FCC PART 18 TEST REPORT
TEST METHOD: ANSI C63.4: 2014 AND FCC OET/MP-5
LIMITS: FCC PART 18
For

DIACOM-LITE-FREQ
MODEL: UTIUM

Prepared for

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DATE: JULY 15, 2020

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GENERAL REPORT SUMMARY

This electromagnetic emission report is generated by Compatible Electronics Inc., which is an independent testing and consulting firm. The test report is based on testing performed by Compatible Electronics personnel according to the measurement procedures described in the test specifications given below and in the "Test Procedures" section of this report.

The measurement data and conclusions appearing herein relate only to the sample tested and this report may not be reproduced in any form except in full, without the written permission of Compatible Electronics.

This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. government.

Device Tested:	Diacom-Lite-FREQ Model: Utium S/N: NONE
Product Description:	The Utium is a device designed to scan and generate low-frequency electromagnetic frequencies up to 1 MHz. (Dimensions: 156 x 180 x 36 mm)
Modifications:	The EUT was not modified during the testing in order to comply with the specifications.
Manufacturer:	Khachatur Mkrtchyan - Diacom Technology Jedova 189, Neratovice 277 11, Czech Republic
Test Date:	July 9 and 10, 2020

NVLAP® TESTING
NVLAP LAB CODE 200527-0

ilac-MRA

Test Specifications Covered by Accreditation:
FCC CFR Title 47, Part 18 Subpart C
FCC OET/MP-5
Test Procedure: ANSI C63.4: 2014.

SUMMARY OF TEST RESULTS

TEST	DESCRIPTION	RESULTS
1	Conducted RF Emissions, 150 kHz - 30 MHz.	Complies with the limits in FCC CFR Title 47, Part 18, Subpart C, Section 18.307 and FCC OET/MP-5
2	Radiated RF Emissions, 9 kHz – 26,000 MHz.	Complies with the limits in FCC CFR Title 47, Part 18, Subpart C, Section 18.305 and FCC OET/MP-5

1. PURPOSE

This document is a verification test report based on the Electromagnetic Compatibility (EMC) tests performed on the Diacom-Lite-FREQ Model: UTIUM. The EMC measurements were performed according to the measurement procedure described in ANSI C63.4: 2014 and FCC OET/MP-5 (1986) FCC Methods of Measurement of Radio Noise Emissions for ISM Equipment (cited in 47 CFR FCC Part 18 - Industrial, Scientific, and Medical Equipment). The tests were performed in order to determine whether the electromagnetic emissions from the equipment under test, referred to as EUT hereafter, are within the FCC specification limits for part 18.305 (c) and 18.307 (c).

1.1 DECISION RULE & RISK

If a measured value exceeds a specification limit it implies non-compliance. If the value is below a specification limit it implies compliance. Measurement uncertainty of the laboratory is reported with all measurement results but generally not taken into consideration unless a standard, rule or law requires it to be considered.

Qualification test reports are only produced for products that are in compliance with the test requirements, therefore results are always in conformity. Otherwise, an engineering report or just the data is provided to the customer.

When performing a measurement and making a statement of conformity, in or out-of-specification to manufacturer's specifications or Pass/Fail against a requirement, there are two possible outcomes:

- The result is reported as conforming with the specification

  The result is reported as not conforming with the specification

The decision rule is defined below.

When the test result is found to be below the limit but within our measurement uncertainty of the limit, it is our policy that the final acceptance decision is left to the customer, after discussing the implications and potential risks of the decision.

When the test result is found to be exactly on the specification, it is our policy, in the case of unwanted emissions measurements to consider the result non-compliant, however, the final decision is left to the customer, after discussing the implications and potential risks of the decision.

When the test result is found to be over the specification limit under any condition, it is our policy to consider the result non-compliant.

In terms of uncertainty of measurement, the laboratory is a calibrated and tightly controlled environment and generally exceptionally stable, the measurement uncertainties are evaluated without the consideration of the test sample. When it comes to the test sample however, as most testing is performed on a single sample rather than a sample population, and that sample is often a pre-production representation of the final product, that test sample represents a significantly higher source of measurement uncertainty. We advise our customers of this and that when in doubt (small test to limit margins), they may wish to perform statistical sampling on a population to gain a higher confidence in the results. All lab reported results are that of a single sample in any event.

2. ADMINISTRATIVE DATA

2.1 Location of Testing

The emissions tests described herein were performed at the test facility of Compatible Electronics, 20621 Pascal Way, Lake Forest, California 92630.

2.2 Traceability Statement

The calibration certificates of all test equipment used during the test are on file at the location of the test. The calibration is traceable to the National Institute of Standards and Technology (NIST).

2.3 Cognizant Personnel

Khachatur Mkrtchyan - Diacom Technology

David Galustov Compatible Electronics, Inc.	Representative
Johnny Le	Test Technician
Howard Huang	Test Engineer
Carla Atizado	QA Specialist

2.4 Date Test Sample was Received

The test sample was received on July 9, 2020. Received as described in product description.

2.5 Disposition of the Test Sample

The test sample was returned to Khachatur Mkrtchyan - Diacom Technology.

2.6 Abbreviations and Acronyms

The following abbreviations and acronyms may be used in this document.

CML	Corrected Meter Limit
EMI	Electromagnetic Interference
EUT	Equipment Under Test
HP	Hewlett Packard
ITE	Information Technology Equipment
LED	Light-emitting Diode
LISN	Line Impedance Stabilization Network
NCR	No Calibration Required
P/N	Part Number
PSU	Power Supply Unit
RF	Radio Frequency
S/N	Serial Number

3. APPLICABLE DOCUMENTS

The following documents are referenced or used in the preparation of this EMI Test Report.

SPEC	TITLE
CISPR 16 1993	Specification for radio disturbance and immunity measuring apparatus and methods.
FCC CFR Title 47, Part 18 Subpart C.	FCC Rules – Industrial, Scientific and Medical Equipment (including ultrasonic equipment)
ANSI C63.4 2014	Methods of measurement of radio-noise emissions from low-voltage electrical and electronic equipment in the range of 9 kHz to 40 GHz.
FCC/OST MP–5	Part 18, ISM Methods of Measurements of Radio Noise Emissions from Industrial, Scientific, and Medical equipment (February 1986)

4. DESCRIPTION OF TEST CONFIGURATION

4.1 Description of Test Configuration - EMI

The EUT was set up in a table-top configuration. The EUT was connected to a Laptop, Headphone and a Reprinter. The EUT was scanning and generating a low-frequency electromagnetic frequency up to 1 MHz continuously. This configuration was determined to produce the highest emissions. The EUT was utilizing software by Diacom.

The cables were moved to maximize the emissions. The final conducted and radiated data was taken in this mode of operation. All initial investigations were performed with EMI Receiver in manual mode scanning the frequency range continuously. The cables were routed as shown in the photographs in Appendix D.

4.1.1 Photograph of Test Configuration - EMI

4.1.2 Cable Construction and Termination

Cable 1

This is a 1.6 meter, unshielded, cable that connects the EUT to a 1M OHM Resistor. It has a 3.5 MM connector at both ends. The cable was bundled to a length of 1 meter.

Cable 2

This is a 1.65 meter, unshielded, cable that connects the EUT to the Reprinter. It has a 3.5 MM connector at both ends. The cable was bundled to a length of 1 meter.

Cable 3

This is a 1.6 meter, unshielded, cable that connects the EUT to the Headphone. It has a 3.5 MM connector at both ends. The cable was bundled to a length of 1 meter.

Cable 4

This is a 1.55 meter, unshielded, cable that connects the EUT to Laptop. It has a USB A connector at Laptop end and a USB B connector at the EUT end. The cable was bundled to a length of 1 meter.

Cable 5

This is a 1.5 meter, unshielded, cable that connects the Laptop to the Laptop PSU. It has a barrel connector at the laptop end and is hardwired at the adapter end.

5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT

5.1 EUT and Accessory List

#	EQUIPMENT TYPE	MANUFACTURER	MODEL	SERIAL NUMBER
1	DIACOM-LITE-FREQ (EUT)	KHACHATUR MKRTCHYAN - DIACOM TECHNOLOGY	UTIUM	S/N: NONE
2	HEADPHONE	PHILLIP	SHP1900	S/N: NONE
3	LAPTOP	SONY	SVE151J11V	S/N: 545123000001001
4	LAPTOP PSU	SONY	VGP-AC19V44	S/N: 1487693310135954
5	REPRINTER	KHACHATUR MKRTCHYAN - DIACOM TECHNOLOGY	NONE	S/N: NONE

5.2 EMI Test Equipment

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CAL. DATE	CAL. DUE DATE
Thermometer & Hygrometer	Davis Instruments	6312C	NONE	09/20/2018	09/20/2021
Computer	Compatible Electronics	NONE	NONE	NCR	NCR
EMI Receiver	Keysight Technologies	N9038A	MY55330012	01/21/2020	01/21/2021
Antenna, Loop	Com-Power	AL-130	121049	3/21/2019	3/21/2021
Antenna, CombiLog	Com-Power	AC-220	10030023	08/23/2019	08/23/2021
Antenna, Horn	Com-Power	AH-118	10050074	07/19/2019	07/19/2021
Antenna, Horn	Com-Power	AH-826	081078	07/23/2019	07/23/2021
Preamplifier 1-18 GHz	Com-Power	PAM-118A	551033	01/15/2020	01/15/2021
Preamplifier 18-40 GHz	Com-Power	PA-840	181289	7/23/2019	7/23/2020
Mast, Antenna Positioner	Sunol Science Corporation	SC104V	020808-1	NCR	NCR
Antenna Mast	Sunol Science Corporation	TWR 95-4	020808-3	NCR	NCR
Turntable	Sunol Science Corporation	FM2001	NONE	NCR	NCR
LISN (EUT)	Com-Power	LI-215	191944	08/08/2019	08/08/2020

5.3 Test Software

LAB(S)	SOFTWARE TITLE	MANUFACTURER	VERSION
P, R	Measurement and Automation Software	TDK Test Lab	5.53

6. TEST SITE DESCRIPTION

6.1 Test Facility Description

Please refer to section 2.1 and 7.1.2 of this report.

6.2 EUT Mounting, Bonding and Grounding

The EUT was mounted on a 1.0 by 1.5-meter non-conductive table 0.8 meters above the ground plane.

The EUT was not grounded.

6.3 Facility Environmental Characteristics

When applicable refer to the data sheets in Appendix E for the relative humidity, air temperature and barometric pressure.

6.4 Measurement Uncertainty

"Compatible Electronics' U_{lab} value is less than U_{cispr}, thus based on this – compliance is deemed to occur if no measured disturbance exceeds the disturbance limit

$$u_c(y) = \sqrt{\sum_i c_i^2 \; u^2(x_i)}$$

Measurement		U_{cispr}	$U_{lab} = 2\,uc\,(y)$
Conducted disturbance (mains port)	(150 kHz – 30 MHz)	3,6 dB	2.88
Radiated disturbance (electric field strength on an open area test site or alternative test site)	(30 MHz – 1000 MHz)	5,2 dB	3.53
Radiated disturbance (electric field strength on an open area test site or alternative test site)	(1 GHz - 6 GHz)	5.2 dB	3.59 dB
Radiated disturbance (electric field strength on an open area test site or alternative test site)	(6 GHz – 18 GHz)	5.5 dB	3.71 dB
Radiated disturbance (electric field strength on an open area test site or alternative test site)	(18 GHz – 26 GHz)	N/A	3.71 dB

7. TEST PROCEDURES

The following sections describe the test methods and the specifications for the tests. Test results are also included in this section.

7.1 RF Emissions

7.1.1 Conducted Emissions Test

The EMI Receiver was used as a measuring meter. A 10-dB attenuation pad was used for the protection of the EMI Receiver input stage. All factors associated with attenuator and cables were recorded into the EMI Software Program accordingly to display the actual corrected measured level. The LISN output was connected to the input of the EMI Receiver. The effective measurement bandwidth used for the conducted emissions test was 9 kHz.
Please see section 6.2 of this report for mounting, bonding, and grounding of the EUT. The EUT was powered through the LISN, which was bonded to the ground plane. The LISN power was filtered and the filter was bonded to the ground plane. The EUT was set up with the minimum distances from any conductive surfaces as specified in ANSI C63.4. The excess power cord was wrapped in a figure eight pattern to form a bundle not exceeding 0.4 meters in length.

The initial test data was taken in manual mode while scanning the frequency ranges of 0.15 MHz to 30 MHz. The conducted emissions from the EUT were maximized for operating mode as well as cable placement. Once a predominant frequency (within 12 dB of the limit) was found, it was more closely examined with the spectrum analyzer span adjusted to 1 MHz.

The final data was collected under program control in several overlapping sweeps by running the EMI Receiver at a minimum scan rate of 10 seconds per octave. The test results are located in Appendix E. The six highest emissions are listed in Table 1.

7.1.2 Radiated Emissions Test

The EMI Receiver was used as the measuring meter. The EMI Receiver was used in the Analyzer mode feature activated. In this mode, the EMI receiver can then record the actual frequency to be measured. This final reading is then taken accurately in the EMI Receiver mode, which takes into account the cable loss, amplifier gain and antenna factors, so that a true reading is compared to the true limit. A quasi-peak reading was taken only for those readings, which are marked accordingly on the data sheets. The effective measurement bandwidth used for the radiated emissions test was according to the frequency measured (120 kHz for 30 MHz to 1 GHz and 1 MHz for 1 GHz and above).

A Broadband Combilog, Loop Antenna and Horn Antenna were used as transducers during the measurement. The Loop Antenna was used from 9 kHz-30 MHz, the Combilog Antenna was used from 30 MHz to 1000 MHz. Horn Antennas were used from 1 GHz to 26 GHz. Furthermore, the frequency span was reduced during the preliminary investigations as deemed necessary.

The TDK FAC-3 shielded test chamber of Compatible Electronics, Inc. was used for radiated emissions testing. This test site is set up according to CISPR 16. Please see section 6.2 of this report for mounting, bonding, and grounding of the EUT. The turntable supporting the EUT is remote controlled using a motor. The turntable permits EUT rotation of 360 degrees in order to maximize emissions. Also, the antenna mast allows height variation of the antenna from 1 meter to 4 meters. Data was collected in the worst case (highest emission) configuration of the EUT. At each reading, the EUT was rotated 360 degrees and the antenna height was varied from 1 to 4 meters (for E field radiated field strength).

The EUT was tested at a 3-meter test distance from 30 MHz to 26 GHz to obtain final test data. The six highest emissions are listed in Table 2.

7.1.3 RF Emissions Test Results

Table 1.0 CONDUCTED EMISSION RESULTS
Diacom-Lite-FREQ Model: UTIUM

Frequency MHz	Emission Level* dBuV	Average Specification Limit dBuV	Delta (Spec. limit – Emission) dB
11.56 **L**	42.28 A	47.87	-5.59
0.15 **L**	50.15 A	55.78	-5.63
0.18 **N**	47.93 A	54.39	-6.47
0.16 **N**	48.62 A	55.36	-6.74
0.20 **N**	46.30 A	53.53	-7.23
26.64 **N**	42.06 A	49.73	-7.68

Table 2.0 RADIATED EMISSION RESULTS
Diacom-Lite-FREQ Model: UTIUM

Frequency MHz	Corrected Reading* dBuV	Specification Limit dBuV	Delta (Cor. Reading – Spec. Limit) dB
300.00 **H**	51.43 **#**	63.50	-12.07
96.00 **H**	44.27 **#**	63.50	-19.23
112.00 **H**	43.09 **#**	63.50	-20.41
96.00 **V**	40.33 **#**	63.50	-23.17
2067.00 **V**	24.42 **A**	56.00	-31.58
1594.00 **V**	24.25 **A**	56.00	-31.75

Notes: * The complete emissions data is given in Appendix E of this report.

** The antenna factors and preamplifier gain are attached in Appendix D of this report.
# Quasi-Peak Reading
A Average Reading
N Neutral
L Line

8. DEVIATIONS FROM THE TEST PROCEDURES

There were no deviations from the test procedures.

9. CONCLUSIONS

The Diacom-Lite-FREQ Model: UTIUM meets all of the FCC specification limits for part 18.305(c), and 18.307(c) and FCC OET/MP-5 for Diacom-Lite-FREQs “consumer equipment”.

APPENDIX A

LABORATORY ACCREDITATIONS

LABORATORY ACCREDITATIONS AND RECOGNITIONS

NVLAP TESTING
NVLAP LAB CODE 200527-0

ilac-MRA

For US, Canada, Australia/New Zealand, Japan, Taiwan, Korea, and the European Union, Compatible Electronics is currently accredited by NVLAP to ISO/IEC 17025.

For the most up-to-date version of our scopes and certificates please visit

http://celectronics.com/quality/scope/

Quote from ISO-ILAC-IAF Communiqué on 17025:

"A laboratory's fulfilment of the requirements of ISO/IEC 17025:2005 means the laboratory meets both the technical competence requirements and management system requirements that are necessary for it to consistently deliver technically valid test results and calibrations. The management system requirements in ISO/IEC 17025:2005 (Section 4) are written in language relevant to laboratory operations and meet the principles of ISO 9001:2008 Quality Management Systems — Requirements."

Innovation, Science and Economic Development Canada Lab Code 2154C

APPENDIX B

MODIFICATIONS TO THE EUT

MODIFICATIONS TO THE EUT

There were no modifications made to the EUT.

APPENDIX C

MODELS COVERED UNDER THIS REPORT

MODELS COVERED UNDER THIS REPORT

USED FOR THE PRIMARY TEST	DIACOM-LITE-FREQ Model: UTIUM S/N: NONE

There were no additional models covered under this report.

APPENDIX D

DIAGRAMS, CHARTS AND PHOTOS

FIGURE 1: CONDUCTED EMISSIONS TEST SETUP

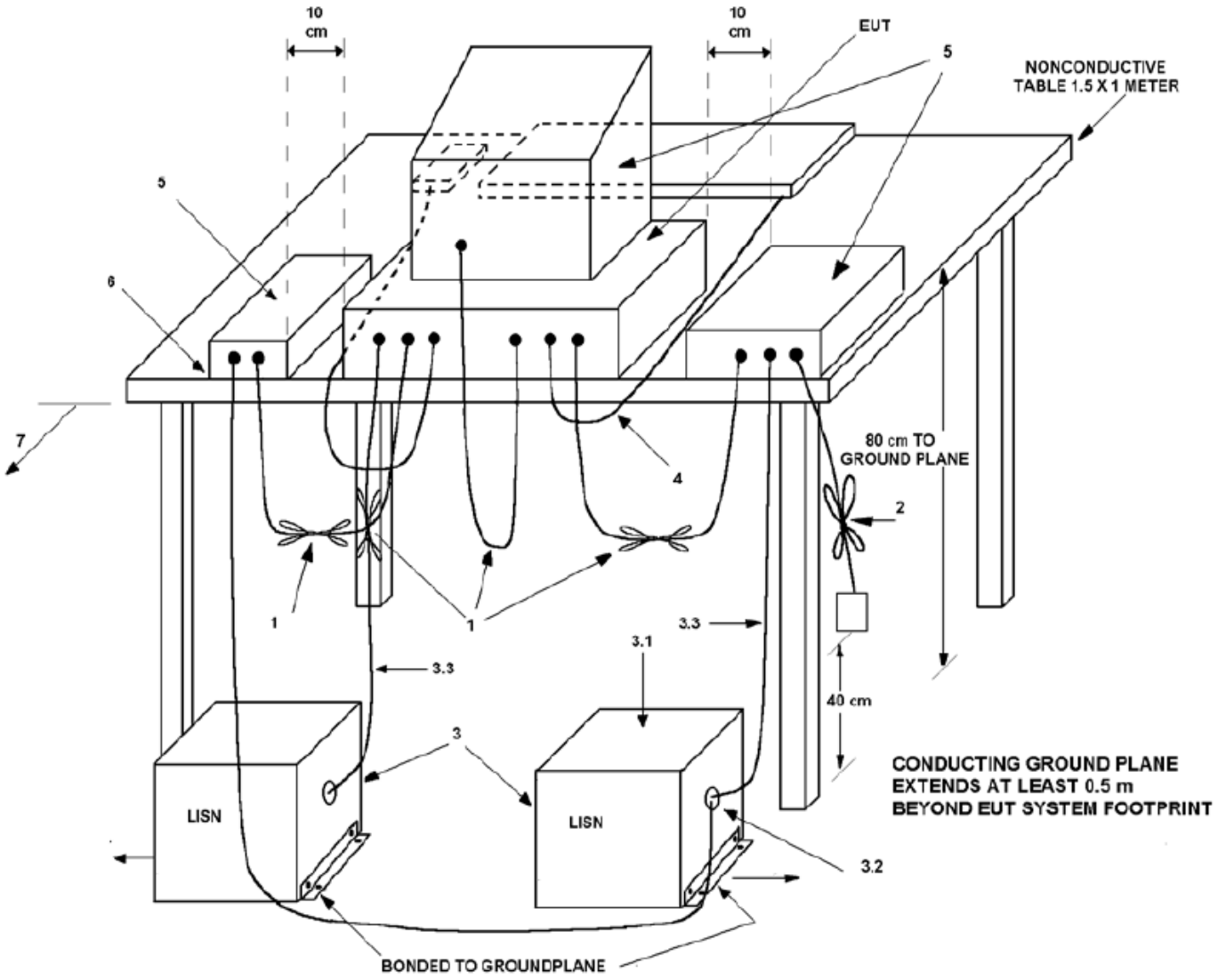


FIGURE 2: LOW FREQUENCY TEST SETUP

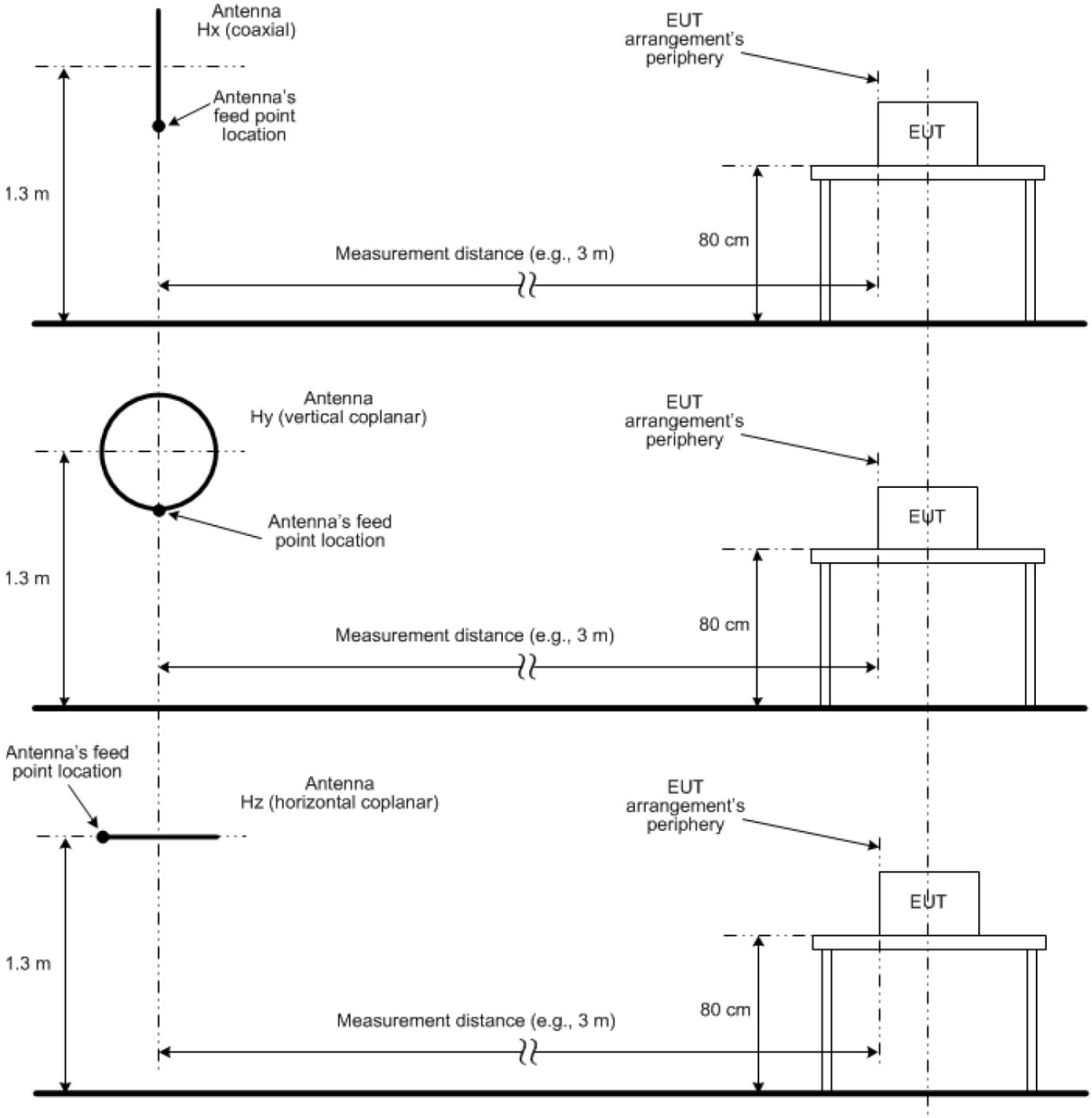
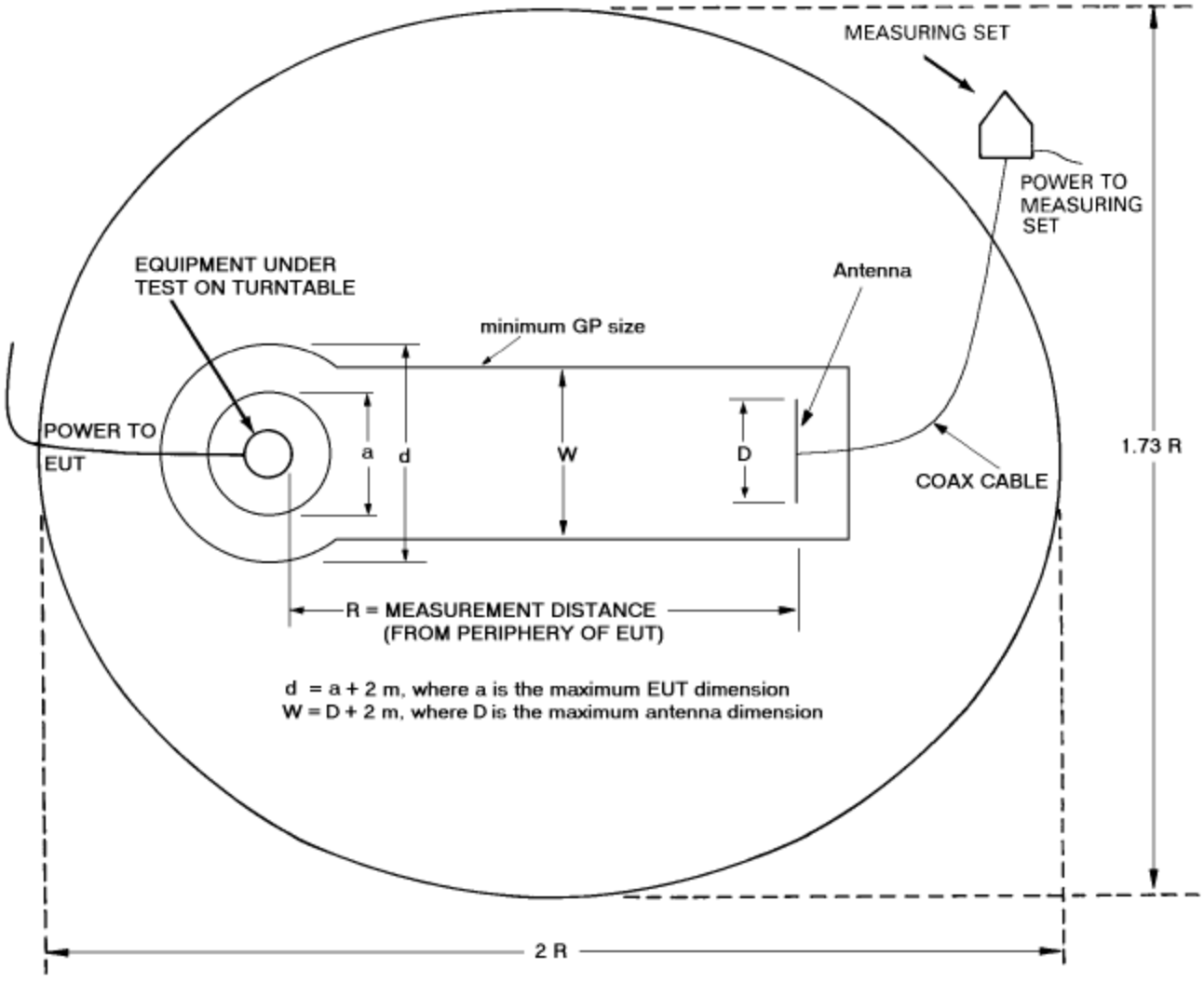


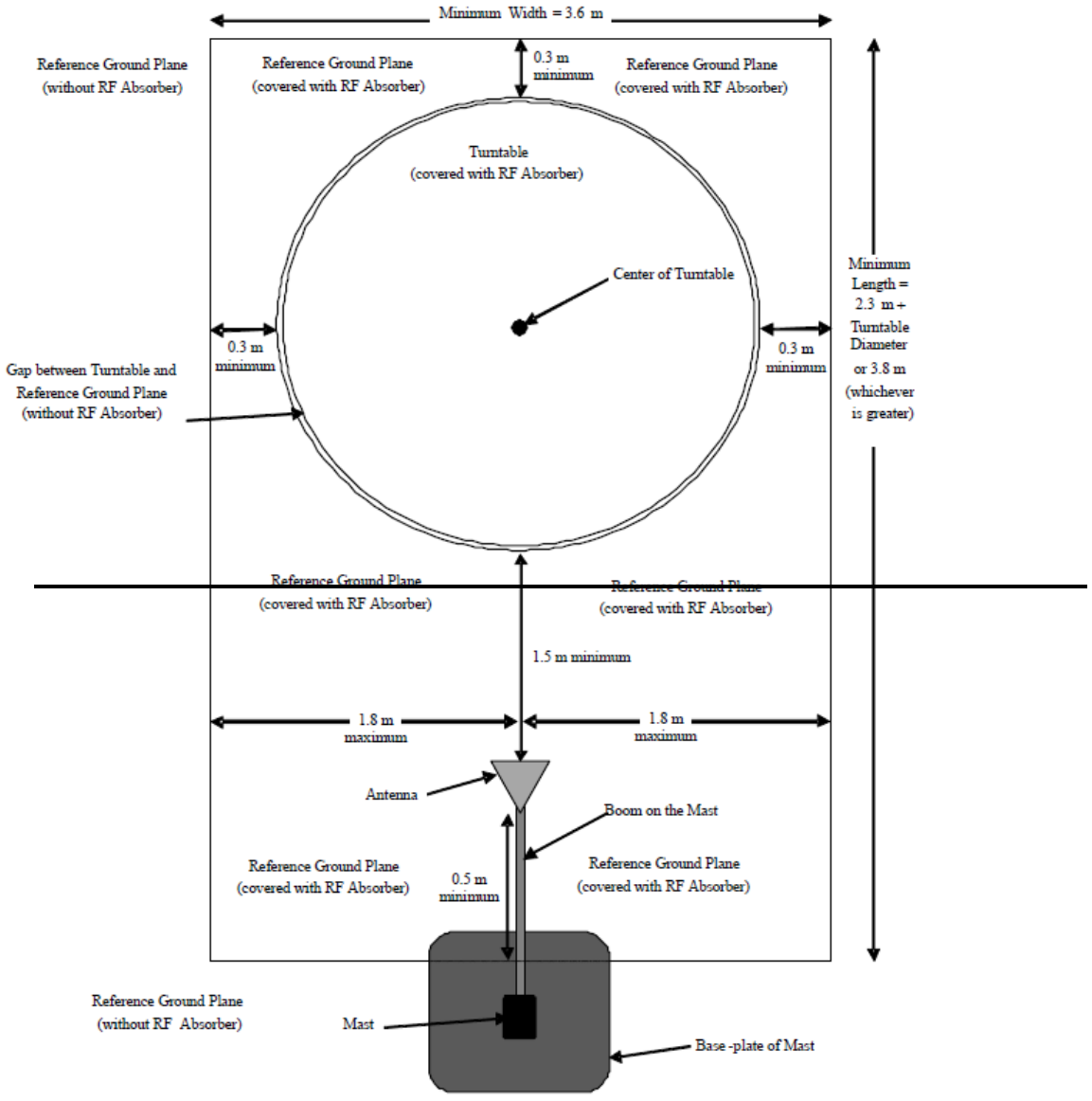
FIGURE 3: RADIATED EMISSIONS 3-METER SEMI -ANECHOIC TEST CHAMBER TEST SET UP



AREA DIMENSIONS =

R = 3m	R = 10 m	R = 30 m
6 m x 5.2 m	20 m x 17.3 m	60 m x 52 m

FIGURE 4: HIGH FREQUENCY TEST SETUP



COM-POWER AC-220

LAB P - COMBILOG ANTENNA

S/N: 10030023

CALIBRATION DATE: AUGUST 23, 2019

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	22.5	**160**	15.5
35	21.4	**180**	14.9
40	20.5	**200**	15.2
45	19.8	**250**	16.7
50	18.7	**300**	18.5
60	15.1	**400**	20.6
70	12.0	**500**	22.0
80	11.7	**600**	24.4
90	13.4	**700**	24.3
100	14.5	**800**	26.1
120	16.0	**900**	27.2
140	14.6	**1000**	27.8

COM-POWER AH-118

HORN ANTENNA

S/N: 10050074

CALIBRATION DATE: JULY 19, 2019

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
700	25.84	**7500**	37.73
750	25.46	**8000**	38.05
800	24.96	**8500**	38.29
850	24.51	**9000**	38.93
900	24.01	**9500**	39.64
950	23.73	**10000**	39.12
1000	23.83	**10500**	39.16
1250	24.81	**11000**	39.18
1500	25.32	**11500**	39.85
1750	26.30	**12000**	40.27
2000	27.94	**12500**	40.91
2250	28.16	**13000**	40.50
2500	29.07	**13500**	40.59
3000	30.07	**14000**	40.44
3500	30.81	**14500**	40.62
4000	31.68	**15000**	43.35
4500	32.64	**15500**	40.76
5000	33.79	**16000**	41.61
5500	34.20	**16500**	40.38
6000	35.24	**17000**	40.88
6500	35.74	**17500**	42.79
7000	37.17	**18000**	43.86

COM-POWER AH-826

HORN ANTENNA

S/N: 081078

CALIBRATION DATE: JULY 23, 2019

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
18.00	32.83	**21.25**	33.71
18.10	32.74	**21.50**	33.58
18.20	32.68	**21.75**	33.70
18.30	32.67	**22.00**	33.88
18.40	32.73	**22.25**	33.88
18.50	32.83	**22.50**	34.00
18.60	32.90	**22.75**	33.91
18.70	32.95	**23.00**	33.93
18.80	33.00	**23.25**	34.07
18.90	33.06	**23.50**	34.17
19.00	33.08	**23.75**	34.36
19.10	33.12	**24.00**	34.35
19.20	33.17	**24.25**	34.29
19.30	33.18	**24.50**	34.34
19.40	33.15	**24.75**	34.40
19.50	33.10	**25.00**	34.58
19.75	33.07	**25.25**	34.65
20.00	33.21	**25.50**	34.60
20.25	33.31	**25.75**	34.61
20.50	33.64	**26.00**	34.64
20.75	33.65	**26.25**	34.74
21.00	33.58	**26.50**	35.08

COM-POWER PAM-118A

1-18GHz - PREAMPLIFIER

S/N: 551033

CALIBRATION DATE: JANUARY 15, 2020

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
500	39.68	**6000**	41.31
600	39.94	**6500**	41.35
700	39.99	**7000**	41.61
800	40.24	**7500**	41.72
900	39.93	**8000**	41.73
1000	40.44	**8500**	40.82
1250	40.63	**9000**	40.78
1500	40.80	**9500**	42.10
1750	41.00	**10000**	42.62
2000	41.35	**10500**	41.43
2250	41.60	**11000**	41.00
2500	41.82	**11500**	41.26
2750	42.08	**12000**	41.50
3000	42.33	**12500**	41.01
3250	42.50	**13000**	40.50
3500	42.59	**13500**	40.28
3750	42.64	**14000**	40.32
4000	42.60	**14500**	40.55
4250	42.42	**15000**	40.62
4500	42.20	**15500**	40.74
4750	42.04	**16000**	40.69
5000	41.88	**16500**	40.98
5250	41.69	**17000**	40.16
5500	41.59	**17500**	39.29
5750	41.44	**18000**	39.52

COM-POWER PA-840

18-40GHz - PREAMPLIFIER

S/N: 181289

CALIBRATION DATE: JULY 23, 2019

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
18.00	33.29	**29.50**	31.82
18.50	28.81	**30.00**	31.25
19.00	26.91	**30.50**	30.24
19.50	29.21	**31.00**	29.51
20.00	30.70	**31.50**	30.09
20.50	31.88	**32.00**	31.10
21.00	32.88	**32.50**	31.40
21.50	33.13	**33.00**	31.28
22.00	32.55	**33.50**	30.97
22.50	31.67	**34.00**	30.80
23.00	31.04	**34.50**	30.63
23.50	30.84	**35.00**	30.22
24.00	30.97	**35.50**	29.87
24.50	31.33	**36.00**	29.88
25.00	31.86	**36.50**	29.98
25.50	32.53	**37.00**	30.06
26.00	33.21	**37.50**	30.08
26.50	33.68	**38.00**	30.33
27.00	33.88	**38.50**	31.29
27.50	33.75	**39.00**	32.78
28.00	33.36	**39.50**	33.67
28.50	32.87	**40.00**	33.27
29.00	32.29		

FRONT VIEW

KHACHATUR MKRTCHYAN - DIACOM TECHNOLOGY
DIACOM-LITE-FREQ
MODEL: UTIUM
FCC PART 18- RADIATED EMISSIONS under 30 MHz

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

KHACHATUR MKRTCHYAN - DIACOM TECHNOLOGY
DIACOM-LITE-FREQ
MODEL: UTIUM
FCC PART 18- RADIATED EMISSIONS under 30 MHz

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

FRONT VIEW

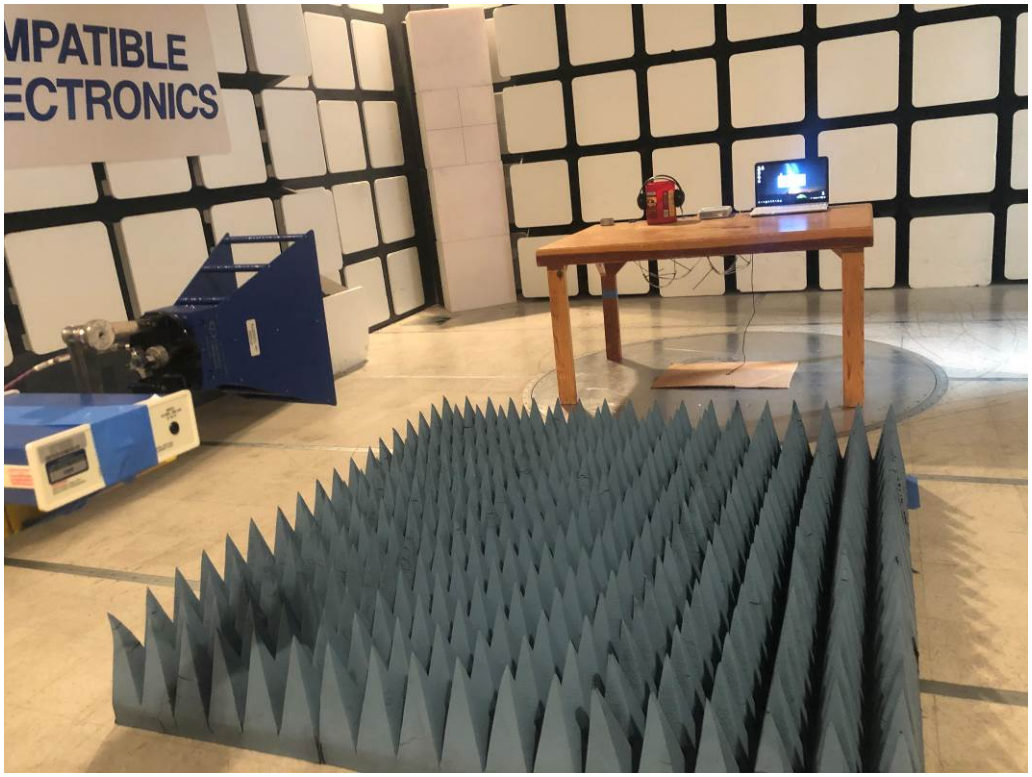
KHACHATUR MKRTCHYAN - DIACOM TECHNOLOGY
DIACOM-LITE-FREQ
MODEL: UTIUM
FCC PART 18- RADIATED EMISSIONS from 30-1000MHz

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

KHACHATUR MKRTCHYAN - DIACOM TECHNOLOGY
DIACOM-LITE-FREQ
MODEL: UTIUM
FCC PART 18- RADIATED EMISSIONS from 30-1000MHz

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



FRONT VIEW

KHACHATUR MKRTCHYAN - DIACOM TECHNOLOGY
DIACOM-LITE-FREQ
MODEL: UTIUM
FCC PART 18- RADIATED EMISSIONS 1-26GHz

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

KHACHATUR MKRTCHYAN - DIACOM TECHNOLOGY
DIACOM-LITE-FREQ
MODEL: UTIUM
FCC PART 18- RADIATED EMISSIONS 1-26GHz

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

FRONT VIEW

KHACHATUR MKRTCHYAN - DIACOM TECHNOLOGY
DIACOM-LITE-FREQ
MODEL: UTIUM
FCC PART 18- CONDUCTED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

KHACHATUR MKRTCHYAN - DIACOM TECHNOLOGY
DIACOM-LITE-FREQ
MODEL: UTIUM
FCC PART 18- CONDUCTED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

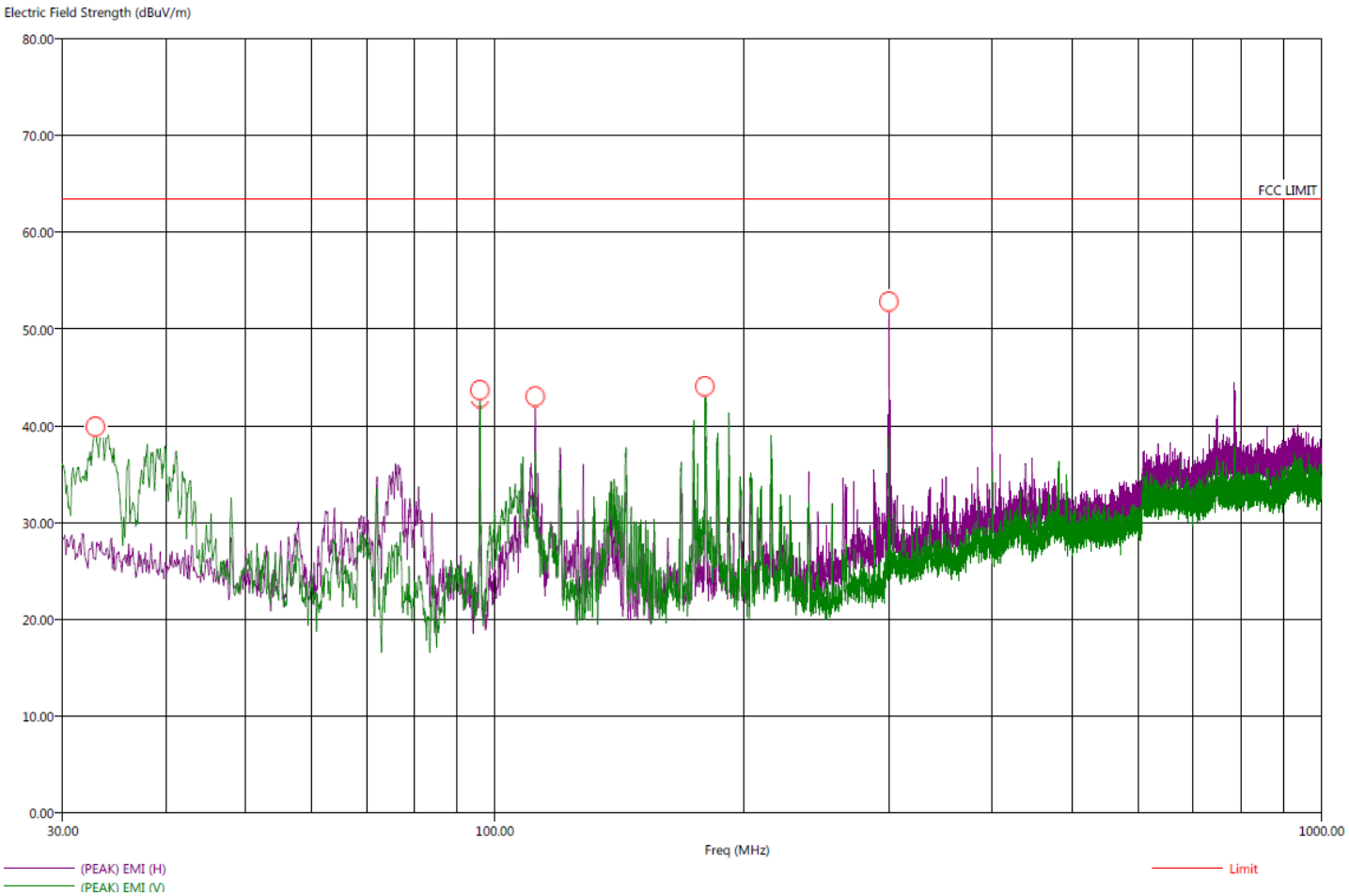
APPENDIX E

DATA SHEETS AND FCC COMPLIANCE INFORMATION STATEMENT

Test title: FCC PART 18
File: Radiated Pre-Scan 30-1000MHz.set
Operator name: Johnny Le
EUT type: Diacom-Lite-FREQ/Utium
EUT condition: The EUT is scanning and generating low frequencies up to 1 MHz.
Notes: Company: Khachatur Mkrtchyan - Diacom Technology
Temp: 76f
Hum: 50%
USB powered

7/9/2020 3:24:37 PM
Sequence: Preliminary Scan

Compatible Electronics, Inc. FAC-3 (LAB P)



5 GHZ IS THE HIGHEST FREQUENCY.
NO EMISSIONS FOUND BETWEEN 9 KHz-30 MHz

Test title: FCC PART 18
File: Radiated Final 30-1000MHz.set
Operator name: Johnny Le
EUT type: Diacom-Lite-FREQ/Utium
EUT condition: The EUT is scanning and generating low frequencies up to 1 MHz.
Notes: Company: Khachatur Mkrtchyan - Diacom Technology
Temp: 76f
Hum: 50%
USB powered

7/9/2020 3:39:05 PM
Sequence: Final Measurements

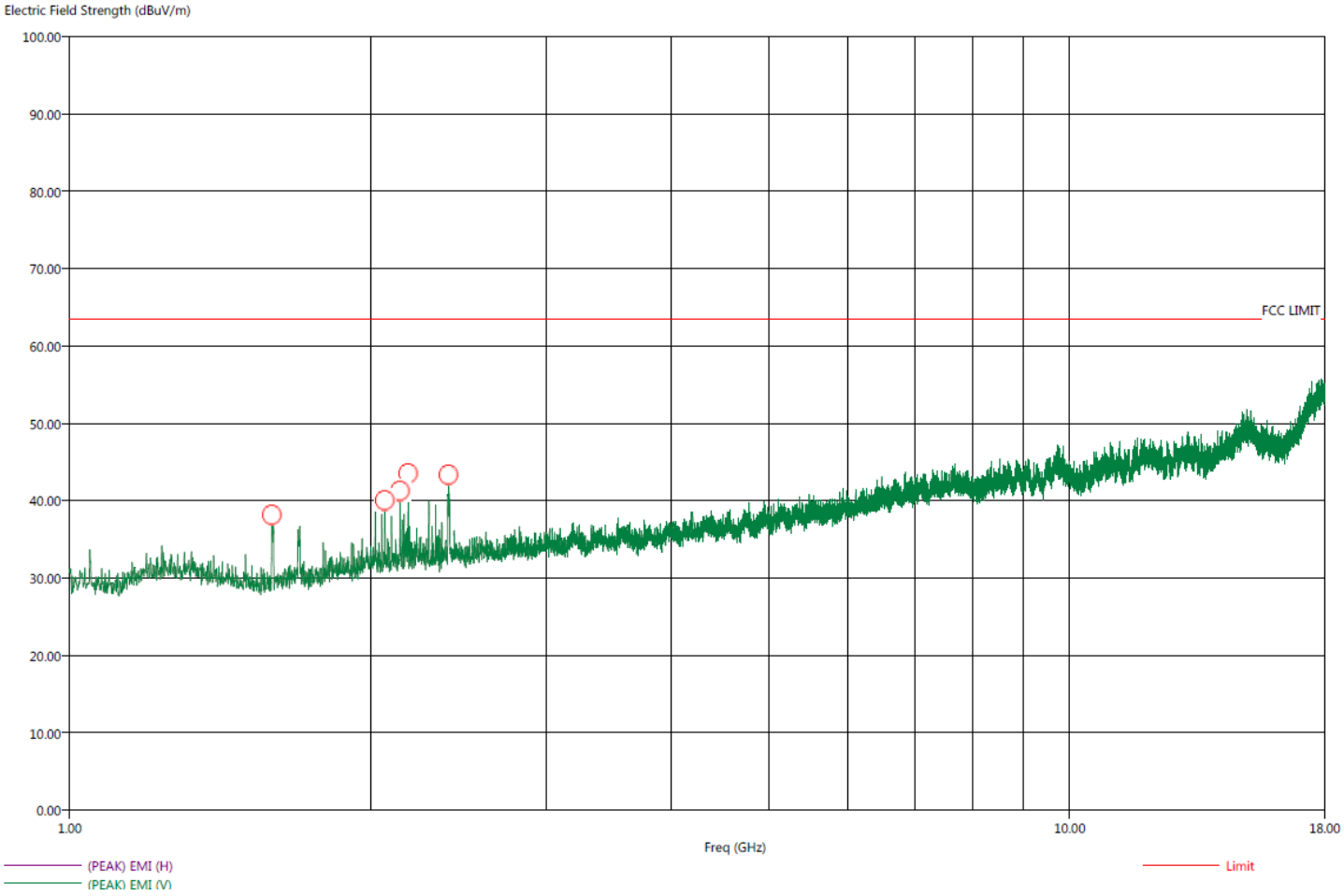
Compatible Electronics, Inc. FAC-3 (LAB P)

Freq (MHz)	Pol	(QP) Margin (dB)	(QP) EMI (dBµV/m)	(PEAK) EMI (dBuV/m)	Limit (dBµV/m)	Ttbl Agl (deg)	Twr Ht (cm)	Transducer (dB)	Cable (dB)
32.90	V	-38.13	25.37	33.00	63.50	194.75	140.47	21.87	0.40
96.00	H	-19.23	44.27	46.00	63.50	210.00	339.76	14.20	0.71
96.00	V	-23.17	40.33	41.81	63.50	256.25	109.17	14.20	0.71
112.00	H	-20.41	43.09	45.37	63.50	216.75	201.94	15.40	0.80
179.70	V	-36.13	27.37	32.41	63.50	287.50	103.11	14.90	1.09
300.00	H	-12.07	51.43	53.96	63.50	7.75	105.41	18.50	1.42

Test title: FCC PART 18
File: Radiated Pre-scan 1-18GHz Vertical.set
Operator name: Johnny Le
EUT type: Diacom-Lite-FREQ/Utium
EUT condition: The EUT is scanning and generating low frequencies up to 1 MHz.
Notes: Company: Khachatur Mkrtchyan - Diacom Technology
Temp: 76f
Hum: 50%
USB powered

7/9/2020 4:32:37 PM
Sequence: Preliminary Scan

Compatible Electronics, Inc. FAC-3 (LAB P)

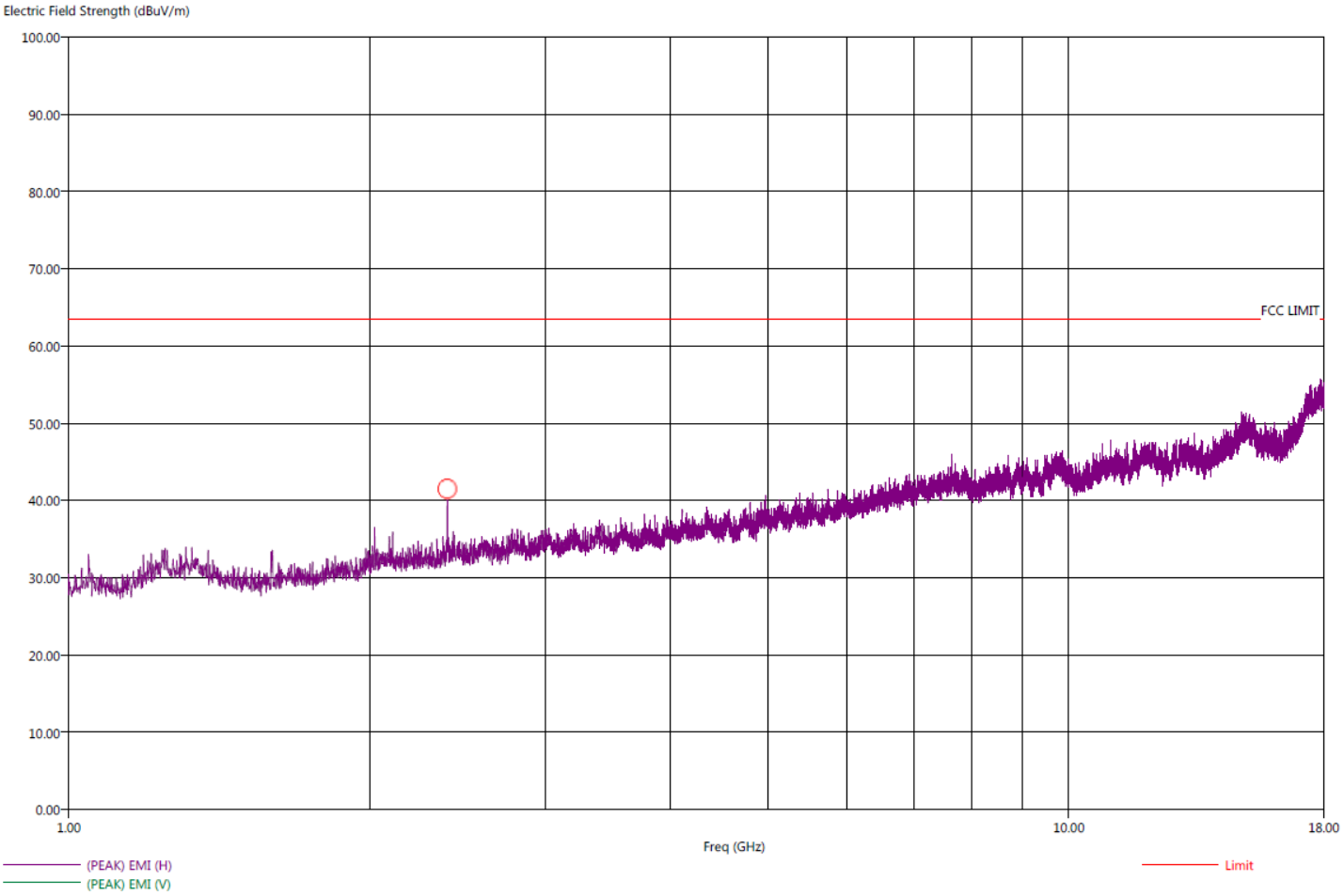


NO EMISSIONS FOUND BETWEEN 18-26 GHz

Test title: FCC PART 18
File: Radiated Pre-scan 1-18GHz Horizontal.set
Operator name: Johnny Le
EUT type: Diacom-Lite-FREQ/Utium
EUT condition: The EUT is scanning and generating low frequencies up to 1 MHz.
Notes: Company: Khachatur Mkrtchyan - Diacom Technology
Temp: 76f
Hum: 50%
USB powered

7/9/2020 4:22:33 PM
Sequence: Preliminary Scan

Compatible Electronics, Inc. FAC-3 (LAB P)



NO EMISSIONS FOUND BETWEEN 18-26 GHz

Test title: FCC PART 18
File: Radiated Final-scan 1-6GHz.set
Operator name: Johnny Le
EUT type: Diacom-Lite-FREQ/Utium
EUT condition: The EUT is scanning and generating low frequencies up to 1 MHz.
Notes: Company: Khachatur Mkrtchyan - Diacom Technology
Temp: 76f
Hum: 50%
USB powered

7/9/2020 4:47:50 PM
Sequence: Final Measurements

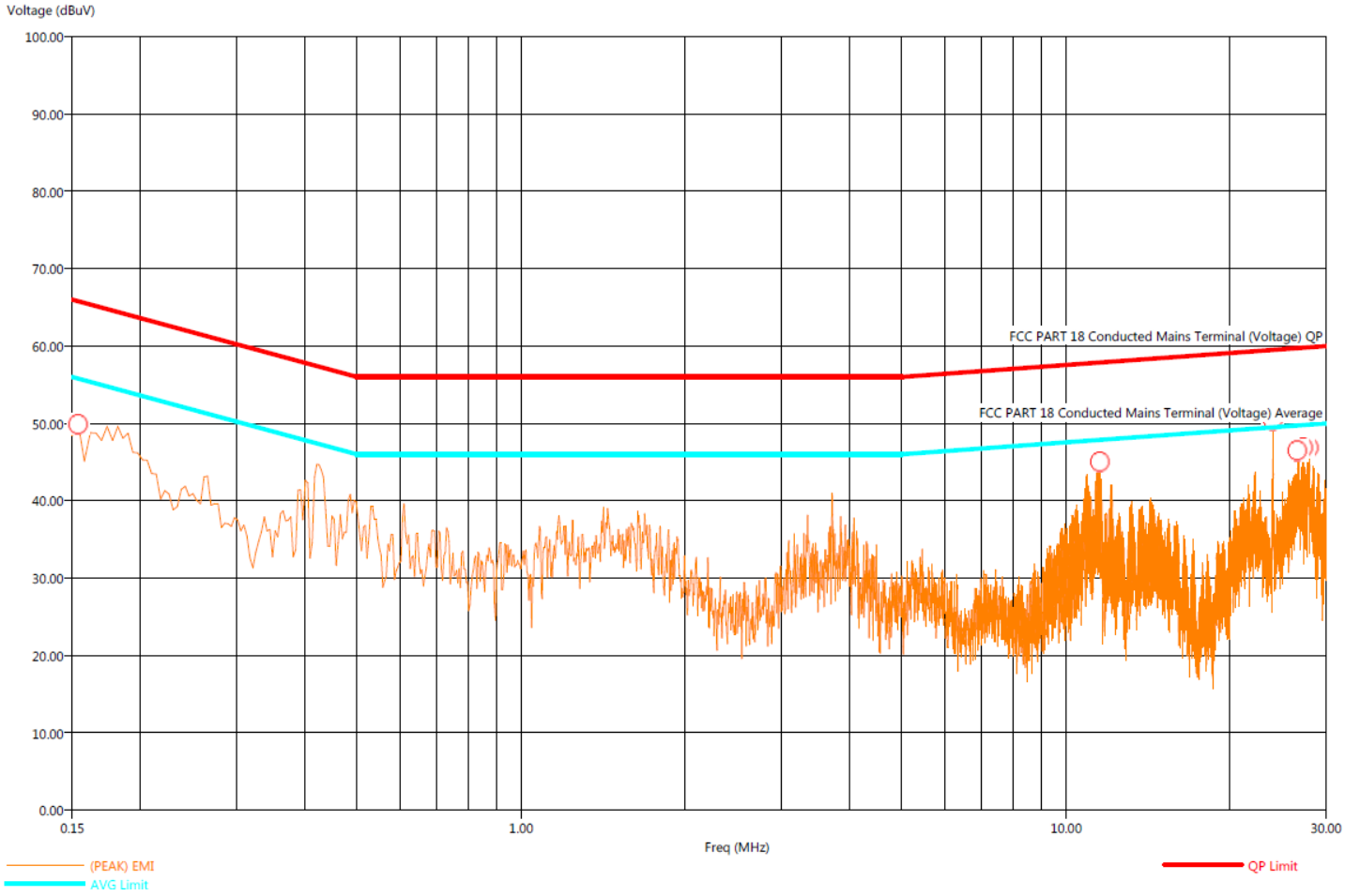
Compatible Electronics, Inc. FAC-3 (Lab P)

Freq (MHz)	Pol	(PEAK) EMI (dBµV/m)	(AVG) EMI (dBµV/m)	(PEAK)Limit (dBµV/m)	(AVG)Limit (dBµV/m)	(PEAK) Margin (dB)	(AVG) Margin (dB)	Ttbl Agl (deg)	Twr Ht (cm)
1594.00	V	42.65	24.25	76.00	56.00	-33.35	-31.75	237.00	15.25
2067.00	V	39.33	24.42	76.00	56.00	-36.67	-31.58	143.41	81.50
2141.00	V	36.90	22.52	76.00	56.00	-39.10	-33.48	244.47	236.00
2182.00	V	40.17	22.66	76.00	56.00	-35.83	-33.34	176.00	86.50
2393.00	H	36.75	22.99	76.00	56.00	-39.25	-33.01	214.82	24.75
2394.00	V	38.47	23.36	76.00	56.00	-37.53	-32.64	191.58	266.00

Test title: FCC PART 18
File: Conducted Pre-Line.set
Operator name: Johnny Le
EUT type: Diacom-Lite-FREQ/Utium
EUT condition: The EUT is scanning and generating low frequencies up to 1 MHz.
Notes: Company: Khachatur Mkrtchyan - Diacom Technology
Temp: 70f
Hum: 53%
USB powered

7/10/2020 8:44:51 AM
Sequence: Preliminary Scan

Compatible Electronics, Inc. FAC- 3 (LAB P)



Test title: FCC PART 18
File: Conducted Final-Line .set
Operator name: Johnny Le
EUT type: Diacom-Lite-FREQ/Utium
EUT condition: The EUT is scanning and generating low frequencies up to 1 MHz.
Notes: Company: Khachatur Mkrtchyan - Diacom Technology
Temp: 70f
Hum: 53%
USB powered

7/10/2020 8:57:53 AM
Sequence: Final Measurements

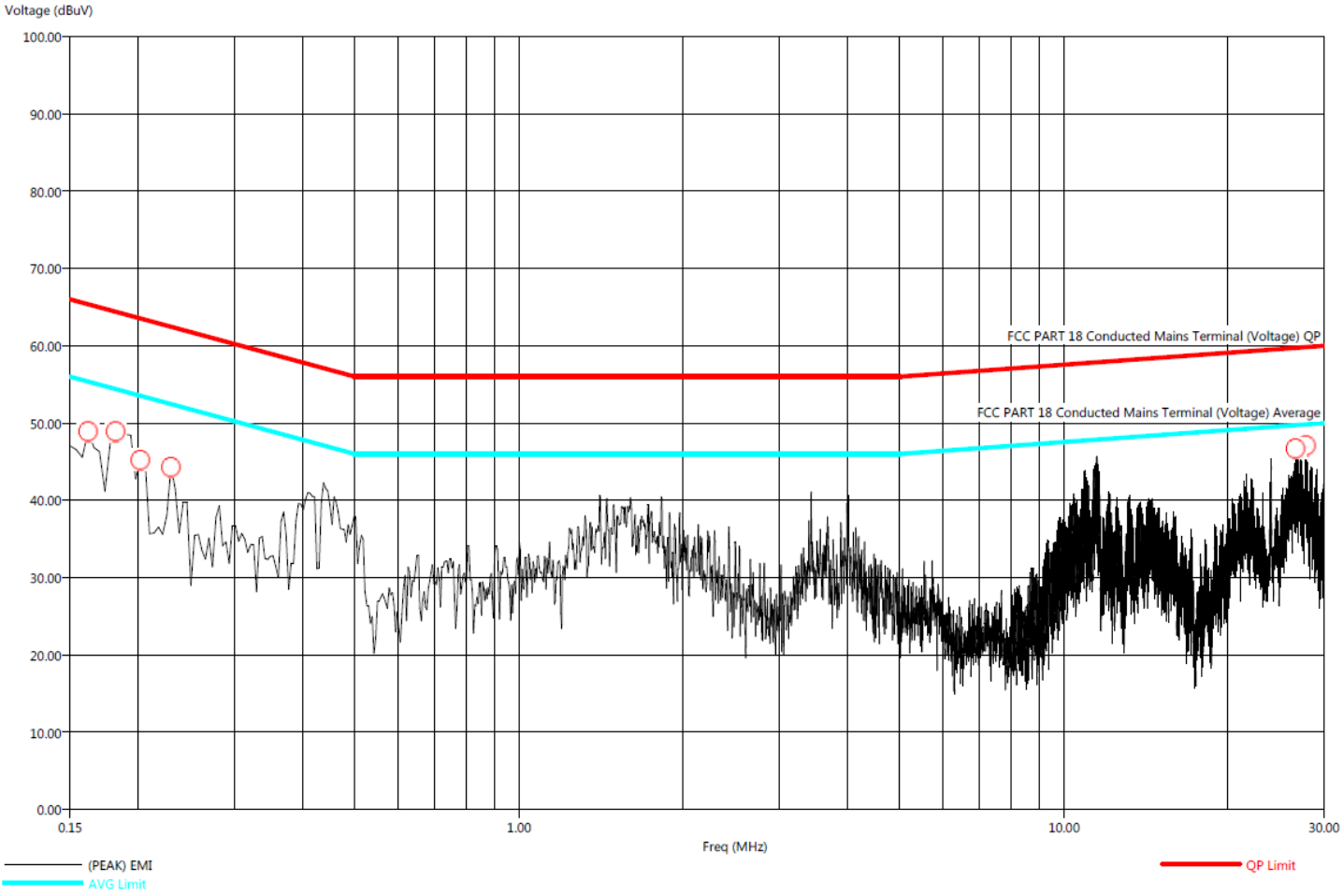
Compatible Electronics, Inc. FAC- 3 (LAB P)

Freq (MHz)	(PEAK) EMI (dBµV)	(QP) EMI (dBµV	(AVG) EMI (dBµV)	(QP) LIMIT (dBµV)	(AVG) LIMIT (dBµV)	(QP) Margin (dB)	(AVG) Margin (dB)	Cable(dB)	Transducer (dB)
0.15	61.29	57.38	50.15	65.78	55.78	-8.40	-5.63	0.01	0.43
11.56	45.63	44.22	42.28	57.87	47.87	-13.65	-5.59	0.27	0.05
24.00	51.43	47.75	40.64	59.50	49.50	-11.75	-8.86	0.36	0.28
26.60	46.33	43.77	38.36	59.73	49.73	-15.97	-11.38	0.37	0.33
27.28	46.76	45.28	41.81	59.79	49.79	-14.50	-7.97	0.38	0.35
27.96	48.14	46.08	41.22	59.84	49.84	-13.76	-8.62	0.38	0.36

Test title: FCC PART 18
File: Conducted Pre-Neutral.set
Operator name: Johnny Le
EUT type: Diacom-Lite-FREQ/Utium
EUT condition: The EUT is scanning and generating low frequencies up to 1 MHz.
Notes: Company: Khachatur Mkrtchyan - Diacom Technology
Temp: 70f
Hum: 53%
USB powered

7/10/2020 9:03:46 AM
Sequence: Preliminary Scan

Compatible Electronics, Inc. FAC- 3 (LAB P)



Test title: FCC PART 18
File: Conducted Final-Neutral.set
Operator name: Johnny Le
EUT type: Diacom-Lite-FREQ/Utium
EUT condition: The EUT is scanning and generating low frequencies up to 1 MHz.
Notes: Company: Khachatur Mkrtchyan - Diacom Technology
Temp: 70f
Hum: 53%
USB powered

7/10/2020 9:10:21 AM
Sequence: Final Measurements

Compatible Electronics, Inc. FAC- 3 (LAB P)

Freq (MHz)	(PEAK) EMI (dBµV)	(QP) EMI (dBµV	(AVG) EMI (dBµV)	(QP) LIMIT (dBµV)	(AVG) LIMIT (dBµV)	(QP) Margin (dB)	(AVG) Margin (dB)	Cable(dB)	Transducer (dB)
0.16	60.15	55.64	48.62	65.36	55.36	-9.72	-6.74	0.01	0.40
0.18	59.50	54.85	47.93	64.39	54.39	-9.55	-6.47	0.01	0.38
0.20	57.87	53.23	46.30	63.53	53.53	-10.30	-7.23	0.01	0.33
0.23	54.20	49.92	42.95	62.45	52.45	-12.53	-9.50	0.01	0.23
26.64	47.63	45.76	42.06	59.73	49.73	-13.98	-7.68	0.37	0.20
27.84	48.11	29.67	24.88	59.83	49.83	-30.16	-24.95	0.38	0.21

Supplier's Declaration of Conformity
47CFR § 2.1077 Compliance Information

IDENTIFICATION OF PRODUCT: DIACOM-Lite-FREQ-Utium

RESPONSIBLE PARTY (U.S. Contact Information)

NAME: House of HAOS Inc.

ADDRESS: 14039 Sherman Way #102, Van Nuys, CA 91405

TELEPHONE: (424) 532-1444

E-Mail: galustov.diacom@gmail.com

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

SIGNATURE OF REPRESENTATIVE

FCCINFOSTATE B-7-72 Rev C 7/27/2020