

EMI TEST REPORT

Test Report No. : 22DE0021-YW

Applicant: MELCO Inc.

Type of Equipment: 11M Wireless LAN Card

Model No.: WLI-PCM-L11GP

FCC ID: FDI-09101727-0

Test standard: FCC Part15 Subpart C, Section 15.247

Test Result: Complied

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The results in this report apply only to the sample tested.

Date of test: November 22, 29 and 30, 2001 **Issued date:** December 11, 2001

Tested by: 
Makoto Kosaka

Approved by: 
Kazutoyo Nakanishi
Site Operation Manager of EMC section

A-pex International Co., Ltd.

YOKOWA LAB.

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

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1 GENERAL INFORMATION

APPLICANT : MELCO Inc.

ADDRESS : High-Tech Center 15 Shibata Hondori 4-chome,
Minami-ku, Nagoya-shi, Aichi 457-8520 Japan
TEL : 81-52-619-7752
FAX : 81-52-619-7754

REGULATION(S) : FCC Part15 Subpart C, Section 15.247

MODEL NUMBER : WLI-PCM-L11GP

SERIAL NUMBER : 01UT43418446

KIND OF EQUIPMENT : 11M Wireless LAN Card

TESTED DATE : November 22, 29 and 30, 2001

RECEIPT DATE OF SAMPLE : November 10, 2001

REPORT FILE NUMBER : 22DE0021-YW

TEST SITE : A-PEX Yokowa No.3 Open Test Sites

1.1 Tested Methodology

The measurement was performed according to the procedures in ANSI C63.4(1992).

1.2 Test Facility

The open area site measurement facilities used to collect the radiated data are located at 108, Yokowa-cho, Ise-shi, Mie-ken, 516-1106 Japan.

These sites have been fully described in reports submitted to the FCC office.

No.1 and No.3 test site has filed to the FCC on September 12, 2000 as number: 90412 and is accepted by Industry Canada on May 01, 2001 as number IC2973-3.

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2 PRODUCT DESCRIPTION

MELCO Inc., Model WLI-PCM-L11GP (referred to as the EUT in this report) is a 11M Wireless LAN Card.
The specification is as following :

LAN Module

Frequency characteristics : 2412MHz through 2462MHz
No. of channels / channel spacing : 11 channels / 5MHz channel spacing
Modulation : DSSS:Direct sequence spread spectrum.(IEEE 802.11b)
Antenna type : lambda/4 slot antenna (Integral)
Antenna Gain : 0.5dBi (Peak)
I/F : PCMCIA-bus
Power supply : DC 5.0V

*FccPart15.31(e)

The host device WLI-PCM-L11GP provide the LAN Module with stable power supply(DC:5.0V), and the LAN Module complies power supply regulation.

*FccPart15.203 Antenna requirement

Wireless LAN Module and its antenna comply with this requirement since they are built in host device WLI-PCM-L11GP when they are put up for sale and they are used with a particular antenna connector.

2.1 Test System Details

Model	FCC ID	Description
(1) MELCO Inc. M/N: WLI-PCM-L11GP S/N: 01UT43418446	FDI-09101727-0	11M Wireless LAN Card
(2) DELL M/N: PPL S/N: 0006692D	DOC	Notebook PC
*FccPart15 Subpart B Class B Digital Device		
(3) DELL M/N: ADP-70EB S/N: 0004983D	DOC	AC Adapter
*FccPart15 Subpart B Class B Digital Device		

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3 SYSTEM TEST CONFIGURATION

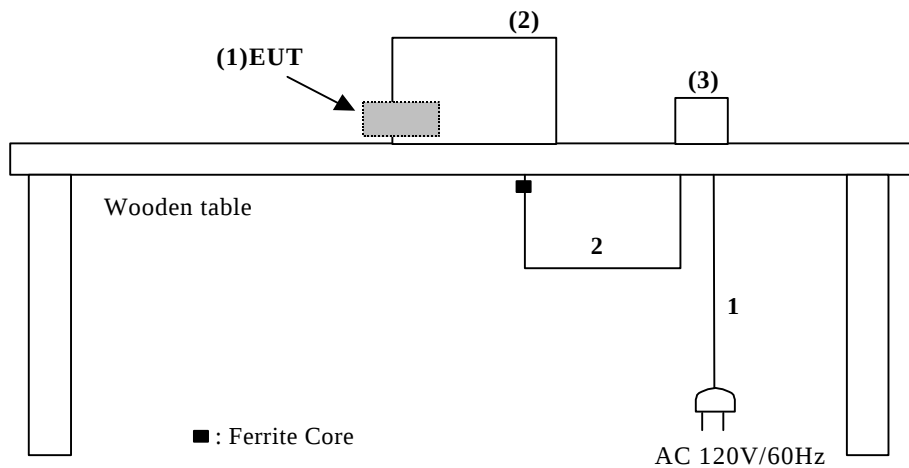
3.1 Justification

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

Test mode : Transmitting mode
Performed the test about channels 1(low), 7(mid) and 11(high) among 11 channels of all Carrier frequencies.

Receiving mode

3.2 Configuration of Tested System



* Cabling was taken into consideration and test data was taken under worst case conditions.

List of cables used

No.	Name	Length (m)	Shield	Remark
1	AC Power Cable	1.85	N	Polyvinyl chloride
2	DC Power Cable	1.8	N	Polyvinyl chloride

4 Measurement Uncertainty

Conducted Emission Test

The measurement uncertainty (with a 95% confidence level) for this test was $\pm 2.0\text{dB}$.

The data listed in this test report has enough margin, more than 2.0dB.

Radiated Emission Test

The measurement uncertainty (with a 95% confidence level) for this test using Biconical antenna is $\pm 4.4\text{dB}$.

The measurement uncertainty (with a 95% confidence level) for this test using Logperiodic antenna is $\pm 4.8\text{dB}$.

The measurement uncertainty (with a 95% confidence level) for this test using Horn antenna is $\pm 5.8\text{dB}$.

The data listed in this test report has enough margin, more than site margin.

5 TEST EQUIPMENT USED

Name	Manufacturer	Model	Control No.	Calibrated Until
Pre Amplifier	Hewlett Packard	8447D	AF-01	March 30, 2002
Pre Amplifier	Hewlett Packard	8449B	AF-04	November 3, 2002
Attenuator	Anritsu	MP721B	AT-06	March 30, 2002
Attenuator	Weinschel	2	AT-15	May 1, 2002
Highpass Filter	Tokimec	HPF-2.4	HF-04	August 30, 2002
Biconical Antenna	Schwarzbeck	BBA9106	BA-03	April 30, 2002
Logperiodic Antenna	Schwarzbeck	UKLP9140-A	LA-06	April 30, 2002
LISN	Rohde & Schwarz	ESH3-Z5	LS-04	November 5, 2002
Horn Antenna	AH System, Inc	SAS-200/571	HA-01	May 19, 2002
Horn Antenna	Schwarzbeck	BBHA9170	HA-03	November 22, 2003
Spectrum Analyzer	Hewlett packard	8567A	SA-04	March 30, 2002
Spectrum Analyzer	Advantest	R3271	SA-05	January 31, 2002
Test Receiver	Rohde & Schwarz	ESVS30	TR-02	April 11, 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

All measurement equipment is traceable to national standards.

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6 SUMMARY OF TESTS

6.1 §15.207 Conducted Emissions

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, including peripherals aligned and flushes with rear of tabletop. All other surfaces of tabletop were 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).

An overview sweep with peak detection has been performed.

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

(Measurement range : 450kHz to 30MHz)

Test data : APPENDIX A1 to A5
Photographs of test setup : Page 13(1)
Test result : Pass
Test instruments : LS-04, SA-04, TR-05

6.2 § 15.247(a)(2) 6dB Bandwidth

Test Procedure

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

1. 2412MHz(Low) : 6.7143MHz > 500kHz
2. 2437MHz(Mid) : 6.4286MHz > 500kHz
3. 2462MHz(High) : 6.4286MHz > 500kHz

Test data : APPENDIX A6 to A8
Test result : Pass
Test instruments : SA-05

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6.3 § 15.247(b) Maximum Peak Out Put Power

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.

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 measurements were performed for both vertical and horizontal antenna polarization.

Test data : APPENDIX A9 to A15
Photographs of test setup : Page14(2)
Test result : Pass
Test instruments : SA-05, HA-01, AF-04

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 : APPENDIX A16
Test result : Pass
Test instruments : PS-01, PM-01, SA-05

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6.4 § 15.247(c) Out of Band Emissions(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.

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 measurements were performed for both vertical and horizontal antenna polarization.

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 : APPENDIX A17 to A20(30 -1000MHz)
: APPENDIX A21 to A23(1 - 26GHz)
: APPENDIX A24 to A32(Restricted Band Edges:2.3900GHz, 2.4835GHz)
Photographs of test setup : Page15(3)
Test result : Pass
Test instruments : AF-01, AF-04, BA-03, LA-06, HA-01, HA-03, SA-04, SA-05, TR-06

6.5 § 15.247(c) Out of Band Emissions(Conducted)

Test Procedure

The Out of Band Emissions(Conducted) was measured with a spectrum analyzer connected to the antenna port.

Test data : APPENDIX A33 to A44
Test result : Pass
Test instruments : SA-05

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6.6 § 15.247(d) Power Density(Conducted)

Test Procedure

The Power Density was measured with a spectrum analyzer connected to the antenna port.

Test data : APPENDIX A45 to A48
Test result : Pass
Test instruments : SA-05

6.7 §15.247(e) Processing Gain Requirement

Test data : See attached test report No. 011734, Rev. B
Processing Gain Additional Info. PDF
Processing Gain Test Data. PDF
Processing Gain Test Report. PDF
Test result : Pass

Photographs of test setup(1)



Photographs of test setup(2)



Photographs of test setup(3)



APPENDIX

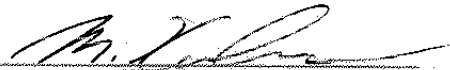
Test Data

1. Conducted Emission (6.1)	<u>A1 to A5</u>
2. 6dB Bandwidth (6.2)	<u>A6 to A8</u>
3. Maximum peak output power (6.3)	<u>A9 to A16</u>
4. Out of band emissions(Radiated) (6.4)	<u>A17 to A32</u>
5. Out of band emissions(Conducted) (6.5)	<u>A33 to A44</u>
6. Power density (6.6)	<u>A45 to A48</u>

DATA OF CONDUCTION TEST

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.3 OPEN TEST SITE
Report No. : 22DE0021-YW

Applicant : MELCO Inc.
Kind of Equipment : 11M Wireless LAN Card
Model No. : WLI-PCM-L11GP
Serial No. : 01UT43418446
Power : AC120V/60Hz
Mode : Transmitting (Ch7:2442MHz)
Remarks : FCC ID: FDI-09101727-0
Date : 11/30/2001
Phase : Single Phase
Temperature : 24 °C
Humidity : 31 %
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	AV	QP	AV				QP	AV	QP	AV	QP	AV
		[dBuV]		[dBuV]					[dBuV]		[dBuV]		[dB]	
1.	0.4875	34.8	-	33.6	-	0.1	0.1	0.0	35.0	-	48.0	0.0	13.0	-
2.	0.5492	37.3	-	35.9	-	0.1	0.1	0.0	37.5	-	48.0	0.0	10.5	-
3.	0.7923	31.1	-	30.9	-	0.1	0.1	0.0	31.3	-	48.0	0.0	16.7	-
4.	1.6454	32.1	-	31.9	-	0.1	0.1	0.0	32.3	-	48.0	0.0	15.7	-
5.	2.2557	33.1	-	33.0	-	0.2	0.2	0.0	33.5	-	48.0	0.0	14.5	-
6.	5.2450	32.1	-	31.2	-	0.3	0.2	0.0	32.6	-	48.0	0.0	15.4	-
7.	12.9314	28.5	-	28.7	-	0.6	0.3	0.0	29.6	-	48.0	0.0	18.4	-
8.	17.7580	30.5	-	29.1	-	0.8	0.4	0.0	31.7	-	48.0	0.0	16.3	-
9.	23.3276	26.0	-	24.1	-	0.9	0.4	0.0	27.3	-	48.0	0.0	20.7	-

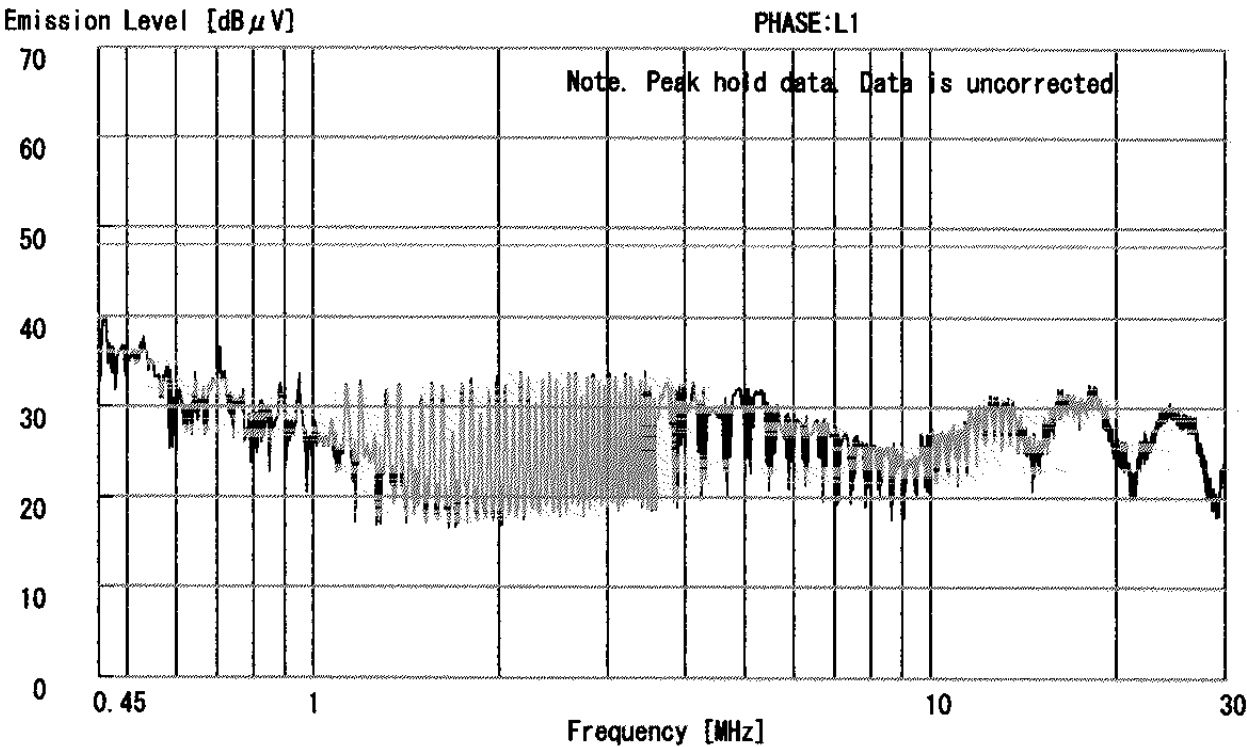
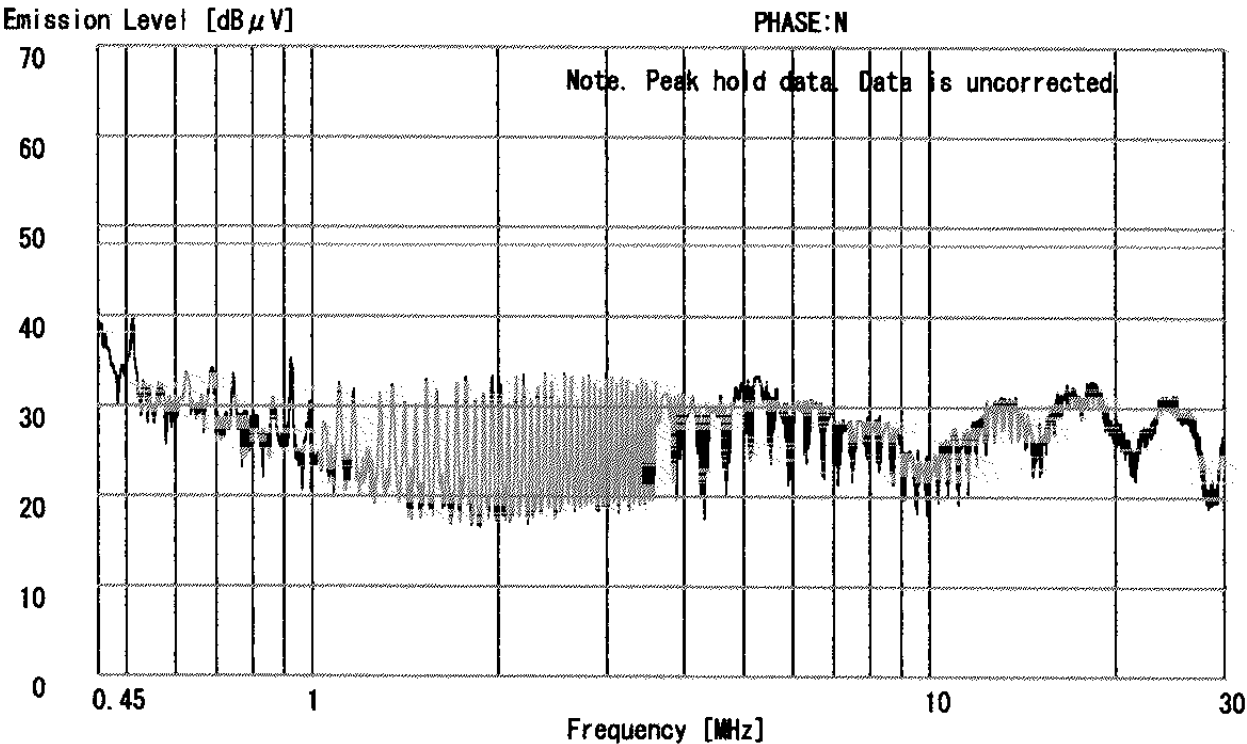
CALCULATION: READING + LISN FACTOR + CABLE LOSS + ATTEN.

DATA OF CONDUCTION TEST CHART

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.3 OPEN TEST SITE
Report No. : 22DE0021-YW

Applicant : MELCO Inc.
Kind of Equipment : 11M Wireless LAN Card
Model No. : WLI-PCM-L11GP
Serial No. : 01UT43418446
Power : AC120V/60Hz
Mode : Transmitting(Ch1:2412MHz)
Remarks : FCC ID: FDI-09101727-0
Date : 11/30/2001
Phase : Single Phase
Temperature : 24 °C
Humidity : 31 %
Regulation 1 : FCC Part15. 207
Regulation 2 : FCC Part15. 207


Engineer : Makoto Kosaka

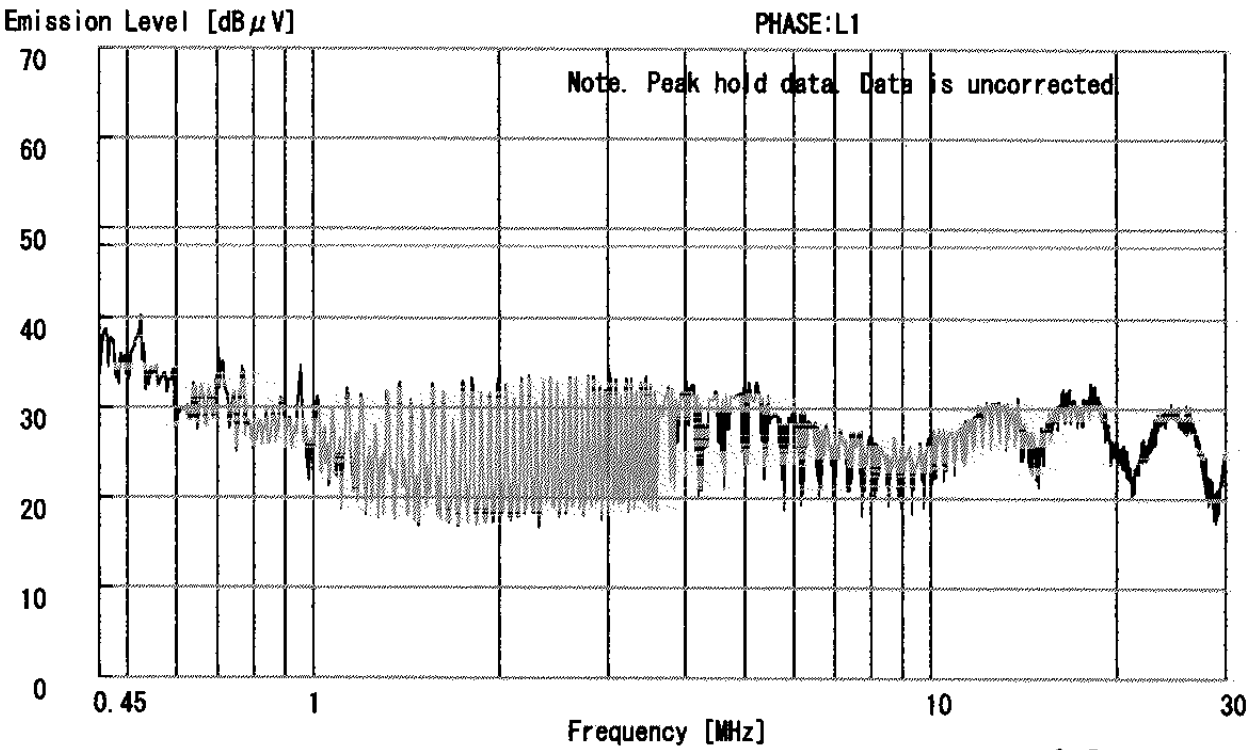
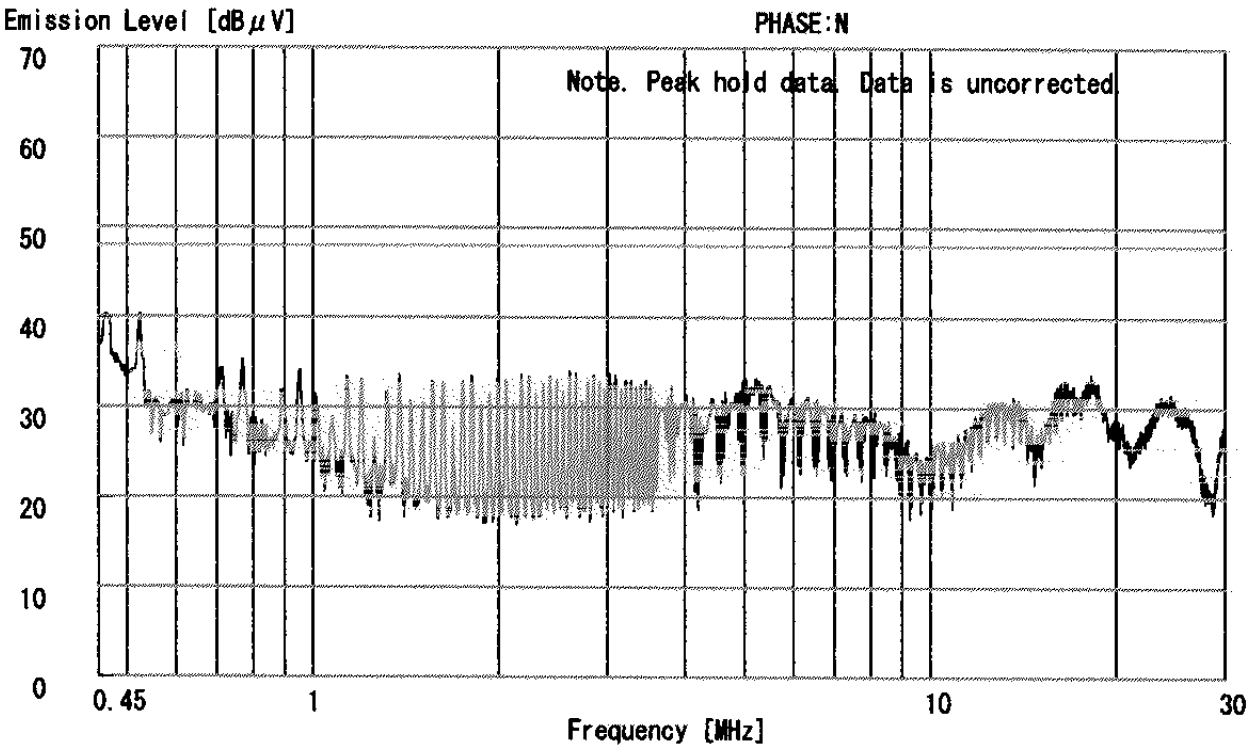


DATA OF CONDUCTION TEST CHART

A-PEX INTERNATIONAL CO., LTD.
YOKOWA No.3 OPEN TEST SITE
Report No. : 22DE0021-YW

Applicant : MELCO Inc.
Kind of Equipment : 11M Wireless LAN Card
Model No. : WLI-PCM-L11GP
Serial No. : 01UT43418446
Power : AC120V/60Hz
Mode : Transmitting (Ch7:2442MHz)
Remarks : FCC ID: FDI-09101727-0
Date : 11/30/2001
Phase : Single Phase
Temperature : 24 °C
Humidity : 31 %
Regulation 1 : FCC Part15.207
Regulation 2 : FCC Part15.207


Engineer : Makoto Kosaka

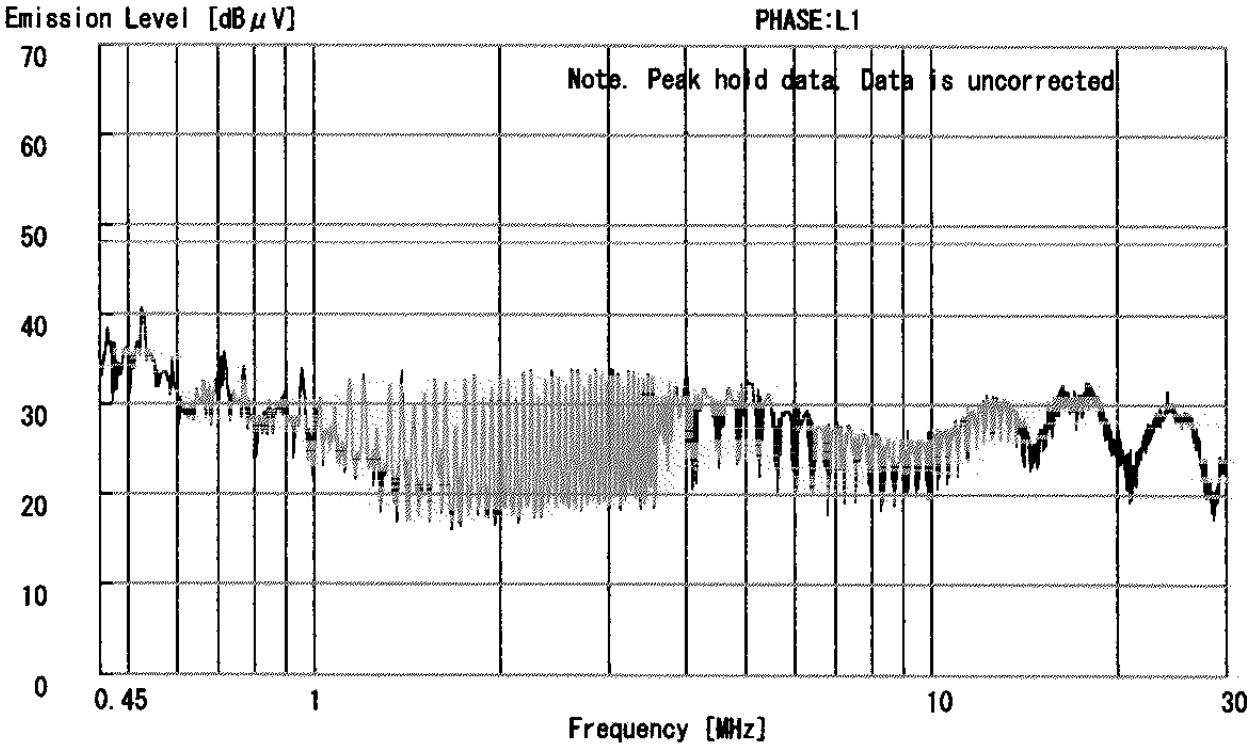
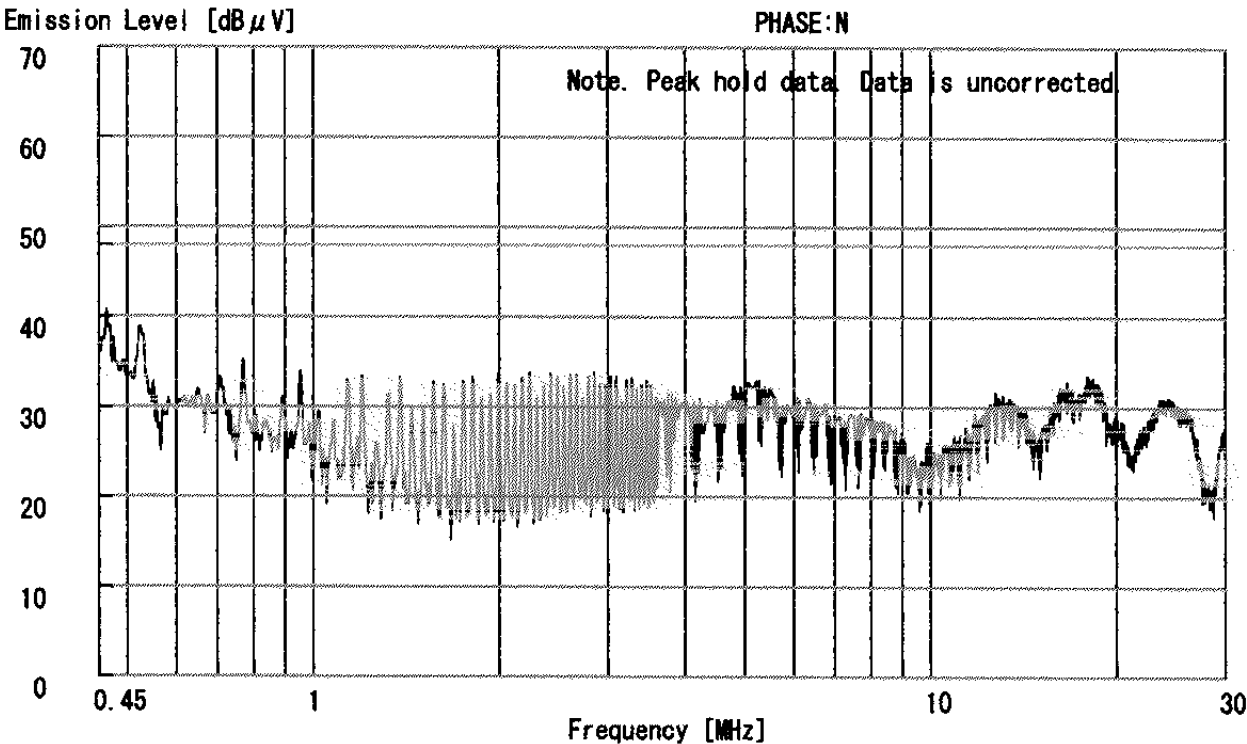


DATA OF CONDUCTION TEST CHART

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YOKOWA No.3 OPEN TEST SITE
Report No. : 22DE0021-YW

Applicant : MELCO Inc.
Kind of Equipment : 11M Wireless LAN Card
Model No. : WLI-PCM-L11GP
Serial No. : 01UT43418446
Power : AC120V/60Hz
Mode : Transmitting (Ch11:2462MHz)
Remarks : FCC ID: FD1-09101727-0
Date : 11/30/2001
Phase : Single Phase
Temperature : 24 °C
Humidity : 31 %
Regulation 1 : FCC Part15.207
Regulation 2 : FCC Part15.207


Engineer : Makoto Kosaka

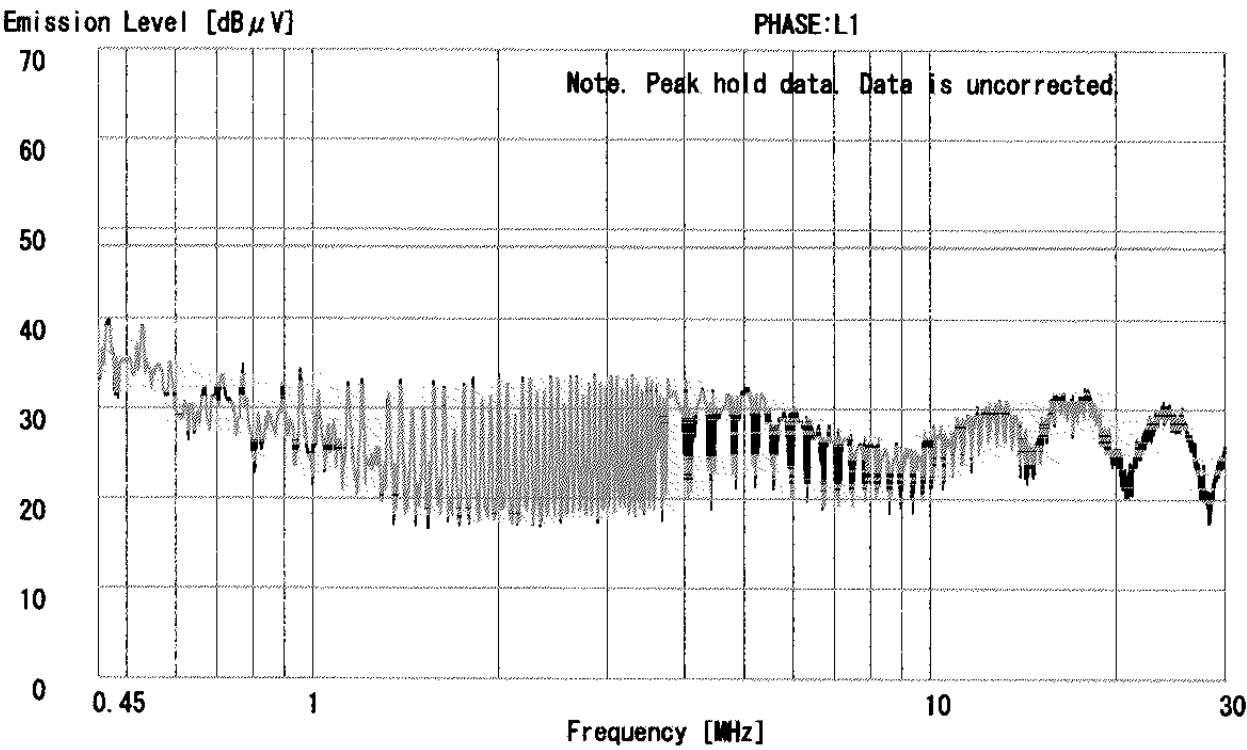
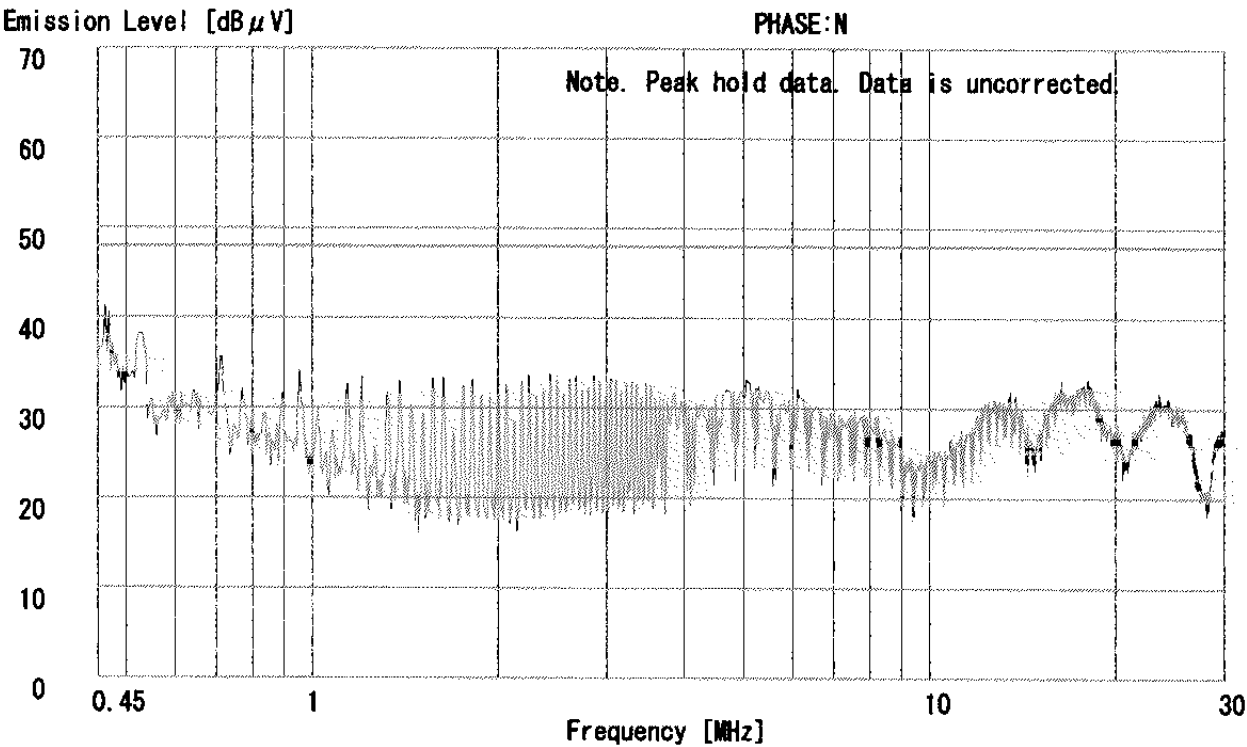


DATA OF CONDUCTION TEST CHART

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YOKOWA No.3 OPEN TEST SITE
Report No. : 22DE0021-YW

Applicant : MELCO Inc.
Kind of Equipment : 11M Wireless LAN Card
Model No. : WLI-PCM-L11GP
Serial No. : 01UT43418446
Power : AC120V/60Hz
Mode : Receiving
Remarks : FCC ID: FDI-09101727-0
Date : 11/30/2001
Phase : Single Phase
Temperature : 24 °C
Humidity : 31 %
Regulation 1 : FCC Part15.207
Regulation 2 : FCC Part15.207


Engineer : Makoto Kosaka



MELCO/Model:WLI-PCM-L11GP/FCC ID:FDI-09101727-0
15.247(a)(2)6dB Bandwidth/Ch1:2412MHz/Page.A6
REF 107 dBuV ATT 10 dB

MAKER
2.4157 GHz
94.63 dBuV

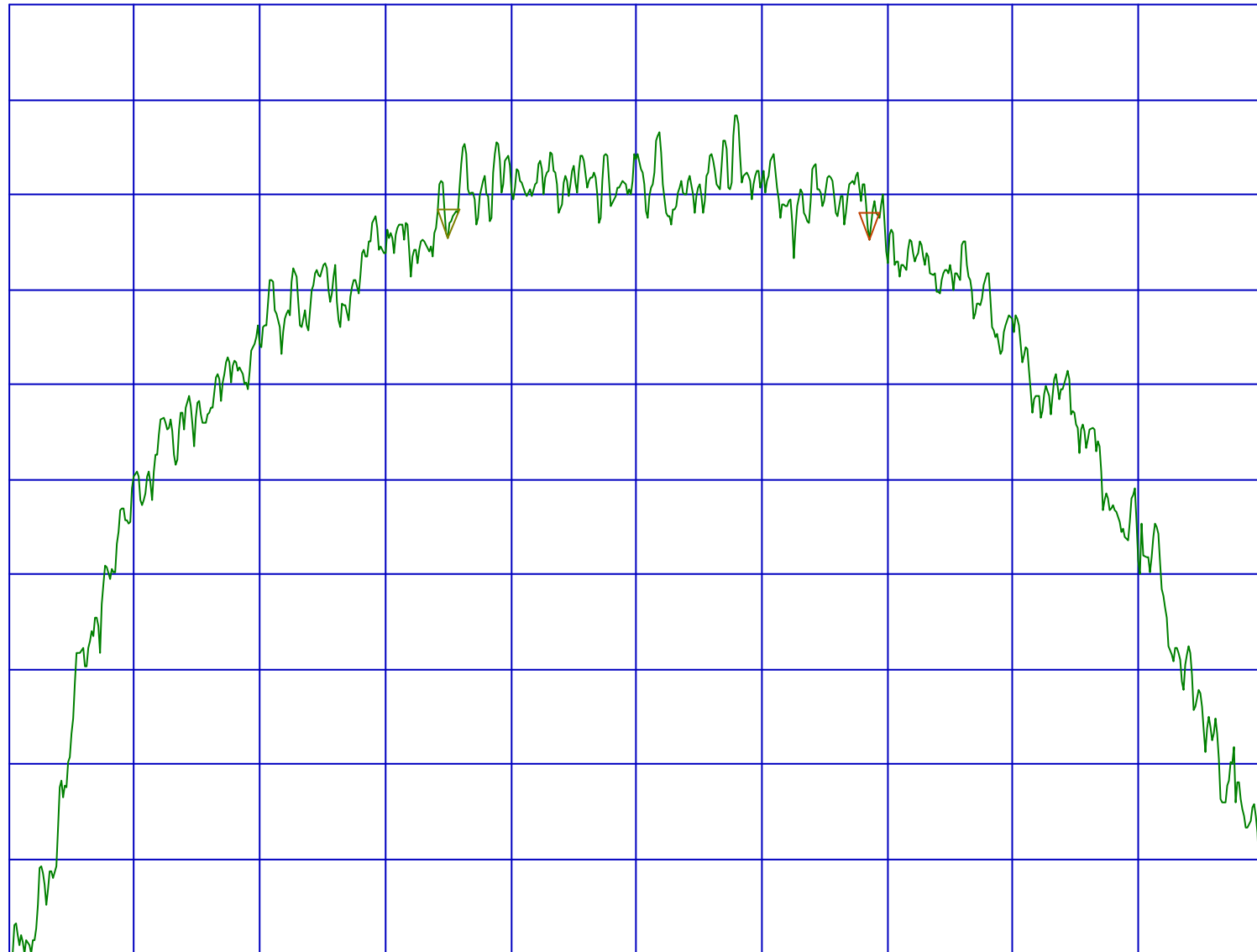
Δ MAKER
-6.7143 MHz
.12 dBuV

5dB/

START 2.402000GHz
RBW 100kHz

VBW 100kHz

STOP 2.422000GHz
SWP 100ms



MELCO/Model:WLI-PCM-L11GP/FCC ID:FDI-09101727-0
15.247(a)(2)6dB Bandwidth/Ch7:2442MHz/Page.A7
REF 107 dBuV ATT 10 dB

MAKER
2.4452 GHz
95.38 dBuV

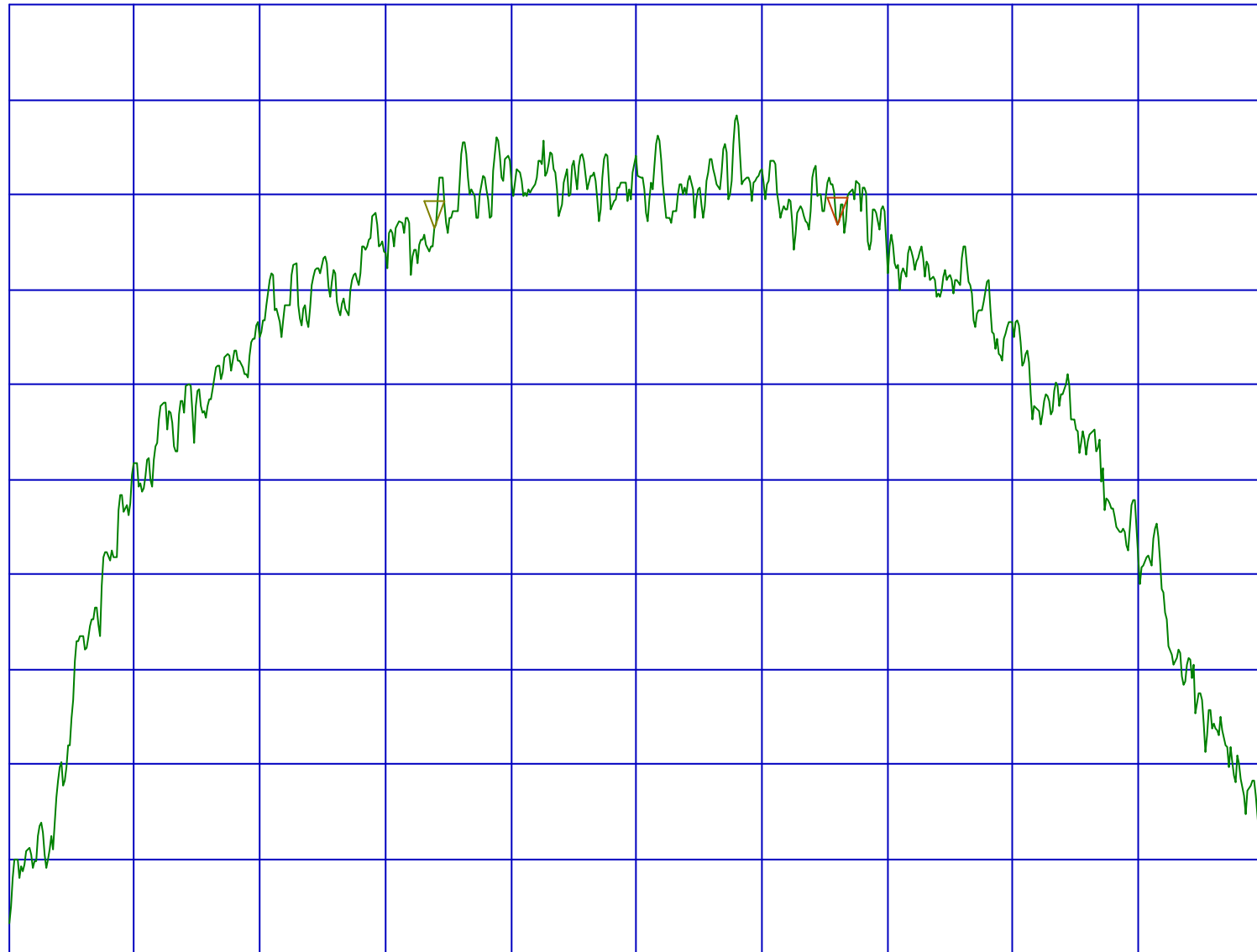
Δ MAKER
-6.4286 MHz
-.13 dBuV

5dB/

START 2.432000GHz
RBW 100kHz

VBW 100kHz

STOP 2.452000GHz
SWP 100ms



MELCO/Model:WLI-PCM-L11GP/FCC ID:FDI-09101727-0
15.247(a)(2)6dB Bandwidth/Ch11:2462MHz/Page.A8
REF 107 dBuV ATT 10 dB

MAKER
2.4452 GHz
95.38 dBuV

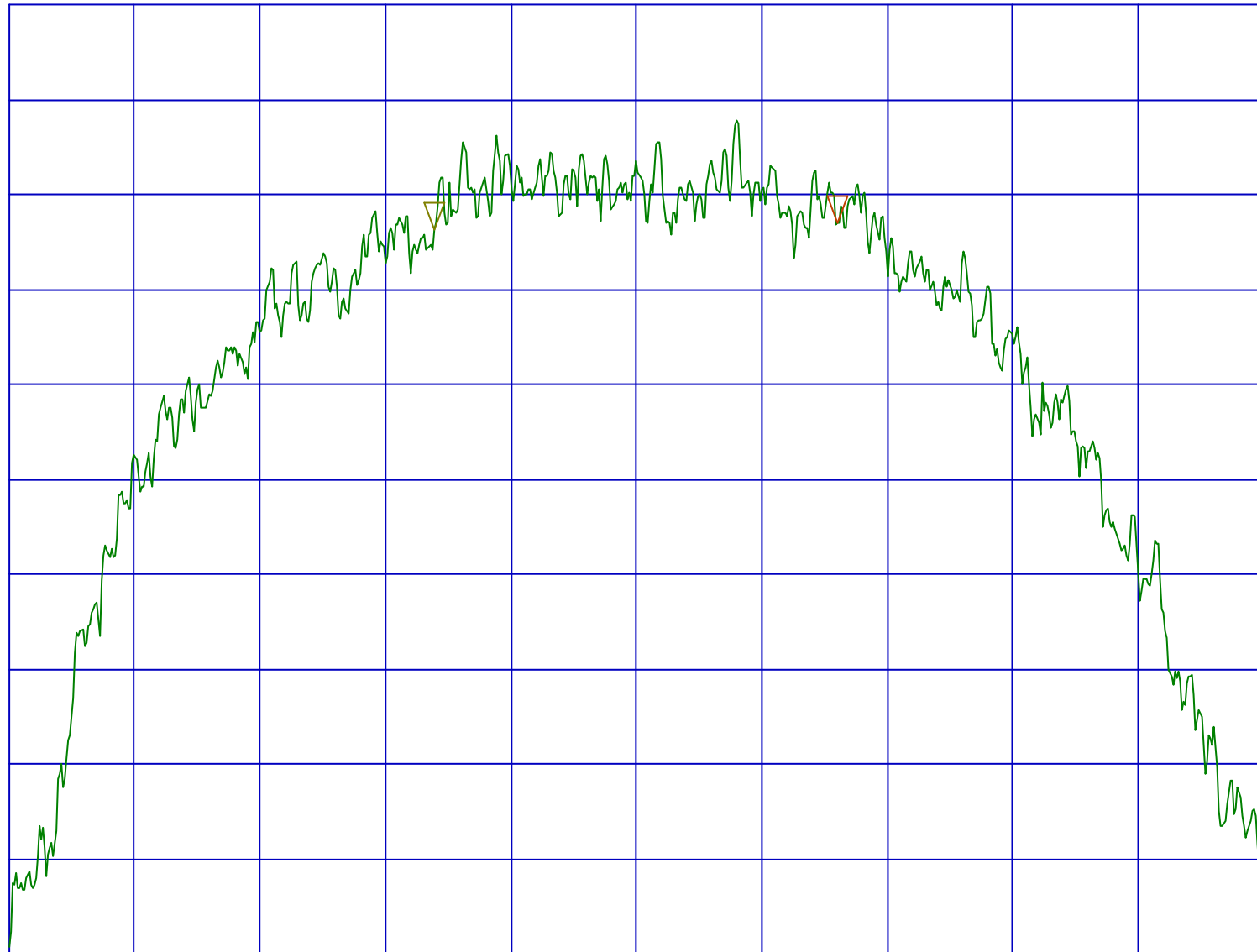
Δ MAKER
-6.4286 MHz
-.13 dBuV

5dB/

START 2.452000GHz
RBW 100kHz

VBW 100kHz

STOP 2.472000GHz
SWP 100ms

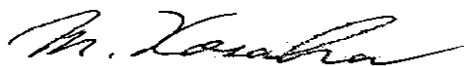


Peak Out Put Power(Radiated)

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

COMPANY : MELCO Inc.
EQUIPMENT : 11M Wireless LAN Card
MODEL : WLI-PCM-L11GP
S/N : 01UT43418446
FCC ID : FDI-09101727-0
POWER : AC120V/60Hz
Mode : Transmitting

REPORT NO : 22DE0021-YW
REGULATION : Fcc Part15SubpartC 247(b)(1)
TEST DISTANCE : 3m
DATE : 2001/11/29
Temp./Humi. : 21deg.C/57%



ENGINEER : Makoto Kosaka

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

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)	2.4120	78.6	71.6	36.6	115.2	108.2	0.5774	0.2570	1000.0	100.0	19.8
Mid(ch7)	2.4420	77.9	71.5	36.6	114.5	108.1	0.5297	0.2541	1000.0	84.2	19.4
High(ch11)	2.2462	76.9	71.6	36.8	113.7	108.4	0.4831	0.2639	1000.0	70.0	20.9

Sample Calculation :

All Factor = ANT Factor + Cable Loss

Low (2412MHz): ANT Factor (31.4dB) + Cable Loss(5.2dB)

Low (2442MHz): ANT Factor (31.4dB) + Cable Loss(5.2dB)

Low (2462MHz): ANT Factor (31.5dB) + Cable Loss(5.3dB)

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

E1 : S/A Reading + All Factor

E : Converted to V/m

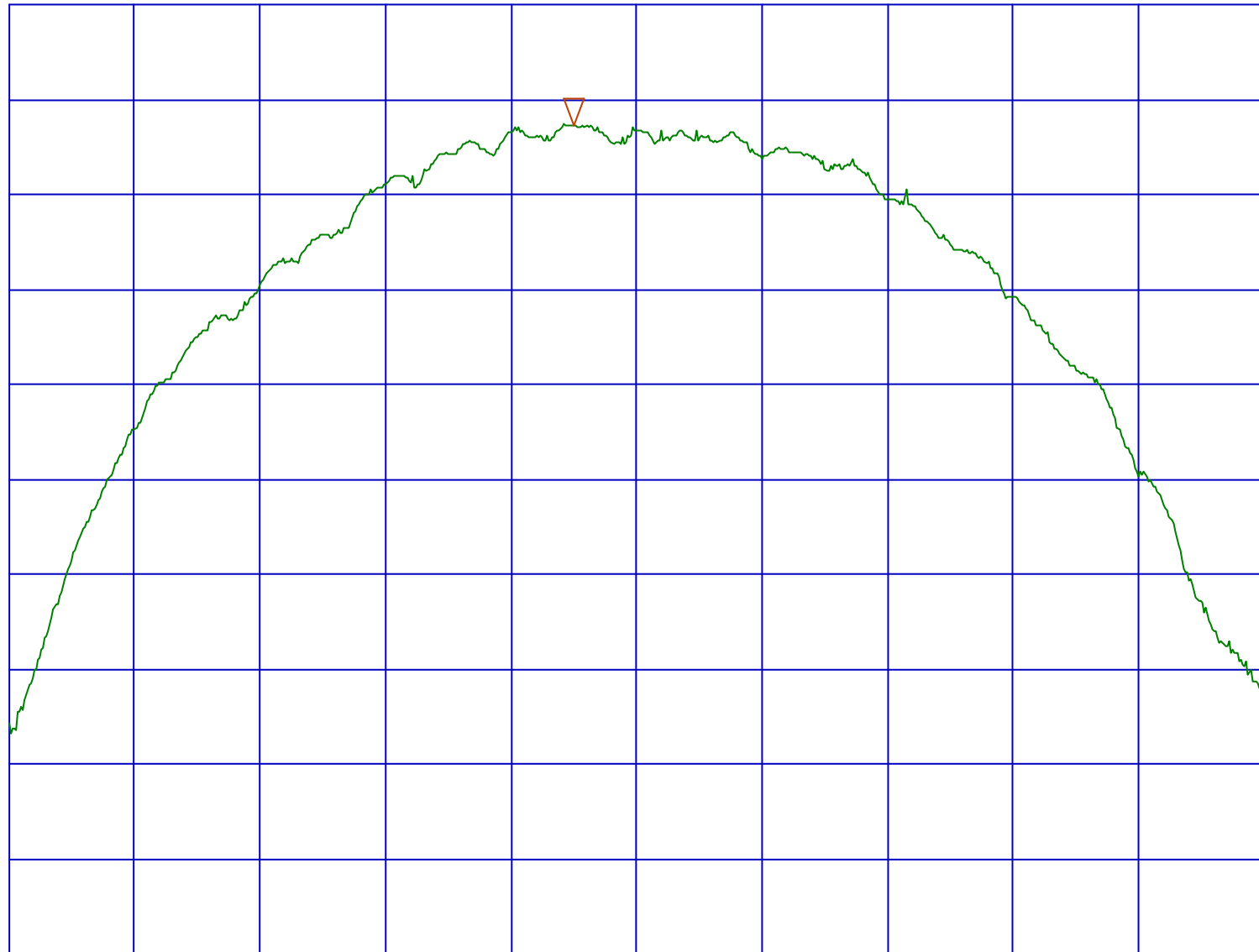
d : Test distance(3.0m)

G : Numeric Antenna Gain (1.00)

MELCO/Model:WLI-PCM-L11GP/FCC ID:FDI-09101727-0
15.247(b)(1)Peak Output Power/Ch1(Hor)/Page.A10
REF 85 dBuV ATT 10 dB

MAKER
2.4110 GHz
78.63 dBuV

5dB/



START 2.402000GHz
RBW 1MHz

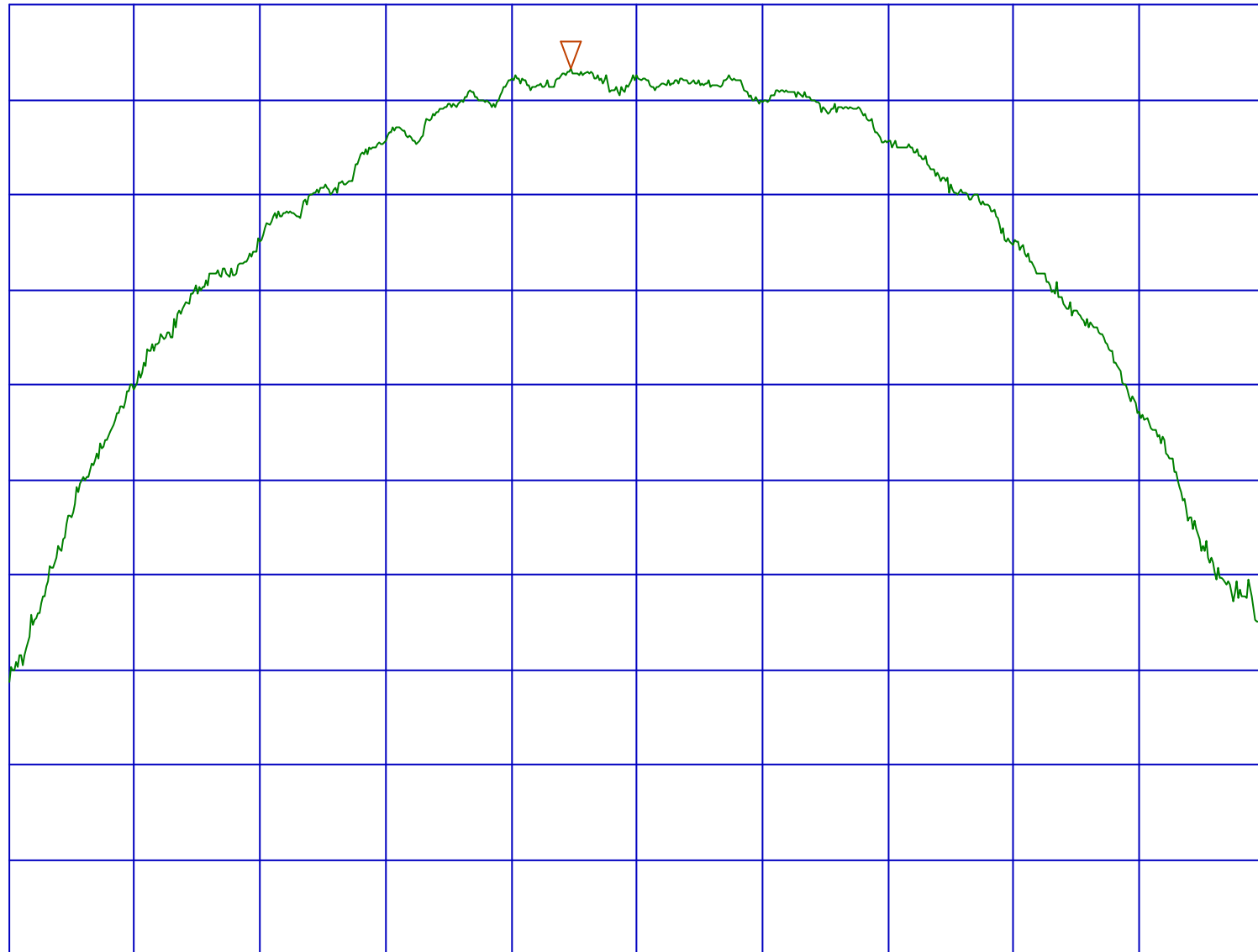
VBW 1MHz

STOP 2.422000GHz
SWP 100ms

MELCO/Model:WLI-PCM-L11GP/FCC ID:FDI-09101727-0
15.247(b)(1)Peak Output Power/Ch1(Ver)/Page.A11
REF 75 dBuV ATT 10 dB

MAKER
2.4109 GHz
71.63 dBuV

5dB/



START 2.402000GHz
RBW 1MHz

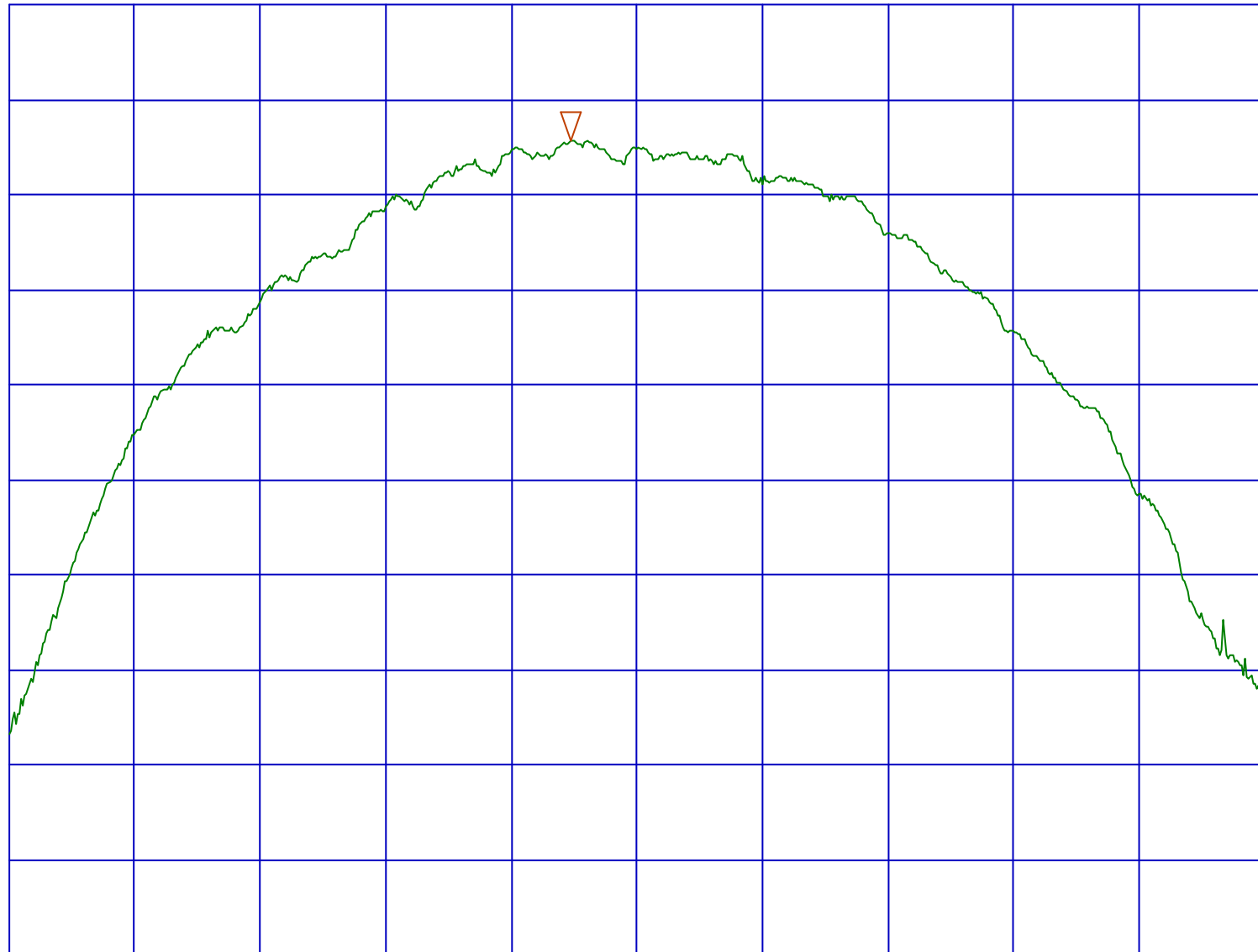
VBW 1MHz

STOP 2.422000GHz
SWP 100ms

MELCO/Model:WLI-PCM-L11GP/FCC ID:FDI-09101727-0
15.247(b)(1)Peak Output Power/Ch7(Hor)/Page.A12
REF 85 dBuV ATT 10 dB

MAKER
2.4409 GHz
77.88 dBuV

5dB/



START 2.432000GHz
RBW 1MHz

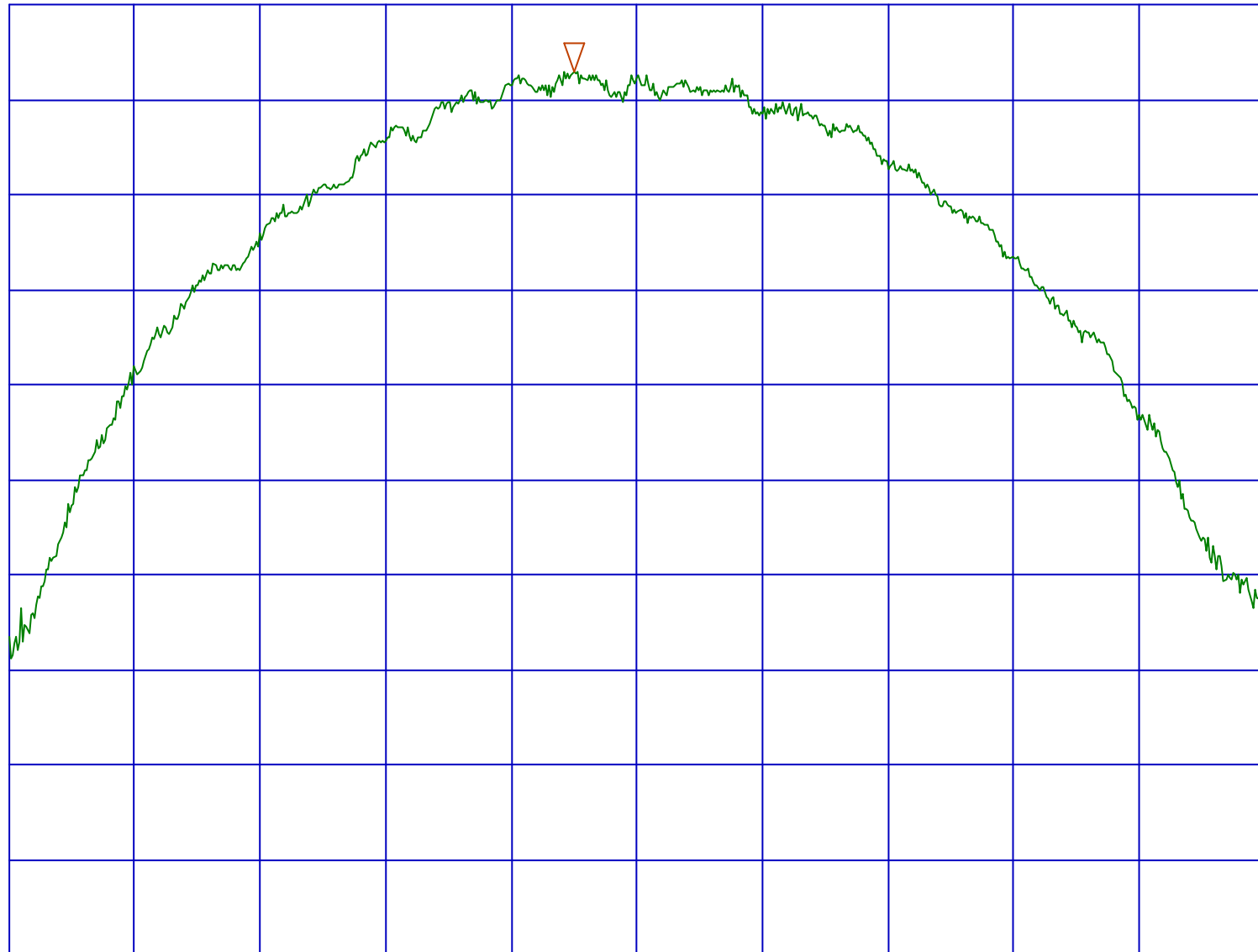
VBW 1MHz

STOP 2.452000GHz
SWP 100ms

MELCO/Model:WLI-PCM-L11GP/FCC ID:FDI-09101727-0
15.247(b)(1)Peak Output Power/Ch7(Ver)/Page.A13
REF 75 dBuV ATT 10 dB

MAKER
2.4410 GHz
71.50 dBuV

5dB/



START 2.432000GHz
RBW 1MHz

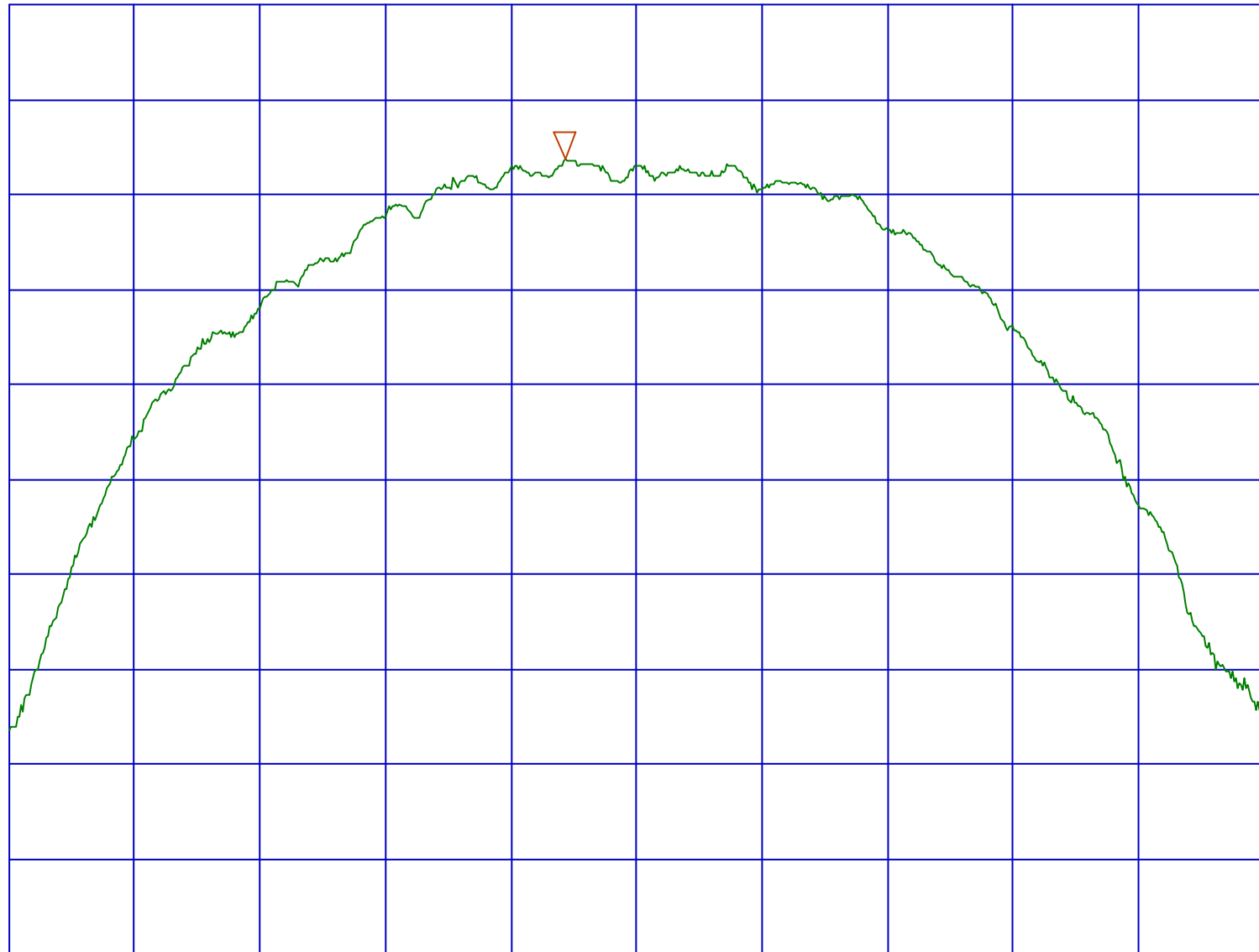
VBW 1MHz

STOP 2.452000GHz
SWP 100ms

MELCO/Model:WLI-PCM-L11GP/FCC ID:FDI-09101727-0
15.247(b)(1)Peak Output Power/Ch11(Hor)/Page.A14
REF 85 dBuV ATT 10 dB

MAKER
2.4609 GHz
76.88 dBuV

5dB/



START 2.452000GHz
RBW 1MHz

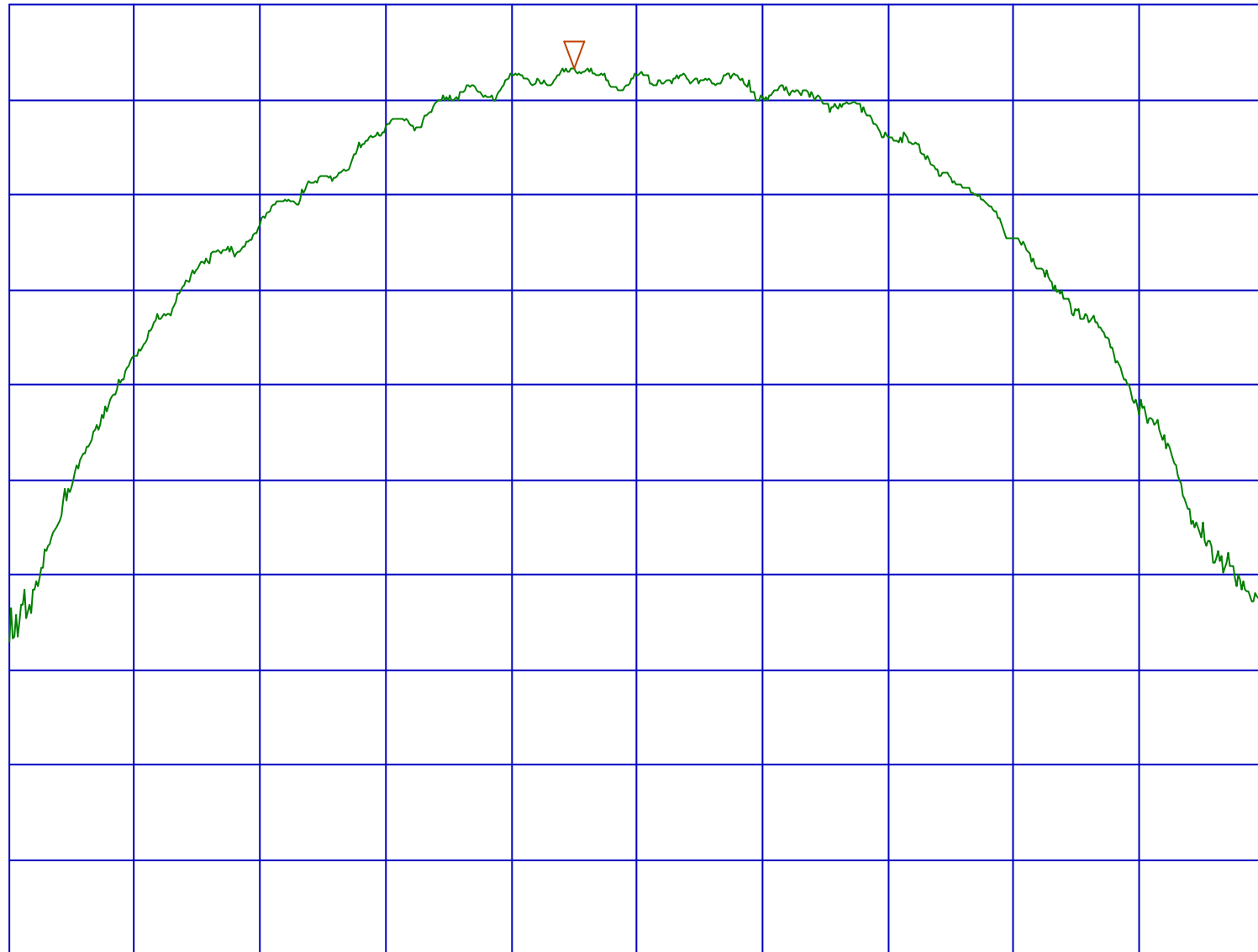
VBW 1MHz

STOP 2.472000GHz
SWP 100ms

MELCO/Model:WLI-PCM-L11GP/FCC ID:FDI-09101727-0
15.247(b)(1)Peak Output Power/Ch11(Ver)/Page.A15
REF 75 dBuV ATT 10 dB

MAKER
2.4610 GHz
71.63 dBuV

5dB/



START 2.452000GHz
RBW 1MHz

VBW 1MHz

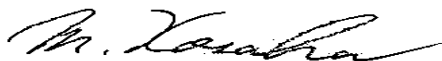
STOP 2.472000GHz
SWP 100ms

Peak Out Put Power(Conducted)

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

COMPANY : MELCO Inc.
EQUIPMENT : 11M Wireless LAN Card
MODEL : WLI-PCM-L11GP
S/N : 01UT43418446
FCC ID : FDI-09101727-0
POWER : AC120V/60Hz
Mode : Transmitting

REPORT NO : 22DE0021-YW
REGULATION : FCC Part15SubpartC 247(b)(1)
TEST DISTANCE : 3m
DATE : 2001/11/22
Temp./Humi. : 22deg.C/34%



ENGINEER : Makoto Kosaka

Ch	FREQ [GHz]	P/M Reading [dBm]	ATTEN. [dB]	RESULT [dBm]	convert [mW]	Limit (1W) [dBm]	Margin [dB]
Low (ch1)	2.412	5.1	10.0	15.1	32.4	30.0	14.9
Mid (ch7)	2.442	5.1	10.0	15.1	32.4	30.0	14.9
High (ch11)	2.462	5.0	10.0	15.0	31.6	30.0	15.0

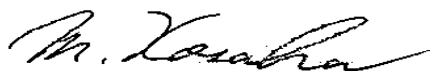
P = P/M Reading + ATTEN.

DATA OF SUPURIOUS EMISSIONS(30MHz to 1000MHz)

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

COMPANY : MELCO Inc.
EQUIPMENT : 11M Wireless LAN Card
MODEL : WLI-PCM-L11GP
S/N : 01UT43418446
FCC ID : FDI-09101727-0
POWER : AC120V/60Hz
Mode : Transmitting (ch1: 2412MHz)

REPORT NO : 22DE0021-YW
REGULATION : Fcc Part15SubpartC 247 / 209(a)
TEST DISTANCE : 3m
DATE : 2001/11/29
Temp./Humi. : 21deg.C/53%



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	33.000	23.5	27.7	16.9	6.0	1.0	28.1	19.3	23.5	40.0	20.7	16.5
2	56.160	25.6	35.8	8.8	5.9	1.4	28.1	13.6	23.8	40.0	26.4	16.2
3	65.770	31.7	40.2	6.6	5.9	1.5	27.9	17.8	26.3	40.0	22.2	13.7
4	98.300	33.5	32.7	9.7	5.9	1.9	27.9	23.1	22.3	43.5	20.4	21.2
5	132.500	26.8	26.5	13.8	5.9	2.2	27.8	20.9	20.6	43.5	22.6	22.9
6	200.000	37.0	36.6	16.4	5.9	2.8	27.8	34.3	33.9	43.5	9.2	9.6
7	240.010	35.2	28.7	16.6	5.9	3.1	27.7	33.1	26.6	46.0	12.9	19.4
8	259.300	33.3	29.6	17.1	5.9	3.2	27.7	31.8	28.1	46.0	14.2	17.9
9	294.300	22.6	22.5	19.0	5.8	3.5	27.6	23.3	23.2	46.0	22.7	22.8
10	331.000	42.3	31.1	14.6	5.8	3.7	27.6	38.8	27.6	46.0	7.2	18.4

REMARKS

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

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

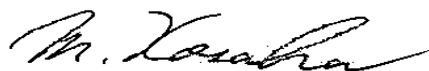
*Except for the above table : All other spurious emissions were less than 20dB for the limit.

DATA OF SUPURIOUS EMISSIONS(30MHz to 1000MHz)

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

COMPANY : MELCO Inc.
EQUIPMENT : 11M Wireless LAN Card
MODEL : WLI-PCM-L11GP
S/N : 01UT43418446
FCC ID : FDI-09101727-0
POWER : AC120V/60Hz
Mode : Transmitting (ch7: 2442MHz)

REPORT NO : 22DE0021-YW
REGULATION : Fcc Part15SubpartC 247 / 209(a)
TEST DISTANCE : 3m
DATE : 2001/11/29
Temp./Humi. : 21deg.C/53%



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 [dB]	VER [dB]
		[dBuV]						[dBuV/m]				
1	33.000	23.5	27.7	16.9	6.0	1.0	28.1	19.3	23.5	40.0	20.7	16.5
2	56.160	25.6	35.8	8.8	5.9	1.4	28.1	13.6	23.8	40.0	26.4	16.2
3	65.770	31.7	39.7	6.6	5.9	1.5	27.9	17.8	25.8	40.0	22.2	14.2
4	98.300	33.5	32.7	9.7	5.9	1.9	27.9	23.1	22.3	43.5	20.4	21.2
5	132.500	26.8	26.5	13.8	5.9	2.2	27.8	20.9	20.6	43.5	22.6	22.9
6	200.000	39.5	37.3	16.4	5.9	2.8	27.8	36.8	34.6	43.5	6.7	8.9
7	240.010	33.7	28.5	16.6	5.9	3.1	27.7	31.6	26.4	46.0	14.4	19.6
8	259.300	33.3	29.1	17.1	5.9	3.2	27.7	31.8	27.6	46.0	14.2	18.4
9	294.300	23.1	23.0	19.0	5.8	3.5	27.6	23.8	23.7	46.0	22.2	22.3
10	331.000	42.5	31.2	14.6	5.8	3.7	27.6	39.0	27.7	46.0	7.0	18.3

REMARKS

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

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

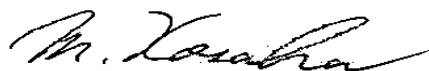
*Except for the above table : All other spurious emissions were less than 20dB for the limit.

DATA OF SUPURIOUS EMISSIONS(30MHz to 1000MHz)

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

COMPANY : MELCO Inc.
EQUIPMENT : 11M Wireless LAN Card
MODEL : WLI-PCM-L11GP
S/N : 01UT43418446
FCC ID : FDI-09101727-0
POWER : AC120V/60Hz
Mode : Transmitting (ch11: 2462MHz)

REPORT NO : 22DE0021-YW
REGULATION : Fcc Part15SubpartC 247 / 209(a)
TEST DISTANCE : 3m
DATE : 2001/11/29
Temp./Humi. : 21deg.C/53%



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 [dB]	VER [dB]
		[dBuV]						[dBuV/m]				
1	33.000	23.5	27.3	16.9	6.0	1.0	28.1	19.3	23.1	40.0	20.7	16.9
2	56.160	25.6	35.4	8.8	5.9	1.4	28.1	13.6	23.4	40.0	26.4	16.6
3	65.770	28.2	39.9	6.6	5.9	1.5	27.9	14.3	26.0	40.0	25.7	14.0
4	98.300	32.5	32.7	9.7	5.9	1.9	27.9	22.1	22.3	43.5	21.4	21.2
5	132.500	26.8	26.5	13.8	5.9	2.2	27.8	20.9	20.6	43.5	22.6	22.9
6	200.000	34.2	36.3	16.4	5.9	2.8	27.8	31.5	33.6	43.5	12.0	9.9
7	240.010	33.6	26.7	16.6	5.9	3.1	27.7	31.5	24.6	46.0	14.5	21.4
8	259.300	32.2	29.1	17.1	5.9	3.2	27.7	30.7	27.6	46.0	15.3	18.4
9	294.300	22.6	23.0	19.0	5.8	3.5	27.6	23.3	23.7	46.0	22.7	22.3
10	331.000	41.9	30.8	14.6	5.8	3.7	27.6	38.4	27.3	46.0	7.6	18.7

REMARKS

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

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

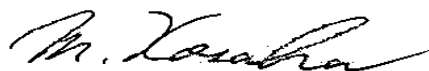
*Except for the above table : All other spurious emissions were less than 20dB for the limit.

DATA OF SUPURIOUS EMISSIONS(30MHz to 1000MHz)

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

COMPANY : MELCO Inc.
EQUIPMENT : 11M Wireless LAN Card
MODEL : WLI-PCM-L11GP
S/N : 01UT43418446
FCC ID : FDI-09101727-0
POWER : AC120V/60Hz
Mode : Receiving

REPORT NO : 22DE0021-YW
REGULATION : Fcc Part15SubpartC 247 / 209(a)
TEST DISTANCE : 3m
DATE : 2001/11/29
Temp./Humi. : 21deg.C/53%



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	98.300	33.2	33.3	9.7	5.9	1.9	27.9	22.8	22.9	43.5	20.7	20.6
2	137.780	30.1	25.1	14.0	5.9	2.2	27.8	24.4	19.4	43.5	19.1	24.1
3	200.000	37.2	34.7	16.4	5.9	2.8	27.8	34.5	32.0	43.5	9.0	11.5
4	240.600	36.5	30.0	16.6	5.9	3.1	27.7	34.4	27.9	46.0	11.6	18.1
6	300.700	32.3	27.9	14.2	5.8	3.5	27.6	28.2	23.8	46.0	17.8	22.2
7	331.000	42.6	30.1	14.6	5.8	3.7	27.6	39.1	26.6	46.0	6.9	19.4

REMARKS

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

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

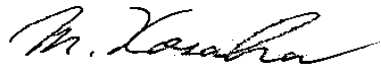
*Except for the above table : All other spurious emissions were less than 20dB for the limit.

DATA OF SUPURIOUS EMISSIONS(1GHz to 26GHz)

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

COMPANY : MELCO Inc.
EQUIPMENT : 11M Wireless LAN Card
MODEL : WLI-PCM-L11GP
S/N : 01UT43418446
FCC ID : FDI-09101727-0
POWER : AC120V/60Hz
Mode : Transmitting (ch1: 2412MHz)

REPORT NO : 22DE0021-YW
REGULATION : Fcc Part15SubpartC 247 / 209
TEST DISTANCE : 3m and 0.5m
DATE : 2001/11/29
Temp./Humi. : 20deg.C/57%


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]	H-Pass Filter [dB]	ATTEN [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	1.40710	41.3	41.2	26.7	34.9	4.0	0.0	0.0	37.1	37.0	74.0	36.9	37.0
2	2.39000	46.8	43.6	31.3	34.5	5.0	0.0	0.0	48.6	45.4	74.0	25.4	28.6
3	4.82486	41.5	41.2	35.4	34.5	7.7	1.0	0.0	51.1	50.8	74.0	22.9	23.2
4	7.23682	40.1	41.0	39.1	34.8	9.4	0.5	0.0	54.3	55.2	74.0	19.7	18.8
5	9.64882	43.1	43.0	39.2	35.0	10.9	0.5	0.0	58.7	58.6	74.0	15.3	15.4
Test distance 0.5meters													
6	12.06082	45.6	45.6	43.5	34.4	7.8	0.5	0.0	63.0	63.0	89.5	26.5	26.5
7	14.47283	45.2	45.2	42.2	33.1	8.8	0.6	0.0	63.7	63.7	89.5	25.8	25.8
8	16.88484	50.1	50.1	38.5	33.4	9.5	0.5	0.0	65.2	65.2	89.5	24.3	24.3
9	19.29685	51.9	51.1	38.0	33.4	10.3	1.1	0.0	67.9	67.1	89.5	21.6	22.4
10	21.70885	51.8	52.8	38.1	33.0	10.7	0.5	0.0	68.1	69.1	89.5	21.4	20.4
11	24.12085	54.5	53.8	39.6	33.2	12.3	0.7	0.0	73.9	73.2	89.5	15.6	16.3

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

No.	FREQ	S/A READING		ANT	AMP	CABLE	H-Pass	ATTEN	RESULT		Limit	MARGIN	
	HOR	VER	Factor	GAIN	LOSS	Filter			HOR	VER	AV	HOR	VER
	[GHz]	[dBuV]	[dBuV]	[dB]	[dB]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]
Test distance 3meters													
1	1.40710	29.5	30.1	26.7	34.9	4.0	0.0	0.0	25.3	25.9	54.0	28.7	28.1
2	2.39000	36.1	32.7	31.3	34.5	5.0	0.0	0.0	37.9	34.5	54.0	16.1	19.5
3	4.82486	29.0	28.6	35.4	34.5	7.7	1.0	0.0	38.6	38.2	54.0	15.4	15.8
4	7.23682	28.2	28.1	39.1	34.8	9.4	0.5	0.0	42.4	42.3	54.0	11.6	11.7
5	9.64882	31.7	31.2	39.2	35.0	10.9	0.5	0.0	47.3	46.8	54.0	6.7	7.2
Test distance 0.5meters													
6	12.06082	34.9	34.9	43.5	34.4	7.8	0.5	0.0	52.3	52.3	69.5	17.2	17.2
7	14.47283	34.5	34.5	42.2	33.1	8.8	0.6	0.0	53.0	53.0	69.5	16.5	16.5
8	16.88484	39.1	39.1	38.5	33.4	9.5	0.5	0.0	54.2	54.2	69.5	15.3	15.3
9	19.29685	40.4	40.8	38.0	33.4	10.3	1.1	0.0	56.4	56.8	69.5	13.1	12.7
10	21.70885	40.3	40.1	38.1	33.0	10.7	0.5	0.0	56.6	56.4	69.5	12.9	13.1
11	24.12085	42.7	42.5	39.6	33.2	12.3	0.7	0.0	62.1	61.9	69.5	7.4	7.6

Sample Calculation :

RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + (High Pass or ATTEN).

Test Distance 0.5m : 0.5m Limite = 3m Limit +20log(3/0.5)

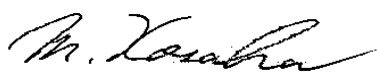
*Except for the above table : All other spurious emissions were less than 20dB for the limit.

DATA OF SUPURIOUS EMISSIONS(1GHz to 26GHz)

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

COMPANY : MELCO Inc.
EQUIPMENT : 11M Wireless LAN Card
MODEL : WLI-PCM-L11GP
S/N : 01UT43418446
FCC ID : FDI-09101727-0
POWER : AC120V/60Hz
Mode : Transmitting (ch7: 2442MHz)

REPORT NO : 22DE0021-YW
REGULATION : Fcc Part15SubpartC 247 / 209
TEST DISTANCE : 3m and 0.5m
DATE : 2001/11/29
Temp./Humi. : 20deg.C/57%


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]	H-Pass Filter [dB]	ATTEN [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	1.40710	41.5	41.2	26.7	34.9	4.0	0.0	0.0	37.3	37.0	74.0	36.7	37.0
2	4.88400	41.1	41.2	35.7	34.5	7.7	1.0	0.0	51.0	51.1	74.0	23.0	22.9
3	7.32600	40.2	40.4	39.2	34.8	9.4	0.5	0.0	54.5	54.7	74.0	19.5	19.3
4	9.76800	43.5	43.2	39.2	35.0	10.9	0.5	0.0	59.1	58.8	74.0	14.9	15.2
Test distance 0.5meters													
5	12.21000	45.6	45.5	43.4	34.3	7.9	0.5	0.0	63.1	63.0	89.5	26.4	26.5
6	14.65200	45.2	45.8	42.6	33.1	8.9	0.6	0.0	64.2	64.8	89.5	25.3	24.7
7	17.09400	50.1	50.1	38.1	33.2	9.6	0.5	0.0	65.1	65.1	89.5	24.4	24.4
8	19.53600	51.9	51.1	38.0	33.4	10.3	1.1	0.0	67.9	67.1	89.5	21.6	22.4
9	21.97800	51.8	52.8	38.2	33.0	10.6	0.5	0.0	68.1	69.1	89.5	21.4	20.4
10	24.42000	54.5	53.8	39.5	33.2	12.2	0.7	0.0	73.7	73.0	89.5	15.8	16.5

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]	ATTEN [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	1.40710	29.6	30.1	26.7	34.9	4.0	0.0	0.0	25.4	25.9	54.0	28.6	28.1
2	4.88400	29.0	28.5	35.7	34.5	7.7	1.0	0.0	38.9	38.4	54.0	15.1	15.6
3	7.32600	28.2	28.1	39.2	34.8	9.4	0.5	0.0	42.5	42.4	54.0	11.5	11.6
4	9.76800	31.7	31.1	39.2	35.0	10.9	0.5	0.0	47.3	46.7	54.0	6.7	7.3
Test distance 0.5meters													
5	12.21000	34.9	34.9	43.4	34.3	7.9	0.5	0.0	52.4	52.4	69.5	17.1	17.1
6	14.65200	34.5	34.5	42.6	33.1	8.9	0.6	0.0	53.5	53.5	69.5	16.0	16.0
7	17.09400	39.1	39.1	38.1	33.2	9.6	0.5	0.0	54.1	54.1	69.5	15.4	15.4
8	19.53600	40.4	40.8	38.0	33.4	10.3	1.1	0.0	56.4	56.8	69.5	13.1	12.7
9	21.97800	40.3	40.1	38.2	33.0	10.6	0.5	0.0	56.6	56.4	69.5	12.9	13.1
10	24.42000	42.7	42.5	39.5	33.2	12.2	0.7	0.0	61.9	61.7	69.5	7.6	7.8

Sample Calculation :

RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + (High Pass or ATTEN).

Test Distance 0.5m : 0.5m Limite = 3m Limit +20log(3/0.5)

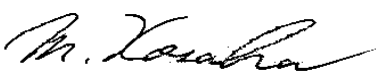
*Except for the above table : All other spurious emissions were less than 20dB for the limit.

DATA OF SUPURIOUS EMISSIONS(1GHz to 26GHz)

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

COMPANY : MELCO Inc.
EQUIPMENT : 11M Wireless LAN Card
MODEL : WLI-PCM-L11GP
S/N : 01UT43418446
FCC ID : FDI-09101727-0
POWER : AC120V/60Hz
Mode : Transmitting (ch11: 2462MHz)

REPORT NO : 22DE0021-YW
REGULATION : Fcc Part15SubpartC 247 / 209
TEST DISTANCE : 3m and 0.5m
DATE : 2001/11/29
Temp./Humi. : 20deg.C/57%


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]	H-Pass Filter [dB]	ATTEN [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	1.40710	41.5	41.2	26.7	34.9	4.0	0.0	0.0	37.3	37.0	74.0	36.7	37.0
2	2.48350	46.5	45.8	31.3	34.5	5.3	0.5	0.0	49.1	48.4	74.0	24.9	25.6
3	4.92421	41.1	41.2	35.8	34.5	7.7	1.0	0.0	51.1	51.2	74.0	22.9	22.8
4	7.38654	40.2	40.4	39.2	34.9	9.4	0.5	0.0	54.4	54.6	74.0	19.6	19.4
5	9.84830	43.5	43.2	39.2	34.9	10.9	0.5	0.0	59.2	58.9	74.0	14.8	15.1
Test distance 0.5meters													
6	12.31000	45.3	45.6	43.3	34.2	8.0	0.5	0.0	62.9	63.2	89.5	26.6	26.3
7	14.77200	45.2	45.5	42.9	33.0	8.9	0.6	0.0	64.6	64.9	89.5	24.9	24.6
8	17.23400	50.1	50.1	38.0	33.1	9.7	0.5	0.0	65.2	65.2	89.5	24.3	24.3
9	19.69600	51.9	51.1	38.0	33.4	10.3	1.1	0.0	67.9	67.1	89.5	21.6	22.4
10	22.15800	51.8	52.8	38.4	33.0	10.6	0.5	0.0	68.3	69.3	89.5	21.2	20.2
11	24.62000	54.5	53.8	39.4	33.2	12.2	0.7	0.0	73.6	72.9	89.5	15.9	16.6

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]	ATTEN [dB]	RESULT		Limit AV [dBuV/m]	MARGIN	
		HOR	VER						HOR	VER		HOR	VER
		[dBuV]	[dBuV]						[dBuV/m]	[dBuV/m]		[dB]	[dB]
Test distance 3meters													
1	1.40710	29.8	29.9	26.7	34.9	4.0	0.0	0.0	25.6	25.7	54.0	28.4	28.3
2	2.48350	36.0	34.8	31.3	34.5	5.3	0.5	0.0	38.6	37.4	54.0	15.4	16.6
3	4.92421	29.1	28.6	35.8	34.5	7.7	1.0	0.0	39.1	38.6	54.0	14.9	15.4
4	7.38654	28.2	28.5	39.2	34.9	9.4	0.5	0.0	42.4	42.7	54.0	11.6	11.3
5	9.84830	31.6	31.2	39.2	34.9	10.9	0.5	0.0	47.3	46.9	54.0	6.7	7.1
Test distance 0.5meters													
6	12.31000	34.9	34.5	43.3	34.2	8.0	0.5	0.0	52.5	52.1	69.5	17.0	17.4
7	14.77200	34.5	34.5	42.9	33.0	8.9	0.6	0.0	53.9	53.9	69.5	15.6	15.6
8	17.23400	39.1	39.3	38.0	33.1	9.7	0.5	0.0	54.2	54.4	69.5	15.3	15.1
9	19.69600	40.4	41.0	38.0	33.4	10.3	1.1	0.0	56.4	57.0	69.5	13.1	12.5
10	22.15800	40.3	40.1	38.4	33.0	10.6	0.5	0.0	56.8	56.6	69.5	12.7	12.9
11	24.62000	42.6	42.5	39.4	33.2	12.2	0.7	0.0	61.7	61.6	69.5	7.8	7.9

Sample Calculation :

RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + (High Pass or ATTEN).

Test Distance 0.5m : 0.5m Limite = 3m Limit +20log(3/0.5)

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

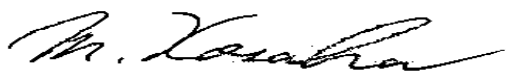
Restricted Band Edges(Radiated)

A-PEX INTERNATIONAL CO., LTD.

YOKOWA NO.3 OPEN SITE

COMPANY : MELCO Inc.
EQUIPMENT : 11M Wireless LAN Card
MODEL : WLI-PCM-L11GP
S/N : 01UT43418446
FCC ID : FDI-09101727-0
POWER : AC120V/60Hz
Mode : Transmitting

REPORT NO : 22DE0021-YW
REGULATION : Fcc Part15SubpartC 247 / 209
TEST DISTANCE : 3m
DATE : 2001/11/22
Temp./Humi. : 19deg.C/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	46.9	43.6	31.3	34.5	2.9	0.0	46.6	43.3	74.0	27.4	30.7
Ch11	2.4835	46.5	45.8	31.6	34.5	3.0	0.0	46.6	45.9	74.0	27.4	28.2

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	36.1	32.8	31.3	34.5	2.9	0.0	35.8	32.5	54.0	18.2	21.6
Ch11	2.4835	36.0	34.8	31.6	34.5	3.0	0.0	36.1	34.9	54.0	17.9	19.2

Sample Calculation :

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

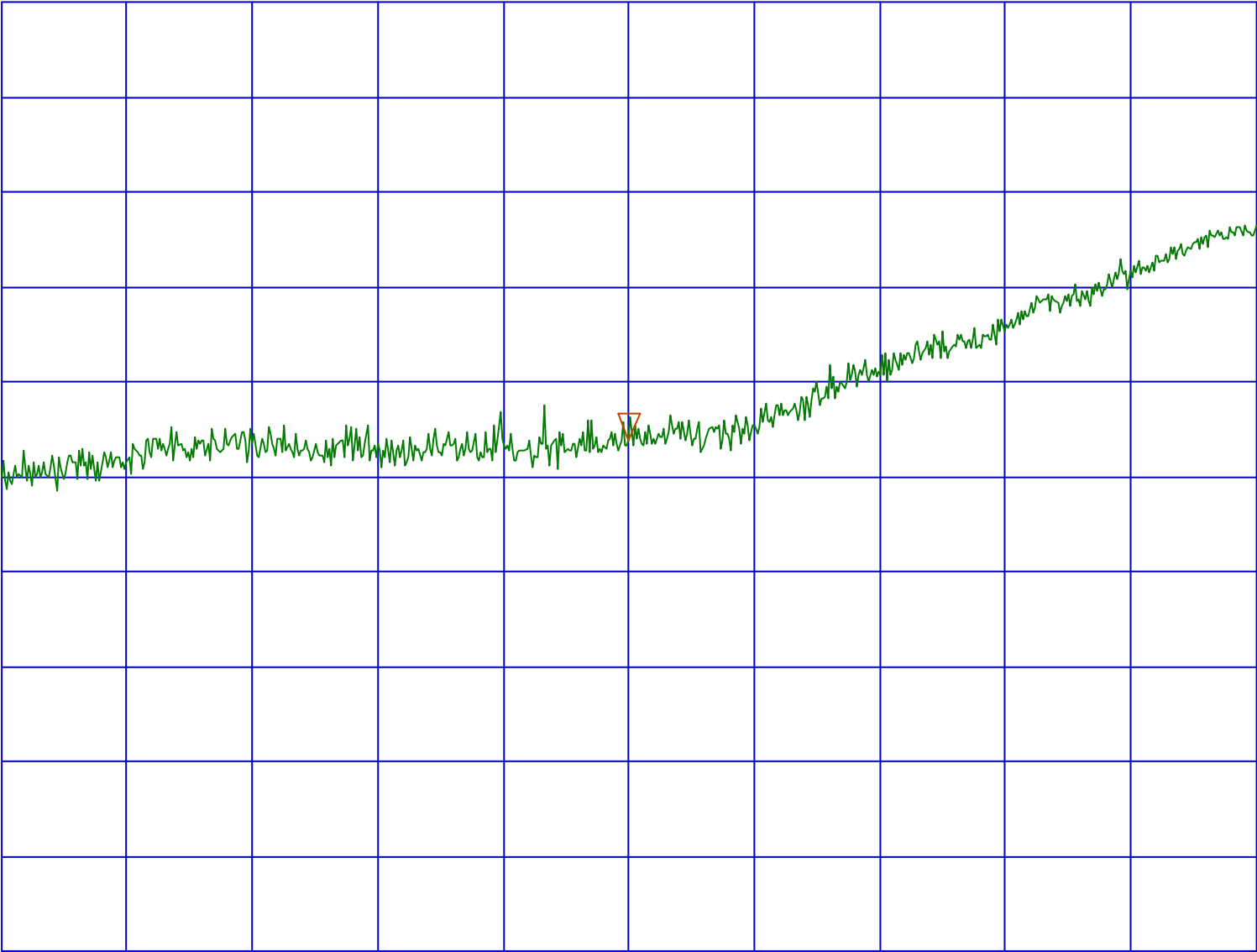
*1 : 2412MHz Transmitting

2 : 2462MHz Transmitting

MELCO/Model:WLI-PCM-L11GP/FCC ID:FDI-09101727-0
15.247(c)BandEdges/Ch1(Hor:PK)/Page.A25
REF 70 dBuV ATT 10 dB

MAKER
2.3900 GHz
46.88 dBuV

5dB/



START 2.385000GHz
RBW 1MHz

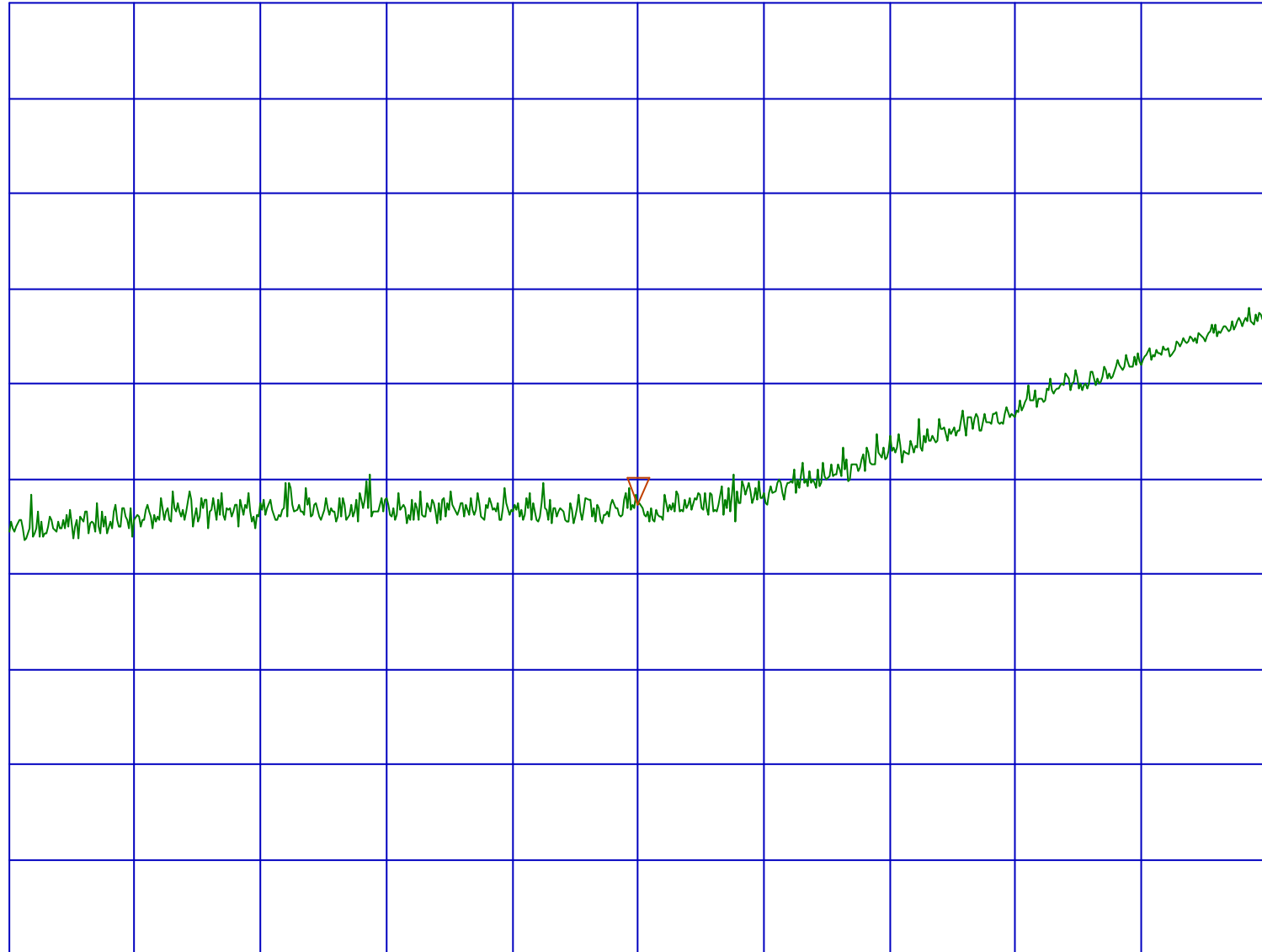
VBW 1MHz

STOP 2.395000GHz
SWP 50ms

MELCO/Model:WLI-PCM-L11GP/FCC ID:FDI-09101727-0
15.247(c)BandEdges/Ch1(Ver:PK)/Page.A26
REF 70 dBuV ATT 10 dB

MAKER
2.3900 GHz
43.63 dBuV

5dB/



START 2.385000GHz
RBW 1MHz

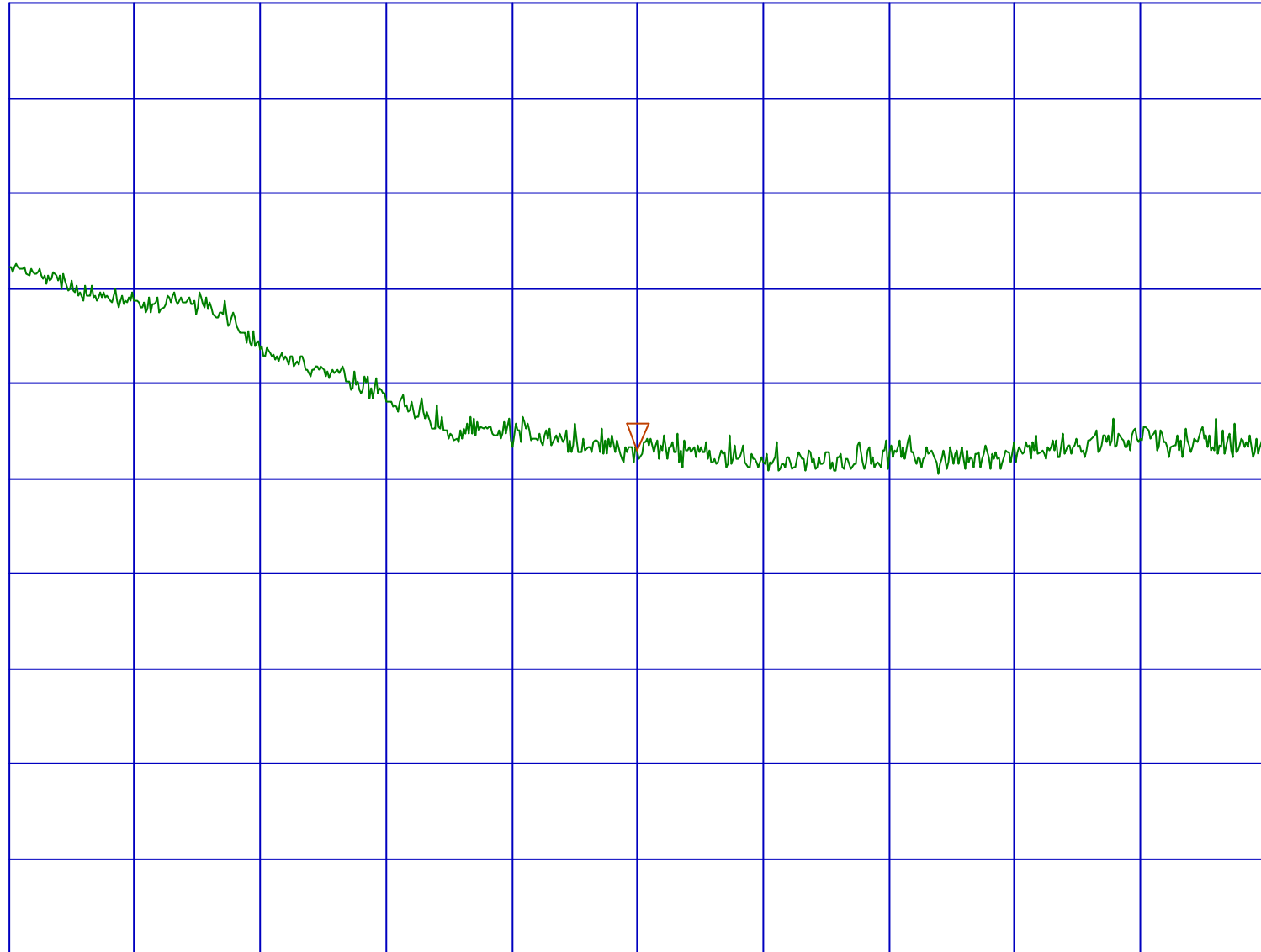
VBW 1MHz

STOP 2.395000GHz
SWP 50ms

MELCO/Model:WLI-PCM-L11GP/FCC ID:FDI-09101727-0
15.247(c)BandEdges/Ch11(Hor:PK)/Page.A27
REF 70 dBuV ATT 10 dB

MAKER
2.4835 GHz
46.50 dBuV

5dB/



START 2.478500GHz
RBW 1MHz

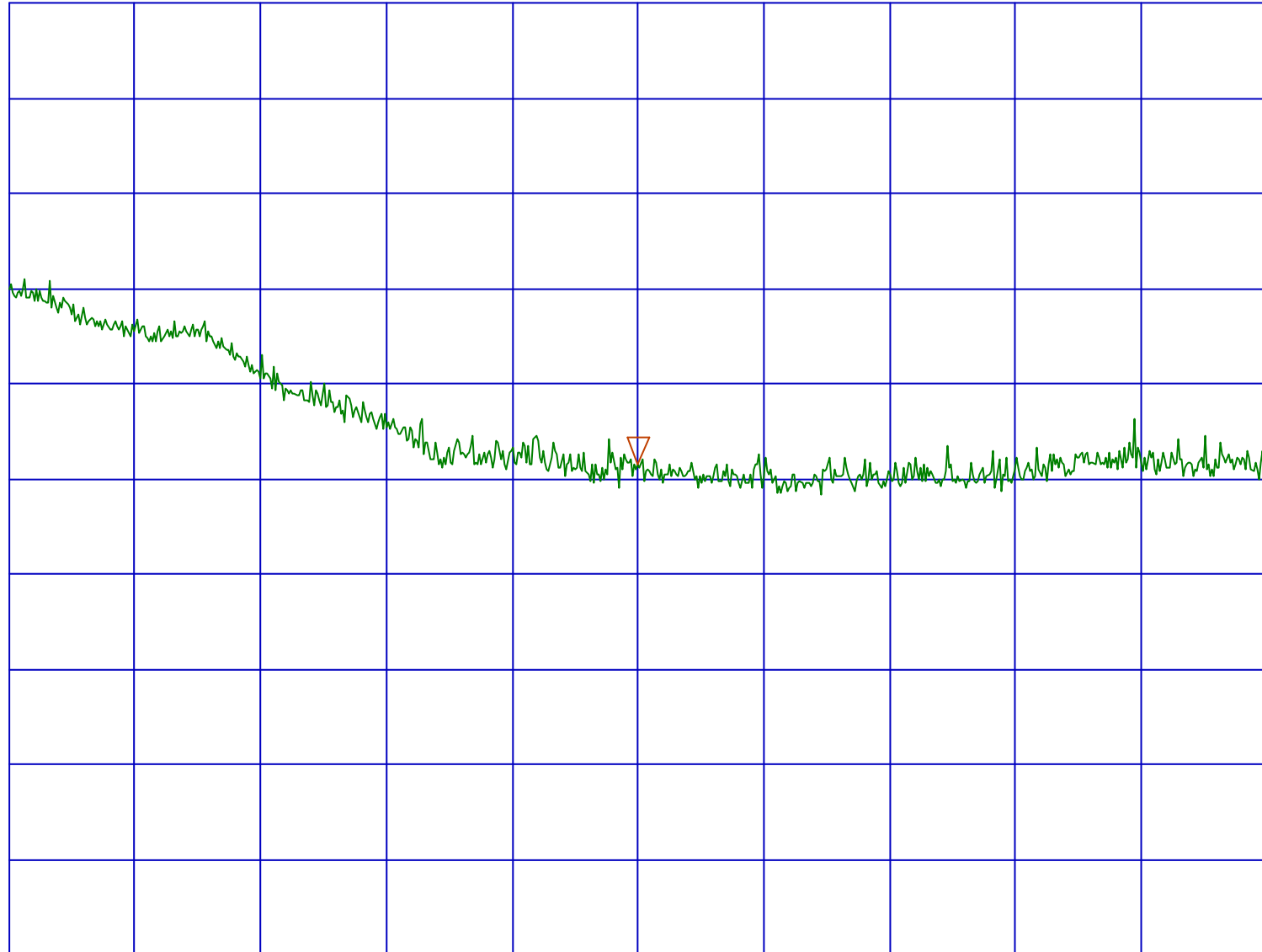
VBW 1MHz

STOP 2.488500GHz
SWP 50ms

MELCO/Model:WLI-PCM-L11GP/FCC ID:FDI-09101727-0
15.247(c)BandEdges/Ch11(Ver:PK)/Page.A28
REF 70 dBuV ATT 10 dB

MAKER
2.4835 GHz
45.75 dBuV

5dB/



START 2.478500GHz
RBW 1MHz

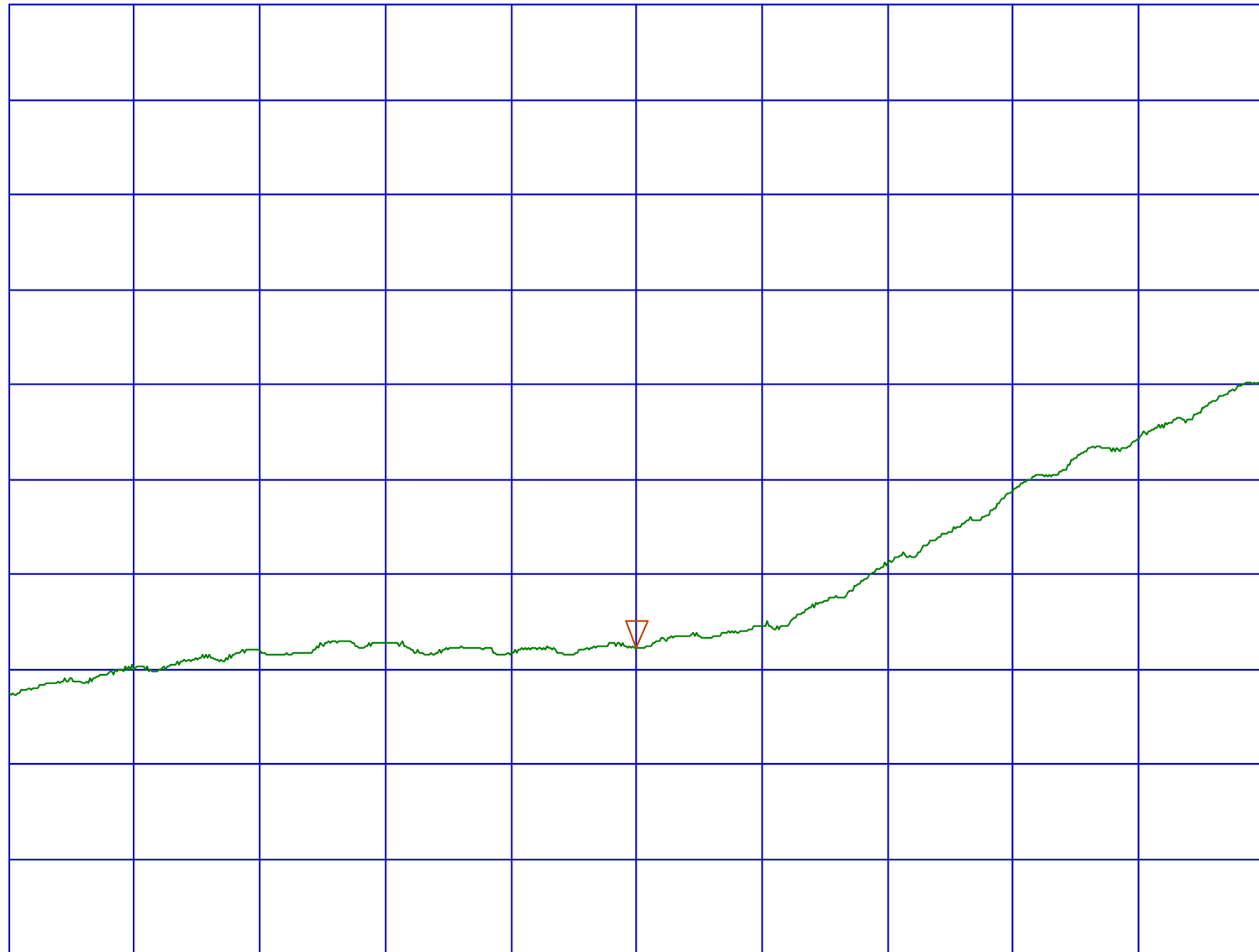
VBW 1MHz

STOP 2.488500GHz
SWP 50ms

MELCO/Model:WLI-PCM-L11GP/FCC ID:FDI-09101727-0
15.247(c)BandEdges/Ch1(Hor:AV)/Page.A29
REF 70 dBuV ATT 10 dB

MAKER
2.3900 GHz
36.13 dBuV

5dB/



START 2.385000GHz
RBW 1MHz

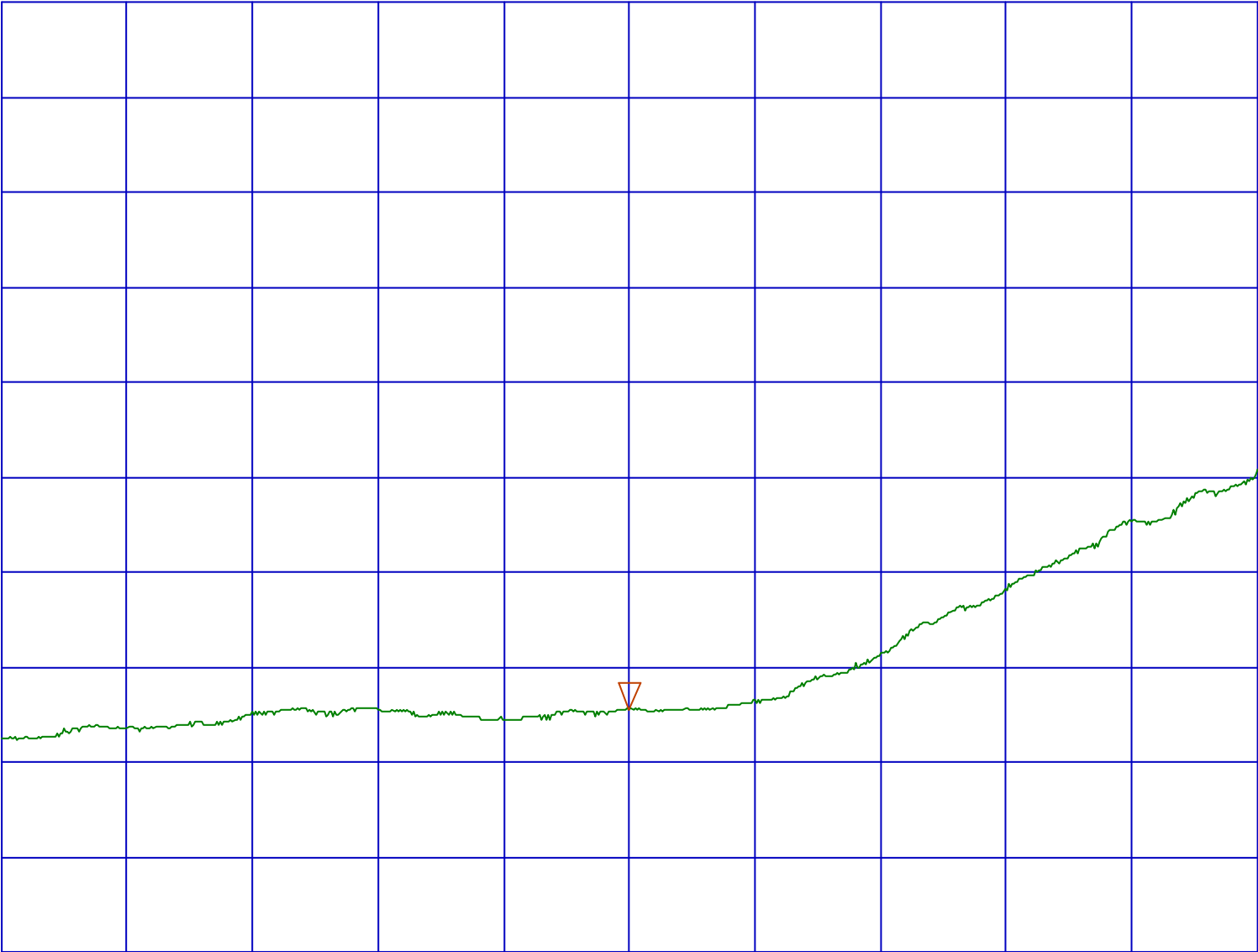
VBW 10Hz

STOP 2.395000GHz
SWP 2s

MELCO/Model:WLI-PCM-L11GP/FCC ID:FDI-09101727-0
15.247(c)BandEdges/Ch1(Ver:AV)/Page.A30
REF 70 dBuV ATT 10 dB

MAKER
2.3900 GHz
32.75 dBuV

5dB/



START 2.385000GHz
RBW 1MHz

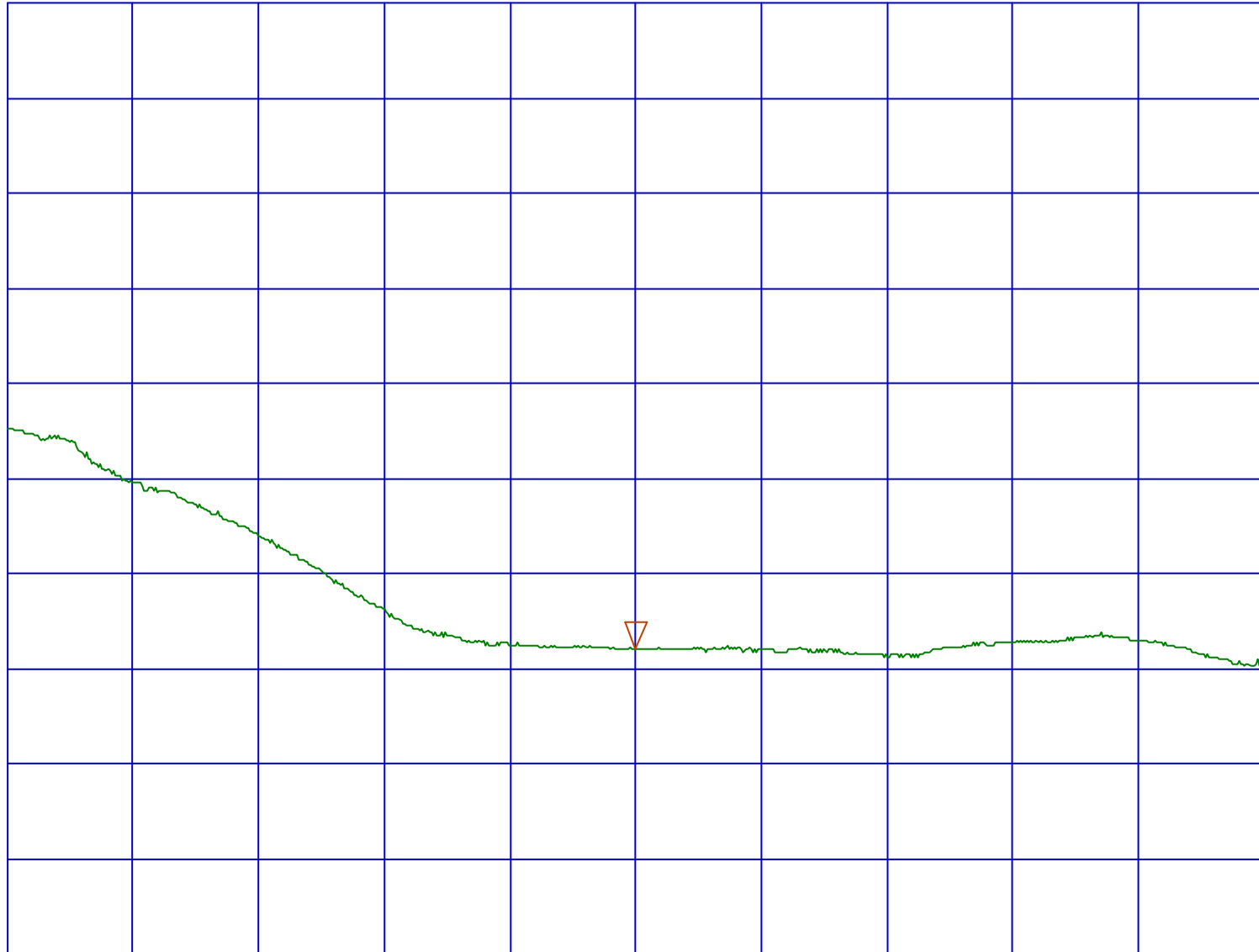
VBW 10Hz

STOP 2.395000GHz
SWP 2s

MELCO/Model:WLI-PCM-L11GP/FCC ID:FDI-09101727-0
15.247(c)BandEdges/Ch11(Hor:AV)/Page.A31
REF 70 dBuV ATT 10 dB

MAKER
2.4835 GHz
36.00 dBuV

5dB/



START 2.478500GHz
RBW 1MHz

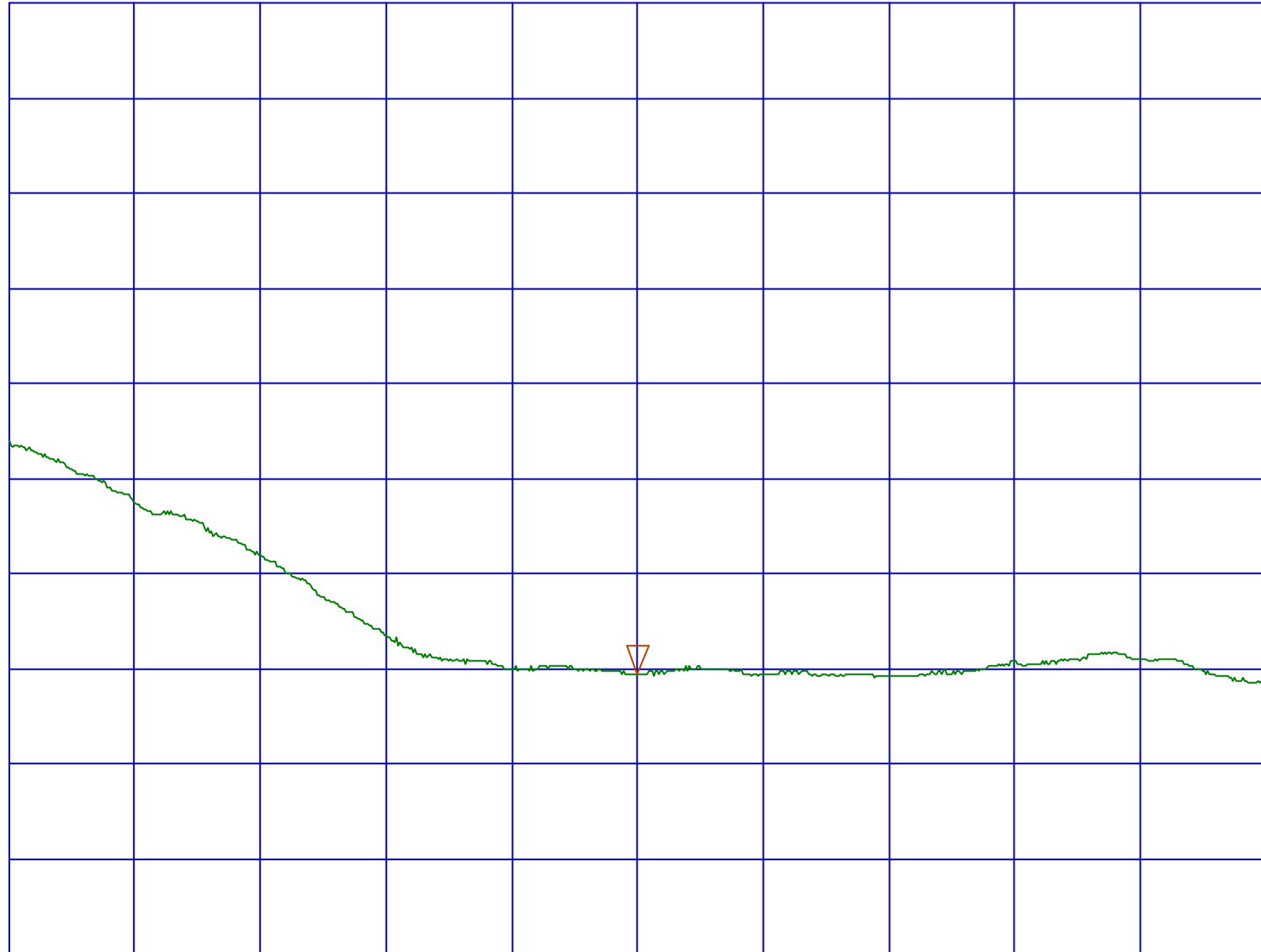
VBW 10Hz

STOP 2.488500GHz
SWP 2s

MELCO/Model:WLI-PCM-L11GP/FCC ID:FDI-09101727-0
15.247(c)BandEdges/Ch11(Ver:AV)/Page.A32
REF 70 dBuV ATT 10 dB

MAKER
2.4835 GHz
34.75 dBuV

5dB/



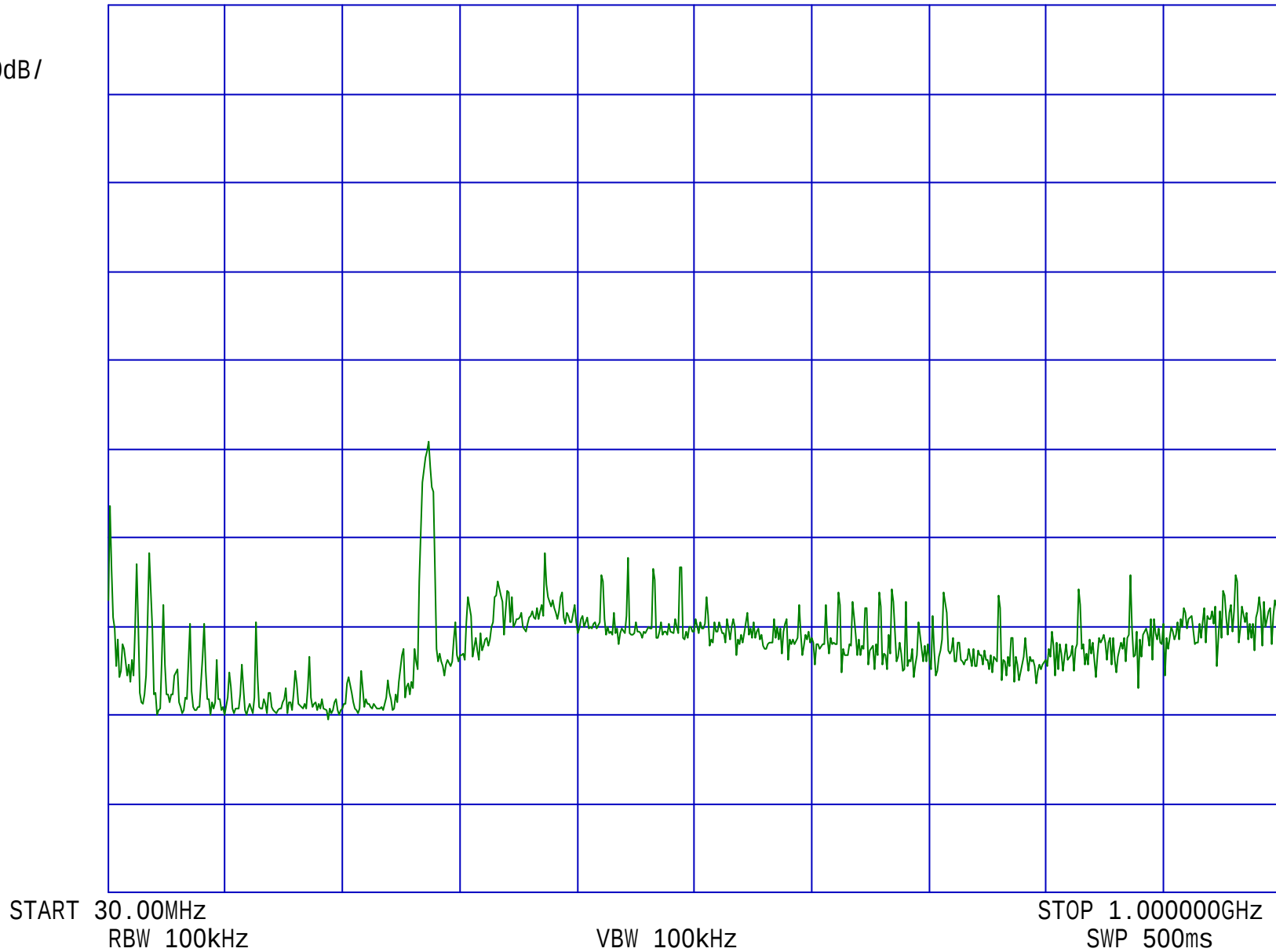
START 2.478500GHz
RBW 1MHz

VBW 10Hz

STOP 2.488500GHz
SWP 2s

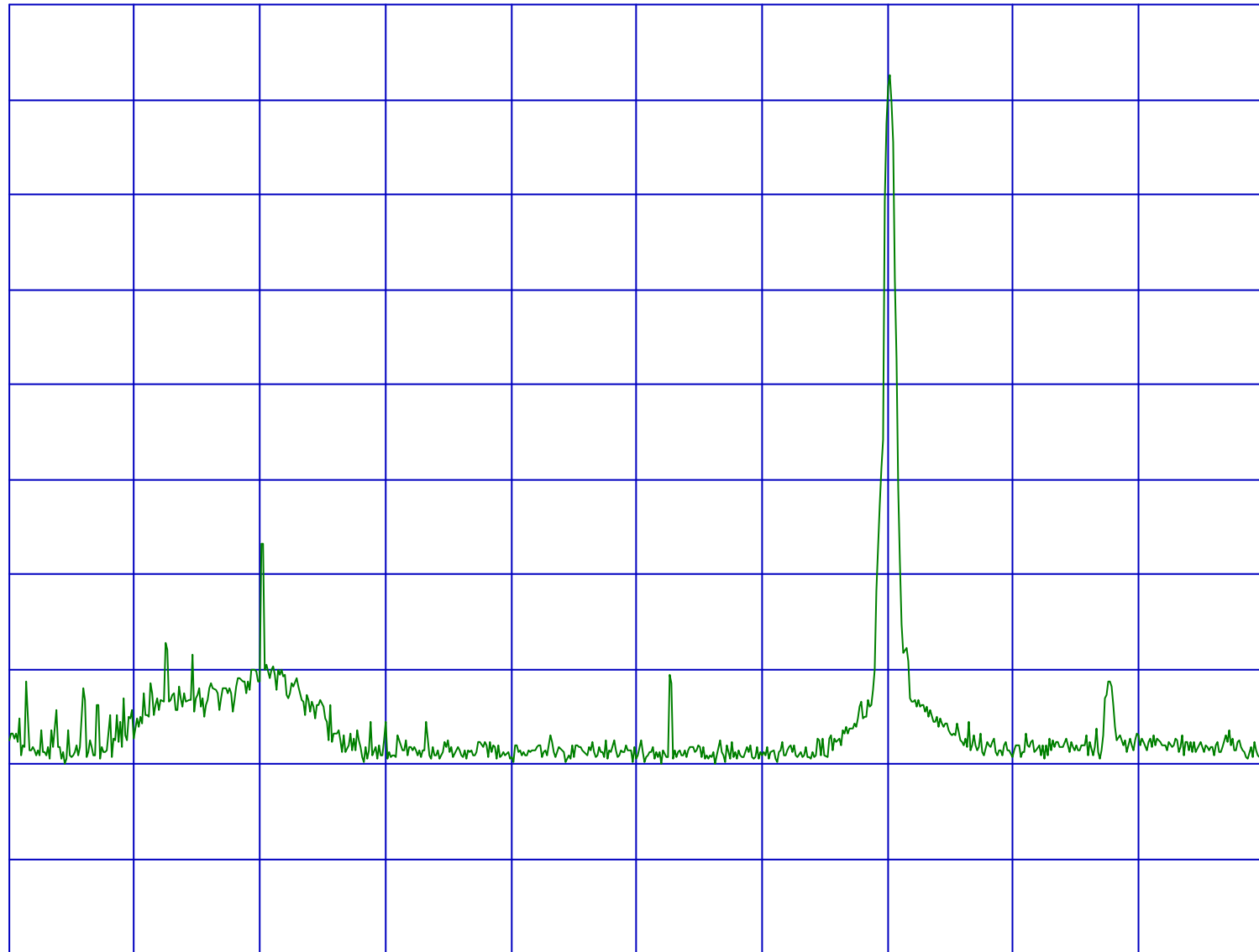
MELCO/Model:WLI-PCM-L11GP/FCC ID:FDI-09101727-0
15.247(c)/Out of Band/Ch1(30-1000MHz)/Page.A33
REF 107 dBuV ATT 10 dB

10dB/



MELCO/Model:WLI-PCM-L11GP/FCC ID:FDI-09101727-0
15.247(c)/Out of Band/Ch1(1-3GHz)/+ ATT10dB/Page.A34
REF 107 dBuV ATT 10 dB

10dB/



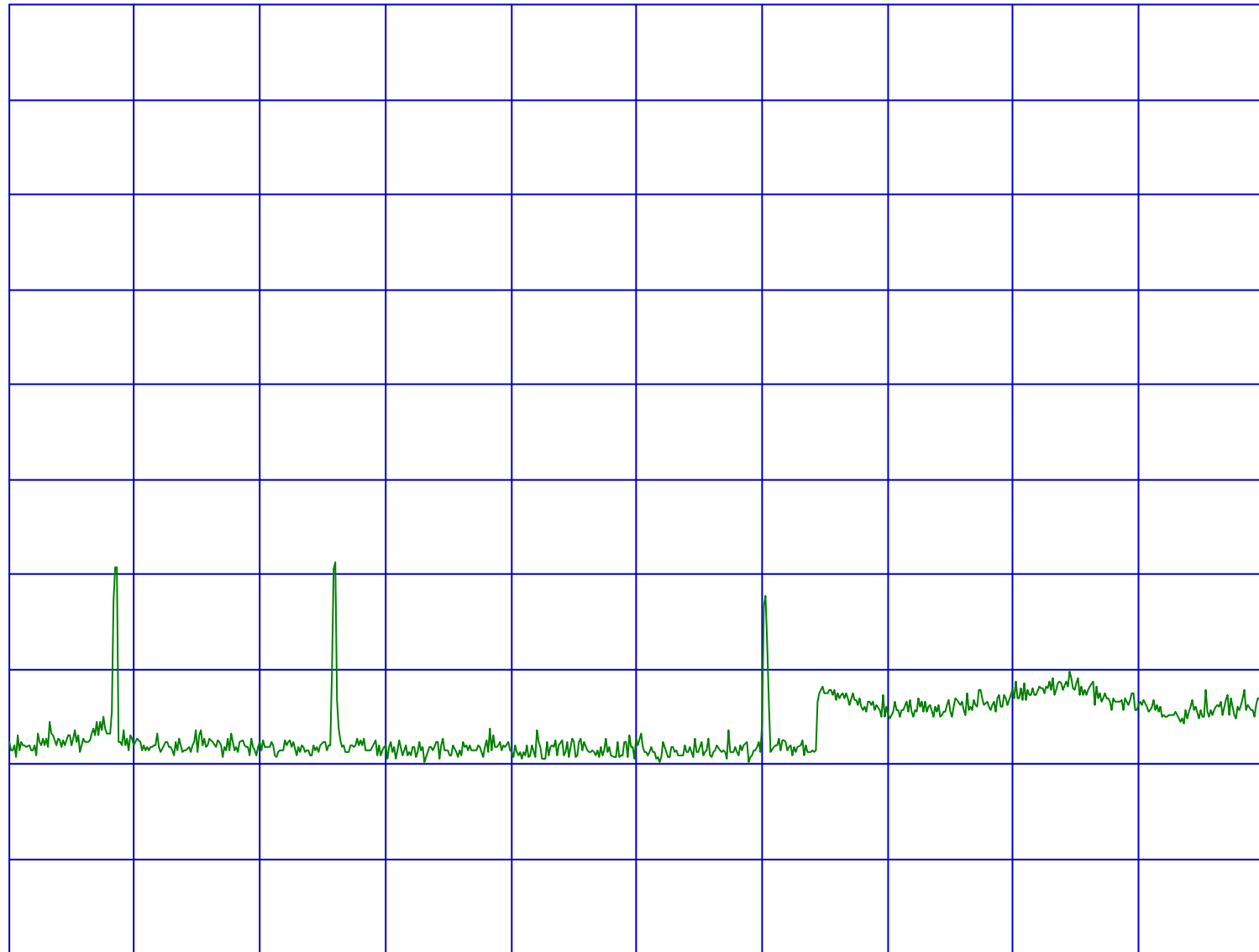
START 1.000000GHz
RBW 100kHz

VBW 100kHz

STOP 3.000000GHz
SWP 2s

MELCO/Model:WLI-PCM-L11GP/FCC ID:FDI-09101727-0
15.247(c)/Out of Band/Ch1(3-10GHz)/Page.A35
REF 107 dBuV ATT 10 dB

10dB/



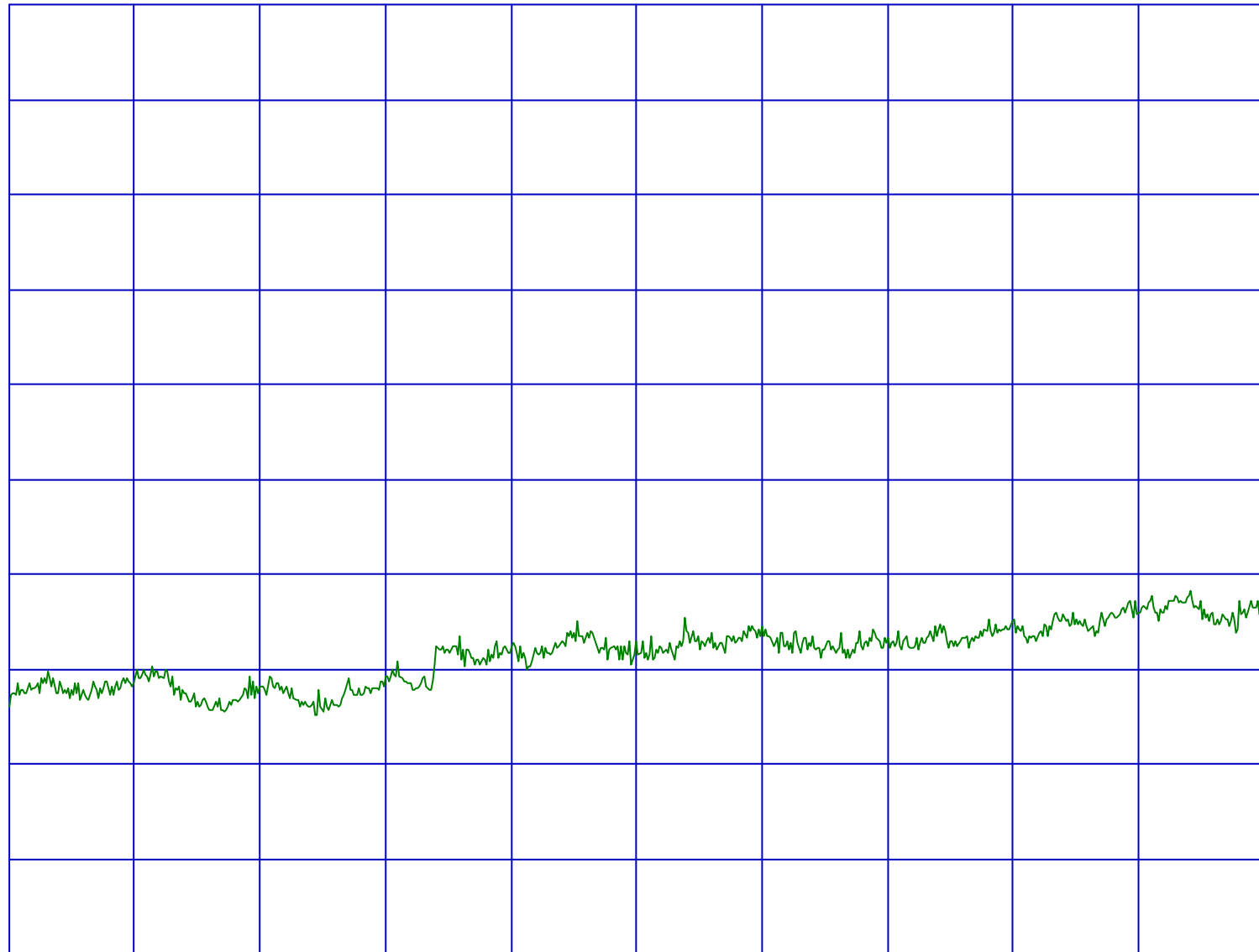
START 3.000000GHz
RBW 100kHz

VBW 100kHz

STOP 10.000000GHz
SWP 2s

MELCO/Model:WLI-PCM-L11GP/FCC ID:FDI-09101727-0
15.247(c)/Out of Band/Ch1(10-26GHz)/Page.A36
REF 107 dBuV ATT 10 dB

10dB/



START 10.000000GHz
RBW 100kHz

VBW 100kHz

STOP 26.000000GHz
SWP 5s

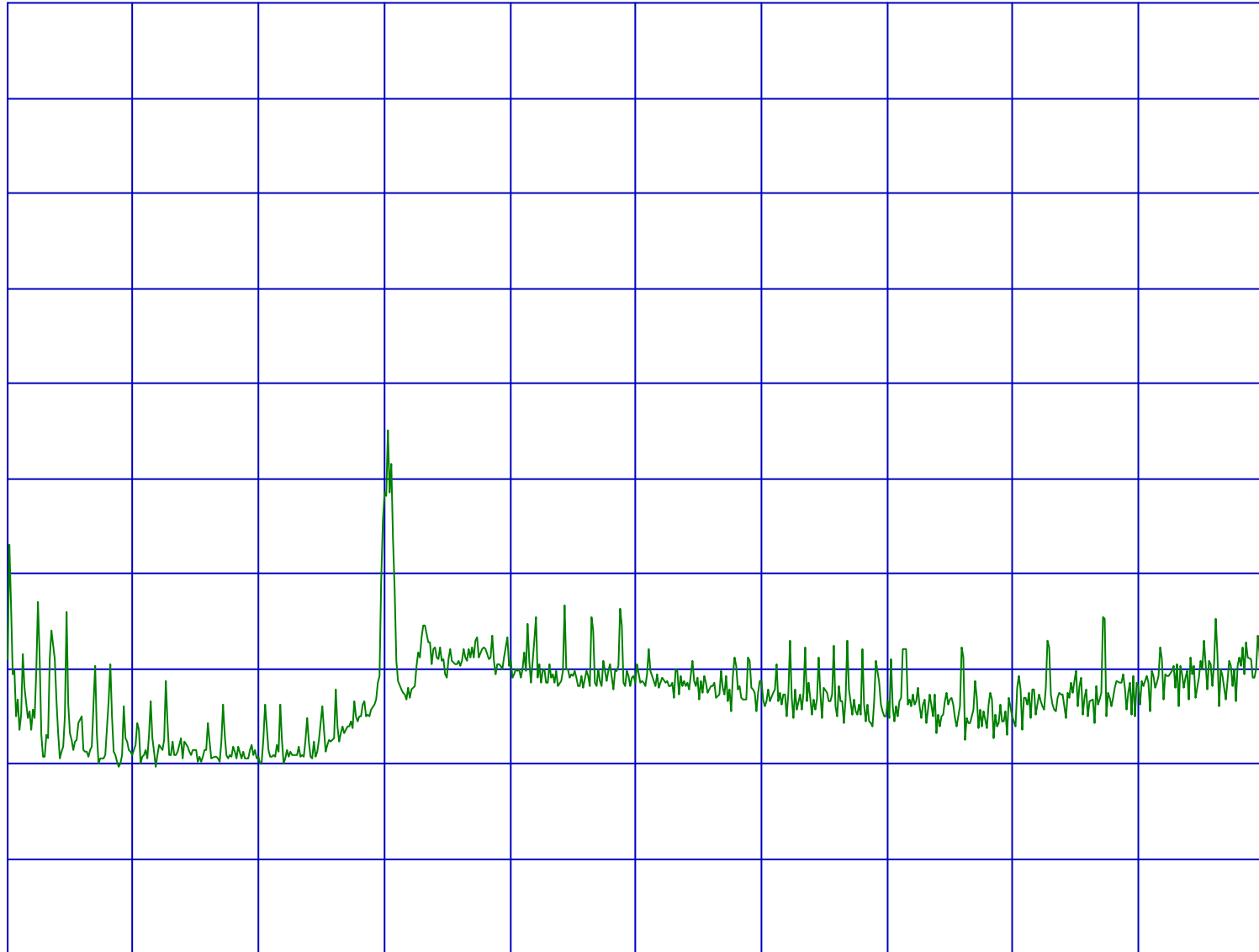
MELCO/Model:WLI-PCM-L11GP/FCC ID:FDI-09101727-0
15.247(c)/Out of Band/Ch7(30-1000MHz)/Page.A37
REF 107 dBuV ATT 10 dB

10dB/

START 30.00MHz
RBW 100kHz

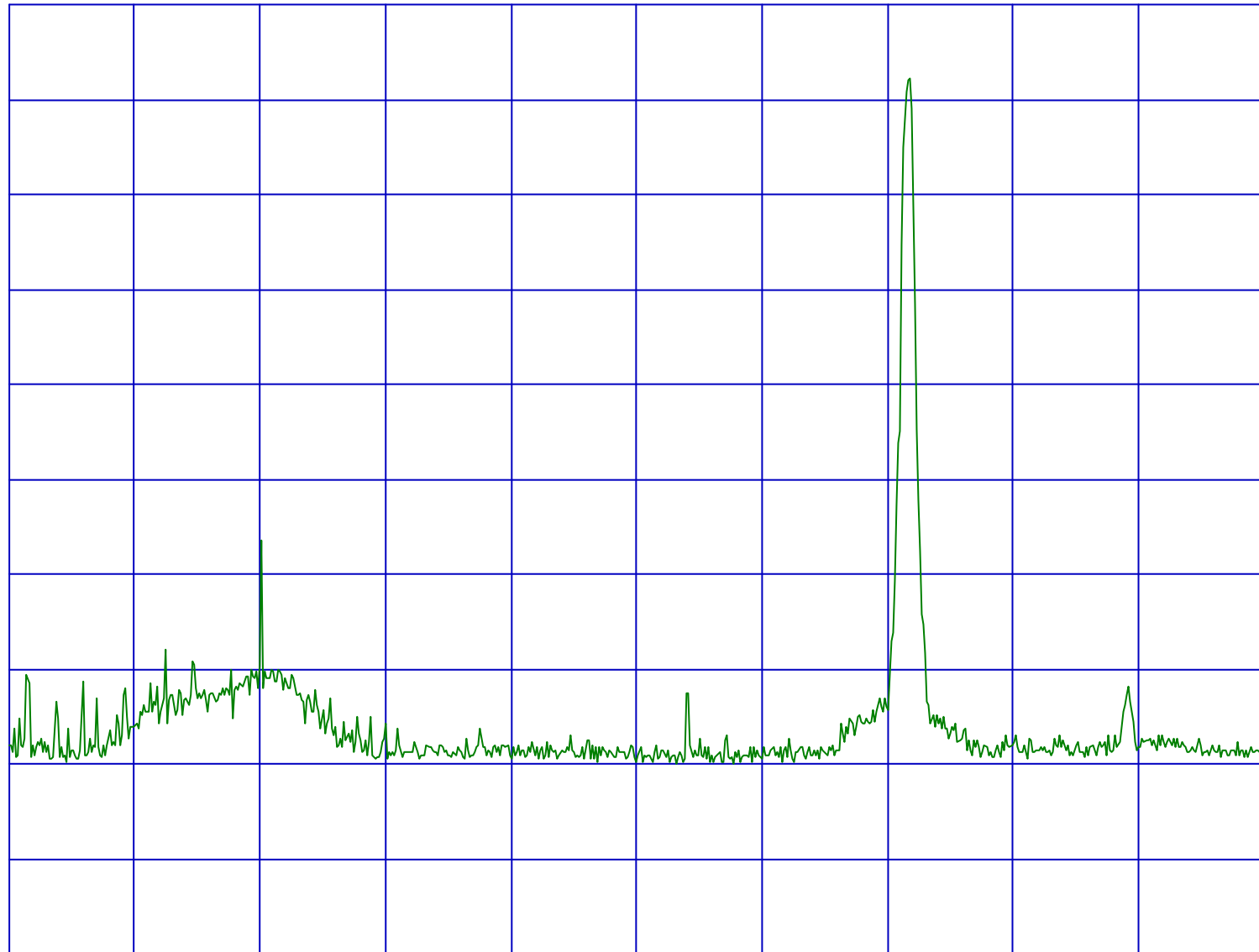
VBW 100kHz

STOP 1.000000GHz
SWP 500ms



MELCO/Model:WLI-PCM-L11GP/FCC ID:FDI-09101727-0
15.247(c)/Out of Band/Ch7(1-3GHz)/+ ATT10dB/Page.A38
REF 107 dBuV ATT 10 dB

10dB/



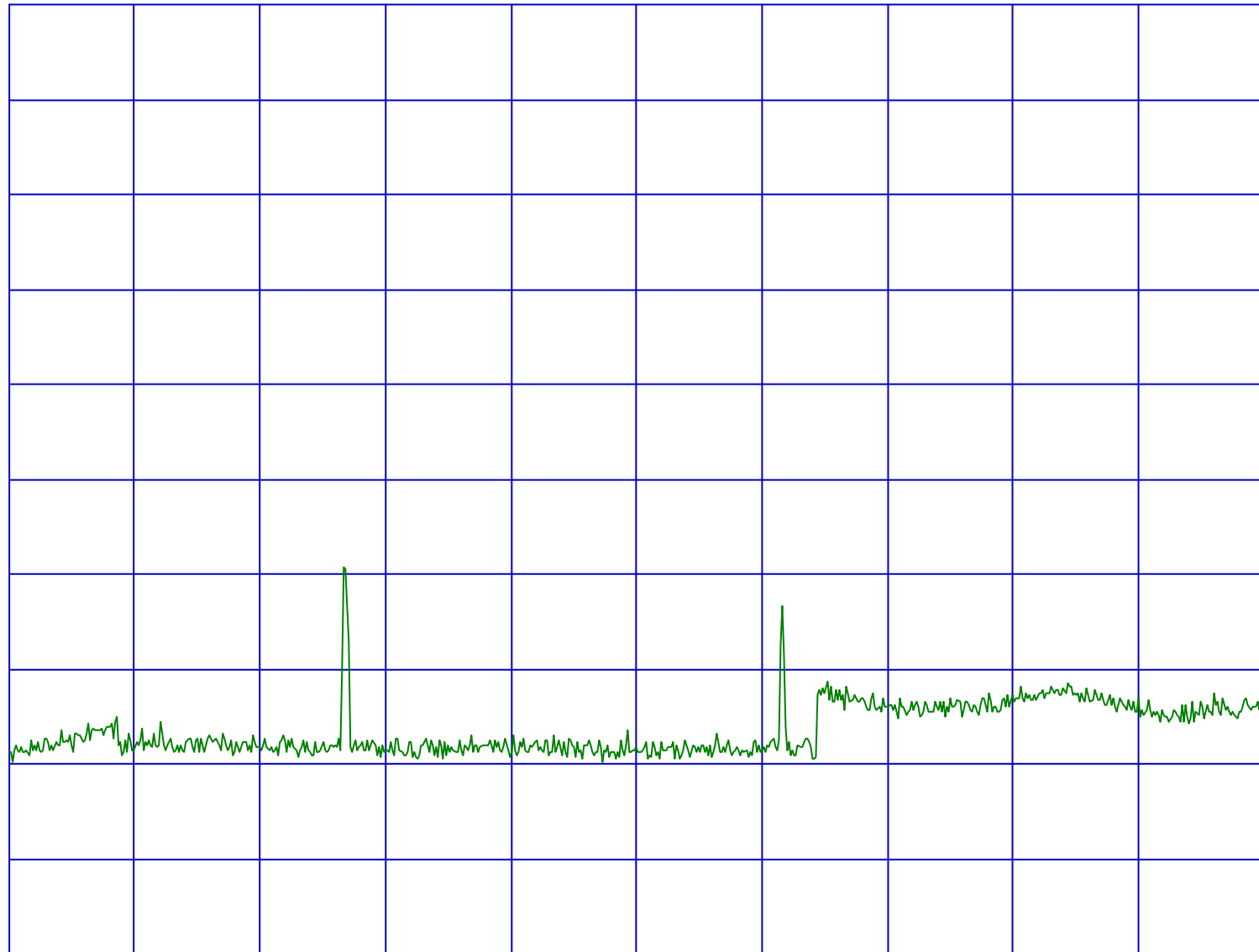
START 1.000000GHz
RBW 100kHz

VBW 100kHz

STOP 3.000000GHz
SWP 2s

MELCO/Model:WLI-PCM-L11GP/FCC ID:FDI-09101727-0
15.247(c)/Out of Band/Ch7(3-10GHz)/Page.A39
REF 107 dBuV ATT 10 dB

10dB/



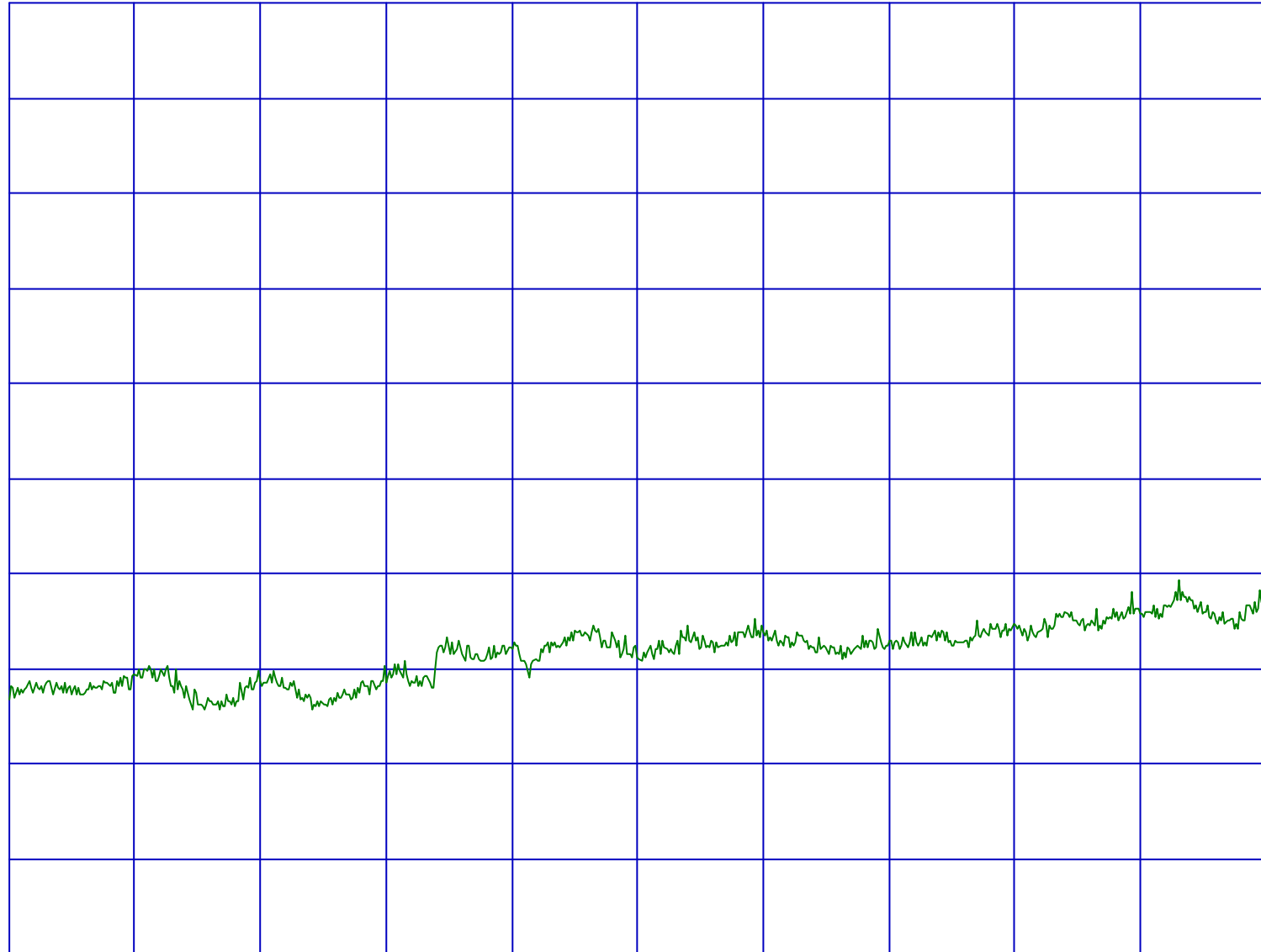
START 3.000000GHz
RBW 100kHz

VBW 100kHz

STOP 10.000000GHz
SWP 2s

MELCO/Model:WLI-PCM-L11GP/FCC ID:FDI-09101727-0
15.247(c)/Out of Band/Ch7(10-26GHz)/Page.A40
REF 107 dBuV ATT 10 dB

10dB/



START 10.000000GHz
RBW 100kHz

VBW 100kHz

STOP 26.000000GHz
SWP 5s

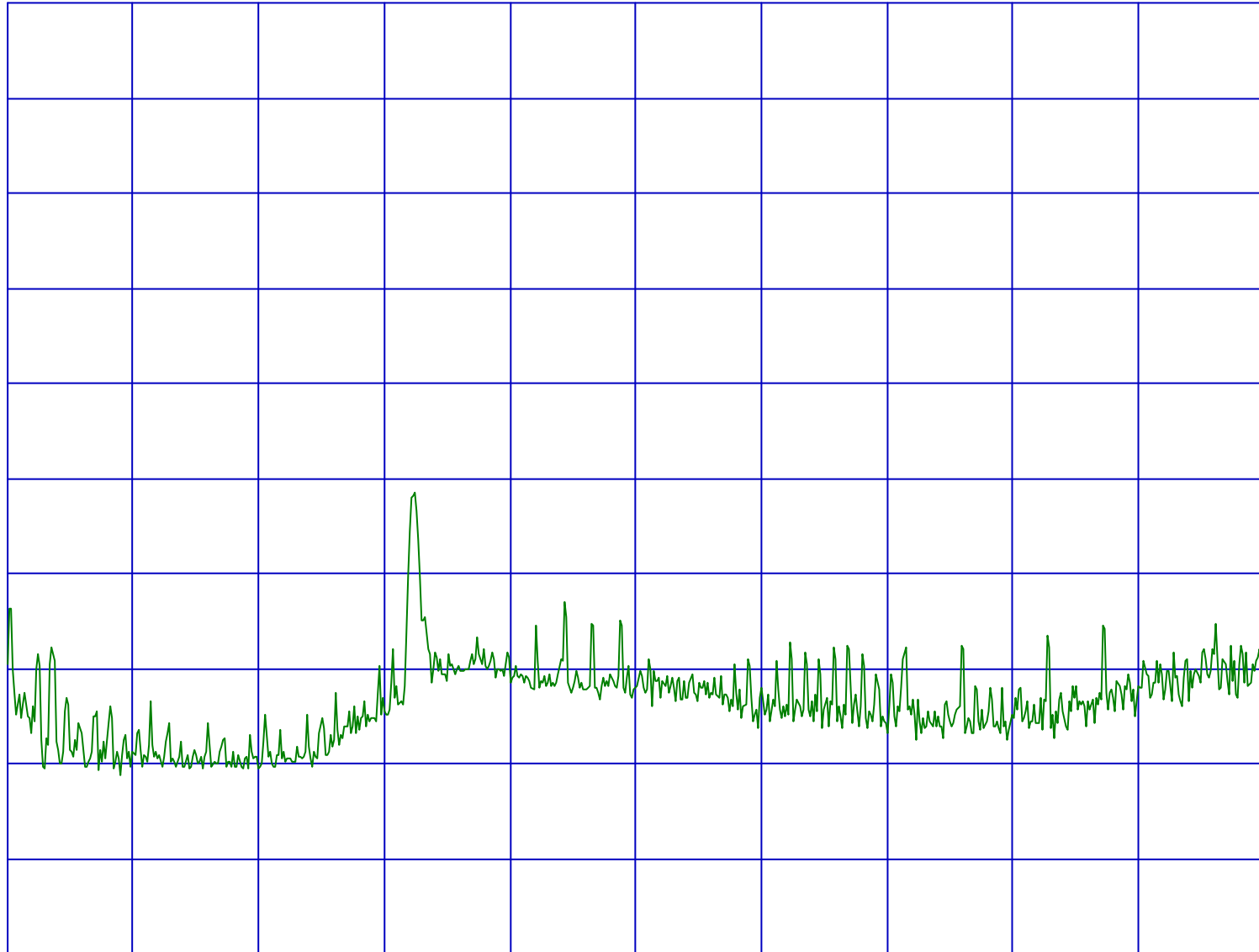
MELCO/Model:WLI-PCM-L11GP/FCC ID:FDI-09101727-0
15.247(c)/Out of Band/Ch11(30-1000MHz)/Page.A41
REF 107 dBuV ATT 10 dB

10dB/

START 30.00MHz
RBW 100kHz

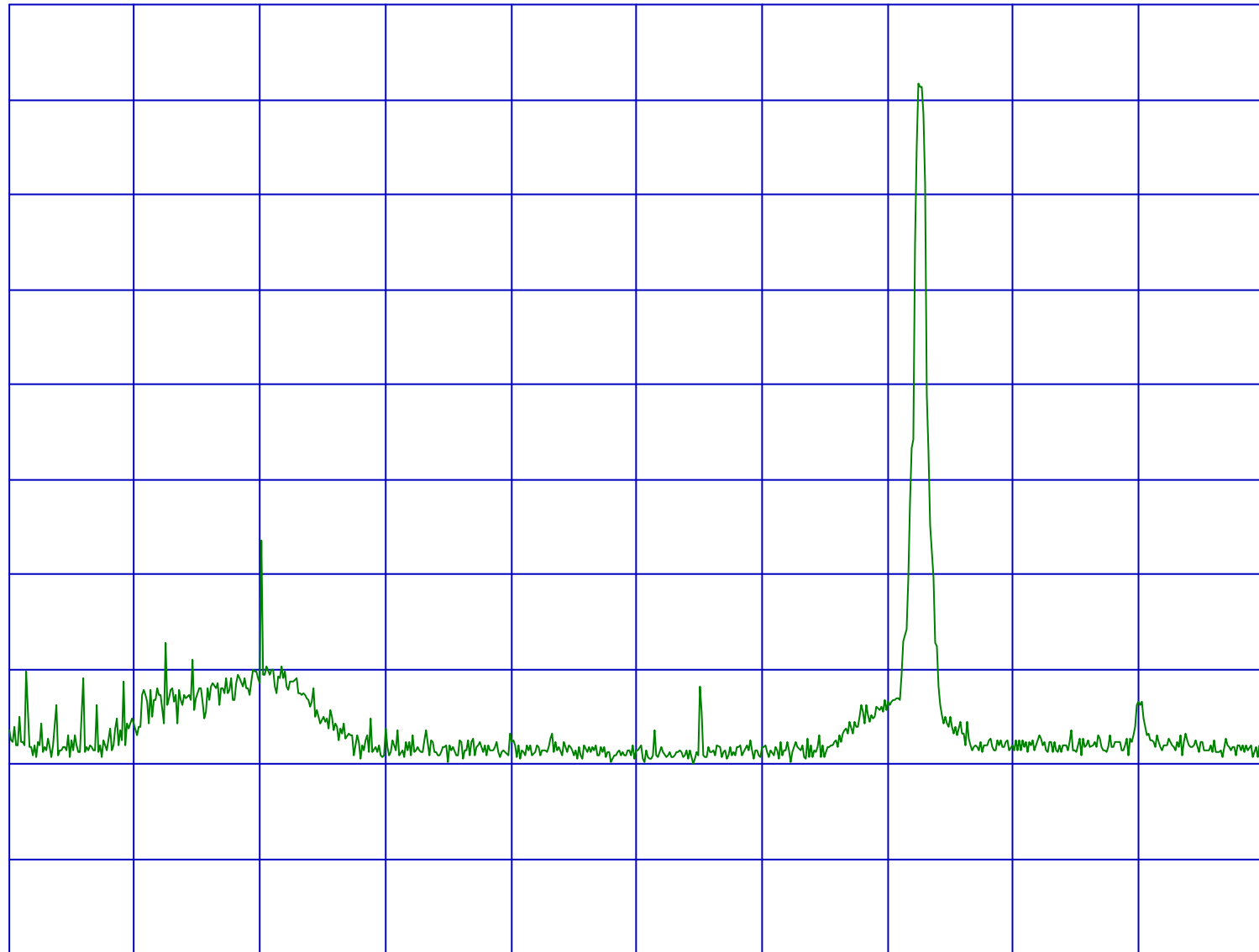
VBW 100kHz

STOP 1.000000GHz
SWP 500ms



MELCO/Model:WLI-PCM-L11GP/FCC ID:FDI-09101727-0
15.247(c)/Out of Band/Ch11(1-3GHz)/+ATT10dB/Page.A42
REF 107 dBuV ATT 10 dB

10dB/



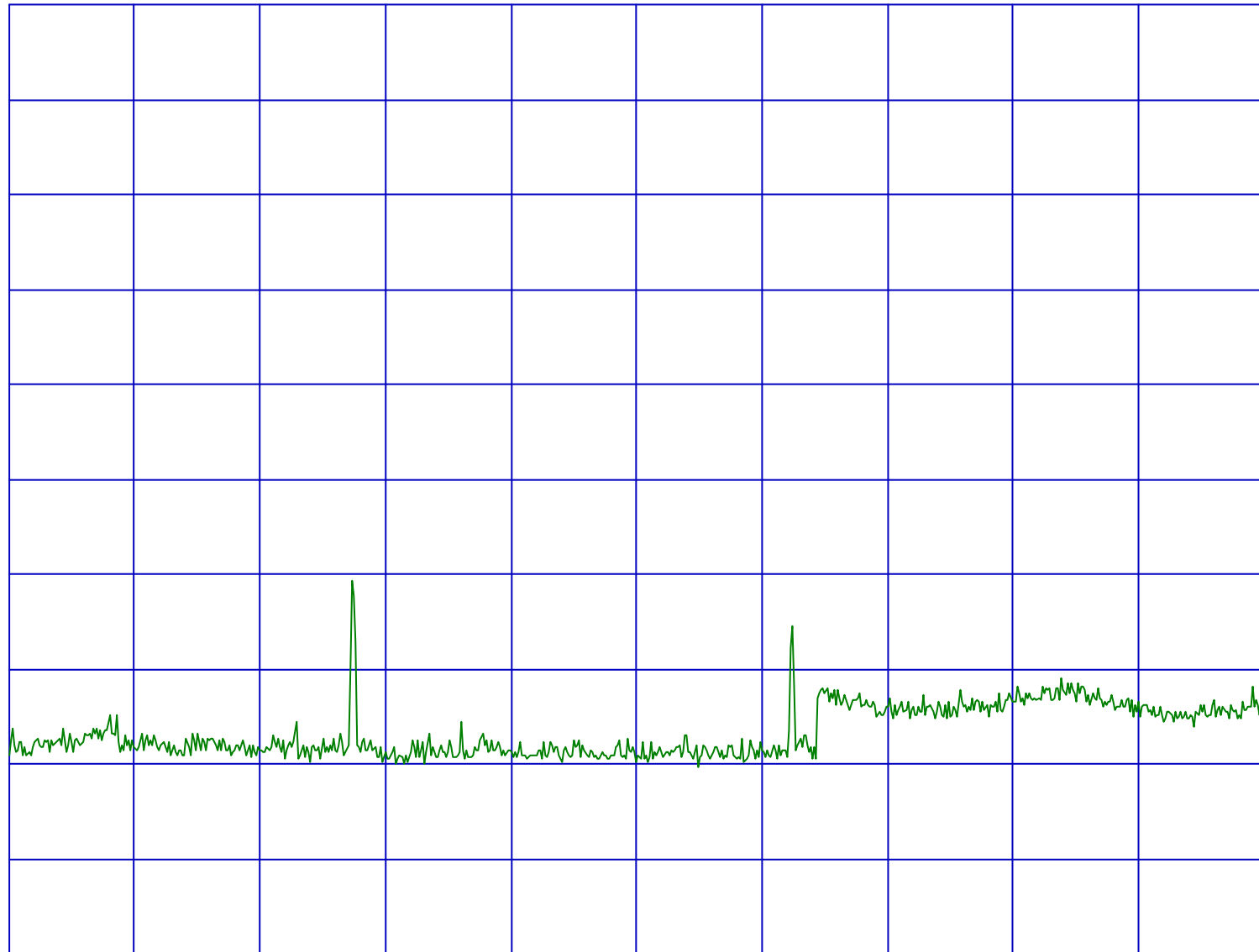
START 1.000000GHz
RBW 100kHz

VBW 100kHz

STOP 3.000000GHz
SWP 2s

MELCO/Model:WLI-PCM-L11GP/FCC ID:FDI-09101727-0
15.247(c)/Out of Band/Ch11(3-10GHz)/Page.A43
REF 107 dBuV ATT 10 dB

10dB/



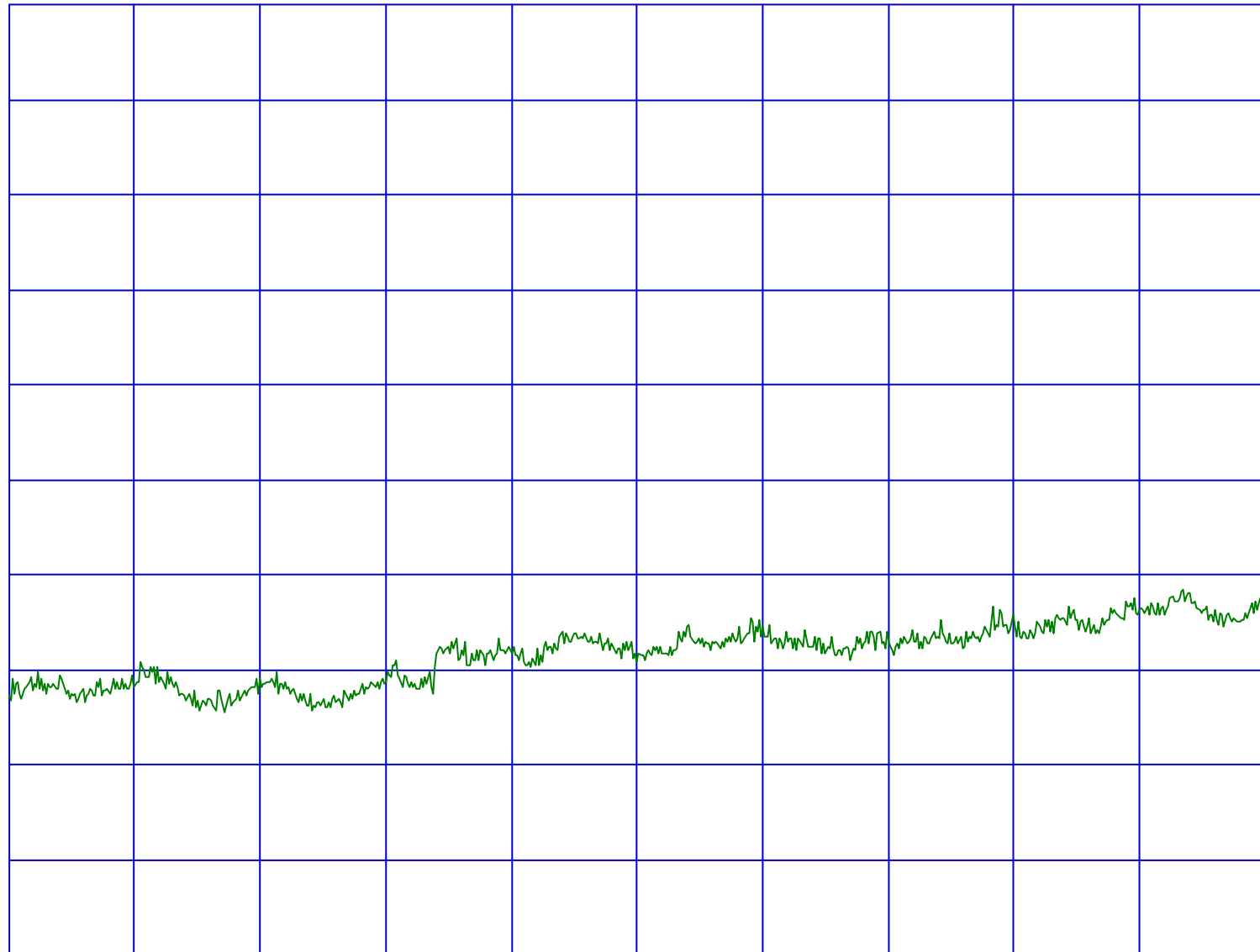
START 3.000000GHz
RBW 100kHz

VBW 100kHz

STOP 10.000000GHz
SWP 2s

MELCO/Model:WLI-PCM-L11GP/FCC ID:FDI-09101727-0
15.247(c)/Out of Band/Ch11(10-26GHz)/Page.A44
REF 107 dBuV ATT 10 dB

10dB/



START 10.000000GHz
RBW 100kHz

VBW 100kHz

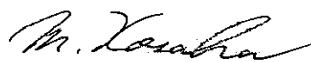
STOP 26.000000GHz
SWP 5s

Power Density(Conducted)

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

COMPANY : MELCO Inc.
EQUIPMENT : 11M Wireless LAN Card
MODEL : WLI-PCM-L11GP
S/N : 01UT43418446
FCC ID : FDI-09101727-0
POWER : AC120V/60Hz
Mode : Transmitting
Tested on : Antenna connector

REPORT NO : 22DE0021-YW
REGULATION : Fcc Part15SubpartC 247(d)
DATE : 2001/11/22
Temp./Humi. : 26deg.C/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)	2.4130	88.4	0.5	10.0	-8.1	8.0	16.1
Mid (ch20)	2.4427	90.1	0.5	10.0	-6.4	8.0	14.4
High (ch40)	2.4630	85.4	0.5	10.0	-11.1	8.0	19.1

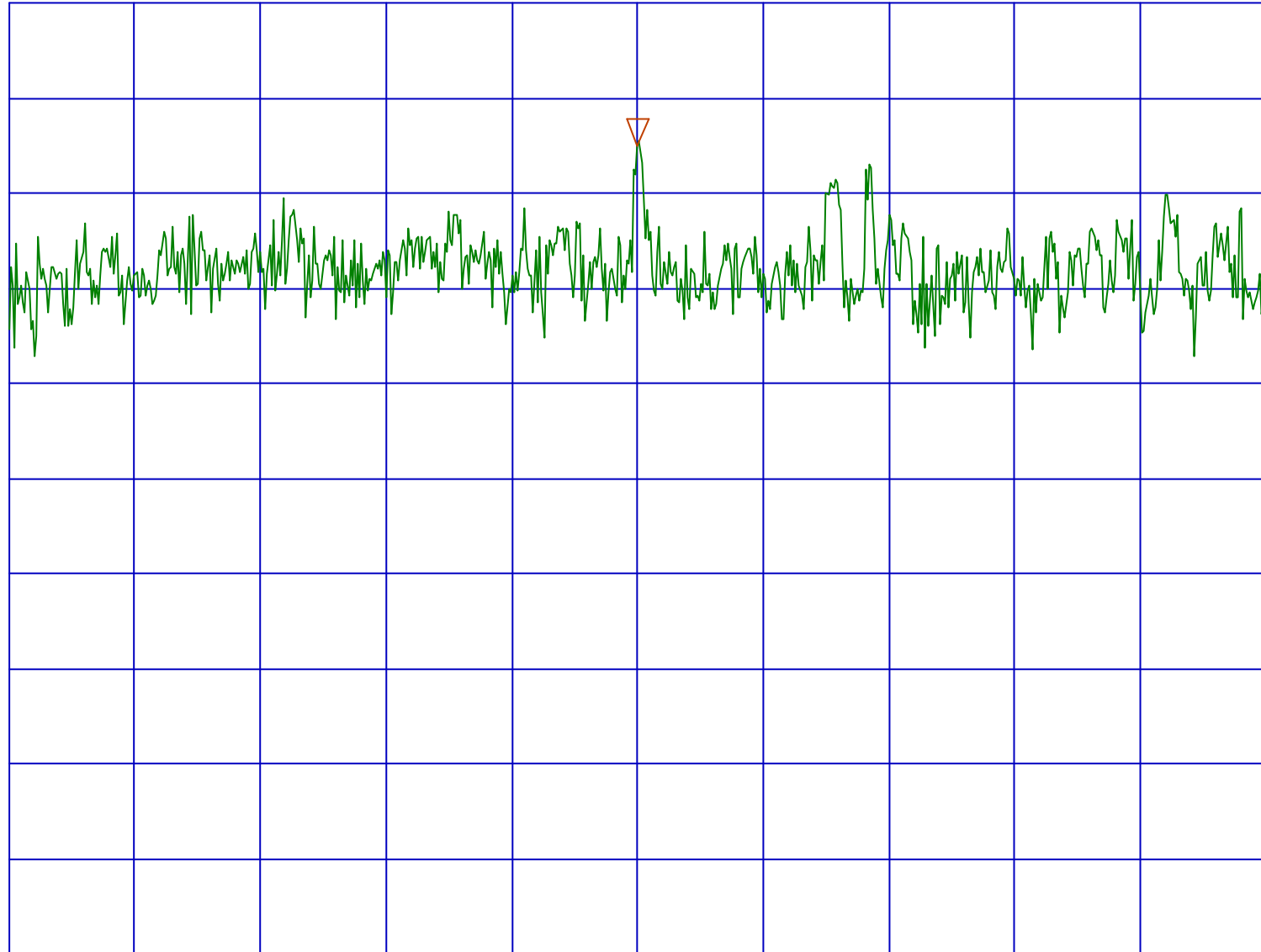
Sample Calculation :

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

MELCO/Model:WLI-PCM-L11GP/FCC ID:FDI-09101727-0
15.247(d)Power Density/Ch1/+ ATT10dB/Page.A46
REF 96 dBuV ATT 10 dB

MAKER
2.4130 GHz
88.40 dBuV

5dB/



START 2.412478GHz
RBW 3kHz

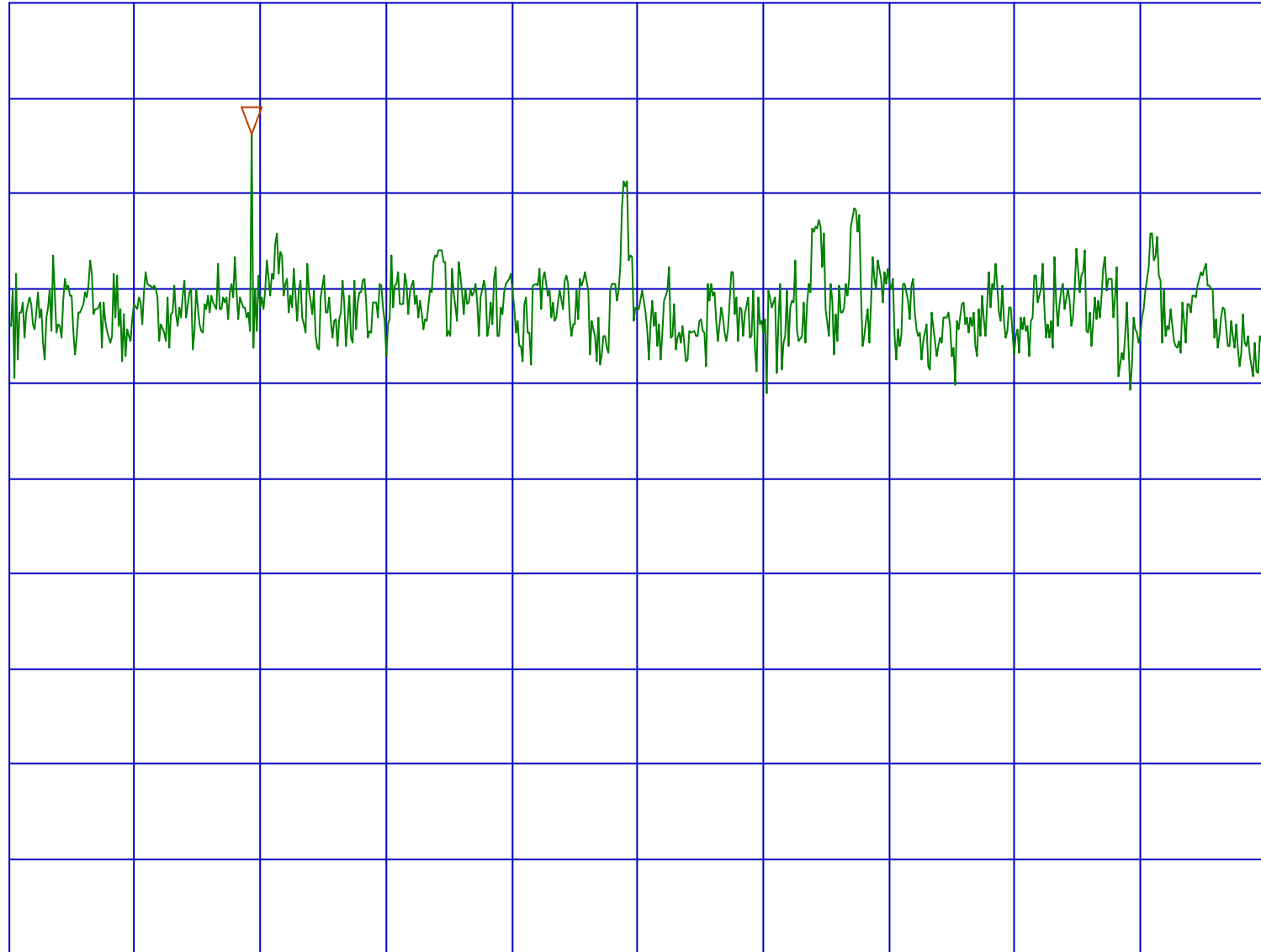
VBW 10kHz

STOP 2.413478GHz
SWP 500s

MELCO/Model:WLI-PCM-L11GP/FCC ID:FDI-09101727-0
15.247(d)Power Density/Ch7/+ ATT10dB/Page.A47
REF 97 dBuV ATT 10 dB

MAKER
2.4427 GHz
90.13 dBuV

5dB/



START 2.442486GHz
RBW 3kHz

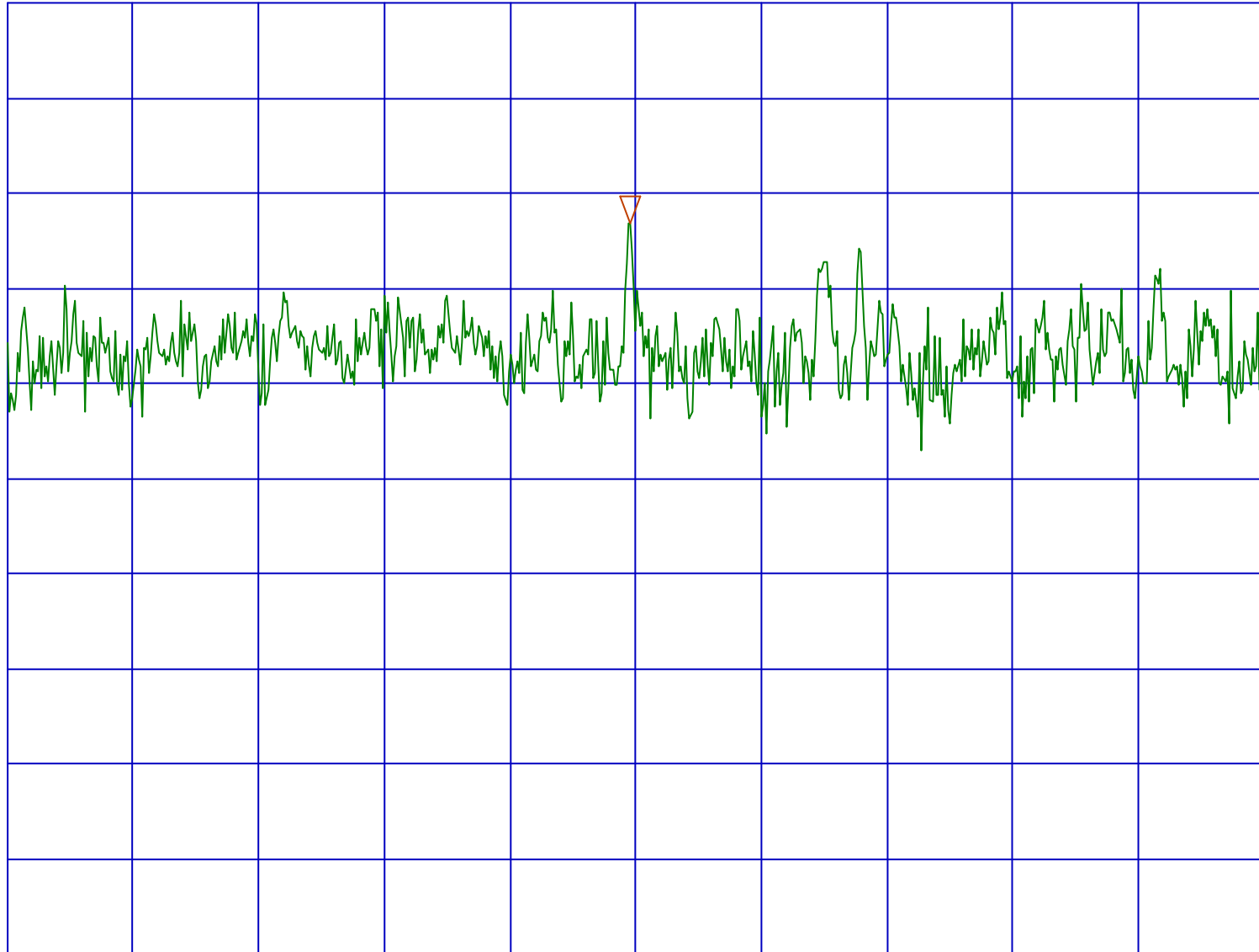
VBW 10kHz

STOP 2.443486GHz
SWP 500s

MELCO/Model:WLI-PCM-L11GP/FCC ID:FDI-09101727-0
15.247(d)Power Density/Ch11/+ ATT10dB/Page.A48
REF 97 dBuV ATT 10 dB

MAKER
2.4630 GHz
85.38 dBuV

5dB/



START 2.462483GHz
RBW 3kHz

VBW 10kHz

STOP 2.463483GHz
SWP 500s