

Electromagnetic Compatibility Test Report

Filing type: Suppliers Declaration of Conformity

Equipment: Z4NEU3

Model Name: Z4NEU3

Applicant: Eleven Forty Three A.M. LLC
1661 International Drive, Suite 400
Memphis, TN 38120

Standard: FCC 47 CFR Part 15 Subpart B & ICES-003:2016

Prepared by:

TUV Rheinland of North America, Inc.
5015 Brandin Ct. Fremont CA 94538 USA

The Product was completed on June 30th, 2020. We, TUV Rheinland of North America, Inc., would like to declare that the tested sample has been evaluated in accordance with the test procedures given in ANSI C63.4-2014 and has been in compliance with the applicable technical standards.

The report must not be used by the client to claim product certification, approval, or endorsement by any agency of government.

The test results in this report apply exclusively to the tested model/sample. Without written approval the test report shall not be reproduced except in full.

Prepared by: James Borrott



10/13/2020
Date

Signature

Reviewed By: Richard Decker



10/13/2020
Date

Signature

Responsible Party (Name): Pamela A. Jasinski
Responsible Company: Eleven Forty Three A.M. LLC

Revisions

Revision No.	Date	Reason for Change	Author
0	08/04/2020	Original Document	JB
1	10/13/2020	Customer Corrections	JB

Note: Latest revision report will replace all previous reports.

ATTESTATION OF TEST RESULTS




Client:	Eleven Forty Three A.M. LLC 1661 International Drive, Suite 400 Memphis, TN 38120		
Model Name:	Z4NEU3		
Model Numbers:	Z4NEU3	Date(s) Tested:	06/24/2020 & 06/30/2020
Test Location:	TUV Rheinland of North America Inc. 5015 Brandin Ct. Fremont CA 94538 USA		
Test Specifications:	Emissions	FCC Part 15 Subpart B: 2020 & ICES-003:2016	
	Immunity:	N/A	
Test Result:	The above product was found to be Compliant to the above test standard(s)		
Other aspects:	None		
FREMONT			
	 Testing Cert #3331.02	ISED 2932D	 1097 (A-0327)

TABLE of CONTENTS

1	GENERAL INFORMATION	5
1.1	SCOPE	5
1.2	PURPOSE	5
1.3	SUMMARY OF TEST RESULTS	6
	LABORATORY INFORMATION	7
1.4	ACCREDITATIONS & ENDORSEMENTS	7
1.5	TEST FACILITIES AND EMC SOFTWARE	8
1.6	MEASUREMENT UNCERTAINTY	9
1.7	CALIBRATION TRACEABILITY	11
1.8	MEASUREMENT EQUIPMENT USED	11
2	PRODUCT INFORMATION	11
2.1	PRODUCT DESCRIPTION	11
2.2	EQUIPMENT MODIFICATIONS	11
2.3	TEST PLAN	11
3	EMISSIONS	12
3.1	RADIATED EMISSIONS	12
3.2	CONDUCTED EMISSIONS	15
	APPENDIX A	18
4	TEST PLAN	18
4.1	GENERAL INFORMATION	18
4.2	EUT DESIGNATION	18
4.3	EUT DESCRIPTION	18
4.4	EQUIPMENT UNDER TEST (EUT) DESCRIPTION	19
4.5	PRODUCT ENVIRONMENT(S)	19
4.6	APPLICABLE DOCUMENTS	20
4.7	EUT ELECTRICAL POWER INFORMATION	21
4.8	EUT CLOCK/OSCILLATOR FREQUENCIES	21
4.9	ELECTRICAL SUPPORT EQUIPMENT	22
4.10	NON - ELECTRICAL SUPPORT EQUIPMENT	22
4.11	EUT EQUIPMENT/CABLING INFORMATION	22
4.12	EUT TEST PROGRAM	23
4.13	EUT MODES OF OPERATION	23
4.14	MONITORING OF EUT DURING TESTING	23
4.15	EUT CONFIGURATION	23
4.16	DESCRIPTION	23
4.17	SUBASSEMBLIES	23
4.18	EMISSIONS	25

1 General Information

1.1 Scope

This report is intended to document the status of conformance with the listed standards based on the results of testing performed on 06/24/2020 & 06/30/2020 on the Model No Z4NEU3, manufactured by Eleven Forty Three A.M. LLC. This report only applies to the specific samples tested under the stated test conditions. It is the responsibility of the manufacturer to assure that additional production units of this model are manufactured with identical or EMI equivalent electrical and mechanical components. This report is further intended to document changes and modifications to the EUT throughout its life cycle. All documentation will be included as a supplement.

1.2 Purpose

Testing was performed to evaluate the EMC performance of the EUT (Equipment Under Test) in accordance with the applicable requirements, procedures, and criteria defined in the application of regulations and application of standards listed in this report.

1.3 Summary of Test Results

Applicant	Eleven Forty Three A.M. LLC 1661 International Drive, Suite 400 Memphis, TN 38120
Contact	Pamela A. Jasinski
Tel.	302-691-6037
E-mail	1143amllc@gmail.com
Model Name	Z4NEU3
Model Number	Z4NEU3
Input Power	AC 120V, 60Hz, Battery
Test Date(s)	06/24/2020 & 06/30/2020

Standards	Description	Severity Level or Limit	Criteria	Test Result
FCC Part 15 Subpart B: 2020 & ICES-003:2016	Radiated Emissions	Class B 30 - 1000 MHz	Limit	Complies
FCC Part 15 Subpart B: 2020 & ICES-003:2016	Conducted Emissions	Class B 150 kHz - 30 MHz	Limit	Complies

Laboratory Information

1.4 Accreditations & Endorsements

1.4.1 US Federal Communications Commission



TUV Rheinland of North America EMC test facilities located at 1279 Quarry Lane, Ste. A, Pleasanton, CA, 94566, and 5015 Brandin Ct, Fremont, CA 94538, are recognized by the Commission for performing testing services for the general public on a fee basis. These laboratory test facilities have been fully described in reports submitted to and accepted by the FCC (Registration No. US1131). The laboratory Scopes of Accreditation include Title 47 CFR Parts 15, 18 and 90. The accreditations are updated every three years.

1.4.2 A2LA



TUV Rheinland of North America EMC test facilities are accredited by the American Association for Laboratory Accreditation (A2LA). The laboratories have been assessed and accredited by A2LA in accordance with ISO Standard 17025:2017 (Testing Certificate #3331.02). The Scope of Laboratory Accreditation includes emission and immunity testing. The accreditations are updated annually.

1.4.3 Canada - ISED

The Pleasanton 5-meter Semi-Anechoic Chamber, has been accepted by Industry Canada to perform testing to 3 and 5 meters based on the test procedures described in ANSI C63.4-2014. The Fremont 10-meter Semi-Anechoic Chamber has been accepted by ISED to perform testing to 3 and 10 meters based on the test procedures described in ANSI C63.4-2014 under registration number US0185.

1.4.4 Japan – VCCI



The Voluntary Control Council for Interference by Information Technology Equipment (VCCI) is a group that consists of Information Technology Equipment (ITE) manufacturers and EMC test laboratories. The purpose of the Council is to take voluntary control measures against electromagnetic interference from Information Technology Equipment, and thereby contribute to the development of a socially beneficial and responsible state of affairs in the realm of Information Technology Equipment in Japan. TUV Rheinland of North America EMC test facilities located at 1279 Quarry Lane, Ste. A, Pleasanton, CA, 94566, and 5015 Brandin Ct, Fremont, CA 94538, have been assessed and approved in accordance with the Regulations for Voluntary Control Measures.

VCCI Registration No. for Pleasanton: A-0326

VCCI Registration No. for Fremont: A-0327

1.5 Test Facilities and EMC Software

Test facilities are located at 1279 Quarry Lane, Ste. A, Pleasanton, California 94566, U.S.A. and 5015 Brandin Ct. Fremont CA 94538 USA (Fremont is the Pleasanton Annex).

1.5.1 Emission Test Facility

The Semi-Anechoic Chambers and AC Line Conducted measurement facilities used to collect radiated and conducted emissions data have been constructed in accordance with ANSI C63.7:1992. The Fremont 10 meter semi-anechoic chamber has been measured in accordance with and verified to comply with the theoretical volumetric normalized site attenuation of ANSI C63.4:2014 and SVSWR requirements of CISPR 16-1-4 Consol. Ed. 3.0 (2010-04), at test distances of 3 and 10 meters. This site has been described in reports dated November 1st, 2006, submitted to the FCC, and accepted by letter dated November 28, 2006. The site is listed with the FCC and accredited by A2LA (Testing Certificate #3331.02). The Pleasanton 5 meter semi-anechoic chamber has been verified to comply with the theoretical volumetric normalized site attenuation of ANSI C63.4:2014 and SVSWR requirements of CISPR 16-1-4 Consol. Ed. 3.0 (2010-04) at a test distance of 3 meters. The site is listed with the FCC and accredited by A2LA (Testing Certificate #3331.02).

1.5.2 EMC Software - Fremont

Manufacturer	Name	Version	Test Type
Rohde & Schwarz	EMC32	10.50.10	Radiated & Conducted Emissions

1.6 Measurement Uncertainty

Two types of measurement uncertainty are expressed in this report, per *ISO Guide To The Expression Of Uncertainty In Measurement*, 1st Edition, 1995.

The Combined Standard Uncertainty is the standard uncertainty of the result of a measurement when that result is obtained from the values of a number of other quantities, equal to the positive square root of a sum of terms, the terms being the variances or co-variances of these other quantities weighted according to how the measurement result varies with changes in these quantities. The term standard uncertainty is the result of a measurement expressed as a standard deviation.

The Expanded Uncertainty defines an interval about the result of a measurement that may be expected to encompass a large fraction of the distribution of values that could reasonably be attributed to the measurement and the fraction may be viewed as the coverage probability or level of confidence of the interval.

1.6.1 Sample Calculation – radiated & conducted emissions

The field strength is calculated by subtracting the Amplifier Gain and adding the Cable Loss and Antenna Correction Factor to the measured reading. The basic equation is as follows:

$$\text{Field Strength (dB}\mu\text{V/m)} = \text{RAW} - \text{AMP} + \text{CBL} + \text{ACF}$$

Where: RAW = Measured level before correction (dB μ V)

AMP = Amplifier Gain (dB)

CBL = Cable Loss (dB)

ACF = Antenna Correction Factor (dB/m)

$$\mu\text{V/m} = 10^{\frac{\text{dB}\mu\text{V} / \text{m}}{20}}$$

Sample radiated emissions calculation @ 30 MHz

Measurement +Antenna Factor–Amplifier Gain+Cable loss=Radiated Emissions (dB μ V/m)

$$25 \text{ dB}\mu\text{V/m} + 17.5 \text{ dB} - 20 \text{ dB} + 1.0 \text{ dB} = 23.5 \text{ dB}\mu\text{V/m}$$

1.6.2 Measurement Uncertainty Emissions

Per CISPR 16-4-2	U_{lab}	U_{cisp}
Radiated Disturbance @ 10 meters		
30 – 1,000 MHz	2.25 dB	4.51 dB
Radiated Disturbance @ 3 meters		
30 – 1,000 MHz	2.26 dB	4.52 dB
1 – 6 GHz	2.12 dB	4.25 dB
6 – 18 GHz	2.47 dB	4.93 dB
Conducted Disturbance @ Mains Terminals		
150 kHz – 30 MHz	1.09 dB	2.18 dB
Disturbance Power		

Voltech PM6000A

The estimated combined standard uncertainty for harmonic current and flicker measurements is $\pm 5.0\%$.	Per CISPR 16-4-2
--	------------------

1.6.3 Measurement Uncertainty Immunity

The estimated expanded uncertainty for ESD immunity measurements is $\pm 8.2\%$.	Per IEC 61000-4-2
The estimated expanded uncertainty for radiated immunity measurements is ± 4.10 dB.	Per IEC 61000-4-3
The estimated expanded uncertainty for EFT fast transient immunity measurements is $\pm 5.84\%$.	Per IEC 61000-4-4
The estimated expanded uncertainty for surge immunity measurements is $\pm 5.84 \%$.	Per IEC 61000-4-4
The estimated expanded uncertainty for conducted immunity measurements with CDN is ± 3.66 dB	Per IEC 61000-4-6
The estimated expanded uncertainty for power frequency magnetic field immunity is $\pm 11.6\%$.	Per IEC 61000-4-8
The estimated expanded uncertainty for voltage variation and interruption measurements is $\pm 3.48\%$.	Per IEC 61000-4-11

The expanded uncertainty at a level of 95% confidence is obtained by multiplying the combined standard uncertainty by a coverage factor of 2. Compliance criteria are not based on measurement uncertainty.

1.7 Calibration Traceability

All measurement instrumentation is traceable to the National Institute of Standards and Technology (NIST). Measurement method complies with ANSI/NCSL Z540-1-1994 and ISO Standard 17025:2017. Equipment calibration records are kept on file at the test facility.

1.8 Measurement Equipment Used

Equipment	Manufacturer	Model #	Serial/Inst #	Last Cal mm/dd/yy	Next Cal mm/dd/yy	Test
EMI Receiver	Rohde & Schwarz	ESW44	101663-dv	07/18/2019	07/18/2021	RE/CE
Preamplifier, 9 kHz – 1 GHz	Sonoma	310N	213221	01/16/2019	01/16/2021	RE
Bilog Antenna	Sunol Sciences	JB3	A061907	12/19/2018	12/19/2020	RE
Amplifier	Miteq	TTA1800-30-HG	1842452	01/15/2019	01/15/2021	RE
Horn Antenna	Sunol Sciences	DRH-118	A040806	03/05/2019	03/05/2021	RE
L.I.S.N.	Com-Power	LI-215	192000	01/16/2019	01/16/2021	CE
Transient Limiter	Com-Power	LIT-930	531582	01/16/2019	01/16/2021	CE

Note: CE=Conducted Emissions, CI=Conducted Immunity, DP=Disturbance Power, EFT=Electrical Fast Transients, ESD=Electrostatic Discharge, FLI=Flicker, HAR=Harmonics, MF=Magnetic Field Immunity, NCR=No Calibration Required, RE=Radiated Emissions, RI=Radiated Immunity, SI=Surge Immunity, VDSI=Voltage Dips and Short Interruptions

2 Product Information

2.1 Product Description

See Section 4.

2.2 Equipment Modifications

No modifications were needed to bring product into compliance.

2.3 Test Plan

The EUT product information, test configuration, mode of operation, test types, test procedures, test levels, pass/failure criteria, in this report were carried out per the product test plan located in Appendix A of this report.

3 Emissions

3.1 Radiated Emissions

This test measures the electromagnetic levels of spurious signals generated by the EUT that radiated from the EUT and may affect the performance of other nearby electronic equipment.

3.1.1 Overview of Test

Results	Compliant (as tested per this report)	Test Date(s)	06/24/2020 & 06/30/2020
Standard	FCC Part 15 Subpart B: 2020 & ICES-003:2016		
Model Number	Z4NEU3		
Configuration	Unintentional Radiated Emissions		
Test Setup	Tested in the 10-meter Semi-Anechoic chamber, placed on table: see test plan for details.		
EUT Powered By	Battery (worse case configuration)		
Frequency Range	30 MHz to 18 GHz		
Perf. Criteria	Class B	Perf. Verification	Readings under limit
Mod. to EUT	None	Test Performed By	James Borrott

3.1.2 Test Procedure

Unintentional Radiated emissions tests were performed using the procedures of ANSI C63.4:2014 including methods for signal maximizations and EUT configuration. The frequency range from 30 MHz to 18 GHz was investigated for radiated emissions. No emissions were observed below 30MHz. Worse case emissions reported below.

For emissions from 30MHz – 1000MHz RBW was set to 120kHz and VBW was set to 300kHz. For emissions from 1GHz-18GHz RBW was set to 1MHz and VBW was set to 3MHz

3.1.3 Deviations

There were no deviations from the test methodology listed in the test plan for the radiated emission test.

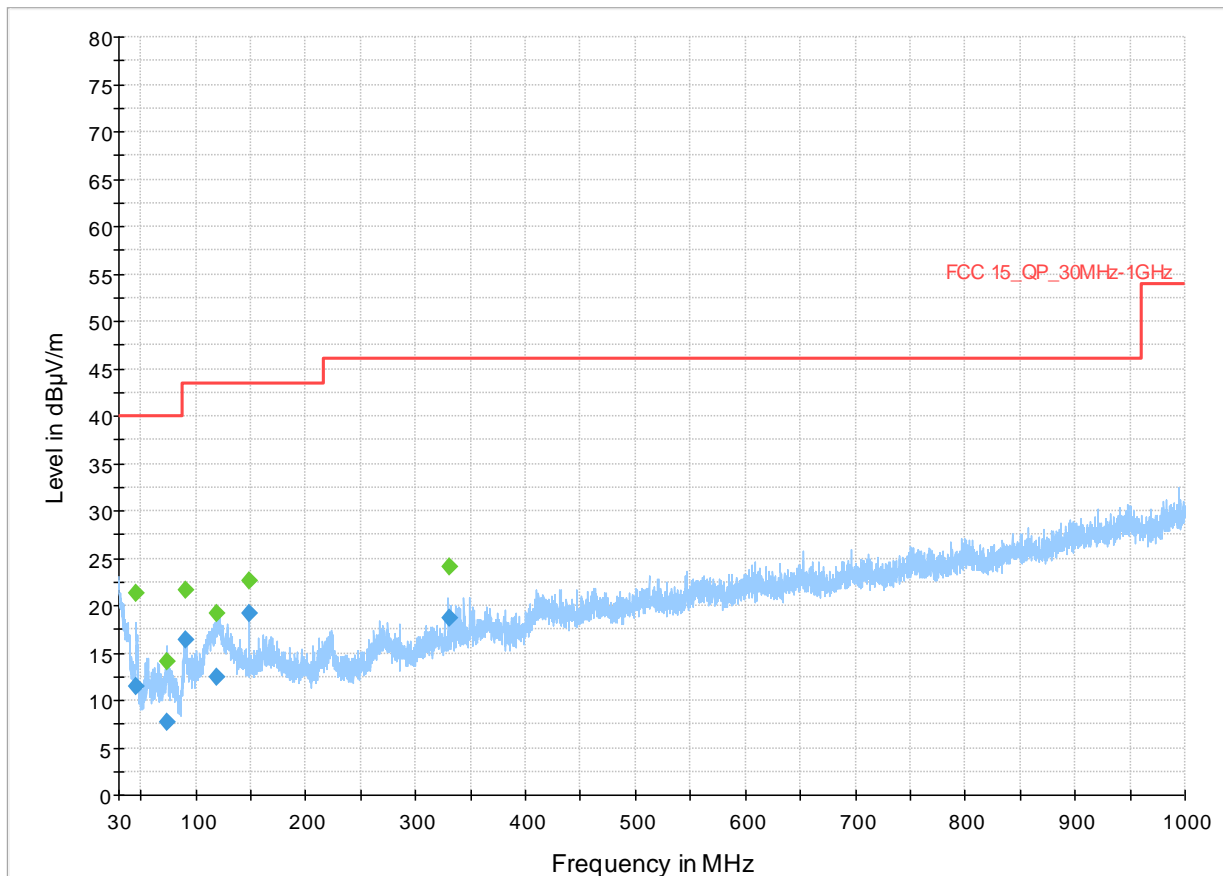
3.1.4 Final Test

All final radiated emissions measurements were below the specification limits.

3.1.5 Plots

NOTES:

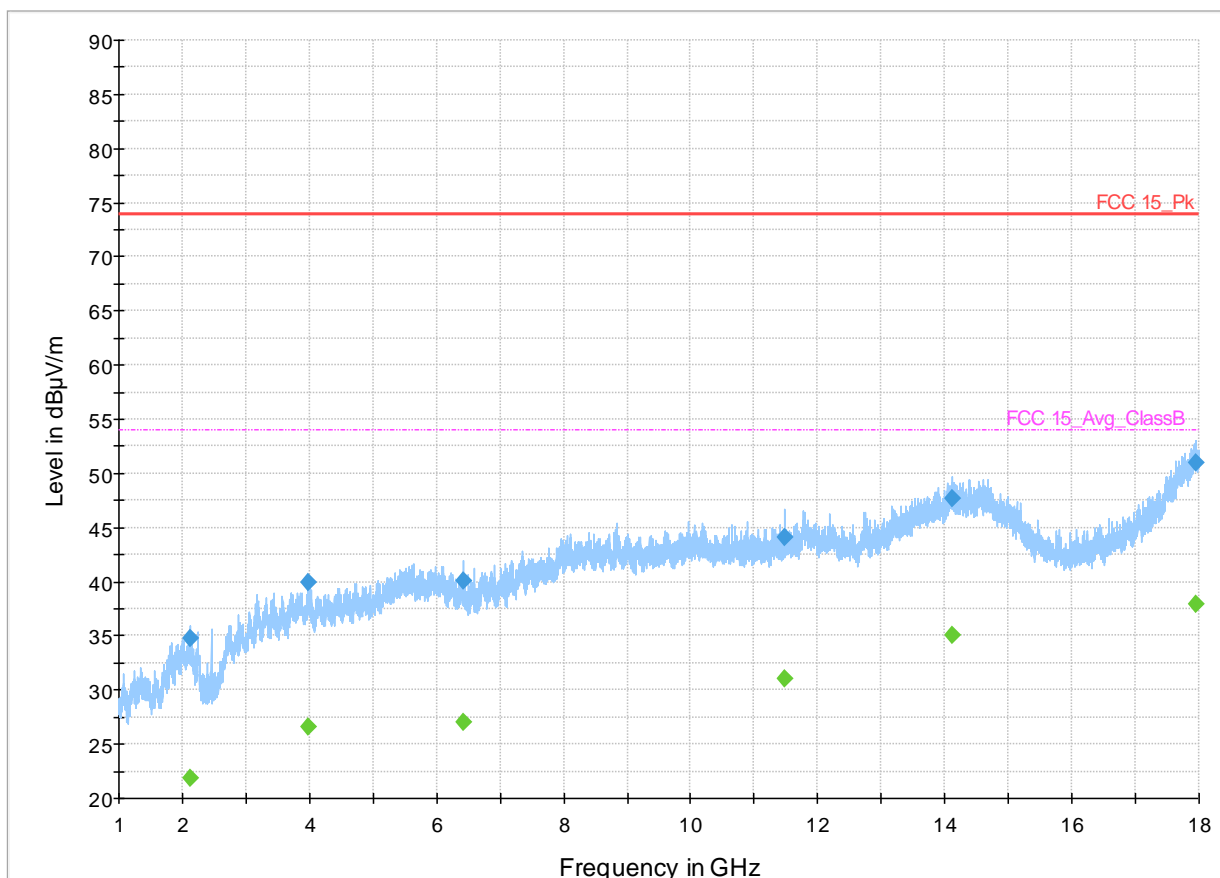
Radiated Emissions Full Scan
30 MHz – 1000 MHz
Vertical / Horizontal



3.1.6 Final Tabulated Data 30-1000MHz

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
45.960680	11.48	40.00	28.52	120.000	253.0	V	-146.0
73.418160	7.76	40.00	32.24	120.000	350.0	V	107.0
90.909320	16.36	43.52	27.16	120.000	104.0	V	68.0
118.767320	12.51	43.52	31.01	120.000	104.0	V	98.0
148.354160	19.26	43.52	24.26	120.000	152.0	V	120.0
330.045240	18.62	46.00	27.38	120.000	103.0	H	-9.0

Radiated Emissions Full Scan
1000 MHz – 18000 MHz
Vertical / Horizontal



3.1.7 Final Tabulated Data 1000-18000MHz

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)
2131.212000	34.74	---	74.00	39.26	1000.000	152.0	V	116.0
2131.212000	---	21.91	54.00	32.09	1000.000	152.0	V	116.0
3989.967500	---	26.61	54.00	27.39	1000.000	104.0	V	-180.0
3989.967500	39.89	---	74.00	34.11	1000.000	104.0	V	-180.0
6415.580500	40.02	---	74.00	33.98	1000.000	151.0	V	153.0
6415.580500	---	27.00	54.00	27.00	1000.000	151.0	V	153.0
11473.351500	---	31.10	54.00	22.90	1000.000	200.0	V	78.0
11473.351500	44.16	---	74.00	29.84	1000.000	200.0	V	78.0
14121.898000	47.67	---	74.00	26.33	1000.000	103.0	H	-70.0
14121.898000	---	35.03	54.00	18.97	1000.000	103.0	H	-70.0
17944.082000	51.00	---	74.00	23.00	1000.000	201.0	V	-180.0
17944.082000	---	37.88	54.00	16.12	1000.000	201.0	V	-180.0

3.2 Conducted Emissions

This test measures the electromagnetic levels of spurious signals generated by the EUT on the AC power line that may affect the performance of other nearby electronic equipment.

3.2.1 Overview of Test

Results	Compliant (as tested per this report)	Test Date(s)	06/24/2020 & 06/30/2020
Standard	FCC Part 15 Subpart B: 2020 & ICES-003:2016		
Model Number	Z4NEU3		
Configuration	See test plan for details.		
Test Setup	Tested in Lab 2, EUT placed on table: see test plan for details.		
EUT Powered By	120 Vac, 60 Hz		
Frequency Range	0.15 – 30 MHz		
Perf. Criteria	None	Perf. Verification	Readings Under Limit for L1 & Neutral
Mod. to EUT	None	Test Performed By	James Borrott

3.2.2 Test Procedure

Conducted emissions tests were performed using the procedures of ANSI C63.4:2014 including methods for signal maximizations and EUT configuration. Maximum emissions reported below.

The frequency range from Class B

150 kHz - 30 MHz was investigated for conducted emissions.

Conducted Emissions measurements were performed in the shielded room using procedures specified in the test plan and standard.

3.2.3 Deviations

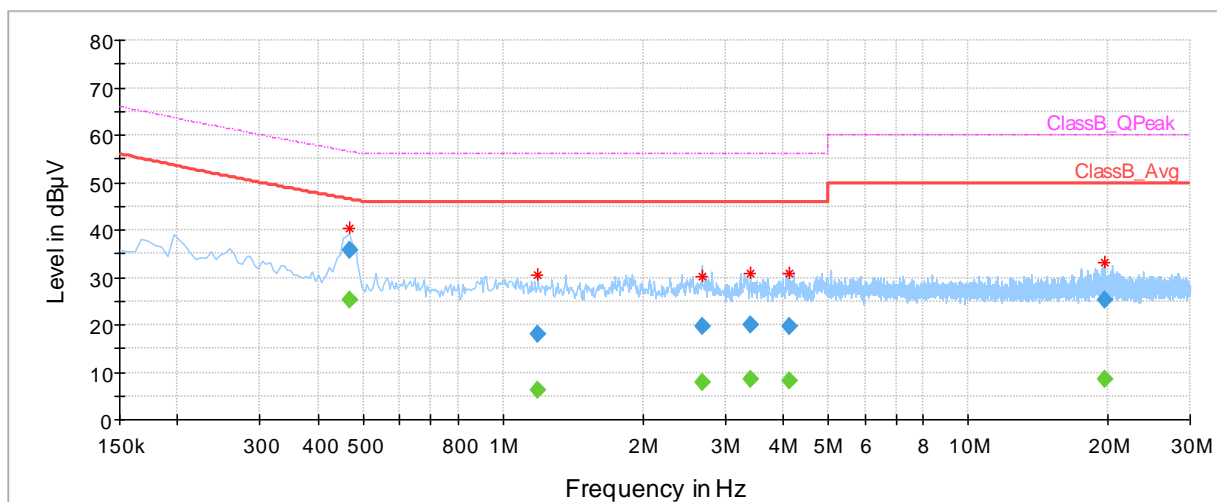
There were no deviations from the test methodology listed in the test plan for the conducted emission test.

3.2.4 Final Test

All final conducted emissions measurements were below the specification limits.

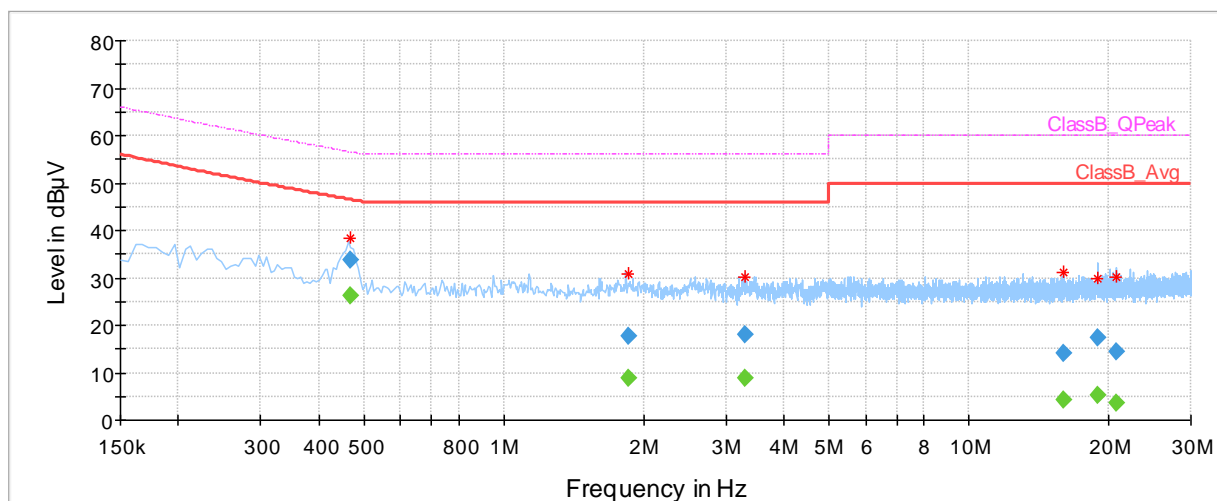
Conducted Emissions @ 120 Vac/60 Hz

Line: Live



Conducted Emissions @ 120 Vac/60 Hz

Line: Neutral



3.2.5 Final Tabulated Data at 120 Vac, 60 Hz

Live

Frequency (MHz)	QuasiPeak (dBμV)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Bandwidth (kHz)	Line	PE
0.466403	---	25.10	56.53	31.44	10.000	L1	GND
0.466403	35.81	---	46.53	10.71	10.000	L1	GND
1.184676	---	6.28	56.00	49.72	10.000	L1	GND
1.184676	17.94	---	46.00	28.06	10.000	L1	GND
2.688190	---	7.78	56.00	48.22	10.000	L1	GND
2.688190	19.53	---	46.00	26.47	10.000	L1	GND
3.407486	---	8.41	56.00	47.59	10.000	L1	GND
3.407486	20.02	---	46.00	25.98	10.000	L1	GND
4.112786	---	8.16	56.00	47.84	10.000	L1	GND
4.112786	19.56	---	46.00	26.44	10.000	L1	GND
19.600919	---	8.42	60.00	51.58	10.000	L1	GND
19.600919	25.25	---	50.00	24.75	10.000	L1	GND

Neutral

Frequency (MHz)	QuasiPeak (dBμV)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Bandwidth (kHz)	Line	PE
0.467485	---	26.08	56.52	30.43	10.000	N	GND
0.467485	33.78	---	46.51	12.72	10.000	N	GND
1.848046	---	8.88	56.00	47.12	10.000	N	GND
1.848046	17.57	---	46.00	28.43	10.000	N	GND
3.308667	---	8.87	56.00	47.13	10.000	N	GND
3.308667	17.91	---	46.00	28.09	10.000	N	GND
15.979910	---	4.13	60.00	55.87	10.000	N	GND
15.979910	14.10	---	50.00	35.90	10.000	N	GND
18.854459	---	5.34	60.00	54.66	10.000	N	GND
18.854459	17.30	---	50.00	32.70	10.000	N	GND
20.774198	---	3.57	60.00	56.43	10.000	N	GND
20.774198	14.57	---	50.00	35.43	10.000	N	GND

Appendix A

4 Test Plan

This test report is intended to follow this test plan outlined here in unless otherwise stated in this here report. The following test plan will give details on product information, standards to be used, test set ups and refer to TUV test procedures. The test procedures will give the steps to be taken when performing the stated test. The product information below came via client, product manual, product itself and or the internet.

4.1 General Information

Company Name	Eleven Forty Three A.M. LLC
Address	1661 International Drive, Suite 400
City, State, Zip	Memphis, TN 38120
Country	USA
Name	Pamela A. Jasinski
E-mail	1143amllc@gmail.com

4.2 EUT Designation

Model Name	Z4NEU3
Model Number(s)	Z4NEU3

4.3 EUT Description

Configuration		Description
1		EUT with BT Radio Exercised Via Phone Connection
2		EUT Charging
Notes	Configuration 1 was worse case for emissions testing	

4.4 Equipment Under Test (EUT) Description

The EUT operates in multiple modes. Each mode was exercised and investigated, worse case mode is reported.

4.5 Product Environment(s)

<input checked="" type="checkbox"/>	Domestic/Residential	<input type="checkbox"/>	Hospital
<input type="checkbox"/>	Light Industrial/Commercial	<input type="checkbox"/>	Small Clinic
<input type="checkbox"/>	Industrial	<input type="checkbox"/>	Doctor's office
<input type="checkbox"/>	Telecommunications Center	<input type="checkbox"/>	Other than Telecommunications Center
<input type="checkbox"/>	Other		

*Check all that apply

4.6 Applicable Documents

Standards	Description
FCC Part 15 Subpart B: 2020 & ICES-003:2016	Radiated Emissions
FCC Part 15 Subpart B: 2020 & ICES-003:2016	Conducted Emissions

4.7 EUT Electrical Power Information

Name	# of Phases	Type	Input Voltage		AC Voltage Frequency	Current Max.
			Min	Max		
Z4NEU3-Charging	1 <input type="checkbox"/> 3 <input type="checkbox"/> None <input checked="" type="checkbox"/>	AC <input checked="" type="checkbox"/> DC <input type="checkbox"/> Host <input type="checkbox"/> Batteries <input type="checkbox"/>	100	240	60 Hz	0.5 A
Z4NEU3-Radio Active	1 <input type="checkbox"/> 3 <input type="checkbox"/> None <input checked="" type="checkbox"/>	AC <input type="checkbox"/> DC <input type="checkbox"/> Host <input type="checkbox"/> Batteries <input checked="" type="checkbox"/>	--	--	--	
Notes	None					

4.8 EUT Clock/Oscillator Frequencies

Reference Designation	Speed (MHz)	Type
Block Diagram	40	Clock /Oscillator
Block Diagram	24.576	Clock /Oscillator
Block Diagram	10	Clock /Oscillator
Block Diagram	0.032	Clock /Oscillator

4.8.1 Radiated Emissions, Upper Frequency

<input type="checkbox"/>	Less than 108 MHz	Scan to 1 GHz
<input type="checkbox"/>	Less than 500 MHz	Scan to 2 GHz
<input type="checkbox"/>	Less than 1000 MHz	Scan to 5 GHz
<input checked="" type="checkbox"/>	Greater than 1000 MHz	Scan to 5 th Harmonic or 40 GHz (whichever is lower)

4.9 Electrical Support Equipment

Reference Designation	Manufacturer	Model	Description
N/A	Lenovo	X280	Test Laptop

4.10 Non - Electrical Support Equipment

Reference Designation	Manufacturer	Model	Serial Number or Description (e.g., Type of Gas or Liquid)

4.11 EUT Equipment/Cabling Information

EUT Port	Connected To	Cable Type				
		Length (Meters)	Shielded Yes / No		Bead Yes / No	
USB	Test Laptop	< 3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4.12 EUT Test Program

The unit has a Bluetooth radio included. The EUT was connected to a phone and the Bluetooth radio was exercise by playing music at high volume.

4.13 EUT Modes of Operation

1. Intentional radiators set to operate on a random channel.
2. EUT Charging from AC to DC power supply

4.14 Monitoring of EUT during Testing

The EUT will be monitored by visual observation and serial port connection when available.

4.15 EUT Configuration

EUT is powered through 120VAC mains Power. EUT was tested while either while charging, or while radio was running.

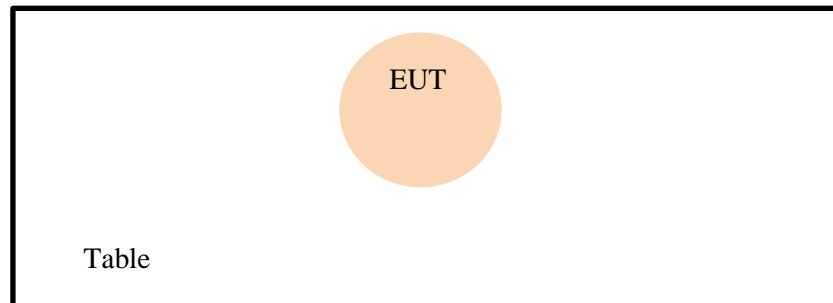
4.16 Description

Configuration		Description
Tabletop		EUT is a standalone equipment placed on tabletop
Notes		

4.17 Subassemblies

Reference Designation	Manufacturer	Model No.	Revision	Serial No.	Description
N/A					

4.17.1 Block Diagram



4.18 Emissions

4.18.1 Radiated Emissions

4.18.1.1 Preliminary Radiated Emissions Test Setup

Standard	FCC Part 15 Subpart B: 2020 & ICES-003:2016			Procedure	ANSI C63.4
Limit	Class B	Emissions Verification		Emissions Under Limit	
Frequency Range	30 MHz – 18 GHz				
Scan #1	Pre-scan 30 – 18000 MHz	Antenna Distance	3m	Detector	Peak Scan
Configuration	See Section 4.16				
Notes	None				

4.18.1.2 Final Radiated Emissions Test Setup

Standard	FCC Part 15 Subpart B: 2020 & ICES-003:2016			Procedure	ANSI C63.4
Limit	Class B	Emissions Verification	Emissions Under Limit		
Frequency Range	30 MHz – 18 GHz				
Scan #1	Final Scan 30 – 18000 MHz	Antenna Distance	3m	Detector	30-1000MHz: Quasi peak 1-18GHz Peak/Average
Configuration	See Section 4.16				
Notes	None				

4.18.2 Conducted Emissions

4.18.2.1 Final Conducted Emissions Test Setup

Standard	FCC Part 15 Subpart B: 2020 & ICES-003:2016	Procedure	ANSI C63.4
Limit(s)	Class B: Quasi Peak Average	Emissions Verification	Emissions Under Limit
AC Mains Line	1 AC Line	LAN Cable(s)	None
Frequency Range	Class B 150 kHz - 30 MHz	Detectors	Quasi Peak Average
Scan #1	120 Vac, 60 Hz	EUT Powered By	
Configuration	See Section 4.16		
Notes	None		

END OF REPORT