.611 MHz
SPAN 300.0 kHz


REF 30.0 dBm
ATT 40 dB
A_view B_blank
10dB/
MKR
902.9363 MHz
RBW
3 kHz
VBW
100 kHz
SWP
100 s
MARKER
902.9363 MHz
1.47 dBm
CENTER 903.0400 MHz
SPAN 300.0 kHz


REF 30.0 dBm
10dB/
ATT 40 dB
A_view B_blank
MKR
914.0744 MHz
RBW
3 kHz
VBW
100 kHz
SWP
100 s
MARKER
914.0744 MHz
5.72 dBm
CENTER 914.1070 MHz
SPAN 300.0 kHz


REF 30.0 dBm
ATT 40 dB
A_view B_blank
10dB/
MKR
925.5523 MHz
RBW
3 kHz
VBW
100 kHz
SWP
100 s
MARKER
925.5523 MHz
3.91 dBm
CENTER 925.5840 MHz
SPAN 300.0 kHz

RF Maximum Permissible Exposure Measurement Report

of

E.U.T. : Cordless Telephone

MODEL : SDC820

FCC ID. : O2BSDC820

for

APPLICANT : Solomon Wireless Tech. Corp.

ADDRESS : 2F, NO. 2, LANE 47, SEC. 3, NAN KANG ROAD, TAIPEI, TAIWAN, R.O.C.

Test Performed by

ELECTRONICS TESTING CENTER, TAIWAN
NO. 8 LANE 29, WENMIMG ROAD,
LOSHAN TSUN, KWEISHAN HSIANG,
TAOYUAN, TAIWAN, R.O.C.

Tel:(03)3280026-32
Fax:(03)3280034

Report Number : ET89R-06-081

TEST REPORT CERTIFICATION

Applicant	: Solomon Wireless Tech. Corp. 2F, NO. 2, LANE 47, SEC. 3, NAN KANG ROAD, TAIPEI, TAIWAN, R.O.C.
Manufacturer	: Solomon Wireless Tech. Corp. 2F, NO. 2, LANE 47, SEC. 3, NAN KANG ROAD, TAIPEI, TAIWAN, R.O.C.
Description of EUT	:
a) Type of EUT	: Cordless Telephone
b) Model No.	: SDC820
c) FCC ID.	: O2BSDC820
d) Adaptor	: Model : 309030010013 I/P : AC 110V, 60Hz, 6W O/P : DC 9V, 300mA
Regulation Applied	: IEEE C95.1-1991, FCC 47 CFR Part 1 and Part 2

I HEREBY CERTIFY THAT: The data shown in this report were made in accordance with the procedures given in IEEE C95.1, and the energy emitted by the device was founded to be within the limits applicable. I assume full responsibility for accuracy and completeness of these data.

Note: 1. The result of the testing report relates only to the item tested.
2. The testing report shall not be reproduced expect in full, without the written approval of ETC.

Issued Date : Sep. 20, 2000

Test Engineer : S S Liou
(S. S. Liou)

Approve & Authorized Signer : Will Yau
Will Yau, Supervisor
EMI Test Site of ELECTRONICS TESTING CENTER, TAIWAN

Table of Contents Page

1 GENERAL INFORMATION

1.1 Product Description

a) Type of EUT : Cordless Telephone
b) Trade Name : NDC
c) Model No. : SDC820
d) Adaptor : Model : 309030010013
I/P : AC 110V, 60Hz, 6W
O/P : DC 9V, 300mA

1.2 Characteristics of Device

This Cordless Telephone using the direct sequence spread spectrum technology. The base unit plays into a standard analogue telephone jack and provides a digital wireless communication link with the handset using the 902 to 928 MHz ISM band.

1.3 Test Methodology

The Maximum Permissible Exposure (MPE) was performed according to the procedures illustrated in IEEE C95.1-1991.

1.4 Test Facility

The open area test site and conducted measurement facility used to collect the radiated data is located on the roof top of Building at No.34, 5 Lirn, Din Fu Tsun, Lin Kou, Taipei, Taiwan, R.O.C.
This site has been fully described in a report submitted to the FCC, and accepted in a letter dated Feb. 10, 1997.

2 PROVISIONS APPLICABLE

2.1 Definition

MPE in Occupational / Controlled Environments:

Persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Also apply to a individual is transient through a location where occupational / controlled limits apply provided he or she is made aware of the potatial for exposure.

MPE in General Population / Uncontrolled Environments:

General population / Uncontrilled exposure apply in situation in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment nay not be fully aware of the potatial for exposure or cannot execise control over their exposure.

2.2 Relative Requirement for Compliance

(1) MPE for Controlled Enviroments

According to section 1.1310 of FCC 47 CFR Part 1, MPE Limits for controlled enviroment are as following:

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Averaging Time (minutes)
0.3-3.0	614	1.63	*100	6
3-30	1842/f	4.89/f	*900/f^2	6
30-300	61.4	0.163	1.0	6
300-1500	-----	-----	f/300	6
15000-100,000	-----	-----	5.0	6

(2) MPE for Uncontrolled Enviroments

According to section 1.1310 of FCC 47 CFR Part 1, MPE Limits for uncontrolled enviroment are as following:

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Averaging Time (minutes)
0.3-3.0	614	1.63	*100	30
3-30	1842/f	4.89/f	*180/f^2	30
30-300	27.5	0.073	0.2	30
300-1500	-----	-----	f/1500	30
15000-100,000	-----	-----	1.0	30

f = frequency in MHz

* = Plane-wave equivalent power desity

3 SYSTEM TEST CONFIGURATION

3.1 Justification

The system was configured for testing in a typical fashion, as a customer would normally use it. But for MPE testing, because of the emission type of EUT is frequency hopping technique, a firmeware from the manufacturer is employed to set the EUT in maximum output power and fix the transmitting frequency of EUT. The output power was also verified with a spectrum analyzer. The peripherals other than EUT were connected in normally standing by situation. Hereby, we can make sure that the MPE testing was performed under the wost case.

3.2 Devices for Tested System

Device	Manufacture	Model	Cable Description
Cordless Telephone *	Solomon Wireless Tech. Corp.	SDC820 O2BSDC820	1.8m AC adaptor unshielded cord

Remark "*" means device under test.

4 Maximum Permissible Exposure Measurement

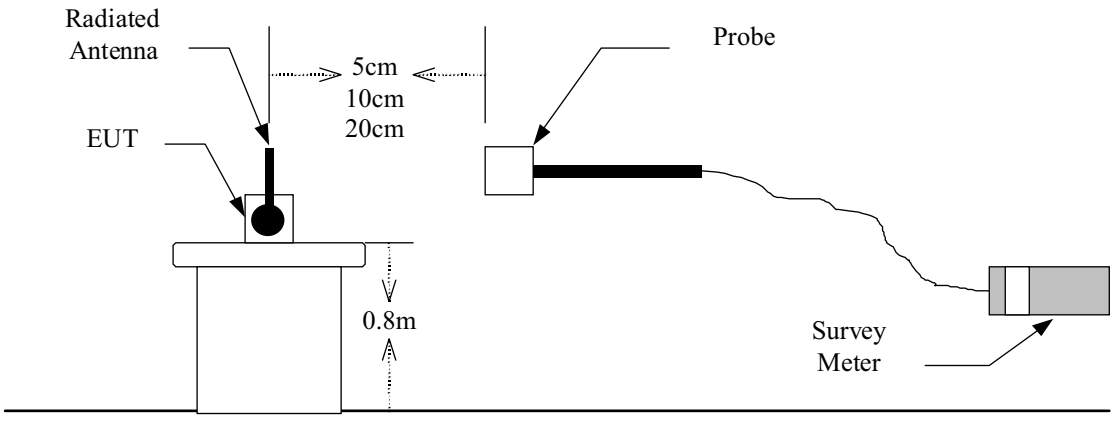
4.1 Applicable Standard

For this intentional radiator are used with any possible people, therefore the **Uncontrolled Enviroment Condition** is applied. And the MPE requirement is as descibed in section 2.2 of this test report.

4.2 Measurement Procedure

(1) Set up the device under test (DUT) as its normal using configuration. Please see figure 1.
(2) Calibrate the probe system so that the meter displays zero, and then power on the DUT.
(3) Scan the antenna of DUT with a proper spacer of 5 cm in vertical axis and keep vertical scanning around the antenna, and pick up the maximum data with Max. Hold function.
(4) Repeat step (3) by changing the spacer to 10 cm and then 20 cm till the field from DUT is too weak to be measured.
(5) Record the maximum value appeared.

Figure 1 : Measurement configuration



4.3 Measurement Instrument

The following instrument are used for radiated emissions measurement :

Equipment	Manufacturer	Model No.	Next Cal. Due
Survey Meter	Narda	8712	Jan. 30, 2001
Probe	Narda	8721D	Jan. 30, 2001

4.4 Power Desity Data

Operation Mode : Base Unit @ TX/RX
Transmitting Frequency : 902 to 928 MHz
Rated Maximum Output Power : 18 dBm
Measured Output Peak Power : 18.44dBm @ 904.13MHz, 18.50dBm @ 913.96MHz, 18.53dBm @ 925.81MHz

Test Date : Jul. 09, 2000 Temperature : 24 ℃ Humidity : 65 %

Measured Frequency MHz	Measured @ 5cm mW/cm^2	Measured @ 10cm mW/cm^2	Measured @ 20cm mW/cm^2	Measured @ 30cm mW/cm^2	Probe Factor	Result @ 5cm mW/ cm^2	MPE Limt @ 20cm mW/cm^2
904.13	0.11	0.06	0.02	---	0.815	0.09	1.0
913.96	0.11	0.07	0.02	---	0.815	0.09	1.0
925.81	0.11	0.07	0.02	---	0.815	0.10	1.0

Note :

1. Remark "---" means that the emission level is too low to be measured (the precise accuracy of the measurement system is 0.01 mW/ cm^2).
2. Item of Probe Factor on above table is a corrected factor of measurement system. And
   Result = Value Measured X Corrected Factor.
3. The measurement was performed under the condition of fixed the emission frequency to get the most extreme MPE.