

MEASUREMENT AND TECHNICAL REPORT

SINGLE CHIP SYSTEMS
10905 Technology Place
San Diego, CA 92127

DATE: 11 April 2000

This Report Concerns:	Original Grant: X	Class II Change:
Equipment Type:	6 Antenna InstaScan Scanner, Model S516	
Transition Rules Request per 15.37?	Yes:	*No:
(*) FCC Part 15, Paragraph 15.207(b); 15.209(b);15.247(a)(1)(ii)(b)(c)		
<i>Report Prepared by:</i> TÜV PRODUCT SERVICE 10040 Mesa Rim Road San Diego, CA 92121-2912 Phone: 619 546 3999 Fax: 619 546 0364		

TABLE OF CONTENTS

	Pages
1 GENERAL INFORMATION	3
1.1 Product Description	3
1.2 Test Methodology	11
1.3 Test Facility	11
2 SYSTEM TEST CONFIGURATION	11
3.1 Justification	11
3.2 EUT Exercise Software	11
3.3 Special Accessories	11
3.4 Equipment Modifications	11
3.5 Configuration of Tested System	11
3 TEST REPORT	12
RADIATED MEASUREMENT	12
RADIATED MEASUREMENT EQUIPMENT/TEST SETUP/DATA	12
FIELD STRENGTH CALCULATION	13
CONDUCTED MEASUREMENT	17
CONDUCTED MEASUREMENT EQUIPMENT/TEST SETUP/DATA	17
4 GENERAL SUMMARY	35

1 GENERAL INFORMATION

1.1 Product Description

6 Antenna InstaScan Scanner, Model S516, S/N 5160002

EMC Test Plan and Constructional Data Form

PLEASE COMPLETE THIS DOCUMENT IN FULL, ENTERING N/A IF THE FIELD IS NOT APPLICABLE.

Applicant -- NOTE: This information will be input into your test report as shown below.
Press the F1 key at any time to get HELP for the current field selected.

Company: SCS Corporation

Address: 10905 Technology Place
San Diego, CA 92127

Contact: Eric Mikuteit Position: Sr. RF Design Engineer

Phone: 858-485-9196 x129 Fax: 858-485-0561

E-mail Address: ericm@scs-corp.com

General Equipment Description -- NOTE: This information will be input into your test report as shown below.

EUT Description 6 Antenna RF Identification Transceiver

EUT Name 6 Antenna InstaScan Scanner

Model No.: S516 Serial No.: 5160002

Product Options: _____

Configurations to be tested: 6 Antennas, multiplexing

Test Objective

- | | |
|---|--|
| ☐ EMC Directive 89/336/EEC (EMC)
Std: _____ | ☒ FCC: Class ☒ A ☐ B Part _____ |
| ☐ Machinery Directive 89/392/EEC (EMC)
Std: _____ | ☐ VCCI: Class ☐ A ☐ B |
| ☐ Medical Device Directive 93/42/EEC (EMC)
Std: _____ | ☐ BCIC: Class ☐ A ☐ B |
| ☐ Vehicle Directive 72/245/EEC (EMC)
Std: _____ | ☐ Canada: Class ☐ A ☐ B |
| ☐ FDA Reviewers Guidance for Premarket
Notification Submissions (EMC) | ☐ Australia: Class ☐ A ☐ B |
| | ☒ Other: <u>FCC Part 15.247</u> |

TÜV Product Service Certification Requested

- | | |
|--|---|
| ☐ Attestation of Conformity (AoC) | ☐ International EMC Mark (IEM) |
| ☐ Certificate of Conformity (CoC) | ☐ Compliance Document |
| Protection Class (N/A for vehicles) | ☐ Class I ☐ Class II ☐ Class III |
- (Press F1 when field is selected to show additional information on Protection Class.)

Attendance

Test will be: ☒ Attended by the customer ☐ Unattended by the customer

EMC Test Plan and Constructional Data Form**Failure - Complete this section if testing will not be attended by the customer.**

If a failure occurs, TÜV Product Service should:

- ☐ Call contact listed above, if not available then stop testing. (After hrs phone): _____
- ☐ Continue testing to complete test series.
- ☐ Continue testing to define corrective action.
- ☐ Stop testing.

EUT Specifications and Requirements

Length: 14" Width: 8" Height: 4" Weight: 5 lbs.
: _____

Power Requirements

Regulations require testing to be performed at typical power ratings in the countries of intended use. (i.e., European power is typically 230 VAC 50 Hz or 400 VAC 50 Hz, single and three phase, respectively)

Voltage: 120 VAC (If battery powered, make sure battery life is sufficient to complete testing.)

of Phases: 2

Current (Amps/phase(max)): 1 Current (Amps/phase(nominal)): 0.1

Other _____

Other Special Requirements**Typical Installation and/or Operating Environment**

(ie. Hospital, Small Business, Industrial/Factory, etc.)
Industrial

EUT Power Cable

☐ Permanent OR ☒ Removable Length (in meters): 2
☐ Shielded OR ☒ Unshielded
☐ Not Applicable

EMC Test Plan and Constructional Data Form

EUT Interface Ports and Cables

Interface				Shielding								
Type	Analog	Digital	Qty	Yes	No	Type	Termination	Connector Type	Port Termination	Length (in meters)	Removable	Permanent
EXAMPLE:												
RS232	☐	☒	2	☒	☐	Foil over braid	Coaxial	Metallized 9-pin D-Sub	Characteristic Impedance	6	☒	☐
RS-232	☐	☒	1	☐	☒			Metallized 9-pin D-sub	Characteristic Impedance	4	☒	☐
RF	☒	☐	6	☒	☐	braid	coaxial	reverse polarity SMA	50 ohm	2	☒	☐
Power cord	☒	☐	1	☐	☐			Universal Power Cord	Characteristic Impedance	2	☒	☐
	☐	☐		☐	☐						☐	☐
	☐	☐		☐	☐						☐	☐
	☐	☐		☐	☐						☐	☐
	☐	☐		☐	☐						☐	☐
	☐	☐		☐	☐						☐	☐
	☐	☐		☐	☐						☐	☐
	☐	☐		☐	☐						☐	☐
	☐	☐		☐	☐						☐	☐
	☐	☐		☐	☐						☐	☐

EMC Test Plan and Constructional Data Form

EUT Software

Revision Level: 51_01

Description: Standard Firmware to control the scanner functions.

EUT Operating Modes to be Tested -- list the operating modes to be used during test. It is recommended the equipment be tested while operating in a typical operation mode. FCC testing of personal computers and/or peripherals requires that a simple program generate a complete line of upper case H's. Provide a general description of all software, firmware, and PLD algorithms used in the equipment. List all code modules as described above, with the revision level used during testing. Consult with your TÜV Product Service Representative if additional assistance is required.

1. Normal operation, multiplexing antennas (in previous tests, this has proven to be worst case)
- 2.
- 3.

EUT System Components -- List and describe all components which are part of the EUT. For FCC testing a minimum configuration is required. (ie. Mouse, Printer, Monitor, External Disk Drive, Motherboard, etc.)

Description	Model #	Serial #	FCC ID #
InstaScan Scanner	S516	5160002	
RF Cables (6)	N/A	N/A	
Huber Suhner Antenna (2)	1324.19.0007	N/A	
M/A-COM Antenna (2)	ANP-C-116	N/A	
SCS Helix Antenna (2)	100070	N/A	

EMC Test Plan and Constructional Data Form

Support Equipment -- List and describe all support equipment which is not part of the EUT. (i.e. peripherals, simulators, etc)

<i>Description</i>	<i>Model #</i>	<i>Serial #</i>	<i>FCC ID #</i>
Toshiba Laptop Computer	PA1230U VCD	03733928-1	CJ6UK436

Oscillator Frequencies

<i>Frequency</i>	<i>Derived Frequency</i>	<i>Component # / Location</i>	<i>Description of Use</i>
20 MHz		Y1/Transmitter section of PCB	Main clock for entire scanner PCB

Power Supply

<i>Manufacturer</i>	<i>Model #</i>	<i>Serial #</i>	<i>Type</i>
MeanWell	PS-25-7.5	N/A	☒ Switched-mode: (Frequency) <u>200 KHz</u> ☐ Linear ☐ Other: _____
			☐ Switched-mode: (Frequency) _____ ☐ Linear ☐ Other: _____

Power Line Filters

<i>Manufacturer</i>	<i>Model #</i>	<i>Location in EUT</i>
Corcom	3ED1	Power Connector

EMC Test Plan and Constructional Data Form

Critical EMI Components (Capacitors, ferrites, etc.)

<i>Description</i>	<i>Manufacturer</i>	<i>Part # or Value</i>	<i>Qty</i>	<i>Component # / Location</i>
15 Pin Filtered Connector	Metuchen	56-514-014-GBL	1	P1/ Internal Scanner PCB
25 Pin Filtered Connector	Metuchen	56-524-014-GBL	1	P2/ Internal Scanner PCB

EMC Critical Detail -- Describe other EMC Design details used to reduce high frequency noise.

PCB Housing acts as EMI enclosure

(PLEASE INSERT "ELECTRONIC SIGNATURE" BELOW IF POSSIBLE)

Authorization Signatures

Eric Mikuteit

3-2-00

Customer authorization to perform tests
according to this test plan.

Date

Eric Mikuteit

3-2-00

Test Plan/CDF Prepared By (please print)

Date

Reviewed by TÜV Product Service Associate

Date

Direct sequence spread spectrum transmitters: N/A

Scanning receivers: N/A

Description of compliance of the associated receiver or receivers:

The receiver employs a homodyne architecture. The LO signal in the receiver is split from the transmitted RF early in the transmitter chain, and is therefore, at the same frequency. The received signal is mixed with the LO signal to create a baseband IF. The IF signal is filtered to 1 MHz, which matches the hopping channel bandwidth.

Certification of transmitters operating within the 59 to 64 GHz band: N/A

1.11 Test Methodology

Purpose of Test: To demonstrate compliance with the ANSI C63.4 setup.

Test Performed: X 1. Conducted Emissions, FCC Part 15, Paragraph 15.207(a); 15.247(a)(b)(c)
2. Radiated Emissions EN55022: 1992 Class B limit, 30 - 1,000 MHz, 10 meters
X 3. Radiated Emission per FCC Part 15, Paragraph 15.209(a); 15.247(c)
4. Engineering evaluations

Both Conducted and radiated testing were performed according to the procedures in FCC/ANSI C63.4 and CSA 108.8 - M1983. Radiated testing was performed at an antenna-to-EUT distance of 3 meters (1 - 10 GHz).

1.12 Test Facility

The open area test site and conducted measurement data were tested by:

TÜV PRODUCT SERVICE
10040 Mesa Rim Road
San Diego, CA 92121-2912
Phone: 619 546 3999
Fax: 619 546 0364

The Test Site Data and performance comply with ANSI 63.4 and are registered with the FCC, 7435 Oakland Mills Rd, Columbia Maryland 21046. All Measurement Data is acquired according to the content of FCC Measurement Procedure and ANSI C63.4, unless supplemented with additional requirements as noted in the test report.

2. SYSTEM TEST CONFIGURATION

2.1 Justification

The EUT InstaScan Scanner was initially tested for FCC emission in the following configuration:

See photos and test setup drawings.

2.2 EUT Exercise Software

None

2.3 Special Accessories

None

2.4 Modification

None

2.5 Configuration of Tested System

See photos and test setup drawings.

3 TEST REPORT

3.1 Emissions Test Conditions: RADIATED EMISSIONS, FCC Part 15, Paragraphs 15.209(a); 15.247(c)

The *RADIATED EMISSIONS* measurements were performed at the following test location :

☐ - Test not applicable

- - Roof (Small Open Area Test Site)
- - Canyon #2 (3- and 10-meter Open Area Test Site), Carroll Canyon, San Diego

Testing was performed at a test distance of:

- 3 meters

Test Equipment Used :

Model No.	Prop. No.	Description	Manufacturer	Serial No.	Cal Date
3115	453	Antenna, Double Ridge Guide	EMCO	9412-4363	10/00
8566B	720	Spectrum Analyzer	Hewlett Packard	211500842	03/01
8566B	721	Spectrum Analyzer Display	Hewlett Packard	2112A0218	03/01
AFD3-0208-40-ST	367	Pre-Amplifier (30 dB gain), 2 to 8 GHz	Miteq, Inc.	155382	04/00*
AFD4-08001800-70-10P-4	368	Pre-Amplifier (22 dB gain), 8 to 18 GHz	Miteq, Inc.	155382	04/00*
AA-190-10.00.0	656	High Frequency Cable	United Microwave Pro	--	04/00*
AA-190-30.00.0	664	High Frequency Cable	United Microwave Pro	--	04/00*
LPB2520/A	739	LPB	Antenna Research	1170	04/00*
CCA-7	178	CISPR Adapter	Eaton	0106-08075	02/01

Remarks: (*) Verified

Field Strength Calculation

If a preamplifier was used during the Radiated Emission Testing, it is required that the amplifier gain must be subtracted from the Spectrum Analyzer (Meter) Reading. In addition, a correction factor for the antenna , cable used and a distance factor, if any, must be applied to the Meter Reading before a true field strength reading can be obtained. In the automatic measurement, these considerations are automatically presented as a part of the print out. In the case of manual measurements and for greater efficiency and convenience, instead of using these correlation factors for each meter reading, the specification limit was modified to reflect these correlation factors at each frequency value so that the meter readings can be compared directly to the modified specification limit. This modified specification limit is referred to as the "Corrected Meter Reading Limit" or simply the CMRL, which is the actual field strength present at the antenna. The quantity can be derived in the following manner:

$$\text{Corrected Meter Reading Limit (CMRL)} = \text{SAR} + \text{AF} + \text{CL} - \text{AG} - \text{DC}$$

Where, SAR = Spectrum Analyzer Reading

AF = Antenna Factor

CL = Cable Loss

AG = Amplifier Gain (if any)

DC = Distance Correction (if any)

Assume the following situation: A meter reading of 29.4 dBuV was obtained from a Class A computing device measured at 83 MHz. Assume an antenna factor of 9.2 dB, a cable loss of 1.4 dB and amplifier gain of 20.0 dB at 83 MHz. The final field strength would be determined as follows:

$$\text{CMRL} = 29.4 \text{ dBuV} + 9.2 \text{ dB} - 1.4 \text{ dB} - 20 \text{ dB/M} - 0.0 \text{ dB}$$

$$\text{CMRL} = 20.0 \text{ dBuV/M}$$

This result is well below the FCC and CSA Class A limit of 29.5 dbuV/m at 83 MHz.

For the manual mode of measurement, a table of corrected meter reading limit was used to permit immediate comparison of the meter reading to determine if the measure emission amplitude exceeded the specification limit at that specific frequency.

REPORT NOS0136
COMPANY: Single Chip Systems

SPEC: FCC Part 15 para 15.109(a)

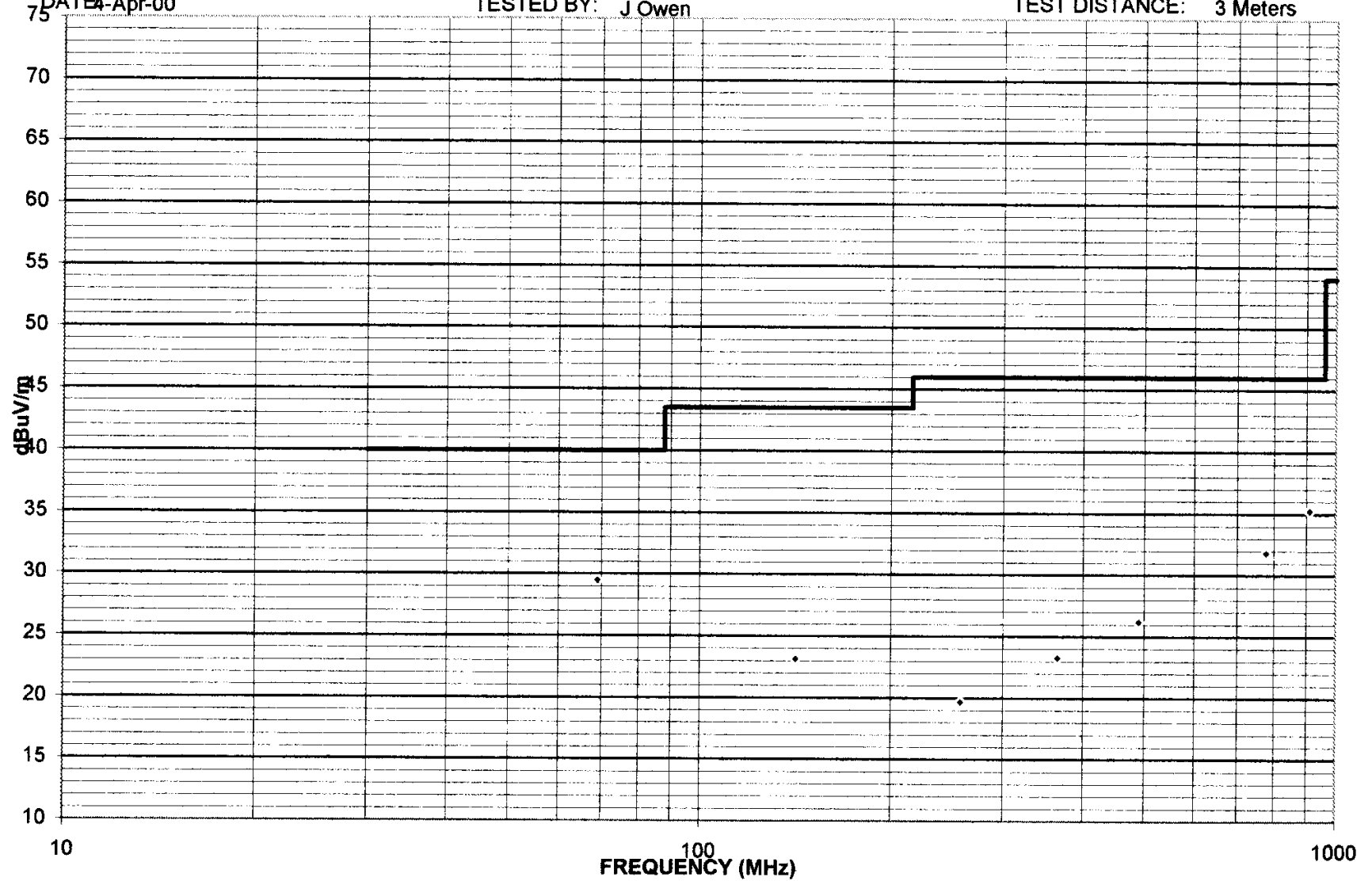
EUTS516

EUT MODE: Xmt Hopping Modulated unmultiplexed

DATE: 4-Apr-00

TESTED BY: J Owen

TEST DISTANCE: 3 Meters



71

SPEC: FCC 15.209(a)

TEST DIST: 3 Meters

TEST SITE: 2

BICONICAL: 739

LOG PERIODIC: 739

RCVR: 178/171

Temperature: 13 Relative Humidity: 52

-10.5 dB at 68.96 MHz

ver 1.8

[illegible]

SPEC: FCC Part 15.247(c) FCC Part 15.205

CUSTOMER: Single Chip Systems

TEST DIST: 3 Meters

TEST SITE: 3

EUT MODE: Transmit 1W Unmodulated not multiplexing
Huber Suhner Model 1324.19.0007

BICONICAL: N/A

DATE: 3-Apr-00

LOG: N/A

NOTES:

OTHER: 453

RBW=1MHz and VBW=1MHz for Pk

RBW=1MHz and VBW=10Hz for Avg

SA PN720 & 721 Cables PN:656 & 664

v.beta2

[illegible]

16

3.2 CONDUCTED EMISSION DATA

See following page(s).

Emissions Test Conditions: CONDUCTED EMISSIONS, FCC Part 15, Paragraphs 15.207(a); 15.209(a) 15.247(a)(b)(c)

The *RADIATED EMISSIONS* measurements were performed at the following test location :

☐ - Test not applicable

■ - sr 3, Shielded Room, 12' x 20' x 8', Metal Chamber

Test Equipment Used :

Model No.	Prop. No.	Description	Manufacturer	Serial No.	Cal Date
9252-50-R-24-BNC	458	LISN, 50 μ H/250 μ H/50 Ω /0.25 μ F	Solar Electronics, Co.	941719	04/00
ESHS 20	428	EMI Test Receiver	Rohde & Schwarz	--	10/00
CAT-20	598	20 dB Attenuator	Mini-Circuits	--	N/A*

Remarks: (*) Verified prior to testing.

TUV Product Service
Powerline Conducted RFI

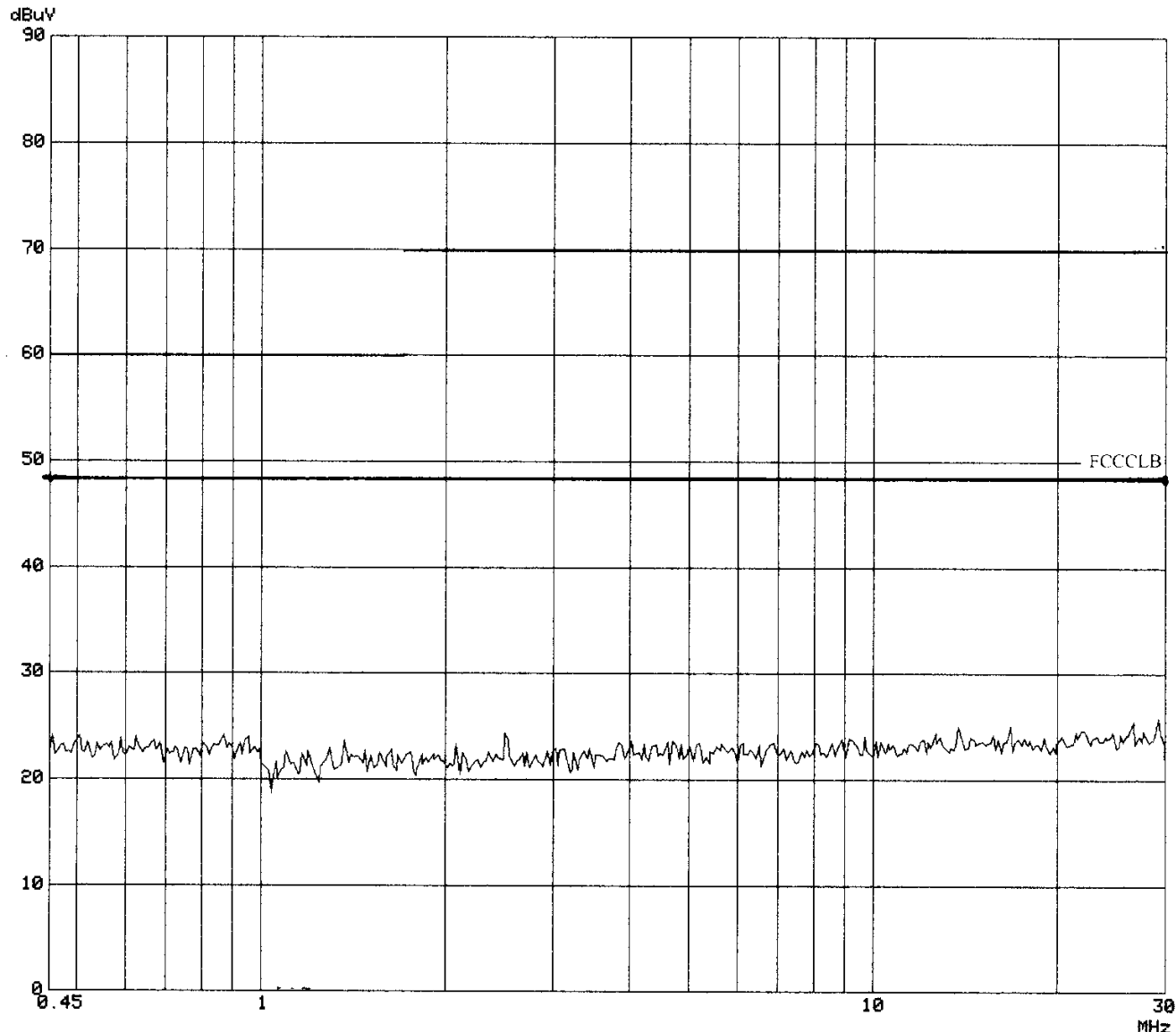
EUT: S516
Manuf: Single Chip Systems Corporation
Op Cond: Normal, multiplexing antennas
Operator: Jose Ayala
Test Spec: FCC 15.207(a)
Comment: 115VAC 60Hz Line 1
S0136 S/N 5160002
Date: 03. Apr 00 08:11

Scan Settings (2 Ranges)

Frequencies			Receiver Settings					
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preampl	OpRge
450k	1M	5k	10k	PK	50ms	AUTO	LN OFF	60dB
1M	30M	5k	10k	PK	2ms	AUTO	LN OFF	60dB

Transducer No.	Start	Stop	Name
1	9k	30M	20dBLISN

Final Measurement: x QP
Meas Time: 1 s
Subranges: 25
Acc Margin: 20dB



TUV Product Service
Powerline Conducted RFI

EUT: S516
Manuf: Single Chip Systems Corporation
Op Cond: Normal, multiplexing antennas
Operator: Jose Ayala
Test Spec: FCC 15.209(a) */A*
Comment: 115VAC 60Hz Line 1
S0136 S/N 5160002
Date: 03. Apr 00 08:11

Final Measurement Results:

no Results within 10dB of limit

TUV Product Service Powerline Conducted RFI

EUT: S516
 Manuf: Single Chip Systems Corporation
 Op Cond: Normal, multiplexing antennas
 Operator: Jose Avala
 Test Spec: FCC 15.207(a)
 Comment: 115VAC 60Hz Line 2
 S0136 S/N 5160002
 Date: 03. Apr 00 08:17

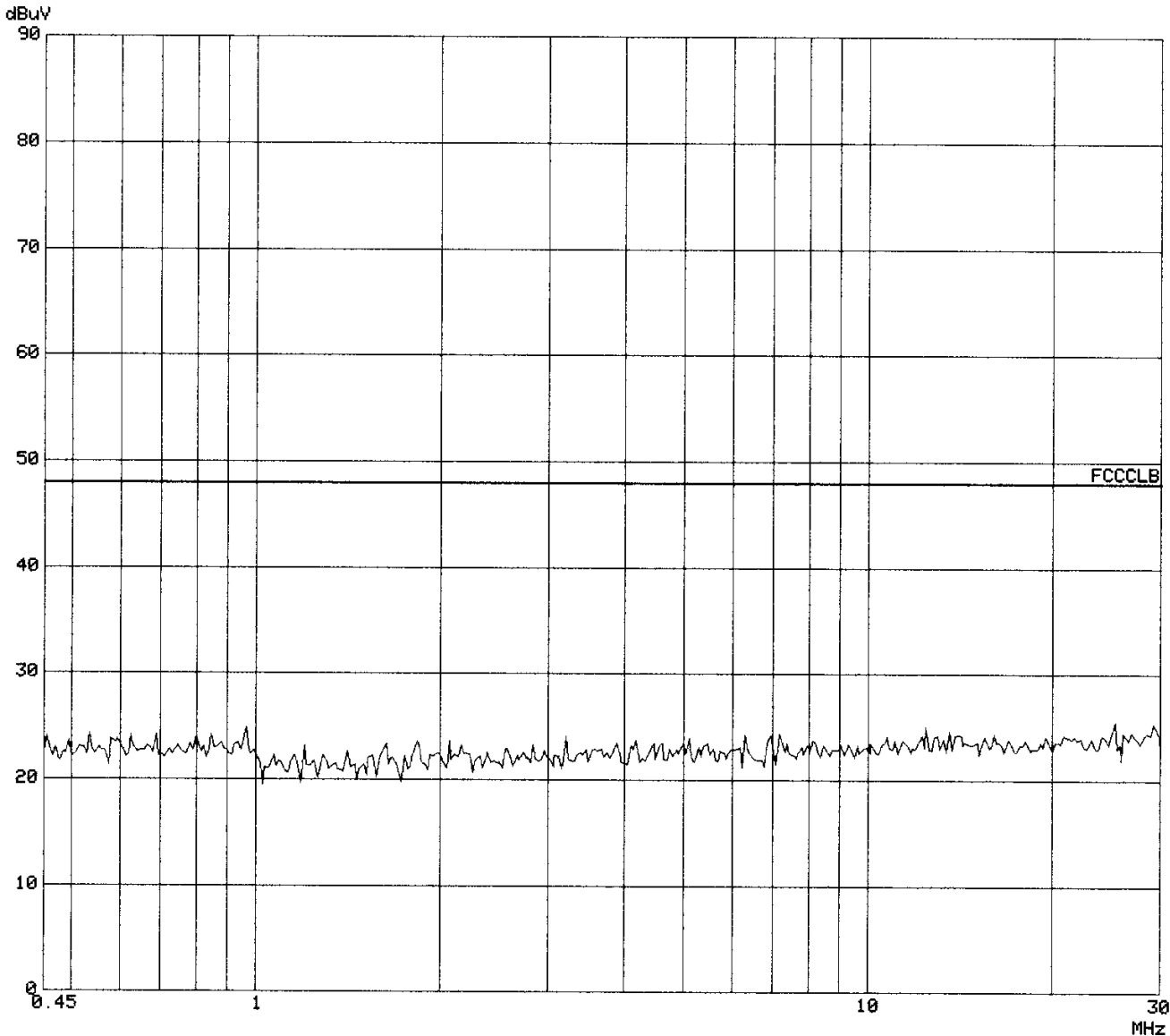
Scan Settings (2 Ranges)

Frequencies			Receiver Settings					
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge
450k	1M	5k	10k	PK	50ms	AUTO	LN OFF	60dB
1M	30M	5k	10k	PK	2ms	AUTO	LN OFF	60dB

Transducer No.	Start	Stop	Name
1	9k	30M	20dBLISN

Final Measurement: x QP

Meas Time: 1 s
 Subranges: 25
 Acc Margin: 20dB



**TUV Product Service
Powerline Conducted RFI**

EUT: S516
Manuf: Single Chip Systems Corporation
Op Cond: Normal, multiplexing antennas
Operator: Jose Ayala
Test Spec: FCC 15.207(a)
Comment: 115VAC 60Hz Line 2
S0136 S/N 5160002
Date: 03. Apr 00 08:17

Final Measurement Results:

no Results

CLIENT: SCS

EUT: 6 Antenna InstaScan Scanner, Model S516

DATE: 03 April 2000

SPECIFICATION: FCC Part 15.247(c)

TEST: RF Conducted Measurement

NOTE(S):

1. Modulation off
2. Low channel
3. Not hopping

MR 1.795 GHz

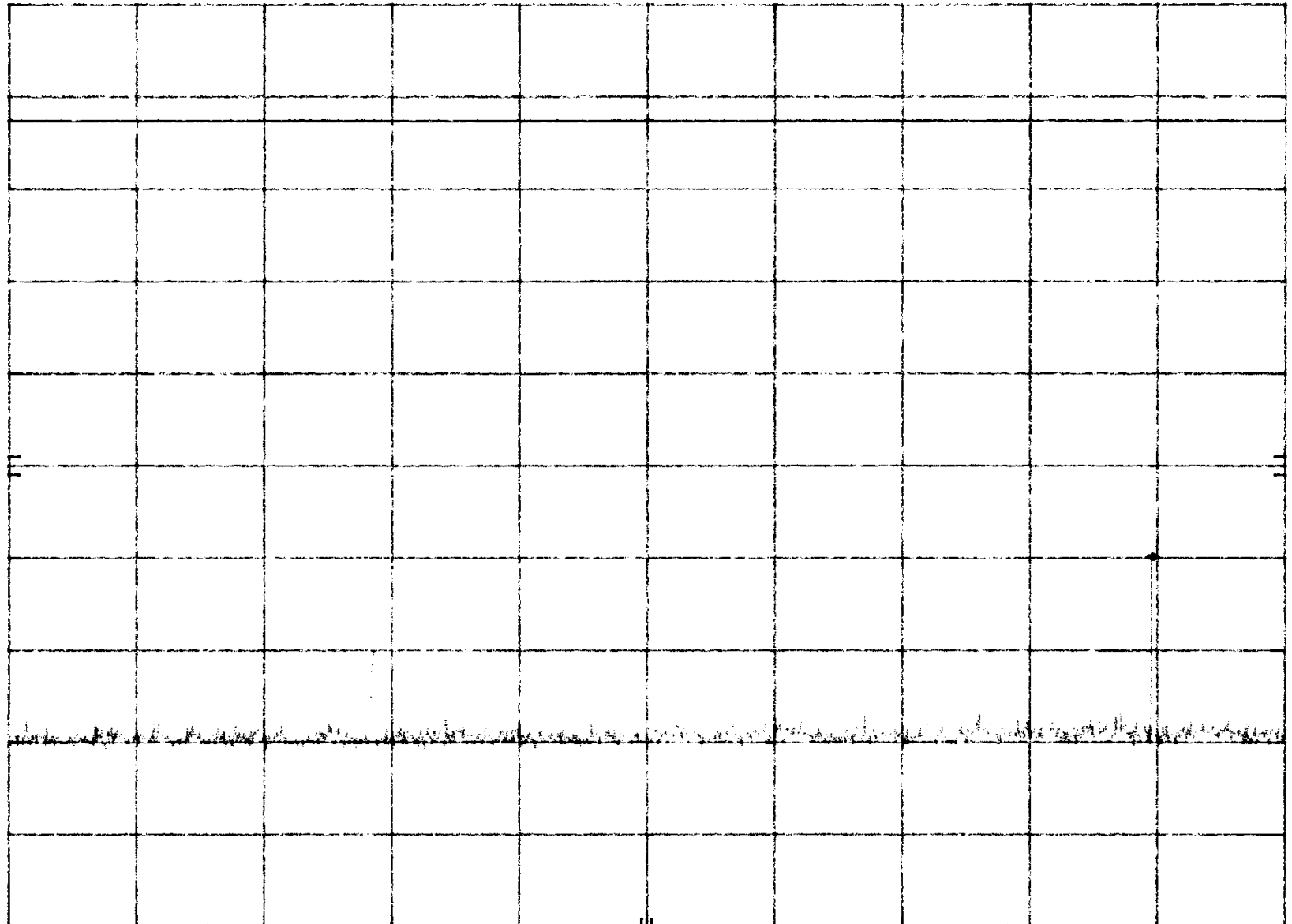
-39.90 dBm

hp REF 20.0 dBm ATTN 30 dB

10 dB/

POS PK

DL
7.4
dBm



START 30 MHz

RES BW 100 kHz (i)

VBW 100 kHz

STOP 2.00 GHz

SWP 1.48 sec

62

CLIENT: SCS

EUT: 6 Antenna InstaScan Scanner, Model S516

DATE: 03 April 2000

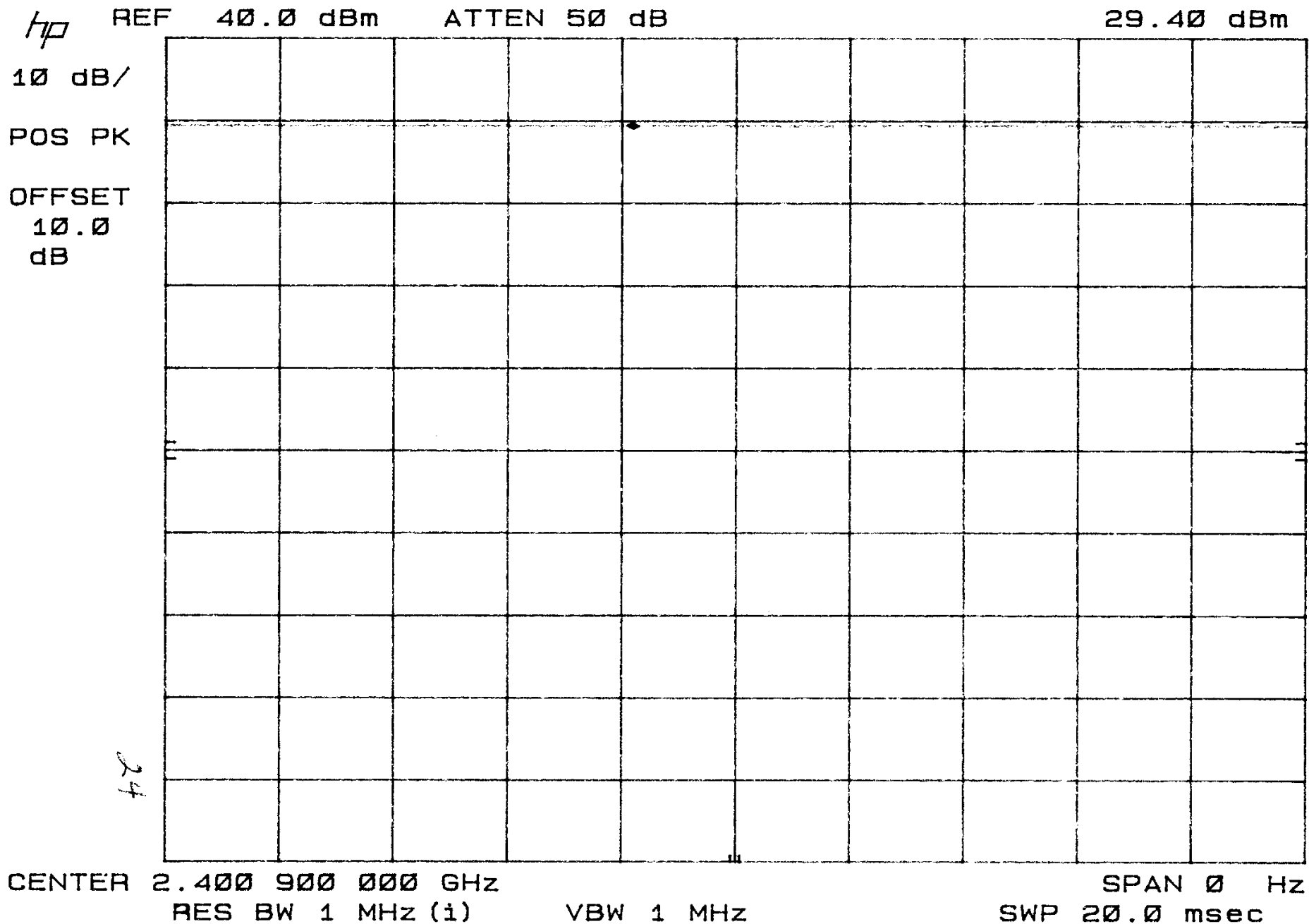
SPECIFICATION: FCC Part 15.247(c)

TEST: RF Conducted Measurement

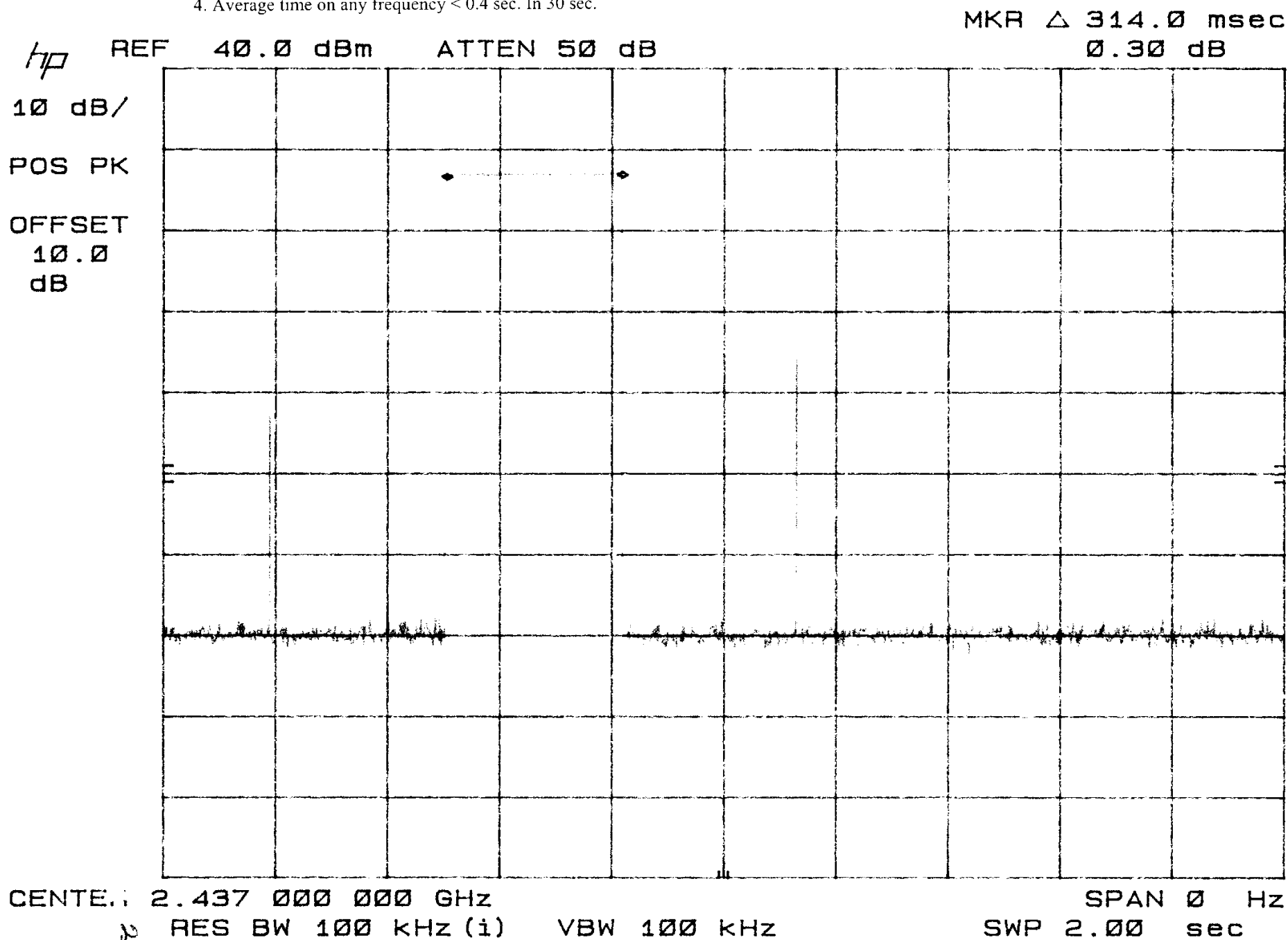
NOTE(S):

1. Modulation off
2. Low channel
3. Not hopping

MKR 8.180 msec
29.40 dBm



- NOTE(S):
1. Modulation off
 2. Mid channel
 3. Frequency hopping
 4. Average time on any frequency < 0.4 sec. In 30 sec.



NOTE(S):

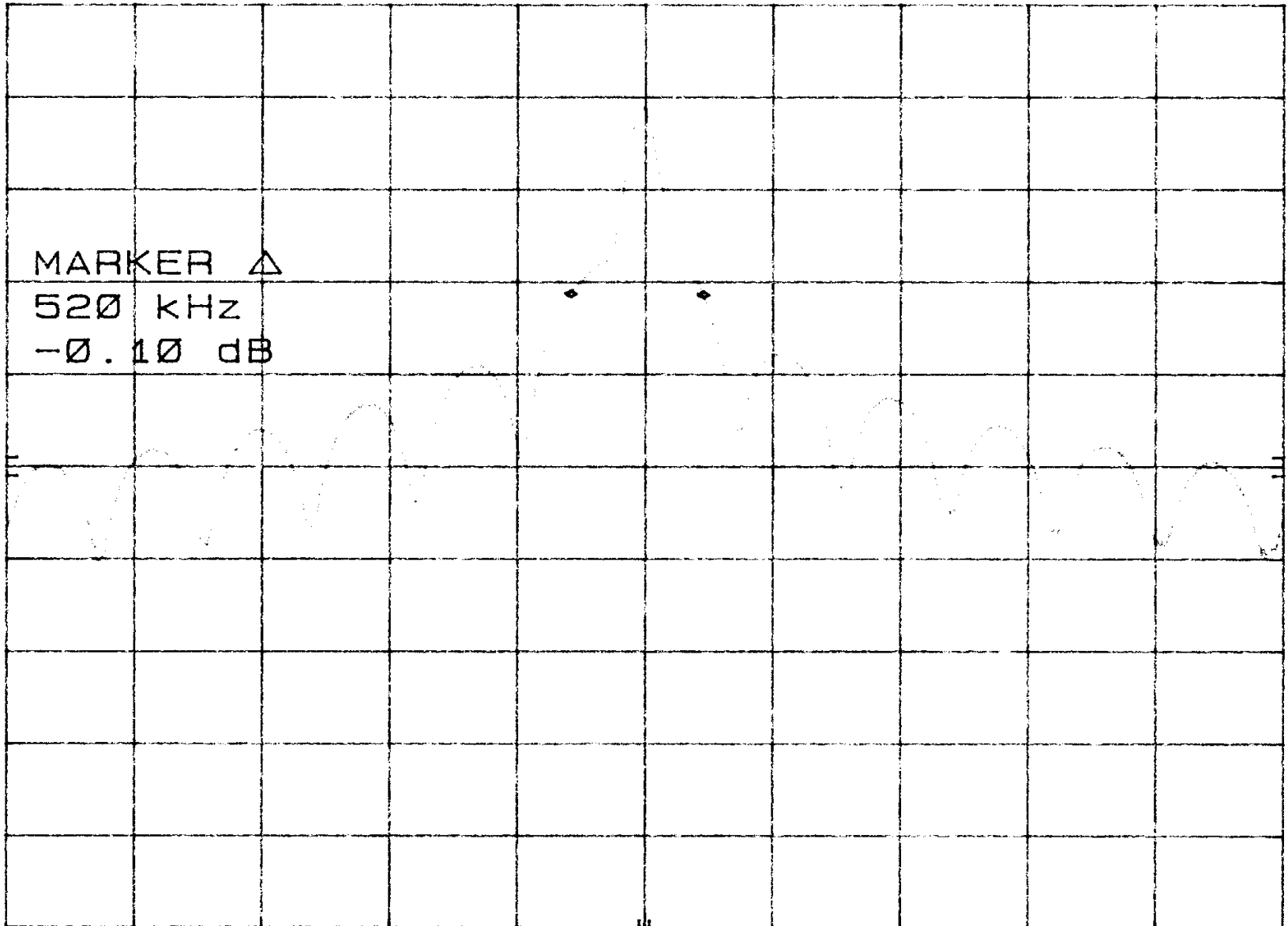
1. Modulation on
2. High channel
3. Not hopping
4. 20 dB BW, 520 kHz

MKR Δ 520 kHz
-0.10 dB

hp
10 dB/
POS PK
OFFSET
10.0
dB

REF 40.0 dBm ATTEN 50 dB

MARKER Δ
520 kHz
-0.10 dB



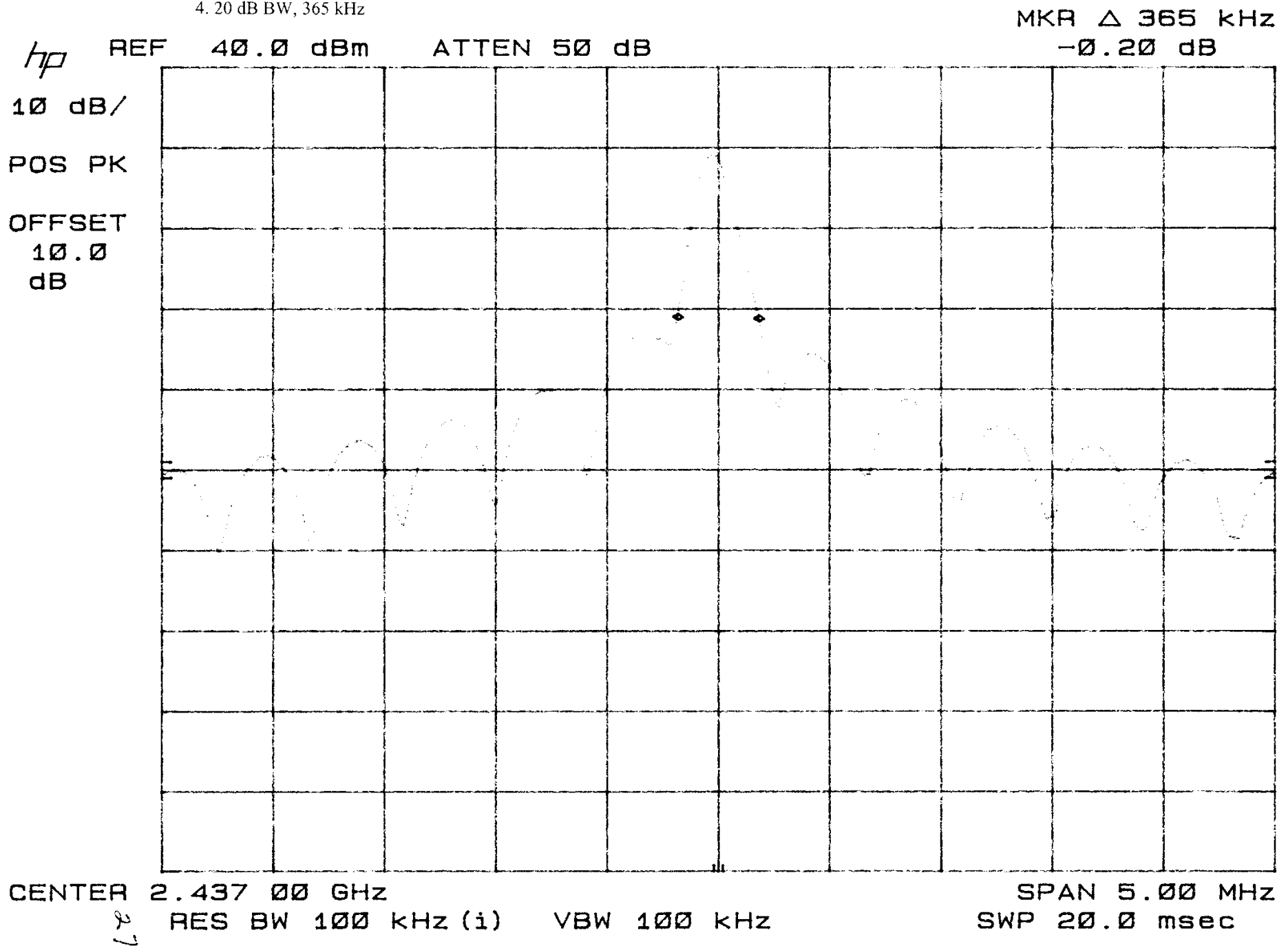
CENTER 2.475 00 GHz

SPAN 5.00 MHz

26

RES BW 100 kHz (i) VBW 100 kHz

SWP 20.0 msec



CLIENT: SCS

EUT: 6 Antenna InstaScan Scanner, Model S516

DATE: 03 April 2000

SPECIFICATION: FCC Part 15.247(a)(1)(ii)

TEST: RF Conducted Measurement

NOTE(S):

1. Modulation off
2. Mid channel
3. Frequency hopping
4. Hop frequency spacing 1 MHz

MKR Δ 1.00 MHz

0.00 dB

hp

REF

40.0 dBm

ATTEN 50 dB

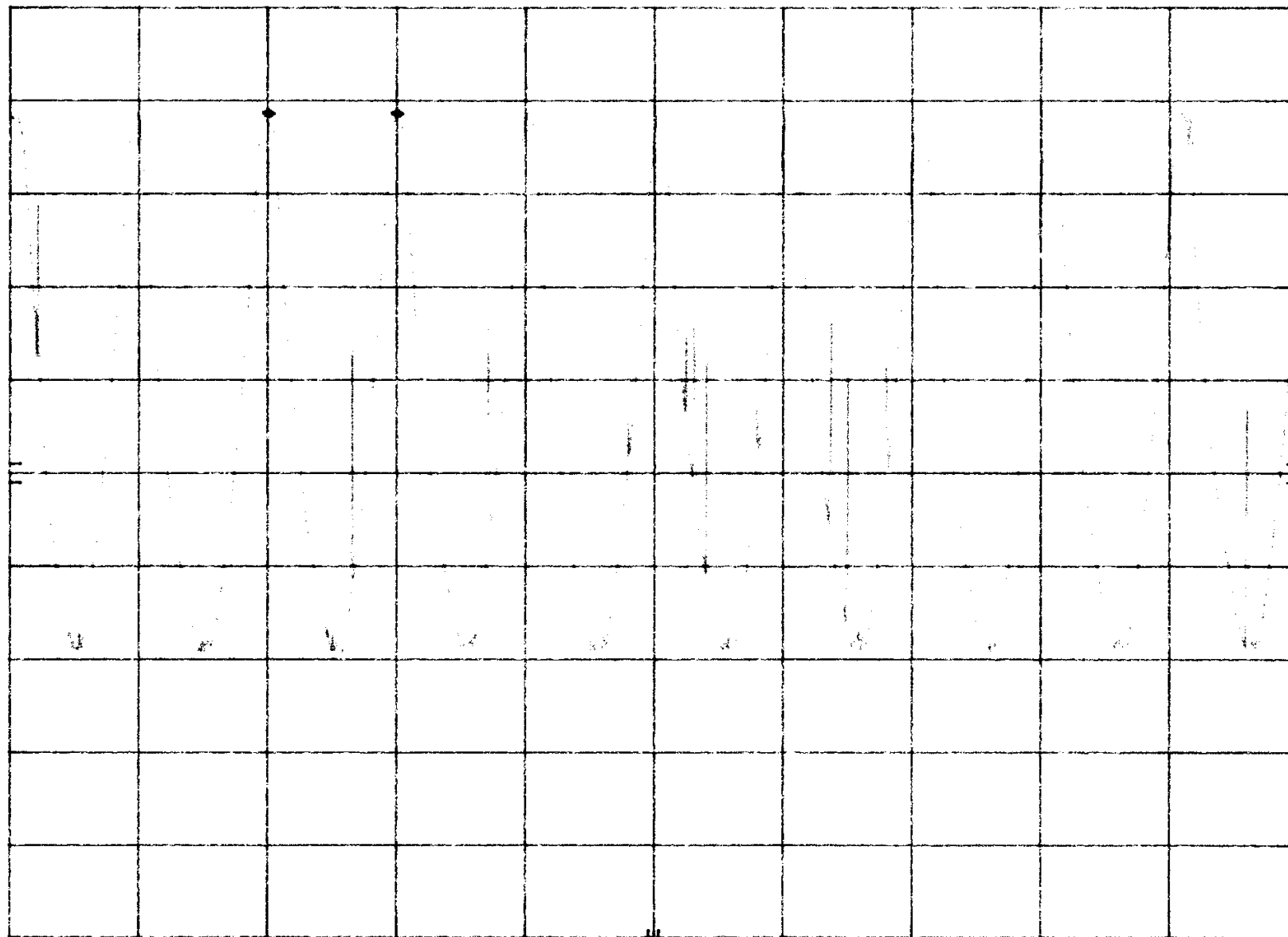
10 dB/

POS PK

OFFSET

10.0

dB



CENTER 2.437 0 GHz

RES BW 100 kHz (i)

VBW 100 kHz

SPAN 10.0 MHz

SWP 20.0 msec

28

CLIENT: SCS

EUT: 6 Antenna InstaScan Scanner, Model S516

DATE: 03 April 2000

SPECIFICATION: FCC Part 15.247(a)(1)(ii)

TEST: RF Conducted Measurement

NOTE(S):

1. Modulation on
2. Low channel
3. Not hopping
4. 20 dB BW, 470 kHz

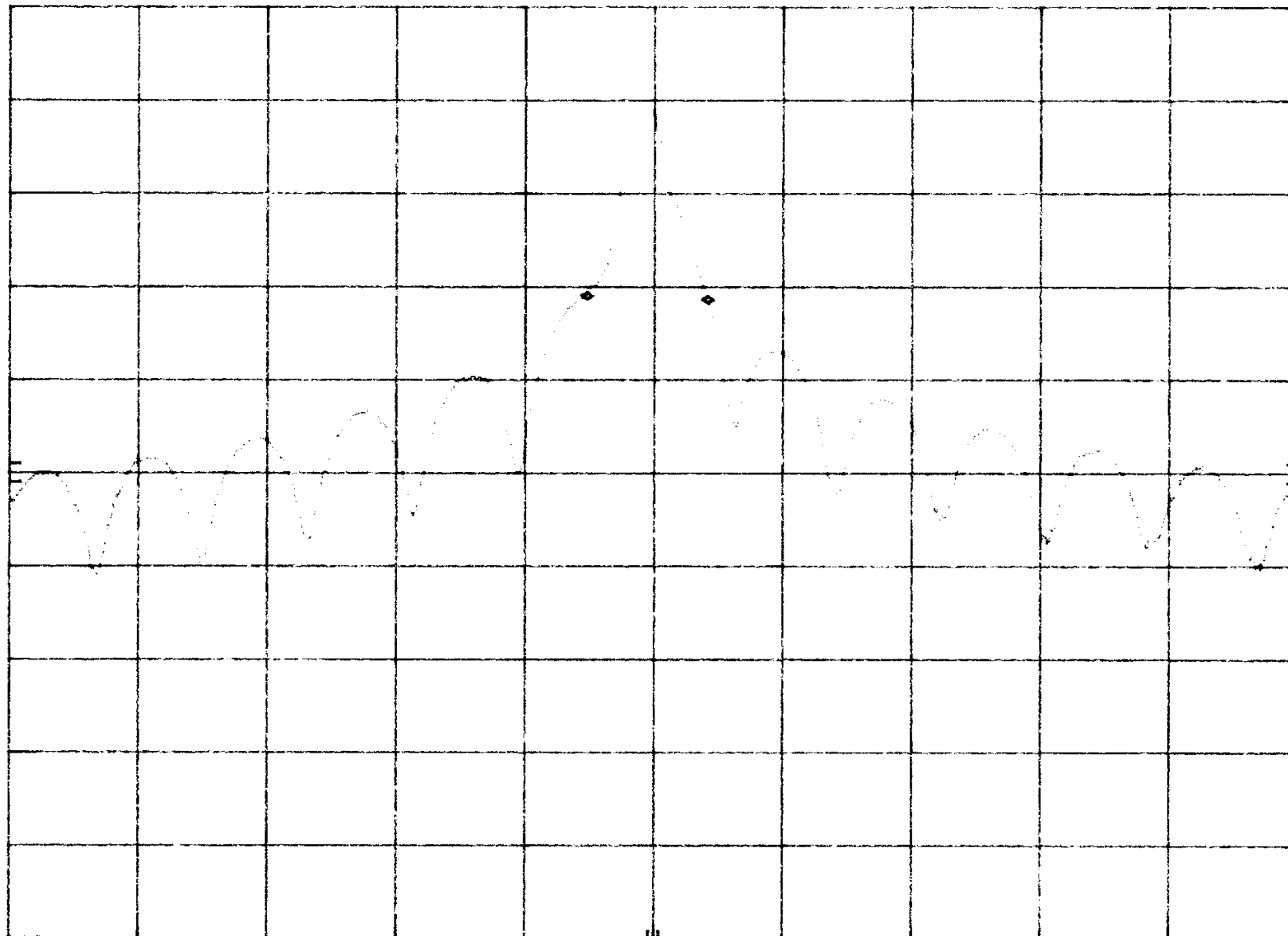
MKR Δ 470 kHz
-0.40 dB

hp REF 40.0 dBm ATTN 50 dB

10 dB/

POS PK

OFFSET
10.0
dB



CENTER 2.401 00 GHz

29

RES BW 100 kHz (i)

VBW 100 kHz

SPAN 5.00 MHz

SWP 20.0 msec

NOTE(S):

1. Modulation off
2. Mid channel
3. Frequency hopping

MKR Δ 74.64 MHz

0.00 dB

hp

REF

38.1 dBm

ATTEN 50 dB

10 dB/

POS PK

OFFSET

10.0

dB

CENTER 2.437 0 GHz

32

RES BW 100 kHz (i)

VBW 100 kHz

SPAN 80.0 MHz

SWP 60.0 msec

CLIENT: SCS

EUT: 6 Antenna InstaScan Scanner, Model S516

DATE: 03 April 2000

SPECIFICATION: FCC Part 15.247(b)

TEST: RF Conducted Measurement

NOTE(S):

1. Modulation off
2. High channel
3. Not hopping
4. Output power = 0.589w

MKR 10.00 msec

27.70 dBm

hp REF 39.1 dBm ATTN 50 dB

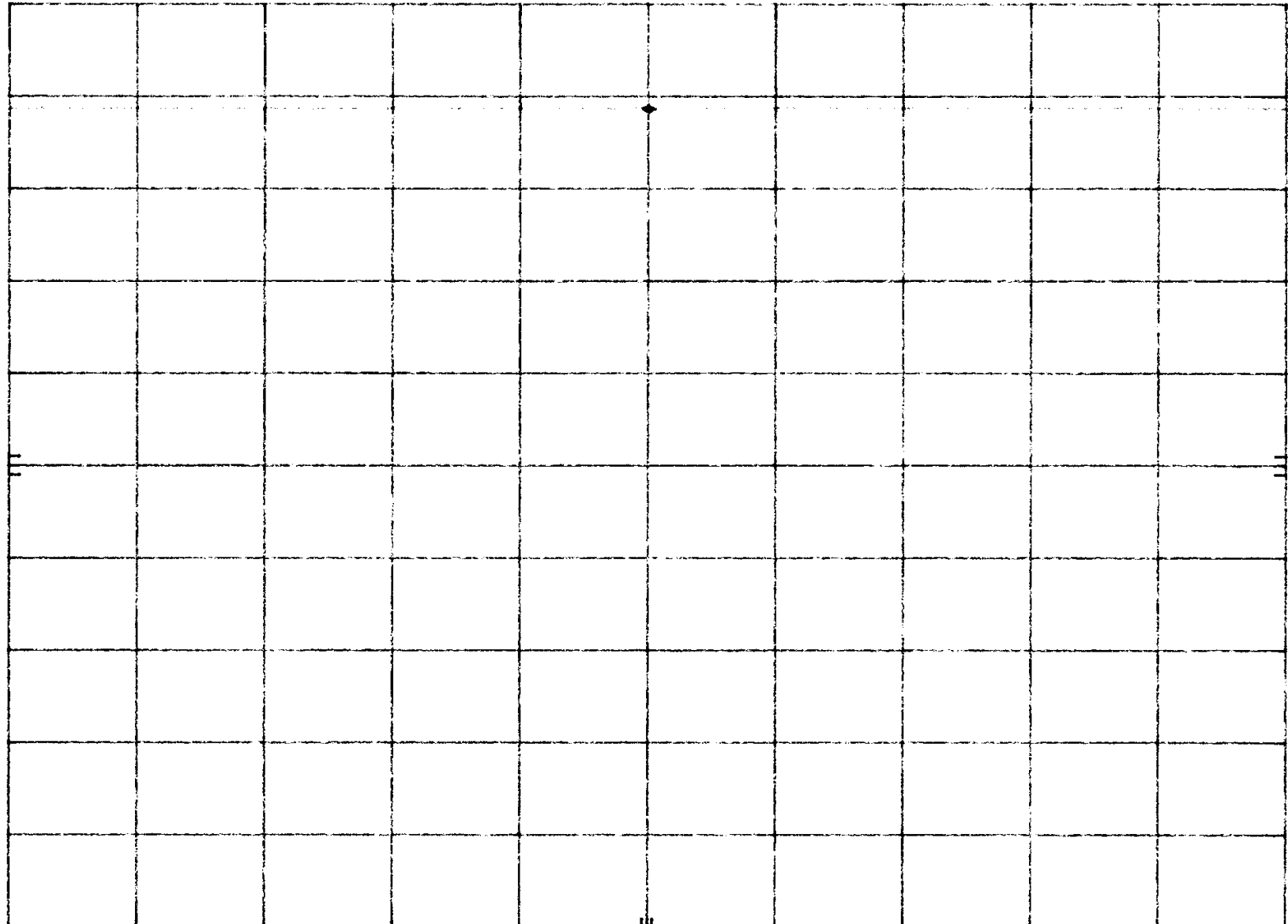
10 dB/

POS PK

OFFSET

9.1

dB



CENTER 2.475 000 000 GHz

SPAN 0 Hz

31

RES BW 1 MHz (1)

VBW 1 MHz

SWP 20.0 msec

CLIENT: SCS

EUT: 6 Antenna InstaScan Scanner, Model S516

DATE: 03 April 2000

SPECIFICATION: FCC Part 15.247(b)

TEST: RF Conducted Measurement

NOTE(S):

1. Modulation off
2. Mid channel
3. Not hopping
4. Output power = 0.603w

MKR 10.00 msec

27.80 dBm

hp REF 39.1 dBm ATTEN 50 dB

10 dB/

POS PK

OFFSET

9.1

dB

CENTER 2.437 000 000 GHz

RES BW 1 MHz (1)

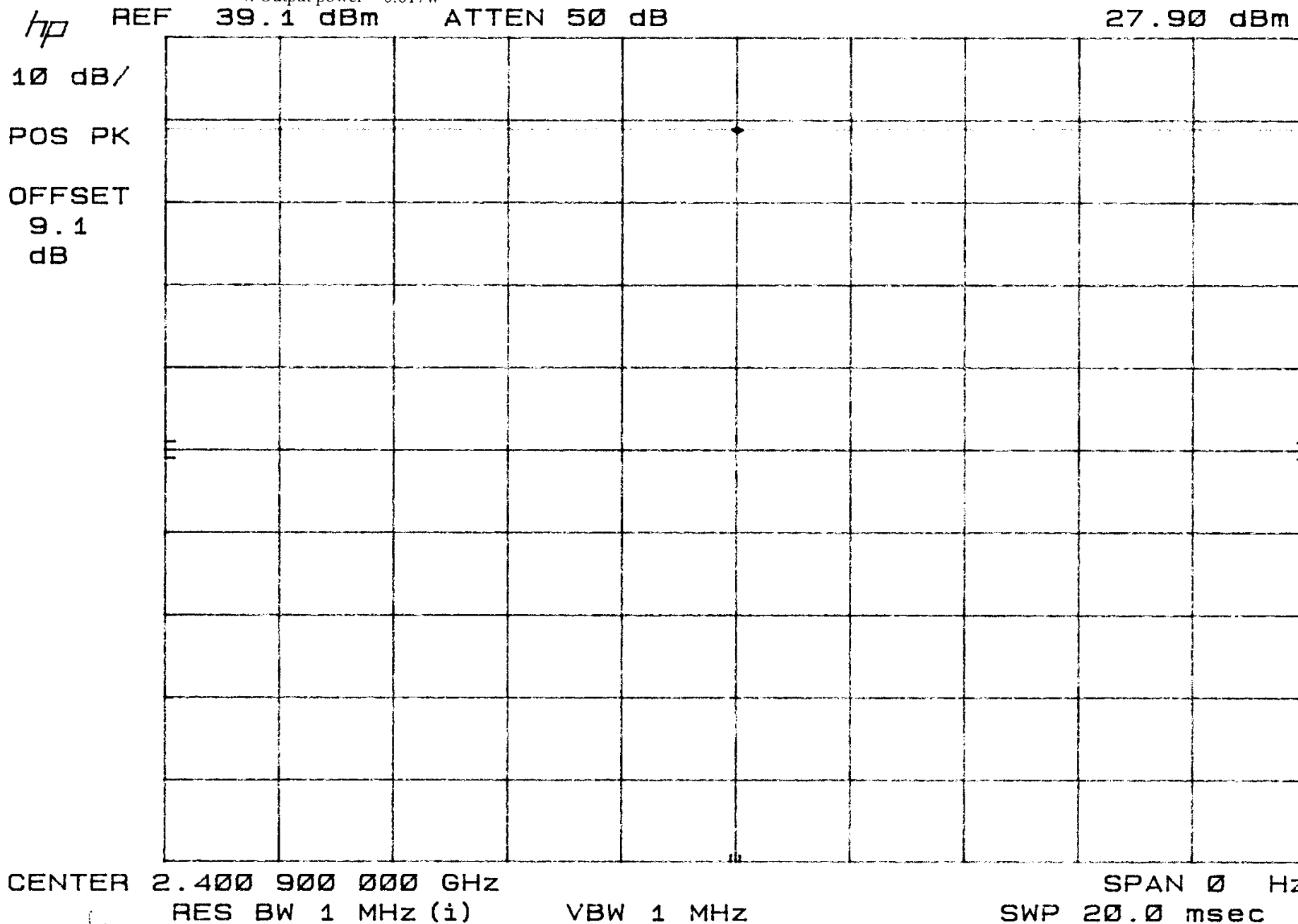
VBW 1 MHz

SPAN 0 Hz

SWP 20.0 msec

32

MKR 10.00 msec
27.90 dBm



33

CLIENT: SCS

EUT: 6 Antenna InstaScan Scanner, Model S516

DATE: 03 April 2000

SPECIFICATION: FCC Part 15.247(c)

TEST: RF Conducted Measurement

NOTE(S):

1. Modulation on
2. Low channel
3. Not hopping

MKR 1.795 GHz

-39.20 dBm

hp

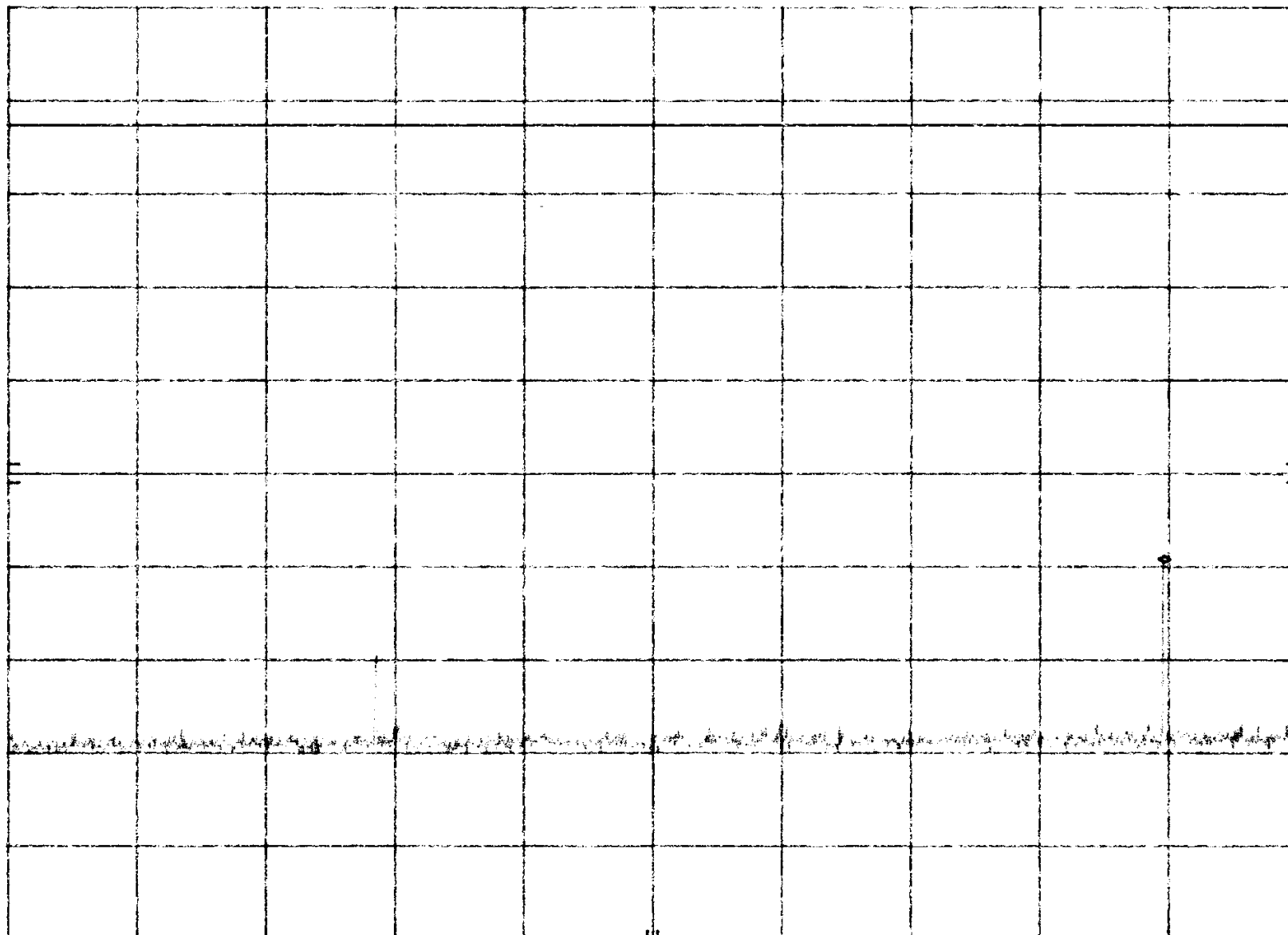
REF 20.0 dBm

ATTEN 30 dB

10 dB/

POS PK

DL
7.4
dBm



START 30 MHz

RES BW 100 kHz (i) VBW 100 kHz

STOP 2.00 GHz

SWP 1.48 sec

34

CLIENT: SCS

EUT: 6 Antenna InstaScan Scanner, Model S516

DATE: 03 April 2000

SPECIFICATION: FCC Part 15.247(c)

TEST: RF Conducted Measurement

NOTE(S):

1. Modulation on
2. Low channel
3. Not hopping

MKR 2.40 GHz

18.50 dBm

hp

REF

20.0 dBm

ATTEN 30 dB

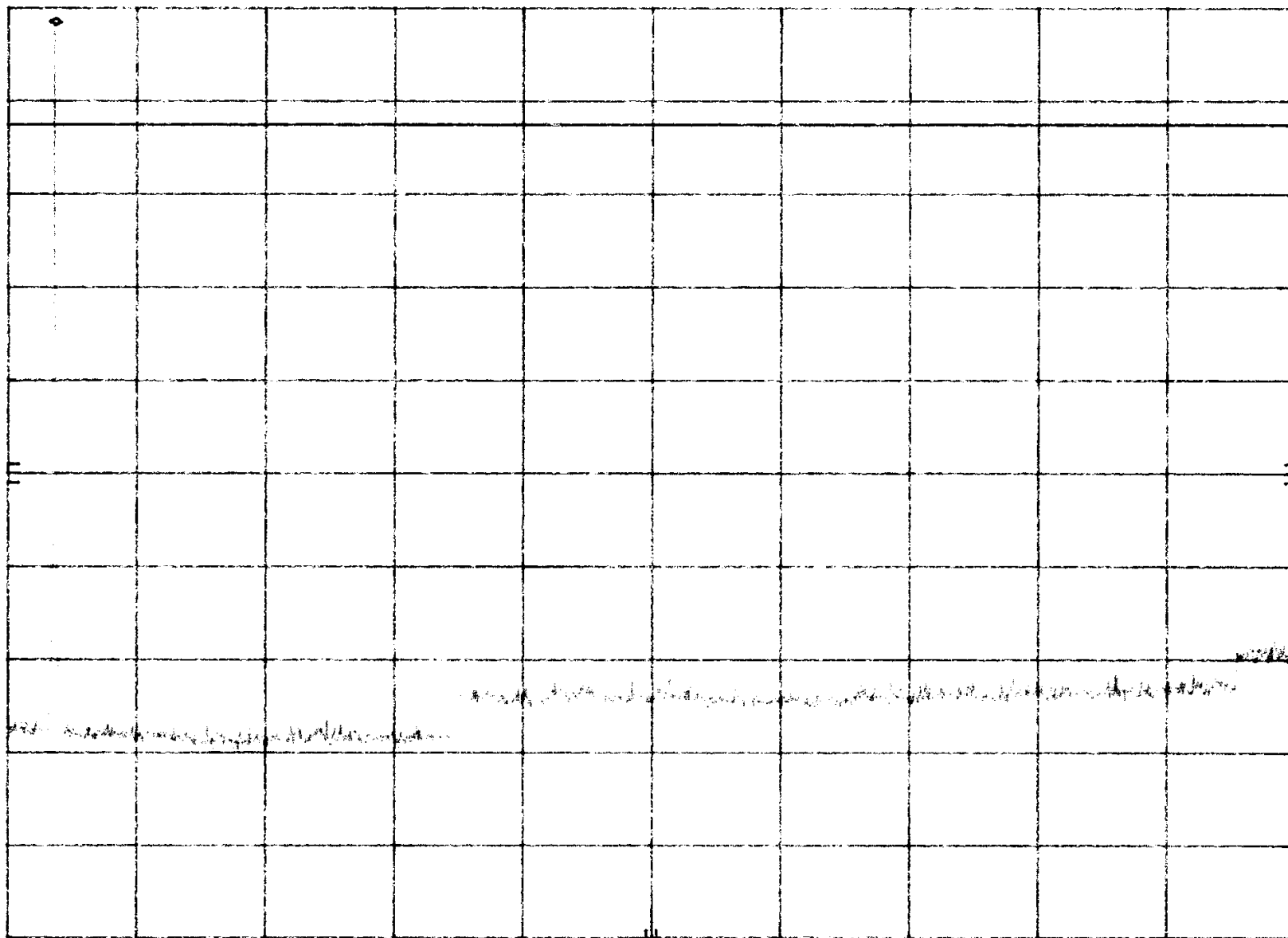
10 dB/

POS PK

DL

7.4

dBm



START 2.0 GHz

STOP 13.0 GHz

W
G

RES BW 100 kHz (1)

VBW 100 kHz

SWP 8.28 sec

4 SIGNATURE PAGE

GENERAL REMARKS:

SUMMARY:

All tests according to United States Standard 47 CFR Part 15, Paragraph 15.207(a); 15.209(a); 15.247(a)(b)(c)

■ - Performed

□ - **Not** Performed

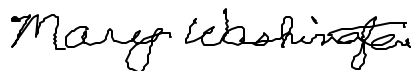
The Equipment Under Test

■ - **Fulfills** the general approval requirements to United States Standard 47 CFR Part 15, Paragraph 15.207(a); 15.209(a); 15.247(a)(b)(c)

□ - **Does not** fulfill the general approval requirements cited on page 1.

- TÜV PRODUCT SERVICE, INC. -

Responsible Engineer:



Mary Washington
(EMC Engineer)