TEST REPORT

Report No.: 13120567HKG-001

Jeckson Electric Co., Ltd.

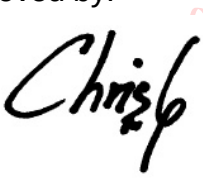
Application
For
Certification
(Original Grant)
(FCC ID: ELY547-CP-W5)

Transmitter

Prepared and Checked by:

Signed On File
Lam Hon Ming, Kenneth
Senior Lead Engineer

Approved by:



Digitally signed by Ng Mei Nar
Location: Intertek Testing Services Hong Kong Ltd.

Ng Mei Nar, Chris
Lead Engineer
Date: January 23, 2014

Intertek Testing Services Hong Kong Ltd.
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GENERAL INFORMATION

Jeckson Electric Co., Ltd.
BRAND NAME: SONY, MODEL: CP-W5

FCC ID: ELY547-CP-W5

Grantee:	Jeckson Electric Co., Ltd.
Grantee Address:	18/F., China Aerospace Centre, 143 Hoi Bun Road, Kwun Tong, Kowloon, Hong Kong.
Contact Person:	Mr. K. H. Ho
Tel:	852-2793 5274
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e-mail:	khho@casil-jeckson.com
Manufacturer:	Huizhou Factory Jeckson Electric Co., Ltd.
Manufacturer Address:	China Aerospace Industrial Park, Zhongkai High-Technology Industrial Zone, Huizhou, Guangdong, P.R. China. 516006
Brand Name:	SONY
Model:	CP-W5
Type of EUT:	Transmitter
Description of EUT:	Wireless Portable Charger
Serial Number:	N/A
FCC ID:	ELY547-CP-W5
Date of Sample Submitted:	December 13, 2013
Date of Test:	December 13, 2013 to December 17, 2013
Report No.:	13120567HKG-001
Report Date:	January 23, 2014
Environmental Conditions:	Temperature: +10 to 30°C (performance guarateed) 0 to 35°C (operation guarateed) Humidity: 10 to 90%

SUMMARY OF TEST RESULT

Jeckson Electric Co., Ltd.
BRAND NAME: SONY, MODEL: CP-W5

FCC ID: ELY547-CP-W5

TEST SPECIFICATION	REFERENCE	RESULTS
Transmitter Field Strength	15.209	Pass
Transmitter Power Line Conducted Emissions	15.207	Pass

The equipment under test is found to be complying with the following standards:
FCC Part 15, October 1, 2012 Edition

Note: 1. The EUT uses a permanently attached antenna which, in accordance to section 15.203, is considered sufficient to comply with the pervisions of this section.
2. Pursuant to FCC part 15 Section 15.215(c), the 20 dB bandwidth of the emission was contained within the frequency band designated (mentioned as above) which the EUT operated. The effects, if any, from frequency sweeping, frequency hopping, other modulation techniques and frequency stability over excepted variations in temperature and supply voltage were considered.

Table of Contents

1.0 General Description

1.1 Product Description

The model CP-W5 is a portable power supply with a built-in Li-ion rechargeable battery. It can be used in charging Qi compatible device with the unit wirelessly, and also can charge up the portable devices with the unit USB output. The operating frequency of the model is 111-205kHz.

Antenna Type: induction coil

For electronic filing, the brief circuit description is saved with filename: descri.pdf.

1.2 Related Submittal(s) Grants

This is a single application for certification of a transmitter.

The power band when charging and loading in USB mode has been authorized by Verification.

1.3 Test Methodology

Both AC mains line-conducted and radiated emission measurements were performed according to the procedures in ANSI C63.4 (2009). All radiated measurements were performed in an Open Area Test Site. Preliminary scans were performed in the Open Area Test Site only to determine worst case modes. All radiated tests were performed at an antenna to EUT distance of 3 meters, unless stated otherwise in the **"Justification Section"** of this Application.

1.4 Test Facility

The open area test site and conducted measurement facility used to collect the radiated data is located at Garment Centre, 576 Castle Peak Road, Kowloon, Hong Kong. This test facility and site measurement data have been placed on file with the FCC.

2.0 System Test Configuration

2.1 Justification

The system was configured for testing in a typical fashion (as a customer would normally use it), and in the confines as outlined in ANSI C63.4 (2009).

The device was rated at 5VDC 0.5-1.5A and powered by AC/DC adaptor (Model: CP-AD2, Input: 100-240VAC 50/60Hz, Output: 5VDC 2.1A).

For maximizing emissions below 30 MHz, the EUT was rotated through 360°, the centre of the loop antenna was placed 1 meter above the ground, and the antenna polarization was changed. For maximizing emission at and above 30 MHz, the EUT was rotated through 360°, the antenna height was varied from 1 meter to 4 meters above the ground plane, and the antenna polarization was changed. This step by step procedure for maximizing emissions led to the data report in Exhibit 3.0.

The rear of unit shall be flushed with the rear of the table.

The equipment under test (EUT) was configured for testing in a typical fashion (as a customer would normally use it). The EUT was mounted to a plastic stand if necessary and placed on the wooden turntable, which enabled the engineer to maximize emissions through its placement in the three orthogonal axes.

2.2 EUT Exercising Software

There was no special software to exercise the device. Once the unit is powered up, it transmits the RF signal continuously.

2.3 Special Accessories

There are no special accessories necessary for compliance of this product.

2.4 Equipment Modification

Any modifications installed previous to testing by Jeckson Electric Co., Ltd. will be incorporated in each production model sold/leased in the United States.

No modifications were installed by Intertek Testing Services Hong Kong Ltd.

2.5 Measurement Uncertainty

When determining of the test conclusion, the Measurement Uncertainty of test has been considered.

2.6 Support Equipment List and Description

Resistive Load : 5 ohm (Provided by Intertek)
Loading device : 5W Qi receiver (Provided by Client)

3.0 **Emission Results**

Data is included of the worst case configuration (the configuration which resulted in the highest emission levels). A sample calculation, configuration photographs and data tables of the emissions are included.

3.1 Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain (if any), Average Factor (optional) from the measured reading. The basic equation with a sample calculation is as follows:

FS = RA + AF + CF - AG - AV

where FS = Field Strength in dBµV/m
RA = Receiver Amplitude (including preamplifier) in dBµV
CF = Cable Attenuation Factor in dB
AF = Antenna Factor in dB
AG = Amplifier Gain in dB
AV = Average Factor in dB

In the following table(s), the reading shown on the data table reflects the preamplifier gain. An example for the calculations in the following table is as follows:

FS = RR + LF

where FS = Field Strength in dBµV/m
RR = RA - AG - AV in dBµV
LF = CF + AF in dB

Assume a receiver reading of 52.0 dBµV is obtained. The antenna factor of 7.4 dB and cable factor of 1.6 dB are added. The amplifier gain of 29 dB and average factor of 5 dB are subtracted, giving a field strength of 27 dBµV/m. This value in dBµV/m was converted to its corresponding level in µV/m.

RA = 52.0 dBµV/m
AF = 7.4 dB
CF = 1.6 dB
AG = 29.0 dB
AV = 5.0 dB
FS = RR + LF
FS = 18 + 9 = 27 dBµV/m

RR = 18.0 dBµV
LF = 9.0 dB

Level in µV/m = Common Antilogarithm [(27 dBµV/m)/20] = 22.4 µV/m

3.2 Radiated Emission Configuration Photograph

The worst case in radiated emission was found at 33.054 MHz

For electronic filing, the worst case radiated emission configuration photographs are saved with filename: radiated photos.pdf.

3.3 Radiated Emission Data

The data on the following page lists the significant emission frequencies, the limit and the margin of compliance. Numbers with a minus sign are below the limit.

Judgment: Passed by 10.5 dB

3.4 Conducted Emission Configuration Photograph

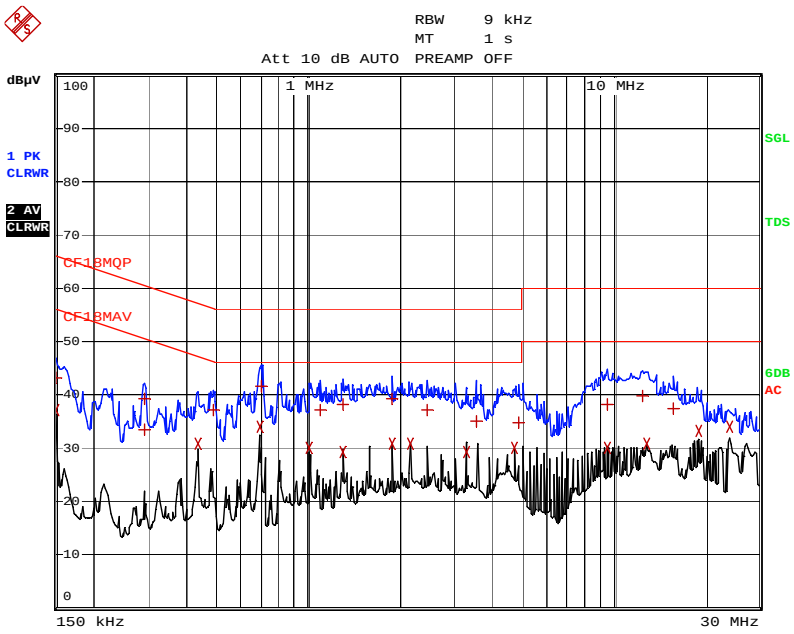
The worst case in line-conducted emission was found at 0.694 MHz

For electronic filing, the worst case line-conducted configuration photographs are saved with filename: conducted photo.pdf.

3.5 Conducted Emission Data

For electronic filing, the graph and data table of conducted emission is saved with filename: conducted.pdf.

Judgment: Pass by 12.14 dB



EDIT PEAK LIST (Final Measurement Results)

Trace1: CF18MQP
Trace2: CF18MAV
Trace3: ---

TRACE		FREQUENCY	LEVEL dBµV		DELTA LIMIT dB
1	Quasi Peak	150 kHz	43.04	L1 gnd	-22.95
2	CISPR Average	150 kHz	37.16	L1 gnd	-18.84
1	Quasi Peak	289.5 kHz	39.18	N gnd	-21.35
1	Quasi Peak	294 kHz	33.37	L1 gnd	-27.03
2	CISPR Average	433.5 kHz	30.89	L1 gnd	-16.28
1	Quasi Peak	487.5 kHz	37.26	N gnd	-18.94
2	CISPR Average	694.5 kHz	33.86	L1 gnd	-12.14
1	Quasi Peak	699 kHz	41.53	N gnd	-14.46
2	CISPR Average	1.0095 MHz	30.00	L1 gnd	-15.99
1	Quasi Peak	1.0905 MHz	37.23	N gnd	-18.76
1	Quasi Peak	1.302 MHz	38.31	N gnd	-17.68
2	CISPR Average	1.302 MHz	29.30	N gnd	-16.69
1	Quasi Peak	1.878 MHz	39.11	N gnd	-16.88
2	CISPR Average	1.878 MHz	30.86	L1 gnd	-15.13
2	CISPR Average	2.166 MHz	30.75	L1 gnd	-15.24
1	Quasi Peak	2.4585 MHz	37.11	L1 gnd	-18.88
2	CISPR Average	3.3225 MHz	29.30	L1 gnd	-16.69
1	Quasi Peak	3.5475 MHz	34.92	L1 gnd	-21.08
2	CISPR Average	4.767 MHz	30.08	L1 gnd	-15.91
1	Quasi Peak	4.9065 MHz	34.71	L1 gnd	-21.29

EDIT PEAK LIST (Final Measurement Results)

Trace1: CF18MQP
Trace2: CF18MAV
Trace3: ---

TRACE		FREQUENCY	LEVEL dBµV		DELTA LIMIT dB
1	Quasi Peak	9.528 MHz	38.26	N gnd	-21.73
2	CISPR Average	9.5325 MHz	29.94	L1 gnd	-20.05
1	Quasi Peak	12.417 MHz	39.66	L1 gnd	-20.33
2	CISPR Average	12.8535 MHz	30.93	L1 gnd	-19.06
1	Quasi Peak	15.7425 MHz	37.34	L1 gnd	-22.65
2	CISPR Average	19.0635 MHz	33.11	L1 gnd	-16.88
2	CISPR Average	23.973 MHz	33.91	L1 gnd	-16.08

Applicant: Jeckson Electric Co., Ltd. Date of Test: December 17, 2013
Model: CP-W5
Worst-Case Operating Mode:
CP-W5 + Qi Rx with Load (induction charging without adaptor)

Table 1

Radiated Emissions
Pursuant to FCC Part 15 Section 15.209 Requirement

Polar -ization	Height (m)	Angle (°)	Frequency (MHz)	Net at 3m (dBµV/m)	Distance Factor (-dB)	Calculated Net at 300m (dBµV/m)	*Limit at 300m (dBµV/m)	Margin (dB)
O	1.0	0	0.1694	86.5	80.0	6.5	23.0	-16.5

NOTES: 1. Peak Detector Data unless otherwise stated.

2. All measurements were made at 3 meters. Harmonic emissions not detected at the 3-meter distances were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.

3. Negative sign in the column shows value below limit.

4. Loop antenna is used for the emissions below 30MHz.

5. Horn antenna is used for the emission over 1000MHz.

6. The formula of Calculated Net at 300m below 30MHz is extrapolated according to FCC Part 15.31(f) as below:
Distance factor = 40log(3/300)dB = -80dB

7. "*" with reference to FCC Part 15.209 the measurement distance is 300 meters.

Applicant: Jeckson Electric Co., Ltd. Date of Test: December 17, 2013
Model: CP-W5
Worst-Case Operating Mode:
CP-W5 + Qi Rx with Load (induction charging without adaptor)

Table 2

Radiated Emissions
Pursuant to FCC Part 15 Section 15.209 Requirement

Polar -ization	Height (m)	Angle (°)	Frequency (MHz)	Net at 3m (dBµV/m)	Distance Factor (-dB)	Calculated Net at 30m (dBµV/m)	*Limit at 30m (dBµV/m)	Margin (dB)
O	1.0	0	0.50875	58.3	40.0	18.3	33.4	-15.1
O	1.0	0	0.8483	54.1	40.0	14.1	29.0	-14.9
O	1.0	0	3.503	51.0	40.0	11.0	29.5	-18.5
O	1.0	0	11.0178	46.5	40.0	6.5	29.5	-23.0
O	1.0	0	22.0356	42.4	40.0	2.4	29.5	-27.1

NOTES: 1. Peak Detector Data unless otherwise stated.

2. All measurements were made at 3 meters. Harmonic emissions not detected at the 3-meter distances were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.

3. Negative sign in the column shows value below limit.

4. Horn antenna is used for the emission over 1000MHz.

5. The formula of Calculated Net at 30m below 30MHz is extrapolated according to FCC Part 15.31(f) as below:
Distance factor = 40log(3/30)dB = -40dB

6. "*" with reference to FCC Part 15.209 the measurement distance is 30 meters.

Applicant: Jeckson Electric Co., Ltd. Date of Test: December 17, 2013
Model: CP-W5
Worst-Case Operating Mode:
CP-W5 + Qi Rx with Load (induction charging without adaptor)

Table 3

Radiated Emissions
Pursuant to FCC Part 15 Section 15.209 Requirement

Polar -ization	Height (m)	Angle (°)	Frequency (MHz)	Net at 3m (dBµV/m)	*Limit at 3m (dBµV/m)	Margin (dB)
V	1.0	30	33.0540	29.4	40.0	-10.6
V	1.0	50	44.0712	28.3	40.0	-11.7
V	1.0	70	55.0890	28.2	40.0	-11.8
V	1.0	90	66.106	27.4	40.0	-12.6
V	1.0	160	77.124	28.0	40.0	-12.0
V	1.0	200	88.1424	27.2	43.5	-16.3

NOTES: 1. Peak Detector Data unless otherwise stated.

2. All measurements were made at 3 meters. Harmonic emissions not detected at the 3-meter distances were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.

3. Negative sign in the column shows value below limit.

4. Horn antenna is used for the emission over 1000MHz.

5. "*" with reference to FCC Part 15.209 the measurement distance is 3 meters.

Applicant: Jeckson Electric Co., Ltd. Date of Test: December 17, 2013
Model: CP-W5
Worst-Case Operating Mode:
CP-AD2 + CP-W5 + Qi Rx with Load (induction charging with adaptor)

Table 4

Radiated Emissions
Pursuant to FCC Part 15 Section 15.209 Requirement

Polar -ization	Height (m)	Angle (°)	Frequency (MHz)	Net at 3m (dBµV/m)	Distance Factor (-dB)	Calculated Net at 300m (dBµV/m)	*Limit at 300m (dBµV/m)	Margin (dB)
O	1.0	0	0.1694	90.7	80.0	10.7	23.0	-12.3

NOTES:
1. Peak Detector Data unless otherwise stated.
2. All measurements were made at 3 meters. Harmonic emissions not detected at the 3-meter distances were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.
3. Negative sign in the column shows value below limit.
4. Loop antenna is used for the emissions below 30MHz.
5. Horn antenna is used for the emission over 1000MHz.
6. The formula of Calculated Net at 300m below 30MHz is extrapolated according to FCC Part 15.31(f) as below:
   Distance factor = 40log(3/300)dB = -80dB
7. "*" with reference to FCC Part 15.209 the measurement distance is 300 meters.

Applicant: Jeckson Electric Co., Ltd. Date of Test: December 17, 2013
Model: CP-W5
Worst-Case Operating Mode:
CP-AD2 + CP-W5 + Qi Rx with Load (induction charging with adaptor)

Table 5

Radiated Emissions
Pursuant to FCC Part 15 Section 15.209 Requirement

Polar -ization	Height (m)	Angle (°)	Frequency (MHz)	Net at 3m (dBµV/m)	Distance Factor (-dB)	Calculated Net at 30m (dBµV/m)	*Limit at 30m (dBµV/m)	Margin (dB)
O	1.0	0	0.50875	61.0	40.0	21.0	33.4	-12.4
O	1.0	0	0.8483	55.8	40.0	15.8	29.0	-13.2
O	1.0	0	3.503	50.9	40.0	11.0	29.5	-18.5
O	1.0	0	11.0178	46.4	40.0	6.4	29.5	-23.1
O	1.0	0	22.0356	42.6	40.0	2.6	29.5	-26.9

NOTES: 1. Peak Detector Data unless otherwise stated.

2. All measurements were made at 3 meters. Harmonic emissions not detected at the 3-meter distances were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.

3. Negative sign in the column shows value below limit.

4. Horn antenna is used for the emission over 1000MHz.

5. The formula of Calculated Net at 30m below 30MHz is extrapolated according to FCC Part 15.31(f) as below:
Distance factor = 40log(3/30)dB = -40dB

6. "*" with reference to FCC Part 15.209 the measurement distance is 30 meters.

Applicant: Jeckson Electric Co., Ltd. Date of Test: December 17, 2013
Model: CP-W5
Worst-Case Operating Mode:
CP-AD2 + CP-W5 + Qi Rx with Load (induction charging with adaptor)

Table 6

Radiated Emissions
Pursuant to FCC Part 15 Section 15.209 Requirement

Polar -ization	Height (m)	Angle (°)	Frequency (MHz)	Net at 3m (dBµV/m)	*Limit at 3m (dBµV/m)	Margin (dB)
V	1.0	30	33.0540	29.5	40.0	-10.5
V	1.0	50	44.0712	28.5	40.0	-11.5
V	1.0	70	55.0890	28.7	40.0	-11.3
V	1.0	90	66.106	27.6	40.0	-12.4
V	1.0	160	77.124	28.0	40.0	-12.0
V	1.0	200	88.1424	27.6	43.5	-15.9

NOTES: 1. Peak Detector Data unless otherwise stated.

2. All measurements were made at 3 meters. Harmonic emissions not detected at the 3-meter distances were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.

3. Negative sign in the column shows value below limit.

4. Horn antenna is used for the emission over 1000MHz.

5. "*" with reference to FCC Part 15.209 the measurement distance is 3 meters.

4.0 Equipment Photographs

For electronic filing, the photographs are saved with filename: external photos.pdf and internal photos.pdf.

5.0 Product Labelling

For electronics filing, the FCC ID label artwork and the label location are saved with filename: label.pdf.

6.0 Technical Specifications

For electronic filing, the block diagram and schematic of the tested EUT are saved with filename: block.pdf and circuit.pdf respectively.

7.0 Instruction Manual

For electronic filing, a preliminary copy of the Instruction Manual is saved with filename: manual.pdf.

This manual will be provided to the end-user with each unit sold/leased in the United States.

8.0 **Miscellaneous Information**

The miscellaneous information includes details of the test procedure.

8.1 Discussion of Pulse Desensitization

Pulse desensitivity is not applicable for this device. Since the transmitter transmits the RF signal continuously.

8.2 Calculation of Average Factor

The average factor is not applicable for this device as the transmitted signal is a continuously signal.

8.3 Emissions Test Procedures

The following is a description of the test procedure used by Intertek Testing Services Hong Kong Ltd. in the measurements of transmitter operating under the Part 15, Subpart C rules.

The test set-up and procedures described below are designed to meet the requirements of ANSI C63.4 (2009). A typical or an unmodulated CW signal at the operating frequency of the EUT has been supplied to the EUT for all measurements. Such a signal is supplied by a signal generator and an antenna in close proximity to the EUT. The signal level is sufficient to stabilize the local oscillator of the EUT.

The transmitting equipment under test (EUT) is placed on a wooden turntable which is four feet in diameter and approximately one meter in height above the ground plane. During the radiated emissions test, the turntable is rotated and any cables leaving the EUT are manipulated to find the configuration resulting in maximum emissions. The EUT is adjusted through all three orthogonal axis to obtain maximum emission levels. The antenna height and polarization are also varied during the testing to search for maximum signal levels. The height of the antenna is varied from one to four meters.

Detector function for radiated emissions is in peak mode. Average readings, when required, are taken by measuring the duty cycle of the equipment under test and subtracting the corresponding amount in dB from the measured peak readings. A detailed description for the calculation of the average factor can be found in Exhibit 8.3.

The frequency range scanned is from 9 kHz to 1GHz. For line conducted emissions, the range scanned is 150 kHz to 30 MHz.

8.3 Emissions Test Procedures (cont'd)

The EUT is warmed up for 15 minutes prior to the test.

AC power to the unit is varied from 85% to 115% nominal and variation in the fundamental emission field strength is recorded. If battery powered, a new, fully charged battery is used.

Conducted measurements were made as described in ANSI C63.4 (2009).

The IF bandwidth used for measurement of radiated signal strength was 100 kHz or greater when frequency is below 1000 MHz. Where pulsed transmissions of short enough pulse duration warrant, a greater bandwidth is selected according to the recommendations of Hewlett Packard Application Note 150-2. A discussion of whether pulse desensitivity is applicable to this unit is included in this report (See Exhibit 8.1). Above 1000 MHz, a resolution bandwidth of 1 MHz is used.

Transmitter measurements are normally conducted at a measurement distance of three meters. However, to assure low enough noise floor in the forbidden bands and above 1 GHz, signals are acquired at a distance of one meter or less. All measurements are extrapolated to three meters using inverse scaling, unless otherwise reported. Measurements taken at a closer distance are so marked.

9.0 Confidentiality Request

For electronic filing, a preliminary copy of the confidentiality request is saved with filename: request.pdf.

10.0 Equipment List

1) Radiated Emissions Test

Equipment	EMI Test Receiver	Biconical Antenna	Log Periodic Antenna
Registration No.	EW-2500	EW-0954	EW-0446
Manufacturer	R&S	EMCO	EMCO
Model No.	ESCI	3104C	3146
Calibration Date	Mar. 22, 2013	Apr. 30, 2013	Apr. 30, 2013
Calibration Due Date	Feb. 28, 2014	Oct. 30, 2014	Oct. 30, 2014

Equipment	Spectrum Analyzer	Active Loop H-field
Registration No.	EW-2188	EW-0191
Manufacturer	AGILENTTECH	EMCO
Model No.	E4407B	6502
Calibration Date	Nov. 05, 2012	Jan. 30, 2013
Calibration Due Date	Feb. 05, 2014	Jul. 30, 2014

2) Conducted Emissions Test

Equipment	EMI Test Receiver	LISN	Pulse Limiter
Registration No.	EW-2500	EW-0192	EW-0700
Manufacturer	R&S	R&S	R&S
Model No.	ESCI	ESH3-Z5	ESH3-Z2
Calibration Date	Mar. 22, 2013	May 15, 2013	Jul. 30, 2012
Calibration Due Date	Feb. 28, 2014	Apr. 15, 2014	Jan. 30, 2014