

EMI TEST REPORT

Test Report No. : 22DE0045-YW

Applicant: Sharp Corporation

Type of Equipment: Facsimile Equipment / Cordless Handset

Model No.: UX-CL220 (Facsimile Equipment)
UX-CL220K (Cordless Handset)

Test standard: FCC Part 15 Subpart C Section 15.247


FCC ID: APYHRO00023

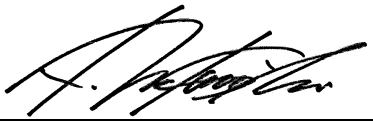
Test Result: Complied

1. This test report shall not be reproduced in full or partial, without the written approval of A-Pex International Co., Ltd.
2. The results in this report apply only to the sample tested.
3. This equipment is in compliance with above regulation. We hereby certify that the data contain a true representation of the EMC profile.
4. The test results in this report are traceable to the national or international standards.
5. This test report does not constitute an endorsement by NIST/NVLAP or U.S. Government.

Date of test: November 16-26 and December 4, 2001

Issued date: December 12, 2001

Tested by: 
Makoto Kosaka
EMC Section

Approved by: 
Kazutoyo Nakanishi
Site Operation Manager of EMC Section

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SECTION 1: Client information

Company name : Sharp Corporation
Trade name : SHARP
Address : 492 Minosho-cho, Yamatokoriyama-shi, Nara 639-1186 Japan
Telephone Number : +81-743-55-4085
Facsimile Number : +81-743-52-9514
Contact Person : Shigekazu Fujiwara

SECTION 2: Equipment under test (E.U.T.)

Type of Equipment : Facsimile Equipment / Cordless Handset
Model No. : UX-CL220 (Facsimile Equipment)
UX-CL220K (Cordless Handset)
Serial No. : Sample No. 1 / No. 3 (Facsimile Equipment)
Sample No. 1 / No. 3 (Cordless Handset)
*Facsimile Equipment: Sample No. 1 and Cordless Handset: Sample No. 3
were made over for conducted test of radio.
Rating : AC 120V/ 60Hz (Facsimile Equipment)
3.6V Ni-MH Battery (Cordless Handset)
AC120V/60Hz (AC Adaptor with Cordless Handset)
Country of Manufacture : Thailand
Receipt Date of Sample : November 16, 2001

2.2 Product Description

Model: UX-CL220 is a Facsimile Equipment and Model: UX-CL220K is a Cordless Handset.

They are referred to as the EUT in this report.

Frequency Characteristics : 2404.8MHz-2475.0MHz (Facsimile Equipment and Cordless Handset)
Channel Characteristics : 40channels selectable by 1.8MHz spacing.
Modulation : DBPSK (Differential Binary Phase Shift Keyed)
Antenna type : Dipole Antenna (Facsimile Equipment), Whip Antenna (Cordless Handset)
Antenna Gain : 2.9dBi (Facsimile Equipment), 3.08dBi (Cordless Handset)
Spread Method : DSSS (Direct Sequence Spread Spectrum)

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SECTION 3: Test specification, methods & procedures

3.1 Test Specification

Test Specification : FCC Part 15 Subpart C
Title : FCC 47CFR Part15 Radio Frequency Device
Subpart C Intentional Radiators
Section 15.247 Operation within the bands 902-928MHz, 2400-2483.5MH
and 5725-5850MHz

3.2 Methods & Procedures

No.	Item	Test Procedure	Specification	Remarks
1	Conducted Emission	ANSI C63.4:1992	Section 15.207	AC Mains only
2	- 6dB Bandwidth	ANSI C63.4:1992	Section 15.247(a)(2)	Radiated
3	Maximum Peak Output Power	ANSI C63.4:1992	Section 15.247(b)	Conducted / Radiated
4	Out of Band Emissions	ANSI C63.4:1992	Section 15.205 Section 15.209 Section 15.247(c)	Conducted / Radiated
5	Power Density	ANSI C63.4:1992	Section 15.247(d)	Conducted
6	Processing Gain	ANSI C63.4:1992	Section 15.247(e)	-

*These tests were performed without any deviations from test procedure except for the following exclusions.

3.3 Exclusion from standard

No.	Item	Test Procedure	Specification	Remarks
1	Processing Gain	ANSI C63.4:1992	Section 15.247(e)	-

The test was not performed since it had been measured at another laboratory.

The test date is referred to the files: Processing_Gain.PDF, processin_gain_B.PDF, and processing_gain_K.PDF

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SECTION 4: Operation of E.U.T. during testing

4.1 Operating Modes

The EUT exercise program used during radiated and conducted testing was designed to exercise the various system components in a manner similar to typical use.

The operating mode/system were as follows:

Operation mode is as follows;

Facsimile Equipment

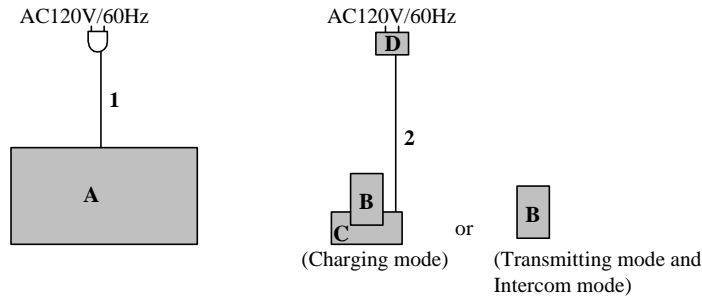
- Transmitting mode (ch1: 2404.8MHz, ch20: 2439MHz, ch40: 2475MHz)
- Intercom mode (Conducted emission only)

Cordless Handset

- Transmitting mode (ch1: 2404.8MHz, ch20: 2439MHz, ch40: 2475MHz / Except for Conducted emission test)
- Intercom mode (Conducted emission only)
- Discharge mode (Conducted emission only)

Justification: The system was configured in typical fashion (as a customer would normally use it) for testing.

4.2 Configuration and peripherals



Description of EUT

No.	Item	Model number	Serial number	Manufacturer	FCC ID
A	Facsimile Equipment	UX-CL220	Sample No.1 / No.3	SHARP	APYHRO00023
B	Cordless Handset	UX-CL220K	Sample No.1 / No.3	SHARP	APYHRO00023
C	Cordless Handset Charger	-	-	SHARP	-
D	AC Adaptor	A20930N	-	SHARP	-

*C and D are intended to be supplied with the products.

List of cables used

No.	Name	Length (m)	Shield	Remark
1	AC Power Cable	1.85	N	-
2	DC Power Cable	1.95	N	-

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4.3 Verification of the frequency and channel

The following table virifies the frequency pairs.

Channel	Base (GHz)	Handset (GHz)	Channel	Base (GHz)	Handset (GHz)	Channel	Base (GHz)	Handset (GHz)
*1	2.4048	2.4048	16	2.4318	2.4318	31	2.4588	2.4588
2	2.4066	2.4066	17	2.4336	2.4336	32	2.4606	2.4606
3	2.4084	2.4088	18	2.4354	2.4354	33	2.4624	2.4624
4	2.4102	2.4102	19	2.4372	2.4372	34	2.4642	2.4642
5	2.4120	2.4120	*20	2.4390	2.4390	35	2.4660	2.4660
6	2.4138	2.4138	21	2.4408	2.4408	36	2.4678	2.4678
7	2.4156	2.4156	22	2.4426	2.4426	37	2.4696	2.4696
8	2.4174	2.4174	23	2.4444	2.4444	38	2.4714	2.4714
9	2.4192	2.4192	24	2.4462	2.4462	39	2.4732	2.4372
10	2.4210	2.4210	25	2.4480	2.4480	*40	2.4750	2.4750
11	2.4228	2.4228	26	2.4498	2.4498			
12	2.4246	2.4246	27	2.4516	2.4516			
13	2.4264	2.4264	28	2.4534	2.4534			
14	2.4282	2.4282	29	2.4552	2.4552			
15	2.4300	2.4300	30	2.4570	2.4570			

*Tested channel

Note 1: This is for sure that all frequencies are in 2.4048GHz to 2.4750GHz.

Note 2: Section 15.31(m): Measurements on intentional radiators or receivers shall be performed at three frequencies for operating frequency range over 10MHz. (The locations of these frequencies one near the top, one near the middle and one near the bottom.)

Note 3: After test, the EUT operating frequencies are in 2.4048GHz to 2.4750GHz. So all the items as followed in testing report are needed to test these three frequencies: top: channel 1, middle: channel 20, bottom: channel 40.

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SECTION 5: Summary of test results

5.1 Test results

No.	Item	Test Procedure	Specification	Remarks	Result
1	Conducted Emission	ANSI C63.4:1992	Section 15.207	AC Mains only	Complied
2	- 6dB Bandwidth	ANSI C63.4:1992	Section 15.247(a)(2)	Radiated	Complied
3	Maximum Peak Output Power	ANSI C63.4:1992	Section 15.247(b)	Conducted / Radiated	Complied
4	Out of Band Emissions	ANSI C63.4:1992	Section 15.205 Section 15.209 Section 15.247(c)	Conducted / Radiated	Complied
5	Power Density	ANSI C63.4:1992	Section 15.247(d)	Conducted	Complied

A-PEX INTERNATIONAL hereby confirms that E.U.T., in the configuration tested, complies with the specifications FCC Part 15 Subpart C Section 15.247.

5.2 Uncertainty

Conducted Emission Test

The measurement uncertainty (with a 95% confidence level) for this test was ± 2.0 dB.

- The data listed in this test report may exceed the test limit because it does not have enough margin.
 The data listed in this test report has enough margin, more than site margin.

Radiated Emission Test

The measurement uncertainty (with a 95% confidence level) for this test using Biconical antenna is ± 4.4 dB.

The measurement uncertainty (with a 95% confidence level) for this test using Logperiodic antenna is ± 4.8 dB.

The measurement uncertainty (with a 95% confidence level) for this test using Horn antenna is ± 5.8 dB.

- The data listed in this test report may exceed the test limit because it does not have enough margin.
 The data listed in this test report has enough margin.

5.3 Test Location

A-PEX International Co., Ltd. Yokowa No. 2 and No.3 test site

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No. 2 site has been fully described in a report submitted to FCC office, and listed on October 26, 2000(Registration number: 90411).

No. 3 site has been fully described in a report submitted to FCC office, and listed on September 12, 2000 (Registration number: 90412).

*NVLAP Lab. code : 200109-0

5.4 Photographs of test setup

Refer to Appendix 1.

5.5 Test instruments

Refer to Appendix 2.

5.6 Data of EMI Test

Refer to Appendix 3.

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SECTION 6: Conducted Emissions, Section 15.207

Test Procedure

EUT was placed on a platform of nominal size, 1m by 1.5m, raised 80cm above the conducting ground plane. The rear of tabletop was located 40cm to the vertical conducting plane. The rear of EUT and its peripherals was aligned and flushed with rear of tabletop. All other surfaces of tabletop was at least 80cm from any other grounded conducting surface. I/O cables and AC cables that were connected to the peripherals were bundled in center. They were folded back and forth forming a bundle 30cm to 40cm long and were hanged at a 40cm height to the ground plane. Each EUT current-carrying power lead, except the ground (safety) lead, was individually connected through a LISN to the input power source. All unused 50 ohm connectors of the LISN were resistively terminated in 50 ohm when not connected to the measuring equipment.

The AC Mains Terminal Continuous disturbance Voltage has been measured with the EUT on a shielded room.

The EUT was connected to a Line Impedance Stabilization Network (LISN).

The facsimile equipment was tested under transmitting mode and intercom mode.

The cordless handset was tested under intercom mode and discharge mode. It was not operated under transmitting mode since it was not possible to transmit with the handset put on the charger.

An overview sweep with peak detection has been performed.

The measurements have been performed with a CISPR quasi-peak detector(IF BW 10kHz) .

The frequency range measured is 450kHz to 30MHz.

Test data : Page A1 to A10 (APPENDIX 3)

Photographs of test setup : Page 17-20

Test result : Pass

Test instruments : LS-02, LS-10, SA-03, TR-03

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SECTION 7: 6dB Bandwidth, Section 15.247(a)(2)

Test Procedure

The minimum 6dB bandwidth was measured with a spectrum analyzer connected to the antenna port.

Frequency (GHz)	Base / Handset	6dB Band width (MHz)	Limit (kHz)	Result
Ch1 2.4048	Base	1.5429	> 500	Pass
	Handset	1.5714	> 500	Pass
Ch20 2.4390	Base	1.5413	> 500	Pass
	Handset	1.5714	> 500	Pass
Ch40 2.4750	Base	1.5429	> 500	Pass
	Handset	1.5429	> 500	Pass

Test data : Page A11 to A16 (APPENDIX 3)

Test result : Pass

Test instruments :SA-05, AT-14

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SECTION 8: Maximum Peak Output Power, 15.247(b)

Conducted : Test Procedure

The Maximum Peak Output power was measured with a power meter connected to the antenna port.

* Antenna Gain dose not exceed 6dBi.

Test data : Page A17 to A18 (APPENDIX 3)

Test result : Pass

Test instruments : PS-01, PM-01, SA-05, AT-14

Radiated : Test Procedure

EUT was placed on a platform of nominal size, 1m by 1.5m, raised 80cm above the conducting ground plane. I/O cables that were connected to the peripherals were bundled in center. They were folded back and forth forming a bundle 30cm to 40cm long and were hanged 40cm height to the ground plane. Test was made with the antenna positioned in both the horizontal and vertical planes of polarization. The measurement antenna was varied in height above the conducting ground plane to obtain the maximum signal strength.

The Radiated Electric Field Strength intensity has been measured on an open test site with a ground plane and at a distance of 3m and 0.5m.

The measuring antenna height was varied between 1 to 4m and EUT was rotated a full revolution in order to obtain the maximum value of the electric field intensity.

The facsimile equipment was previously checked at the each antenna angles of 0 degrees, 90 degrees and 180 degrees to compare the noise level. The cordless handset was also pre-checked at each position of all three axes X, Y and Z. See the photographs in the next page. The position in which the maximum noise occurred was chosen to put into measurement.

The measurements were performed for both vertical and horizontal antenna polarization.

It was operated under transmitting mode.

Test data : Page A19 to A32 (APPENDIX 3)

Photographs of test setup : Page 21-22

Test result : Pass

Test instruments : SA-05, HA-01, AF-04

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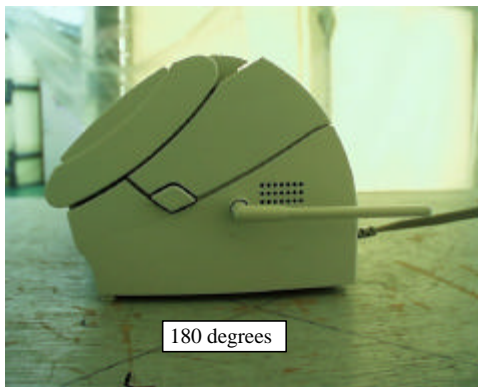
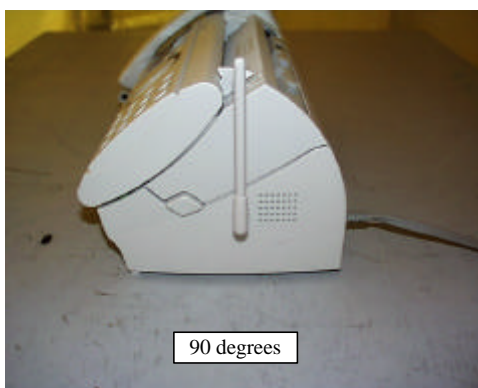
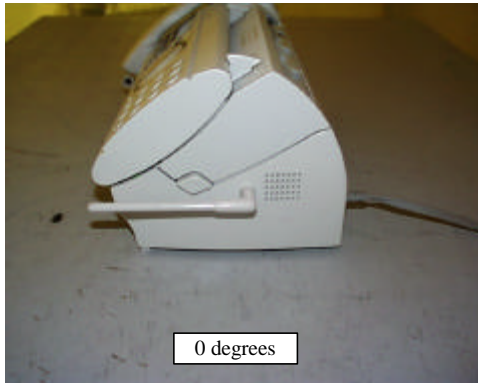
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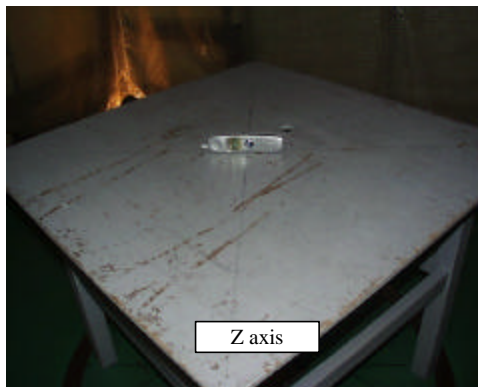
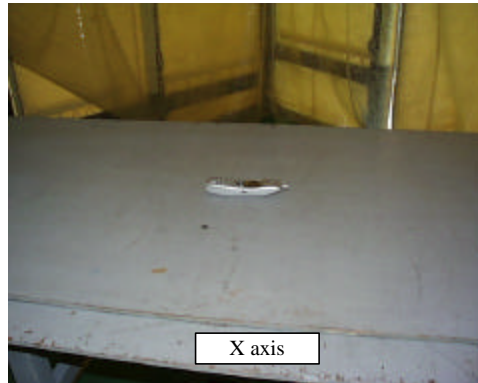
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Pre check of worse-case position

Facsimile Equipment



Cordless Handset



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SECTION 9: Out of Band Emissions (Radiated), Section 15.247(c)

Test Procedure

EUT was placed on a platform of nominal size, 1m by 1.5m, raised 80cm above the conducting ground plane. I/O cables that were connected to the peripherals were bundled in center. They were folded back and forth forming a bundle 30cm to 40cm long and were hanged 40cm height to the ground plane. Test was made with the antenna positioned in both the horizontal and vertical planes of polarization. The measurement antenna was varied in height above the conducting ground plane to obtain the maximum signal strength.

The Radiated Electric Field Strength intensity has been measured on an open test site with a ground plane and at a distance of 3m.

The measuring antenna height was varied between 1 to 4m and EUT was rotated a full revolution in order to obtain the maximum value of the electric field intensity.

The facsimile equipment was previously checked at the each antenna angles of 0 degrees, 90 degrees and 180 degrees to compare the noise level. The cordless handset was also pre-checked at each position of all three axes X, Y and Z. See the photographs in the preceding page. The position in which the maximum noise occurred was chosen to put into measurement.

The measurements were performed for both vertical and horizontal antenna polarization.

It was operated under transmitting mode.

Radiated Spurious emissions

In any 100kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator confirmed 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on a radiated measurement. The result was also satisfied the general limits specified in Sec.15.209(a).

Measurement range : 30MHz to 1000MHz CISPR QP Detector, IF BW 120kHz
: 1GHz to 26GHz PK and AV Detector

Test data : 30 –1000MHz : Page A33 to A38 (APPENDIX 3)

: 1 – 26GHz : Page A39 to A44 (APPENDIX 3)

: Restricted Band Edges:2390MHz/2483.5MHz : Page A45 to A62 (APPENDIX 3)

Photographs of test setup : Page 21-22

Test result : Pass

**Test instruments : AF-01, AF-04, BA-03, LA-06, HA-01, HA-03, SA-04, SA-05,
AT-06, KTR-01, HF-04**

Duty Cycle Factor Measurement

The duty cycle factor measurement is performed in a shield enclosure. The test condition and setup is as same as above paragraph.

Set the RB = 1MHz, VB=1MHz, and span=0MHz. Link the base and handset, then get the Time of duty and cycle.

The duty cycle factor = $20 \log (T_{\text{duty}} / T_{\text{cycle}}) = 20 \log (940 \times 10^{-6} / 2 \times 10^{-3}) = -6.558$

Test instruments : SA-06, AT-14

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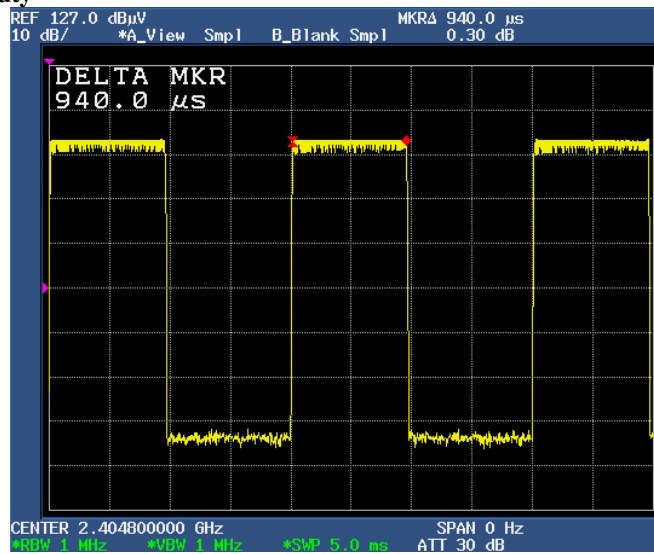
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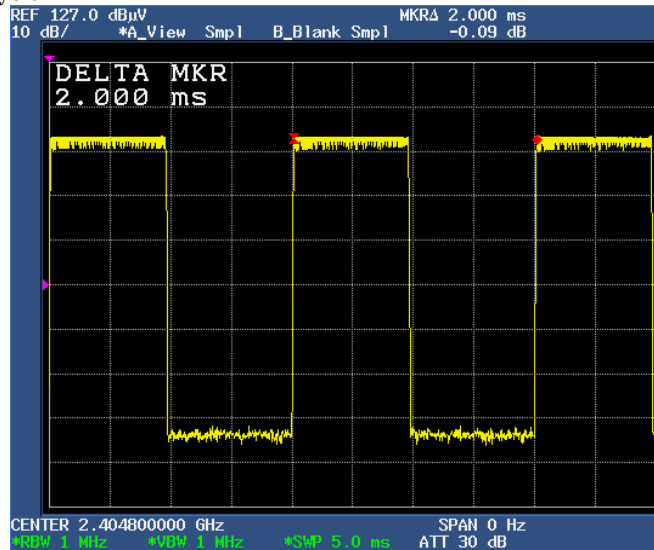
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Duty cycle under normal operation

T Duty



T Cycle



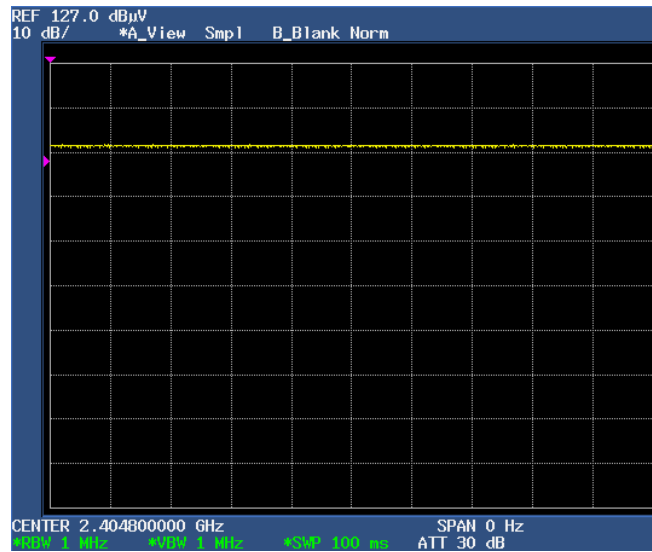
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Duty wave under testing mode



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SECTION 10: Out of Band Emissions (Conducted), Section 15.247(c)

Test Procedure

The Out of Band Emissions was measured with a spectrum analyzer connected to the antenna port.
At 100kHz(RBW and VBW 100kHz), spurious emission in the frequency range 30MHz-26GHz which was out of 2400-2483.5MHz was lower 20 dB than radio frequency power.
It was operated under transmitting mode.

Test data : Page A63 to A86 (APPENDIX 3)

Test result : Pass

Test instruments : SA-05, AT-14

SECTION 11: Power Density(Conducted), Section 15.247(d)

Test Procedure

The Power Density was measured with a spectrum analyzer connected to the antenna port.
It was operated under transmitting mode.

Test data : Page A87 to A94 (APPENDIX 3)

Test result : Pass

Test instruments : SA-05, AT-14

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APPENDIX 1: Photographs of test setup

Page 17-20: Conducted emission

Page 21-22: Radiated emission

APPENDIX 2: Test instruments

Page 23: Test instruments

APPENDIX 3: Data of EMI test

Page A1-A10: Conducted emission

Page A11-A16: - 6dB Bandwidth

Page A17-A32: Maximum peak output power

Page A33-A62: Out of band emissions (Radiated)

Page A63-A86: Out of band emissions (Conducted)

Page A87-A94: Power density

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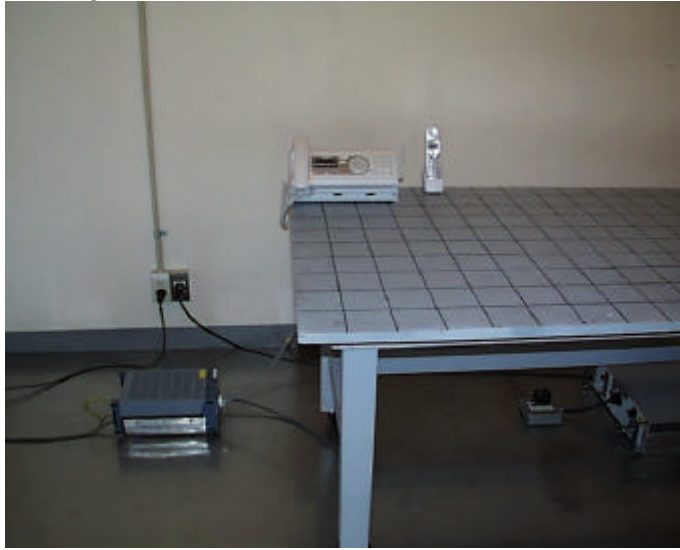
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Conducted emission (Facsimile Equipment; Worse case position)

Transmitting mode (ch1, ch20, ch40) / Front view



Transmitting mode (ch1, ch20, ch40) / Side view



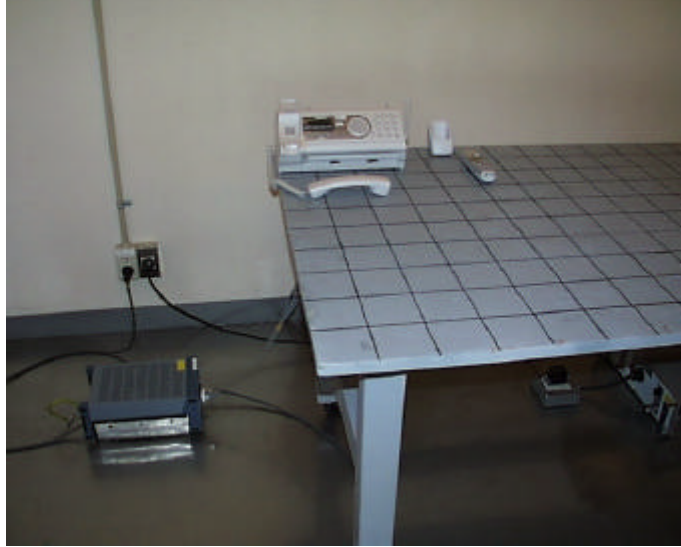
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Intercom mode



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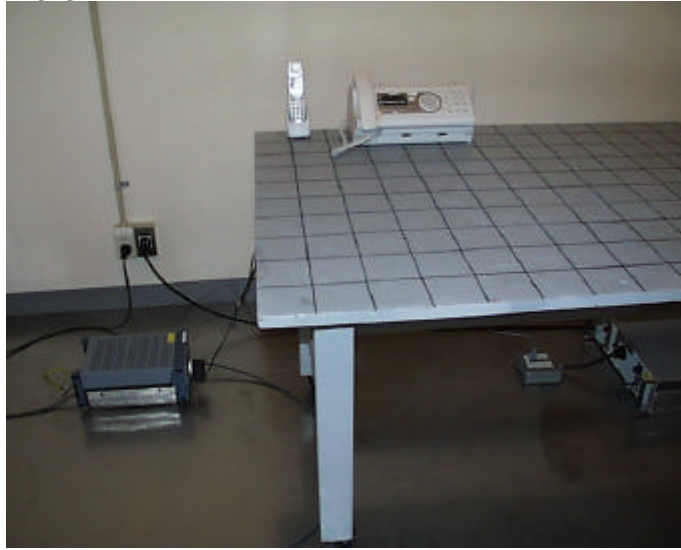
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Conducted emission (Cordless Handset; Worse case position)

Charging mode / Front view



Charging mode / Side view



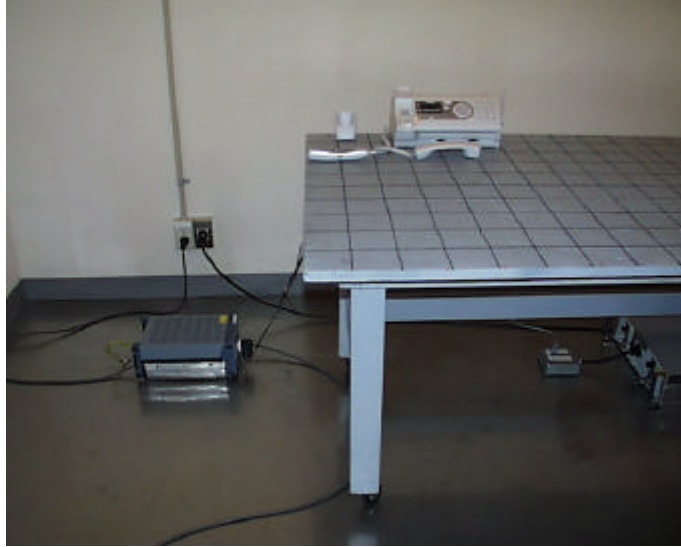
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Intercom mode



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Radiated emission (Facsimile Equipment; Worse case position)

Antennal angle: 90 degees / Front view



Antennal angle: 90 degees / Rear view



A-pex International Co., Ltd.
YOKOWA LAB.

108 Yokowa-cho, Ise-shi, Mie-ken 516-1106 JAPAN

Telephone: int +81 596 39 1485

Facsimile: int +81 596 39 0232

Radiated emission (Cordless Handset; Worse case position)

Measured frequency range: 30MHz-1GHz



Measured frequency range: 1GHz-26GHz



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Facsimile: int +81 596 39 0232

Test Report No. : 22DE0045-YW

Appendix 2 Test Instruments

<u>Name</u>	<u>Manufacturer</u>	<u>Model</u>	<u>Control No.</u>	<u>Calibrated Until</u>
Pre Amplifier	Hewlett Packard	8447D	AF-01	March 30, 2002
Pre Amplifier	Hewlett Packard	8449B	AF-04	November 2, 2002
Attenuator	Anritsu	MP721B	AT-06	March 30, 2002
Attenuator	Weinschel	2	AT-14	May 1, 2002
Highpass Filter	Tokimec	TF323DCA	HF-04	October 14, 2002
Biconical Antenna	Schwarzbeck	BBA9106	BA-03	April 30, 2002
Logperiodic Antenna	Schwarzbeck	UHALP9108-A	LA-06	April 30, 2002
LISN	Rohde & Schwarz	ESH3-Z5	LS-02	November 5, 2002
LISN	Schwarzbeck	NSLK8127	LS-10	March 30, 2002
Horn Antenna	A.H. Systems	SAS-200/571	HA-01	May 19 , 2002
Horn Antenna	Schwarzbeck	BBHA9170	HA-03	November 22 , 2003
Spectrum Analyzer	Hewlett packard	8567A	SA-03	March 30, 2002
Spectrum Analyzer	Hewlett packard	8567A	SA-04	March 30, 2002
Spectrum Analyzer	Advantest	R3271	SA-05	January 31, 2002
Spectrum Analyzer	Advantest	R3273	SA-06	November 19, 2002
Test Receiver	Rohde & Schwarz	ESHS30	TR-03	April 23, 2002
Test Receiver	Rohde & Schwarz	ESHS10	TR-05	August 23, 2002
Power Sensor	Hewlett packard	ECP-E18A	PS-01	May 28, 2002
Power Meter	Hewlett packard	EPM-442A	PM-01	May 28, 2002
EMI Test Receiver	Rohde & Schwarz	ESI40	KTR-01	July 31, 2002

All measurement equipment is traceable to national standards.

DATA OF CONDUCTION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 22DE0045-YW

Applicant : SHARP Corporation
Kind of Equipment : Facsimile Equipment
Model No. : UX-CL220
Serial No. : Sample No. 3
Power : AC120V/60Hz
Mode : Transmitting(ch20 2.439GHz)
Remarks :
Date : 11/23/2001
Phase : Single Phase
Temperature : 20 °C
Humidity : 44 %
Regulation : FCC Part15.207


Engineer : Makoto Kosaka

No.	FREQ. [MHz]	READING (N)		READING (L1)		LISN FACTOR [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS		MARGIN	
		QP [dBuV]	AV	QP [dBuV]	AV				QP [dBuV]	AV	QP [dBuV]	AV	QP [dB]	AV
1.	0.5482	35.6	-	31.9	-	0.2	0.2	0.0	36.0	-	48.0	0.0	12.0	-
2.	0.8215	30.6	-	31.4	-	0.2	0.2	0.0	31.8	-	48.0	0.0	16.2	-
3.	1.3702	30.3	-	30.2	-	0.2	0.2	0.0	30.7	-	48.0	0.0	17.3	-
4.	8.5035	20.7	-	12.9	-	0.4	0.5	0.0	21.6	-	48.0	0.0	26.4	-
5.	23.3149	32.0	-	31.4	-	0.9	0.7	0.0	33.6	-	48.0	0.0	14.4	-
6.	26.6107	38.8	-	38.3	-	0.9	0.8	0.0	40.5	-	48.0	0.0	7.5	-

CALCULATION: READING + LISN FACTOR + CABLE LOSS + ATTEN.

Except for the above table: adequate margin data below the limits.

DATA OF CONDUCTION TEST CHART

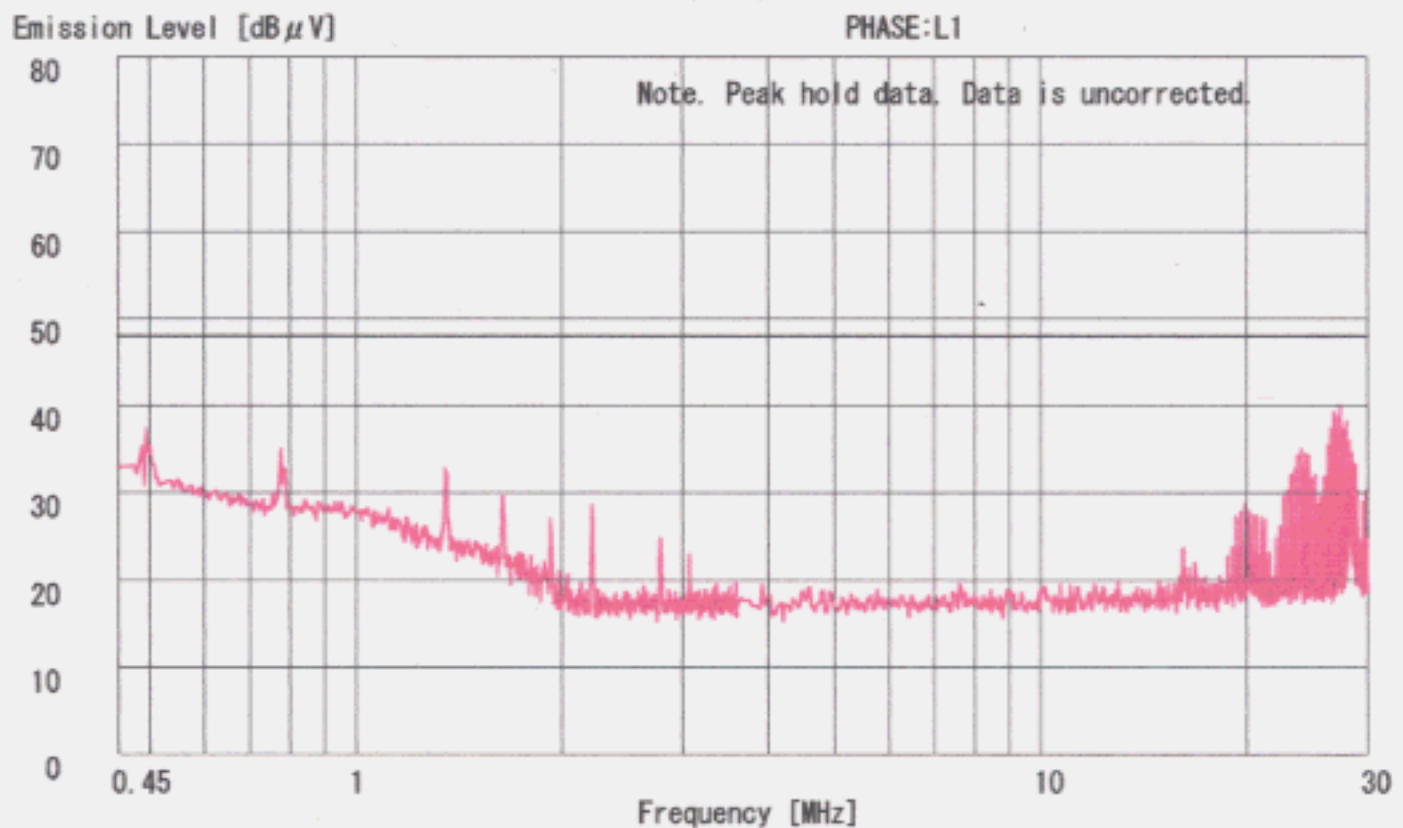
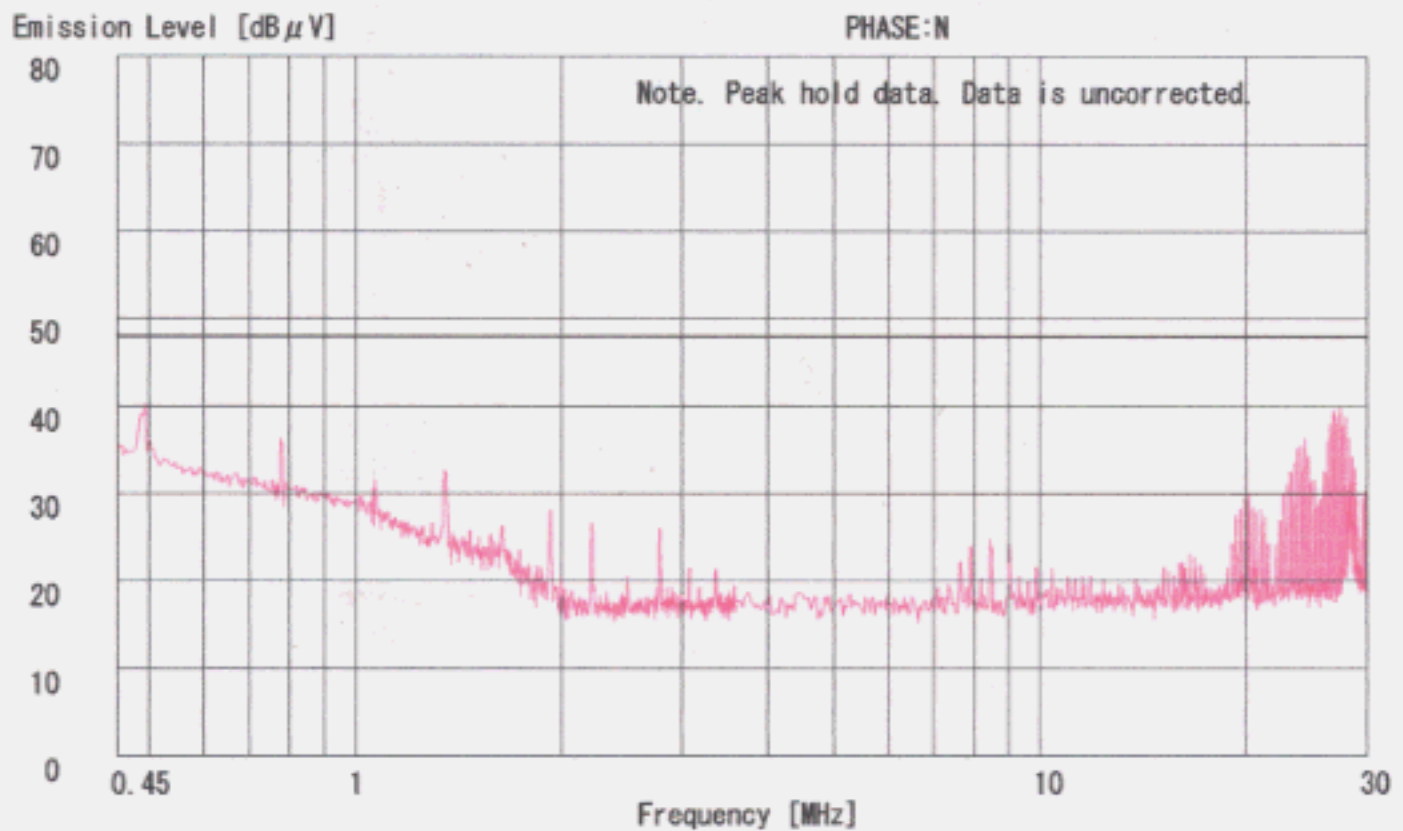
A-PEX INTERNATIONAL CO., LTD.

YOKOWA No.2 OPEN TEST SITE

Report No. : 22DE0045-YW

Applicant : SHARP Corporation
Kind of Equipment : Facsimile Equipment
Model No. : UX-CL220
Serial No. : Sample No. 3
Power : AC120V/60Hz
Mode : Transmitting(ch20 2.439GHz)
Remarks :
Date : 11/23/2001
Phase : Single Phase
Temperature : 20 °C
Humidity : 44 %
Regulation 1 : FCC Part15.207
Regulation 2 : FCC Part15.207


Engineer : Makoto Kosaka



DATA OF CONDUCTION TEST CHART

A-PEX INTERNATIONAL CO., LTD.

YOKOWA No.2 OPEN TEST SITE

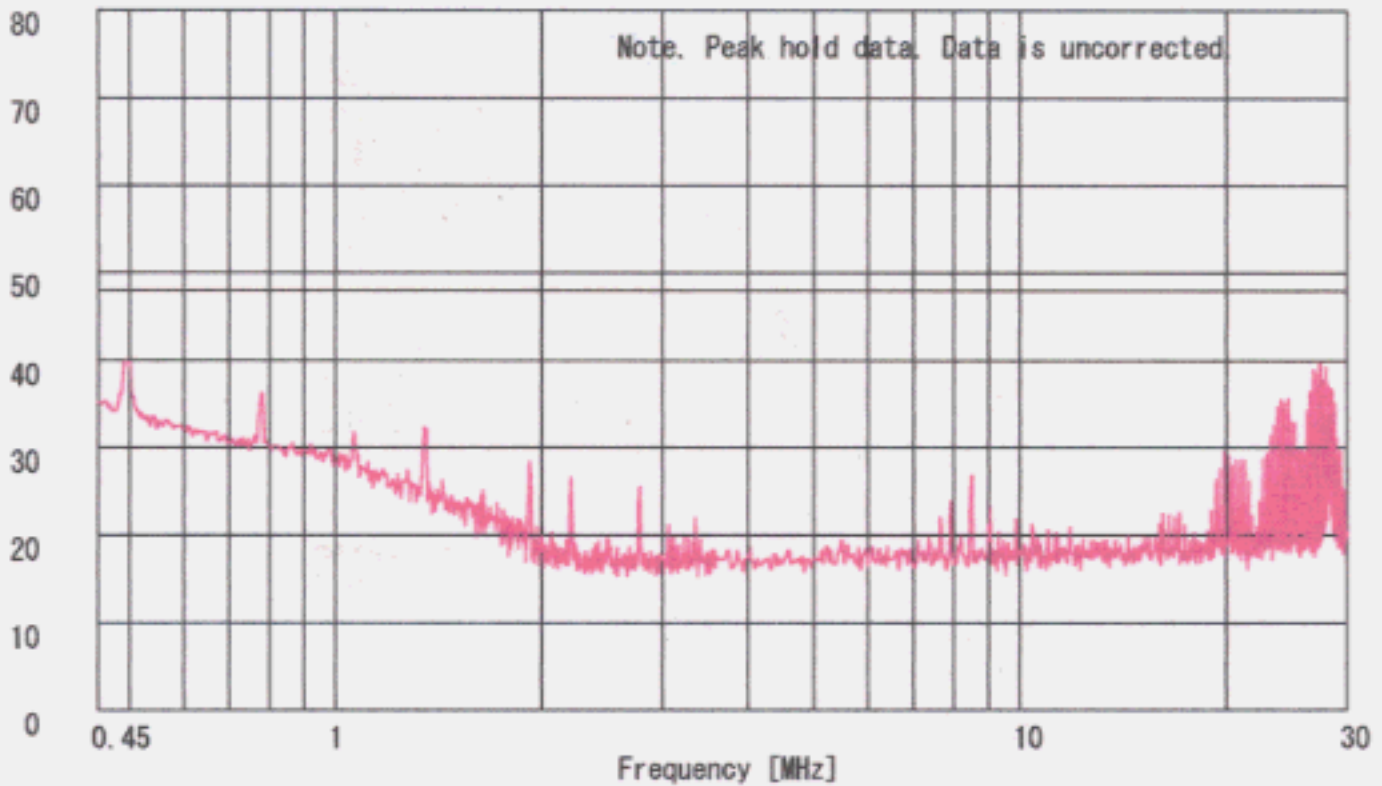
Report No. : 22DE0045-YW

Applicant : SHARP Corporation
Kind of Equipment : Facsimile Equipment
Model No. : UX-CL220
Serial No. : Sample No. 3
Power : AC120V/60Hz
Mode : Transmitting(ch1 2.408GHz)
Remarks :
Date : 11/23/2001
Phase : Single Phase
Temperature : 20 °C
Humidity : 44 %
Regulation 1 : FCC Part15.207
Regulation 2 : FCC Part15.207


Engineer : Makoto Kosaka

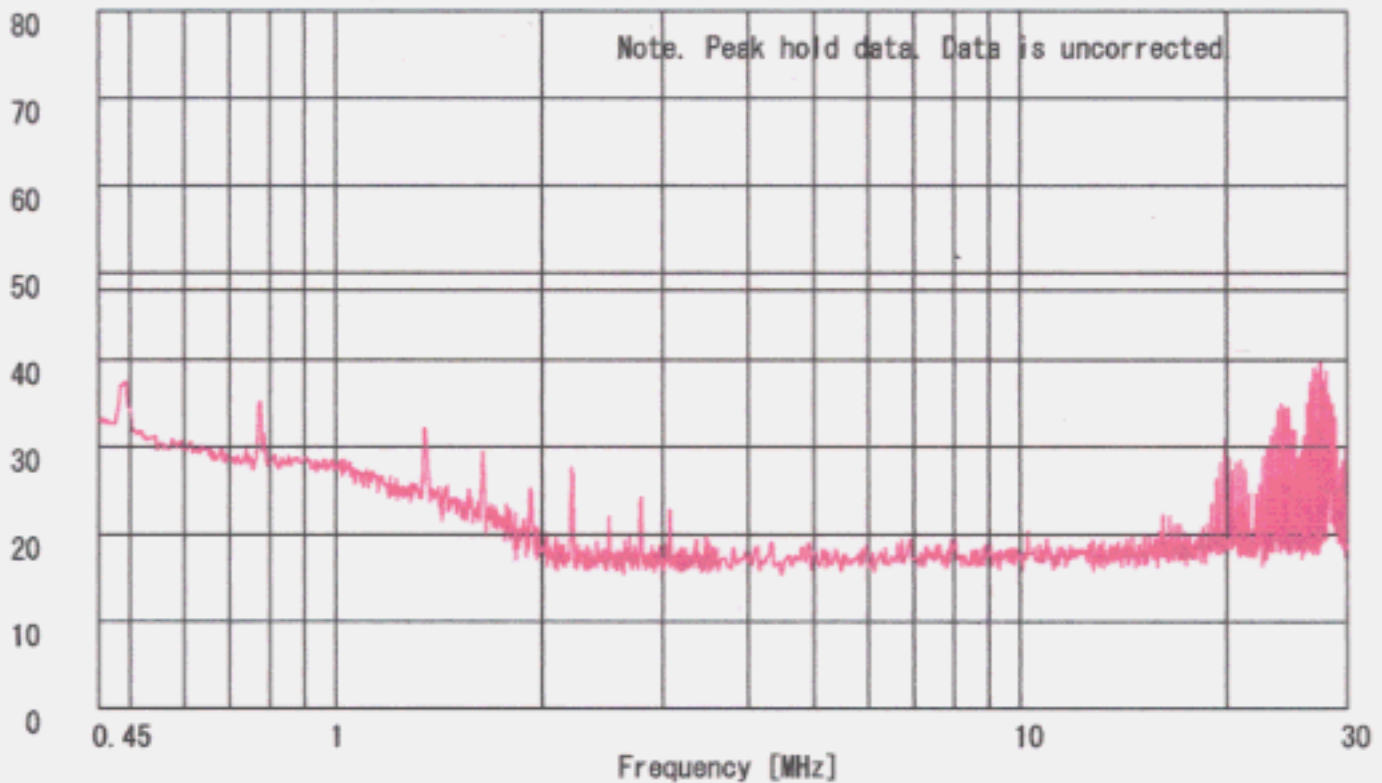
Emission Level [dB μ V]

PHASE:N



Emission Level [dB μ V]

PHASE:L1



DATA OF CONDUCTION TEST CHART

A-PEX INTERNATIONAL CO., LTD.

YOKOWA No.2 OPEN TEST SITE

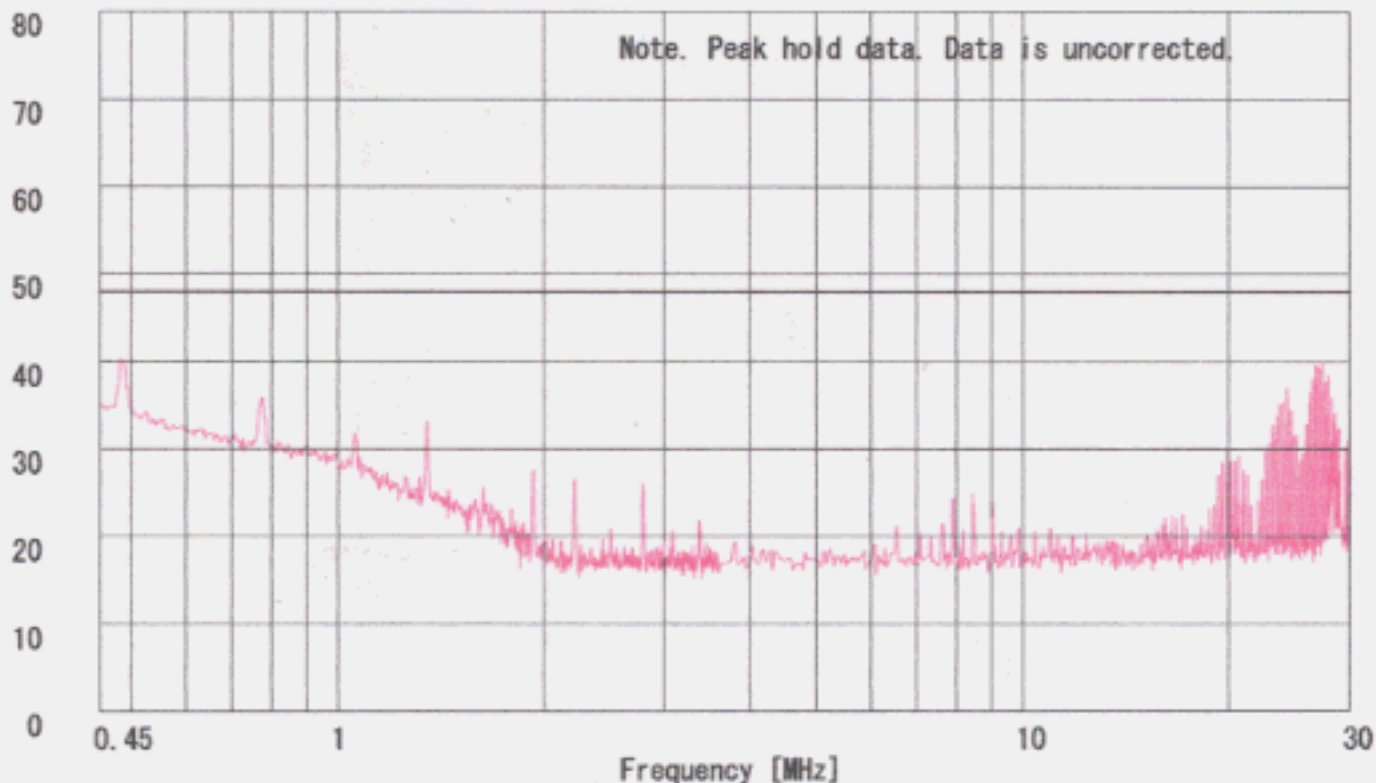
Report No. : 22DE0045-YW

Applicant : SHARP Corporation
Kind of Equipment : Facsimile Equipment
Model No. : UX-CL220
Serial No. : Sample No. 3
Power : AC120V/60Hz
Mode : Transmitting(ch40 2.475GHz)
Remarks :
Date : 11/23/2001
Phase : Single Phase
Temperature : 20 °C
Humidity : 44 %
Regulation 1 : FCC Part15.207
Regulation 2 : FCC Part15.207


Engineer : Makoto Kosaka

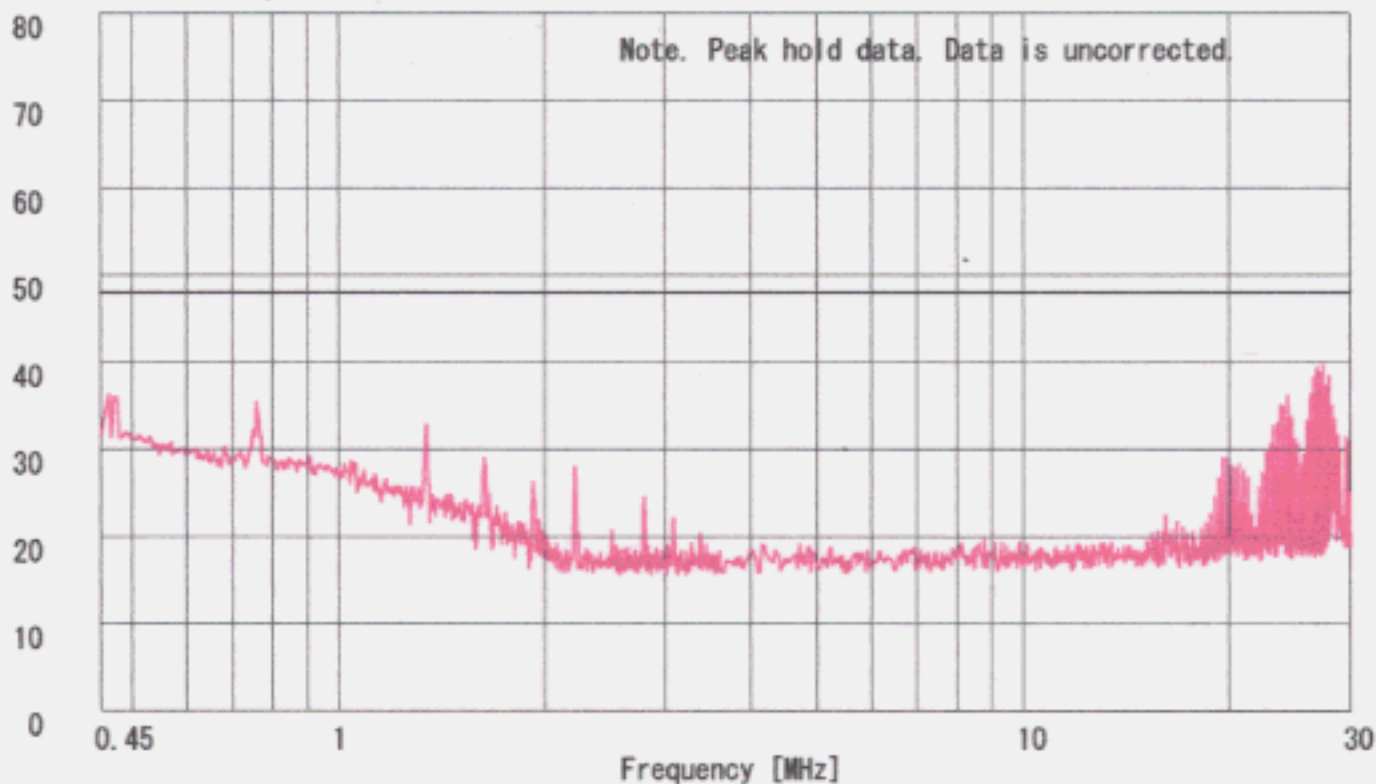
Emission Level [dB μ V]

PHASE:N



Emission Level [dB μ V]

PHASE:L1



DATA OF CONDUCTION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 22DE0045-YW

Applicant : SHARP Corporation
Kind of Equipment : Facsimile Equipment
Model No. : UX-CL220
Serial No. : Sample No. 3
Power : AC120V/60Hz
Mode : Intercom
Remarks :
Date : 11/23/2001
Phase : Single Phase
Temperature : 20 °C
Humidity : 44 %
Regulation : FCC Part15.207


Engineer : Makoto Kosaka

No.	FREQ. [MHz]	READING (N)		READING (L1)		LISN FACTOR [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS		MARGIN	
		QP [dBuV]	AV	QP [dBuV]	AV				QP [dBuV]	AV	QP [dBuV]	AV	QP [dB]	AV
1.	0.5492	35.1	-	31.3	-	0.2	0.2	0.0	35.5	-	48.0	0.0	12.5	-
2.	0.8260	30.5	-	31.0	-	0.2	0.2	0.0	31.4	-	48.0	0.0	16.6	-
3.	1.3753	30.2	-	30.2	-	0.2	0.2	0.0	30.6	-	48.0	0.0	17.4	-
4.	2.2017	24.2	-	26.0	-	0.2	0.3	0.0	26.5	-	48.0	0.0	21.5	-
5.	8.2644	20.8	-	11.6	-	0.4	0.5	0.0	21.7	-	48.0	0.0	26.3	-
6.	24.1918	33.2	-	32.6	-	0.9	0.8	0.0	34.9	-	48.0	0.0	13.1	-
7.	27.8324	34.4	-	34.2	-	0.9	0.8	0.0	36.1	-	48.0	0.0	11.9	-

CALCULATION: READING + LISN FACTOR + CABLE LOSS + ATTEN.

Except for the above table: adequate margin data below the limits.

DATA OF CONDUCTION TEST CHART

A-PEX INTERNATIONAL CO., LTD.

YOKOWA No.2 OPEN TEST SITE

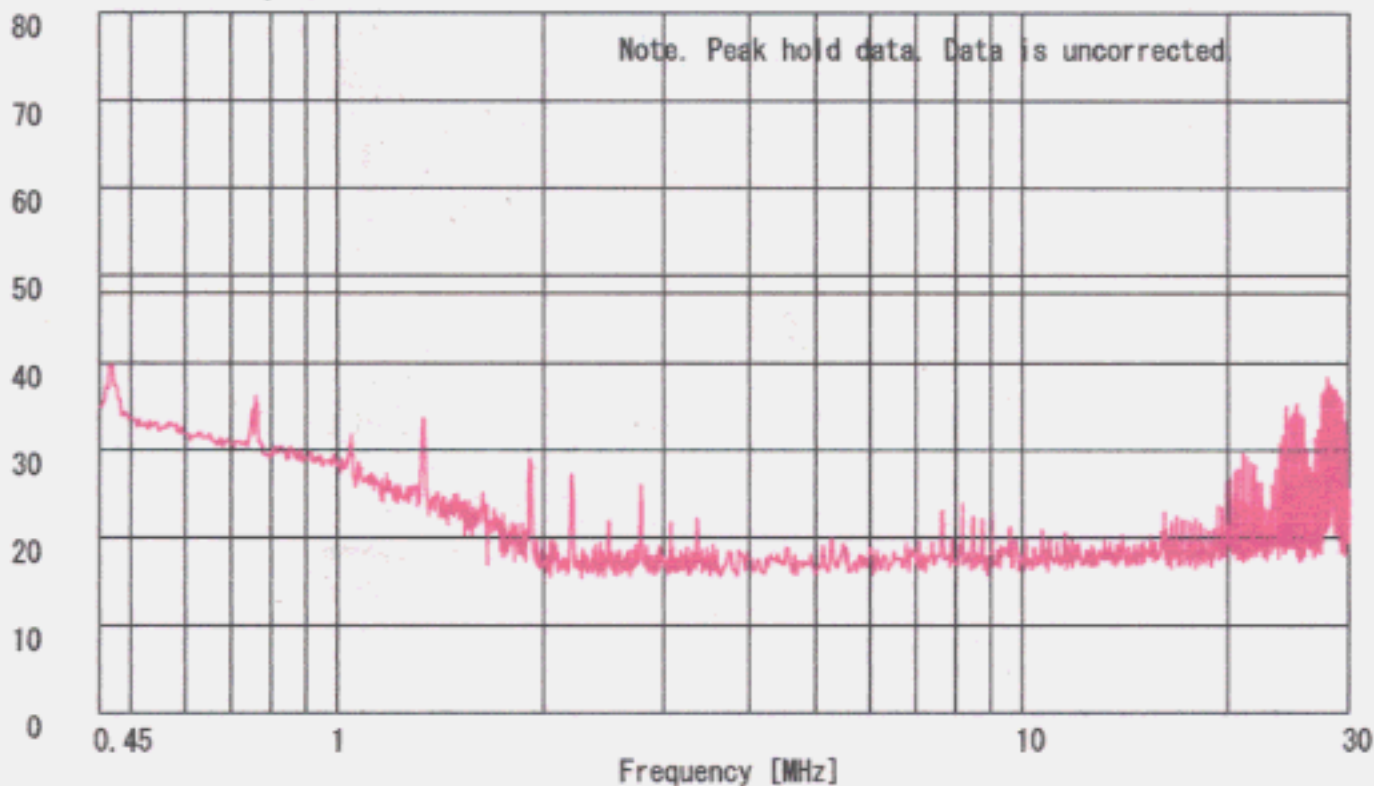
Report No. : 22DE0045-YW

Applicant : SHARP Corporation
Kind of Equipment : Facsimile Equipment
Model No. : UX-CL220
Serial No. : Sample No.3
Power : AC120V/60Hz
Mode : Intercom
Remarks :
Date : 11/23/2001
Phase : Single Phase
Temperature : 20 °C
Humidity : 44 %
Regulation 1 : FCC Part15.207
Regulation 2 : FCC Part15.207


Engineer : Makoto Kosaka

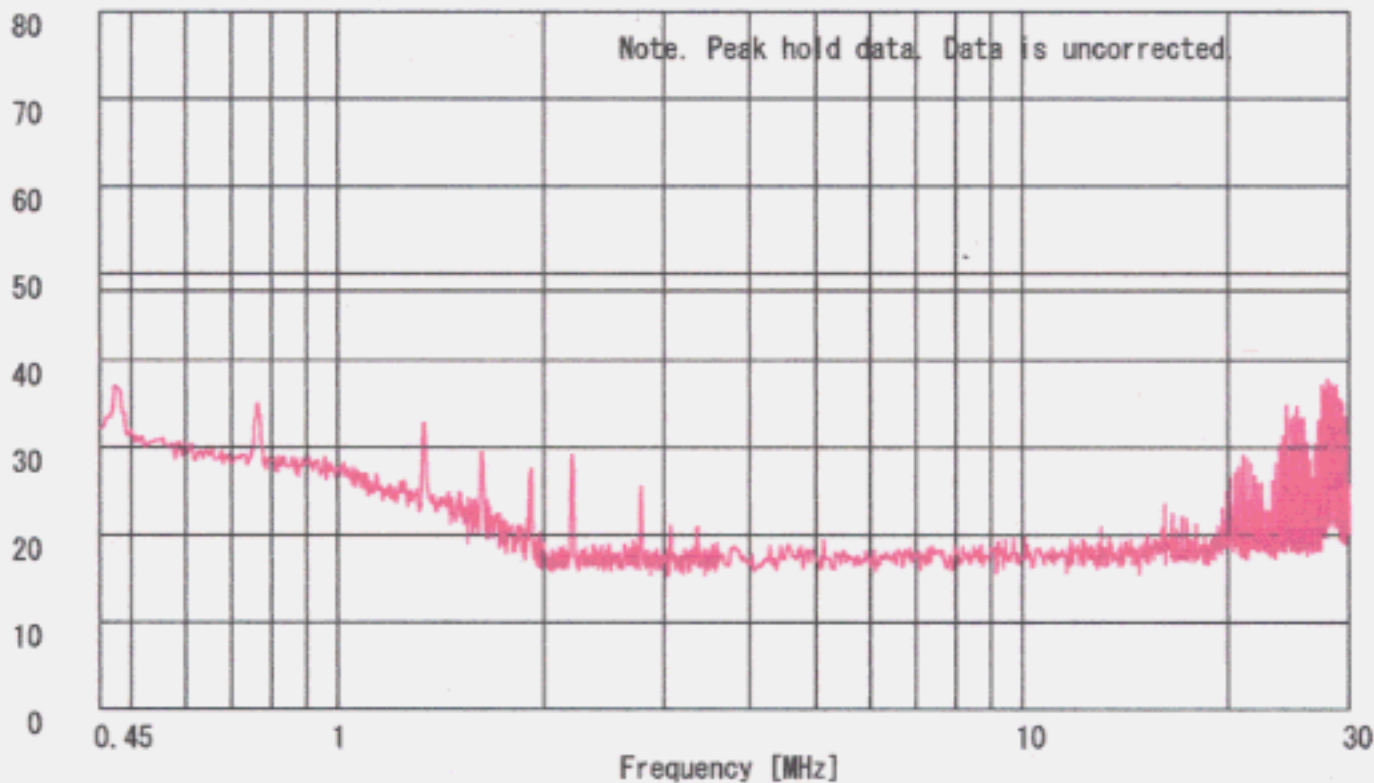
Emission Level [dB μ V]

PHASE:N



Emission Level [dB μ V]

PHASE:L1

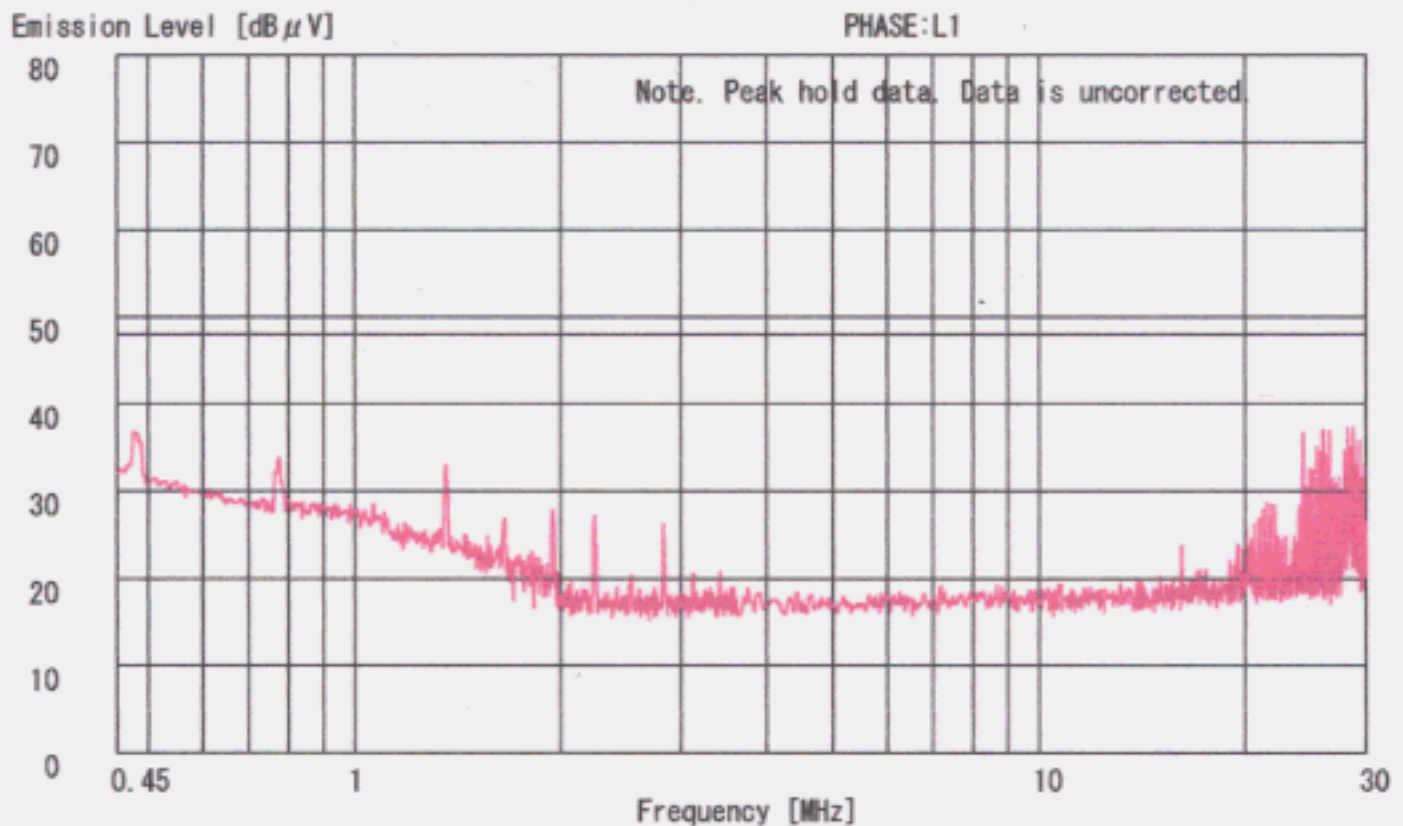
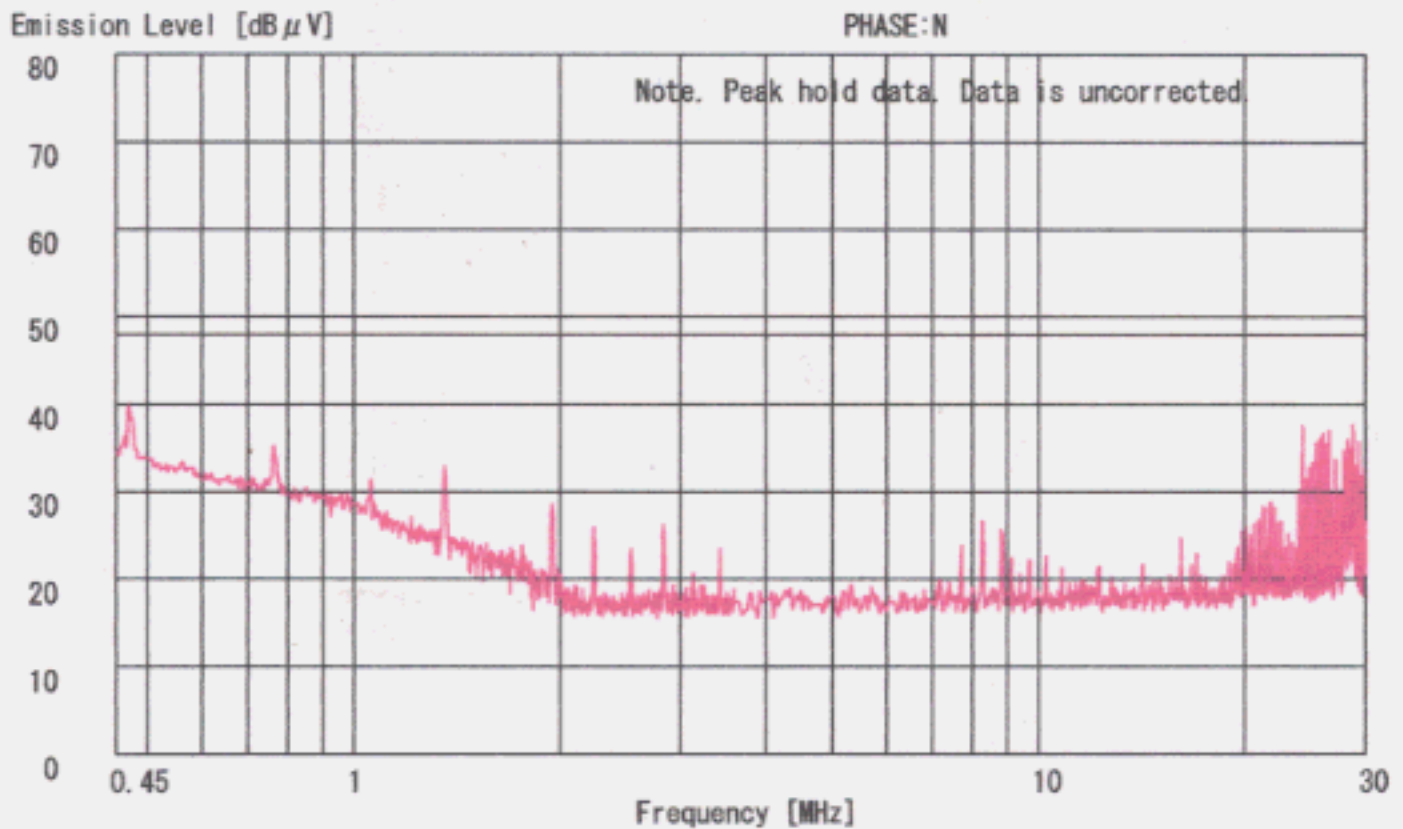


DATA OF CONDUCTION TEST CHART

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 22DE0045-YW

Applicant : SHARP Corporation
Kind of Equipment : Facsimile Equipment
Model No. : UX-CL220
Serial No. : Sample No. 3
Power : AC120V/60Hz
Mode : Stand-by
Remarks :
Date : 11/23/2001
Phase : Single Phase
Temperature : 20 °C
Humidity : 44 %
Regulation 1 : FCC Part15.207
Regulation 2 : FCC Part15.207


Engineer : Makoto Kosaka



DATA OF CONDUCTION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.2 OPEN TEST SITE
Report No. : 22DE0045-YW

Applicant : SHARP Corporation
 Kind of Equipment : Cordless Handset
 Model No. : UX-CL220K
 Serial No. : Sample No. 1
 Power : AC120V/60Hz
 Mode : Charging
 Remarks :
 Date : 11/23/2001
 Phase : Single Phase
 Temperature : 20 °C
 Humidity : 44 %
 Regulation : FCC Part15. 207


 Engineer : Makoto Kosaka

No.	FREQ. [MHz]	READING (N)		READING (L1)		LISN FACTOR [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS		MARGIN	
		QP [dBuV]	AV	QP [dBuV]	AV				QP [dBuV]	AV	QP [dBuV]	AV		
1.	0.4500	27.6	-	27.7	-	0.1	0.2	0.0	28.0	-	48.0	0.0	20.0	-
2.	0.5130	27.2	-	26.2	-	0.2	0.2	0.0	27.6	-	48.0	0.0	20.4	-
3.	0.8000	13.7	-	9.7	-	0.2	0.2	0.0	14.1	-	48.0	0.0	33.9	-
4.	0.9500	14.4	-	11.9	-	0.2	0.2	0.0	14.8	-	48.0	0.0	33.2	-
5.	1.2530	10.0	-	9.3	-	0.2	0.2	0.0	10.4	-	48.0	0.0	37.6	-
6.	1.4260	10.1	-	11.2	-	0.2	0.2	0.0	11.6	-	48.0	0.0	36.4	-

CALCULATION: READING + LISN FACTOR + CABLE LOSS + ATTEN.

Except for the above table: adequate margin data below the limits.

DATA OF CONDUCTION TEST CHART

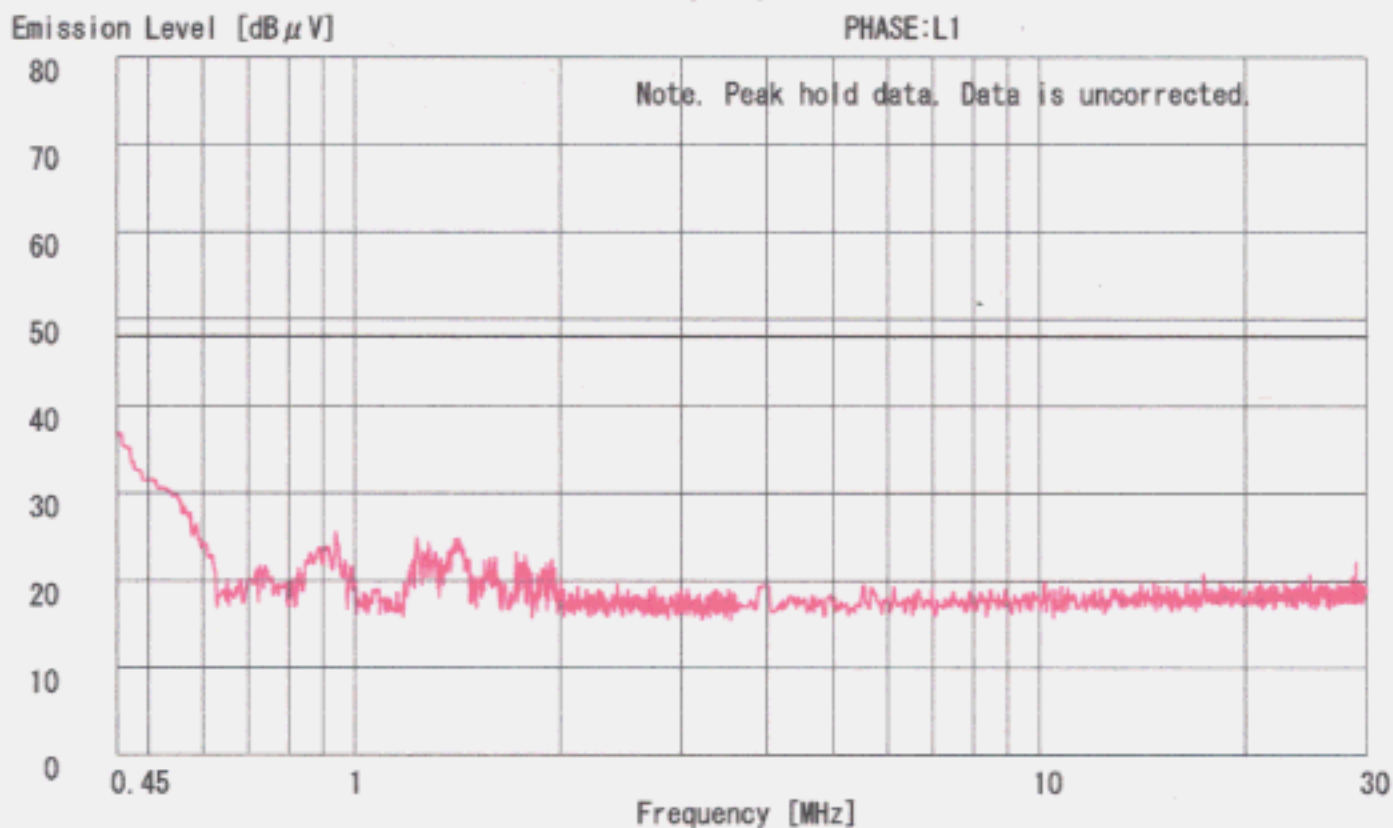
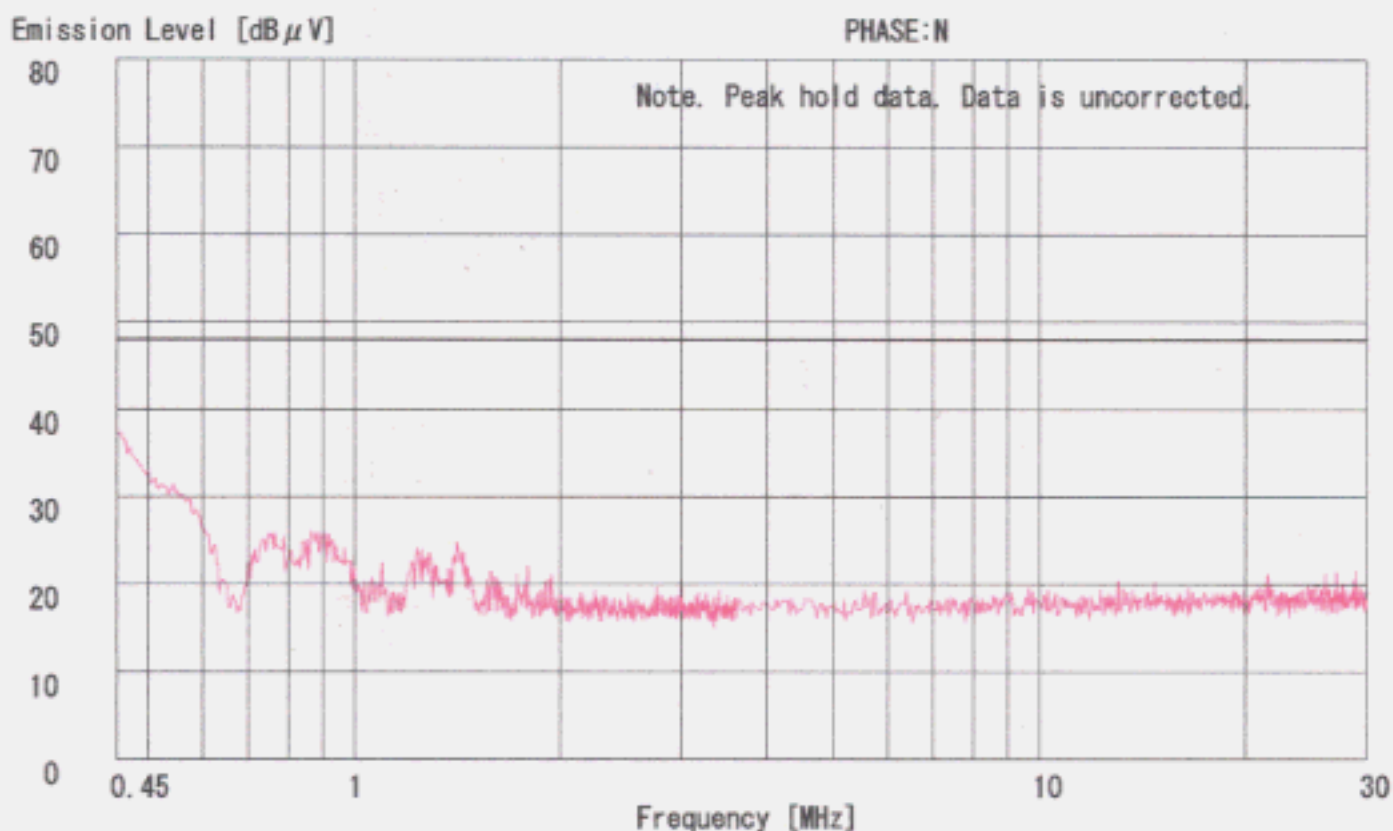
A-PEX INTERNATIONAL CO., LTD.

YOKOWA No.2 OPEN TEST SITE

Report No. : 22DE0045-YW

Applicant : SHARP Corporation
Kind of Equipment : Cordless Handset
Model No. : UX-CL220K
Serial No. : Sample No. 1
Power : AC120V/60Hz
Mode : Charging
Remarks :
Date : 11/23/2001
Phase : Single Phase
Temperature : 20 °C
Humidity : 44 %
Regulation 1 : FCC Part15.207
Regulation 2 : FCC Part15.207


Engineer : Makoto Kosaka



DATA OF CONDUCTION TEST CHART

A-PEX INTERNATIONAL CO., LTD.

YOKOWA No.2 OPEN TEST SITE

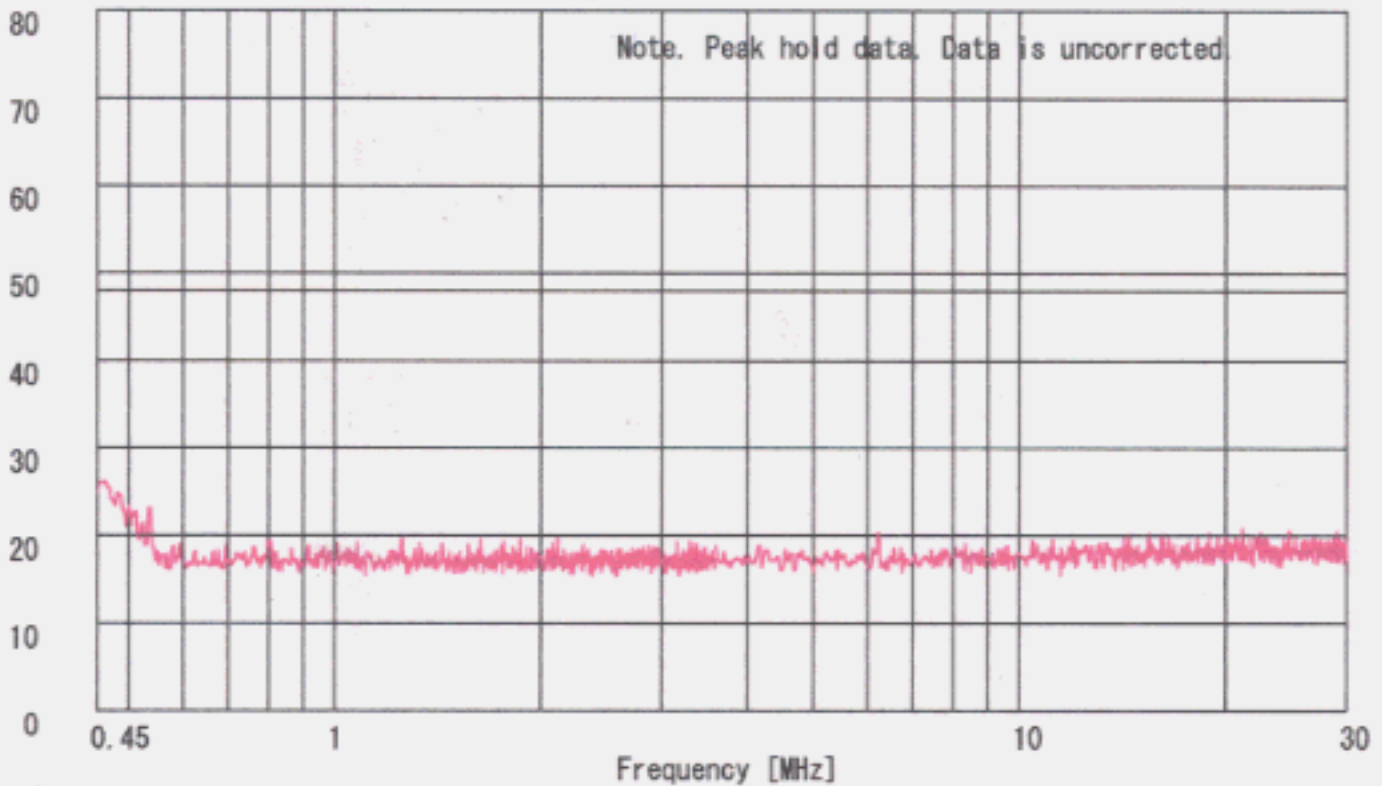
Report No. : 22DE0045-YW

Applicant : SHARP Corporation
Kind of Equipment : Cordless Handset
Model No. : UX-CL220K
Serial No. : Sample No. 1
Power : AC120V/60Hz
Mode : Intercom
Remarks :
Date : 11/23/2001
Phase : Single Phase
Temperature : 20 °C
Humidity : 44 %
Regulation 1 : FCC Part15. 207
Regulation 2 : FCC Part15. 207


Engineer : Makoto Kosaka

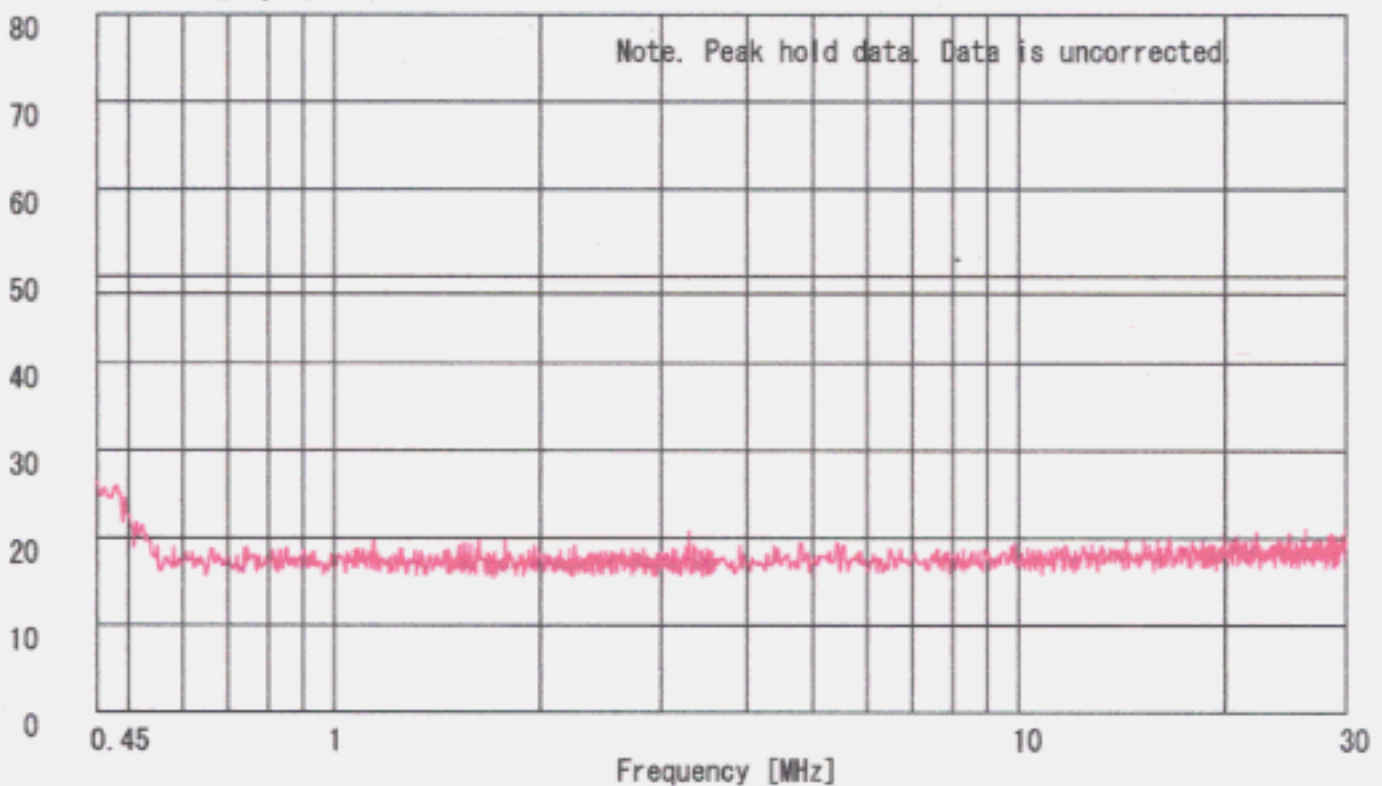
Emission Level [dB μ V]

PHASE:N



Emission Level [dB μ V]

PHASE:L1

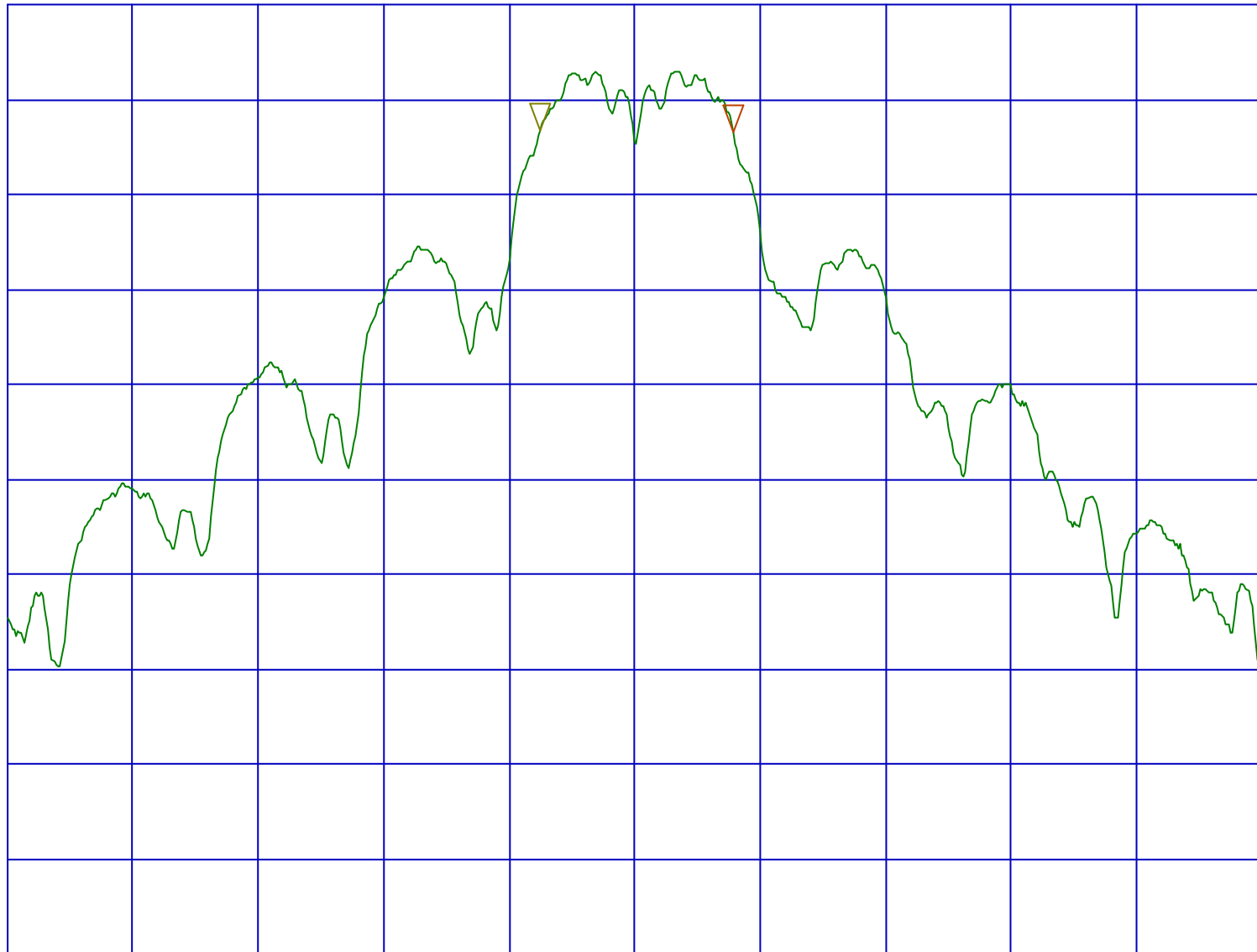


SHARP/Model : UX-CL220(Base)/FCC ID: APYHR000023
15.247(a)(2)6dB Bandwidth/Ch1/+ ATT10dB/Page A11
REF 107 dBuV ATT 10 dB

MAKER
2.4056 GHz
93.50 dBuV

MAKER
-1.5429 MHz
.25 dBuV

10dB/



START 2.399800GHz
RBW 100kHz

VBW 100kHz

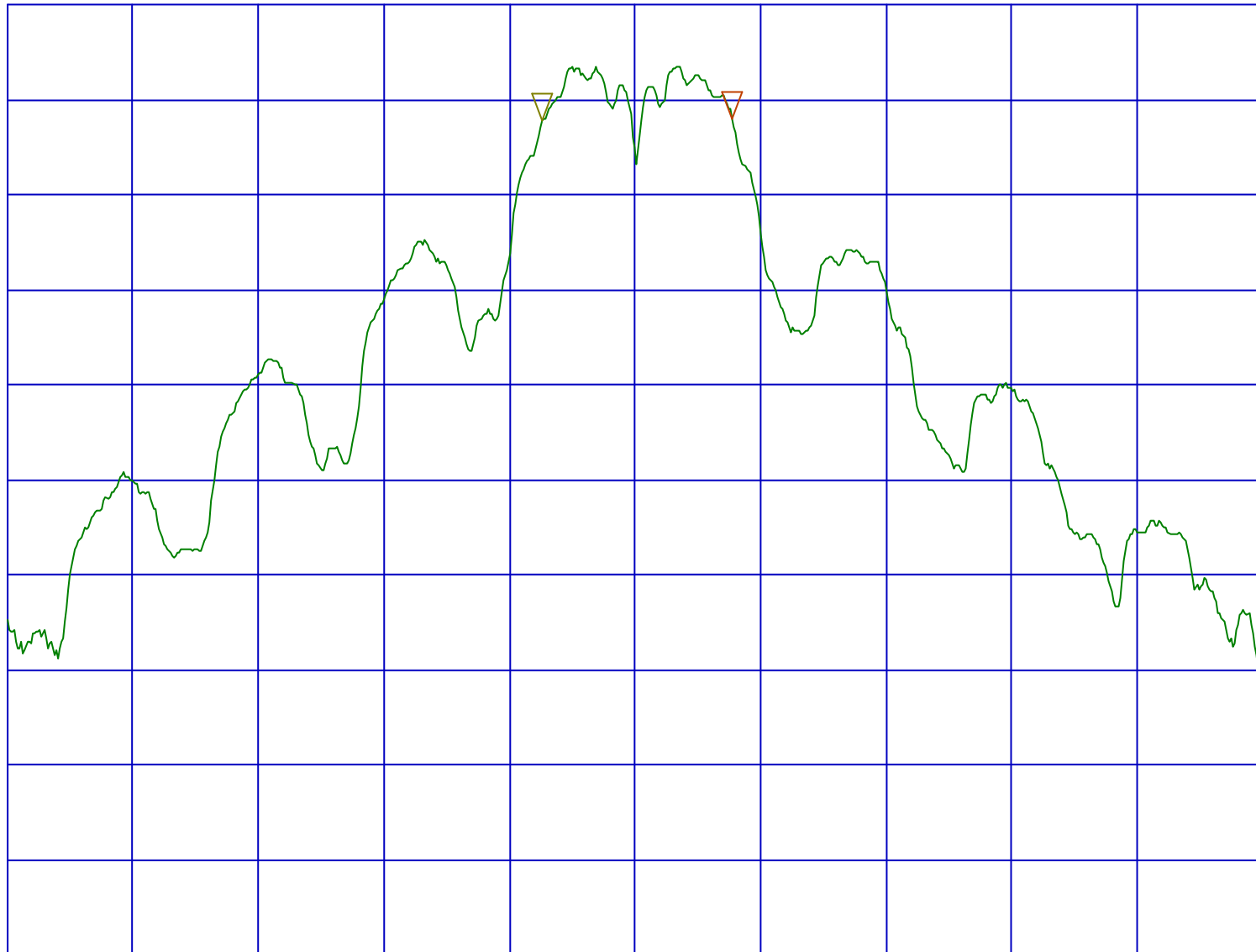
STOP 2.409800GHz
SWP 100ms

SHARP/Model : UX-CL220(Base)/FCC ID: APYHR000023
15.247(a)(2)6dB Bandwidth/Ch20/+ ATT10dB/Page A12
REF 107 dBuV ATT 10 dB

MAKER
2.4398 GHz
95.00 dBuV

MAKER
-1.5143 MHz
-.25 dBuV

10dB/



START 2.434000GHz
RBW 100kHz

VBW 100kHz

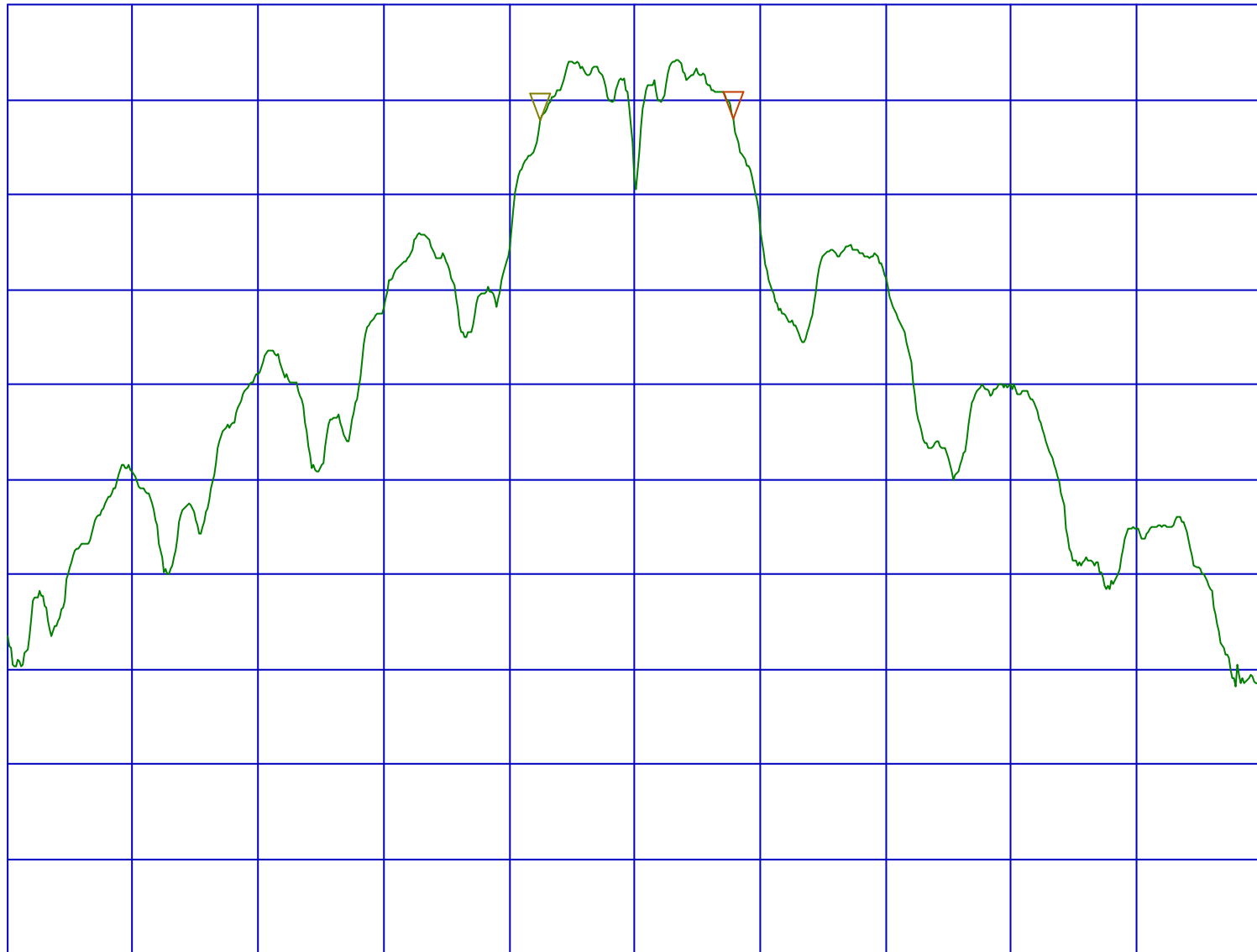
STOP 2.444000GHz
SWP 100ms

SHARP/Model : UX-CL220(Base)/FCC ID: APYHR000023
15.247(a)(2)6dB Bandwidth/Ch40/+ ATT10dB/Page A13
REF 107 dBuV ATT 10 dB

MAKER
2.4758 GHz
95.00 dBuV

MAKER
-1.5429 MHz
-.25 dBuV

10dB/



START 2.470000GHz
RBW 100kHz

VBW 100kHz

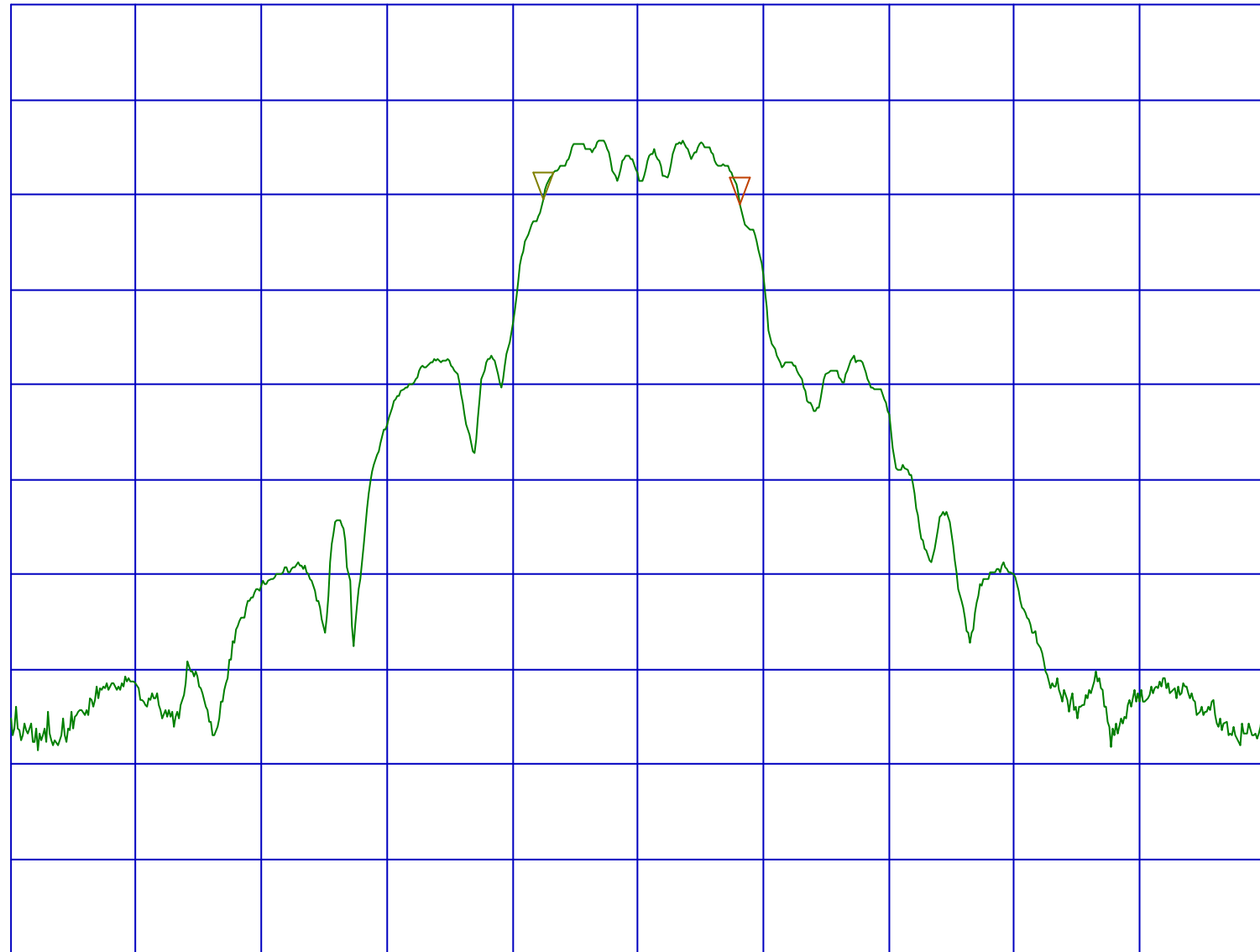
STOP 2.480000GHz
SWP 100ms

SHARP/Model:UX-CL220K(Hand)/FCC ID:APYHR000023
15.247(a)(2)6dB Bandwidth/Ch1/+ ATT10dB/Page A14
REF 107 dBuV ATT 10 dB

MAKER
2.4056 GHz
86.00 dBuV

MAKER
-1.5714 MHz
.50 dBuV

10dB/



START 2.399800GHz
RBW 100kHz

VBW 100kHz

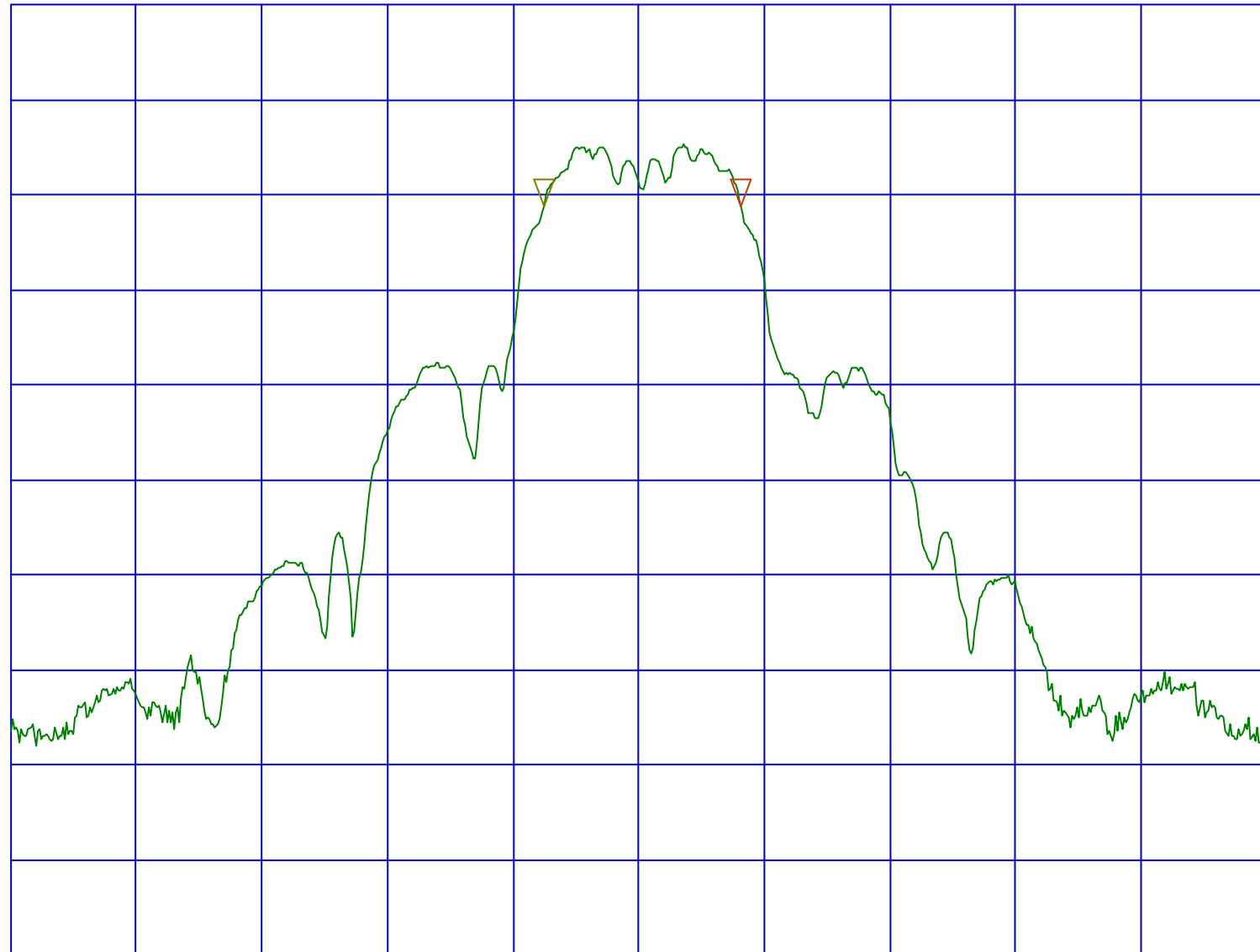
STOP 2.409800GHz
SWP 100ms

SHARP/Model:UX-CL220K(Hand)/FCC ID:APYHR000023
15.247(a)(2)6dB Bandwidth/Ch20/+ ATT10dB/Page A15
REF 107 dBuV ATT 10 dB

MAKER
2.4398 GHz
85.75 dBuV

MAKER
-1.5714 MHz
.00 dBuV

10dB/



START 2.434000GHz
RBW 100kHz

VBW 100kHz

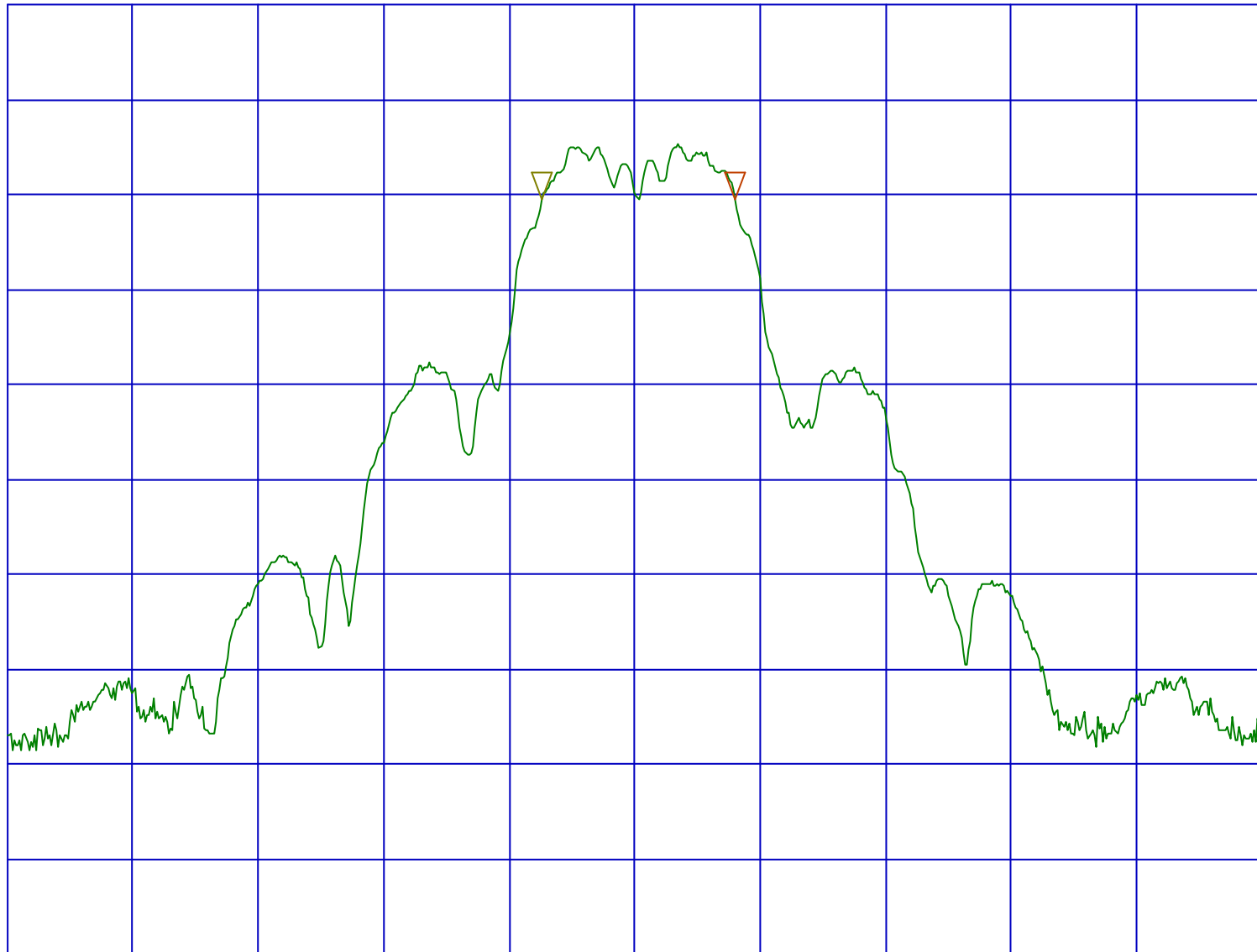
STOP 2.444000GHz
SWP 100ms

SHARP/Model:UX-CL220K(Hand)/FCC ID:APYHR000023
15.247(a)(2)6dB Bandwidth/Ch40/+ ATT10dB/Page A16
REF 107 dBuV ATT 10 dB

MAKER
2.4758 GHz
86.50 dBuV

MAKER
-1.5429 MHz
.00 dBuV

10dB/



START 2.470000GHz
RBW 100kHz

VBW 100kHz

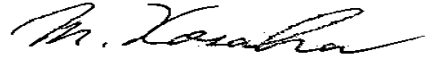
STOP 2.480000GHz
SWP 100ms

Peak Out Put Power(Conducted)

A-PEX INTERNATIONAL CO., LTD.
YOKOWA NO.3 OPEN SITE

COMPANY : SHARP Corporation
EQUIPMENT : Facsimile Equipmet
MODEL : UX-CL220
Sample No. : No.3
FCC ID : APYHRO00023
POWER : AC120V/60Hz
Mode : Transmitting

REPORT NO : 22DE0045-YW
REGULATION : Fcc Part15 Subpart C 247(b)(1)
DATE : 2001/11/19
Temperature : 26degrees centigrade
Humidity : 29%



ENGINEER : Makoto Kosaka

Ch	FREQ [GHz]	P/M Reading [dBm]	ATTEN. [dB]	RESULT [dBm]	convert [mW]	Limit (1W) [dBm]	Margin [dB]
Low (ch1)	2.4048	2.6	10.0	12.6	18.2	30.0	17.4
Mid (ch20)	2.4390	2.6	10.0	12.6	18.2	30.0	17.4
High (ch40)	2.4750	2.6	10.0	12.6	18.2	30.0	17.4

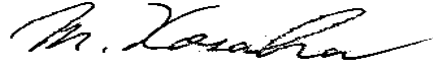
P = P/M Reading + ATTEN.

Peak Out Put Power(Conducted)

A-PEX INTERNATIONAL CO., LTD.
YOKOWA NO.3 OPEN SITE

COMPANY : SHARP Corporation
EQUIPMENT : Cordless Handset
MODEL : UX-CL220K
Sample No. : No.3
FCC ID : APYHRO00023
POWER : DC 3.6V
Mode : Transmitting

REPORT NO : 22DE0045-YW
REGULATION : Fcc Part15 Subpart C 247(b)(1)
DATE : 2001/11/20
Temperature : 25degrees centigrade
Humidity : 30%



ENGINEER : Makoto Kosaka

Ch	FREQ [GHz]	P/M Reading [dBm]	ATTEN. [dB]	RESULT [dBm]	convert [mW]	Limit (1W) [dBm]	Margin [dB]
Low (ch1)	2.4048	0.5	10.0	10.5	11.2	30.0	19.5
Mid (ch20)	2.4390	0.5	10.0	10.5	11.2	30.0	19.5
High (ch40)	2.4750	0.6	10.0	10.6	11.5	30.0	19.4

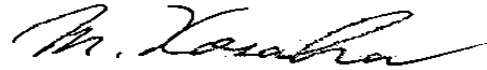
P = P/M Reading + ATTEN.

Peak Out Put Power(Radiated)

A-PEX INTERNATIONAL CO., LTD.
YOKOWA NO.3 OPEN SITE

COMPANY : SHARP Corporation
EQUIPMENT : Facsimile Equipmet
MODEL : UX-CL220
Sample No. : No.3
FCC ID : APYHRO00023
POWER : AC120V/60Hz
Mode : Transmitting

REPORT NO : 22DE0045-YW
REGULATION : Fcc Part15SubpartC 247(b)(1)
TEST DISTANCE : 3m
DATE : 2001/11/19
Temperature : 23degrees centigrade
Humidity : 37%



ENGINEER : Makoto Kosaka

PK DETECT(S/A : RBW 3MHz and VBW 3MHz) / Antenna angle of EUT: 90degrees

Ch	FREQ [GHz]	S/A READING		All Factor [dB]	E1		E		Limit 1W [mW]	Result	
		HOR	VER		HOR	VER	HOR	VER		HOR	VER
		[dBUV]			[dBUV/m]		[V/m]			[mW]	
Low(ch1)	2.4048	110.0	116.6	2.1	112.1	118.7	0.4027	0.8610	1000.0	29.7	135.6
Mid(ch20)	2.4390	109.0	115.8	2.1	111.1	117.9	0.3589	0.7807	1000.0	23.6	111.5
High(ch40)	2.4750	107.9	115.8	2.3	110.2	118.1	0.3236	0.7989	1000.0	19.2	116.8

Sample Calculation :

All Factor = ANT Factor - Amp Gain + CABLE LOSS.

Low (2404.8MHz): ANT Factor (31.4dB) - Amp Gain (34.5) + Cable Loss(5.2dB)

Mid (2439.0MHz): ANT Factor (31.4dB) - Amp Gain (34.5) + Cable Loss(5.2dB)

High (2475.0MHz): ANT Factor (31.5dB) - Amp Gain (34.5) + Cable Loss(5.2dB)

$$P = (E \cdot d)^2 / (30 \cdot G)$$

E1: S/A Reading + All Factor

E is the measured maximum field strength in V/m utilizing the maximum hold mode RBW (3MHz)

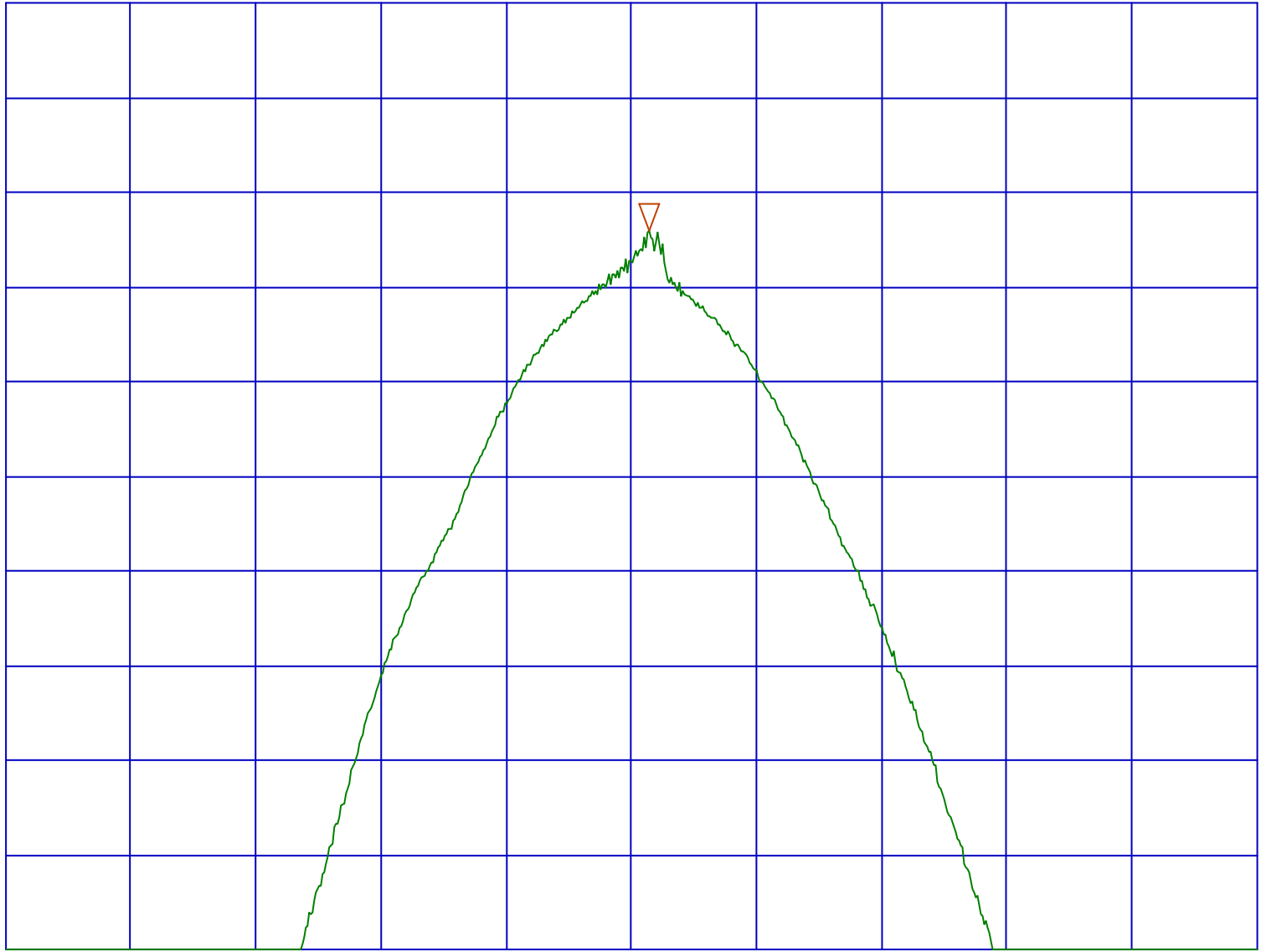
d is the distance in meters from which the field strength was measured (3.0m)

G is a numeric gain of the half wave dipole (1.64)

SHARP/Model : UX-CL220(Base)/FCC ID: APYHR000023
15.247(b)(1)PK-OutPower/Ch1 90deg(Hor)/Page A20
REF 122 dBuV ATT 30 dB

MAKER
2.4051 GHz
110.00 dBuV

5dB/



START 2.394800GHz
RBW 3MHz

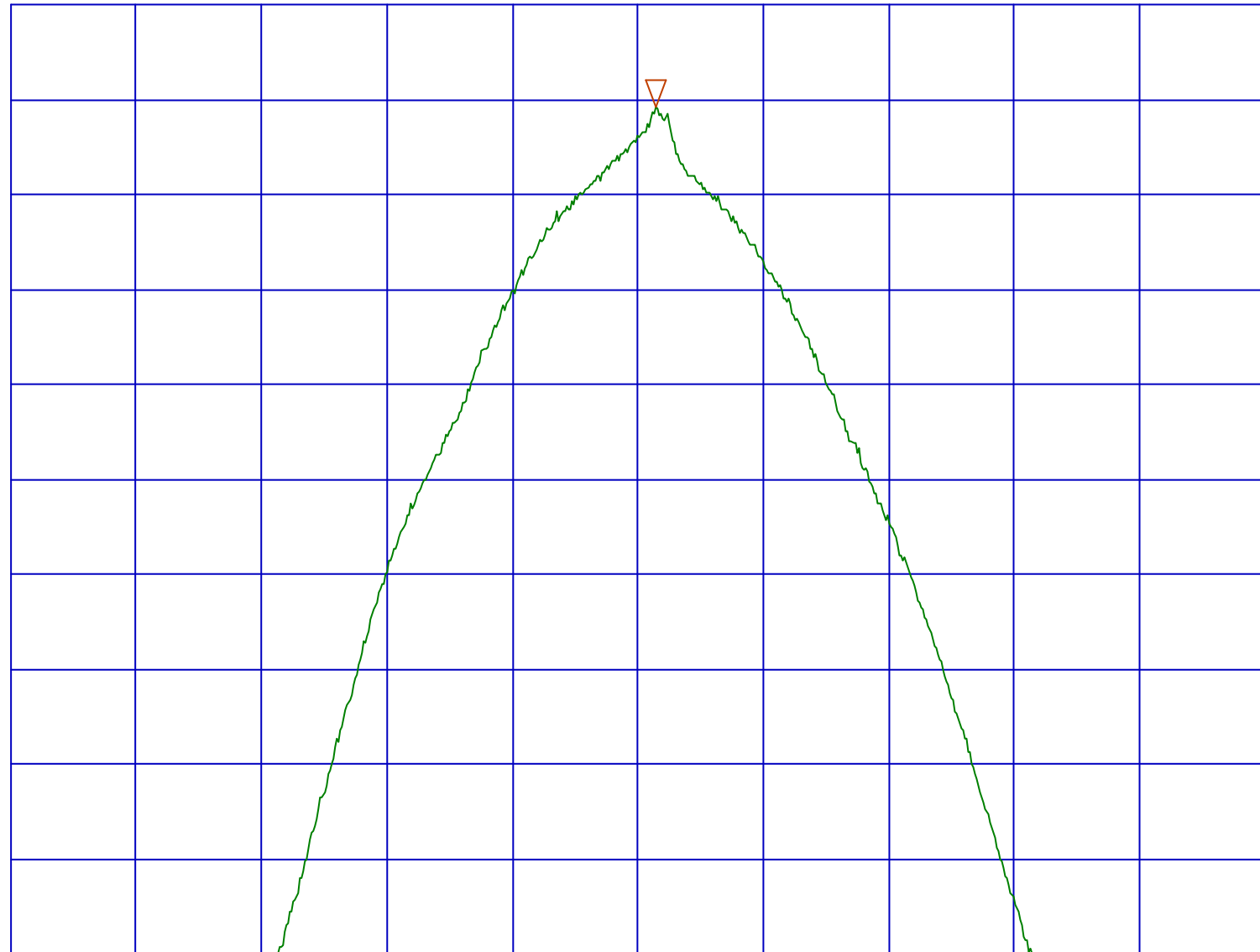
VBW 3MHz

STOP 2.414800GHz
SWP 50ms

SHARP/Model : UX-CL220(Base)/FCC ID: APYHR000023
15.247(b)(1)PK-OutPower/Ch1 90deg(Ver)/Page A21
REF 122 dBuV ATT 30 dB

MAKER
2.4051 GHz
116.63 dBuV

5dB/



START 2.394800GHz
RBW 3MHz

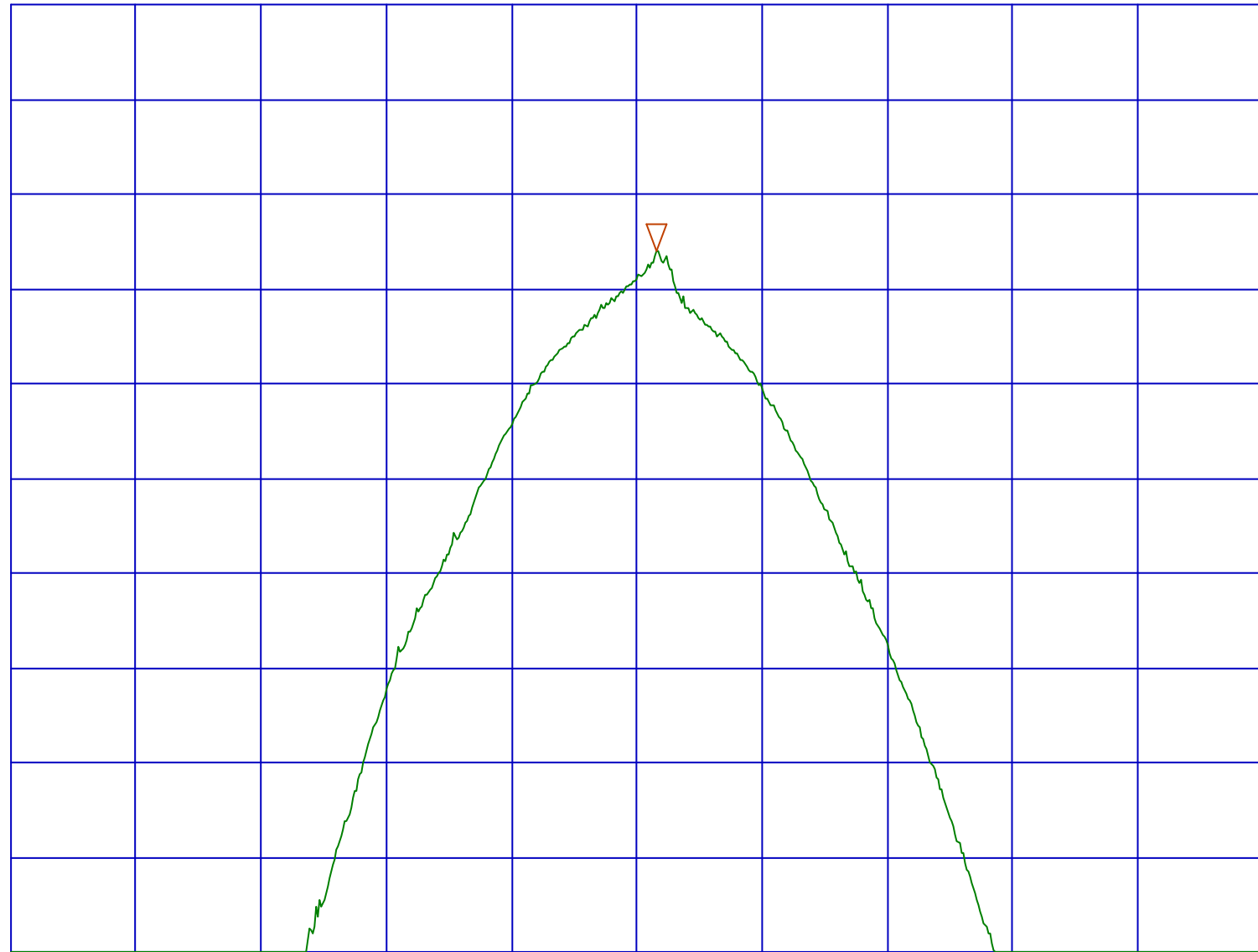
VBW 3MHz

STOP 2.414800GHz
SWP 50ms

SHARP/Model : UX-CL220(Base)/FCC ID: APYHR000023
15.247(b)(1)PK-OutPower/Ch20 90deg(Hor)/Page A22
REF 122 dBuV ATT 30 dB

MAKER
2.4393 GHz
109.00 dBuV

5dB/



START 2.429000GHz
RBW 3MHz

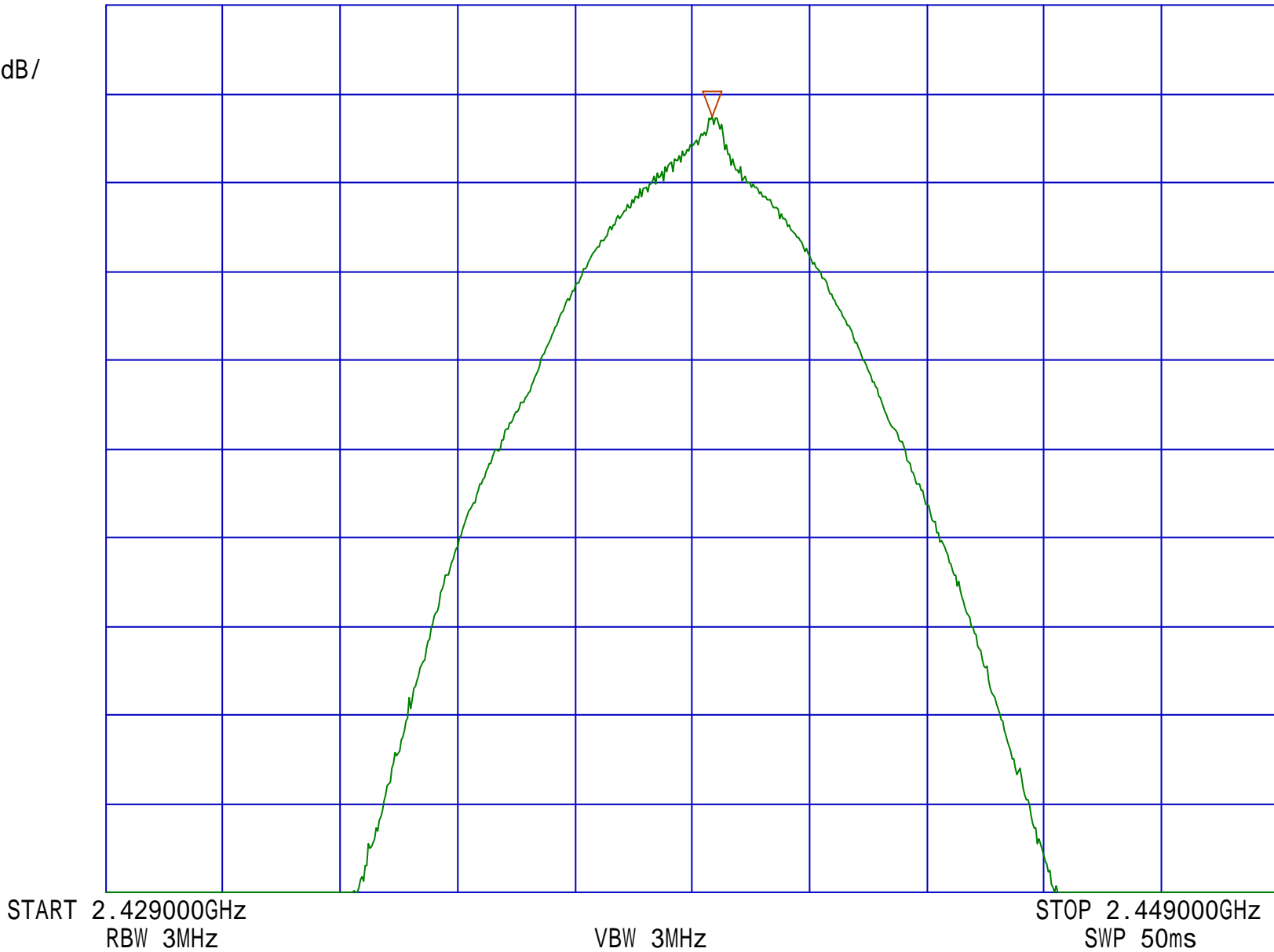
VBW 3MHz

STOP 2.449000GHz
SWP 50ms

SHARP/Model : UX-CL220(Base)/FCC ID: APYHR000023
15.247(b)(1)PK-OutPower/Ch20 90deg(Ver)/Page A23
REF 122 dBuV ATT 30 dB

MAKER
2.4393 GHz
115.75 dBuV

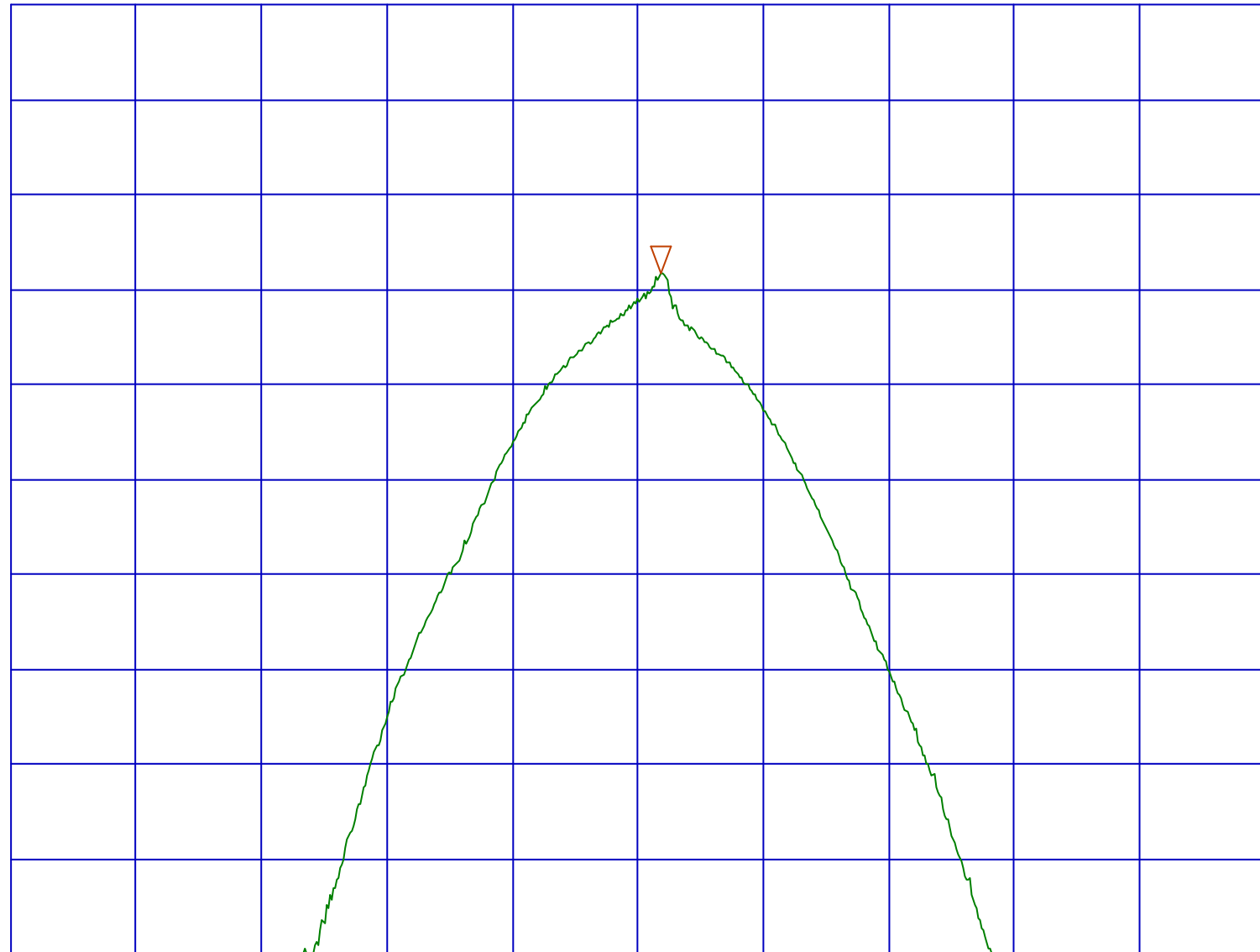
5dB/



SHARP/Model : UX-CL220(Base)/FCC ID: APYHR000023
15.247(b)(1)PK-OutPower/Ch40 90deg(Hor)/Page A24
REF 122 dBuV ATT 30 dB

MAKER
2.4754 GHz
107.88 dBuV

5dB/



START 2.465000GHz
RBW 3MHz

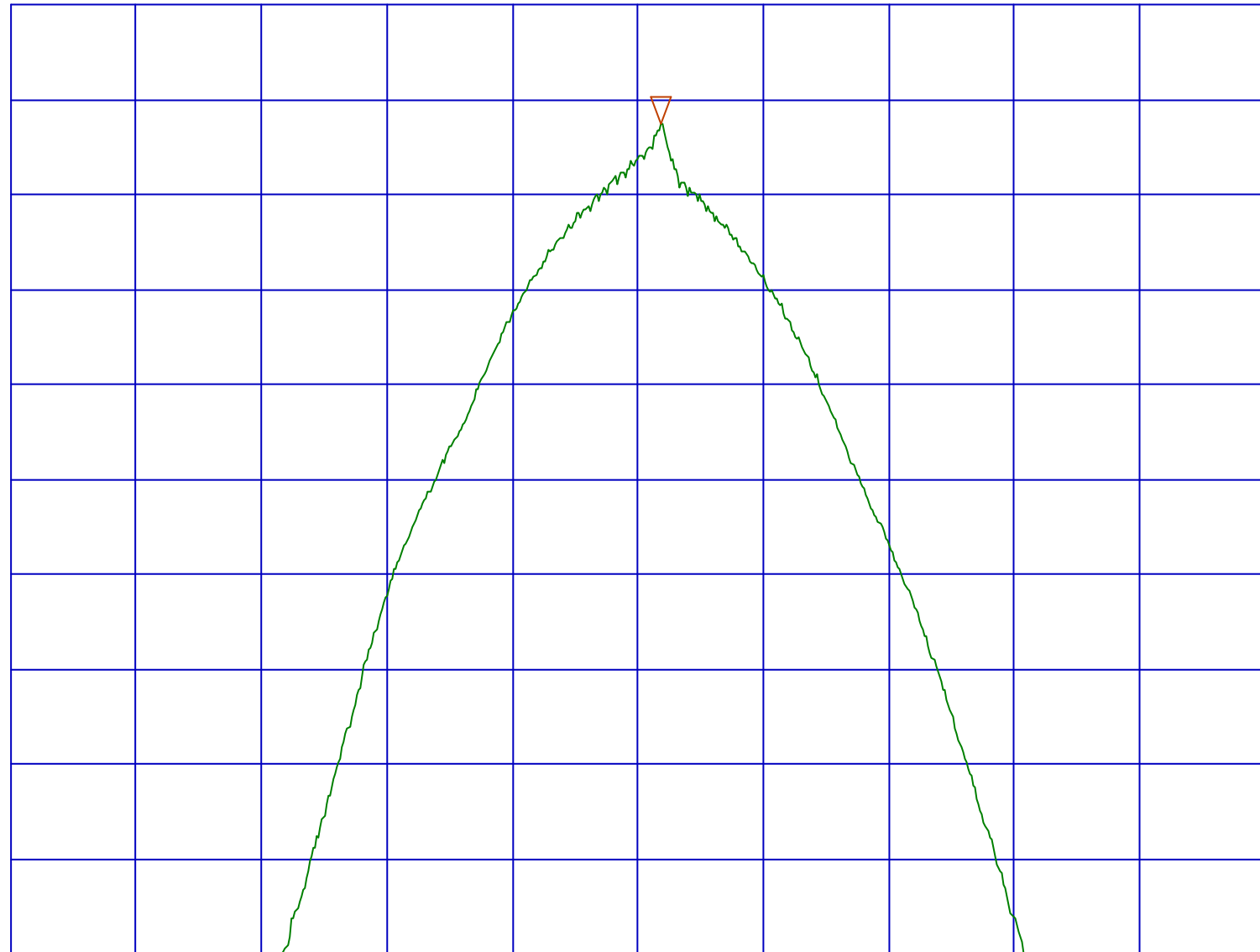
VBW 3MHz

STOP 2.485000GHz
SWP 50ms

SHARP/Model : UX-CL220(Base)/FCC ID: APYHR000023
15.247(b)(1)PK-OutPower/Ch40 90deg(Ver)/Page A25
REF 122 dBuV ATT 30 dB

MAKER
2.4754 GHz
115.75 dBuV

5dB/



START 2.465000GHz
RBW 3MHz

VBW 3MHz

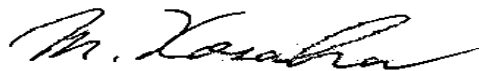
STOP 2.485000GHz
SWP 50ms

Peak Out Put Power(Radiated)

A-PEX INTERNATIONAL CO., LTD.
YOKOWA NO.3 OPEN SITE

COMPANY : SHARP Corporation
EQUIPMENT : Cordless Handset
MODEL : UX-CL220K
Sample No. : No.1
FCC ID : APYHRO00023
POWER : DC 3.6V
Mode : Transmitting

REPORT NO : 22DE0045-YW
REGULATION : Fcc Part15SubpartC 247(b)(1)
TEST DISTANCE : 3m
DATE : 2001/11/16
Temperature : 20degrees centigrade
Humidity : 40%



ENGINEER : Makoto Kosaka

PK DETECT(S/A : RBW 3MHz and VBW 3MHz)/ EUT position Y axis

Ch	FREQ [GHz]	S/A READING		All Factor [dB]	E1		E		Limit 1W [mW]	Result	
		HOR	VER		HOR	VER	HOR	VER		HOR	VER
		[dBuV]			[dBuV/m]		[V/m]			[mW]	
Low(ch1)	2.4048	108.1	111.8	2.1	110.2	113.9	0.3247	0.4926	1000.0	31.6	72.8
Mid(ch20)	2.4390	109.9	113.8	2.1	112.0	115.9	0.3972	0.6202	1000.0	47.3	115.4
High(ch40)	2.4750	105.5	113.4	2.3	107.8	115.7	0.2462	0.6081	1000.0	18.2	110.9

Sample Calculation :

All Factor = ANT Factor - Amp Gain + CABLE LOSS.

Low (2404.8MHz): ANT Factor (31.4dB) - Amp Gain (34.5) + Cable Loss(5.2dB)

Mid (2439.0MHz): ANT Factor (31.4dB) - Amp Gain (34.5) + Cable Loss(5.2dB)

High (2475.0MHz): ANT Factor (31.5dB) - Amp Gain (34.5) + Cable Loss(5.2dB)

$$P = (E \cdot d)^2 / (30 \cdot G)$$

E1: S/A Reading + All Factor

E is the measured maximum field strength in V/m utilizing the maximum hold mode RBW (3MHz)

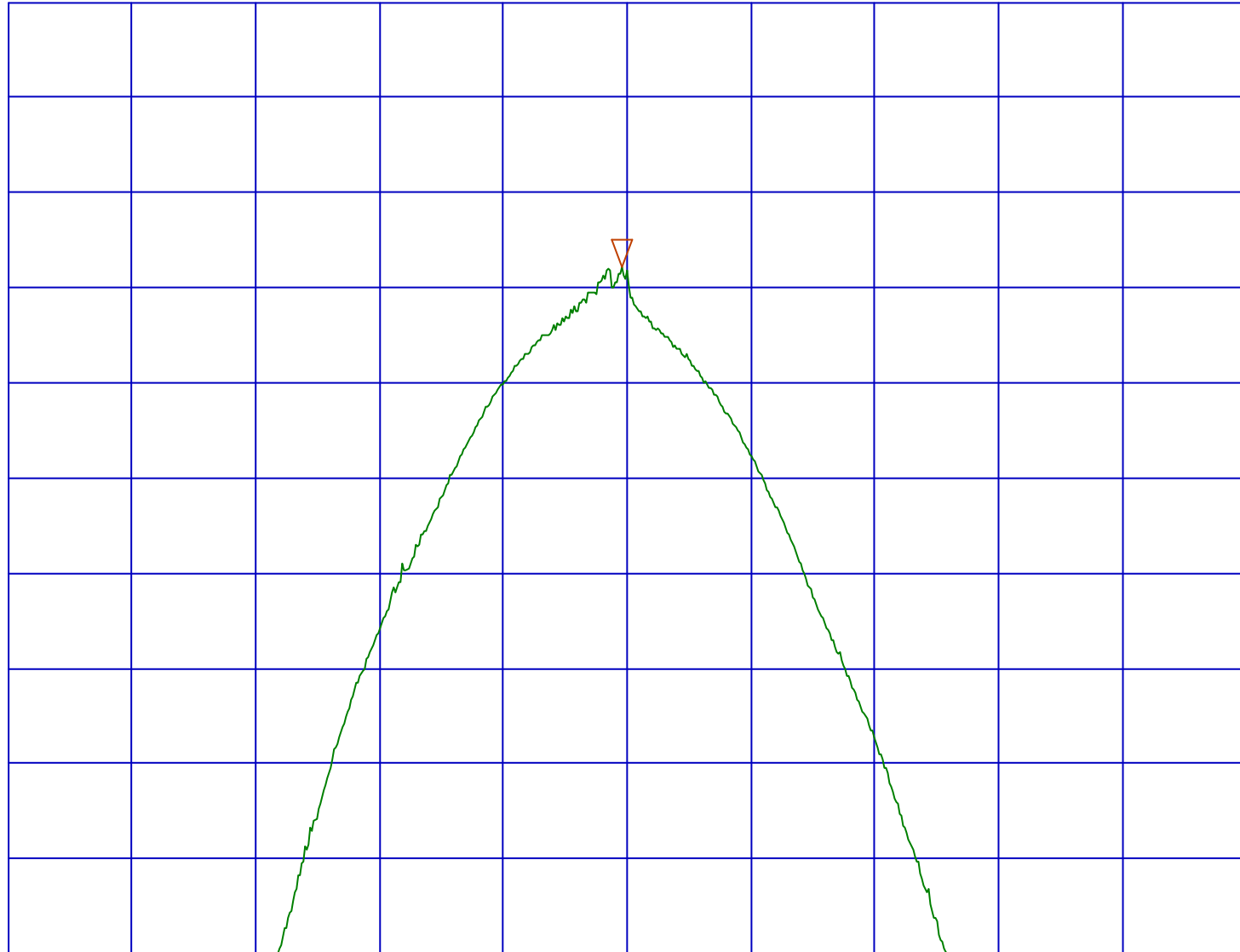
d is the distance in meters from which the field strength was measured (3.0m)

G is a numeric gain of the isotropic (1.00)

SHARP/Model:UX-CL220K(Hand)/FCC ID:APYHR000023
15.247(b)(1)PK Out Power/Ch1(Hor)/Page A27
REF 122 dBuV ATT 30 dB

MAKER
2.4052 GHz
108.13 dBuV

5dB/



START 2.395310GHz
RBW 3MHz

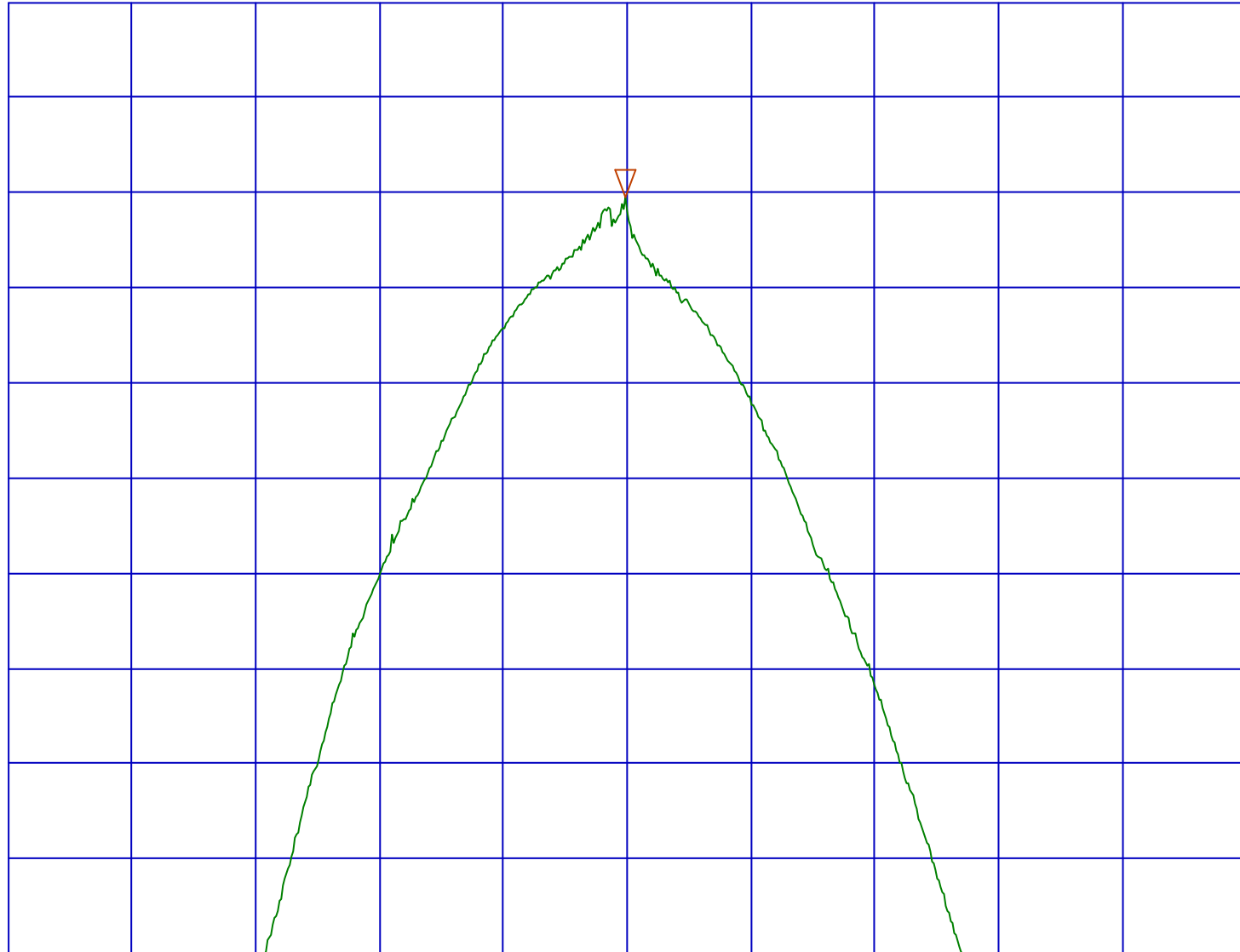
VBW 3MHz

STOP 2.415310GHz
SWP 50ms

SHARP/Model:UX-CL220K(Hand)/FCC ID:APYHR000023
15.247(b)(1)PK Out Power/Ch1(Ver)/Page A28
REF 122 dBuV ATT 30 dB

MAKER
2.4053 GHz
111.75 dBuV

5dB/



START 2.395310GHz
RBW 3MHz

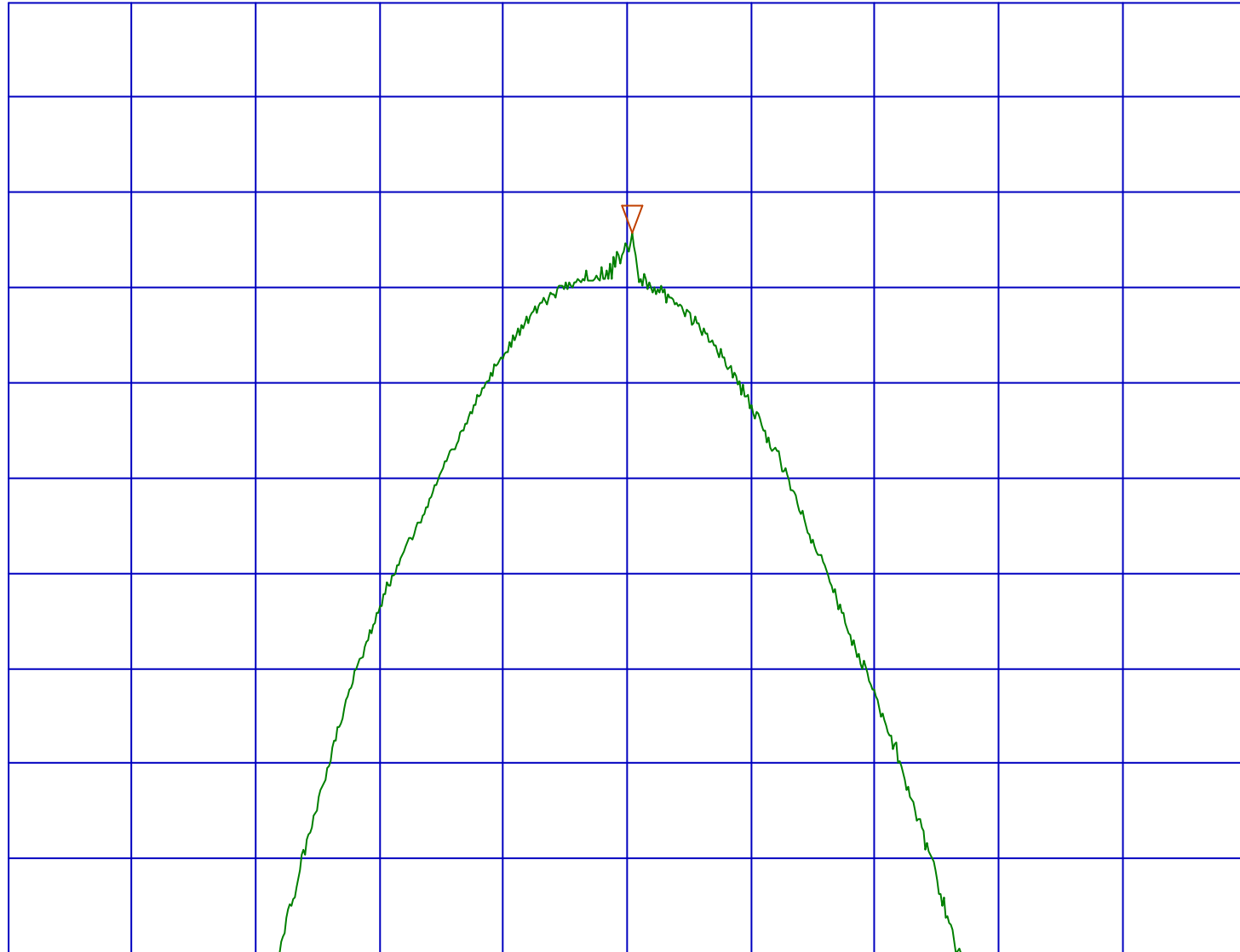
VBW 3MHz

STOP 2.415310GHz
SWP 50ms

SHARP/Model:UX-CL220K(Hand)/FCC ID:APYHR000023
15.247(b)(1)PK Out Power/Ch20(Hor)/Page A29
REF 122 dBuV ATT 30 dB

MAKER
2.4395 GHz
109.88 dBuV

5dB/



START 2.429400GHz
RBW 3MHz

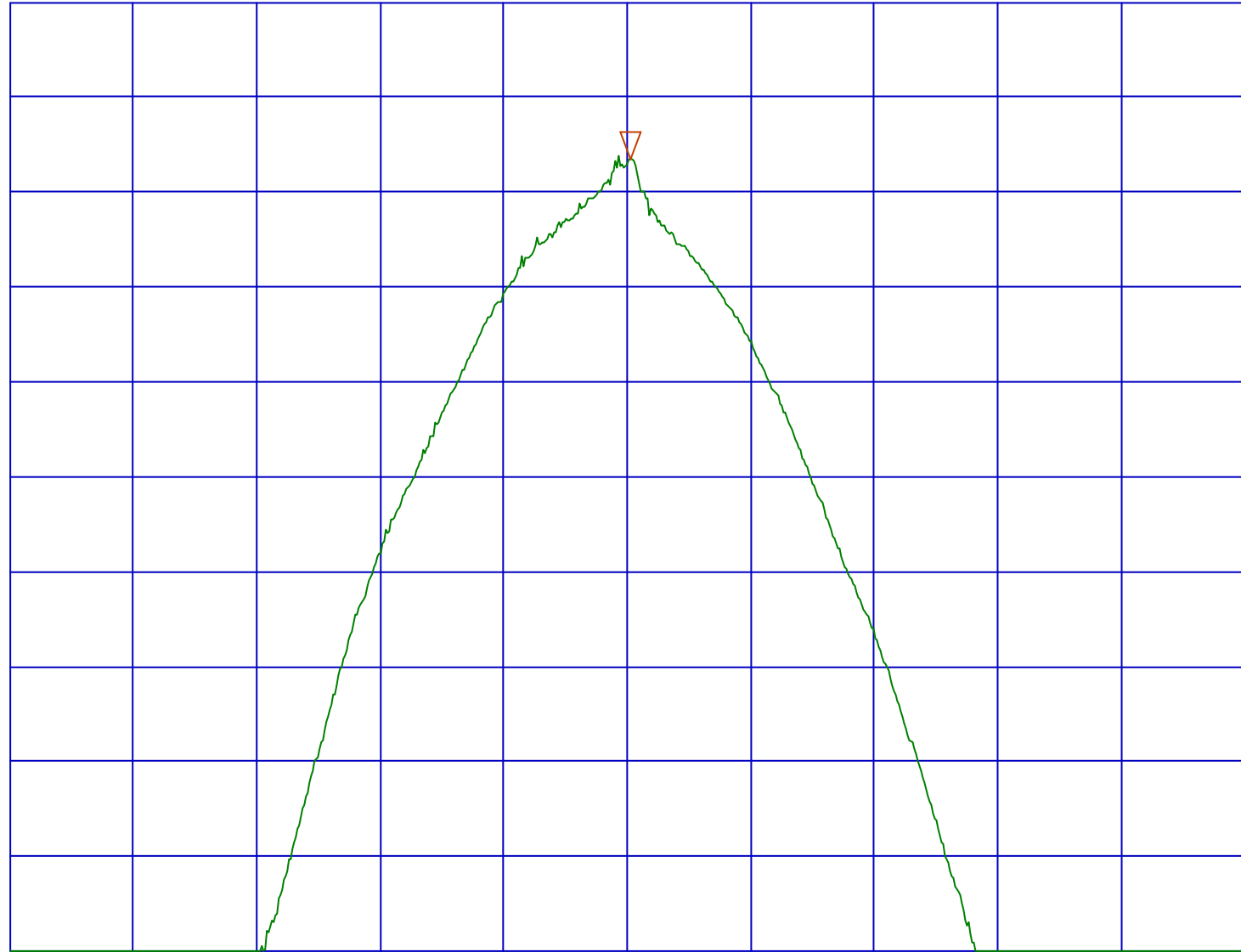
VBW 3MHz

STOP 2.449400GHz
SWP 50ms

SHARP/Model:UX-CL220K(Hand)/FCC ID:APYHR000023
15.247(b)(1)PK Out Power/Ch20(Ver)/Page A30
REF 122 dBuV ATT 30 dB

MAKER
2.4395 GHz
113.75 dBuV

5dB/



START 2.429400GHz
RBW 3MHz

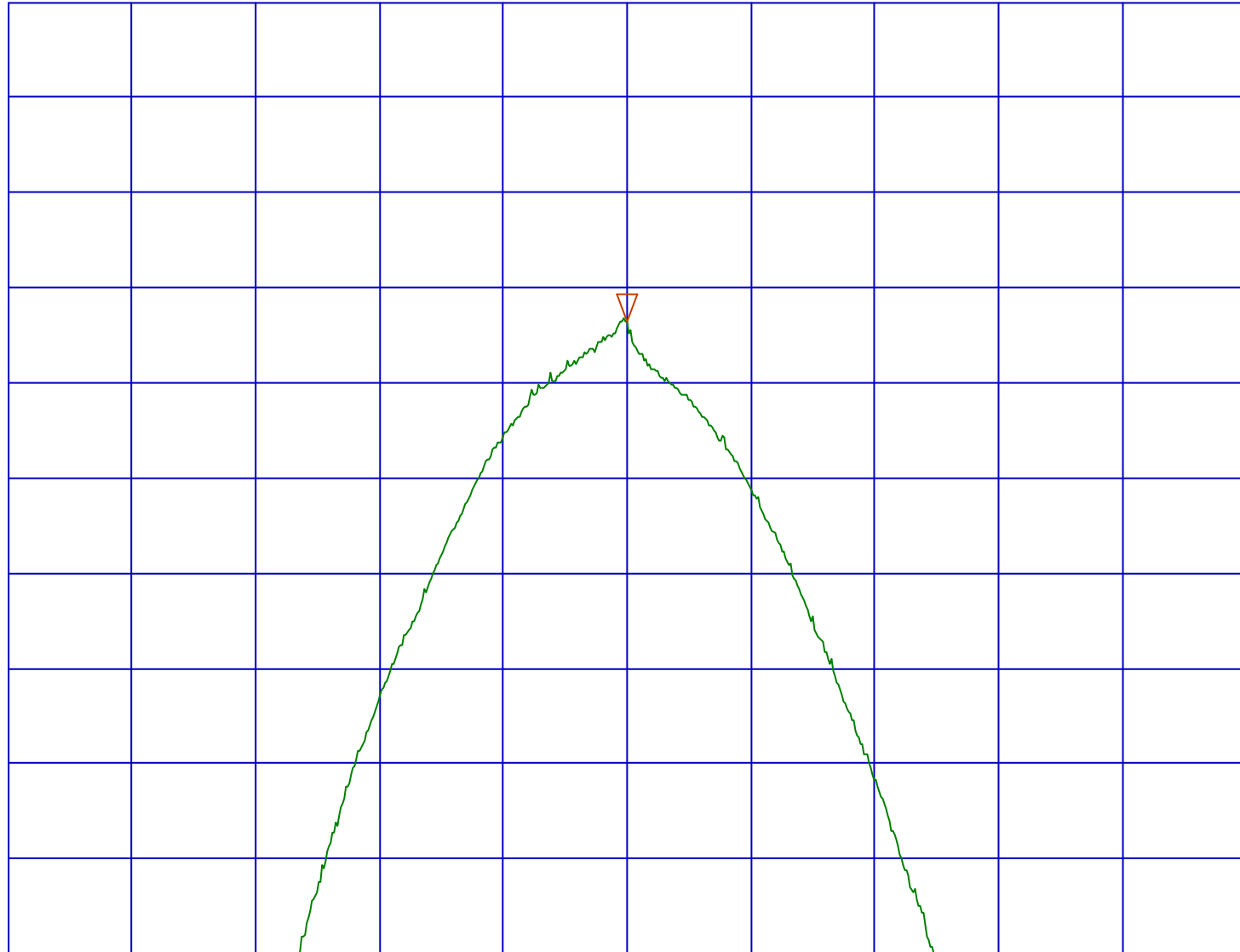
VBW 3MHz

STOP 2.449400GHz
SWP 50ms

SHARP/Model:UX-CL220K(Hand)/FCC ID:APYHR000023
15.247(b)(1)PK Out Power/Ch40(Hor)/Page A31
REF 122 dBuV ATT 30 dB

MAKER
2.4754 GHz
105.25 dBuV

5dB/



START 2.465430GHz
RBW 3MHz

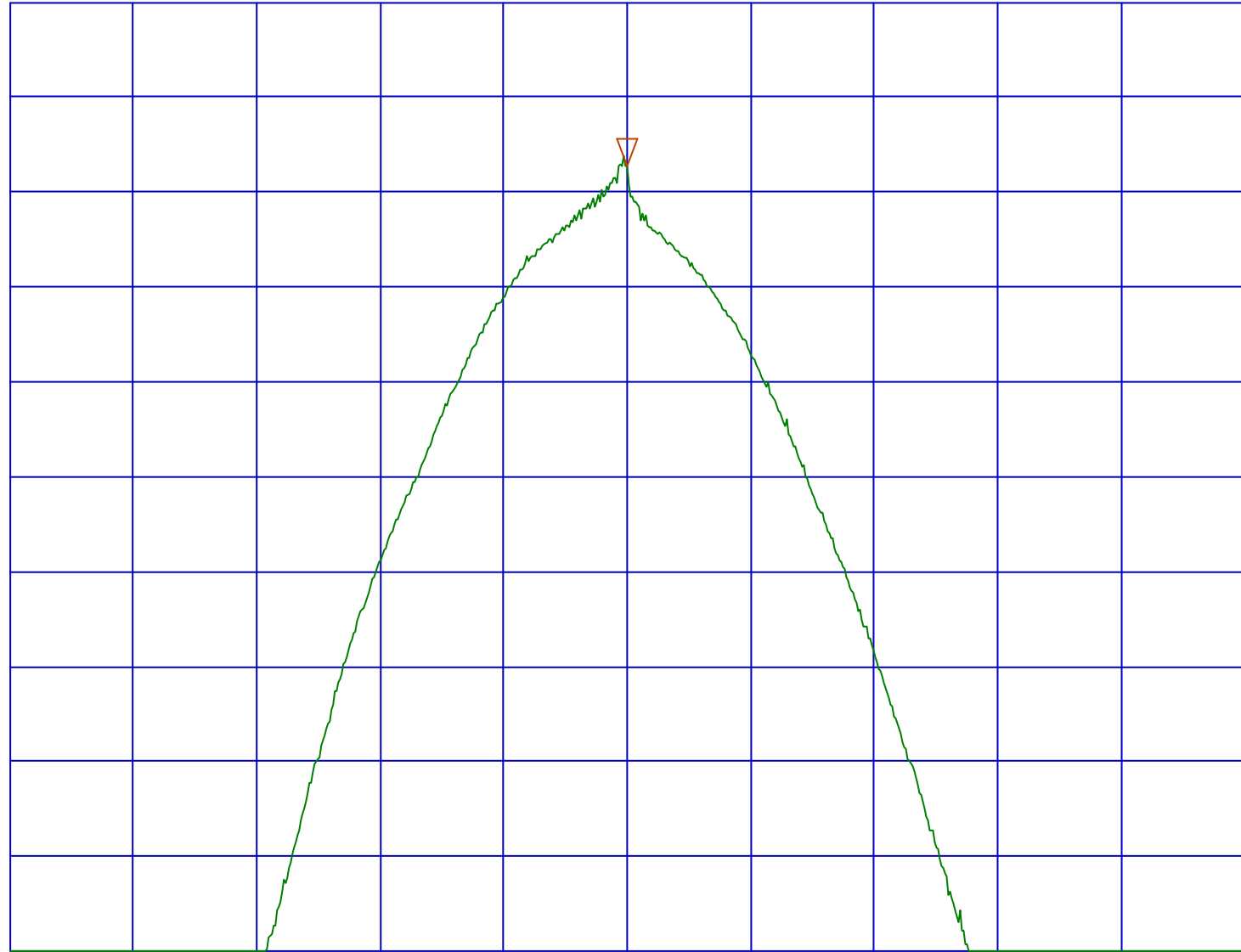
VBW 3MHz

STOP 2.485430GHz
SWP 50ms

SHARP/Model:UX-CL220K(Hand)/FCC ID:APYHR000023
15.247(b)(1)PK Out Power/Ch40(Ver)/Page A32
REF 122 dBuV ATT 30 dB

MAKER
2.4755 GHz
113.38 dBuV

5dB/



START 2.465460GHz
RBW 3MHz

VBW 3MHz

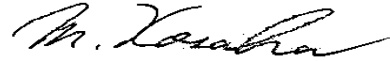
STOP 2.485460GHz
SWP 50ms

DATA OF SUPURIOUS EMISSIONS(30MHz to 1000MHz)

A-PEX INTERNATIONAL CO., LTD.
YOKOWA NO.3 OPEN SITE

COMPANY : SHARP Corporation
EQUIPMENT : Facsimile Equipmet
MODEL : UX-CL220
SAMPLE No. : No.3
FCC ID : APYHRO00023
POWER : AC120V/60Hz
Mode : Transmitting (ch1: 2404.8MHz)
Antenna angle of EUT: 90degrees

REPORT NO : 22DE0045-YW
REGULATION : Fcc Part15SubpartC 247 / 209
TEST DISTANCE : 3m
DATE : 2001/11/26
Temperature : 21degrees centigrade
Humidity : 40%



ENGINEER : Makoto Kosaka

QP DETECT(Test Receiver: BW 120kHz)

No.	FREQ [MHz]	READING		ANT Factor [dB]	ATTEN [dB]	CABLE LOSS [dB]	AMP GAIN [dB]	RESULT		LIMIT [dBuV/m]	MARGIN	
		HOR	VER					HOR	VER		HOR	VER
		[dBuV]										
1	32.260	23.8	30.8	17.1	6.0	1.0	28.1	19.8	26.8	40.0	20.2	13.2
2	48.390	25.1	25.8	11.5	6.0	1.3	28.1	15.8	16.5	40.0	24.2	23.5
3	64.520	43.4	38.2	6.8	5.9	1.4	27.9	29.6	24.4	40.0	10.4	15.6
4	72.580	50.7	47.8	6.2	5.9	1.6	27.9	36.5	33.6	40.0	3.5	6.4
5	88.710	39.9	39.8	7.6	5.9	1.8	27.9	27.3	27.2	43.5	16.2	16.3
6	96.780	35.8	34.8	9.4	5.9	1.9	27.9	25.1	24.1	43.5	18.4	19.4
7	129.020	35.5	32.1	13.7	5.9	2.2	27.8	29.5	26.1	43.5	14.0	17.4
8	145.170	40.3	34.3	14.3	5.9	2.3	27.8	35.0	29.0	43.5	8.5	14.5
9	153.240	40.8	34.5	14.6	5.9	2.4	27.8	35.9	29.6	43.5	7.6	13.9
10	161.300	40.3	34.8	14.9	5.9	2.5	27.8	35.8	30.3	43.5	7.7	13.2
11	193.560	37.1	30.6	16.2	5.9	2.8	27.8	34.2	27.7	43.5	9.3	15.8
12	201.620	37.0	31.6	16.4	5.9	2.8	27.8	34.3	28.9	43.5	9.2	14.6
13	209.680	36.1	31.8	16.4	5.9	2.9	27.8	33.5	29.2	43.5	10.0	14.3
14	233.870	39.3	34.2	16.5	5.9	3.1	27.7	37.1	32.0	46.0	8.9	14.0
15	322.570	46.1	40.4	14.5	5.8	3.6	27.6	42.4	36.7	46.0	3.6	9.3
16	336.000	41.0	33.6	14.6	5.8	3.7	27.6	37.5	30.1	46.0	8.5	15.9
17	403.220	34.5	33.5	15.5	5.8	4.2	27.5	32.5	31.5	46.0	13.5	14.5

REMARKS

ANTENNA TYPE: 30-300MHz Biconical / 300-1000MHz Logperiodic

CALCULATION(30MHz to 1000MHz) : READING + ANT Factor + ATTEN + Cable Loss - AMP Gain

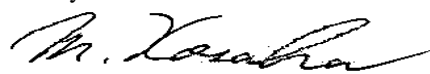
*Except for the above table : All other spurious emissions were less than 20dB for the limit.

DATA OF SUPURIOUS EMISSIONS(30MHz to 1000MHz)

A-PEX INTERNATIONAL CO., LTD.
YOKOWA NO.3 OPEN SITE

COMPANY : SHARP Corporation
EQUIPMENT : Facsimile Equipmet
MODEL : UX-CL220
SAMPLE No. : No.3
FCC ID : APYHRO00023
POWER : AC120V/60Hz
Mode : Transmitting (ch20: 2439MHz)
Antenna angle of EUT: 90degrees

REPORT NO : 22DE0045-YW
REGULATION : Fcc Part15SubpartC 247 / 209
TEST DISTANCE : 3m
DATE : 2001/11/26
Temperature : 21degrees centigrade
Humidity : 40%


ENGINEER : Makoto Kosaka

QP DETECT(Test Receiver: BW 120kHz)

No.	FREQ [MHz]	READING		ANT Factor [dB]	ATTEN [dB]	CABLE LOSS [dB]	AMP GAIN [dB]	RESULT		LIMIT [dBuV/m]	MARGIN	
		HOR	VER					HOR	VER		HOR	VER
		[dBuV]						[dBuV/m]			[dB]	[dB]
1	32.260	23.8	31.0	17.1	6.0	1.0	28.1	19.8	27.0	40.0	20.2	13.0
2	48.390	24.1	25.9	11.5	6.0	1.3	28.1	14.8	16.6	40.0	25.2	23.4
3	64.520	43.2	38.0	6.8	5.9	1.4	27.9	29.4	24.2	40.0	10.6	15.8
4	72.580	50.3	47.8	6.2	5.9	1.6	27.9	36.1	33.6	40.0	3.9	6.4
5	88.710	37.0	36.4	7.6	5.9	1.8	27.9	24.4	23.8	43.5	19.1	19.7
6	96.780	35.5	34.0	9.4	5.9	1.9	27.9	24.8	23.3	43.5	18.7	20.2
7	129.040	34.2	30.3	13.7	5.9	2.2	27.8	28.2	24.3	43.5	15.3	19.2
8	145.170	40.5	33.0	14.3	5.9	2.3	27.8	35.2	27.7	43.5	8.3	15.8
9	153.240	40.7	34.1	14.6	5.9	2.4	27.8	35.8	29.2	43.5	7.7	14.3
10	161.300	40.3	36.0	14.9	5.9	2.5	27.8	35.8	31.5	43.5	7.7	12.0
11	193.560	36.9	28.8	16.2	5.9	2.8	27.8	34.0	25.9	43.5	9.5	17.6
12	201.620	35.1	32.0	16.4	5.9	2.8	27.8	32.4	29.3	43.5	11.1	14.2
13	209.690	34.3	32.2	16.4	5.9	2.9	27.8	31.7	29.6	43.5	11.8	13.9
14	233.880	38.4	33.9	16.5	5.9	3.1	27.7	36.2	31.7	46.0	9.8	14.3
15	322.570	46.1	40.8	14.5	5.8	3.6	27.6	42.4	37.1	46.0	3.6	8.9
16	336.000	39.1	32.3	14.6	5.8	3.7	27.6	35.6	28.8	46.0	10.4	17.2
17	403.220	34.4	35.2	15.5	5.8	4.2	27.5	32.4	33.2	46.0	13.6	12.8

REMARKS

ANTENNA TYPE: 30-300MHz Biconical / 300-1000MHz Logperiodic

CALCULATION(30MHz to 1000MHz) : READING + ANT Factor + ATTEN + Cable Loss - AMP Gain

*Except for the above table : All other spurious emissions were less than 20dB for the limit.

DATA OF SUPURIOUS EMISSIONS(30MHz to 1000MHz)

A-PEX INTERNATIONAL CO., LTD.
YOKOWA NO.3 OPEN SITE

COMPANY : SHARP Corporation
EQUIPMENT : Facsimile Equipmet
MODEL : UX-CL220
SAMPLE No. : No.3
FCC ID : APYHRO00023
POWER : AC120V/60Hz
Mode : Transmitting (ch40: 2475MHz)
Antenna angle of EUT: 90degrees

REPORT NO : 22DE0045-YW
REGULATION : Fcc Part15SubpartC 247 / 209
TEST DISTANCE : 3m
DATE : 2001/11/26
Temperature : 21degrees centigrade
Humidity : 40%



ENGINEER : Makoto Kosaka

QP DETECT(Test Receiver: BW 120kHz)

No.	FREQ [MHz]	READING		ANT Factor [dB]	ATTEN [dB]	CABLE LOSS [dB]	AMP GAIN [dB]	RESULT		LIMIT [dBuV/m]	MARGIN	
		HOR	VER					HOR	VER		HOR	VER
		[dBuV]										
1	32.260	23.7	30.2	17.1	6.0	1.0	28.1	19.7	26.2	40.0	20.3	13.8
2	48.390	25.5	25.3	11.5	6.0	1.3	28.1	16.2	16.0	40.0	23.8	24.0
3	64.520	43.2	38.0	6.8	5.9	1.4	27.9	29.4	24.2	40.0	10.6	15.8
4	72.580	50.2	47.8	6.2	5.9	1.6	27.9	36.0	33.6	40.0	4.0	6.4
5	88.710	37.0	36.4	7.6	5.9	1.8	27.9	24.4	23.8	43.5	19.1	19.7
6	96.780	35.5	34.0	9.4	5.9	1.9	27.9	24.8	23.3	43.5	18.7	20.2
7	129.040	34.2	30.3	13.7	5.9	2.2	27.8	28.2	24.3	43.5	15.3	19.2
8	145.170	40.5	33.0	14.3	5.9	2.3	27.8	35.2	27.7	43.5	8.3	15.8
9	153.240	40.8	34.5	14.6	5.9	2.4	27.8	35.9	29.6	43.5	7.6	13.9
10	161.300	40.3	36.0	14.9	5.9	2.5	27.8	35.8	31.5	43.5	7.7	12.0
11	193.560	36.9	28.8	16.2	5.9	2.8	27.8	34.0	25.9	43.5	9.5	17.6
12	201.620	35.1	32.0	16.4	5.9	2.8	27.8	32.4	29.3	43.5	11.1	14.2
13	209.690	34.3	32.2	16.4	5.9	2.9	27.8	31.7	29.6	43.5	11.8	13.9
14	233.880	38.4	33.8	16.5	5.9	3.1	27.7	36.2	31.6	46.0	9.8	14.4
15	322.570	46.1	40.8	14.5	5.8	3.6	27.6	42.4	37.1	46.0	3.6	8.9
16	336.000	39.1	32.3	14.6	5.8	3.7	27.6	35.6	28.8	46.0	10.4	17.2
17	403.220	34.4	35.2	15.5	5.8	4.2	27.5	32.4	33.2	46.0	13.6	12.8

REMARKS

ANTENNA TYPE: 30-300MHz Biconical / 300-1000MHz Logperiodic

CALCULATION(30MHz to 1000MHz) : READING + ANT Factor + ATTEN + Cable Loss - AMP Gain

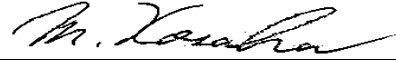
*Except for the above table : All other spurious emissions were less than 20dB for the limit.

DATA OF SUPURIOUS EMISSIONS(30MHz to 1000MHz)

A-PEX INTERNATIONAL CO., LTD.
YOKOWA NO.3 OPEN SITE

COMPANY : SHARP Corporation
EQUIPMENT : Cordless Handset
MODEL : UX-CL220K
SAMPLE No. : No.1
FCC ID : APYHRO00023
POWER : DC 3.6V
Mode : Transmitting (ch1: 2404.8MHz)
EUT position : X axis

REPORT NO : 22DE0045-YW
REGULATION : Fcc Part15SubpartC 247 / 209
TEST DISTANCE : 3m
DATE : 2001/12/4
Temperature : 20degrees centigrade
Humidity : 52%



ENGINEER : Makoto Kosaka

QP DETECT(Test Receiver: BW 120kHz)

No.	FREQ [MHz]	READING		ANT Factor [dB]	ATTEN [dB]	CABLE LOSS [dB]	AMP GAIN [dB]	RESULT		LIMIT [dBuV/m]	MARGIN	
		HOR	VER					HOR	VER		HOR	VER
		[dBuV]										
1	105.600	28.8	24.0	11.0	5.9	2.3	27.9	20.1	15.3	43.5	23.4	28.2
2	163.200	26.2	21.2	15.0	5.9	2.9	27.8	22.2	17.2	43.5	21.3	26.3
3	182.410	27.8	21.1	15.9	5.9	3.1	27.8	24.9	18.2	43.5	18.6	25.3
4	201.610	30.8	21.3	16.4	5.9	3.2	27.8	28.5	19.0	43.5	15.0	24.5
5	278.410	30.7	22.2	18.1	5.8	3.9	27.6	30.9	22.4	46.0	15.1	23.6
6	297.610	29.0	21.9	19.2	5.8	4.0	27.6	30.4	23.3	46.0	15.6	22.7
7	316.810	34.0	25.9	14.4	5.8	4.1	27.6	30.7	22.6	46.0	15.3	23.4
8	336.000	35.0	26.5	14.6	5.8	4.3	27.6	32.1	23.6	46.0	13.9	22.4
9	345.610	33.1	25.1	14.7	5.9	4.4	27.6	30.5	22.5	46.0	15.5	23.5
10	355.210	35.3	27.0	14.9	5.9	4.5	27.6	33.0	24.7	46.0	13.0	21.3
11	710.410	30.7	21.3	20.7	5.8	6.3	27.0	36.5	27.1	46.0	9.5	18.9
12	729.610	30.0	21.4	20.8	5.8	6.4	26.9	36.1	27.5	46.0	9.9	18.5

REMARKS

ANTENNA TYPE: 30-300MHz Biconical / 300-1000MHz Logperiodic

CALCULATION(30MHz to 1000MHz) : READING + ANT Factor + ATTEN + Cable Loss - AMP Gain

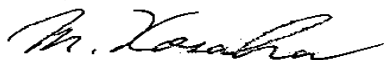
*Except for the above table : All other spurious emissions were less than 20dB for the limit.

DATA OF SUPURIOUS EMISSIONS(30MHz to 1000MHz)

A-PEX INTERNATIONAL CO., LTD.
YOKOWA NO.3 OPEN SITE

COMPANY : SHARP Corporation
EQUIPMENT : Cordless Handset
MODEL : UX-CL220K
SAMPLE No. : No.1
FCC ID : APYHRO00023
POWER : DC 3.6V
Mode : Transmitting (ch20: 2439.0MHz)
EUT position : X axis

REPORT NO : 22DE0045-YW
REGULATION : Fcc Part15SubpartC 247 / 209
TEST DISTANCE : 3m
DATE : 2001/12/4
Temperature : 20degrees centigrade
Humidity : 52%



ENGINEER : Makoto Kosaka

QP DETECT(Test Receiver: BW 120kHz)

No.	FREQ [MHz]	READING		ANT Factor [dB]	ATTEN [dB]	CABLE LOSS [dB]	AMP GAIN [dB]	RESULT		LIMIT [dBuV/m]	MARGIN	
		HOR	VER					HOR	VER		HOR	VER
		[dBuV]										
1	105.600	29.8	25.0	11.0	5.9	2.3	27.9	21.1	16.3	43.5	22.4	27.2
2	163.200	26.9	22.5	15.0	5.9	2.9	27.8	22.9	18.5	43.5	20.6	25.0
3	182.410	28.6	23.3	15.9	5.9	3.1	27.8	25.7	20.4	43.5	17.8	23.1
4	201.610	30.6	21.8	16.4	5.9	3.2	27.8	28.3	19.5	43.5	15.2	24.0
5	278.410	21.7	23.8	18.1	5.8	3.9	27.6	21.9	24.0	46.0	24.1	22.0
6	297.610	24.3	22.3	19.2	5.8	4.0	27.6	25.7	23.7	46.0	20.3	22.3
7	316.810	34.3	25.7	14.4	5.8	4.1	27.6	31.0	22.4	46.0	15.0	23.6
8	335.990	34.9	27.7	14.6	5.8	4.3	27.6	32.0	24.8	46.0	14.0	21.2
9	345.610	33.2	25.1	14.7	5.9	4.4	27.6	30.6	22.5	46.0	15.4	23.5
10	355.210	32.0	25.1	14.9	5.9	4.5	27.6	29.7	22.8	46.0	16.3	23.2
11	710.410	32.8	21.7	20.7	5.8	6.3	27.0	38.6	27.5	46.0	7.4	18.5
12	729.610	31.5	20.9	20.8	5.8	6.4	26.9	37.6	27.0	46.0	8.4	19.0

REMARKS

ANTENNA TYPE: 30-300MHz Biconical / 300-1000MHz Logperiodic

CALCULATION(30MHz to 1000MHz) : READING + ANT Factor + ATTEN + Cable Loss - AMP Gain


*Except for the above table : All other spurious emissions were less than 20dB for the limit.

DATA OF SUPURIOUS EMISSIONS(30MHz to 1000MHz)

A-PEX INTERNATIONAL CO., LTD.
YOKOWA NO.3 OPEN SITE

COMPANY : SHARP Corporation
EQUIPMENT : Cordless Handset
MODEL : UX-CL220K
SAMPLE No. : No.1
FCC ID : APYHRO00023
POWER : DC 3.6V
Mode : Transmitting (ch40: 2475.0MHz)
EUT position : X axis

REPORT NO : 22DE0045-YW
REGULATION : Fcc Part15SubpartC 247 / 209
TEST DISTANCE : 3m
DATE : 2001/12/4
Temperature : 20degrees centigrade
Humidity : 52%



ENGINEER : Makoto Kosaka

QP DETECT(Test Receiver: BW 120kHz)

No.	FREQ [MHz]	READING		ANT Factor [dB]	ATTEN [dB]	CABLE LOSS [dB]	AMP GAIN [dB]	RESULT		LIMIT [dBuV/m]	MARGIN	
		HOR	VER					HOR	VER		HOR	VER
		[dBuV]										
1	105.600	29.9	24.6	11.0	5.9	2.3	27.9	21.2	15.9	43.5	22.3	27.6
2	163.200	26.9	22.2	15.0	5.9	2.9	27.8	22.9	18.2	43.5	20.6	25.3
3	182.400	29.1	23.1	15.9	5.9	3.1	27.8	26.2	20.2	43.5	17.3	23.3
4	201.610	31.0	22.4	16.4	5.9	3.2	27.8	28.7	20.1	43.5	14.8	23.4
5	278.400	31.2	24.2	18.1	5.8	3.9	27.6	31.4	24.4	46.0	14.6	21.6
6	297.610	29.9	23.4	19.2	5.8	4.0	27.6	31.3	24.8	46.0	14.7	21.2
7	316.810	35.5	26.8	14.4	5.8	4.1	27.6	32.2	23.5	46.0	13.8	22.5
8	336.020	37.0	28.8	14.6	5.8	4.3	27.6	34.1	25.9	46.0	11.9	20.1
9	345.570	34.7	26.4	14.7	5.9	4.4	27.6	32.1	23.8	46.0	13.9	22.2
10	355.200	36.7	29.6	14.9	5.9	4.5	27.6	34.4	27.3	46.0	11.6	18.7
11	710.380	32.0	22.1	20.7	5.8	6.3	27.0	37.8	27.9	46.0	8.2	18.1
12	729.600	29.5	22.7	20.8	5.8	6.4	26.9	35.6	28.8	46.0	10.4	17.2

REMARKS

ANTENNA TYPE: 30-300MHz Biconical / 300-1000MHz Logperiodic

CALCULATION(30MHz to 1000MHz) : READING + ANT Factor + ATTEN + Cable Loss - AMP Gain

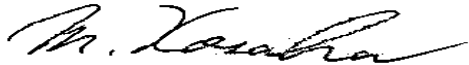
*Except for the above table : All other spurious emissions were less than 20dB for the limit.

DATA OF SUPURIOUS EMISSIONS(1GHz to 26GHz)

A-PEX INTERNATIONAL CO., LTD.
YOKOWA NO.3 OPEN SITE

COMPANY : SHARP Corporation
EQUIPMENT : Facsimile Equipmet
MODEL : UX-CL220
SAMPLE No. : No.3
FCC ID : APYHRO00023
POWER : AC120V/60Hz
Mode : Transmitting (ch1: 2404.8MHz)

REPORT NO : 22DE0045-YW
REGULATION : Fcc Part15SubpartC 247 / 209
TEST DISTANCE : 3m and 0.5m
DATE : 2001/11/23
Temperature : 25degrees centigrade
Humidity : 41%



PK DETECT(S/A : RBW 1MHz and VBW 1MHz) ENGINEER : Makoto Kosaka

No.	FREQ [GHz]	S/A READING		ANT Factor [dB]	AMP GAIN [dB]	CABLE LOSS [dB]	H-Pass Filter [dB]	Duty Factor [dB]	RESULT		Limit PK [dBuV/m]	MARGIN	
		HOR [dBuV]	VER [dBuV]						HOR [dB]	VER [dB]			
Test distance 3meters													
1	4.80964	45.4	46.6	35.4	34.5	7.7	1.0	6.6	48.4	49.6	74.0	25.6	24.4
2	7.21475	41.6	46.9	39.1	34.8	9.4	0.5	6.6	49.2	54.5	74.0	24.8	19.5
3	9.61938	37.6	38.7	39.3	35.0	10.9	0.5	6.6	46.7	47.8	74.0	27.3	26.2
Test distance 0.5meters													
4	12.02410	44.7	48.0	43.6	34.4	2.9	0.5	6.6	50.7	54.0	89.5	38.8	35.5
5	14.42890	41.8	42.0	42.1	33.1	3.1	0.6	6.6	47.9	48.1	89.5	41.6	41.4
6	16.83370	41.7	41.8	43.7	33.5	3.5	0.4	6.6	49.2	49.3	89.5	40.3	40.2
7	19.23850	44.5	43.7	38.0	33.2	3.9	0.8	6.6	47.4	46.6	89.5	42.1	42.9
8	21.64330	44.0	44.8	37.8	34.3	4.3	0.7	6.6	45.9	46.7	89.5	43.6	42.8
9	24.04810	46.5	46.3	39.6	33.8	5.0	0.7	6.6	51.4	51.2	89.5	38.1	38.3

AV DETECT(S/A : RBW 1MHz and VBW 10Hz)

No.	FREQ [GHz]	S/A READING		ANT Factor [dB]	AMP GAIN [dB]	CABLE LOSS [dB]	H-Pass Filter [dB]	Duty Factor [dB]	RESULT		Limit AV [dBuV/m]	MARGIN	
		HOR [dBuV]	VER [dBuV]						HOR [dB]	VER [dB]			
Test distance 3meters													
1	4.80964	41.2	43.8	35.4	34.5	7.7	1.0	6.6	44.2	46.8	54.0	9.8	7.2
2	7.21475	34.9	41.5	39.1	34.8	9.4	0.5	6.6	42.5	49.1	54.0	11.5	4.9
3	9.61927	26.8	27.2	39.3	35.0	10.9	0.5	6.6	35.9	36.3	54.0	18.1	17.7
Test distance 0.5meters													
4	12.02410	35.0	39.1	43.6	34.4	2.9	0.5	6.6	41.0	45.1	69.5	28.5	24.4
5	14.42890	31.0	31.0	42.1	33.1	3.1	0.6	6.6	37.1	37.1	69.5	32.4	32.4
6	16.83370	30.4	31.5	43.7	33.5	3.5	0.4	6.6	37.9	39.0	69.5	31.6	30.5
7	19.23850	32.9	33.7	38.0	33.2	3.9	0.8	6.6	35.8	36.6	69.5	33.7	32.9
8	21.64330	32.6	33.8	37.8	34.3	4.3	0.7	6.6	34.5	35.7	69.5	35.0	33.8
9	24.04810	34.3	34.6	39.6	33.8	5.0	0.7	6.6	39.2	39.5	69.5	30.3	30.0

Sample Calculation :

RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + High Pass Filter - Duty Factor.

*Except for the above table : All other spurious emissions were less than 20dB for the limit.

* Test Distance 0.5m, 0.5m Limit = 3m Limit + 20log(3/0.5)

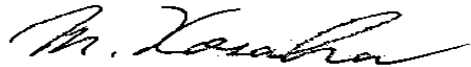
* Duty factor =20log (Tduty / Tcycle) =20log (940*10⁻⁶ / 2*10⁻³) = -6.558

DATA OF SUPURIOUS EMISSIONS(1GHz to 26GHz)

A-PEX INTERNATIONAL CO., LTD.
YOKOWA NO.3 OPEN SITE

COMPANY : SHARP Corporation
EQUIPMENT : Facsimile Equipmet
MODEL : UX-CL220
SAMPLE No. : No.3
FCC ID : APYHRO00023
POWER : AC120V/60Hz
Mode : Transmitting (ch20: 2439MHz)

REPORT NO : 22DE0045-YW
REGULATION : Fcc Part15SubpartC 247 / 209
TEST DISTANCE : 3m and 0.5m
DATE : 2001/11/23
Temperature : 25degrees centigrade
Humidity : 41%



PK DETECT(S/A : RBW 1MHz and VBW 1MHz)

ENGINEER : Makoto Kosaka

No.	FREQ [GHz]	S/A READING		ANT Factor [dB]	AMP GAIN [dB]	CABLE LOSS [dB]	H-Pass Filter [dB]	Duty Factor [dB]	RESULT		Limit PK [dBuV/m]	MARGIN	
		HOR [dBuV]	VER [dBuV]						HOR [dBuV/m]	VER [dBuV/m]		HOR [dB]	VER [dB]
Test distance 3meters													
1	4.87804	46.1	46.6	35.4	34.5	7.8	1.0	6.6	49.2	49.7	74.0	24.8	24.3
2	7.31655	41.9	46.3	39.1	34.8	9.5	0.5	6.6	49.6	54.0	74.0	24.4	20.0
3	9.75607	37.7	37.6	39.3	35.0	11.0	0.5	6.6	46.9	46.8	74.0	27.1	27.2
Test distance 0.5meters													
4	12.19510	44.5	50.3	43.6	34.4	3.0	0.5	6.6	50.6	56.4	89.5	38.9	33.1
5	14.63410	43.1	41.6	42.1	33.1	3.2	0.6	6.6	49.3	47.8	89.5	40.2	41.7
6	17.07310	41.6	41.8	43.7	33.5	3.5	0.4	6.6	49.1	49.3	89.5	40.4	40.2
7	19.51210	42.7	43.5	38.0	33.2	3.9	0.8	6.6	45.6	46.4	89.5	43.9	43.1
8	21.95110	43.9	44.2	37.8	34.3	4.3	0.7	6.6	45.8	46.1	89.5	43.7	43.4
9	24.39010	46.5	46.3	39.6	33.8	4.8	0.7	6.6	51.2	51.0	89.5	38.3	38.5

AV DETECT(S/A : RBW 1MHz and VBW 10Hz)

No.	FREQ [GHz]	S/A READING		ANT Factor [dB]	AMP GAIN [dB]	CABLE LOSS [dB]	H-Pass Filter [dB]	Duty Factor [dB]	RESULT		Limit AV [dBuV/m]	MARGIN	
		HOR [dBuV]	VER [dBuV]						HOR [dBuV/m]	VER [dBuV/m]		HOR [dB]	VER [dB]
Test distance 3meters													
1	4.87804	43.3	42.2	35.4	34.5	7.8	1.0	6.6	46.4	45.3	54.0	7.6	8.7
2	7.31655	35.9	40.5	39.1	34.8	9.5	0.5	6.6	43.6	48.2	54.0	10.4	5.8
3	9.75607	26.6	26.8	39.3	35.0	11.0	0.5	6.6	35.8	36.0	54.0	18.2	18.0
Test distance 0.5meters													
4	12.19510	33.0	38.3	43.6	34.4	3.0	0.5	6.6	39.1	44.4	69.5	30.4	25.1
5	14.63410	32.2	31.2	42.1	33.1	3.2	0.6	6.6	38.4	37.4	69.5	31.1	32.1
6	17.07310	31.2	31.2	43.7	33.5	3.5	0.4	6.6	38.7	38.7	69.5	30.8	30.8
7	19.51210	32.5	33.5	38.0	33.2	3.9	0.8	6.6	35.4	36.4	69.5	34.1	33.1
8	21.95110	33.1	33.8	37.8	34.3	4.3	0.7	6.6	35.0	35.7	69.5	34.5	33.8
9	24.39010	34.8	34.6	39.6	33.8	4.8	0.7	6.6	39.5	39.3	69.5	30.0	30.2

Sample Calculation :

RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + High Pass Filter - Duty Factor.

*Except for the above table : All other spurrious emissions were less than 20dB for the limit.

* Test Distance 0.5m, 0.5m Limit = 3m Limit + 20log(3/0.5)

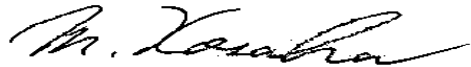
* Duty factor =20log (Tduty / Tcycle) =20log (940*10⁻⁶ / 2*10⁻³) = -6.558

DATA OF SUPURIOUS EMISSIONS(1GHz to 26GHz)

A-PEX INTERNATIONAL CO., LTD.
YOKOWA NO.3 OPEN SITE

COMPANY : SHARP Corporation
EQUIPMENT : Facsimile Equipmet
MODEL : UX-CL220
SAMPLE No. : No.3
FCC ID : APYHRO00023
POWER : AC120V/60Hz
Mode : Transmitting (ch40: 2475MHz)

REPORT NO : 22DE0045-YW
REGULATION : Fcc Part15SubpartC 247 / 209
TEST DISTANCE : 3m and 0.5m
DATE : 2001/11/23
Temperature : 25degrees centigrade
Humidity : 41%



PK DETECT(S/A : RBW 1MHz and VBW 1MHz)

ENGINEER : Makoto Kosaka

No.	FREQ [GHz]	S/A READING		ANT Factor [dB]	AMP GAIN [dB]	CABLE LOSS [dB]	H-Pass Filter [dB]	Duty Factor [dB]	RESULT		Limit PK [dBuV/m]	MARGIN	
		HOR [dBuV]	VER [dBuV]						HOR [dB]	VER [dB]			
Test distance 3meters													
1	4.95004	48.8	47.3	35.4	34.5	7.9	1.0	6.6	52.0	50.5	74.0	22.0	23.5
2	7.42511	45.3	45.0	39.1	34.8	9.5	0.5	6.6	53.0	52.7	74.0	21.0	21.3
3	9.90009	37.6	38.0	39.3	35.0	11.1	0.5	6.6	46.9	47.3	74.0	27.1	26.7
Test distance 0.5meters													
4	12.37459	44.1	47.4	43.6	34.4	3.0	0.5	6.6	50.2	53.5	89.5	39.3	36.0
5	14.85010	41.5	42.6	42.1	33.1	3.3	0.6	6.6	47.8	48.9	89.5	41.7	40.6
6	17.32510	43.4	42.8	43.7	33.5	3.5	0.4	6.6	50.9	50.3	89.5	38.6	39.2
7	19.80010	43.8	43.5	38.0	33.2	3.9	0.8	6.6	46.7	46.4	89.5	42.8	43.1
8	22.27510	44.0	44.3	37.8	34.3	4.4	0.7	6.6	46.0	46.3	89.5	43.5	43.2
9	24.75010	46.4	46.3	39.6	33.8	4.7	0.7	6.6	51.0	50.9	89.5	38.5	38.6

AV DETECT(S/A : RBW 1MHz and VBW 10Hz)

No.	FREQ [GHz]	S/A READING		ANT Factor [dB]	AMP GAIN [dB]	CABLE LOSS [dB]	H-Pass Filter [dB]	Duty Factor [dB]	RESULT		Limit AV [dBuV/m]	MARGIN	
		HOR [dBuV]	VER [dBuV]						HOR [dB]	VER [dB]			
Test distance 3meters													
1	4.95004	45.1	42.3	35.4	34.5	7.9	1.0	6.6	48.3	45.5	54.0	5.7	8.5
2	7.42511	38.2	37.6	39.1	34.8	9.5	0.5	6.6	45.9	45.3	54.0	8.1	8.7
3	9.90009	26.3	26.9	39.3	35.0	11.1	0.5	6.6	35.6	36.2	54.0	18.4	17.8
Test distance 0.5meters													
4	12.37459	33.2	39.0	43.6	34.4	3.0	0.5	6.6	39.3	45.1	69.5	30.2	24.4
5	14.85010	32.1	32.0	42.1	33.1	3.3	0.6	6.6	38.4	38.3	69.5	31.1	31.2
6	17.32510	31.5	31.5	43.7	33.5	3.5	0.4	6.6	39.0	39.0	69.5	30.5	30.5
7	19.80010	33.0	33.6	38.0	33.2	3.9	0.8	6.6	35.9	36.5	69.5	33.6	33.0
8	22.27510	32.0	33.4	37.8	34.3	4.4	0.7	6.6	34.0	35.4	69.5	35.5	34.1
9	24.75010	35.0	34.6	39.6	33.8	4.7	0.7	6.6	39.6	39.2	69.5	29.9	30.3

Sample Calculation :

RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + High Pass Filter - Duty Factor.

*Except for the above table : All other spurious emissions were less than 20dB for the limit.

* Test Distance 0.5m, 0.5m Limit = 3m Limit + 20log(3/0.5)

* Duty factor =20log (Tduty / Tcycle) =20log (940*10⁻⁶ / 2*10⁻³) = -6.558

DATA OF SUPURIOUS EMISSIONS(1GHz to 26GHz)

A-PEX INTERNATIONAL CO., LTD.
YOKOWA NO.3 OPEN SITE

COMPANY : SHARP Corporation
EQUIPMENT : Cordless Handset
MODEL : UX-CL220K
SAMPLE No. : No.1
FCC ID : APYHRO00023
POWER : DC 3.6V
Mode : Transmitting (ch1: 2404.8MHz)

REPORT NO : 22DE0045-YW
REGULATION : Fcc Part15SubpartC 247 / 209
TEST DISTANCE : 3m and 0.5m
DATE : 2001/11/23
Temperature : 25degrees centigrade
Humidity : 41%



PK DETECT(S/A : RBW 1MHz and VBW 1MHz)

ENGINEER : Makoto Kosaka

No.	FREQ [GHz]	S/A READING		ANT Factor [dB]	AMP GAIN [dB]	CABLE LOSS [dB]	H-Pass Filter [dB]	Duty Factor [dB]	RESULT		Limit PK [dBuV/m]	MARGIN	
		HOR [dBuV]	VER [dBuV]						HOR [dBuV/m]	VER [dBuV/m]		HOR [dB]	VER [dB]
Test distance 3meters													
1	4.80964	47.9	49.7	35.4	34.5	7.7	1.0	6.6	50.9	52.7	74.0	23.1	21.3
2	7.21475	44.1	44.5	39.1	34.8	9.4	0.5	6.6	51.7	52.1	74.0	22.3	21.9
3	9.61938	39.1	37.6	39.3	35.0	10.9	0.5	6.6	48.3	46.8	74.0	25.7	27.2
Test distance 0.5meters													
4	12.02404	44.7	48.0	43.6	34.4	2.9	0.5	6.6	50.7	54.0	89.5	38.8	35.5
5	14.42896	41.8	42.0	42.1	33.1	3.1	0.6	6.6	47.9	48.1	89.5	41.6	41.4
6	16.83375	41.7	41.8	43.7	33.5	3.5	0.4	6.6	49.2	49.3	89.5	40.3	40.2
7	19.23855	44.5	43.7	38.0	33.2	3.9	0.8	6.6	47.4	46.6	89.5	42.1	42.9
8	21.64350	44.0	44.8	37.8	34.3	4.3	0.7	6.6	45.9	46.7	89.5	43.6	42.8
9	24.04830	46.5	46.3	39.6	33.8	5.0	0.7	6.6	51.4	51.2	89.5	38.1	38.3

AV DETECT(S/A : RBW 1MHz and VBW 10Hz)

No.	FREQ [GHz]	S/A READING		ANT Factor [dB]	AMP GAIN [dB]	CABLE LOSS [dB]	H-Pass Filter [dB]	Duty Factor [dB]	RESULT		Limit AV [dBuV/m]	MARGIN	
		HOR [dBuV]	VER [dBuV]						HOR [dBuV/m]	VER [dBuV/m]		HOR [dB]	VER [dB]
Test distance 3meters													
1	4.80964	44.8	47.1	35.4	34.5	7.7	1.0	6.6	47.9	50.1	54.0	6.1	3.9
2	7.21475	37.6	39.3	39.1	34.8	9.4	0.5	6.6	45.2	46.9	54.0	8.8	7.1
3	9.61927	30.1	27.9	39.3	35.0	10.9	0.5	6.6	39.3	37.0	54.0	14.7	17.0
Test distance 0.5meters													
4	12.02404	35.0	39.1	43.6	34.4	2.9	0.5	6.6	41.0	45.1	69.5	28.5	24.4
5	14.42896	31.0	31.0	42.1	33.1	3.1	0.6	6.6	37.1	37.1	69.5	32.4	32.4
6	16.83375	30.4	31.5	43.7	33.5	3.5	0.4	6.6	37.9	39.0	69.5	31.6	30.5
7	19.23855	32.9	33.7	38.0	33.2	3.9	0.8	6.6	35.8	36.6	69.5	33.7	32.9
8	21.64350	32.6	33.8	37.8	34.3	4.3	0.7	6.6	34.5	35.7	69.5	35.0	33.8
9	24.04830	34.3	34.6	39.6	33.8	5.0	0.7	6.6	39.2	39.5	69.5	30.3	30.0

Sample Calculation :

RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + High Pass Filter - Duty Factor.

*Except for the above table : All other spurious emissions were less than 20dB for the limit.

* Test Distance 0.5m, 0.5m Limit = 3m Limit + 20log(3/0.5)

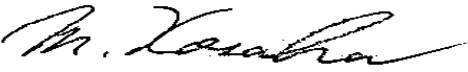
* Duty factor =20log (Tduty / Tcycle) =20log (940*10⁻⁶ / 2*10⁻³) = -6.558

DATA OF SUPURIOUS EMISSIONS(1GHz to 26GHz)

A-PEX INTERNATIONAL CO., LTD.
YOKOWA NO.3 OPEN SITE

COMPANY : SHARP Corporation
EQUIPMENT : Cordless Handset
MODEL : UX-CL220K
SAMPLE No. : No.1
FCC ID : APYHRO00023
POWER : AC120V/60Hz
Mode : Transmitting (ch20: 2439MHz)

REPORT NO : 22DE0045-YW
REGULATION : Fcc Part15SubpartC 247 / 209
TEST DISTANCE : 3m and 0.5m
DATE : 2001/11/23
Temperature : 25degrees centigrade
Humidity : 41%



PK DETECT(S/A : RBW 1MHz and VBW 1MHz)

ENGINEER : Makoto Kosaka

No.	FREQ [GHz]	S/A READING		ANT Factor [dB]	AMP GAIN [dB]	CABLE LOSS [dB]	H-Pass Filter [dB]	Duty Factor [dB]	RESULT		Limit PK [dBuV/m]	MARGIN	
		HOR [dBuV]	VER [dBuV]						HOR [dBuV/m]	VER [dBuV/m]		HOR [dB]	VER [dB]
Test distance 3meters													
1	4.87806	49.5	50.7	35.4	34.5	7.8	1.0	6.6	52.7	53.9	74.0	21.3	20.1
2	7.31708	43.7	43.7	39.1	34.8	9.5	0.5	6.6	51.5	51.5	74.0	22.5	22.5
3	9.75607	38.5	38.4	39.3	35.0	11.0	0.5	6.6	47.7	47.7	74.0	26.3	26.3
Test distance 0.5meters													
4	12.19514	44.5	50.3	43.6	34.4	3.0	0.5	6.6	50.6	56.4	89.5	38.9	33.1
5	14.63417	43.1	41.6	42.1	33.1	3.2	0.6	6.6	49.3	47.8	89.5	40.2	41.7
6	17.07317	41.6	41.8	43.7	33.5	3.5	0.4	6.6	49.1	49.3	89.5	40.4	40.2
7	19.51244	42.7	43.5	38.0	33.2	3.9	0.8	6.6	45.6	46.4	89.5	43.9	43.1
8	21.95100	43.9	44.2	37.8	34.3	4.3	0.7	6.6	45.8	46.1	89.5	43.7	43.4
9	24.39000	46.5	46.3	39.6	33.8	4.8	0.7	6.6	51.2	51.0	89.5	38.3	38.5

AV DETECT(S/A : RBW 1MHz and VBW 10Hz)

No.	FREQ [GHz]	S/A READING		ANT Factor [dB]	AMP GAIN [dB]	CABLE LOSS [dB]	H-Pass Filter [dB]	Duty Factor [dB]	RESULT		Limit AV [dBuV/m]	MARGIN	
		HOR [dBuV]	VER [dBuV]						HOR [dBuV/m]	VER [dBuV/m]		HOR [dB]	VER [dB]
Test distance 3meters													
1	4.87806	46.1	46.6	35.4	34.5	7.8	1.0	6.6	49.2	49.8	54.0	4.8	4.2
2	7.31708	37.6	37.7	39.1	34.8	9.5	0.5	6.6	45.4	45.5	54.0	8.6	8.5
3	9.75607	28.7	27.1	39.3	35.0	11.0	0.5	6.6	37.9	36.3	54.0	16.1	17.7
Test distance 0.5meters													
4	12.19514	33.0	38.3	43.6	34.4	3.0	0.5	6.6	39.1	44.4	69.5	30.4	25.1
5	14.63417	32.2	31.2	42.1	33.1	3.2	0.6	6.6	38.4	37.4	69.5	31.1	32.1
6	17.07317	31.2	31.2	43.7	33.5	3.5	0.4	6.6	38.7	38.7	69.5	30.8	30.8
7	19.51244	32.5	33.5	38.0	33.2	3.9	0.8	6.6	35.4	36.4	69.5	34.1	33.1
8	21.95100	33.1	33.8	37.8	34.3	4.3	0.7	6.6	35.0	35.7	69.5	34.5	33.8
9	24.39000	34.8	34.6	39.6	33.8	4.8	0.7	6.6	39.5	39.3	69.5	30.0	30.2

Sample Calculation :

RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + High Pass Filter - Duty Factor.

*Except for the above table : All other spurious emissions were less than 20dB for the limit.

* Test Distance 0.5m, 0.5m Limit = 3m Limit + 20log(3/0.5)

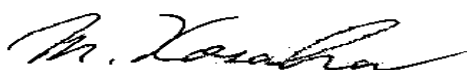
* Duty factor =20log (Tduty / Tcycle) =20log (940*10⁻⁶ / 2*10⁻³) = -6.558

DATA OF SUPURIOUS EMISSIONS(1GHz to 26GHz)

A-PEX INTERNATIONAL CO., LTD.
YOKOWA NO.3 OPEN SITE

COMPANY : SHARP Corporation
EQUIPMENT : Cordless Handset
MODEL : UX-CL220K
SAMPLE No. : No.1
FCC ID : APYHRO00023
POWER : AC120V/60Hz
Mode : Transmitting (ch40: 2475MHz)

REPORT NO : 22DE0045-YW
REGULATION : Fcc Part15SubpartC 247 / 209
TEST DISTANCE : 3m and 0.5m
DATE : 2001/11/23
Temperature : 25degrees centigrade
Humidity : 41%



PK DETECT(S/A : RBW 1MHz and VBW 1MHz) ENGINEER : Makoto Kosaka

No.	FREQ [GHz]	S/A READING		ANT Factor [dB]	AMP GAIN [dB]	CABLE LOSS [dB]	H-Pass Filter [dB]	Duty Factor [dB]	RESULT		Limit PK [dBuV/m]	MARGIN	
		HOR [dBuV]	VER [dBuV]						HOR [dB]	VER [dB]			
Test distance 3meters													
1	4.95009	46.9	48.4	35.4	34.5	7.9	1.0	6.6	50.1	51.7	74.0	23.9	22.3
2	7.42506	45.5	43.9	39.1	34.8	9.5	0.5	6.6	53.2	51.6	74.0	20.8	22.4
3	9.00187	38.8	37.6	39.3	35.0	11.1	0.5	6.6	48.2	46.9	74.0	25.8	27.1
Test distance 0.5meters													
4	12.37512	44.1	47.4	43.6	34.4	3.0	0.5	6.6	50.2	53.5	89.5	39.3	36.0
5	14.85014	41.5	42.6	42.1	33.1	3.3	0.6	6.6	47.8	48.9	89.5	41.7	40.6
6	17.32511	43.4	42.8	43.7	33.5	3.5	0.4	6.6	50.9	50.3	89.5	38.6	39.2
7	19.80008	43.8	43.5	38.0	33.2	3.9	0.8	6.6	46.7	46.4	89.5	42.8	43.1
8	22.27508	44.0	44.3	37.8	34.3	4.4	0.7	6.6	46.0	46.3	89.5	43.5	43.2
9	24.75008	46.4	46.3	39.6	33.8	4.7	0.7	6.6	51.0	50.9	89.5	38.5	38.6

AV DETECT(S/A : RBW 1MHz and VBW 10Hz)

No.	FREQ [GHz]	S/A READING		ANT Factor [dB]	AMP GAIN [dB]	CABLE LOSS [dB]	H-Pass Filter [dB]	Duty Factor [dB]	RESULT		Limit AV [dBuV/m]	MARGIN	
		HOR [dBuV]	VER [dBuV]						HOR [dB]	VER [dB]			
Test distance 3meters													
1	4.95009	43.8	45.1	35.4	34.5	7.9	1.0	6.6	47.0	48.3	54.0	7.0	5.7
2	7.42506	41.9	38.7	39.1	34.8	9.5	0.5	6.6	49.6	46.5	54.0	4.4	7.5
3	9.00187	29.2	27.7	39.3	35.0	11.1	0.5	6.6	38.6	37.0	54.0	15.4	17.0
Test distance 0.5meters													
4	12.37512	33.2	39.0	43.6	34.4	3.0	0.5	6.6	39.3	45.1	69.5	30.2	24.4
5	14.85014	32.1	32.0	42.1	33.1	3.3	0.6	6.6	38.4	38.3	69.5	31.1	31.2
6	17.32511	31.5	31.5	43.7	33.5	3.5	0.4	6.6	39.0	39.0	69.5	30.5	30.5
7	19.80008	33.0	33.6	38.0	33.2	3.9	0.8	6.6	35.9	36.5	69.5	33.6	33.0
8	22.27508	32.0	33.4	37.8	34.3	4.4	0.7	6.6	34.0	35.4	69.5	35.5	34.1
9	24.75008	35.0	34.6	39.6	33.8	4.7	0.7	6.6	39.6	39.2	69.5	29.9	30.3

Sample Calculation :

RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + High Pass Filter - Duty Factor.

*Except for the above table : All other spurious emissions were less than 20dB for the limit.

* Test Distance 0.5m, 0.5m Limit = 3m Limit + 20log(3/0.5)

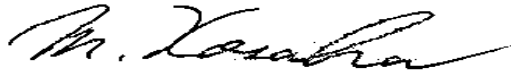
* Duty factor =20log (Tduty / Tcycle) =20log (940*10⁻⁶ / 2*10⁻³) = -6.558

Restricted Band Edges(Radiated)

A-PEX INTERNATIONAL CO., LTD.
YOKOWA NO.3 OPEN SITE

COMPANY : SHARP Corporation
EQUIPMENT : Facsimile Equipmet
MODEL : UX-CL220
SAMPLE No. : No.3
FCC ID : APYHRO00023
POWER : AC120V/60Hz
Mode : Transmitting

REPORT NO : 22DE0045-YW
REGULATION : Fcc Part15SubpartC 247 / 209
TEST DISTANCE : 3m
DATE : 2001/11/17
Temperature : 19degrees centigrade
Humidity : 40%



ENGINEER : Makoto Kosaka

PK DETECT(S/A : RBW 1MHz and VBW 1MHz)

No.	FREQ [GHz]	S/A READING		ANT Factor [dB]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN [dB]	RESULT		Limit PK [dBuV/m]	MARGIN	
		HOR [dBuV]	VER [dBuV]					HOR [dBuV/m]	VER [dBuV/m]		HOR [dB]	VER [dB]
Ch1	2.3900	42.8	43.8	31.3	34.5	2.9	0.0	42.5	43.5	74.0	31.6	30.6
Ch40	2.4835	47.1	44.0	31.6	34.5	3.0	0.0	47.2	44.1	74.0	26.8	29.9

AV DETECT(S/A : RBW 1MHz and VBW 10Hz)

No.	FREQ [GHz]	S/A READING		ANT Factor [dB]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN [dB]	RESULT		Limit AV [dBuV/m]	MARGIN	
		HOR [dBuV]	VER [dBuV]					HOR [dBuV/m]	VER [dBuV/m]		HOR [dB]	VER [dB]
Ch1	2.3900	32.8	32.8	31.3	34.5	2.9	0.0	32.5	32.5	54.0	21.6	21.6
Ch40	2.4835	34.9	34.3	31.6	34.5	3.0	0.0	35.0	34.4	54.0	19.0	19.7

Sample Calculation :

RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS

*1 : 2404.8MHz Transmitting

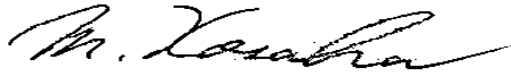
2 : 2475MHz Transmitting

Restricted Band Edges(Radiated)

A-PEX INTERNATIONAL CO., LTD.
YOKOWA NO.3 OPEN SITE

COMPANY : SHARP Corporation
EQUIPMENT : Cordless Handset
MODEL : UX-CL220K
SAMPLE No. : No.1
FCC ID : APYHRO00023
POWER : DC 3.6V
Mode : Transmitting

REPORT NO : 22DE0045-YW
REGULATION : Fcc Part15SubpartC 247 / 209
TEST DISTANCE : 3m
DATE : 2001/11/16
Temperature : 20degrees centigrade
Humidity : 43%



ENGINEER : Makoto Kosaka

PK DETECT(S/A : RBW 1MHz and VBW 1MHz)

No.	FREQ [GHz]	S/A READING		ANT Factor [dB]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN [dB]	RESULT		Limit PK [dBV/m]	MARGIN	
		HOR [dBuV]	VER [dBuV]					HOR [dBuV/m]	VER [dBuV/m]		HOR [dB]	VER [dB]
Ch1	2.3900	39.8	41.8	31.3	34.5	2.9	0.0	39.5	41.5	74.0	34.6	32.6
Ch40	2.4835	40.8	41.0	31.6	34.5	3.0	0.0	40.9	41.1	74.0	33.2	32.9

AV DETECT(S/A : RBW 1MHz and VBW 10Hz)

No.	FREQ [GHz]	S/A READING		ANT Factor [dB]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN [dB]	RESULT		Limit AV [dBuV/m]	MARGIN	
		HOR [dBuV]	VER [dBuV]					HOR [dBuV/m]	VER [dBuV/m]		HOR [dB]	VER [dB]
Ch1	2.3900	29.8	32.3	31.3	34.5	2.9	0.0	29.5	32.0	54.0	24.6	22.1
Ch40	2.4835	29.5	30.8	31.6	34.5	3.0	0.0	29.6	30.9	54.0	24.4	23.2

Sample Calculation :

RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS

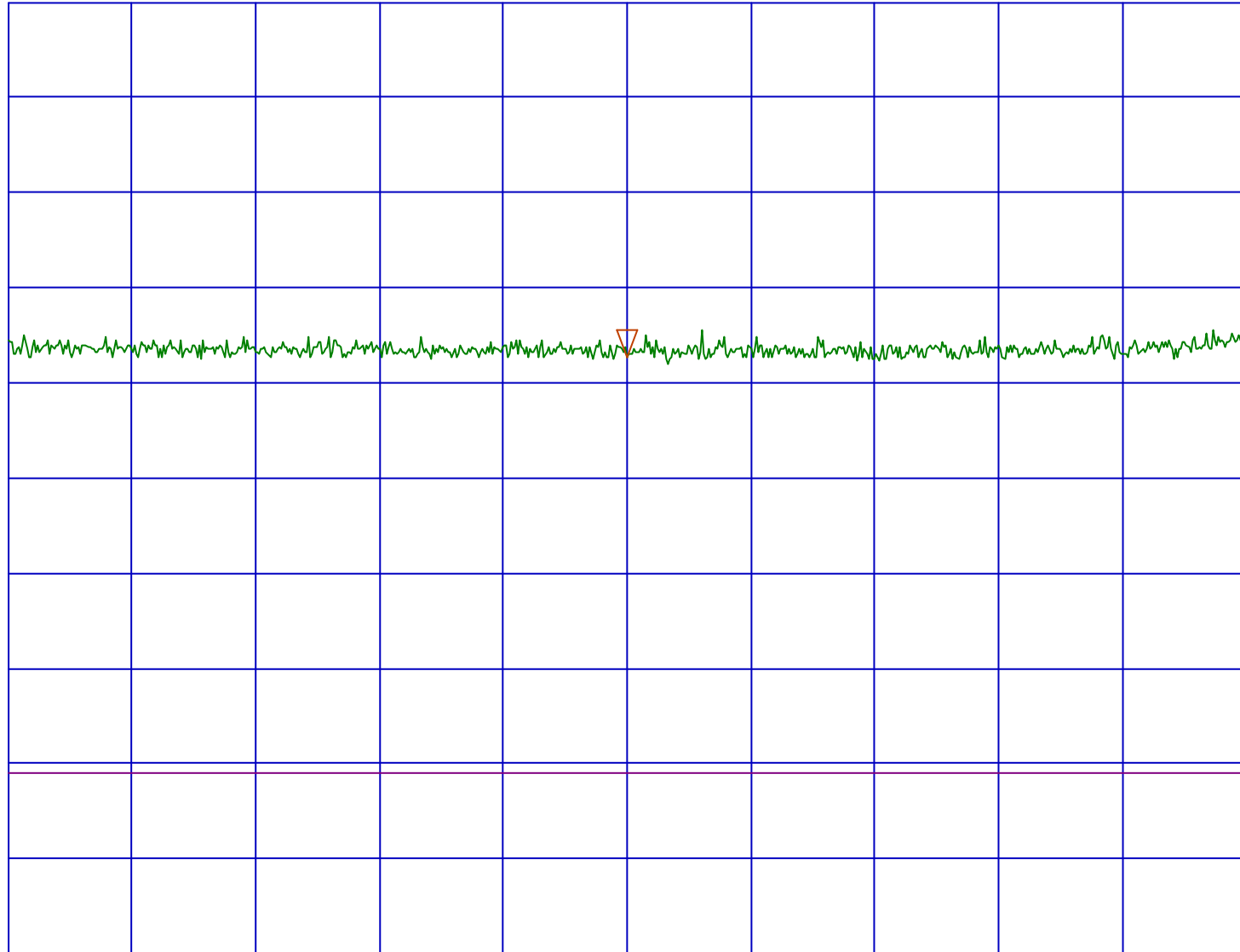
*1 : 2404.8MHz Transmitting

2 : 2475MHz Transmitting

SHARP/Model :UX-CL220(Base)/FCC ID:APYHR000023
15.247(c)BandEdges/Ch1(Hor:PK)Page A47
REF 80 dBuV ATT 10 dB

MAKER
2.3900 GHz
42.75 dBuV

10dB/



START 2.385000GHz
RBW 1MHz

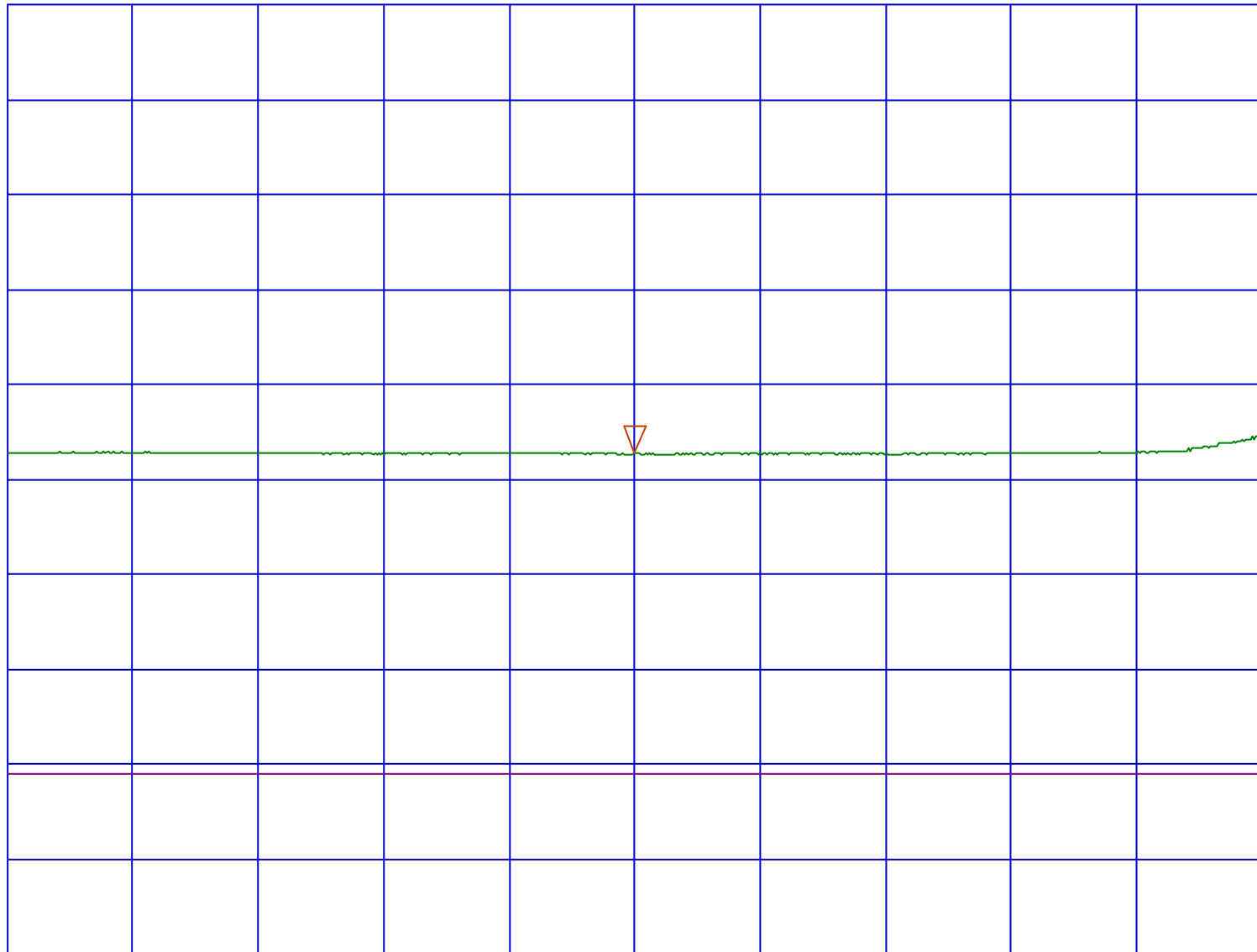
VBW 1MHz

STOP 2.395000GHz
SWP 50ms

SHARP/Model : UX-CL220(Base)/FCC ID: APYHR000023
15.247(c)BandEdges/Ch1(Hor:AV)/Page A48
REF 80 dBuV ATT 10 dB

MAKER
2.3900 GHz
32.75 dBuV

10dB/



START 2.385000GHz
RBW 1MHz

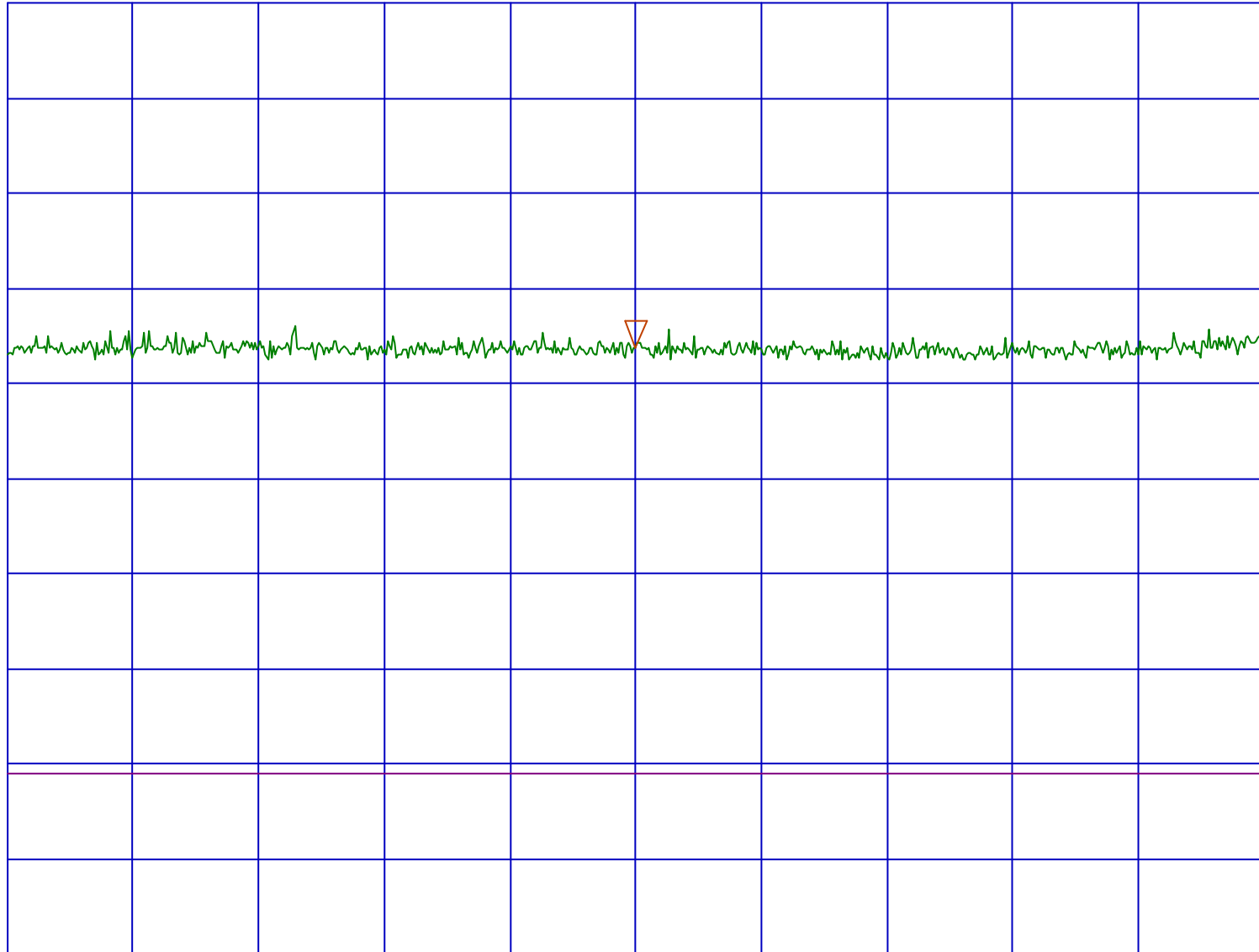
VBW 10Hz

STOP 2.395000GHz
SWP 2s

SHARP/Model :UX-CL220U(Base)/FCC ID:APYHR000023
15.247(c)BandEdges/Ch1(Ver:PK)/Page A49
REF 80 dBuV ATT 10 dB

MAKER
2.3900 GHz
43.75 dBuV

10dB/



START 2.385000GHz
RBW 1MHz

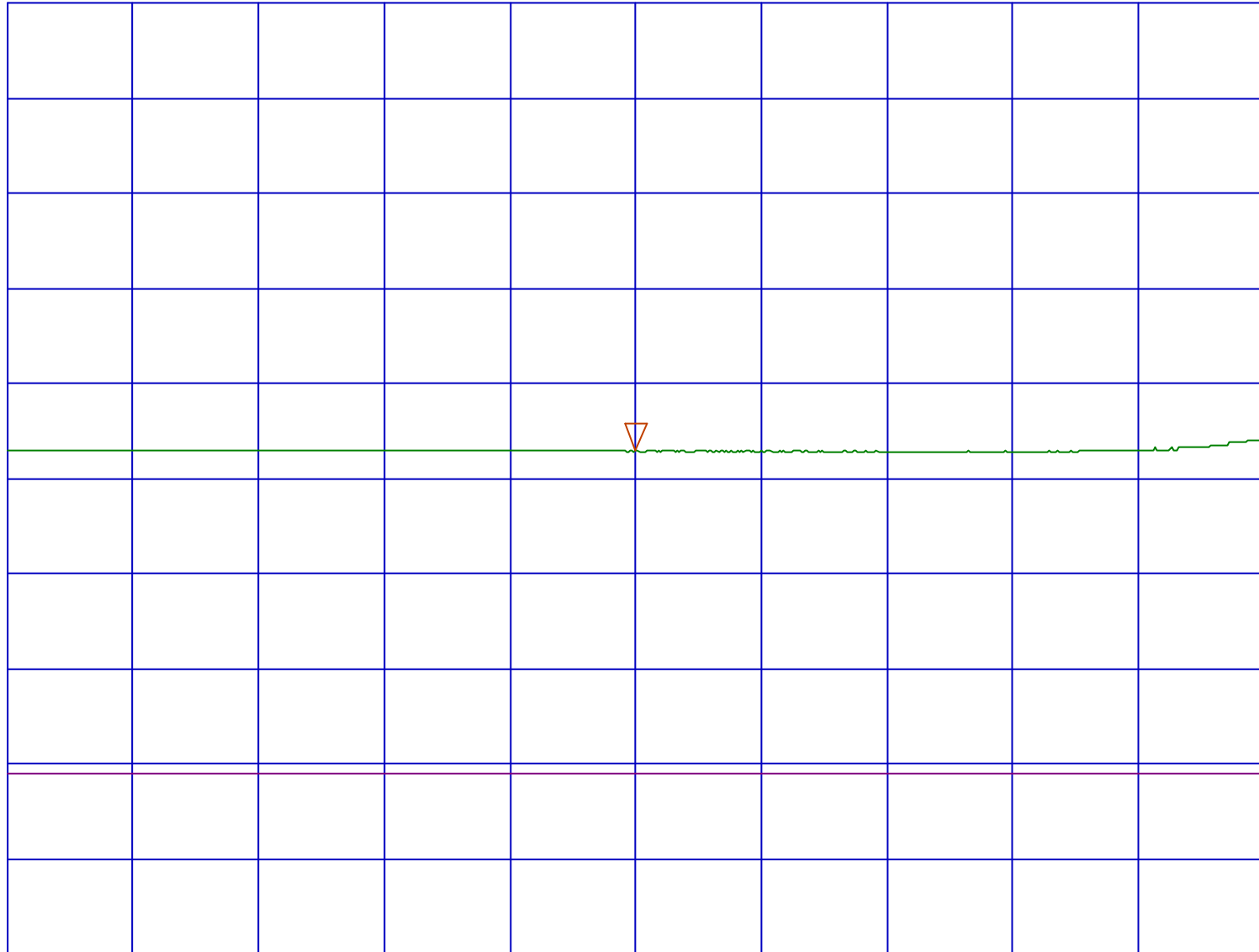
VBW 1MHz

STOP 2.395000GHz
SWP 50ms

SHARP/Model :UX-CL220(Base)/FCC ID:APYHR000023
15.247(c)BandEdges/Ch1(Ver:AV)/Page A50
REF 80 dBuV ATT 10 dB

MAKER
2.3900 GHz
32.75 dBuV

10dB/



START 2.385000GHz
RBW 1MHz

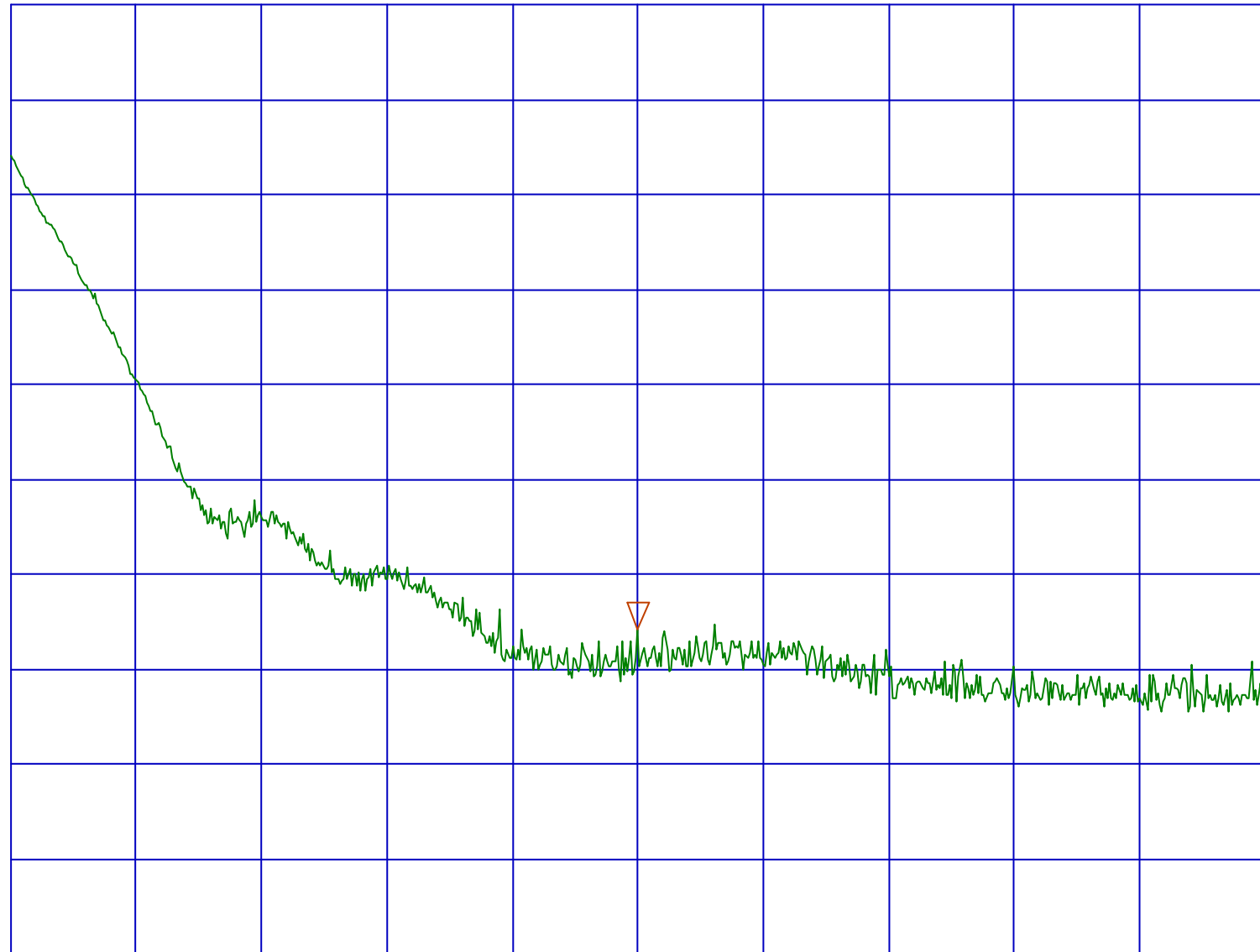
VBW 10Hz

STOP 2.395000GHz
SWP 2s

SHARP/Model :UX-CL220(Base)/FCC ID:APYHR000023
15.247(c)BandEdges/Ch40(Hor:PK)/Page A51
REF 80 dBuV ATT 10 dB

MAKER
2.4835 GHz
47.13 dBuV

5dB/



START 2.478500GHz
RBW 1MHz

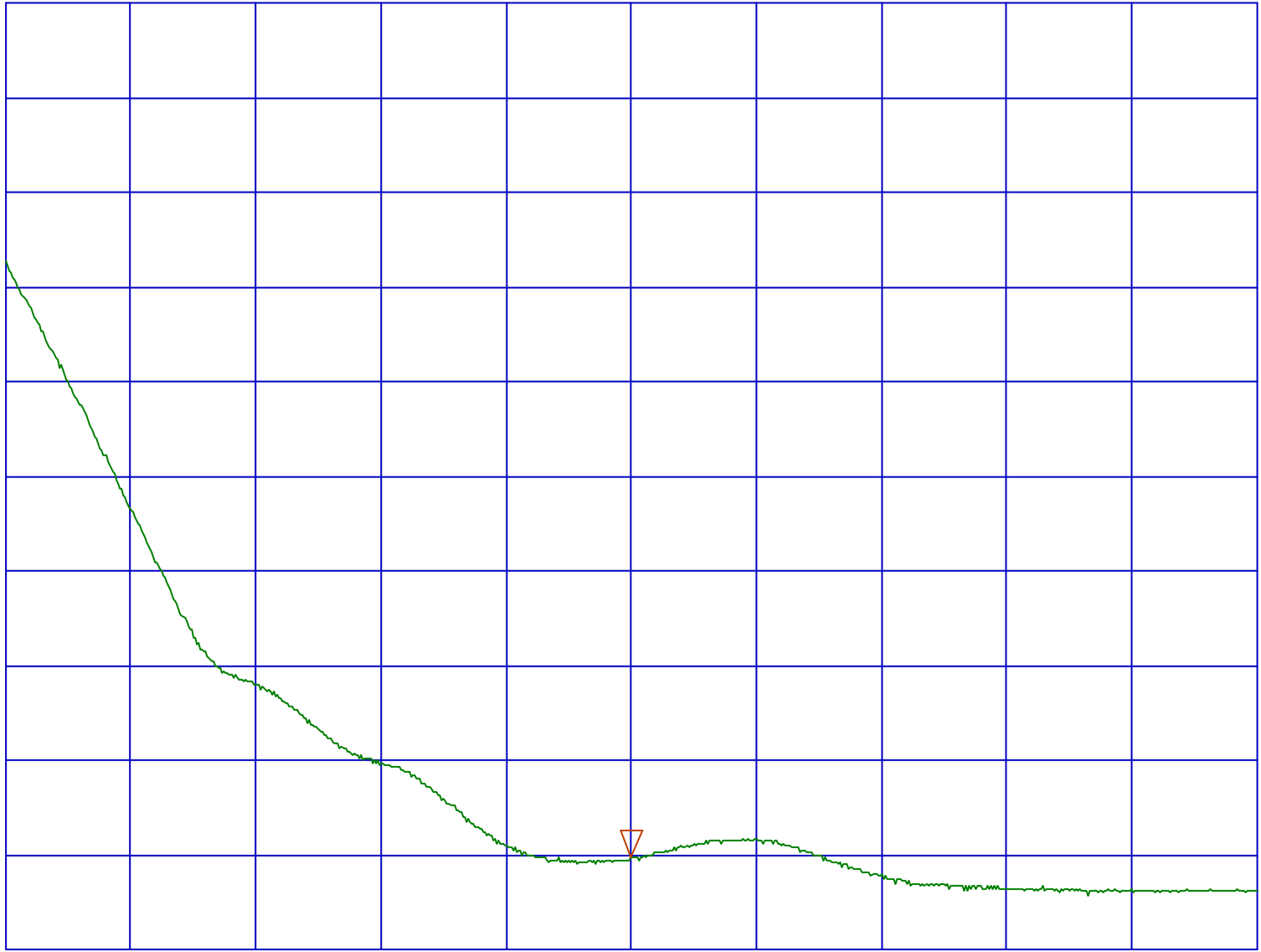
VBW 1MHz

STOP 2.488500GHz
SWP 50ms

SHARP/Model : UX-CL220(Base)/FCC ID: APYHR000023
15.247(c)BandEdges/Ch40(Hor:AV)/Page A52
REF 80 dBuV ATT 10 dB

MAKER
2.4835 GHz
34.88 dBuV

5dB/



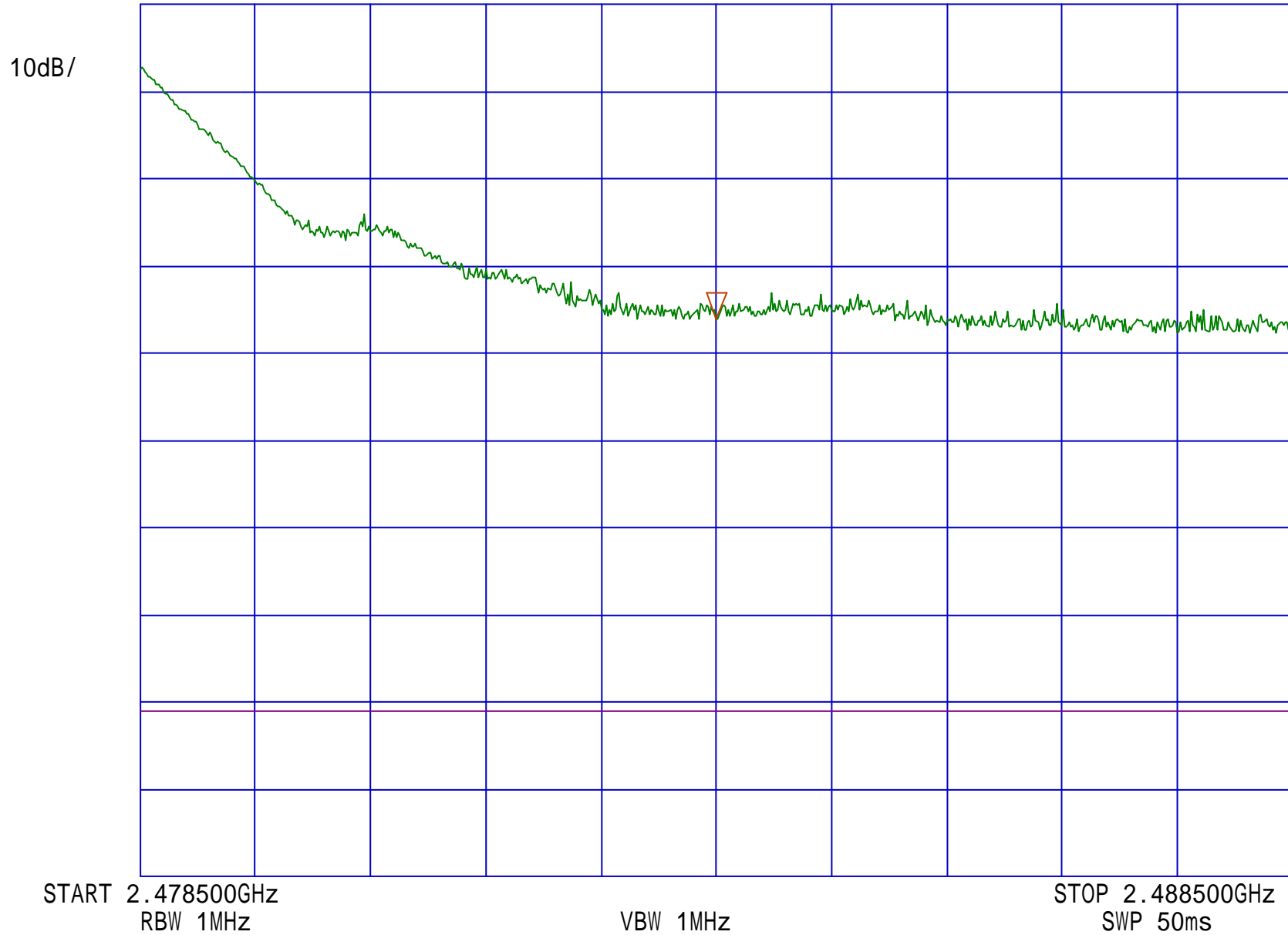
START 2.478500GHz
RBW 1MHz

VBW 10Hz

STOP 2.488500GHz
SWP 2s

SHARP/Model : UX-CL220(Base)/FCC ID: APYHR000023
15.247(c)BandEdges/Ch40(Ver:PK)/Page A53
REF 80 dBuV ATT 10 dB

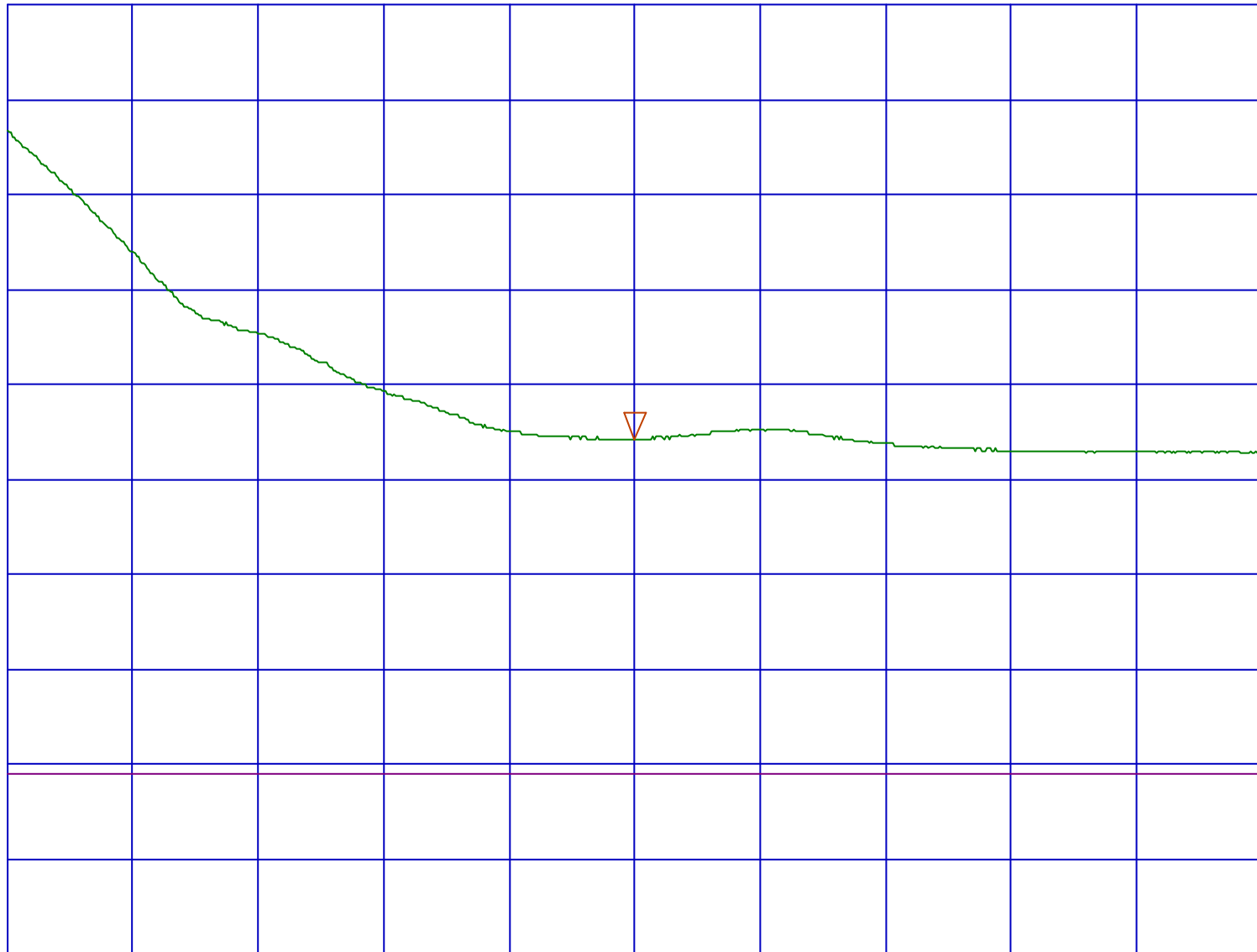
MAKER
2.4835 GHz
44.00 dBuV



SHARP/Model : UX-CL220(Base)/FCC ID: APYHR000023
15.247(c)BandEdges/Ch40(Ver:AV)/Page A54
REF 80 dBuV ATT 10 dB

MAKER
2.4835 GHz
34.25 dBuV

10dB/



START 2.478500GHz
RBW 1MHz

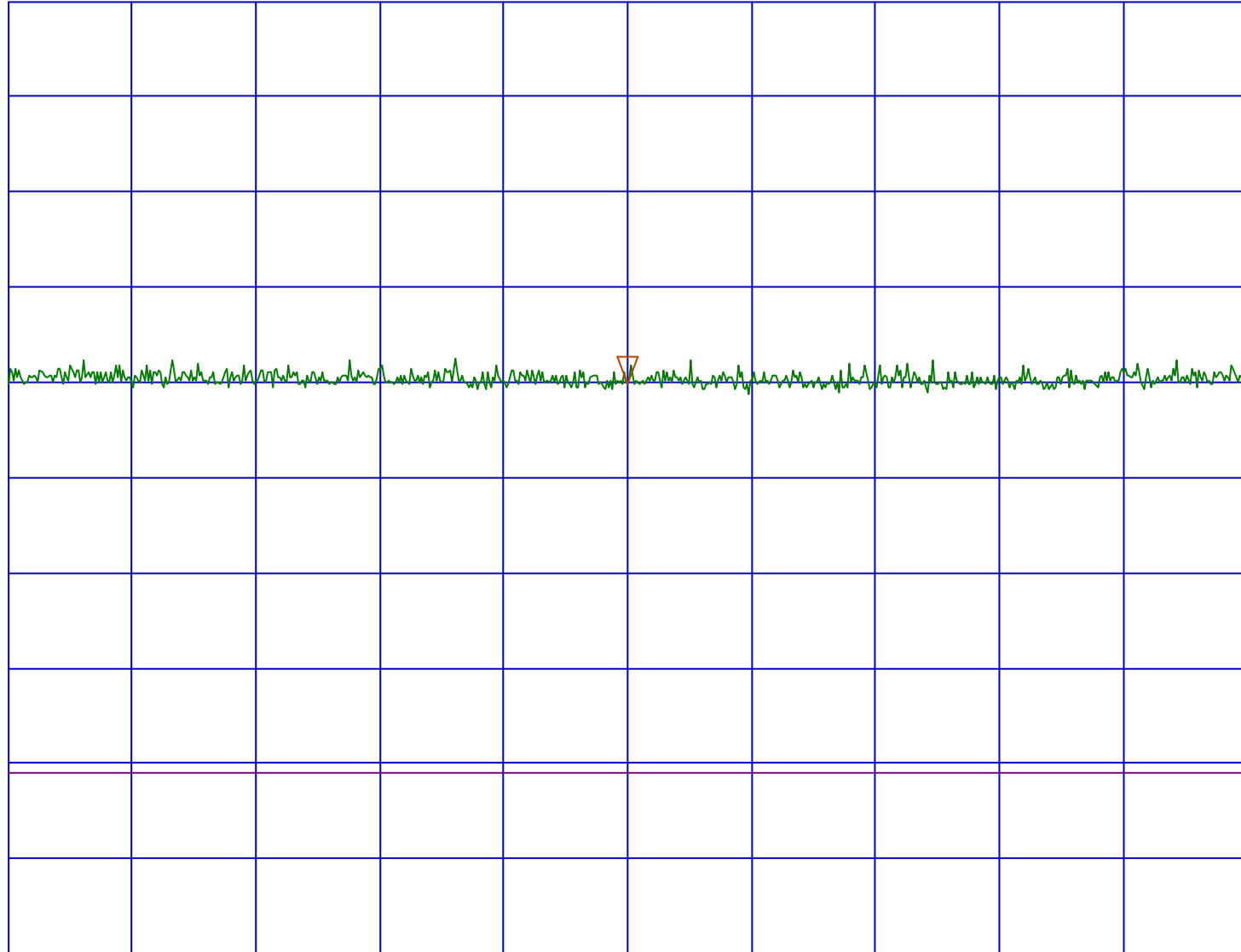
VBW 10Hz

STOP 2.488500GHz
SWP 2s

SHARP/Model :UX-CL220K(Hand)/FCC ID:APYHR000023
15.247(c)BandEdges/Ch1(Hor:PK)/Page A55
REF 80 dBuV ATT 10 dB

MAKER
2.3900 GHz
39.75 dBuV

10dB/



START 2.385000GHz
RBW 1MHz

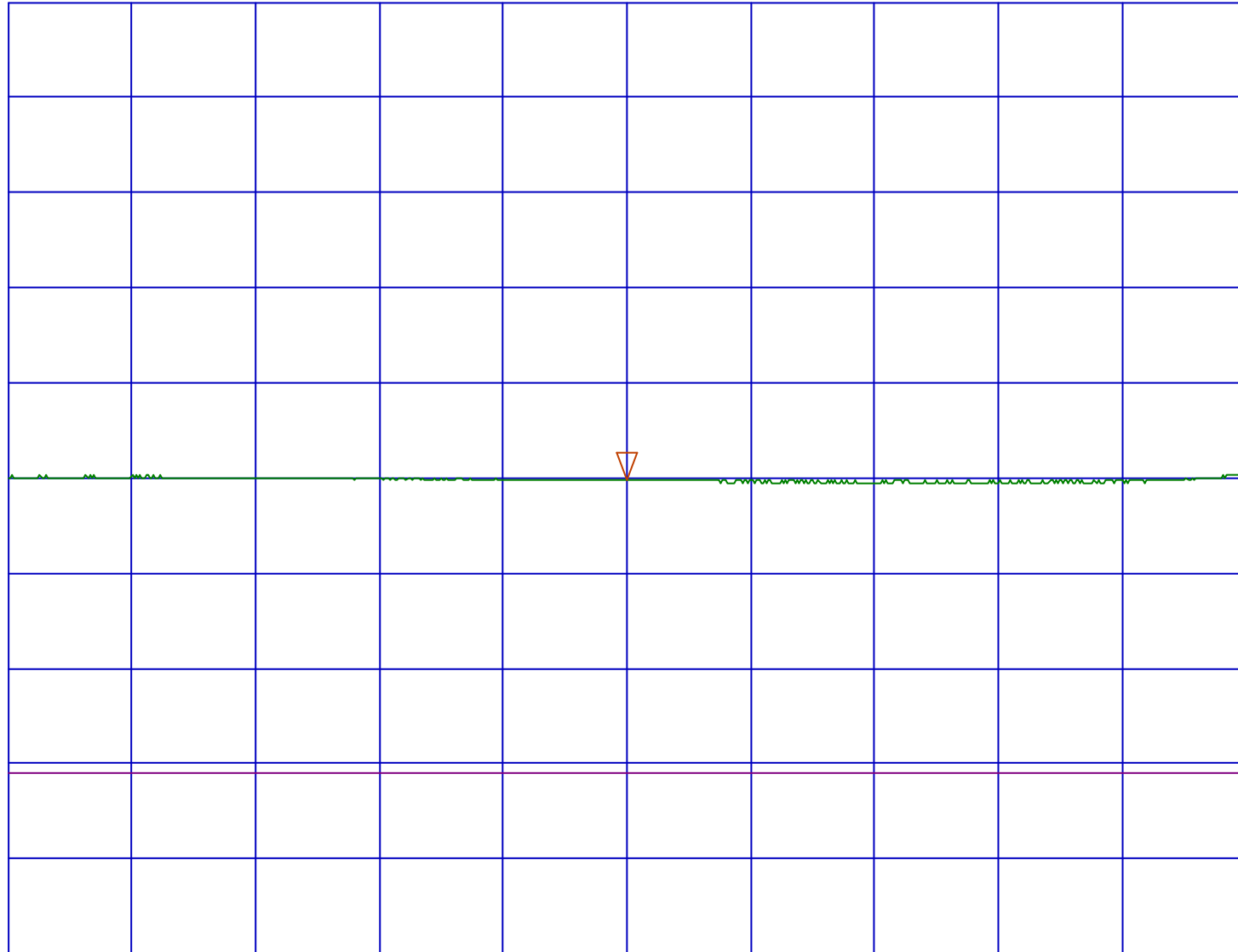
VBW 1MHz

STOP 2.395000GHz
SWP 50ms

SHARP/Model :UX-CL220K(Hand)/FCC ID:APYHR000023
15.247(c)BandEdges/Ch1(Hor:AV)/Page A56
REF 80 dBuV ATT 10 dB

MAKER
2.3900 GHz
29.75 dBuV

10dB/



START 2.385000GHz
RBW 1MHz

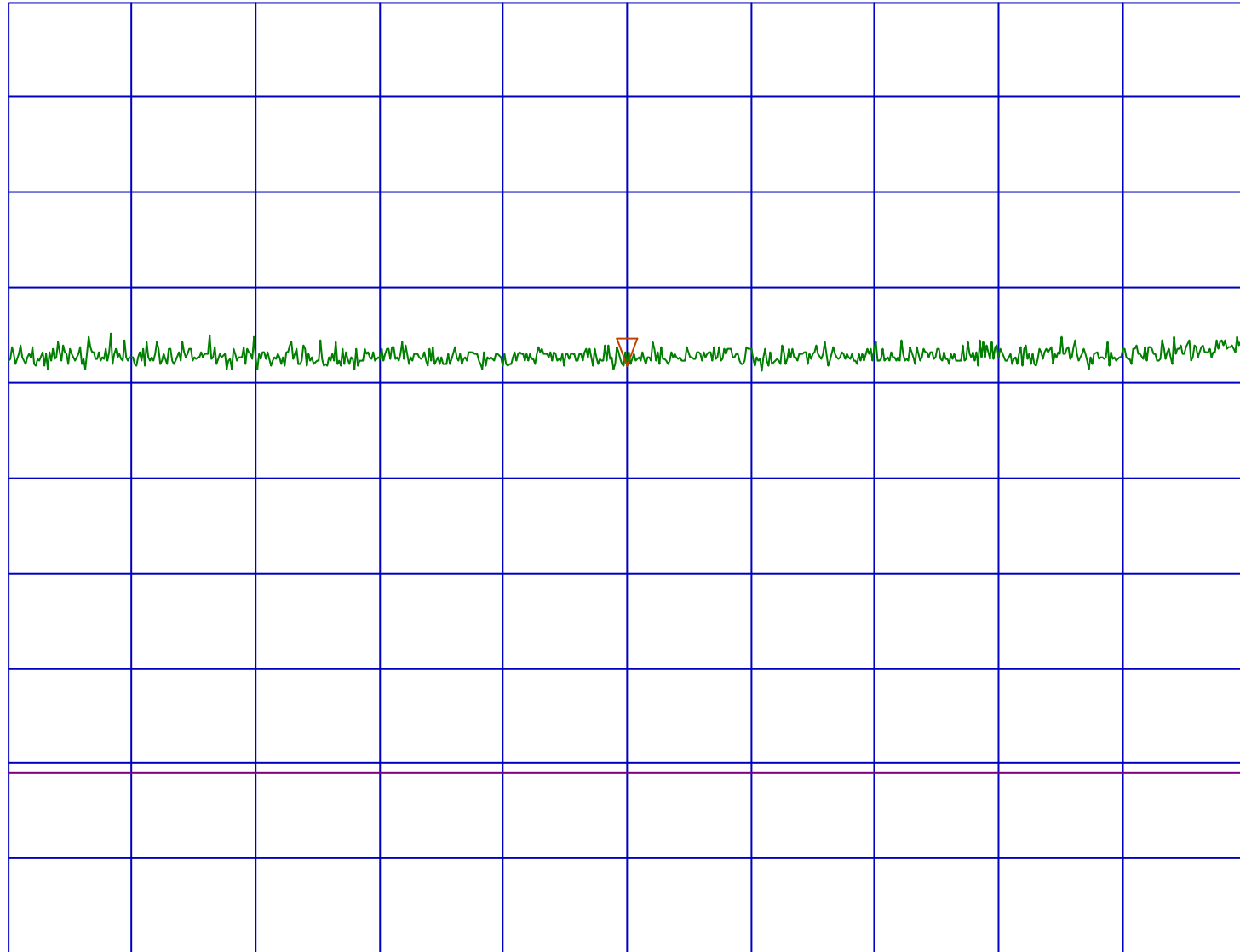
VBW 10Hz

STOP 2.395000GHz
SWP 2s

SHARP/Model :UX-CL220K(Hand)/FCC ID:APYHR000023
15.247(c)BandEdges/Ch1(Ver:PK)/Page A57
REF 80 dBuV ATT 10 dB

MAKER
2.3900 GHz
41.75 dBuV

10dB/



START 2.385000GHz
RBW 1MHz

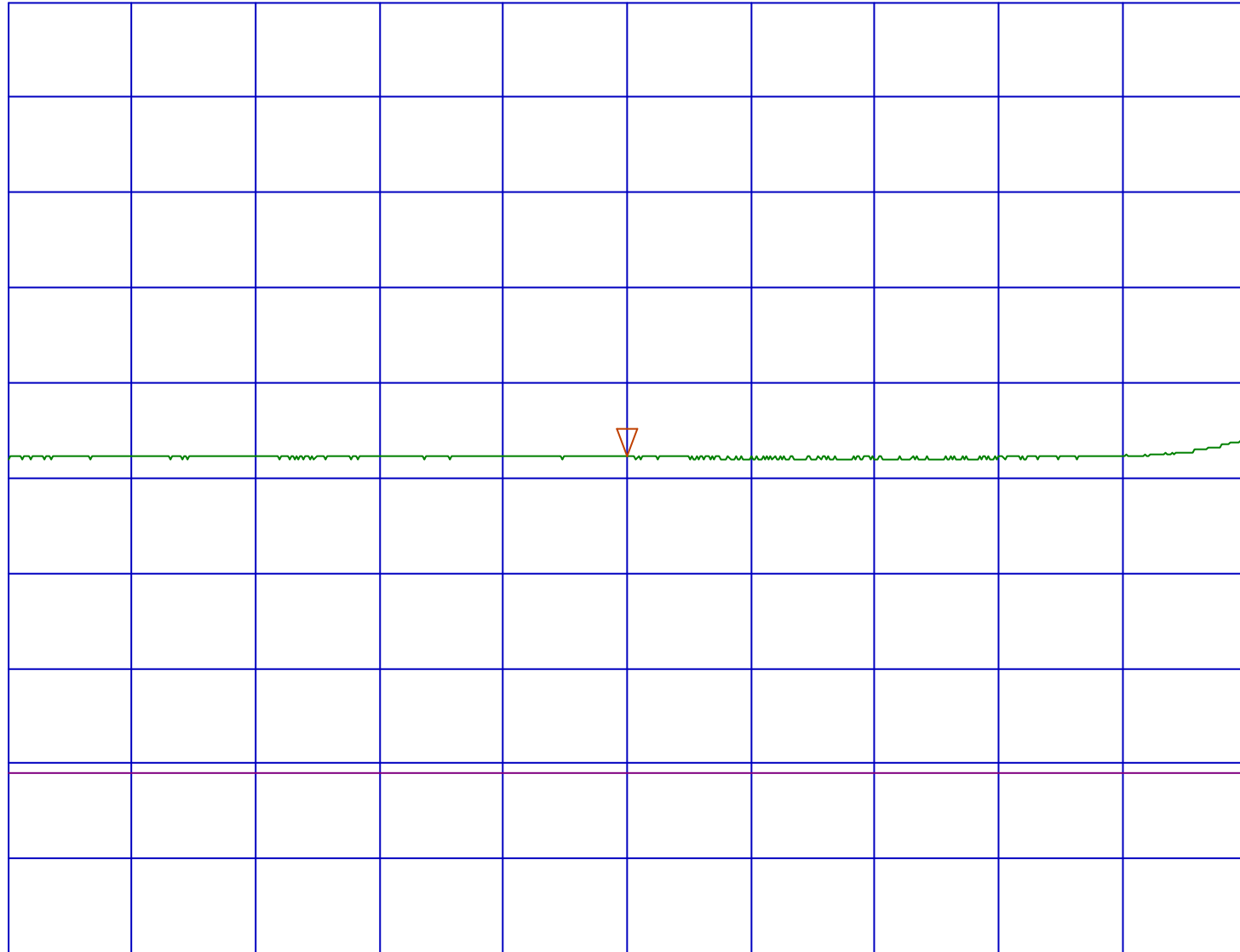
VBW 1MHz

STOP 2.395000GHz
SWP 50ms

SHARP/Model :UX-CL220K(Hand)/FCC ID:APYHR000023
15.247(c)BandEdges/Ch1(Ver:AV)/Page A58
REF 80 dBuV ATT 10 dB

MAKER
2.3900 GHz
32.25 dBuV

10dB/



START 2.385000GHz
RBW 1MHz

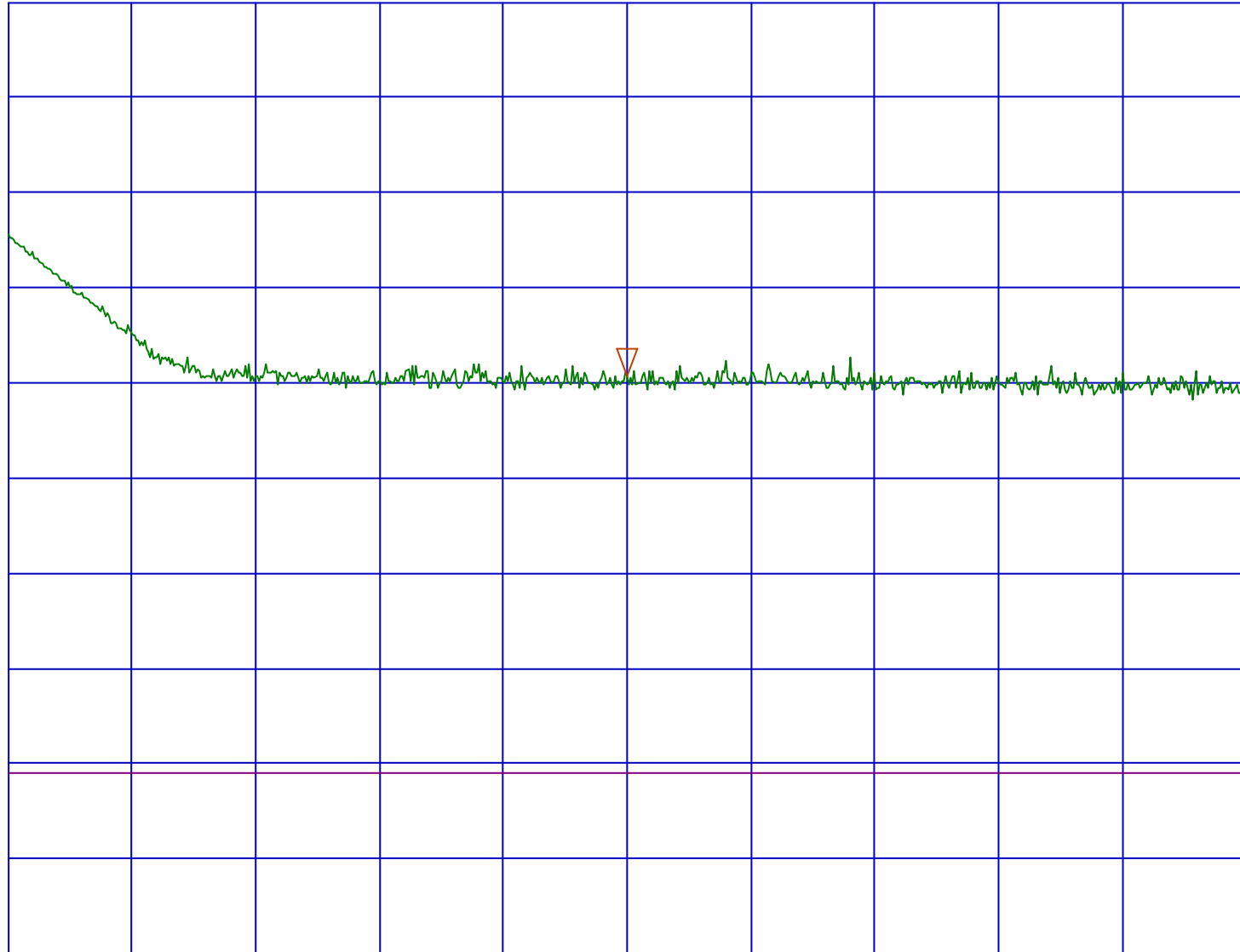
VBW 10Hz

STOP 2.395000GHz
SWP 2s

SHARP/Model :UX-CL220K(Hand)/FCC ID:APYHR000023
15.247(c)BandEdges/Ch40(Hor:PK)/Page A59
REF 80 dBuV ATT 10 dB

MAKER
2.4835 GHz
40.75 dBuV

10dB/



START 2.478500GHz
RBW 1MHz

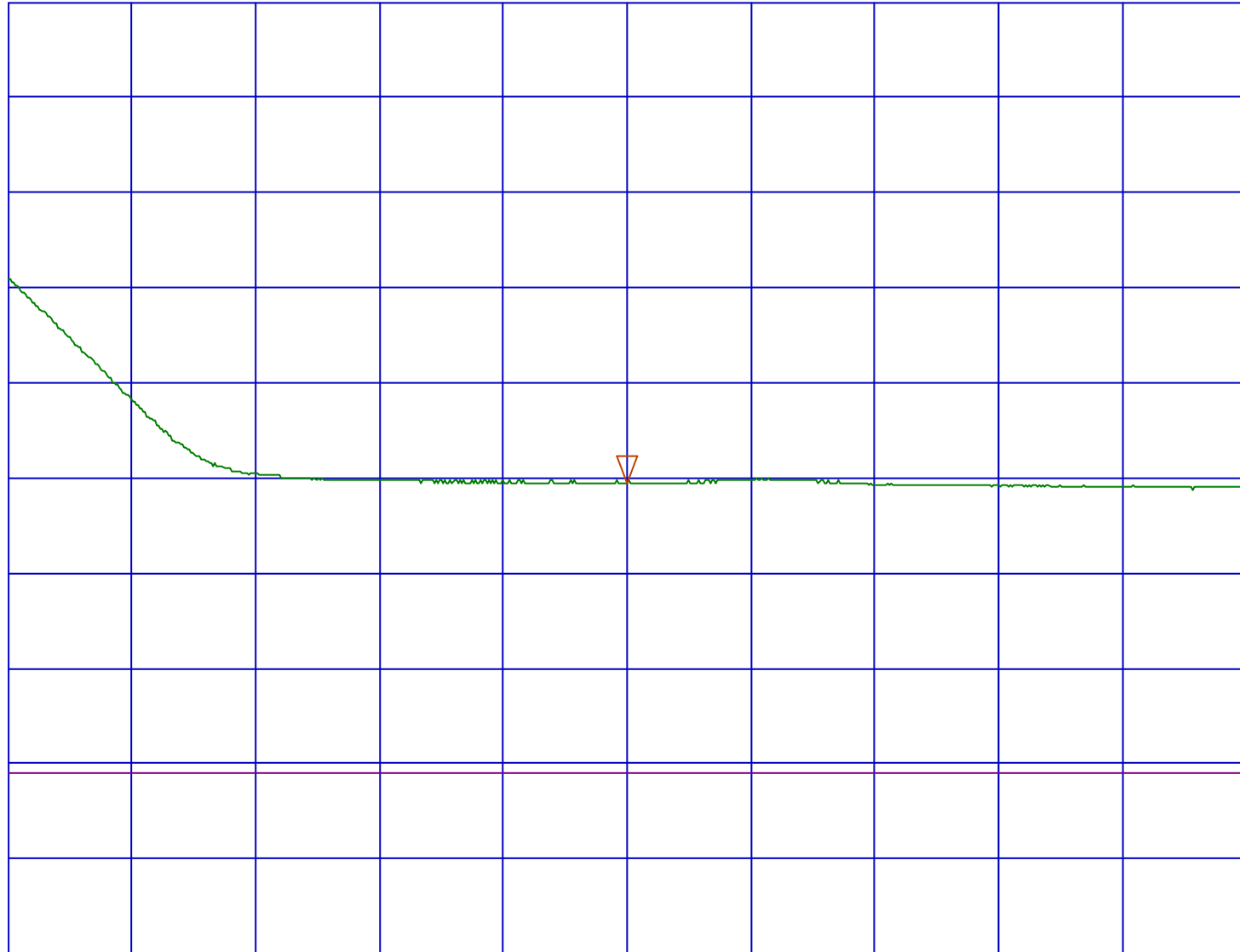
VBW 1MHz

STOP 2.488500GHz
SWP 50ms

SHARP/Model :UX-CL220K(Hand)/FCC ID:APYHR000023
15.247(c)BandEdges/Ch40(Hor:AV)/Page A60
REF 80 dBuV ATT 10 dB

MAKER
2.4835 GHz
29.50 dBuV

10dB/



START 2.478500GHz
RBW 1MHz

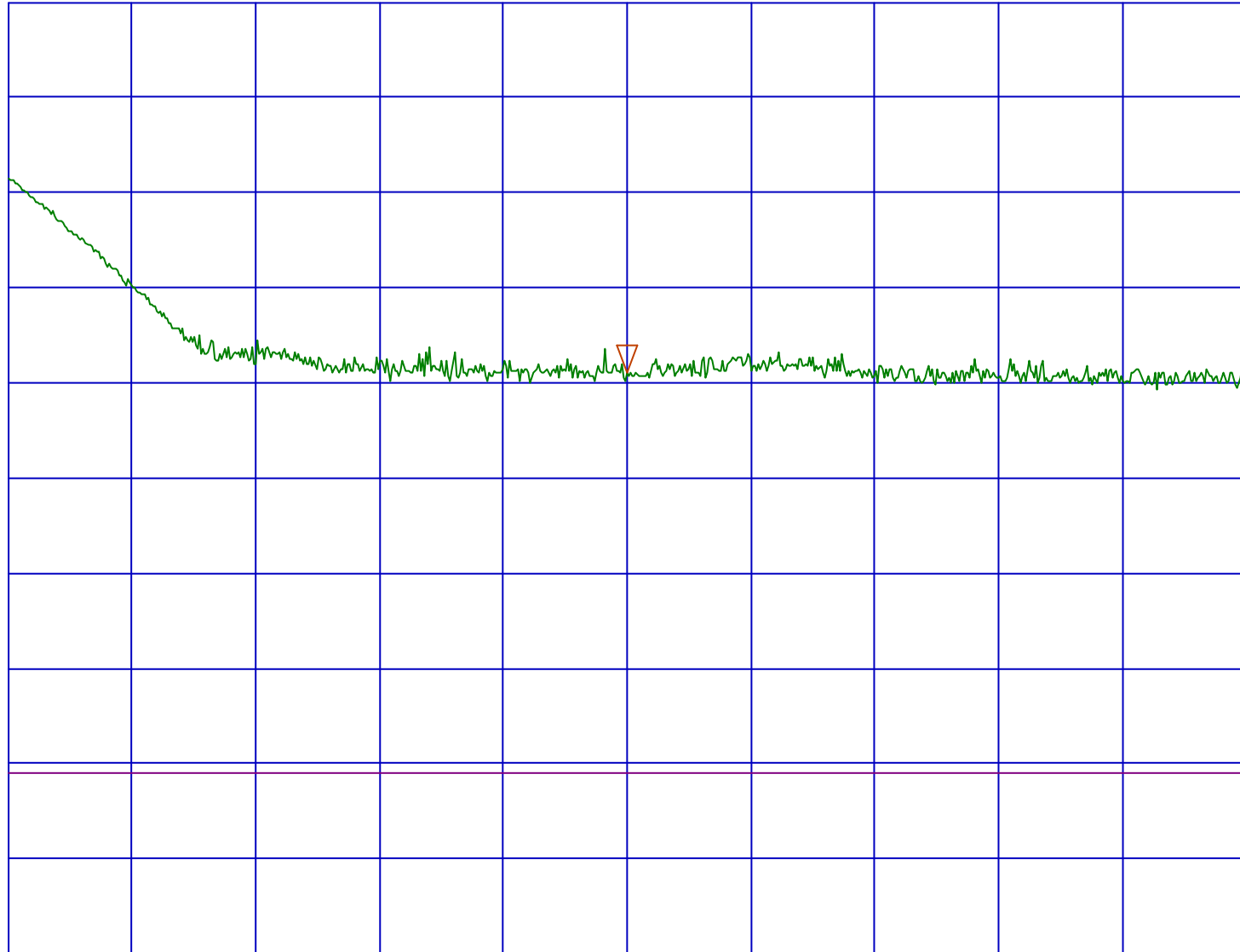
VBW 10Hz

STOP 2.488500GHz
SWP 2s

SHARP/Model :UX-CL220K(Hand)/FCC ID:APYHR000023
15.247(c)BandEdges/Ch40(Ver:PK)/Page A61
REF 80 dBuV ATT 10 dB

MAKER
2.4835 GHz
41.00 dBuV

10dB/



START 2.478500GHz
RBW 1MHz

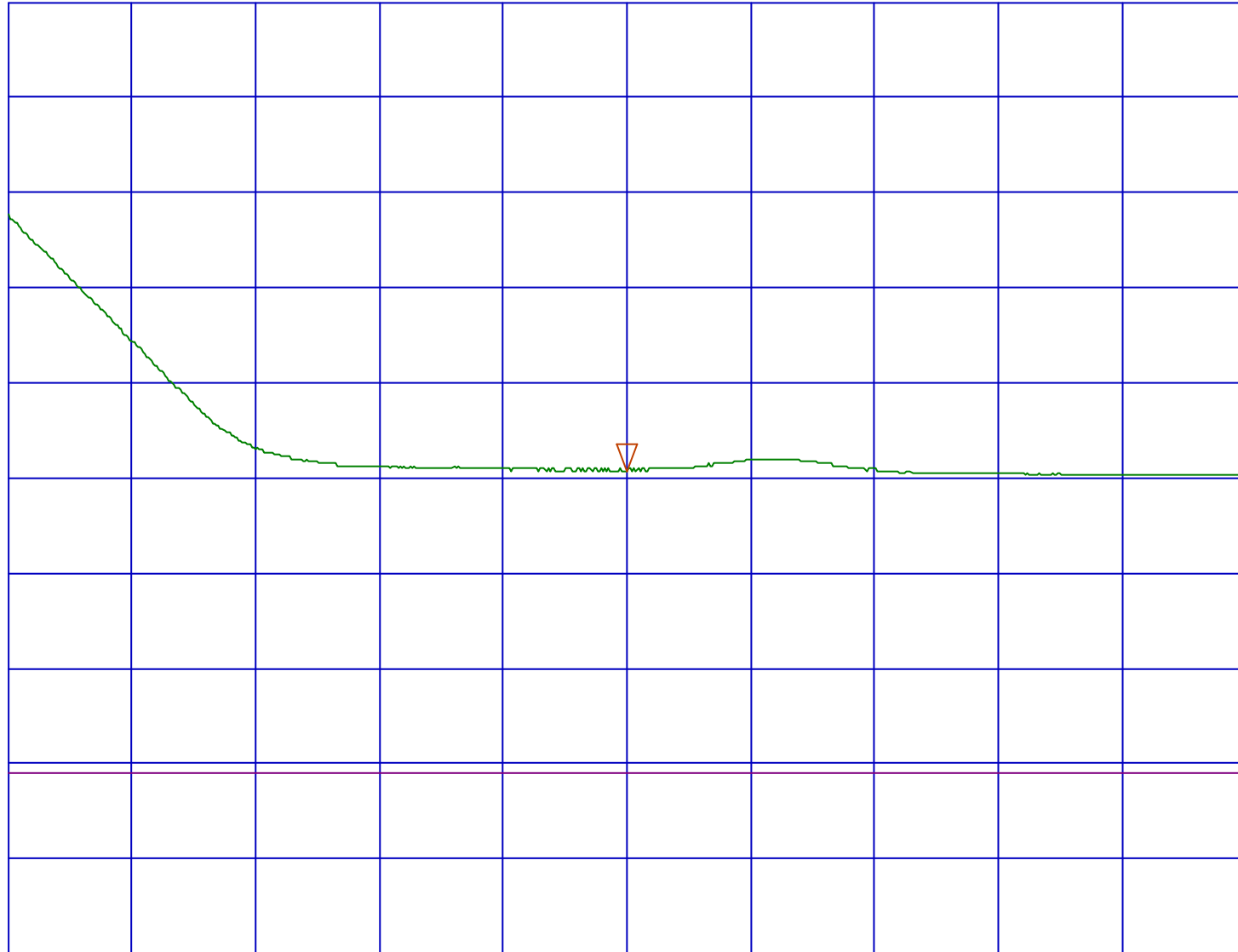
VBW 1MHz

STOP 2.488500GHz
SWP 50ms

SHARP/Model :UX-CL220K(Hand)/FCC ID:APYHR000023
15.247(c)BandEdges/Ch40(Ver:AV)/Page A62
REF 80 dBuV ATT 10 dB

MAKER
2.4835 GHz
30.75 dBuV

10dB/



START 2.478500GHz
RBW 1MHz

VBW 10Hz

STOP 2.488500GHz
SWP 2s

SHARP/Model:UX-CL220(Base)/FCC ID:APYHR000023
15.247(c)/Out of Band/Ch1(30-1000MHz)/Page A63
REF 107 dBuV ATT 10 dB

10dB/



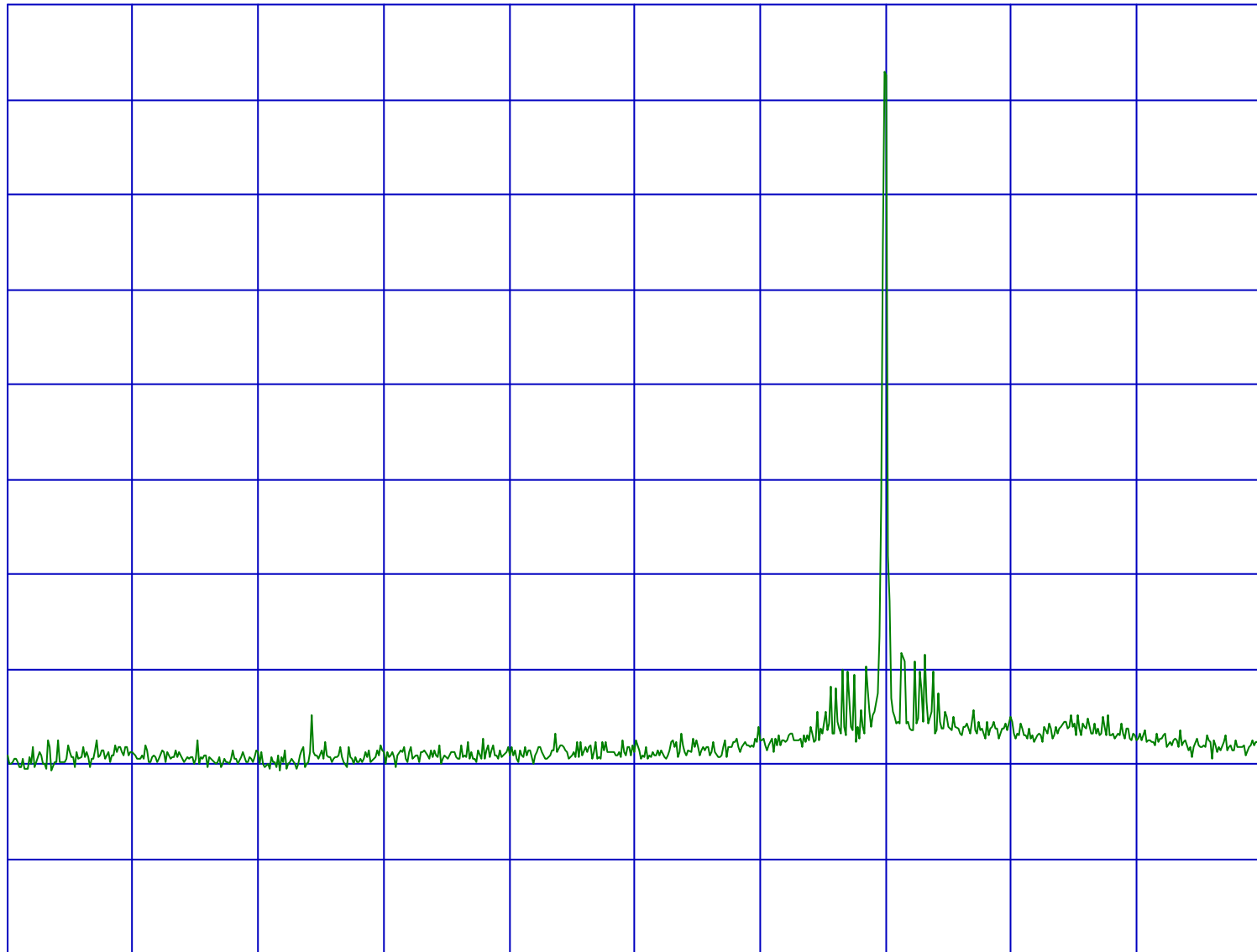
START 30.00MHz
RBW 100kHz

VBW 100kHz

STOP 1.00000GHz
SWP 500ms

SHARP/Model:UX-CL220(Base)/FCC ID:APYHR000023
15.247(c)/Out of Band/Ch1(1-3GHz)/+ATT10dB/Page A64
REF 107 dBuV ATT 10 dB

10dB/



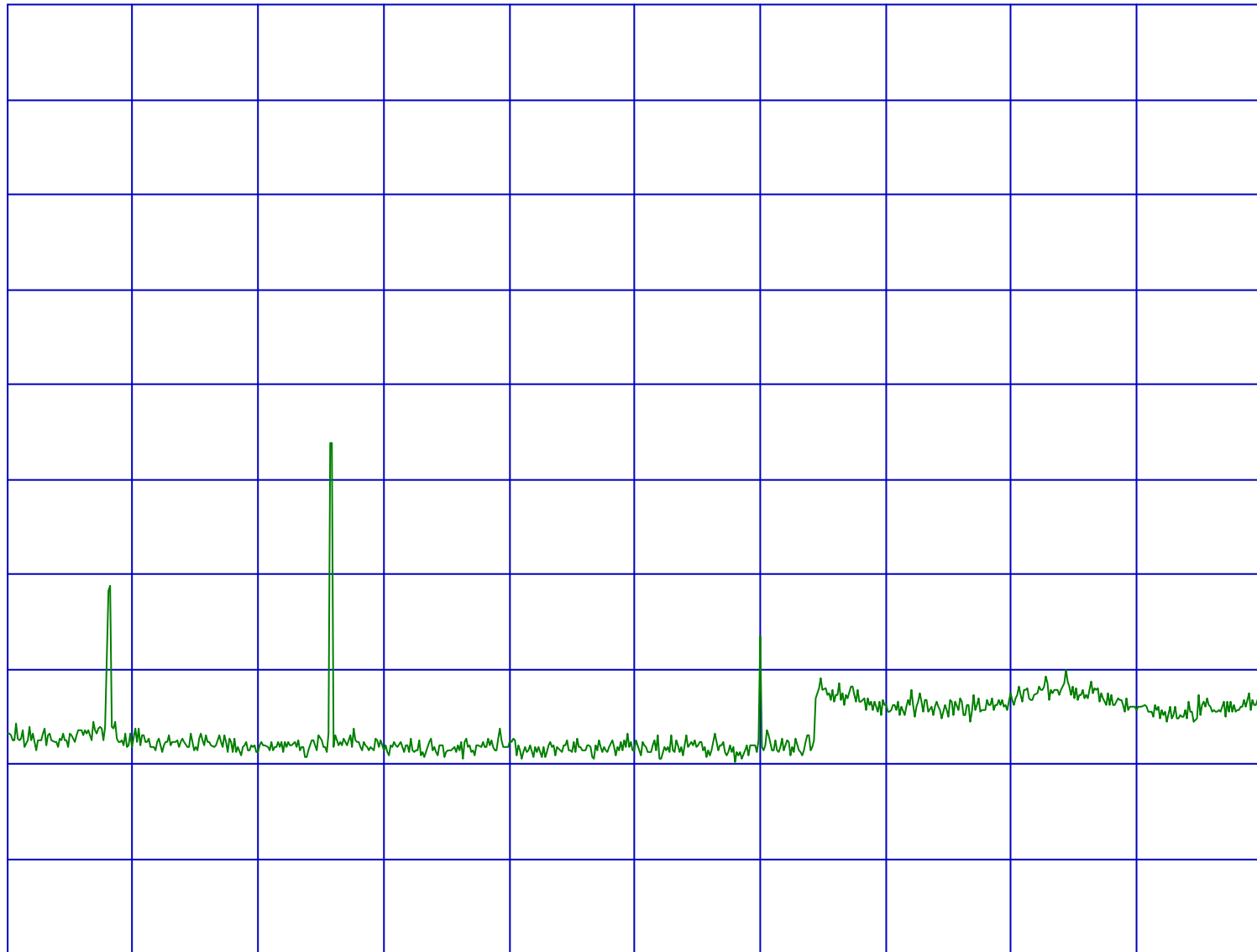
START 1.000000GHz
RBW 100kHz

VBW 100kHz

STOP 3.000000GHz
SWP 500ms

SHARP/Model:UX-CL220(Base)/FCC ID:APYHR000023
15.247(c)/Out of Band/Ch1(3-10GHz)/Page A65
REF 107 dBuV ATT 10 dB

10dB/



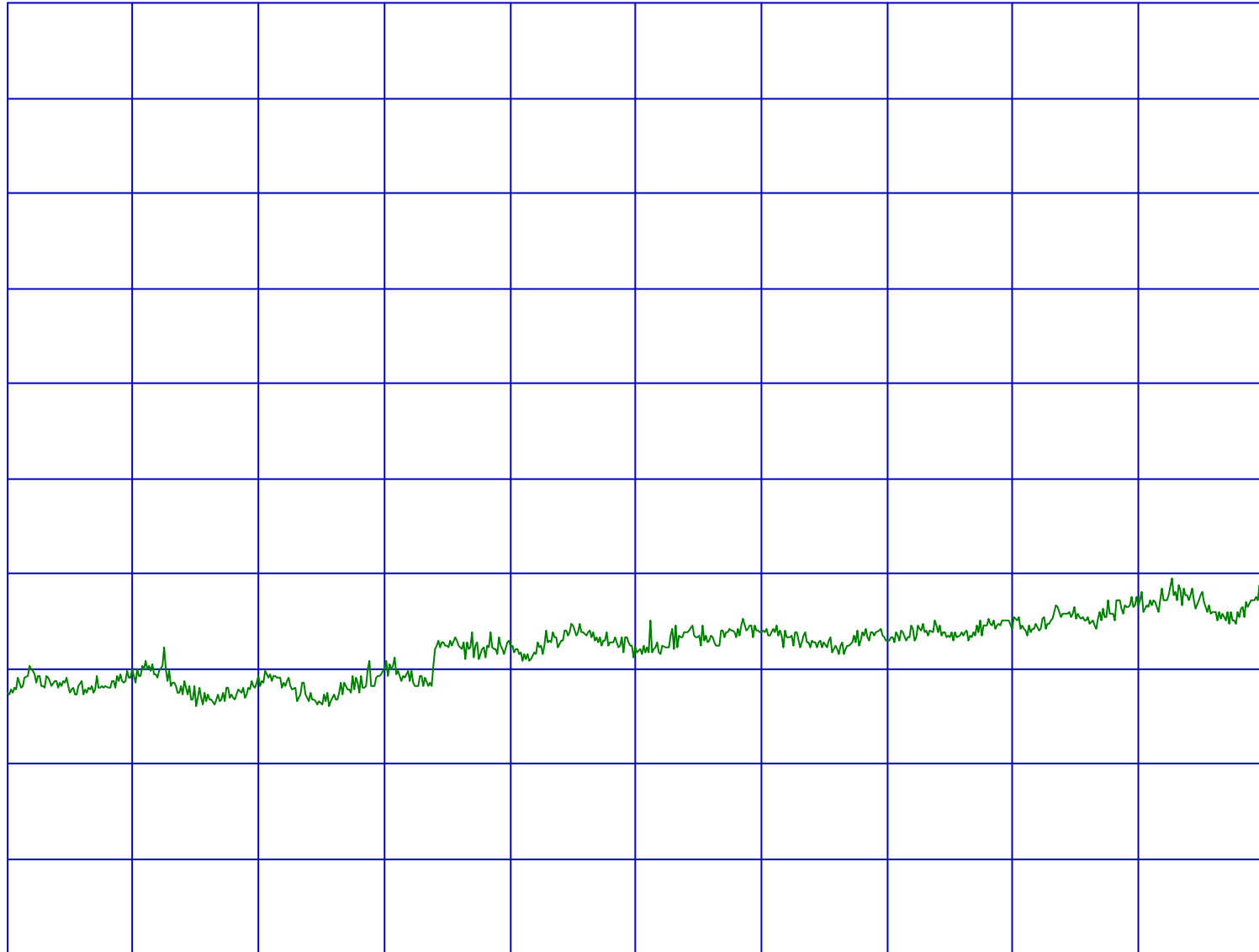
START 3.000000GHz
RBW 100kHz

VBW 100kHz

STOP 10.000000GHz
SWP 2s

SHARP/Model:UX-CL220(Base)/FCC ID:APYHR000023
15.247(c)/Out of Band/Ch1(10-26GHz)/Page A66
REF 107 dBuV ATT 10 dB

10dB/



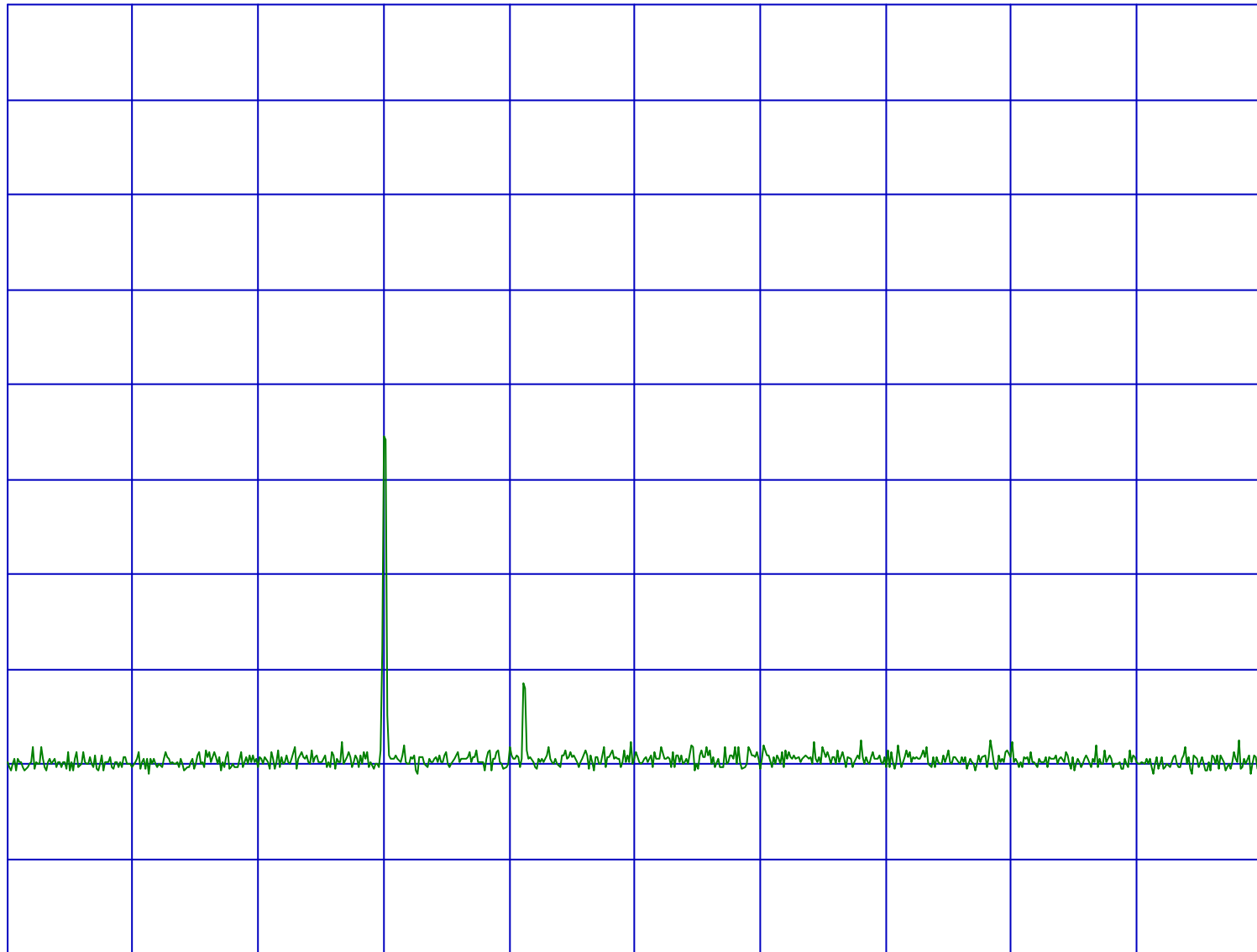
START 10.000000GHz
RBW 100kHz

VBW 100kHz

STOP 26.000000GHz
SWP 5s

SHARP/Model :UX-CL220(Base)/FCC ID:APYHR000023
15.247(c)/Out of Band/Ch20(30-1000MHz)/Page A67
REF 107 dBuV ATT 10 dB

10dB/



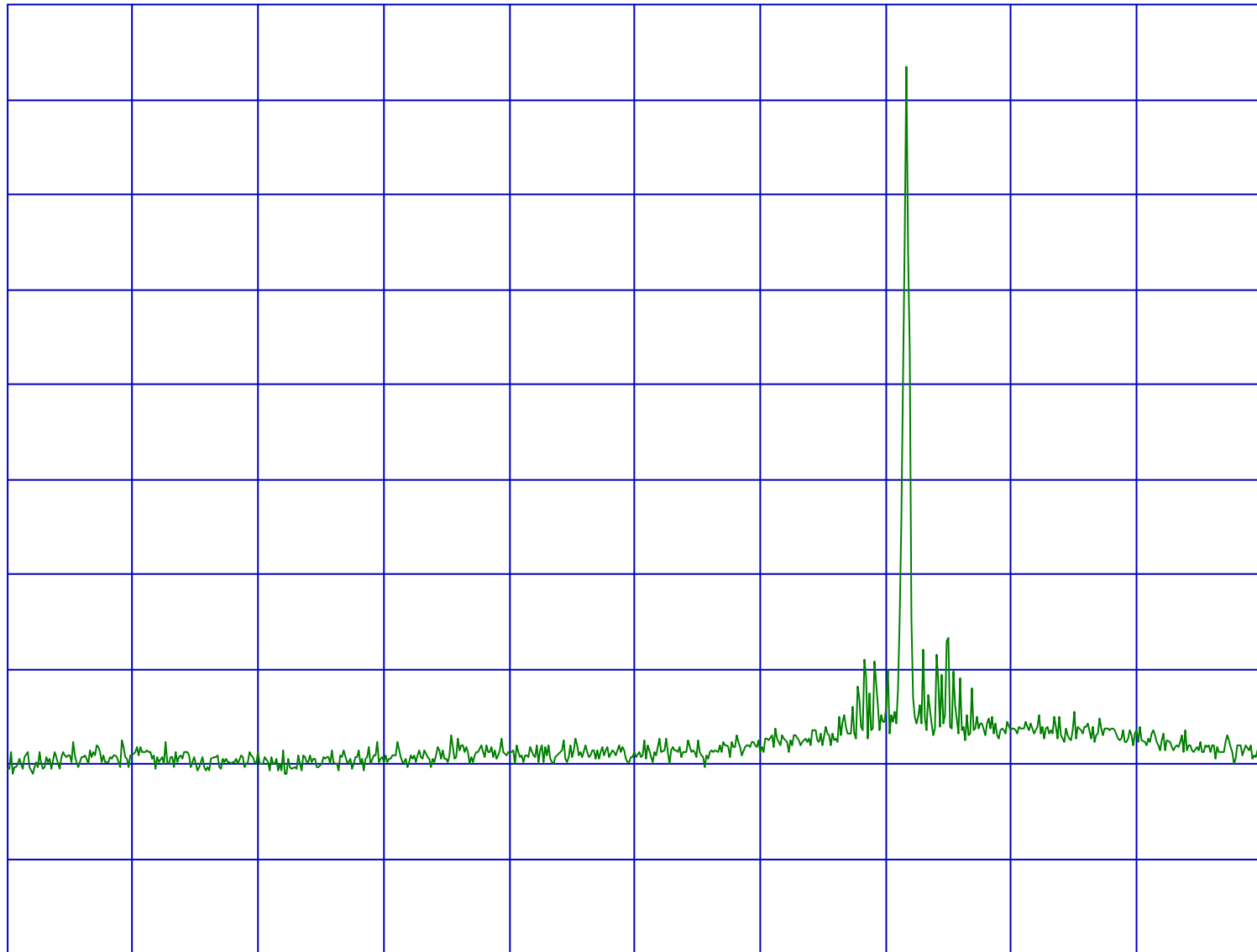
START 30.00MHz
RBW 100kHz

VBW 100kHz

STOP 1.000000GHz
SWP 500ms

SHARP/Model:UX-CL220(Base)/FCC ID:APYHR000023
15.247(c)/Out of Band/Ch20(1-3GHz)/+ATT10dB/Page A68
REF 107 dBuV ATT 10 dB

10dB/



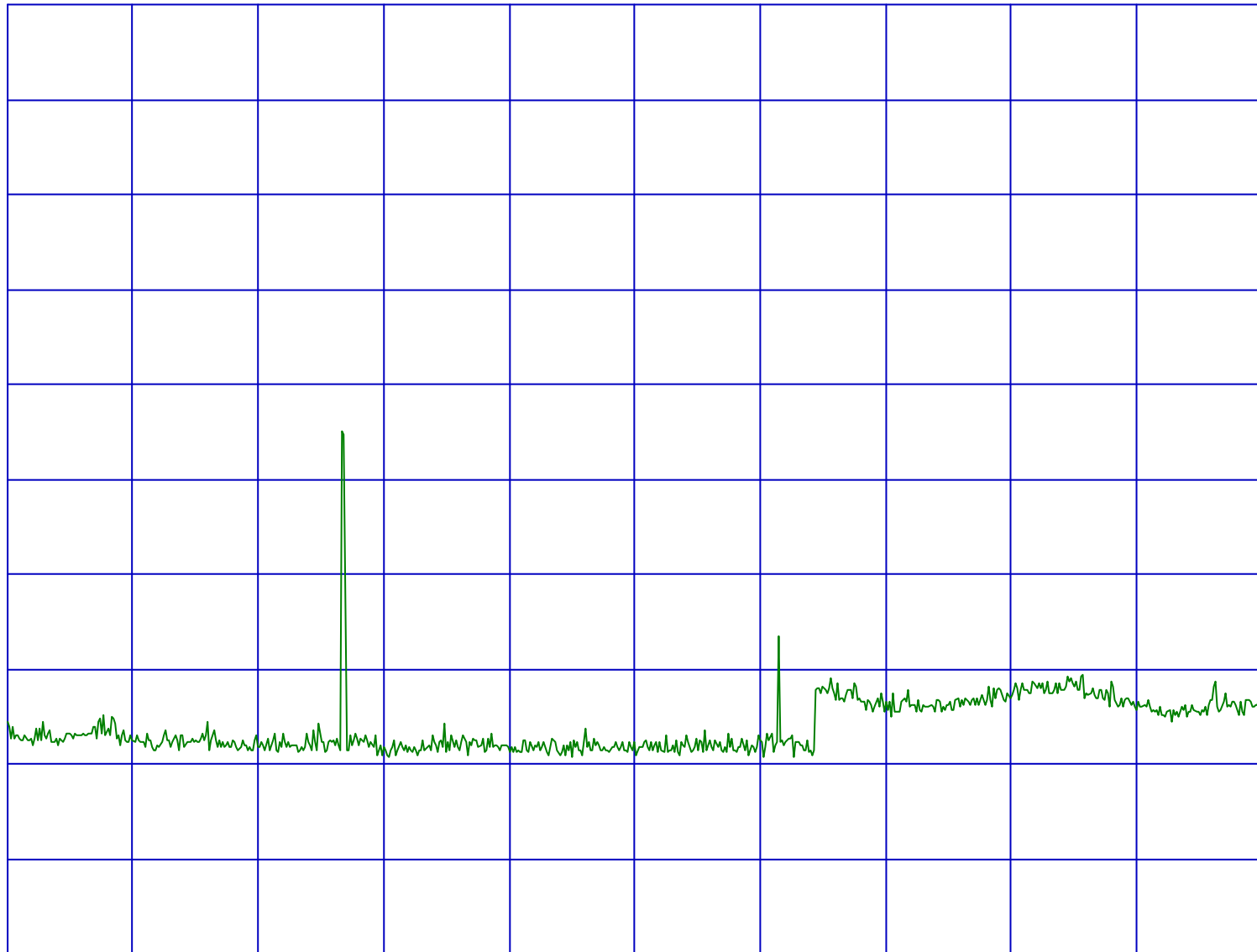
START 1.000000GHz
RBW 100kHz

VBW 100kHz

STOP 3.000000GHz
SWP 500ms

SHARP/Model:UX-CL220(Base)/FCC ID:APYHR000023
15.247(c)/Out of Band/Ch20(3-10GHz)/Page A69
REF 107 dBuV ATT 10 dB

10dB/



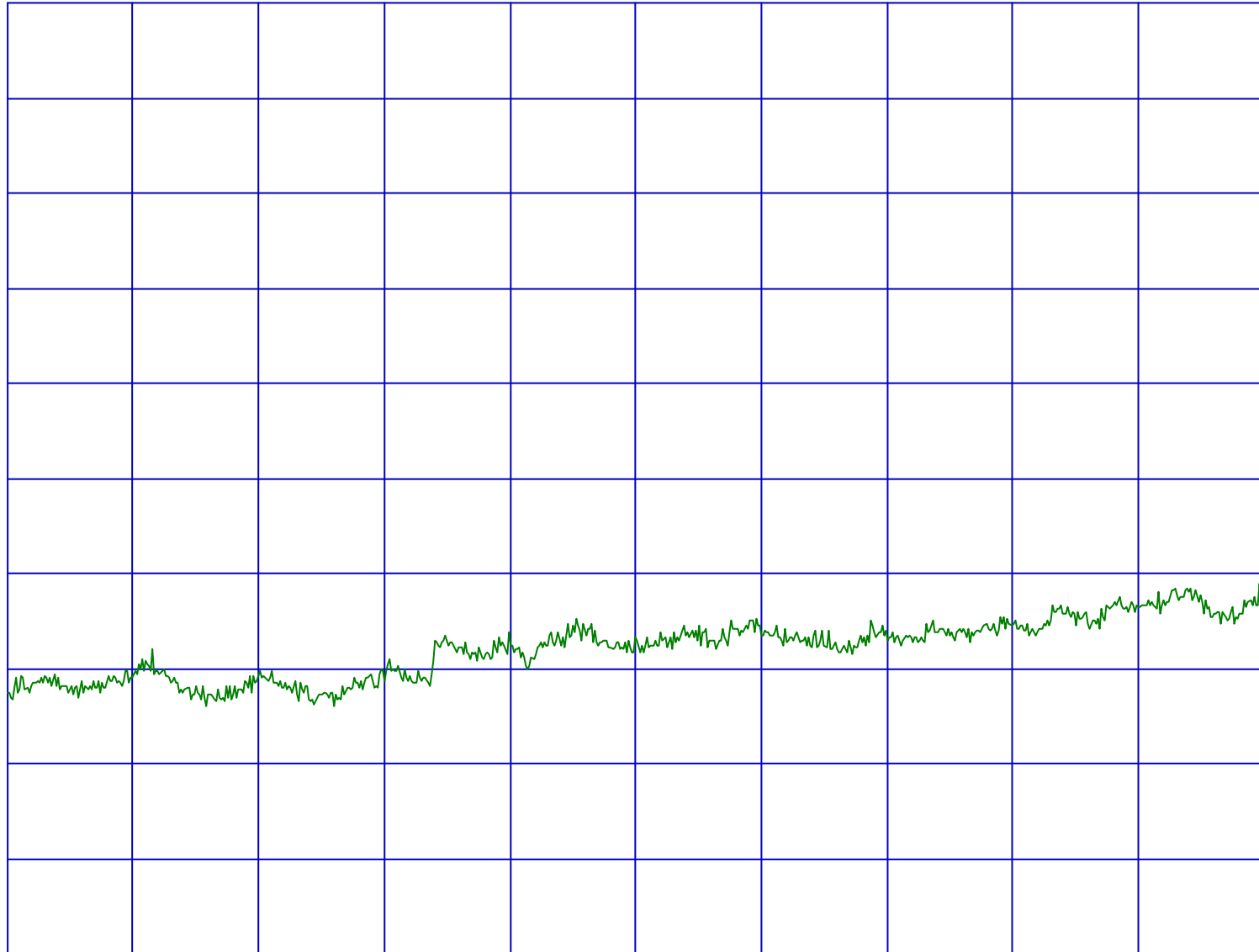
START 3.000000GHz
RBW 100kHz

VBW 100kHz

STOP 10.000000GHz
SWP 2s

SHARP/Model:UX-CL220(Base)/FCC ID:APYHR000023
15.247(c)/Out of Band/Ch20(10-26GHz)/Page A70
REF 107 dBuV ATT 10 dB

10dB/



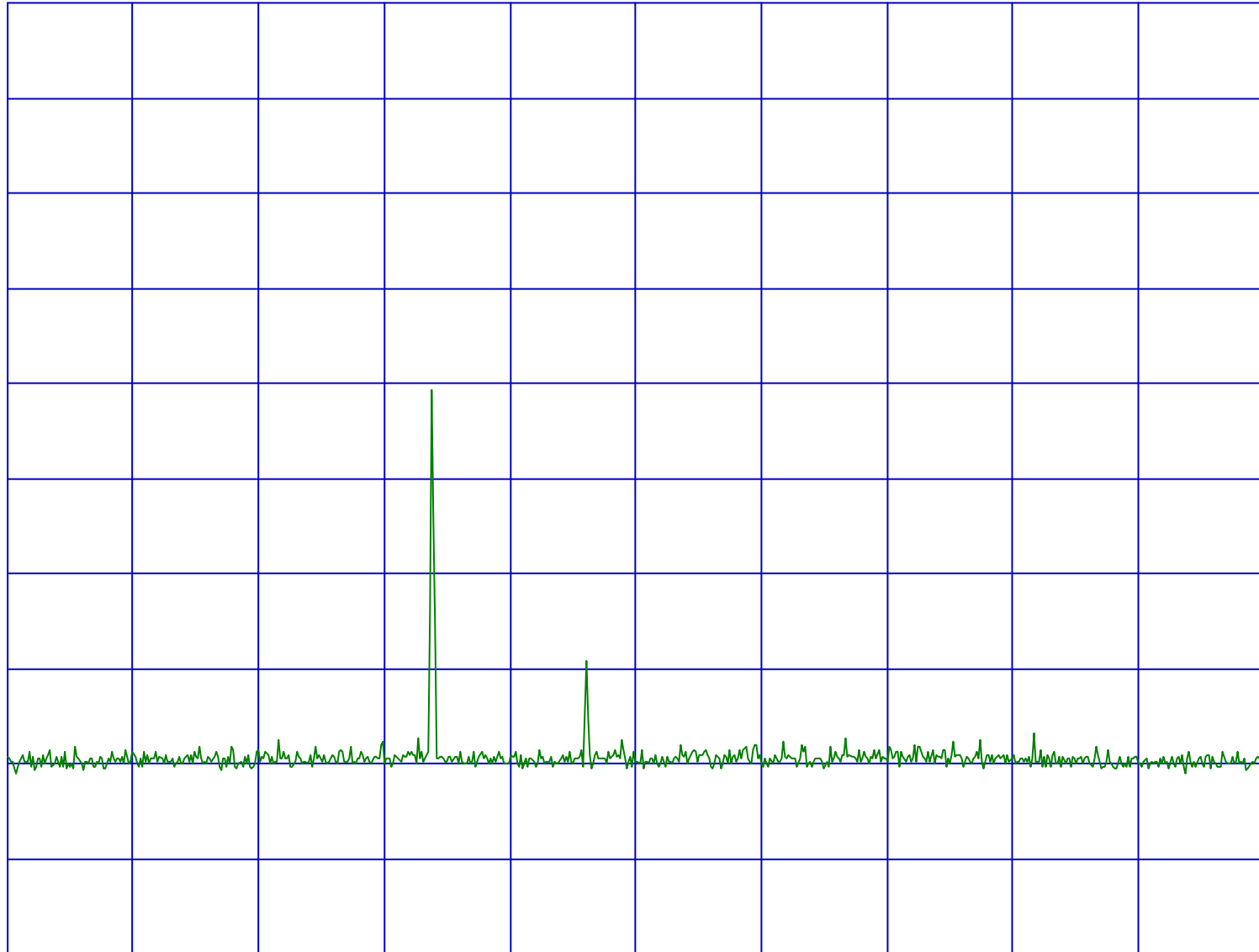
START 10.000000GHz
RBW 100kHz

VBW 100kHz

STOP 26.000000GHz
SWP 5s

SHARP/Model :UX-CL220(Base)/FCC ID:APYHR000023
15.247(c)/Out of Band/Ch40(30-1000MHz)/Page A71
REF 107 dBuV ATT 10 dB

10dB/



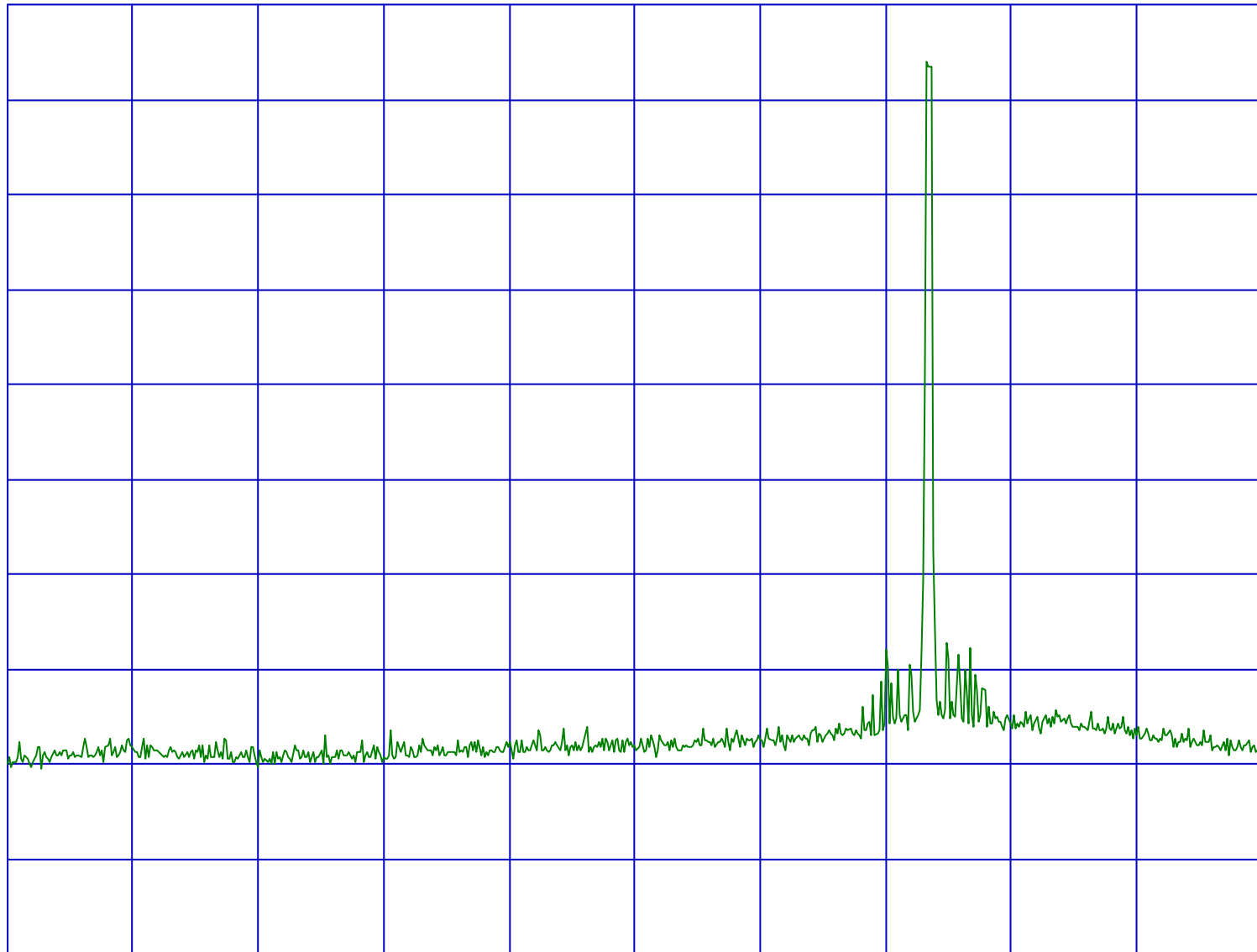
START 30.00MHz
RBW 100kHz

VBW 100kHz

STOP 1.000000GHz
SWP 500ms

SHARP/Model:UX-CL220(Base)/FCC ID:APYHR000023
15.247(c)/Out of Band/Ch40(1-3GHz)/+ATT10dB/Page A72
REF 107 dBuV ATT 10 dB

10dB/



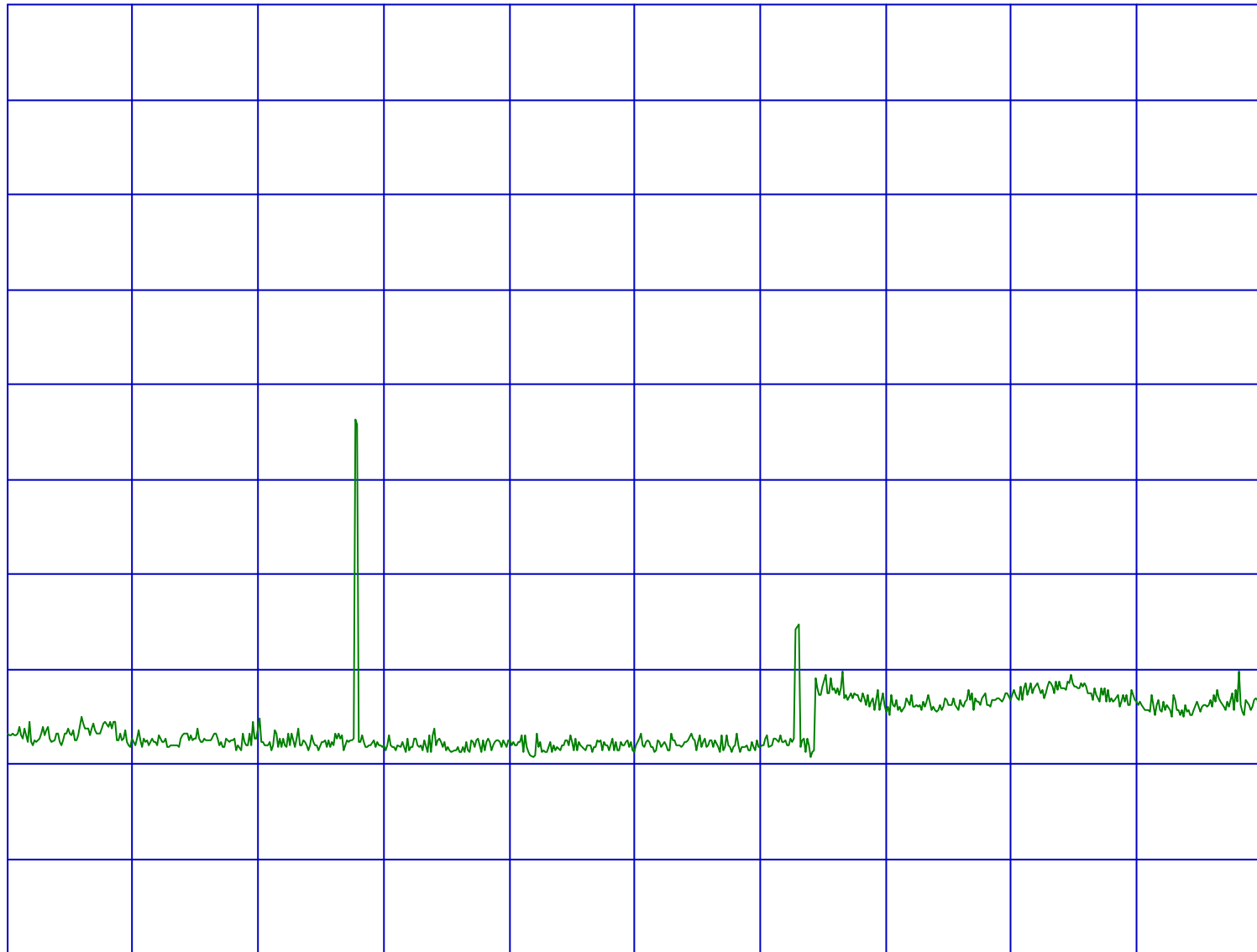
START 1.000000GHz
RBW 100kHz

VBW 100kHz

STOP 3.000000GHz
SWP 500ms

SHARP/Model:UX-CL220(Base)/FCC ID:APYHR000023
15.247(c)/Out of Band/Ch40(3-10GHz)/Page A73
REF 107 dBuV ATT 10 dB

10dB/



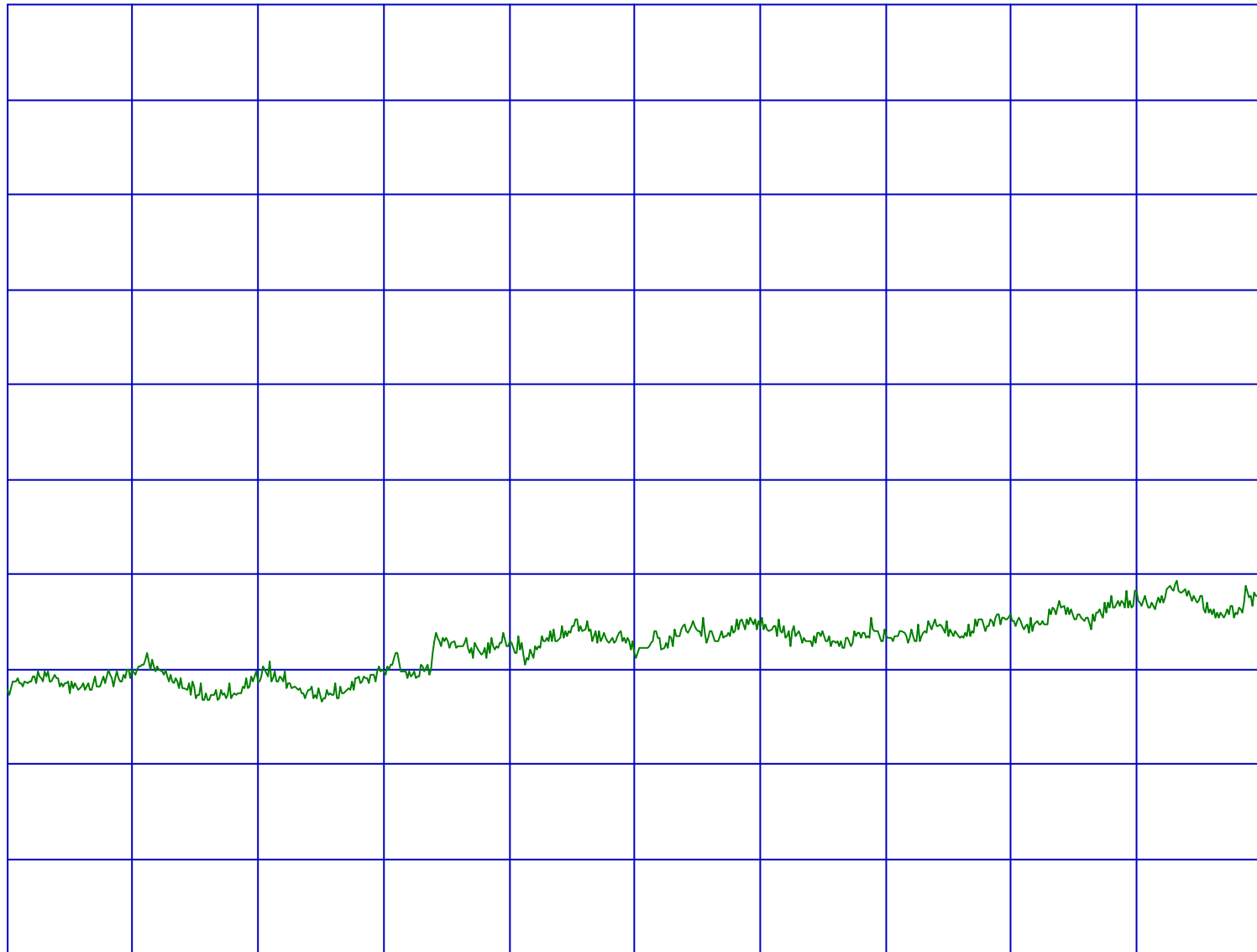
START 3.000000GHz
RBW 100kHz

VBW 100kHz

STOP 10.000000GHz
SWP 2s

SHARP/Model:UX-CL220(Base)/FCC ID:APYHR000023
15.247(c)/Out of Band/Ch40(10-26GHz)/Page A74
REF 107 dBuV ATT 10 dB

10dB/



START 10.000000GHz
RBW 100kHz

VBW 100kHz

STOP 26.000000GHz
SWP 5s

SHARP/Model:UX-CL220K(Hand)/FCC ID:APYHR000023
15.247(c)/Out of Band/Ch1(30-1000MHz)/Page A75
REF 107 dBuV ATT 10 dB

10dB/



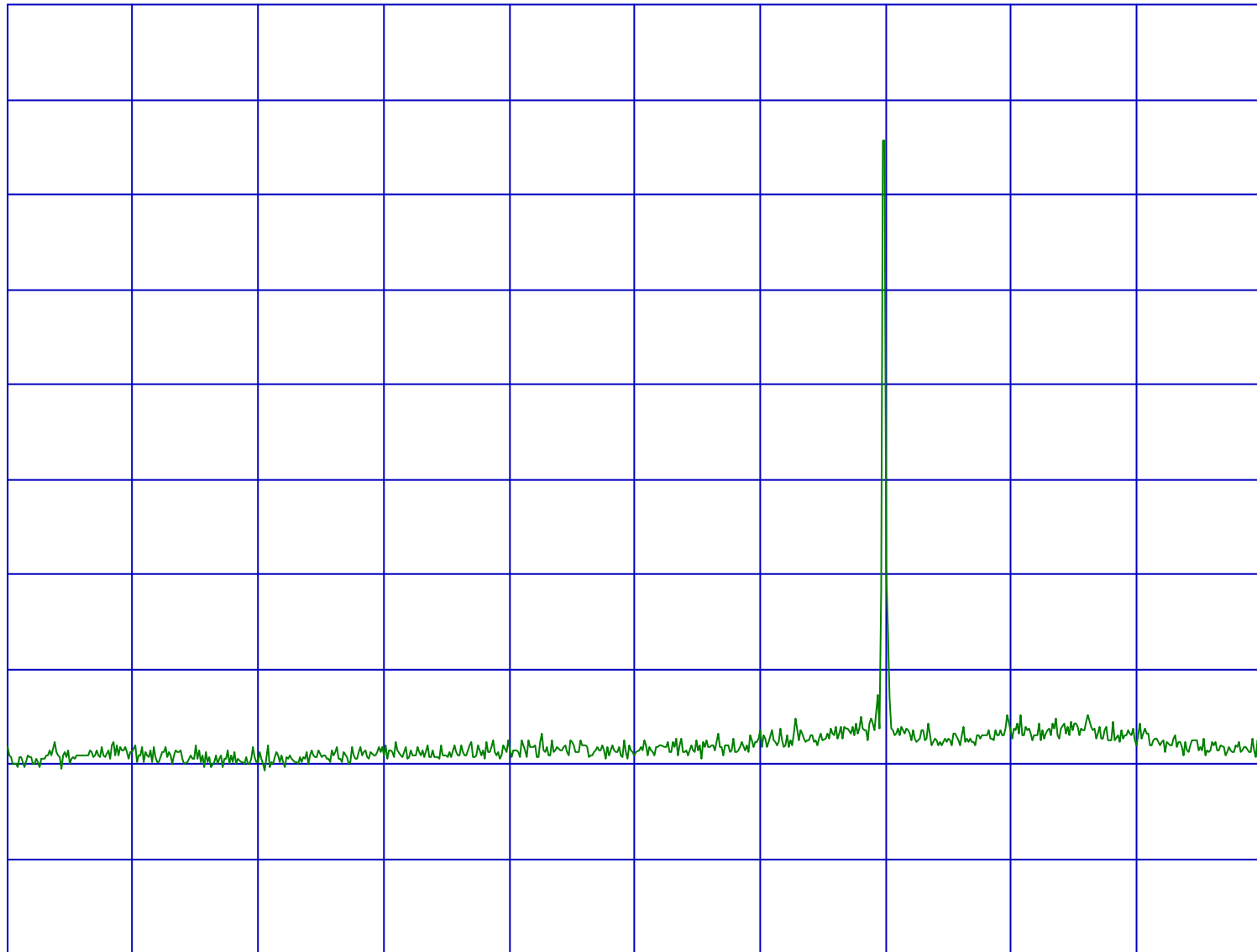
START 30.00MHz
RBW 100kHz

VBW 100kHz

STOP 1.000000GHz
SWP 500ms

SHARP/Model:UX-CL220K(Hand)/FCC ID:APYHR000023
15.247(c)/Out of Band/Ch1(1-3GHz)/+ATT10dB/Page A76
REF 107 dBuV ATT 10 dB

10dB/



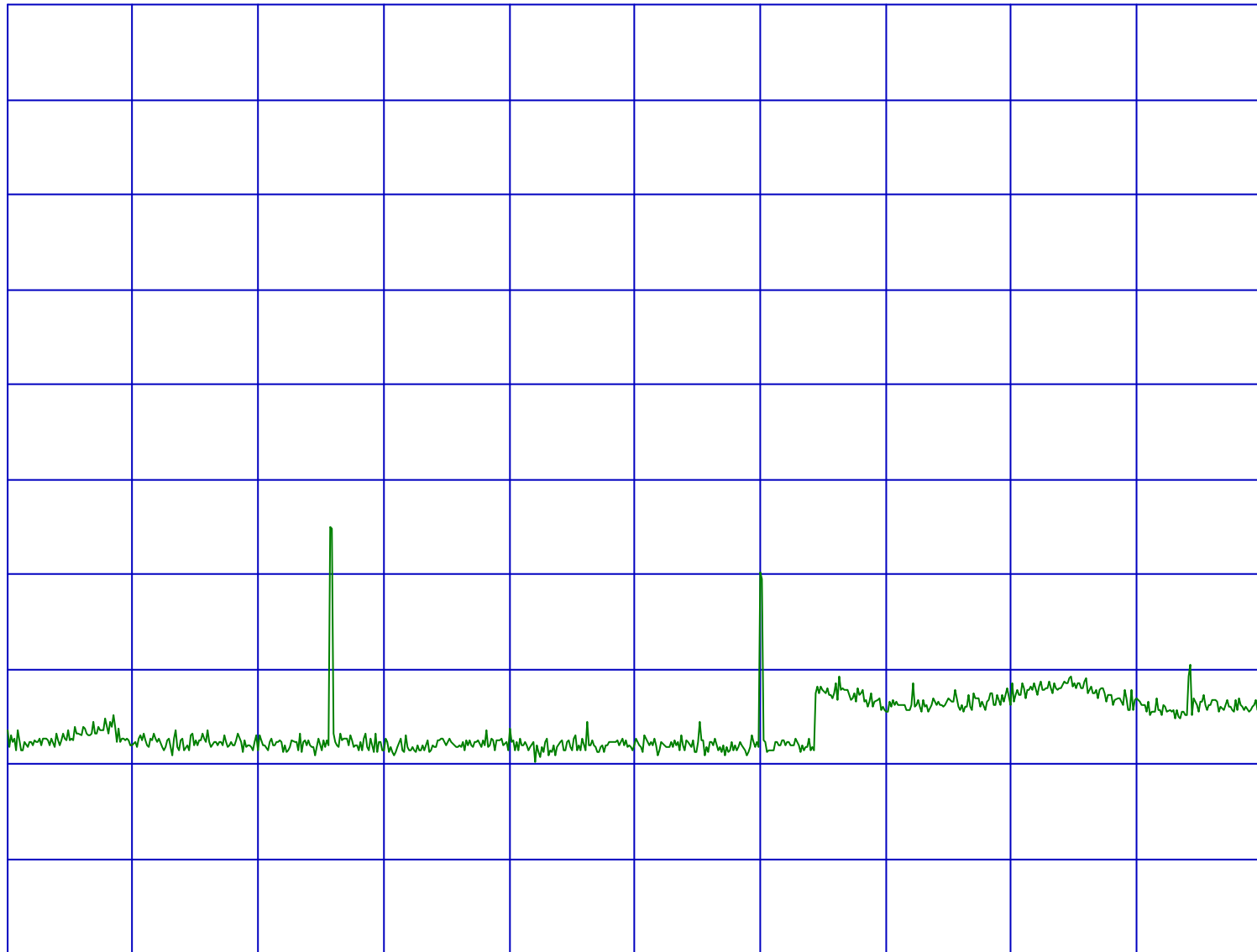
START 1.000000GHz
RBW 100kHz

VBW 100kHz

STOP 3.000000GHz
SWP 2s

SHARP/Model:UX-CL220K(Hand)/FCC ID:APYHR000023
15.247(c)/Out of Band/Ch1(3-10GHz)/Page A77
REF 107 dBuV ATT 10 dB

10dB/



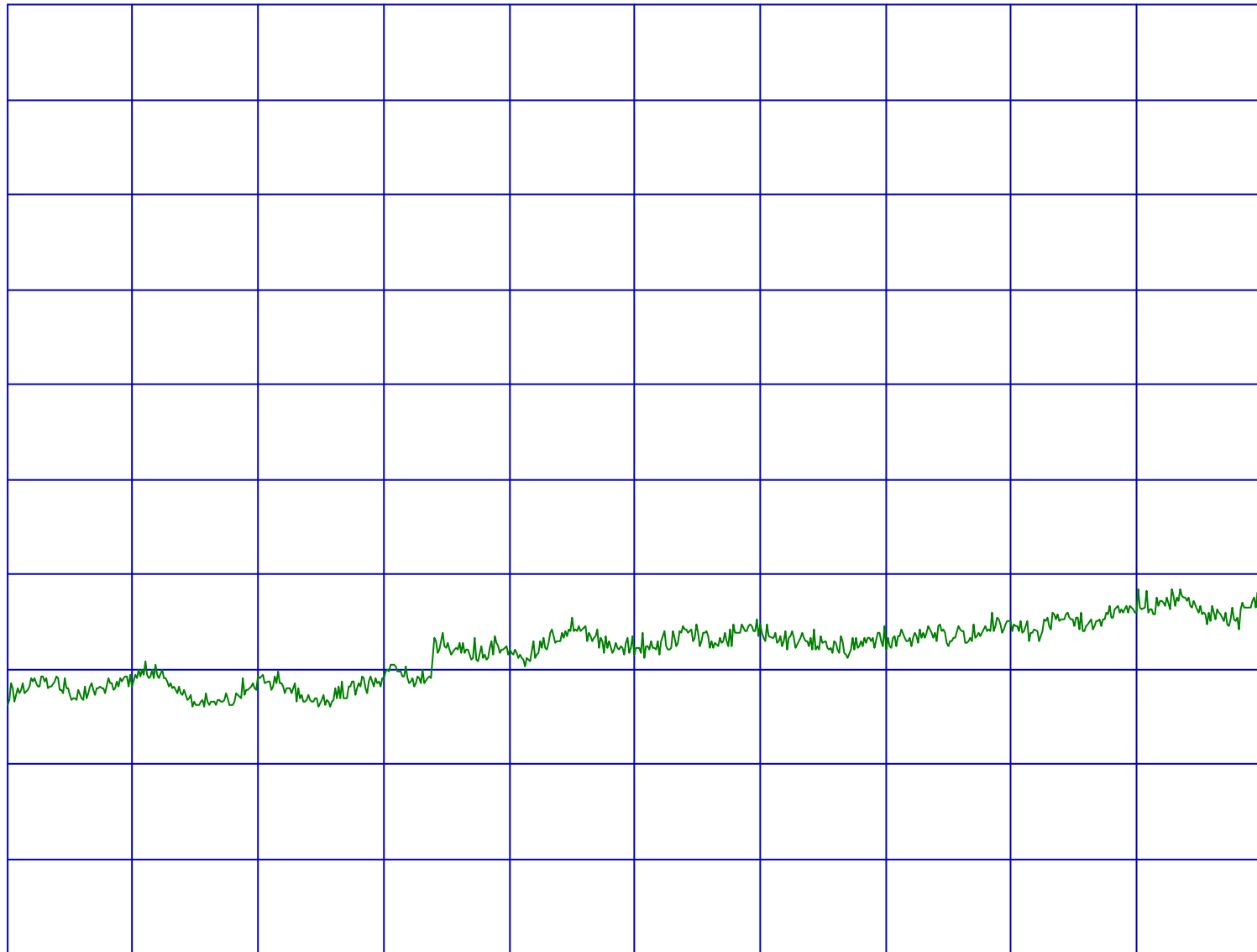
START 3.000000GHz
RBW 100kHz

VBW 100kHz

STOP 10.000000GHz
SWP 2s

SHARP/Model:UX-CL220K(Hand)/FCC ID:APYHR000023
15.247(c)/Out of Band/Ch1(10-26GHz)/Page A78
REF 107 dBuV ATT 10 dB

10dB/



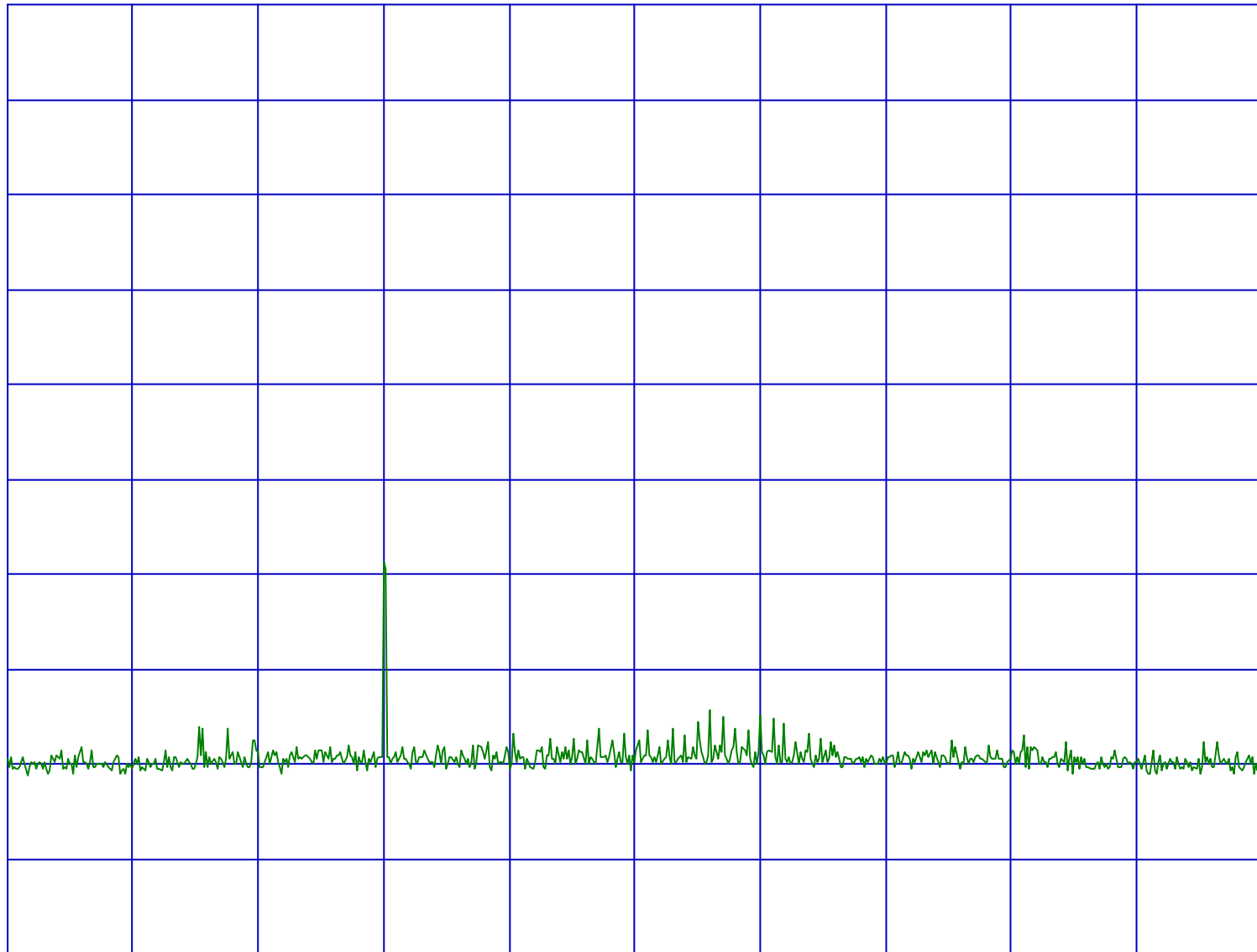
START 10.000000GHz
RBW 100kHz

VBW 100kHz

STOP 26.000000GHz
SWP 5s

SHARP/Model:UX-CL220K(Hand)/FCC ID:APYHR000023
15.247(c)/Out of Band/Ch20(30-1000MHz)/Page A79
REF 107 dBuV ATT 10 dB

10dB/



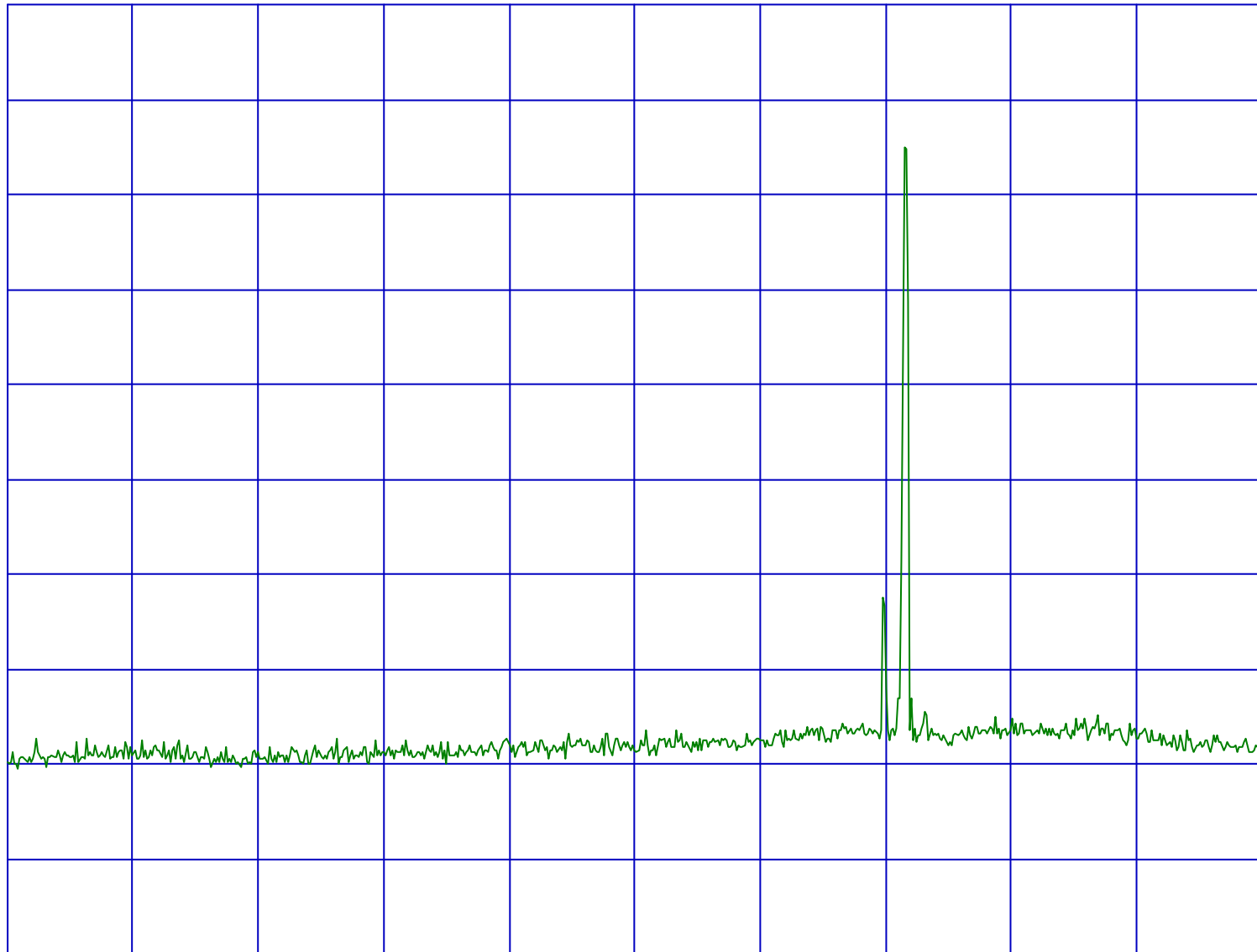
START 30.00MHz
RBW 100kHz

VBW 100kHz

STOP 1.000000GHz
SWP 500ms

SHARP/Model:UX-CL220K(Hand)/FCC ID:APYHR000023
15.247(c)/Out of Band/Ch20(1-3GHz)/+ATT10dB/Page A80
REF 107 dBuV ATT 10 dB

10dB/



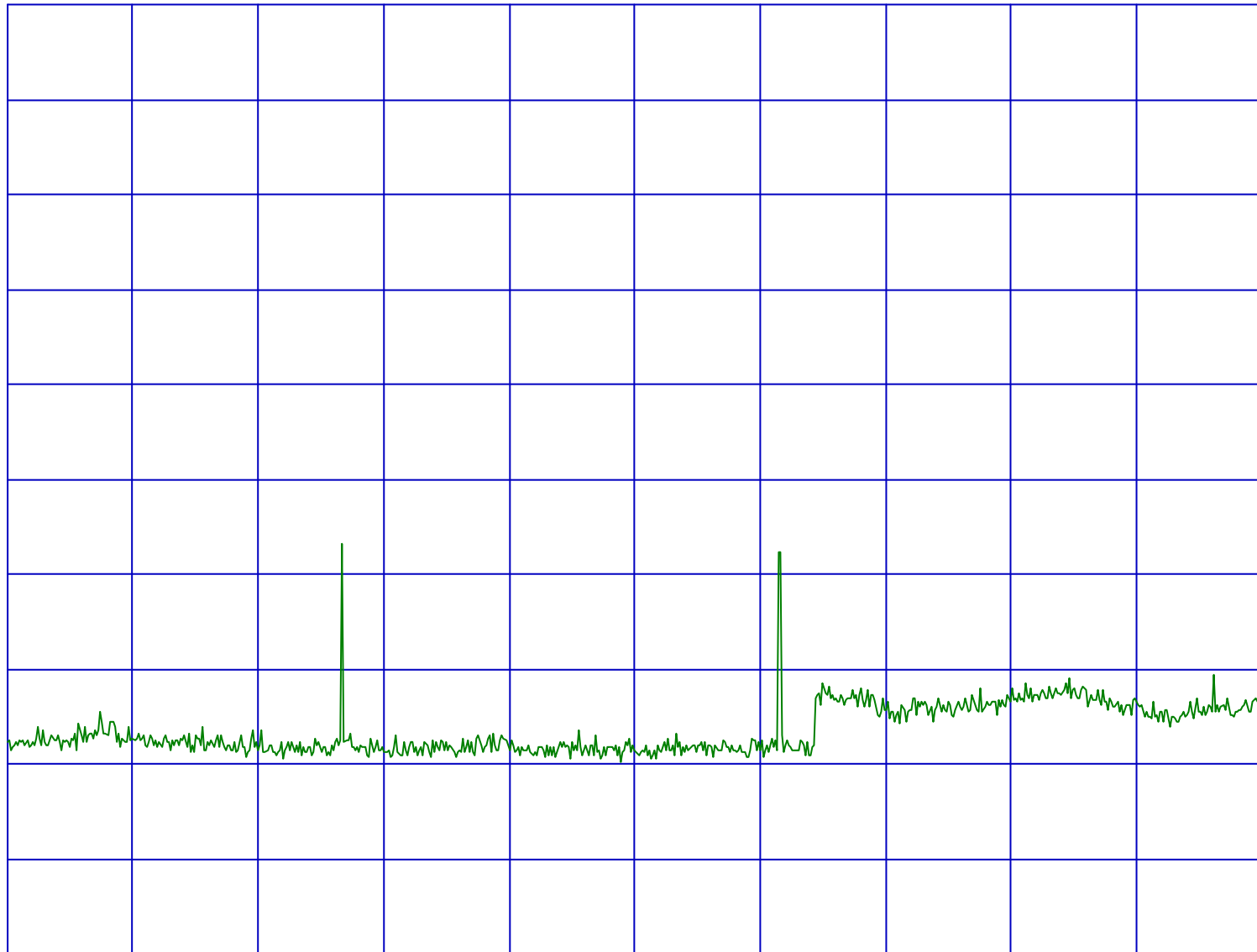
START 1.000000GHz
RBW 100kHz

VBW 100kHz

STOP 3.000000GHz
SWP 2s

SHARP/Model:UX-CL220K(Hand)/FCC ID:APYHR000023
15.247(c)/Out of Band/Ch20(3-10GHz)/Page A81
REF 107 dBuV ATT 10 dB

10dB/



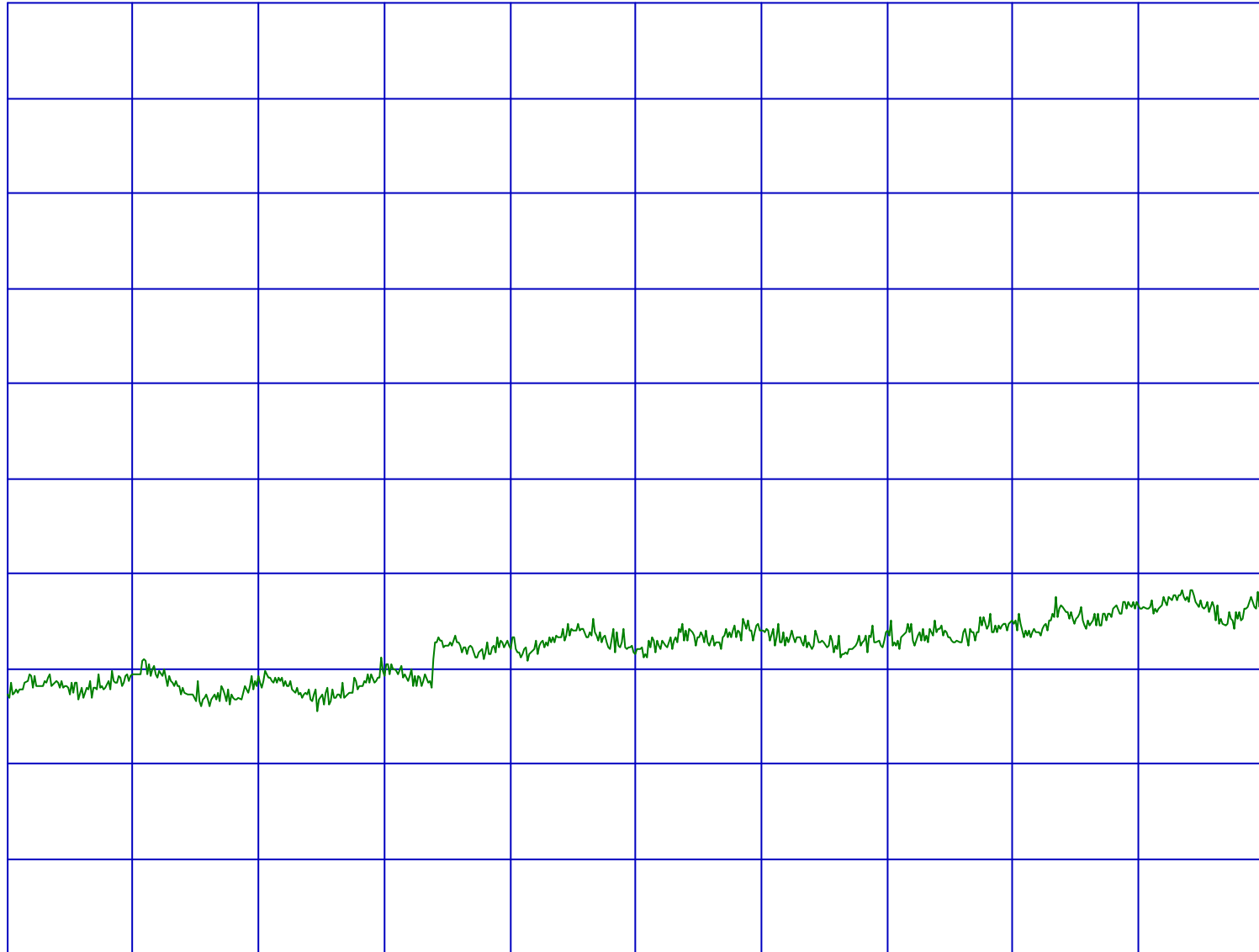
START 3.000000GHz
RBW 100kHz

VBW 100kHz

STOP 10.000000GHz
SWP 2s

SHARP/Model:UX-CL220K(Hand)/FCC ID:APYHR000023
15.247(c)/Out of Band/Ch20(10-26GHz)/Page A82
REF 107 dBuV ATT 10 dB

10dB/



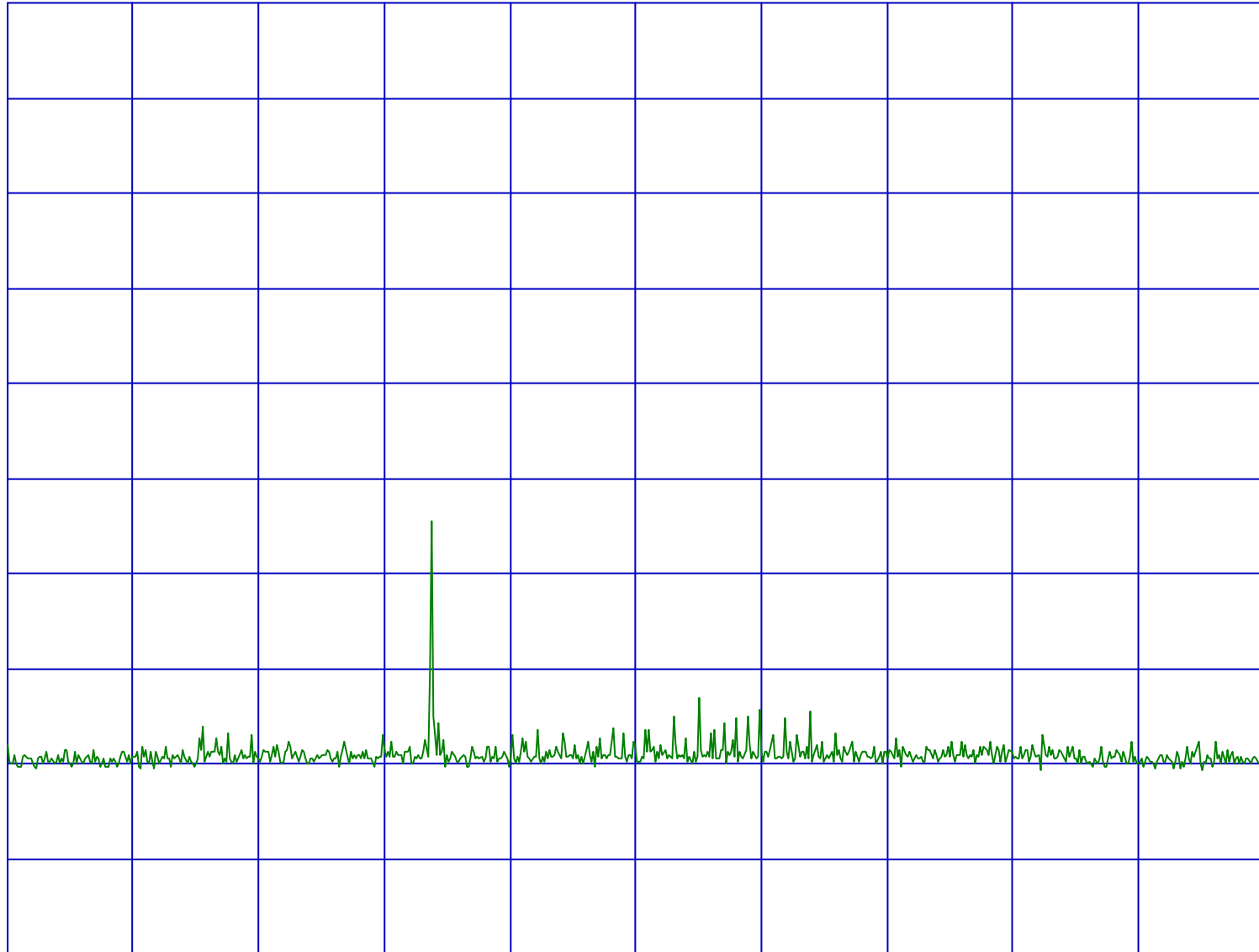
START 10.000000GHz
RBW 100kHz

VBW 100kHz

STOP 26.000000GHz
SWP 5s

SHARP/Model:UX-CL220K(Hand)/FCC ID:APYHR000023
15.247(c)/Out of Band/Ch40(30-1000MHz)/Page A83
REF 107 dBuV ATT 10 dB

10dB/



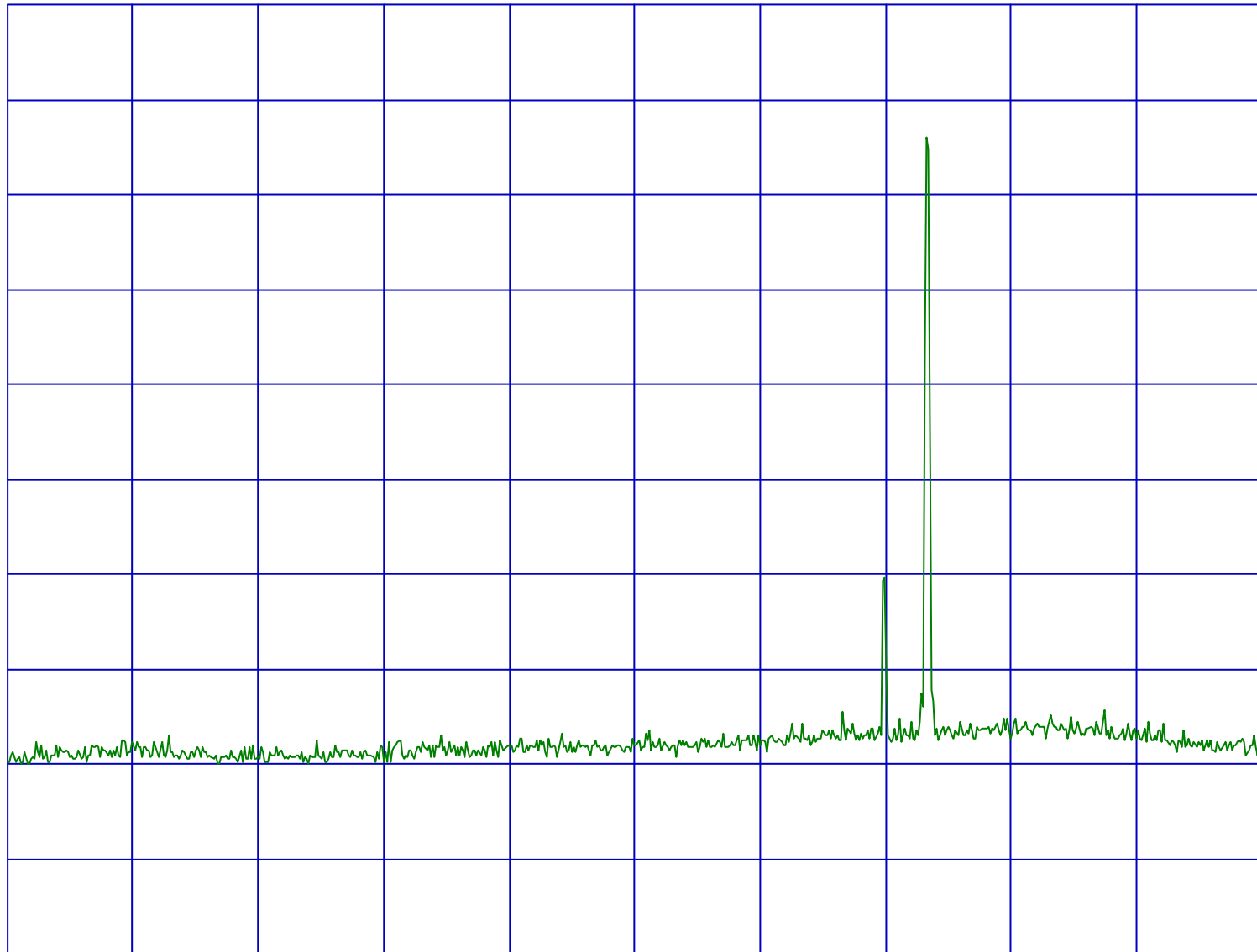
START 30.00MHz
RBW 100kHz

VBW 100kHz

STOP 1.00000GHz
SWP 500ms

SHARP/Model:UX-CL220K(Hand)/FCC ID:APYHR000023
15.247(c)/Out of Band/Ch40(1-3GHz)/+ATT10dB/Page A84
REF 107 dBuV ATT 10 dB

10dB/



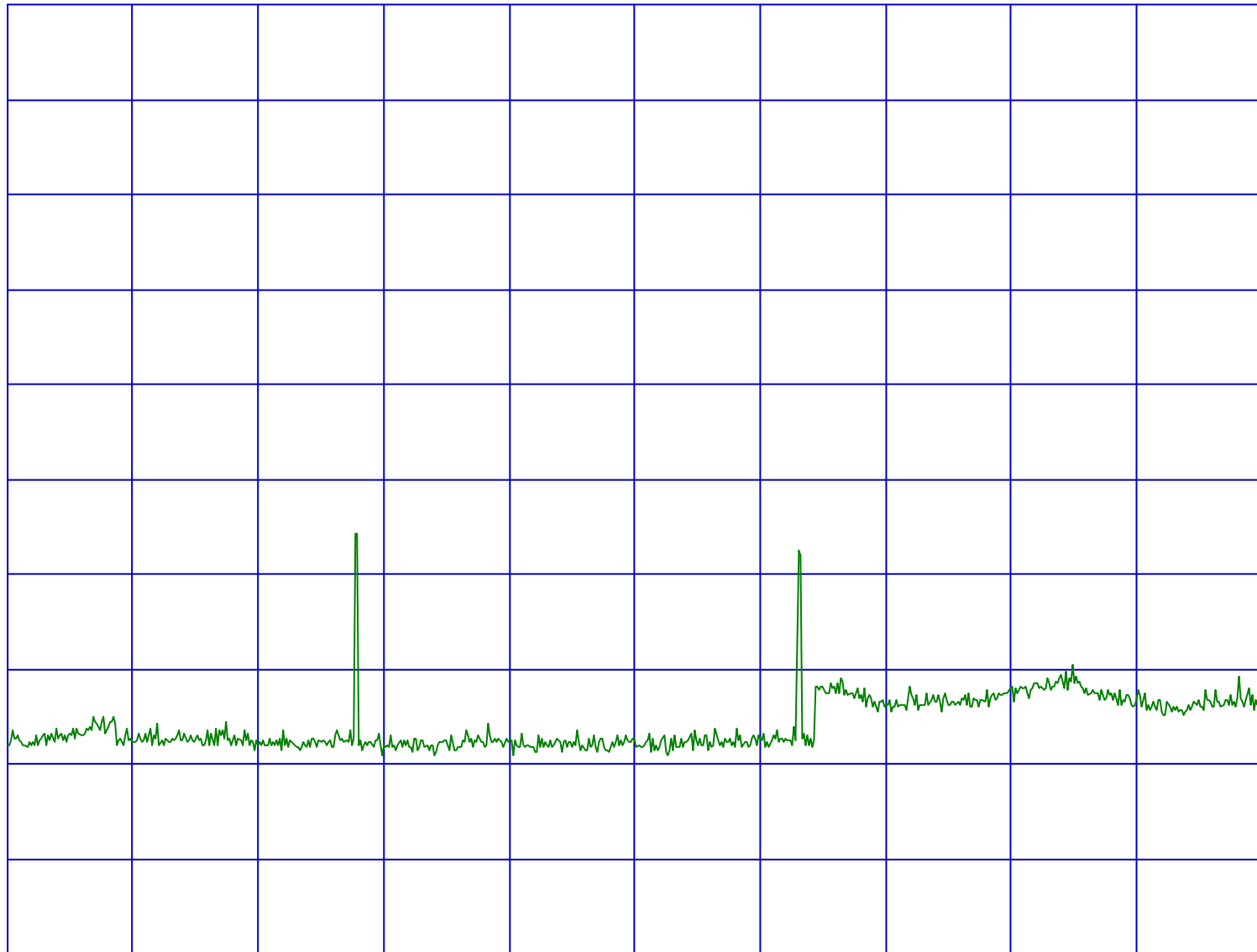
START 1.000000GHz
RBW 100kHz

VBW 100kHz

STOP 3.000000GHz
SWP 2s

SHARP/Model:UX-CL220K(Hand)/FCC ID:APYHR000023
15.247(c)/Out of Band/Ch40(3-10GHz)/Page A85
REF 107 dBuV ATT 10 dB

10dB/



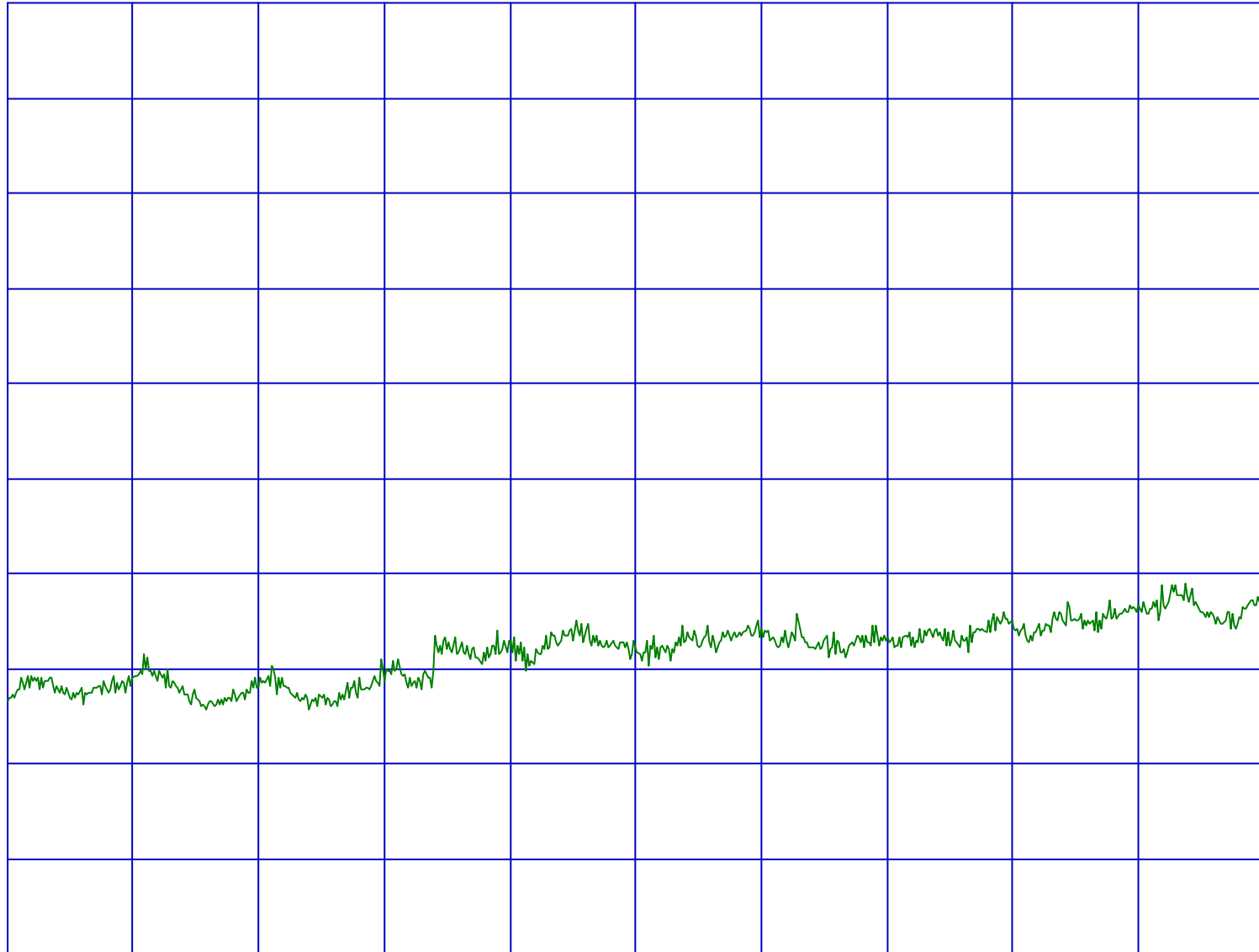
START 3.000000GHz
RBW 100kHz

VBW 100kHz

STOP 10.000000GHz
SWP 2s

SHARP/Model:UX-CL220K(Hand)/FCC ID:APYHR000023
15.247(c)/Out of Band/Ch40(10-26GHz)/Page A86
REF 107 dBuV ATT 10 dB

10dB/



START 10.000000GHz
RBW 100kHz

VBW 100kHz

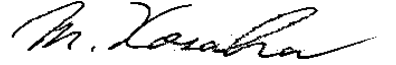
STOP 26.000000GHz
SWP 5s

Power Density(Conducted)

A-PEX INTERNATIONAL CO., LTD.
YOKOWA NO.3 OPEN SITE

COMPANY : SHARP Corporation
EQUIPMENT : Facsimile Equipmet
MODEL : UX-CL220
SAMPLE No. : No.1
FCC ID : APYHRO00023
POWER : AC120V/60Hz
Mode : Transmitting

REPORT NO : 22DE0045-YW
REGULATION : Fcc Part15SubpartC 247(d)
DATE : 2001/11/21
Temperature : 26degrees centigrade
Humidity : 30%



ENGINEER : Makoto Kosaka

Ch	FREQ [GHz]	S/A Reading [dBuV]	Cable Loss [dB]	ATTEN. [dB]	Result [dBm]	Limit (1W) [dBm]	Margin [dB]
Low (ch1)	2.4051	98.5	0.5	10.0	2.0	8.0	6.0
Mid (ch20)	2.4393	98.6	0.5	10.0	2.1	8.0	5.9
High (ch40)	2.4753	96.9	0.5	10.0	0.4	8.0	7.6

Sample Calculation :

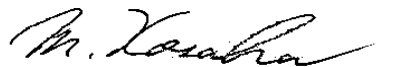
RESULT=Reading (-107:Converted to dBm) + CABLE LOSS + ATTEN.

Power Density(Conducted)

A-PEX INTERNATIONAL CO., LTD.
YOKOWA NO.3 OPEN SITE

COMPANY : SHARP Corporation
EQUIPMENT : Cordless Handset
MODEL : UX-CL220K
SAMPLE No. : No.3
FCC ID : APYHRO00023
POWER : DC 3.6V
Mode : Transmitting

REPORT NO : 22DE0045-YW
REGULATION : Fcc Part15SubpartC 247(d)
DATE : 2001/11/21
Temperature : 26degrees centigrade
Humidity : 30%



ENGINEER : Makoto Kosaka

Ch	FREQ [GHz]	S/A Reading [dBuV]	Cable Loss [dB]	ATTEN. [dB]	Result [dBm]	Limit (1W) [dBm]	Margin [dB]
Low (ch1)	2.4045	94.4	0.5	10.0	-2.1	8.0	10.1
Mid (ch20)	2.4385	94.4	0.5	10.0	-2.1	8.0	10.1
High (ch40)	2.4753	94.6	0.5	10.0	-1.9	8.0	9.9

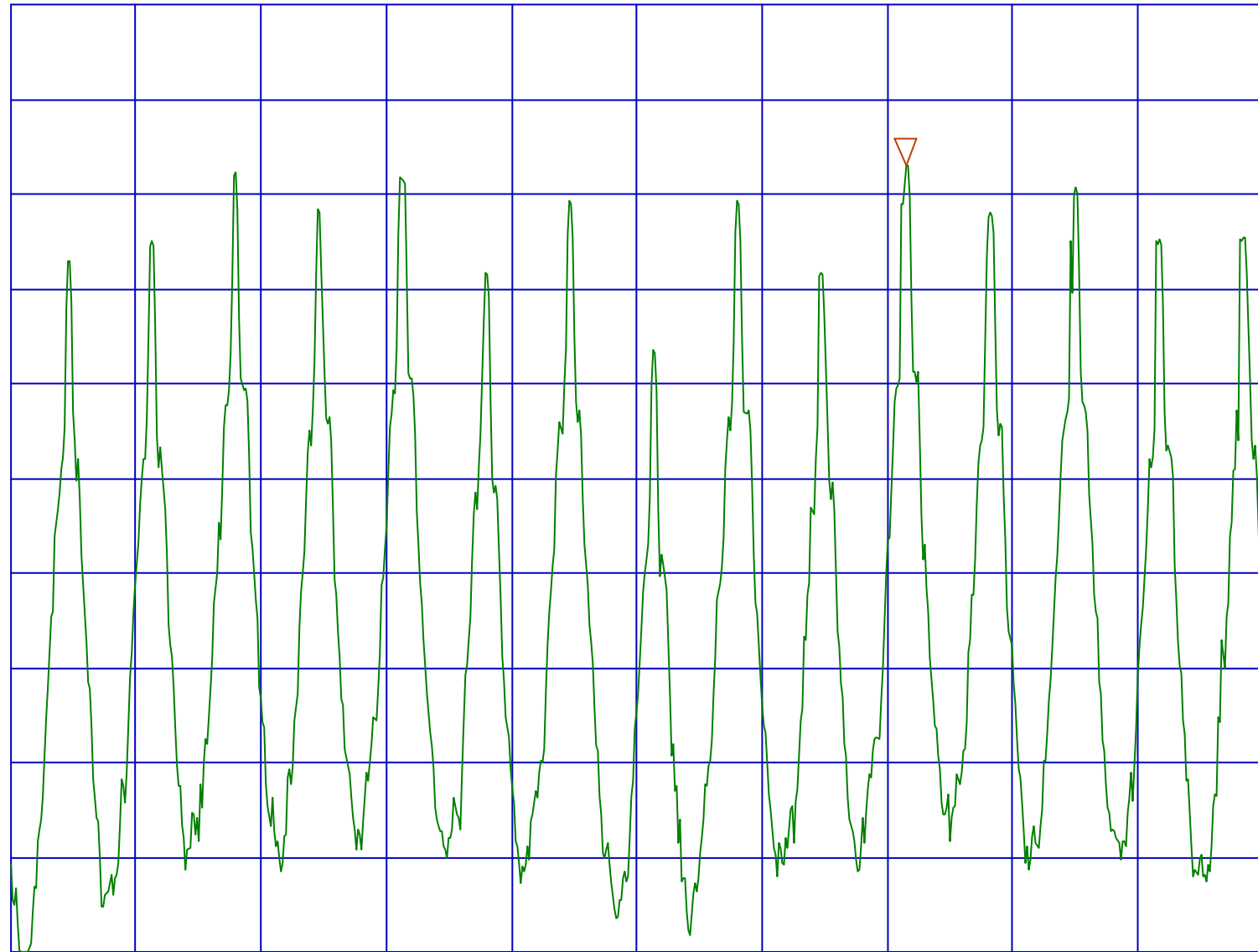
Sample Calculation :

RESULT=Reading (-107:Converted to dBm) + CABLE LOSS + ATTEN.

SHARP/Model : UX-CL220(Base)/FCC ID: APYHR000023
15.247(d) Power Density/(Ch1/+ ATT10dB/Page A89
REF 107 dBuV ATT 10 dB

MAKER
2.4051 GHz
98.50 dBuV

5dB/



START 2.40450GHz
RBW 3kHz

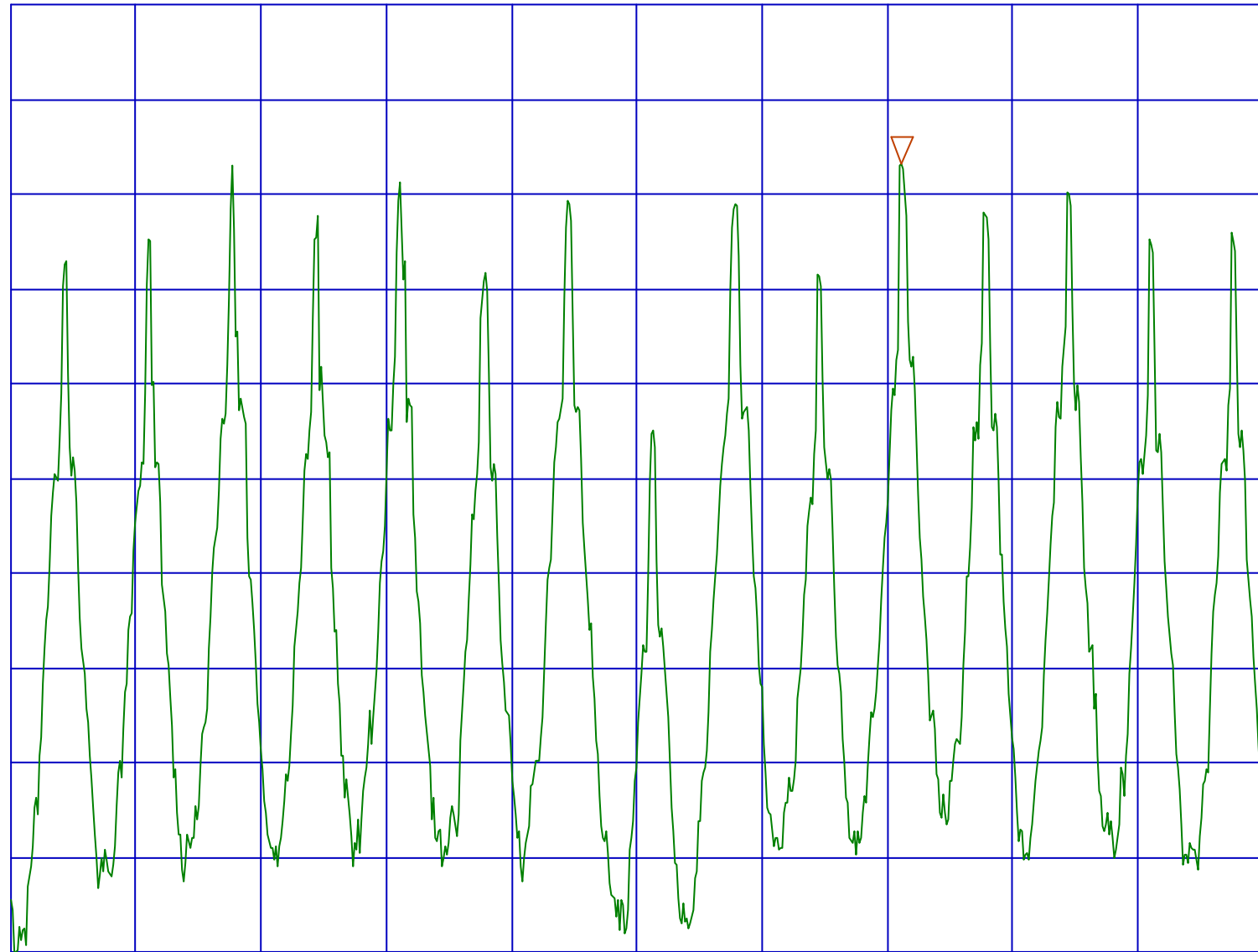
VBW 10kHz

STOP 2.40550GHz
SWP 500s

SHARP/Model:UX-CL220(Base)/FCC ID:APYHR000023
15.247(d)Power Density/Ch20/+ ATT10dB/Page A90
REF 107 dBuV ATT 10 dB

MAKER
2.4393 GHz
98.63 dBuV

5dB/



START 2.438250GHz
RBW 3kHz

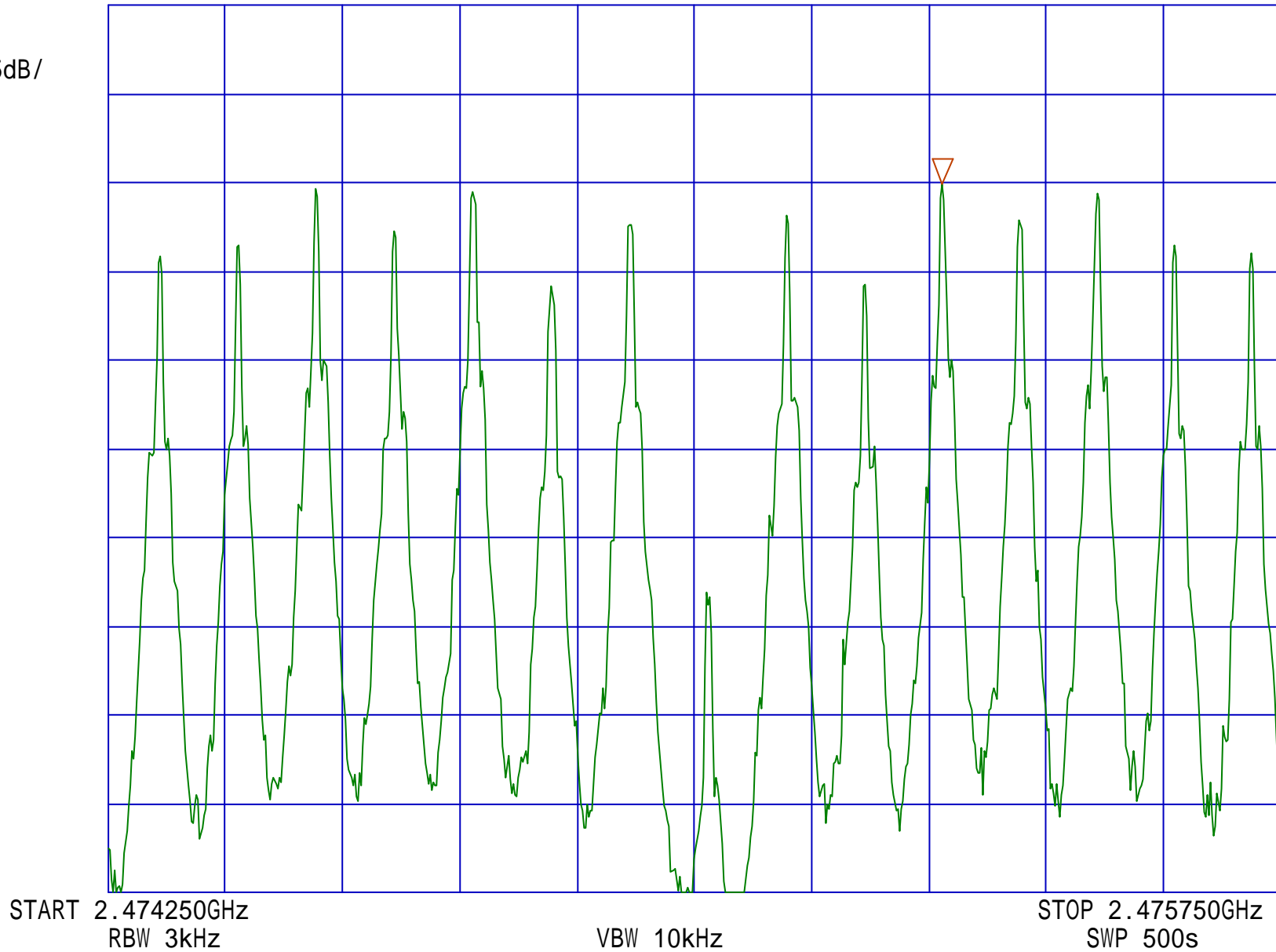
VBW 10kHz

STOP 2.439750GHz
SWP 500s

SHARP/Model :UX-CL220(Base)/FCC ID:APYHR000023
15.247(d)Power Density/Ch40/+ ATT10dB/Page A91
REF 107 dBuV ATT 10 dB

MAKER
2.4753 GHz
96.88 dBuV

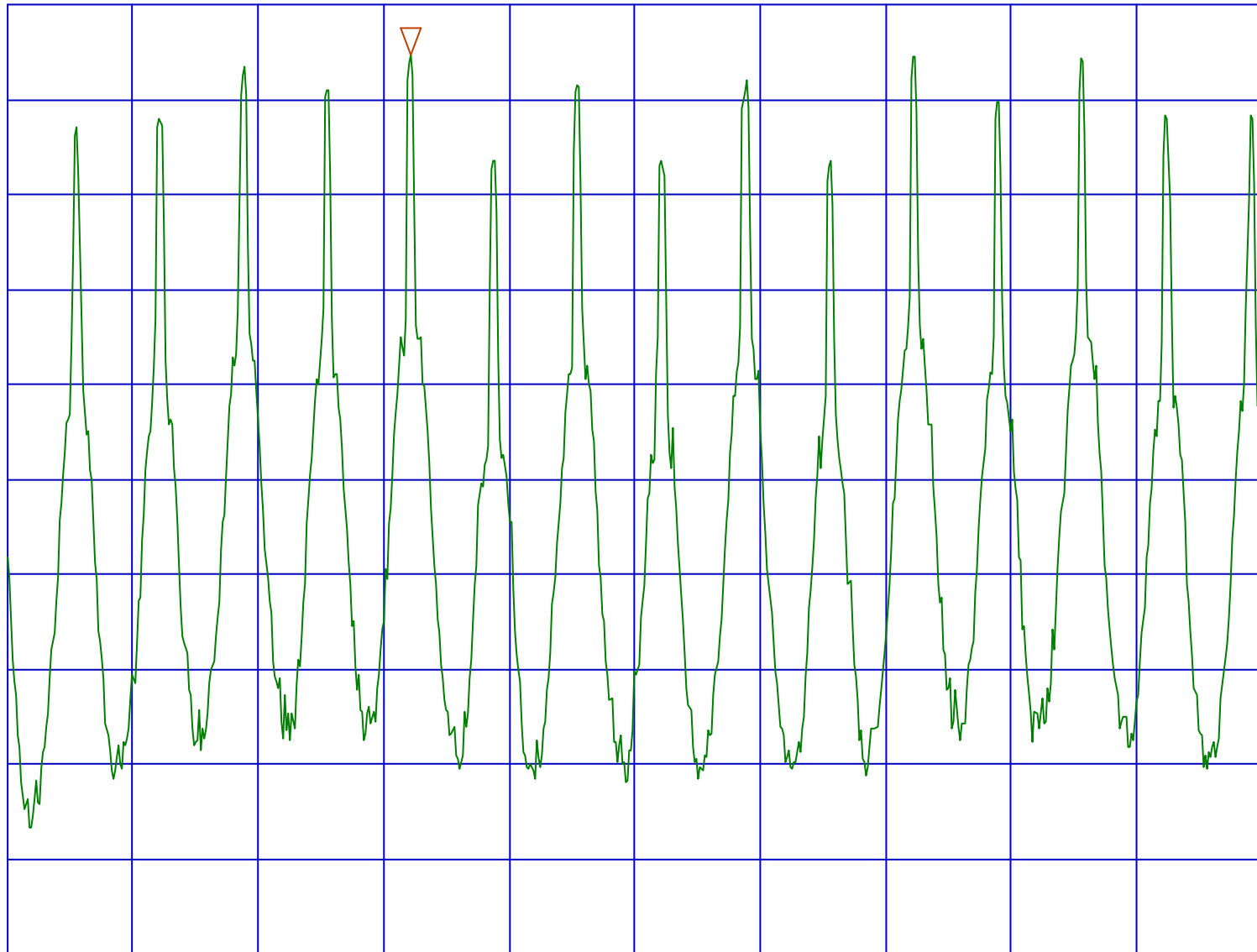
5dB/



SHARP/Model:UX-CL220K(Hand)/FCC ID:APYHR000023
15.247(d)Power Density/Ch1/+ ATT10dB/Page A92
REF 97 dBuV ATT 10 dB

MAKER
2.4045 GHz
94.38 dBuV

5dB/



START 2.404050GHz
RBW 3kHz

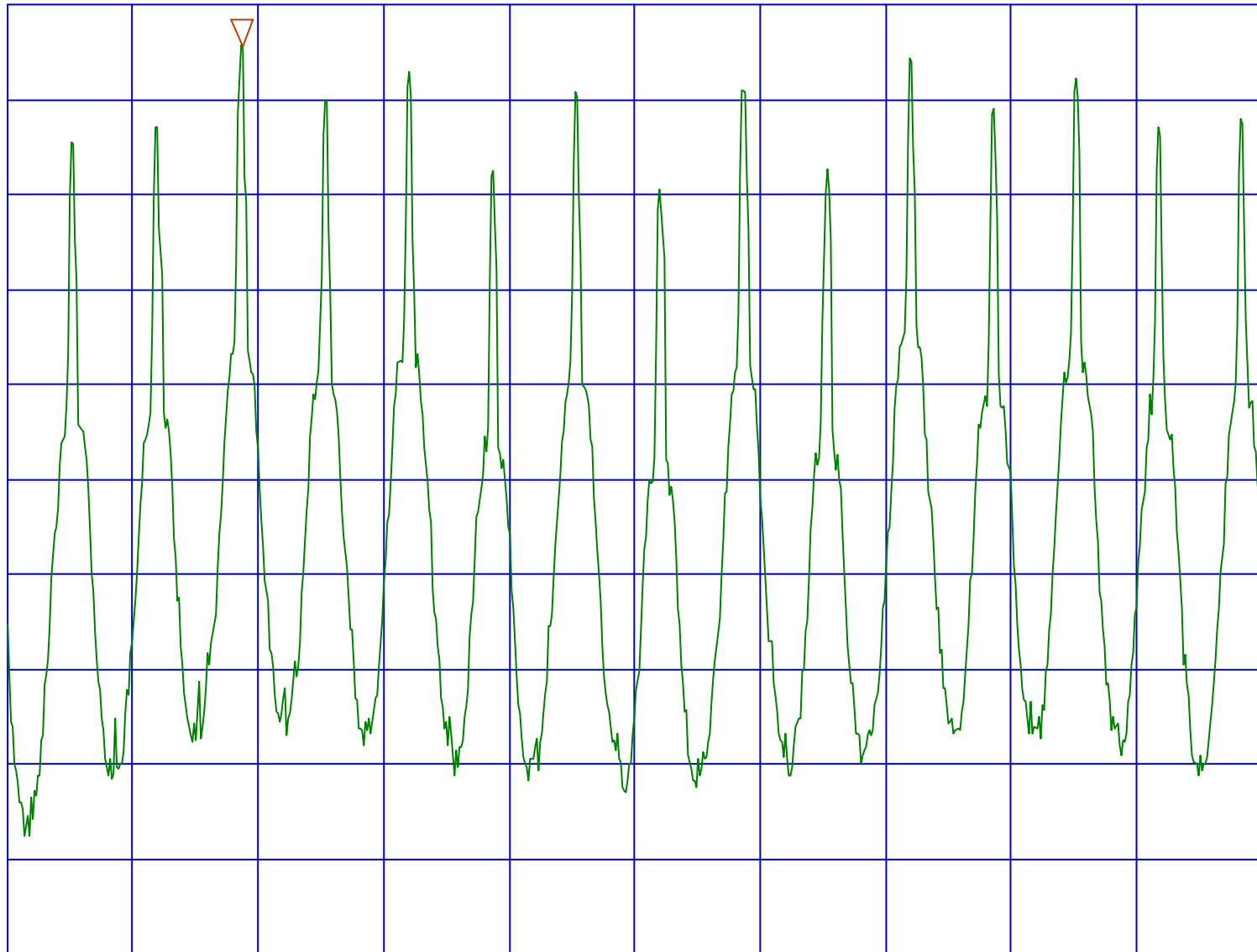
VBW 10kHz

STOP 2.405550GHz
SWP 500s

SHARP/Model:UX-CL220K(Hand)/FCC ID:APYHR000023
15.247(d)Power Density/Ch20/+ ATT10dB/Page A93
REF 97 dBuV ATT 10 dB

MAKER
2.4385 GHz
94.75 dBuV

5dB/



START 2.438250GHz
RBW 3kHz

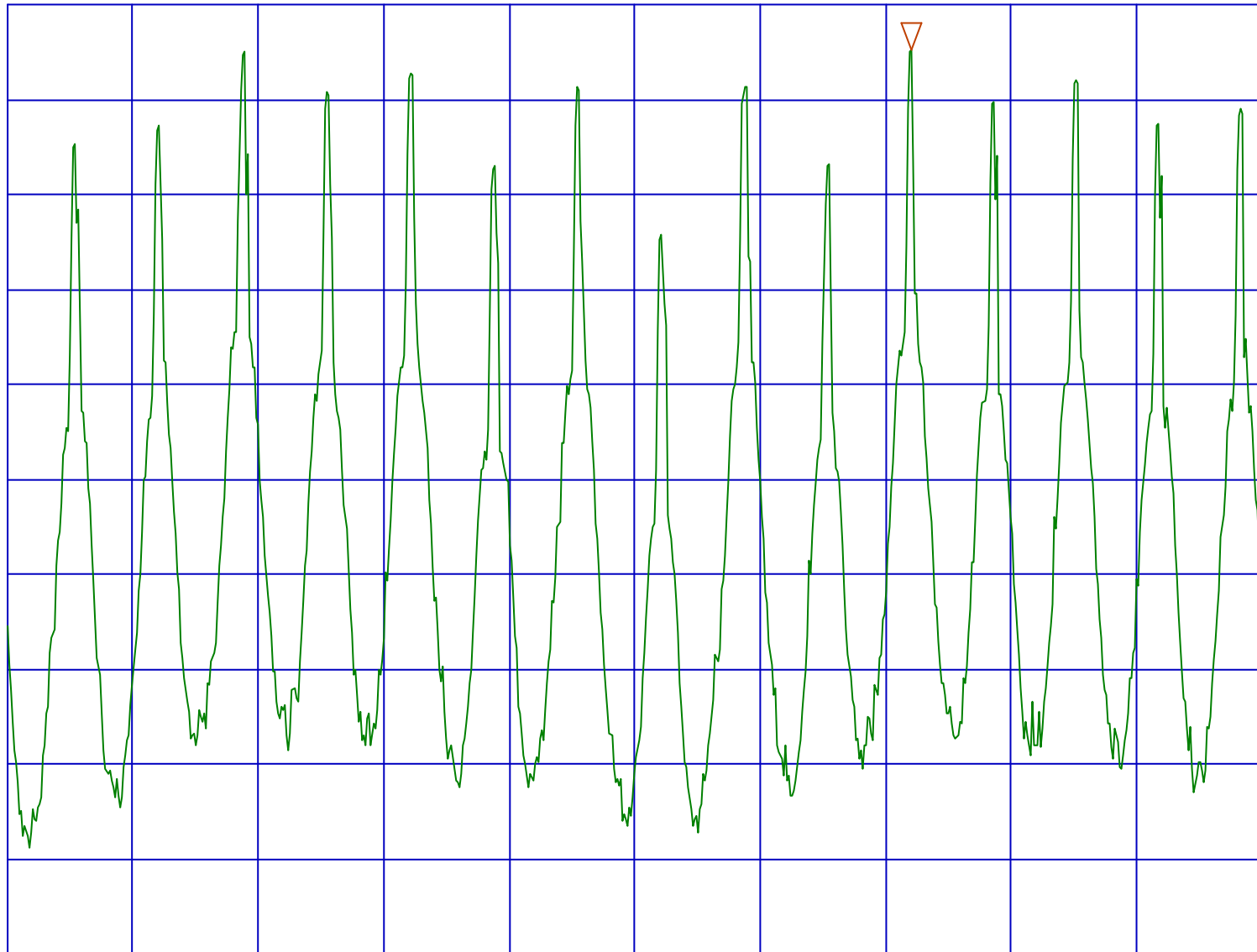
VBW 10kHz

STOP 2.439750GHz
SWP 500s

SHARP/Model:UX-CL220K(Hand)/FCC ID:APYHR000023
15.247(d)Power Density/Ch40/+ ATT10dB/Page A94
REF 97 dBuV ATT 10 dB

MAKER
2.4753 GHz
94.63 dBuV

5dB/



START 2.474250GHz
RBW 3kHz

VBW 10kHz

STOP 2.475750GHz
SWP 500s