



CMA Testing and Certification Laboratories

廠商會檢定中心

TEST REPORT

Report No. : AW0068439(8) Date : 11 Dec 2018

Application No. : LW025881(2)

Applicant : KODA ELECTRONICS (HK) CO., LTD.
2/F MANDARIN COMMERCIAL HOUSE,
38 MORRISON HILL ROAD, WANCHAI, HONG KONG

Buyer / Brand name : NONSTOP

Sample Description : One(1) item of submitted sample stated to be

Sample description	Model No
Alarm Clock/Charging station with Dual USB and Qi Wireless (Black) US ver.	Station W-Black
Alarm Clock/Charging station with Dual USB and Qi Wireless (White/Wood.) US ver.	Station W-White/Wood

Sample registration No. : RW035893-001, RW035893-002

Radio Frequency : 155.15KHz

Supply voltage : AC100-240 to DC9V adaptor
Model: OBL-0903500U

No. of submitted sample : (Two) set(s)

Date Received : 20 Aug 2018.

Test Period : 20 Aug 2018 to 31 Aug 2018.

Test Requested : FCC Part 15 Certification

Test Method : 47 CFR Part 15 (02 Nov 2017)
ANSI C63.10 – 2013

Test Engineer : Mr. Leung Shu Kan, Ken

Test Result : See attached sheet(s) from page 2 to 17.

Conclusion : The submitted sample was found to complied with requirement of FCC Part 15 Subpart C.

Remark : All Two models are the same in circuitry and components; and therefore model Station W-Black was chosen to be the representative of the test sample. The difference(s) between the tested model and the declared model(s) is/are: Model no. and Color.
This report supersedes the test report no. AW0049623(2) issued on 26 Sep 2018.

For and on behalf of
CMA Industrial Development Foundation Limited

Authorized Signature : _____

Mr. WONG Lap-pong, Andrew
Manager
Electrical Division

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FCC ID: 2ADLI-NSW-BK-WW

Document name: FCC 15.231e - Document Ref No: RT-EL-EMC-004 - Issue Date: 01 Dec 2017 - Edition: 1

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2 General Information

2.1 General Description

The Station W is a digital clock with Wireless, USB charging and dual alarm clock functions. It was powered by AC100-240V to DC9V adaptor with maximum 3.5A output current.

Once the Time, Date and Alarm set correctly, the current time and setting will be showing on the LED display. The end user can access all functions by pressing SNOOZE/DIMMER, Alarm and Backlight switch.

Two USB charging ports are located on the front panel and one wireless charging pad located on the top of Station W.

The symbol “+” provides 1A charging current and symbol “++” provides 2.4A. The maximum power of wireless charging pad is maximum 10W. No data communication for both USB ports and wireless charging pad for portable devices.

The brief circuit description is listed as follows:

- LCD RF-WC8053, IC (MCU-M835) and its associated circuit act as MCU control and LED display.
- X1 (32.768KHz) crystal and its associated circuit act as oscillator for MCU M835.
- SP1, Q2 and its associated circuit act as oscillator for Speaker.
- IC (AS4102), (AS5003) and its associated circuit act as USB charging controller.
- IC (6206), (54C), (6118) and its associated circuit act as voltage controller for MCU M835.
- IC (7133), (SY8113), (FD2105), (BEE301), (LM324), Q2 – Q5 (AON7410), Coil and its associated circuit act as voltage controller for wireless charging pad.

2.2 Related Submittal Grants

Not applicable.



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2.3 Location of the test site

Radiated emissions measurements are investigated and taken pursuant to the procedures of ANSI C63.4 – 2014 and ANSI C63.10 – 2013. A Semi-Anechoic Chamber Testing Site is set up for investigation and located at:

Ground Floor, Yan Hing Centre,
9 – 13 Wong Chuk Yeung Street,
Fo Tan, Shatin,
New Territories,
Hong Kong.

Conducted emissions measurements are investigated and also taken pursuant to the procedures of ANSI C63.4 – 2014 and ANSI C63.10 – 2013. A shielded room is located at :

Ground Floor, Yan Hing Centre,
9 – 13 Wong Chuk Yeung Street,
Fo Tan, Shatin,
New Territories,
Hong Kong.

FCC Accredited Lab Designation Number: HK0004



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2.4 List of measuring equipment

Measurement equipment:

Equipment	Manufacturer	Model No.	Serial No.	Last Calibration Date	Calibration Due Date	Calibration Period
EMI Test Receiver	Rohde & Schwarz	ESCI	100152	06 Dec 2017	07 Dec 2018	1 Year
Spectrum Analyzer	Rohde & Schwarz	FSP30	100628	26 Mar 2018	27 Mar 2019	1 Year
Loop Antenna	EMCO	6502	00056620	30 Dec 2017	31 Dec 2018	1 Year
Biconical Antenna	Rohde & Schwarz	HK116	837414/004	18 Sep 2016	19 Sep 2018	2 Years
Log Periodic Antenna	Teseq	UPA6109	43666	28 Sep 2016	29 Sep 2018	2 Years
Coaxial Cable	Schaffner	RG 213/U	N/A	09 May 2018	10 May 2019	1 Year
Coaxial Cable	Suhner	RG 214/U	N/A	09 May 2018	10 May 2019	1 Year
LISN	Rohde & Schwarz	ENV216	101232	20 Nov 2017	21 Nov 2018	1 Year
Coaxial Cable	Tyco Electronics	RG58C/U	N/A	23 Oct 2017	24 Oct 2018	1 Year

Supporting equipment:

- 1) USB dummy loading 1A (submitted by applicant)
- 2) USB dummy loading 2.4A (submitted by applicant)
- 3) Wirelss dummy loading 10W (submitted by applicant)



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2.5 Measurement Uncertainty

The reported uncertainty is based on a standard uncertainty multiplied by a coverage factor $k=2$, providing a level of confidence of approximately 95%.

Radiated emissions

Frequency	Uncertainty (U_{lab})
30MHz ~ 200MHz (Horizontal)	4.59dB
30MHz ~ 200MHz (Vertical)	4.49dB
200MHz ~ 1000MHz (Horizontal)	4.94dB
200MHz ~ 1000MHz (Vertical)	4.97dB
1GHz ~ 6GHz	4.52dB
6GHz ~ 18GHz	4.58dB

Line-conducted emissions

Frequency	Uncertainty (U_{lab})
150kHz~30MHz	2.80dB



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3 Description of the emission test

3.1 Test Procedure

Radiated emissions measurements are investigated and taken pursuant to the procedures of ANSI C63.10 – 2013.

The equipment under test (EUT) was placed on a non-conductive turntable with dimensions of 1.5m x 0.4m and 0.8m high above the ground for below 1GHz measurement and 1.5m high above the ground for above 1GHz measurement. 3m from the EUT, a broadband antenna mounting on the mast received the signal strength. The turntable was rotated to maximize the emission level. The antenna was then moving along the mast from 1m up to 4m until no more higher value was found. Both horizontal and vertical polarization of the antenna were placed and investigated.

For below 30MHz, a loop antenna with its vertical plane is placed 3m from the EUT and rotated about its vertical axis for maximum response at each azimuth about the EUT. And the centre of the loop shall be 1 m above the ground.

For 30MHz to 200MHz, biconical antenna with its vertical and horizontal plane is placed 3m from the EUT and rotated about its vertical and horizontal axis for maximum response at each azimuth about the EUT. And the reference point of antenna shall be 1 m above the ground. Same procedure for frequency 200MHz to 1000MHz but Log-periodic antenna is used for final measurements.

For above 1GHz, horn antenna with its vertical and horizontal plane is placed 3m from the EUT and rotated about its vertical and horizontal axis for maximum response at each azimuth about the EUT.

The device was rotated through three orthogonal axes to determine which attitude and configuration produce the highest emission during measurement.

The Radio Frequencies from fundamental up to the tenth harmonics were investigated, and emissions more 20dB below limit were not reported.

A dummy wireless and USB loading were used for measurements.

Test Result:

It was found that the EUT meet the FCC requirement.



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3.2 Radiated Emission Measurement Data

Measurement Data

Radiated emission

pursuant to

the requirement of FCC Part 15 section 15.209

Mode: Wireless and USB charging

Environmental conditions

Ambient temperature : 26.2

Relative humidity : 63.4%

Frequency range : Below 30MHz

Frequency (KHz)	Antenna Polarity (H/V)	Reading at 3m (dBμV)	Antenna Factor and Cable Loss (dB/m)	Peak Field Strength at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)	Detector
155.150	V	54.5	11.4	65.9	103.8	-37.9	PK
310.300	V	39.9	11.4	51.3	97.8	-46.5	PK
465.450	V	37.7	11.4	49.1	94.2	-45.1	PK
620.600	V	36.7	11.4	48.1	71.7	-23.6	PK
775.750	V	34.6	11.5	46.1	69.8	-23.7	PK
930.900	H	30.5	11.5	42.0	68.2	-26.2	PK
1086.000	H	29.9	11.5	41.4	66.9	-25.5	PK
1241.000	H	28.1	11.5	39.6	65.7	-26.1	PK
1396.000	H	27.6	11.5	39.1	64.7	-25.6	PK
1551.100	H	25.3	11.5	36.8	63.8	-27.0	PK

Remark:

- 1) Peak Detector data was measured unless otherwise stated
- 2) Other emissions more than 20dB margin are not reported in this report.
- 3) The limit at specified distance
For 300m measurement distance = Limit + 80dB below 0.49 MHz
For 30m measurement distance = Limit + 40 dB between 0.49 MHz - 30 MHz



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Measurement Data

Radiated emission

pursuant to

the requirement of FCC Part 15 section 15.209

Mode: Wireless and USB charging

Environmental conditions

Ambient temperature : 26.2

Relative humidity : 63.4%

Frequency range : 30MHz – 1000MHz

Frequency (MHz)	Antenna Polarity (H/V)	Reading at 3m (dBμV)	Antenna Factor and Cable Loss (dB/m)	Peak Field Strength at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)	Detector
47.813	V	17.2	11.4	28.6	40.0	-11.4	PK
56.888	V	27.0	10.7	37.7	40.0	-2.3	PK
*114.782	H	12.3	11.4	23.7	43.5	-19.8	PK
*115.930	V	31.0	11.4	42.4	43.5	-1.1	PK
130.186	H	9.4	12.9	22.3	43.5	-21.2	PK
135.210	V	28.1	12.9	41.0	43.5	-2.5	PK
212.169	V	14.7	15.1	29.8	43.5	-13.7	PK
*279.706	H	7.9	15.1	23.0	46.0	-23.0	PK
423.660	V	6.4	22.5	28.9	46.0	-17.1	PK
627.688	H	6.7	24.4	31.1	46.0	-14.9	PK
849.897	H	5.7	27.9	33.6	46.0	-12.4	PK

Remark:

- 1) * means emissions appearing within the restricted bands shall follow the requirement of section 15.205.
- 2) Peak Detector data was measured unless otherwise stated
- 3) Other emissions more than 20dB margin are not reported in this report.



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3.3 Average Factor

Not applicable

3.4 Transmission time

Not applicable



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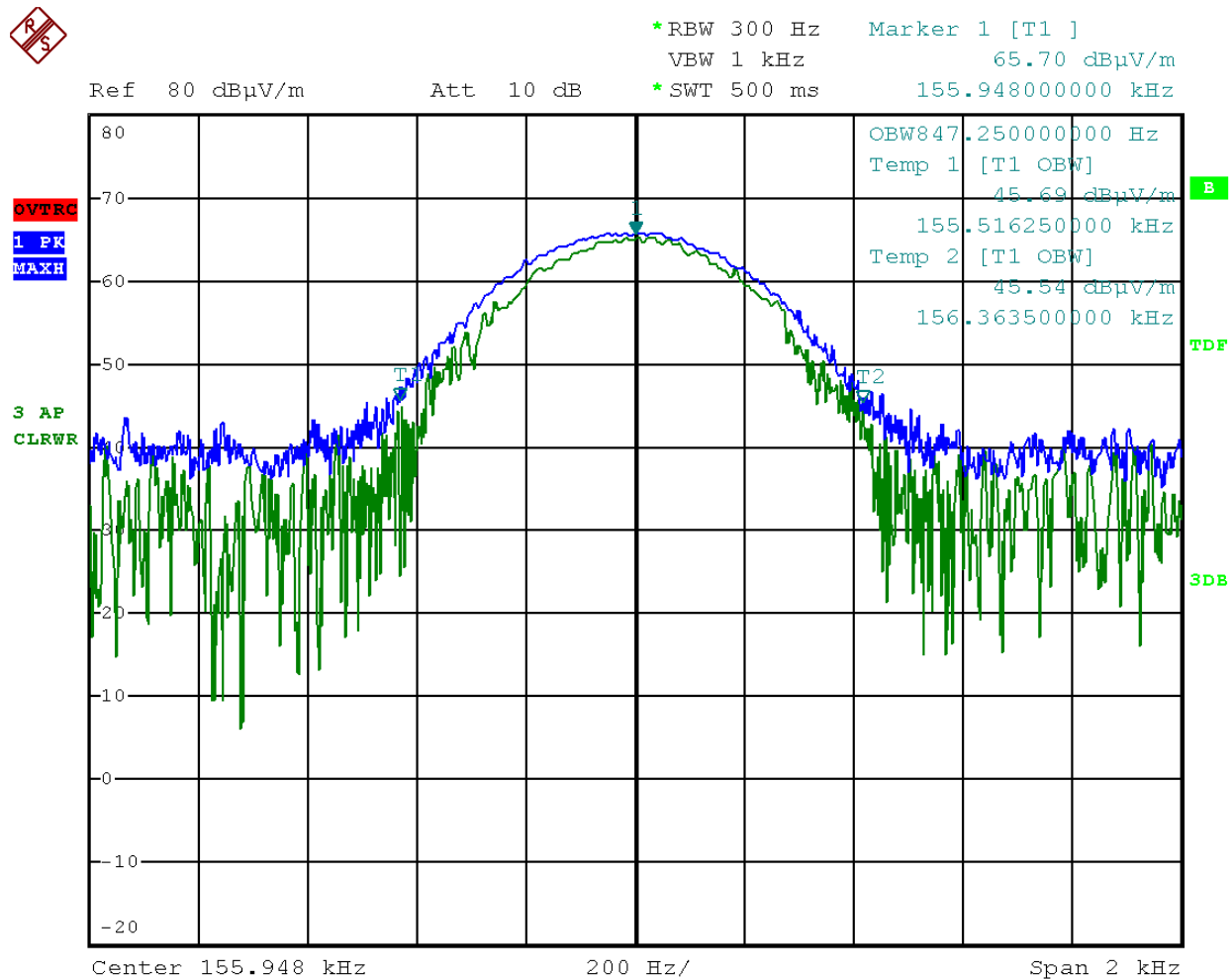
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3.5 Occupied bandwidth—power bandwidth (99%)

Operation mode: Wireless charging with loading





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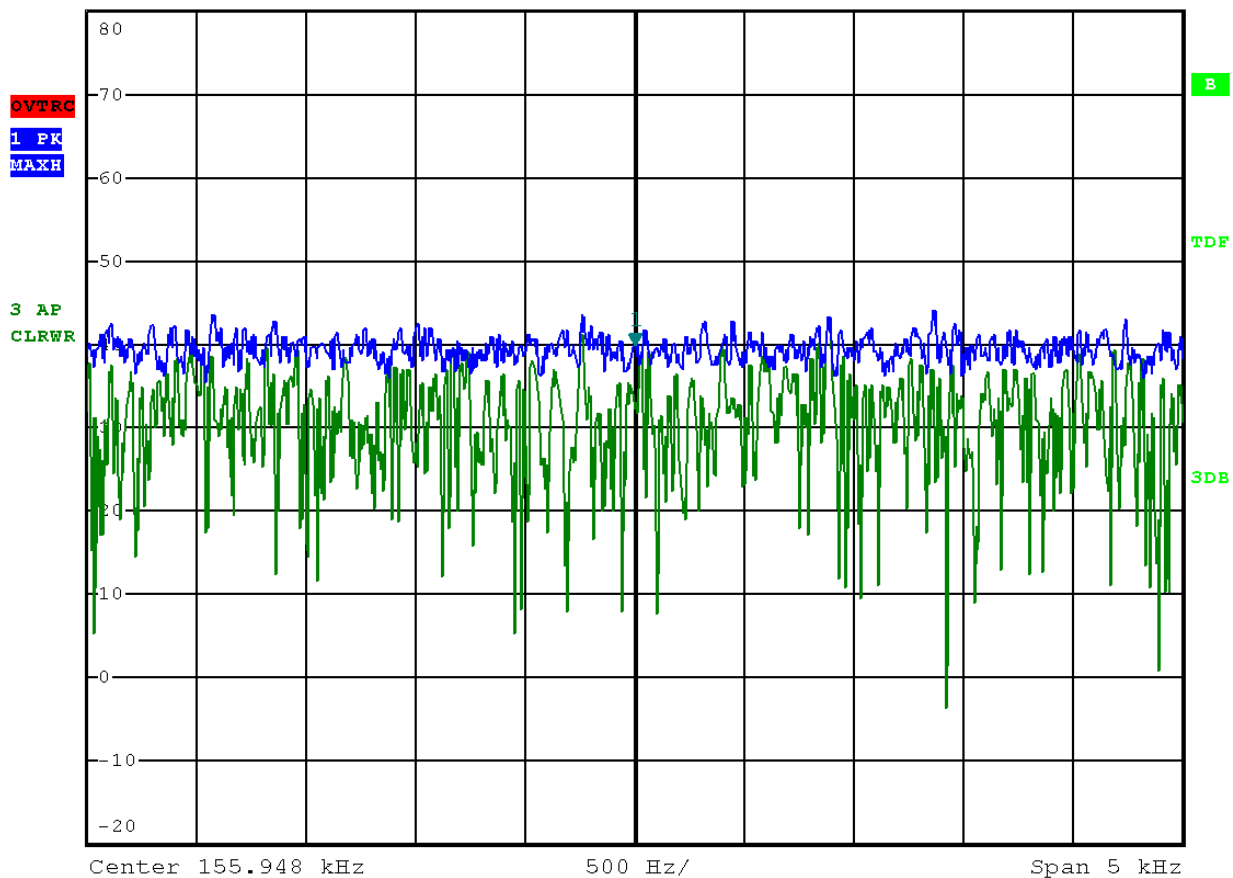
Operation mode: Wireless charging without loading



*RBW 300 Hz Marker 1 [T1]
VBW 1 kHz 39.89 dB μ V/m
*SWT 500 ms 155.94800000 kHz

Ref 80 dB μ V/m

Att 10 dB





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4 Description of the Line-conducted Test

4.1 Test Procedure

Conducted emissions measurements are investigated and also taken pursuant to the procedures of ANSI C63.4 – 2014 and ANSI C63.10 – 2013. The EUT was setup as described in the procedures, and both lines were measured.

4.2 Test Result

Pass.

4.3 Graph and Table of Conducted Emission Measurement Data

Refer to next pages.



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Graph and table

of

Conducted emission measurement data



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Measurement Data (Graph)

Conducted emission

pursuant to

the requirement of FCC Part 15

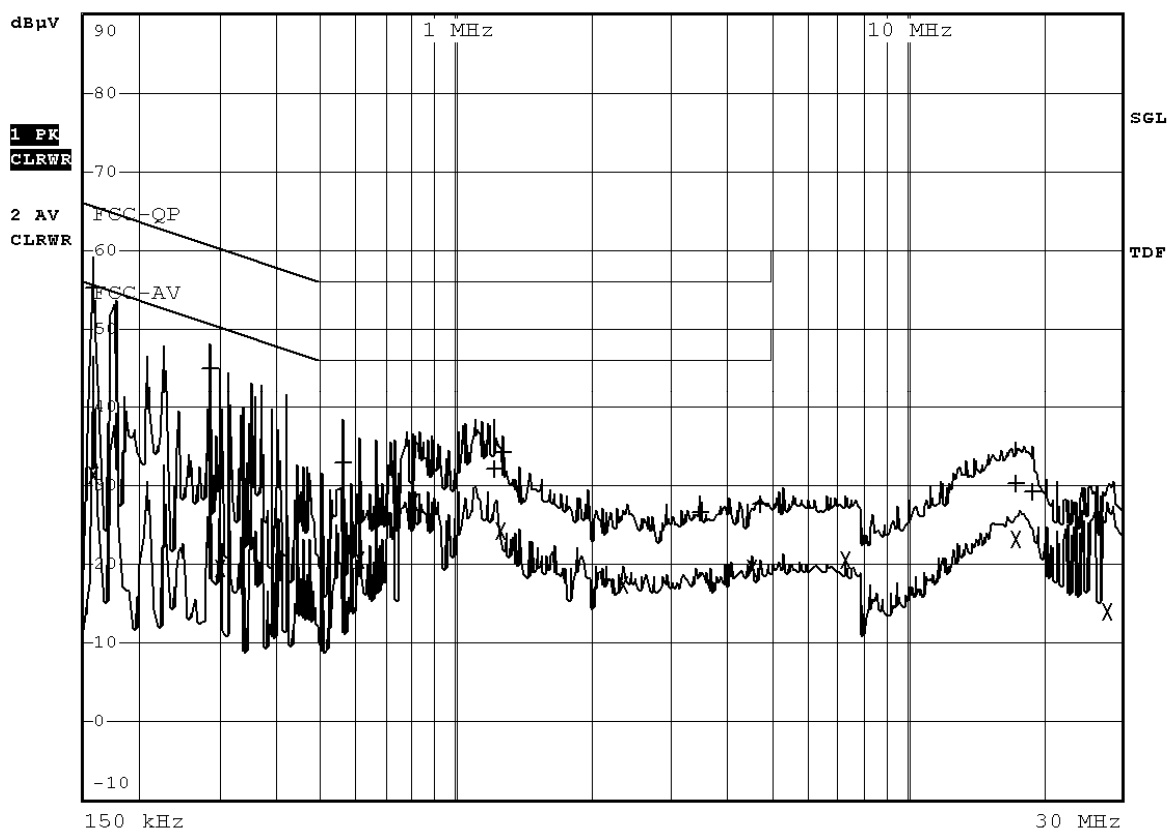
Mode: Wireless and USB charging



RBW 9 kHz

MT 1 s

Att 10 dB AUTO PREAMP OFF





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Measurement Data (Data)

Conducted emission

pursuant to

the requirement of FCC Part 15

Mode: Wireless and USB charging

EDIT PEAK LIST (Final Measurement Results)			
Trace1:	FCC-QP		
Trace2:	FCC-AV		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBµV	DELTA LIMIT dB
1 Quasi Peak	159 kHz	55.14 L1 gnd	-10.37
2 Average	159 kHz	31.36 N gnd	-24.15
1 Quasi Peak	285 kHz	44.90 L1 gnd	-15.76
2 Average	303 kHz	19.65 L1 gnd	-30.51
1 Quasi Peak	558.5 kHz	32.99 N gnd	-23.01
2 Average	612.5 kHz	20.59 L1 gnd	-25.40
2 Average	806 kHz	27.82 L1 gnd	-18.17
1 Quasi Peak	1.2155 MHz	32.01 L1 gnd	-23.98
2 Average	1.256 MHz	24.31 L1 gnd	-21.68
1 Quasi Peak	1.265 MHz	34.12 N gnd	-21.87
2 Average	2.345 MHz	17.36 N gnd	-28.63
1 Quasi Peak	3.488 MHz	26.69 N gnd	-29.30
2 Average	4.5455 MHz	19.47 N gnd	-26.52
1 Quasi Peak	4.7345 MHz	27.77 N gnd	-28.22
2 Average	7.295 MHz	20.54 N gnd	-29.45
2 Average	17.42 MHz	23.14 L1 gnd	-26.85
1 Quasi Peak	17.537 MHz	30.35 L1 gnd	-29.64
1 Quasi Peak	18.941 MHz	29.13 L1 gnd	-30.86
2 Average	27.851 MHz	14.02 N gnd	-35.97



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5 Photograph

5.1 Photographs of the Test Setup for Radiated Emission and Conducted Emission

For electronic filing, the photos are saved with filename 2ADLI-NSW-BK-WW Test Setup Photo.pdf.

5.2 Photographs of the External and Internal Configurations of the EUT

For electronic filing, the photos are saved with filename 2ADLI-NSW-BK-WW External Photo.pdf and 2ADLI-NSW-BK-WW Internal Photo.pdf.

5.3 Antenna requirement

The Internal Photo shows a coupling coil is permanently attached inside of EUT and cannot be changed. Therefore it fulfils the section 15.203 requirement.

***** End of Report *****