



SGS-CSTC Standards Technical Services Co., Ltd.

No. 1 Workshop, M-10, Middle Section, Science & Technology Park,
District Shenzhen, China 518057

Telephone: +86 (0) 755 2601 2053
Fax: +86 (0) 755 2671 0594
Email: sgs_internet_operations@sgs.com

Report No.: SZEMO081005224RFF
Page: 1 of 12
FCC ID: WED-G21CM

FCC Test Report

Application No: SZEMO081005224RF
Applicant: The NCC NY LLC
Manufacturer: Electronics Co., Ltd
Factory: Electronics Factory
FCC ID: WED-G21CM

Equipment Under Test (EUT):

Name: GPS
Model: GY140 GY145 GY145C♣
♣ Please refer to section 2 of this report which indicates which item was actually tested and which were electrically identical.
Trade Mark: GPS

Standards: FCC PART15 SUBPART B:2008
Date of Receipt: 22 October 2008
Date of Test: 29 October to 18 November 2008
Date of Issue: 19 November 2008

Test Result :	Pass*
----------------------	--------------

* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:

Robinson Lo
Laboratory Manager

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. All test results in this report can be traceable to National or International Standards.

This document is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This document cannot be reproduced except in full, without prior approval of the Company.



2 Test Summary

Test	Test Requirement	Test Method	Class / Severity	Result
Radiated Emission	FCC PART 15, SUBPART B: 2008	ANSI C63.4:2003	Class B	PASS*
Conducted Emission	FCC PART 15, SUBPART B: 2008	ANSI C63.4:2003	Class B	PASS

♣Remark:

1. The EUT passed the Radiated Emission test after retest.

2. Item No.: GY140 GY145 GY145C

Only the item GY140 was tested, since the electrical circuit design, layout, component used and internal wiring were identical for the above samples, with only difference being the outer decoration and colors.



3 Contents

	Page
1 COVER PAGE	1
2 TEST SUMMARY	2
3 CONTENTS	3
4 GENERAL INFORMATION	4
4.1 CLIENT INFORMATION	4
4.2 GENERAL DESCRIPTION OF E.U.T.	4
4.3 DESCRIPTION OF SUPPORT UNITS	4
4.4 STANDARDS APPLICABLE FOR TESTING	4
4.5 TEST LOCATION	4
4.6 TEST FACILITY	5
4.7 DEVIATION FROM STANDARDS	5
4.8 ABNORMALITIES FROM STANDARD CONDITIONS	5
5 EQUIPMENTS USED DURING TEST	6
6 TEST RESULTS	7
6.1 CONDUCTED EMISSIONS MAINS TERMINALS, 150kHz TO 30MHz	7
6.1.1 E.U.T. Operation	7
6.1.2 Measurement Data	7
6.2 RADIATED EMISSIONS	10
6.2.1 E.U.T. Operation	10
6.2.2 Measurement Data	10-12



4 General Information

4.1 Client Information

Applicant: The NCC NY LLC
Address of Applicant: 140 58th Street, Suit 6W, Brooklyn, NY 11220
Manufacturer: Electronics Co., Ltd
Address of Manufacturer: New industrial Developing Zone, Xiao Bian, Chang An Town, Dong Guan
Factory: Electronics Factory
Address of Factory: New industrial Developing Zone, Xiao Bian, Chang An Town, Dong Guan

4.2 General Description of E.U.T.

Product Name: GPS
Model: GY140 GY145 GY145C
Power Supply: DC 12V

4.3 Description of Support Units

Description	Manufacturer	Model No.
PC	IBM	2662
Coder	HengTong ELECTRON	HT4000
Printer	Canon	BJC-1000SP

4.4 Standards Applicable for Testing

The customer requested FCC tests for the EUT
The standard used was FCC PART 15, SUBPART B, CLASS B.

4.5 Test Location

All tests were performed at:
SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory,
No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, China. 518057.
Tel: +86 755 2601 2053 Fax: +86 755 2671 0594

No tests were sub-contracted.



4.6 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **CNAS (No. CNAS L2929)**

CNAS has accredited SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

- **VCCI**

The 3m Semi-anechoic chamber and Shielded Room (7.5m x 4.0m x 3.0m) of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-2197 and C-2383 respectively.

Date of Registration: September 29, 2005. Valid until September 28, 2008.

- **FCC – Registration No.: 556682**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 556682, Aug. 04, 2005.

- **Industry Canada (IC)**

The 3m Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 6002.

4.7 Deviation from Standards

None.

4.8 Abnormalities from Standard Conditions

None.



5 Equipments Used during Test

RE in Chamber						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (dd-mm-yy)	Cal.Due date (dd-mm-yy)
1	3m Semi-Anechoic Chamber	ETS-LINDGREN	N/A	SEL0017	16-06-2007	15-06-2009
2	EMI Test Receiver	Rohde & Schwarz	ESIB26	SEL0023	12-12-2007	11-12-2008
3	EMI Test software	AUDIX	E3	SEL0050	N/A	N/A
4	Coaxial cable	SGS	N/A	SEL0028	18-06-2008	17-06-2009
5	BiConiLog Antenna (26-3000MHz)	ETS-LINDGREN	3142C	SEL0014	12-08-2008	11-08-2009
6	Pre-amplifier (0.1-1300MHz)	Agilent Technologies	8447D	SEL0053	18-06-2008	17-06-2009
7	Double-ridged horn (1-18GHz)	ETS-LINDGREN	3117	SEL0005	12-08-2008	11-08-2009
8	Horn Antenna (18-26GHz)	ETS-LINDGREN	3160	SEL0076	12-08-2008	11-08-2009
9	Pre-amplifier (1-18GHz)	Rohde & Schwarz	AFS42-00101 800-25-S-42	SEL0081	18-06-2008	17-06-2009
10	Pre-amplifier (18-26GHz)	Rohde & Schwarz	AFS33- 18002650-30- 8P-44	SEL0080	18-06-2008	17-06-2009
11	Band filter	Amindeon	82346	SEL0094	18-06-2008	17-06-2009
12	Active Loop Antenna	Beijing Daze	ZN30900A	SEL0097	15-06-2008	14-06-2009

Conducted Emission						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (dd-mm-yy)	Cal.Due date (dd-mm-yy)
1	Shielding Room	ZhongYu Electron	GB-88	SEL0042	N/A	N/A
2	LISN	ETS-LINDGREN	3816/2	SEL0021	18-06-2008	17-06-2009
3	ISN	Rohde & Schwarz	ENY 22 1109	EMC0114	18-06-2008	17-06-2009
4	ISN	Rohde & Schwarz	ENY 41 1110	EMC0115	18-06-2008	17-06-2009
5	EMI Test Receiver	Rohde & Schwarz	ESCI	SEL0022	18-06-2008	17-06-2009
6	Coaxial Cable	SGS	N/A	SEL0024	18-06-2008	17-06-2009



6 Test Results

6.1 Conducted Emissions Mains Terminals, 150kHz to 30MHz

Test Requirement: FCC Part15 B
Test Method: ANSI C63.4
Frequency Range: 150KHz to 30MHz
Class / Severity: Class B
Detector: RBW=9KHz VBW=30KHz
Quasi-Peak if maximised peak within 6dB of Quasi-Peak limit

6.1.1 E.U.T. Operation

Operating Environment:
Temperature: 24.0 °C Humidity: 50 % RH Atmospheric Pressure: 1010 Mbar
EUT Operation: PC connecting mode

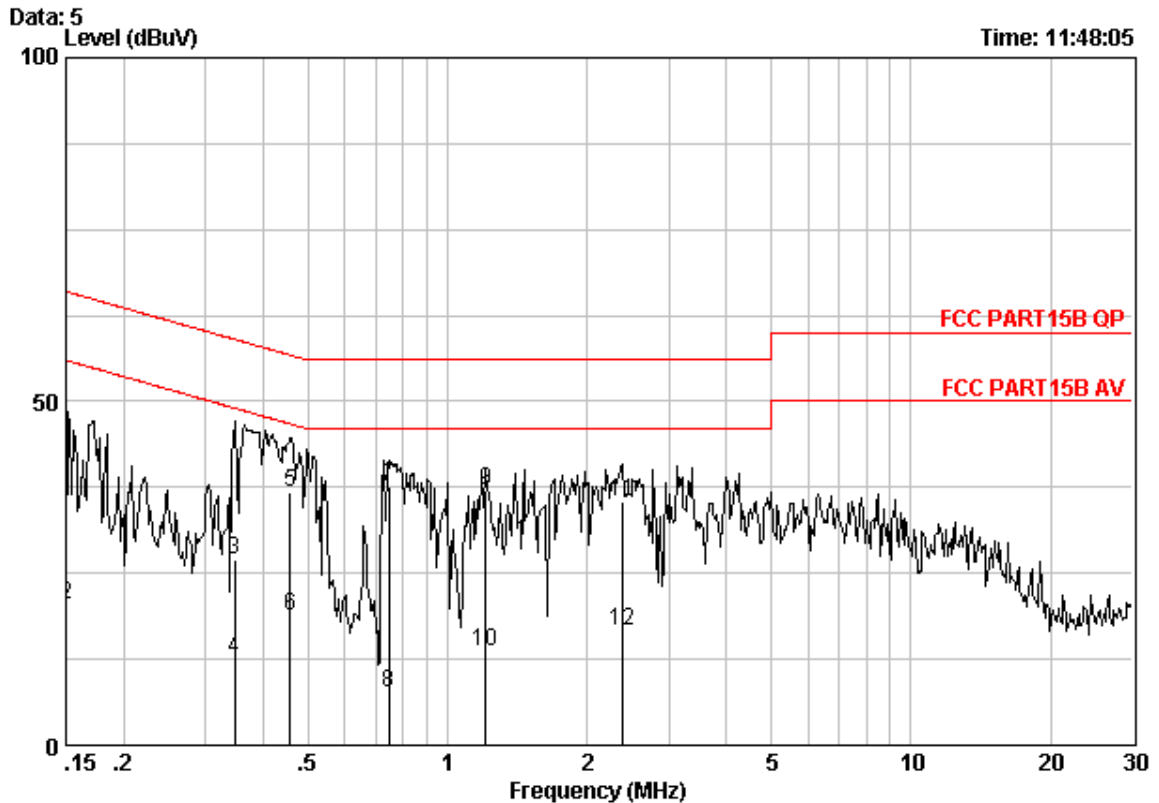
6.1.2 Measurement Data

An initial pre-scan was performed on the live and neutral lines with peak detector.
Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.



The following Quasi-Peak and Average measurements were performed on the EUT

Live Line:



Site : Shielding Room
Condition : FCC PART15B QP CE LINE
EUT : GPS
Job No. : 5224RF
Test mode : COMMUNICATE

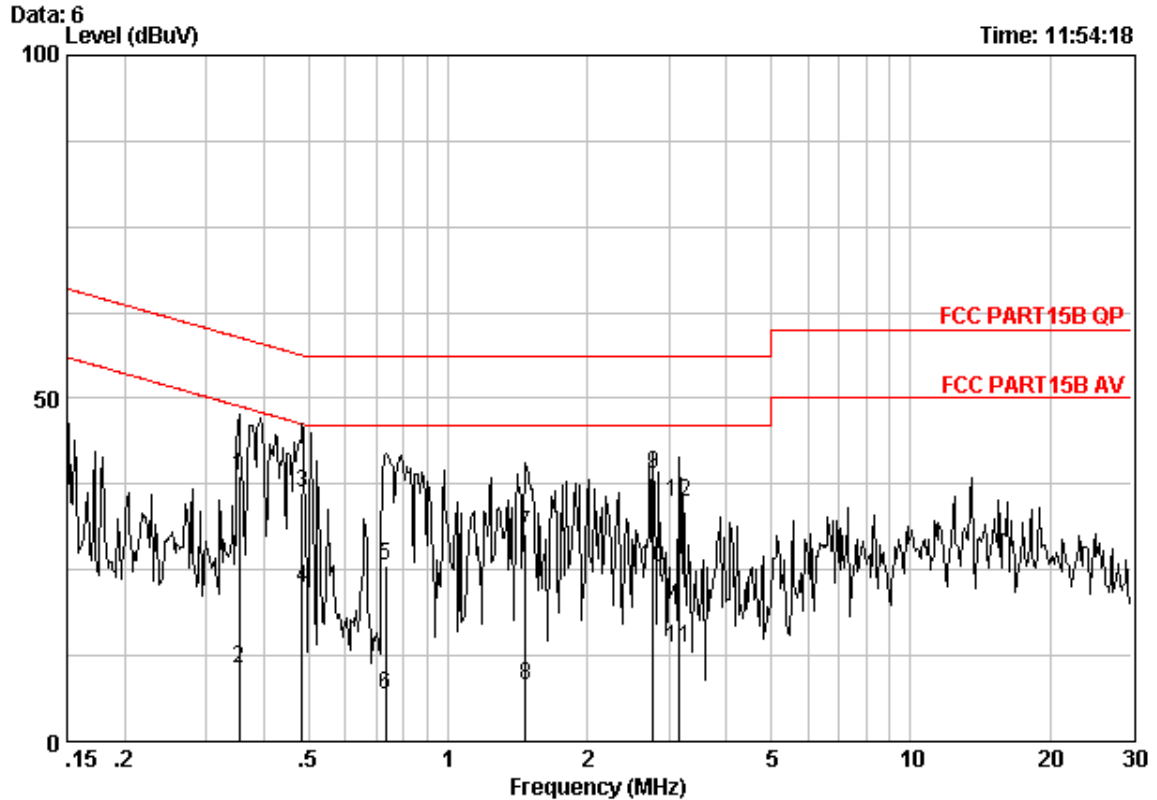
	Freq	Cable Loss	LISN Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.15000	0.04	-0.05	34.08	34.07	66.00	-31.93	QP
2	0.15000	0.04	-0.05	20.39	20.38	56.00	-35.62	AVERAGE
3	0.34646	0.05	-0.04	27.04	27.05	59.05	-32.00	QP
4	0.34646	0.05	-0.04	12.53	12.54	49.05	-36.51	AVERAGE
5	0.45636	0.06	-0.04	36.78	36.80	56.76	-19.96	QP
6	0.45636	0.06	-0.04	18.86	18.88	46.76	-27.88	AVERAGE
7	0.74697	0.06	-0.05	37.69	37.71	56.00	-18.29	QP
8	0.74697	0.06	-0.05	7.49	7.51	46.00	-38.49	AVERAGE
9	1.210	0.09	-0.05	37.07	37.11	56.00	-18.89	QP
10	1.210	0.09	-0.05	13.64	13.68	46.00	-32.32	AVERAGE
11	2.384	0.13	-0.07	35.28	35.35	56.00	-20.65	QP
12	2.384	0.13	-0.07	16.62	16.68	46.00	-29.32	AVERAGE

FCC ID:WED-G21CM

This document is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law." Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This document cannot be reproduced except in full, without prior approval of the Company.



Neutral Line:



Site : Shielding Room
Condition : FCC PART15B QP CE NEUTRAL
EUT : GPS
Job No. : 5224RF
Test mode : COMMUNICATE

	Freq	Cable	LISN	Read	Limit	Over	
	MHz	Loss	Factor	Level	Level	Line	Limit Remark
		dB		dBuV	dBuV	dBuV	dB
1	0.35388	0.05	-0.04	38.65	38.66	58.87	-20.21 QP
2	0.35388	0.05	-0.04	10.58	10.60	48.87	-38.27 AVERAGE
3	0.48375	0.06	-0.04	36.26	36.28	56.27	-20.00 QP
4	0.48375	0.06	-0.04	22.38	22.40	46.27	-23.88 AVERAGE
5	0.73131	0.06	-0.04	25.64	25.66	56.00	-30.34 QP
6	0.73131	0.06	-0.04	6.79	6.81	46.00	-39.19 AVERAGE
7	1.472	0.10	-0.05	30.30	30.35	56.00	-25.65 QP
8	1.472	0.10	-0.05	8.06	8.11	46.00	-37.89 AVERAGE
9 @	2.779	0.14	-0.07	38.88	38.94	56.00	-17.06 QP
10	2.779	0.14	-0.07	25.15	25.21	46.00	-20.79 AVERAGE
11	3.156	0.14	-0.08	13.43	13.49	46.00	-32.51 AVERAGE
12	3.156	0.14	-0.08	34.73	34.79	56.00	-21.21 QP

FCC ID:WED-G21CM

This document is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law." Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This document cannot be reproduced except in full, without prior approval of the Company.



6.2 Radiated Emissions

Test Requirement: FCC Part15 B
Test Method: ANSI C63.4
Measurement Distance: 3m
Class: Class B
Test Range: 30MHz to 25GHz
30MHz-1000MHz: RBW=100KHz, VBW=300KHz
Above 1GHz: PK RBW=1MHz, VBW=3MHz
Average RBW=1MHz, VBW=3MHz
Limit:
40.0 dB μ V/m between 30MHz & 88MHz
43.5 dB μ V/m between 88MHz & 216MHz
46.0 dB μ V/m between 216MHz & 960MHz
above 960MHz: Average value Limit 54.0 dB μ V/m
Peak value Limit 74.0 dB μ V/m.

6.2.1 E.U.T. Operation

Operating Environment:
Temperature: 24.0 °C Humidity: 50 % RH Atmospheric Pressure: 1010 mbar

6.2.2 Measurement Data

An initial pre-scan was performed in the chamber using the spectrum analyser in peak detection mode. Quasi-peak measurements were conducted based on the peak sweep graph. The EUT was measured by Bilog antenna with 2 orthogonal polarities.

The following quasi-peak measurements were performed on the EUT



1. Below 1GHz

PC Connecting mode

Vertical

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamplifier Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)
36.790	0.60	12.30	28.12	44.47	29.25	40.00	-10.75
60.070	0.80	7.19	28.05	49.11	29.05	40.00	-10.95
95.245	1.15	8.92	27.91	57.50	39.66	43.50	-3.84
145.430	1.31	8.57	27.49	44.94	27.33	43.50	-16.17
175.500	1.36	9.71	27.29	42.42	26.20	43.50	-17.30
249.220	1.67	12.27	26.92	41.46	28.48	46.00	-17.52

Horizontal

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamplifier Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)
94.020	1.14	8.87	27.92	57.61	39.70	43.50	-3.80
140.580	1.30	8.15	27.52	47.65	29.58	43.50	-13.92
184.230	1.38	9.98	27.24	43.37	27.49	43.50	-16.01
241.460	1.63	12.04	26.95	43.56	30.28	46.00	-15.72
309.360	1.93	14.24	26.79	39.24	28.62	46.00	-17.38
385.020	2.16	16.12	27.32	41.72	32.68	46.00	-13.32



2. Above 1GHz

Peak Measurement

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamplifier Factor (dB)	Read Level (dBμV)	Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	polarization
1585.00	4.38	32.68	35.84	39.85	41.07	74.00	-32.93	Vertical
3150.00	5.24	33.34	37.57	36.18	37.19	74.00	-36.81	Vertical
6300.00	7.29	35.72	38.88	35.85	39.98	74.00	-34.02	Vertical
1585.00	4.38	32.68	35.84	40.57	41.79	74.00	-32.21	Horizontal
3150.00	5.24	33.34	37.57	35.95	36.96	74.00	-37.04	Horizontal
6300.00	7.29	35.72	38.88	34.71	38.84	74.00	-35.16	Horizontal

Average Measurement

Frequency (MHz)	Cable loss (dB)	Antenna factors (dB/m)	Preamplifier factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Over limit	polarization
1585.00	4.38	32.68	35.84	26.54	27.76	54.00	-26.24	Vertical
3150.00	5.24	33.34	37.57	23.91	24.92	54.00	-29.08	Vertical
6300.00	7.29	35.72	38.88	22.09	26.22	54.00	-27.78	Vertical
1585.00	4.38	32.68	35.84	25.48	26.70	54.00	-27.30	Horizontal
3150.00	5.24	33.34	37.57	22.98	23.99	54.00	-30.01	Horizontal
6300.00	7.29	35.72	38.88	22.02	26.15	54.00	-27.85	Horizontal

Remark: For this unintentional radiator operates below 25 GHz. The spectrum shall be investigated to the tenth harmonic of the highest fundamental frequency. And above the third harmonic of this unintentional radiator, the disturbance is very low. So the test result only displays to fourth harmonic.