



BLUEGUIDEEMCLAB



EMC TEST REPORT

File Number :	EMC-178-2024
E.U.T. Name :	White FOx
Type :	White Fox 1.2
Serial n° tested :	23360017

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- Test results relate only to the items tested. Items under test are supplied by the test requestor
- Documents provided by the customer are not checked for compliance or under control of the laboratory

Drafted by:

Test engineer

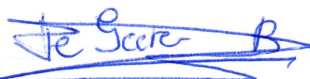
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15 Oct 2024

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16 Oct. 2023

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2. DOCUMENT REVISION STATUS

Version	Revision date	Comments
0.1	11/10/2024	Initial draft version
0.2	13/10/2024	Update after first review
1.0	15/10/2024	First official release of the report

3. TEST SPECIFICATIONS

Below the standards are listed which have been applied to the EUT during testing and whether testing was performed under ISO/IEC 17025 accreditation:

Standard references	ISO/IEC 17025 compliant
FCC Part 15, Subpart B	☒ Yes ☐ No
ICES-003, Issue 7	☒ Yes ☐ No

4. OVERVIEW OF TEST RESULTS

Test name (standard)	Test result
Radiated emissions FCC section 15.109, ICES-003 Issue 7 - section 3.2.2, according ANSI C63.4:2014	PASSED
Conducted emissions FCC Section 15.107 , ICES-003 Issue 7 – section 3.2.1 according ANSI C63.4:2014	PASSED
supplementary information: The 'Test Result' outcome shall always be one of the below possibilities: - 'PASSED': The EUT meets the requirement - 'FAILED': The EUT does not meet the requirement - 'N/A': The test does not apply to the EUT - 'NR': The test was not requested to be performed - 'Not Tested': The test was requested but is not yet performed	

In case EUT modifications were needed to obtain the above test results, the applied hardware/software changes will be listed below. It is the responsibility of the manufacturer to include all necessary modifications to ensure a compliant product when placing it on the market.

Modification_ID	description (or picture) of modification(s) to the EUT
N/A	not applicable (no changes made to the EUT).

5. GENERAL INFORMATION

5.1. Abbreviations

The below table gives an overview of the abbreviations that will be used in this report

AAN	Artificial asymmetric network	N/A	Not applicable
AMN	Artificial mains network	NR	Test not requested to be performed
CDN	Coupling-Decoupling Network	UTP	Unshielded twisted pair
CMAD	Common mode absorption device	RF	Radio frequency
EUT	Equipment under test	SAR	Semi-anechoic chamber
GRP	Ground reference plane	STP	shielded twisted pair
ISN	Impedance stabilization network		
LISN	Line impedance stabilization network		

5.2. Test location

Testing of this product has been performed by Blue Guide EMC lab, located in Joseph Cardijnstraat 21, Erpe-Mere, Belgium. The lab is certified according ISO/IEC 17025:2017 and identified as 082-TEST. The scope of accreditation can be found at https://ng3.economie.fgov.be/Nl/belac/Labotesting/scope_pdf/082-TEST.pdf.

Measurements are performed in a 3m semi-anechoic chamber which is registered with Federal Communications Commission (FCC, BE0001) The chamber is calibrated for Normalized Site Attenuation (NSA) using test procedures outlined in ANSI C63.4 "Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz". The chamber is lined with ferrite tiles and absorption cones to minimize any undesired reflections. The NSA data is kept on file in the lab.

Testing has been performed in a controlled laboratory environment. The climatic conditions are maintained within the below indicated range. If a test requires more stringent environmental conditions, the actual measured values at the time of measurement will be indicated in the test report.

Ambient temperature :	18 °C - 26 °C
relative air humidity :	20 % - 70 %

5.3. Requestor details

Information related to the client requesting testing to be performed.

Contact person :	Jan Delvaux
Company name :	FOx BIOSYSTEMS NV
Address :	Bioville Agoralaan Abis 3590 Diepenbeek
Country :	Belgium
Tel/Fax number :	---
Mobile phone number :	+32 470 95 50 59
VAT number :	---

5.4. Manufacturer details

Information related to the legal responsible (manufacturer) of the EUT.

Company name :	FOx BIOSYSTEMS NV
Address :	Bioville Agoralaan Abis 3590 Diepenbeek
Country :	Belgium

5.5. General project information – documentation

Quotation reference :	BGEMC-24-316
Purchase order number :	PO_FBM2400044
Date(s) of arrival – departure of EUT :	11/10/2024 – 11/10/2024
Date(s) of test execution :	11/10/2024
Name of witness present during test :	Rob Vansweevelt
Subcontracting by third party :	☐ Yes ☒ No
List of subcontracted tests and name of subcontractor(s) :	not applicable

The below information was provided by the client to the test lab:

User manual :	☒ Yes ☐ No (WHITE FOX 1.2_User Manual.pdf)
Other information :	☐ Yes ☒ No

5.6. EUT Identification

BGEMC EUT identification number :	EMC-178-2024
Name :	White FOx
Model :	White FOx 1.2
Type :	---
Serial number :	2330017
Trademark(s) :	---
Brand(s) :	---

5.7. EUT subparts identification

If the system under test consists out of different subparts which are assembled together to form the EUT under test, the identification of the different subparts can be found below. (if applicable)

Subpart 1 present? :	☐ Yes ☒ No
BGEMC EUT identification subpart number :	
Name :	
Model :	
Type :	

5.8. EUT additional information

Intended environment (*) : (indicate in which environment the EUT will most likely be located)	☐ Residential ☒ Commercial ☐ Industrial ☐ Medical ☐ Other:
Firmware / Hardware version (*) :	Firmware: fox_controlboard_1.0.0b11.hex/fox_oasboard_1.0.0b2.hex
Short description of the EUT functionality :	The White FOx uses an innovative fiber-optic probe setup which combines a fluidics-free dip-in protocol with the precision and speed of surface plasmon resonance (SPR).
Mounting position (*) :	☒ Table top equipment ☐ Wall/ceiling mounted equipment ☐ Floor standing equipment ☐ Hand-held equipment ☐ Other:
Maturity status of sample (*) :	☐ early development prototype ☐ mature development prototype ☒ production sample
Dimensions (LxWxH) [cm] :	45 x 43 x 42
Weight [kg] :	24.5
Input supply voltage range : (according typeplate)	100 - 240V 50/60Hz (Tested at 120V/60Hz)

(*) This information is under the authority and sole responsibility of the manufacturer (legal responsible)

5.9. Input and output ports (EUT cables)

The below table lists the cables connected to the EUT during the test

Cable_ID	Type(*)	Port Name / description / function	Shielded? (Yes/No)	length during the test(m)	Max. installation length (m)
1	AC	AC Power	No	1.8	1.8
2	COM	USB/Control	Yes	1.8	1.8
3					
4					
5					
6					
7					
8					
9					
(*) Note: abbreviations used: AC = AC Power Port SIG = Signal cable (f.e. analog/digital outputs) NEP = Non-Electrical Port (f.e. Fiber, pneumatic,...)			DC = DC Power Port COM = Communication interface (Ethernet, serial port, CAN bus, USB,...) PCP = Patient-coupled port		

5.10. EUT internal operating frequencies

List all the EUT operating frequencies (XTAL's, PLL's both internal and external, PWM's, buck & boost convertors,...) Based on this information the highest internal clock frequency used will be derived. This will determine the highest measurement frequency during the radiated emissions test.

Clock	Description	Frequency (MHz)
1	CTRL: XT4: XTAL for FT4232H	12
2	CTRL: XT1: XTAL for LPC1769FBD100	12
3	CTRL: XT2: XTAL for LPC1769FBD100	0.032768
4	CTRL: XT3: XTAL for USB7002	25
5	CTRL: U4: Oscillator for U3 en U5	16
6	CTRL: U14: LT8610 Stepdown regulator	0.844
7	CTRL: U15: LT8610 Stepdown regulator	0.891
8	CTRL: LT8610 U17: Stepdown regulator	0.580
9	CTRL: U6 : LPC1769FBD100 Controller	96
10	CTRL: U10: FT4232H usb to serial converter	12-480
11	CTRL: U6: USB7002 USB hub	-
12	CTRL: U13: DRV103H PWM driver	0.025
13	OAS: XT1: XTAL for LPC1769FBD100	12
14	OAS: XT2: XTAL for LPC1769FBD100	0.032768
15	OAS: XT3: XTAL for FT4232H	12
16	OAS: U10: PWM modulator	0.025
17	OAS: U8: LT8610 Stepdown regulator	0.891
18	OAS: U9: LT8610 Stepdown regulator	0.844
19	OAS: U12: LT8609A Stepdown regulator	2
20	OAS: U2: LPC1769FBD100 Controller	96
21	OAS: U4: LTC2609 DAC	0.18
22	OAS: U6: FT4232H usb to serial converter	12-480
23	Spectrometers	100

5.11. EUT operational modes

The below table describes the different operational modes which have been tested. The different operational modes listed below are not necessarily used for all tests performed. The 'Operational mode number' is referred to by each separate test to clarify the operational state of the EUT during each test.

Operational mode	Description of operational mode(s) of the EUT
1	Measurement running. OAS LEDs turned on. Heater and shaker on during this test.

5.12. Associated equipment identification

The equipment listed below is needed to exercise the full functionality of the EUT and/or to evaluate the performance during immunity testing.

Type	Manufacturer	Model	Serial number
PC	Dell	D17S	8GWKM44
Monitor	Dell	P2425H	CN-0WNW3X
Keyboard	Dell	DB216t1	CN-063Y55-LO300-421-0BTK-A04
Mouse	Dell	MS116t1	CN-06K5F-LO300-431-0D7L

5.13. Related EUT models

The listed related models below are declared to be identical to the unit submitted for testing. Differences should relate only to possible removal of features or cosmetic aspects and do not relate to features that could influence the EMC behaviour of the product. This list is under the authority and sole responsibility of the client.

NA	

5.14. EUT set-up instructions

The EUT is plugged into the AC power. The EUT is connected via USB to a desktop PC. On the desktop PC the software is launched which enables the heater, shaker and measurement cycle.

5.15. Marking and labelling requirements

The below warning message shall be included in the instructions for use (user manual) :

Class B	This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: —Reorient or relocate the receiving antenna. —Increase the separation between the equipment and receiver. —Connect the equipment into an outlet on a circuit different from that to which the receiver is connected. —Consult the dealer or an experienced radio/TV technician for help.
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Furthermore products that are not intentional radiators according FCC the product shall bear the following statement in a conspicuous location on the device: (See FCC 15, Subpart A, Section 15.19) When the device is so small or for such use that it is impracticable to label it with the statement specified below, in a font that is four-point or larger, and the device does not have a display that can show electronic labeling, then the information required by this paragraph shall be placed in the user manual and must also either be placed on the device packaging or on a removable label attached to the device.

Where a device is constructed in two or more sections connected by wires and marketed together, the statement specified is required to be affixed only to the main control unit.

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.

In case the product contains other FCC certified wireless transmitters inside, the FCC identifier or other unique identifier such as model number and serial number must be specified on the device. Further guidance can also be found in the FCC knowledge database (see KDB784748 – labelling and user information)

Products marketed within Canada:

The requirements specified in ICES-Gen shall apply. An example ISED compliance label, to be placed on each unit of an equipment model (or in the user manual, if allowed), is given below:

CAN ICES-003(*) / NMB-003(*)

* Insert either “A” or “B”, but not both, to identify the applicable Class of the device used for compliance verification.

The above label is only an example. The specific format is left to the manufacturer to decide, as long as the label includes the required information, in accordance with ICES-Gen.

6. RADIATED EMISSIONS

6.1. Measurement uncertainty

Compliance or non-compliance with a disturbance limit shall be determined in the following manner.

- If U_{CAL} is less than or equal to U_{CISPR} of Table 1 in CISPR 16-4-2:2011 + AMD1:2014 + AMD2:2018:
 - compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;
 - non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.
- If U_{CAL} is greater than U_{CISPR} of Table 1 in CISPR 16-4-2:2011 + AMD1:2014 + AMD2:2018:
 - compliance is deemed to occur if no measured disturbance level, increased by $(U_{CAL}-U_{CISPR})$, exceeds the disturbance limit;
 - non-compliance is deemed to occur if any measured disturbance level, increased by $(U_{CAL}-U_{CISPR})$, exceeds the disturbance limit.
- At Blue Guide EMC lab the following uncertainty values are calculated:

Measurement in SAR at 3m distance	U_{CISPR} [dB]	U_{CAL} [dB]
30 MHz – 1 GHz (Vertical)	6.3	5.4
30 MHz – 1 GHz (Horizontal)	6.3	4.5
1 GHz – 6 GHz	5.2	3.7
6 -18 GHz	5.5	5.3

The reported calculated uncertainty (based on the guidance for the calculation of the instrumentation uncertainty as specified in CISPR 16-4-2) is based on a standard uncertainty multiplied by a coverage factor $k = 2$, providing a level of confidence of approximately 95%.

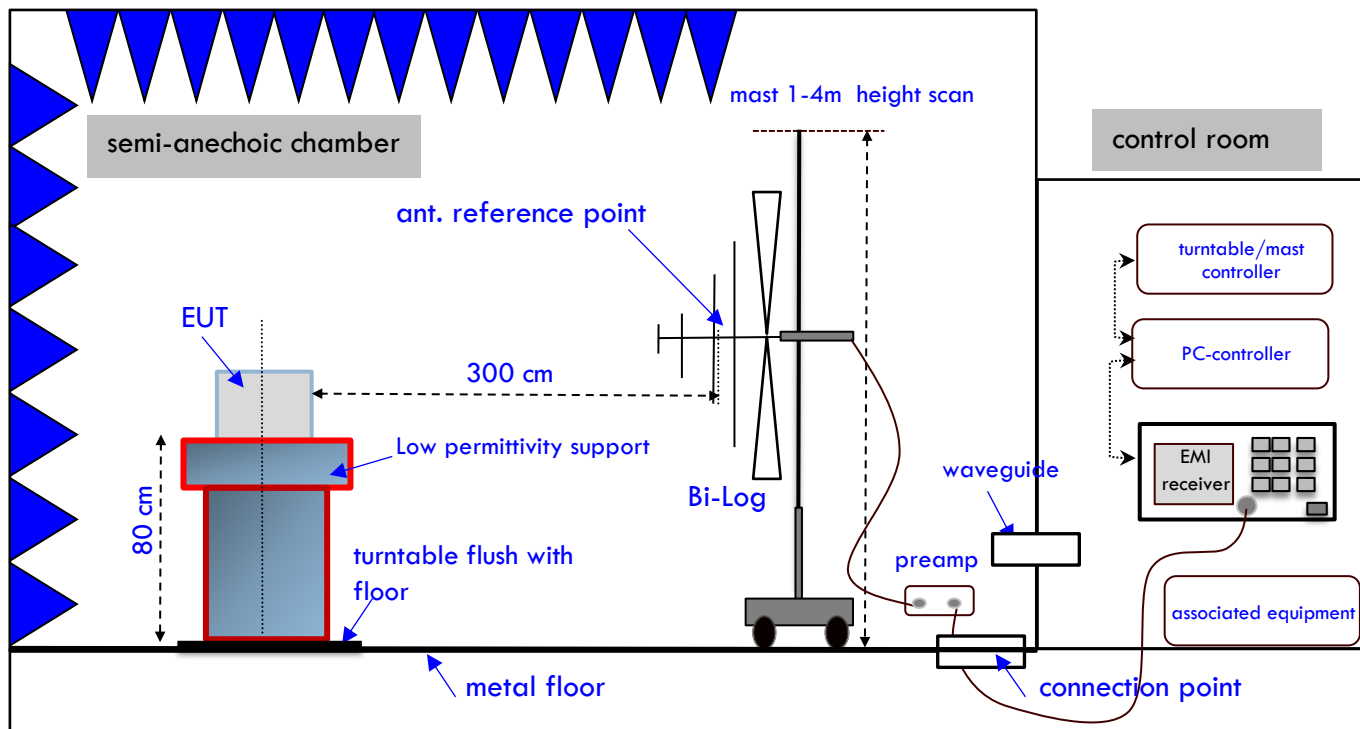
6.2. Test information

The purpose of the radiated emission test is to measure the level of RF unintentional energy emitted from the EUT. The level should not exceed the limit levels as defined in the applicable test standard. This to protect f.e. broadcast radio services, emergency services and other equipment in the vicinity of the EUT from unwanted interference. The RF levels are captured using a receiving antenna and after pre-amplification, measured by an RF measurement receiver.

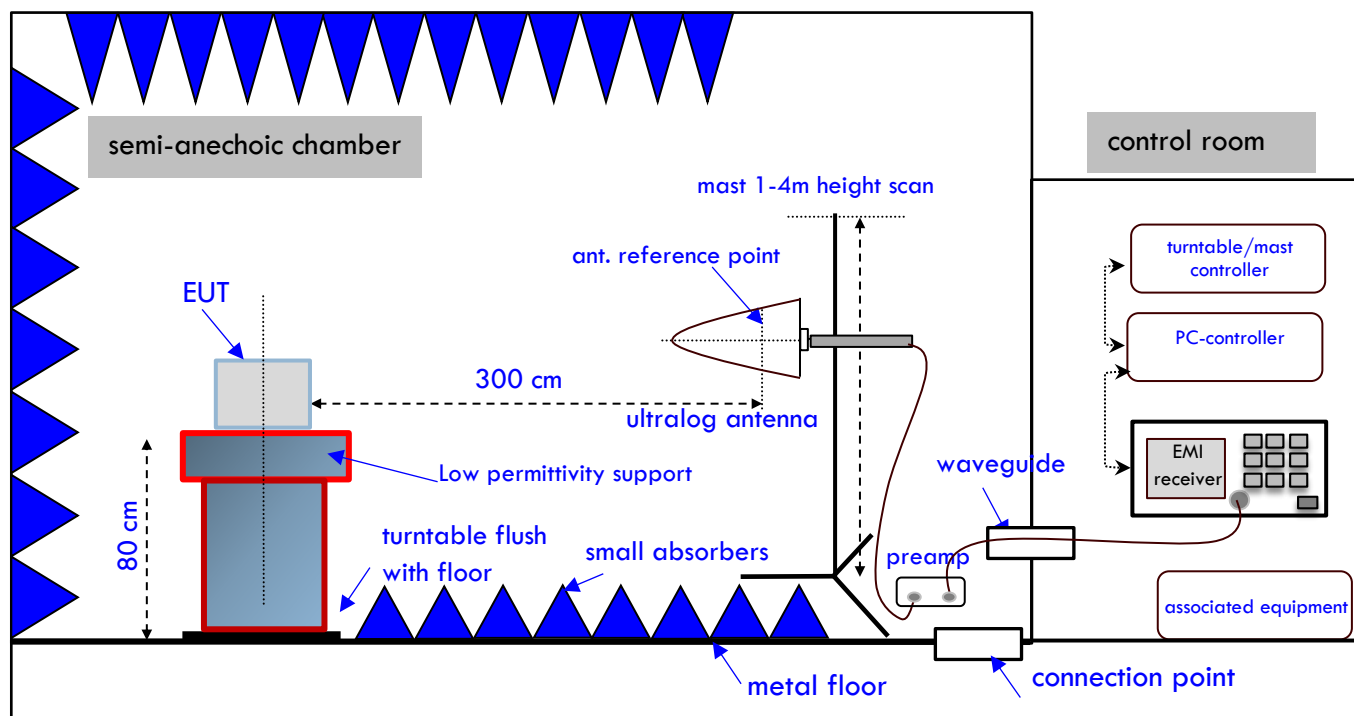
During the pre-scan, the turntable is rotated 360° in discrete 45° steps to determine the approximate position of maximum emission. Frequency sweeps are performed at 1 and 3m height of the antenna. (for both horizontal and vertical polarization).

After the pre-scan has finished, the frequencies which are closest to the limit line are further maximized by changing the receiving antenna between 1 and 4 m height and optimizing the turntable angle. The final measurement is performed with the appropriate detectors and receiver bandwidth settings and a dwell time of at least 1 second. (see measurement result for used settings)

Typical test set-up frequency range 30 MHz - 1 GHz: (see pictures for the actual set-up)



Typical test set-up frequency range >1 GHz: (see pictures for the actual set-up)



The EUT is placed on a low permittivity support (80cm above the ground plane for table-top equipment). This support is mounted on a turntable which is flush with the floor level. This support is removed when floor-standing equipment is tested.

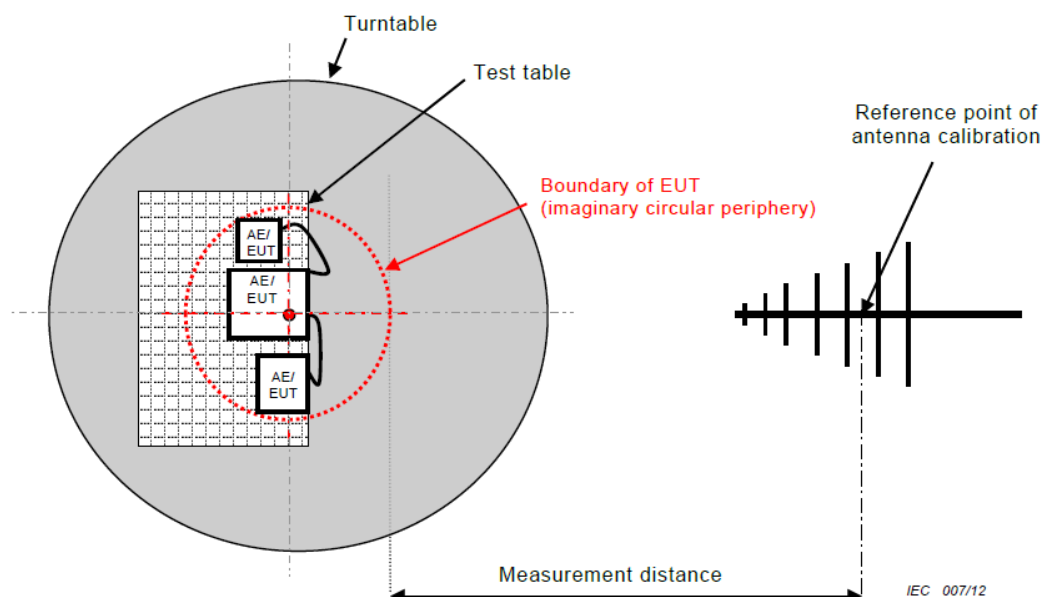
For tabletop systems, the EUT shall be centered laterally (left to right facing the tabletop) on the tabletop, and its rear shall be flush with the rear of the table. Unless it would practically not be feasible or unsafe to do so. The pictures taken shall visualize the test set-up used. If the EUT is a stand-alone unit, its center shall be located over the center of the turntable.

6.2.1. Measured frequency range

In accordance with FCC Part 15, Subpart A, Section 15.33 the highest measurement frequency is determined according the below table:.

Highest frequency generated or used in the device or on which the device operates or tunes (MHz)	Upper frequency of measurement range ($F_{\max}$) (MHz)
Below 1.705	30
1.705-108	1000
108-500	2000
500-1000	5000
Above 1000	5th harmonic of the highest frequency or 40 GHz, whichever is lower. (the highest possible measurement frequency at BGEMC = 18 GHz)

6.2.2. Limit lines – Measurement distance



In accordance with FCC Part 15, section 15.31(f)(1), testing was performed at a 3 meter measurement distance and an extrapolation factor of 20 dB/decade was applied. (The extrapolation of 10m to 3m is $20\log(10/3) = 10.5$ dB.)

The below limits (< 1 GHz) are defined in FCC Part 15, Section 15.109 for Class A / Class B:

Frequency Range	Quasi-peak (dB μ V/m) Class A	Quasi-peak (dB μ V/m) Class B
30 MHz – 88 MHz	49.5	40
88 MHz – 216 MHz	54	43.5
216 MHz – 960 MHz	57	46
960 MHz – 1 GHz	60	54

The below limits (< 1GHz) are defined in ICES-003 Issue 7, section 3.2.2 :

Frequency Range	Quasi-peak (dB μ V/m) Class A	Quasi-peak (dB μ V/m) Class B
30 MHz – 88 MHz	50	40
88 MHz – 216 MHz	54	43.5
216 MHz – 230 MHz	56.9	46
230 MHz – 960 MHz	57	47
960 MHz – 1 GHz	60	54

FCC Part 15, Section 15.109 and ICES-003 Issue 7, section 3.2.2 define the same limits for measurements above 1 GHz:

Frequency Range	Peak (dB μ V/m) Class A	Average (dB μ V/m) Class A	Peak (dB μ V/m) Class B	Average (dB μ V/m) Class B
1 – F_{max} GHz	80	60	74	54

For Class B EUTs the difference between FCC Part 15, Subpart B limits and ICES-003 Issue 7 limits is equal or less than 1 dB. If the test result complies with FCC Part 15, Subpart B then the product is deemed to comply with ICES-003 Issue 7 limit.

6.3. Test results

6.3.1. Overview of tests performed

Test ID	Drawing reference	Operational mode	Frequency range	Limit class	Supply voltage
T01	N/A	1	30 MHz – 1 GHz	Class B	120V/60Hz
T01b	N/A	1	30 MHz – 1 GHz	Class B	120V/60Hz
T02	N/A	1	1 GHz – 18 GHz	Class B	120V/60Hz

List of the applied software/hardware modifications to the EUT during each test

Test ID	Modification_ID (see par. 4)	other test set-up information
N/A	N/A	

A Common mode absorption device (CMAD) was applied to the below listed cables (cable_ID references see par. 5.9)

CMAD	CMAD applied to cable(s) with Cable_ID
1	N/A
2	
3	

Test Verdict:

Test ID	Test Result	Remarks / observations
T01	PASS	The emissions are below the limit line
T01b	PASS	The emissions are below the limit line An additional test was done (using the prescan of T1, to ensure that at least 6 points were measured in Quasi-Peak)
T02	PASS	The emissions are below the limit line

6.3.2. Measurement result clarification

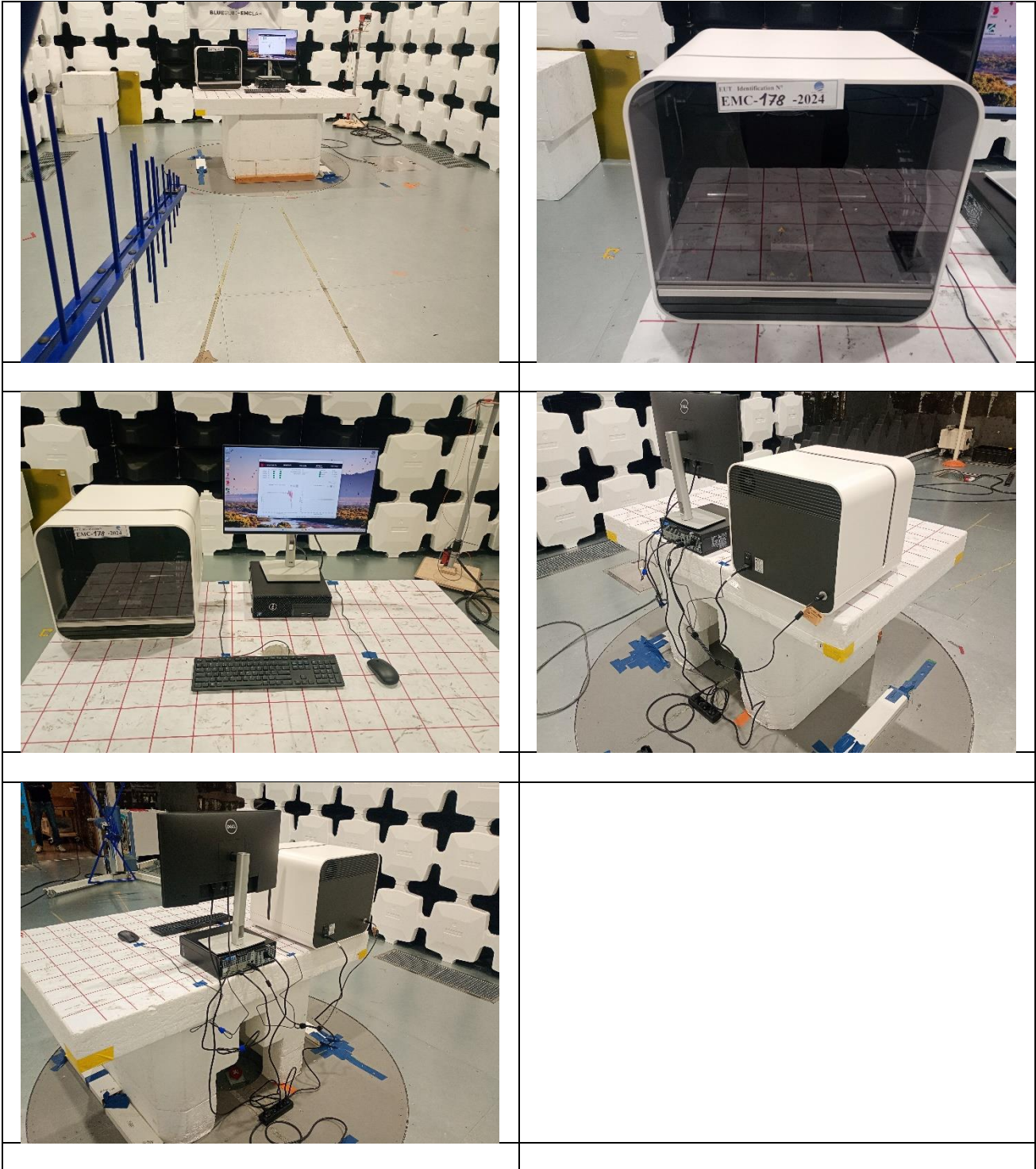
The reported radiated emission level (dBµV/m) in the "Final_result tables" on the measurement result pages should be interpreted as follows:

Level (dBµV/m) = Raw value (dBµV) + Correction factor (dB/m)

- Correction factor (dB/m) = Antenna factor (dB/m) + cable factor (dB) - pre-amplifier factor (dB)
- Raw value (dBµV) = level measured by the RF measurement receiver

6.3.3. Pictures test set-up (30 MHz - 1 GHz)

6.3.3.1. TEST ID = T1 & T1B



6.3.4. Pictures test set-up (>1 GHz)

6.3.4.1. TEST ID = T2



7. CONDUCTED EMISSIONS

7.1. Measurement uncertainty

Compliance or non-compliance with a disturbance limit shall be determined in the following manner.

- If U_{CAL} is less than or equal to U_{CISPR} of Table 1 in CISPR 16-4-2:2011 + AMD1:2014 + AMD2:2018:
 - compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;
 - non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.
- If U_{CAL} is greater than U_{CISPR} of Table 1 in CISPR 16-4-2:2011 + AMD1:2014 + AMD2:2018:
 - compliance is deemed to occur if no measured disturbance level, increased by $(U_{CAL}-U_{CISPR})$, exceeds the disturbance limit;
 - non-compliance is deemed to occur if any measured disturbance level, increased by $(U_{CAL}-U_{CISPR})$, exceeds the disturbance limit.
- At Blue Guide EMC lab the following uncertainty values are calculated:

AC (single phase) / DC power ports with ESH3-Z5 (AMN)	U_{CISPR} [dB]	U_{CAL} [dB]
9 kHz – 150 kHz	3.8	2.7
150 kHz – 30 MHz	3.4	1.6

AC (single phase) / DC power ports with NNLK 8122 (AMN)	U_{CISPR} [dB]	U_{CAL} [dB]
9 kHz – 150 kHz	3.8	2.2
150 kHz – 30 MHz	3.4	1.6

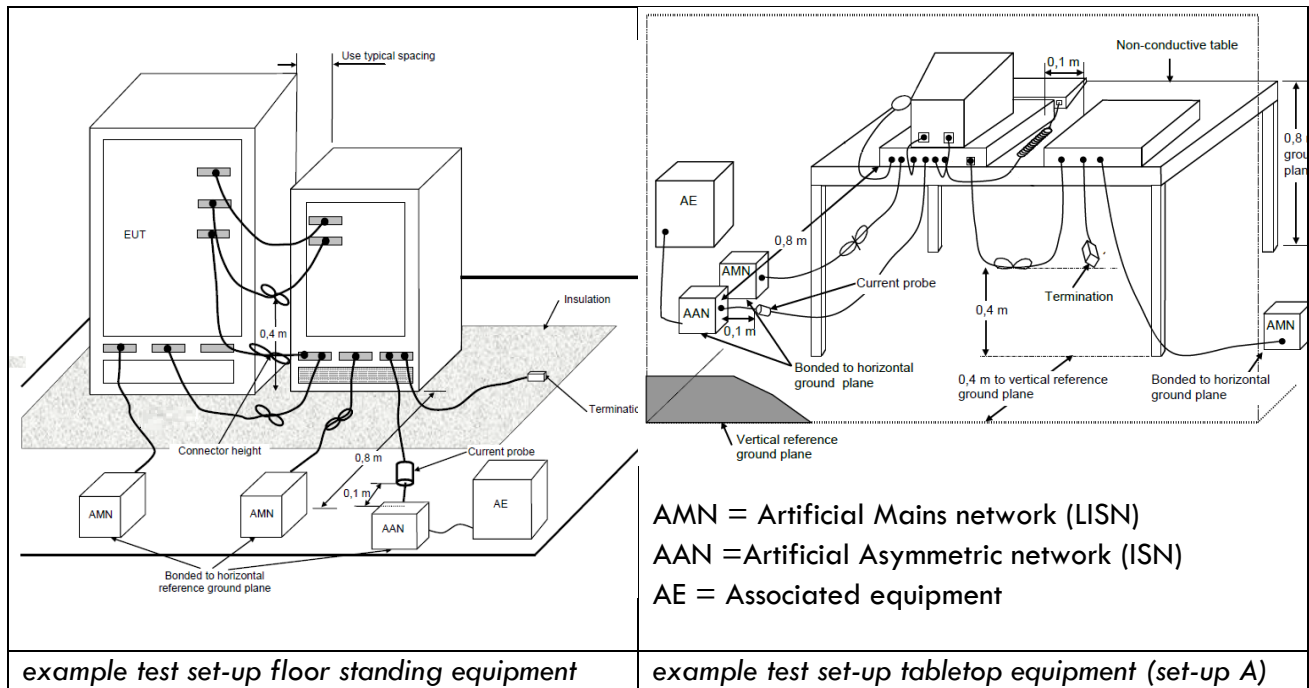
AC (three phase) with Narda L3-32 (AMN)	U_{CISPR} [dB]	U_{CAL} [dB]
9 kHz – 150 kHz	3.8	2.4
150 kHz – 30 MHz	3.4	1.9

The reported calculated uncertainty (based on the guidance for the calculation of the instrumentation uncertainty as specified in CISPR 16-4-2) is based on a standard uncertainty multiplied by a coverage factor $k = 2$, providing a level of confidence of approximately 95%.

7.2. Test information

The purpose of this test is to make sure that unintentional conducted RF energy emitted from the EUTs power port (AC) does not exceed the levels defined by the standard. This to protect lower frequency RF broadcasts (amateur radio, CB radio, maritime radio, shortwave radio,...) against interference.

These unintentional transmissions will spread using the power distribution network to radiate more efficiently than it could do so by itself. (as lower frequencies require longer antenna structures to do so)



7.2.1. Limit lines

The method used for the measurement is as defined in ANSI C63.4. The limits are as defined in FCC Part 15 Section 15.107 and ICES-003 Issue 7 Section 3.2.1

Frequency Range (MHz)	Quasi-peak Class A (dBμV)	Average Class A (dBμV)	Quasi-peak Class B (dBμV)	Average Class B (dBμV)
0.15- 0.5	79	66	66 to 56 ⁽¹⁾	56 to 46 ⁽¹⁾
0.5 - 5	73	60	56	46
5 – 30	73	60	60	50

Note: The most stringent limit applies at the transition frequencies. Both Quasi-peak and average limit lines are applicable and used to judge compliance.

(1) Decreases linearly with the logarithm of the frequency

Test set-up description:	☒	Tabletop equipment set-up (80 cm above ground plane)
	☐	Floor standing equipment set-up (10 cm above ground plane)
	☐	Other:
	☐	Artificial hand applied

7.3. Test results

7.3.1. Overview of tests performed

Test method ID:		Method used to measure conducted emissions
1	☒	Artificial mains network (LISN)
2	☐	Artificial mains network used as voltage probe
3	☐	Voltage probe

Test ID	Drawing reference	Operational mode	Test method ID	Port type	Frequency range	Limit class
T03	N/A	1	1	AC Power	150 kHz – 30 MHz	Class B
T05	N/A	1	1	AC Power	150 kHz – 30 MHz	Class B

List of the applied software/hardware modifications to the EUT during each test

Test ID	Modification_ID (see par. 4)	other test set-up information
N/A	N/A	

Test Verdict:

Test ID	Test result	Remarks / requests from the client
T03	PASS	The emissions are below the limit line Test performed measuring the emissions of the entire system
T05	PASS	The emissions are below the limit line Test performed measuring the emissions of the EUT

7.3.2. Measurement result clarification

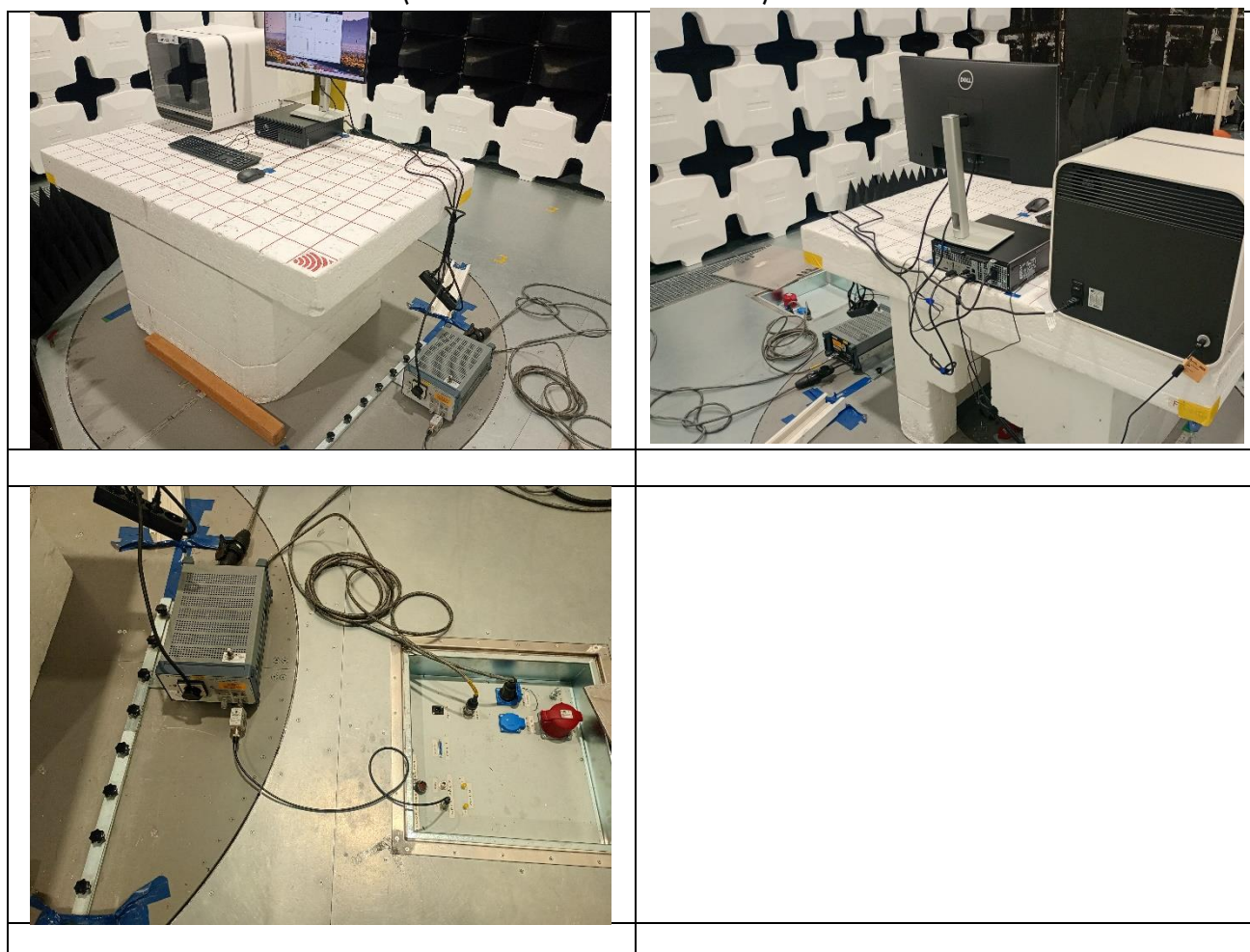
The reported conducted emission levels (dB μ V) in the "Final_Result tables" on the measurement result pages should be interpreted as follows:

The "Average and QuasiPeak Levels" (dB μ V) = Raw Value (dB μ V) + Correction Factor (dB)

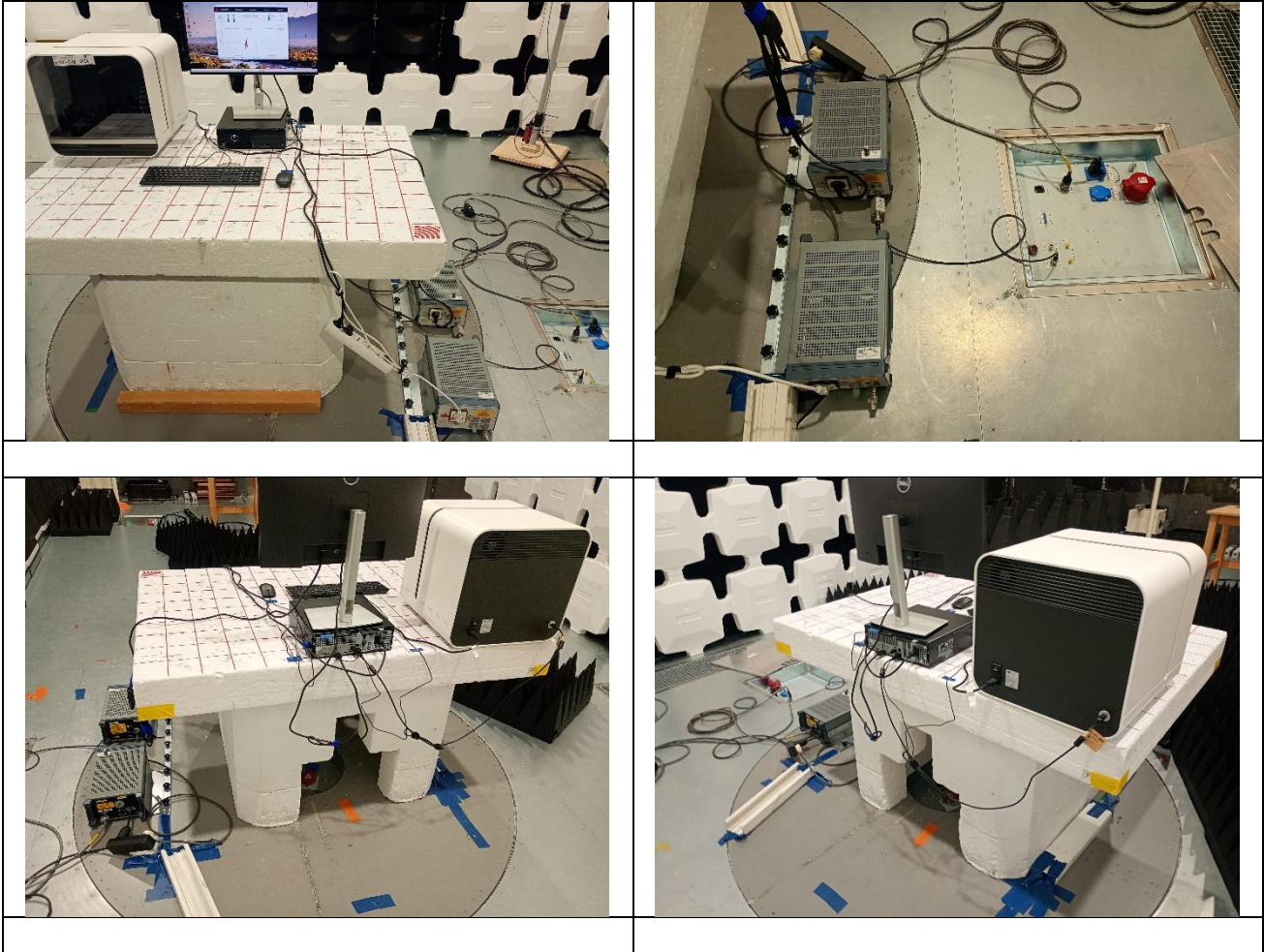
- Correction factor (dB) = LISN factor (dB) + Cable factor (dB) + Transient limiter (optional) (dB)
- Raw value (dB μ V) = level measured by the RF measurement receiver

7.3.3. Pictures test set-up 'Power port' (150 kHz - 30 MHz)

7.3.3.1. TEST ID = T03 (MEASURED AS A SYSTEM)



7.3.3.2. TEST ID = T04 (MEASUREMENT ON EUT)



8. MEASUREMENT RESULTS

MEASUREMENT RESULTS

Radiated emission measurement

EUT Information

BGEMC number:	EMC-178-2024
EUT Name:	White FOx 1.2
EUT Type/Model:	---
Manufacturer:	FOx Biosystems
HW version:	---
Serial number:	23360017
Comment:	T01
Operational Mode:	1 - Emission test mode
Power Supply:	120V/60Hz
Standard used:	FCC sec 15.109 (ANSI C63.4:2014) : Radiated emissions (30MHz-1GHz)
Operator	Thomas Verniest

Hardware Setup: EMI radiated\RE 30M-1G - [EMI radiated]

Subrange 1	
Frequency Range:	30 MHz - 1 GHz
Receiver:	ESW 44 [ESW 44] @ VISA (ADR TCPIP::ESW44-101754::hislip0::INSTR), SN 1328.4100K44/101754, FW 3.00
Signal Path:	EMI RECEIVER-CBL6111 FW 1.0 Correction Table: Preamp CPA9231A (PEMC 01-038K) Correction Table: Cable Pasternack PE3C0689-100CM (PEMC 01-106K) Correction Table: AP CP2(EMISSION)-Control R (EMI ANT AR) Correction Table: Cable (PEMC 01-109K)
Antenna:	CBL6111D 3m (PEMC 01-103K) Correction Table (vertical): CBL6111D 3m (PEMC 01-103K) Correction Table (horizontal): CBL6111D 3m (PEMC 01-103K)
Antenna Tower:	HCM (PEMC 01-002) [HCM/RSM Antenna Tower] @ GPIB0 (ADR 15), SN 0, FW 1.06
Turntable:	EMControl Turntable [EMControl Turntable] @ GPIB0 (ADR 7), FW 2.6.3

EMI Auto Test Template: FCC 15.109 RE 30M-1G Class B

Hardware Setup: RE 30M-1G
Measurement Type: Open-Area-Test-Site (SAC/FAR)
Frequency Range: 30 MHz - 1 GHz
Graphics Level Range: 0 dB μ V/m - 80 dB μ V/m

Preview Measurements:
Sweep Test Template: FCC 15.109 RE 30M-1G Pre

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
Receiver: [ESW 44]					
30 MHz - 230 MHz	20 kHz	PK+	120 kHz	Coupled	0 dB
230 MHz - 1 GHz	55 kHz	PK+	120 kHz	Coupled	0 dB

Data Reduction:
Limit Line #1: FCC 15.109 F 3M ClassB QP
Peak Search: 6 dB , Maximum Results: 24
Subrange Maxima: 0 Subranges , Maxima per Subrange: 1
Acceptance Offset: -6 dB
Maximum Number of Results: 6

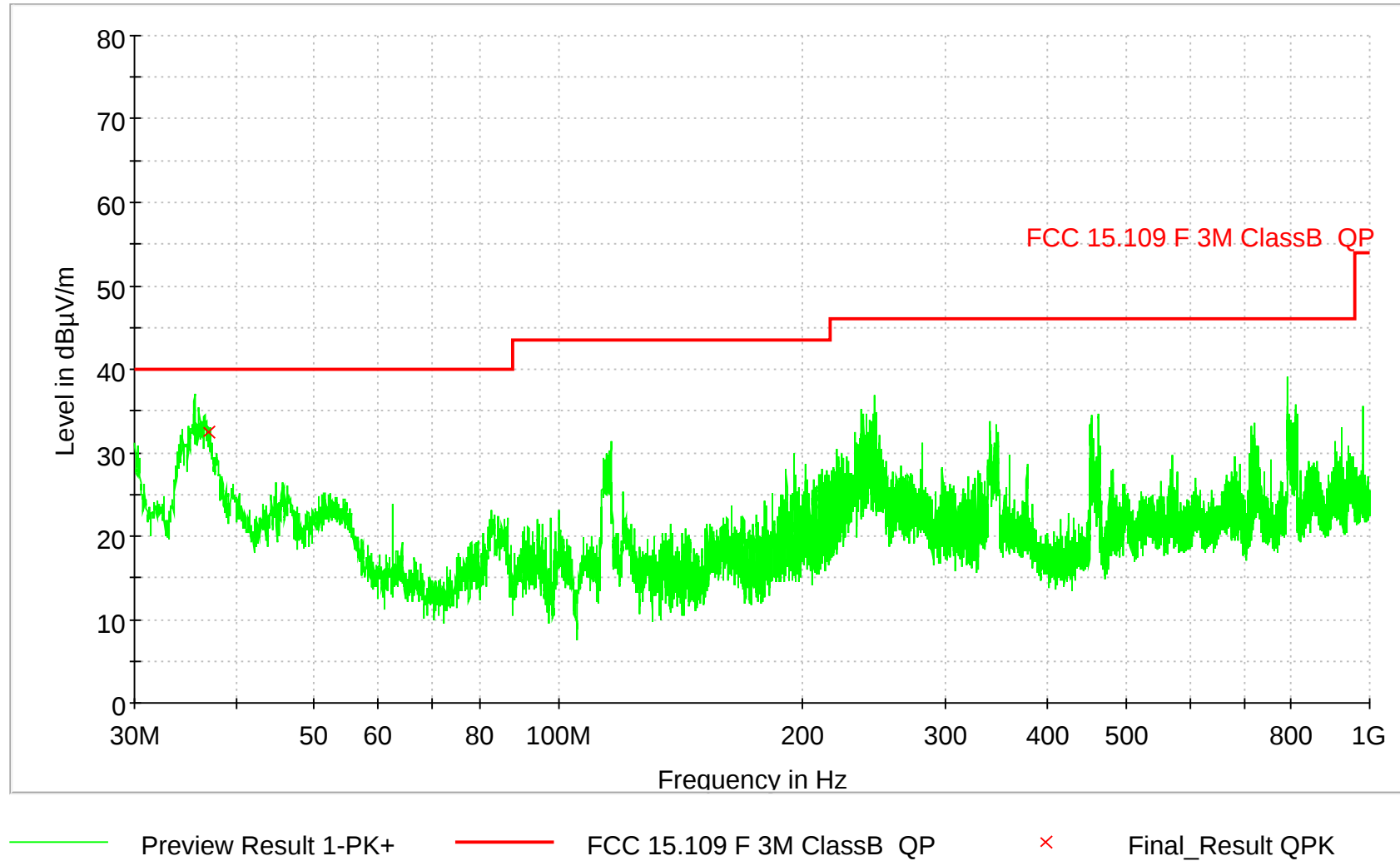
Frequency Zoom:
Zoom Scan Template: FCC 15.109 RE 30M-1G Max

Adjustment:
Template for Single Meas.: FCC 15.109 RE 30M-1G Max

Final Measurements:
Template for Single Meas.: FCC 15.109 RE 30M-1G Fin

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
Receiver: [ESW 44]					
30 MHz - 1 GHz	40 kHz	QPK	120 kHz	1 s	0 dB

Full Spectrum



Final Result

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
37.080000	32.48	40.00	7.52	1000.0	120.000	104.0	V	73.0	-13.0

Radiated emission measurement

EUT Information

BGEMC number:	EMC-178-2024
EUT Name:	White FOx 1.2
EUT Type/Model:	---
Manufacturer:	FOx Biosystems
HW version:	---
Serial number:	23360017
Comment:	T01
Operational Mode:	1 - Emission test mode
Power Supply:	120V/60Hz
Standard used:	FCC sec 15.109 (ANSI C63.4:2014) : Radiated emissions (30MHz-1GHz)
Operator	Thomas Verniest

Hardware Setup: EMI radiated\RE 30M-1G - [EMI radiated]

Subrange 1	
Frequency Range:	30 MHz - 1 GHz
Receiver:	ESW 44 [ESW 44] @ VISA (ADR TCPIP::ESW44-101754::hislip0::INSTR), SN 1328.4100K44/101754, FW 3.00
Signal Path:	EMI RECEIVER-CBL6111 FW 1.0 Correction Table: Preamp CPA9231A (PEMC 01-038K) Correction Table: Cable Pasternack PE3C0689-100CM (PEMC 01-106K) Correction Table: AP CP2(EMISSION)-Control R (EMI ANT AR) Correction Table: Cable (PEMC 01-109K)
Antenna:	CBL6111D 3m (PEMC 01-103K) Correction Table (vertical): CBL6111D 3m (PEMC 01-103K) Correction Table (horizontal): CBL6111D 3m (PEMC 01-103K)
Antenna Tower:	HCM (PEMC 01-002) [HCM/RSM Antenna Tower] @ GPIB0 (ADR 15), SN 0, FW 1.06
Turntable:	EMControl Turntable [EMControl Turntable] @ GPIB0 (ADR 7), FW 2.6.3

EMI Auto Test Template: FCC 15.109 RE 30M-1G Class B

Hardware Setup: RE 30M-1G
Measurement Type: Open-Area-Test-Site (SAC/FAR)
Frequency Range: 30 MHz - 1 GHz
Graphics Level Range: 0 dB μ V/m - 80 dB μ V/m

Preview Measurements:
Sweep Test Template: FCC 15.109 RE 30M-1G Pre

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
Receiver: [ESW 44]					
30 MHz - 230 MHz	20 kHz	PK+	120 kHz	Coupled	0 dB
230 MHz - 1 GHz	55 kHz	PK+	120 kHz	Coupled	0 dB

Existing Preview Result:
File Location 1: Reporting 2024\EMC-178-2024\T01\Preview Result 1

Data Reduction:
Limit Line #1: FCC 15.109 F 3M ClassB QP
Peak Search: 6 dB , Maximum Results: 24
Subrange Maxima: 0 Subranges , Maxima per Subrange: 1
Acceptance Offset: -6 dB
Maximum Number of Results: 6
After Data Reduction: Interactive data reduction

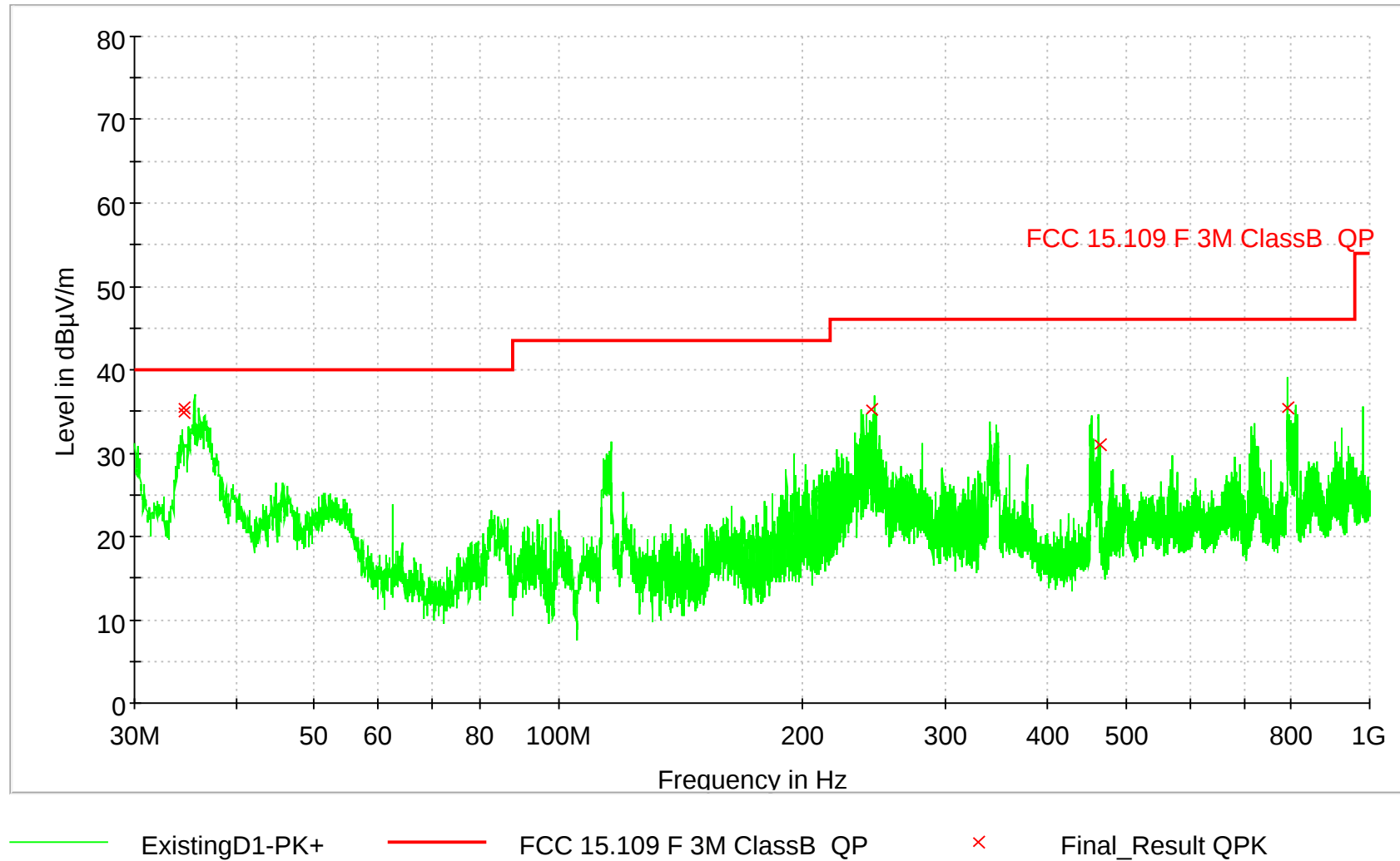
Frequency Zoom:
Zoom Scan Template: FCC 15.109 RE 30M-1G Max

Adjustment:
Template for Single Meas.: FCC 15.109 RE 30M-1G Max

Final Measurements:
Template for Single Meas.: FCC 15.109 RE 30M-1G Fin

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
Receiver: [ESW 44]					
30 MHz - 1 GHz	40 kHz	QPK	120 kHz	1 s	0 dB

Full Spectrum



Final Result

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
34.460000	35.43	40.00	4.57	1000.0	120.000	106.0	V	110.0	-11.5
34.520000	34.84	40.00	5.16	1000.0	120.000	120.0	V	76.0	-11.6
243.530000	35.21	46.00	10.79	1000.0	120.000	106.0	H	266.0	-15.6
463.960000	31.04	46.00	14.96	1000.0	120.000	100.0	V	171.0	-9.3
792.185000	35.41	46.00	10.59	1000.0	120.000	100.0	V	231.0	-2.7

Radiated emission measurement

EUT Information

BGEMC number:	EMC-178-2024
EUT Name:	White FOx 1.2 (rev 2)
EUT Type/Model:	---
Manufacturer:	FOx Biosystems
HW version:	---
Serial number:	23360017
Comment:	T02
Operational Mode:	1 - Emission test mode
Power Supply:	120V/60Hz
Standard used:	FCC sec 15.109 (ANSI C63.4:2014) : Radiated emissions (1GHz-18GHz)
Operator	Thomas Verniest

EMI Auto Test Template: FCC 15.109 RE 1G-18G Class B

Hardware Setup:	RE 1G-26,5G
Measurement Type:	Open-Area-Test-Site (SAC/FAR)
Frequency Range:	1 GHz - 18 GHz
Graphics Level Range:	0 dB μ V/m - 90 dB μ V/m

Preview Measurements:	
Sweep Test Template:	FCC 15.109 RE 1G-26.5G Pre

Frequency Zoom:	
Zoom Scan Template:	FCC 15.109 RE 1G-26.5G Max

Adjustment:	
Template for Single Meas.:	FCC 15.109 RE 1G-26.5G Max

Final Measurements:	
Template for Single Meas.:	FCC 15.109 RE 1G-26.5G Fin

Hardware Setup: EMI radiated\RE 1G-26,5G - [EMI radiated]

Subrange 1	
Frequency Range:	1 GHz - 18 GHz
Receiver:	ESW 44 [ESW 44] @ VISA (ADR TCPIP::ESW44-101754::hislip0::INSTR), SN 1328.4100K44/101754, FW 3.00
Signal Path:	EMI RECEIVER-HL025 3m (BGEMC 02-010K) FW 1.0 Correction Table: Preamplifier PAM-118A (PEMC 01-094K) Correction Table: Cable Pasternack PE3C0689-500CM (PEMC 01-096K) Correction Table: Cable Pasternack PE3C0689-650CM (PEMC 01-105K)
Antenna:	HL025 3m (BGEMC 02-010K) Correction Table (vertical): HL025 3m (BGEMC 02-010K) Correction Table (horizontal): HL025 3m (BGEMC 02-010K)
Antenna Tower:	HCM (PEMC 01-002) [HCM/RSM Antenna Tower] @ GPIB0 (ADR 15), SN 0, FW 1.06
Turntable:	EMControl Turntable [EMControl Turntable] @ GPIB0 (ADR 7), FW 2.6.3

EMI Auto Test Template: FCC 15.109 RE 1G-18G Class B

Hardware Setup: RE 1G-26,5G
Measurement Type: Open-Area-Test-Site (SAC/FAR)
Frequency Range: 1 GHz - 18 GHz
Graphics Level Range: 0 dB μ V/m - 90 dB μ V/m

Preview Measurements:
Sweep Test Template: FCC 15.109 RE 1G-26.5G Pre

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
Receiver: [ESW 44]					
1 GHz - 6 GHz	500 kHz	PK+	1 MHz	Coupled	0 dB
6 GHz - 18 GHz	1.2 MHz	PK+	1 MHz	Coupled	0 dB

Data Reduction:
Limit Line #1: FCC 15.109 F 3M ClassB PK +1GHz
Limit Line #2: FCC 15.109 F 3M ClassB AVG +1GHz
Peak Search: 6 dB , Maximum Results: 24
Subrange Maxima: 0 Subranges , Maxima per Subrange: 1
Maximum Number of Results: 6
After Data Reduction: Interactive data reduction

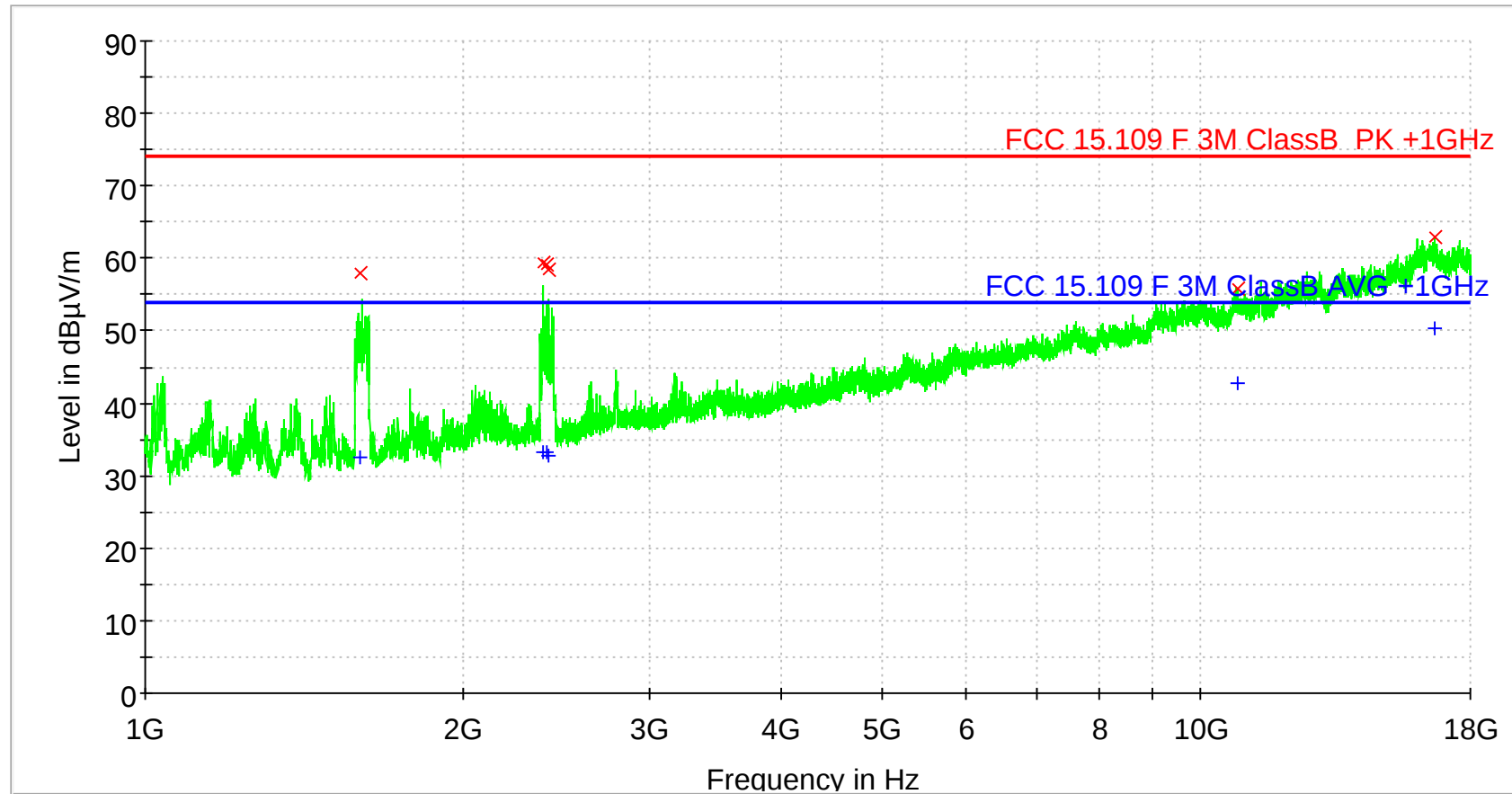
Frequency Zoom:
Zoom Scan Template: FCC 15.109 RE 1G-26.5G Max

Adjustment:
Template for Single Meas.: FCC 15.109 RE 1G-26.5G Max

Final Measurements:
Template for Single Meas.: FCC 15.109 RE 1G-26.5G Fin

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
Receiver: [ESW 44]					
1 GHz - 6 GHz	400 kHz	PK+ ; CAV	1 MHz	1 s	0 dB
6 GHz - 18 GHz	400 kHz	PK+ ; CAV	1 MHz	1 s	0 dB

Full Spectrum



— Preview Result 1-PK+
— FCC 15.109 F 3M ClassB PK +1GHz
+ Final_Result CAV
× Final_Result PK+

Final Result PK+

Frequency (MHz)	MaxPeak (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1599.300000	58.03	74.00	15.97	1000.0	1000.000	100.0	H	233.0	-11.2
2379.900000	59.43	74.00	14.57	1000.0	1000.000	114.0	H	226.0	-7.8
2401.800000	59.15	74.00	14.85	1000.0	1000.000	103.0	V	162.0	-8.0
2406.600000	58.36	74.00	15.64	1000.0	1000.000	118.0	H	225.0	-8.0
10855.600000	55.87	74.00	18.13	1000.0	1000.000	143.0	H	124.0	12.1
16660.000000	62.97	74.00	11.03	1000.0	1000.000	171.0	V	-18.0	21.9

Final Result CAV

Frequency (MHz)	CAverage (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1599.300000	32.61	54.00	21.39	1000.0	1000.000	100.0	H	233.0	-11.2
2379.900000	33.28	54.00	20.72	1000.0	1000.000	114.0	H	226.0	-7.8
2401.800000	33.36	54.00	20.64	1000.0	1000.000	103.0	V	162.0	-8.0
2406.600000	32.83	54.00	21.17	1000.0	1000.000	118.0	H	225.0	-8.0
10855.600000	42.75	54.00	11.25	1000.0	1000.000	143.0	H	124.0	12.1
16660.000000	50.31	54.00	3.69	1000.0	1000.000	171.0	V	-18.0	21.9

Conducted emission measurement

EUT Information

BGEMC number:	EMC-178-2024
EUT Name:	White FOx 1.2 (rev 2)
EUT Type/Model:	---
Manufacturer:	FOx Biosystems
HW version:	---
Serial number:	23360017
Comment:	T03: full system test
Operational Mode:	1 - Emission test mode
Power Supply:	120V/60Hz
Standard used:	FCC sec 15.107 (ANSI C63.4:2014) : Conducted emissions (150kHz-30MHz)
Operator	Thomas Verniest

EMI Auto Test Template: FCC 15.107 CE 150k-30M Class B (L-N-PE)

Hardware Setup:	CE 150k-30M
Measurement Type:	2 Line LISN
Frequency Range:	150 kHz - 30 MHz
Graphics Level Range:	0 dB μ V - 80 dB μ V
Preview Measurements:	
Scan Test Template:	FCC 15.107 CE 150k-30M FFT Pre

Hardware Setup: EMI conducted\CE 150k-30M - [EMI conducted]

Subrange 1	
Frequency Range:	9 kHz - 30 MHz
Receiver:	ESW 44 [ESW 44] @ VISA (ADR TCPIP::ESW44-101754::hislip0::INSTR), SN 1328.4100K44/101754, FW 3.00
Signal Path:	EMI RECEIVER - V-LISN FW 1.0 Correction Table: AP CP1(EMI)-Control R (EMI LISN AR) Correction Table: Cable PEMC 01-EM1 Correction Table: Trans. Lim. VTSD 9561-F-BNC (PEMC 01-113K) Correction Table: Cable LISN
LISN:	ESH3-Z5 (PEMC 01-006K) Correction Table (Line 0): LISN ESH3-Z5_N (PEMC 01-006K) Correction Table (Line 1): LISN ESH3-Z5_L1 (PEMC 01-006K)

EMI Auto Test Template: FCC 15.107 CE 150k-30M Class B (L-N-PE)

Hardware Setup: CE 150k-30M
Measurement Type: 2 Line LISN
Frequency Range: 150 kHz - 30 MHz
Graphics Level Range: 0 dB μ V - 80 dB μ V

Preview Measurements:
Scan Test Template: FCC 15.107 CE 150k-30M FFT Pre

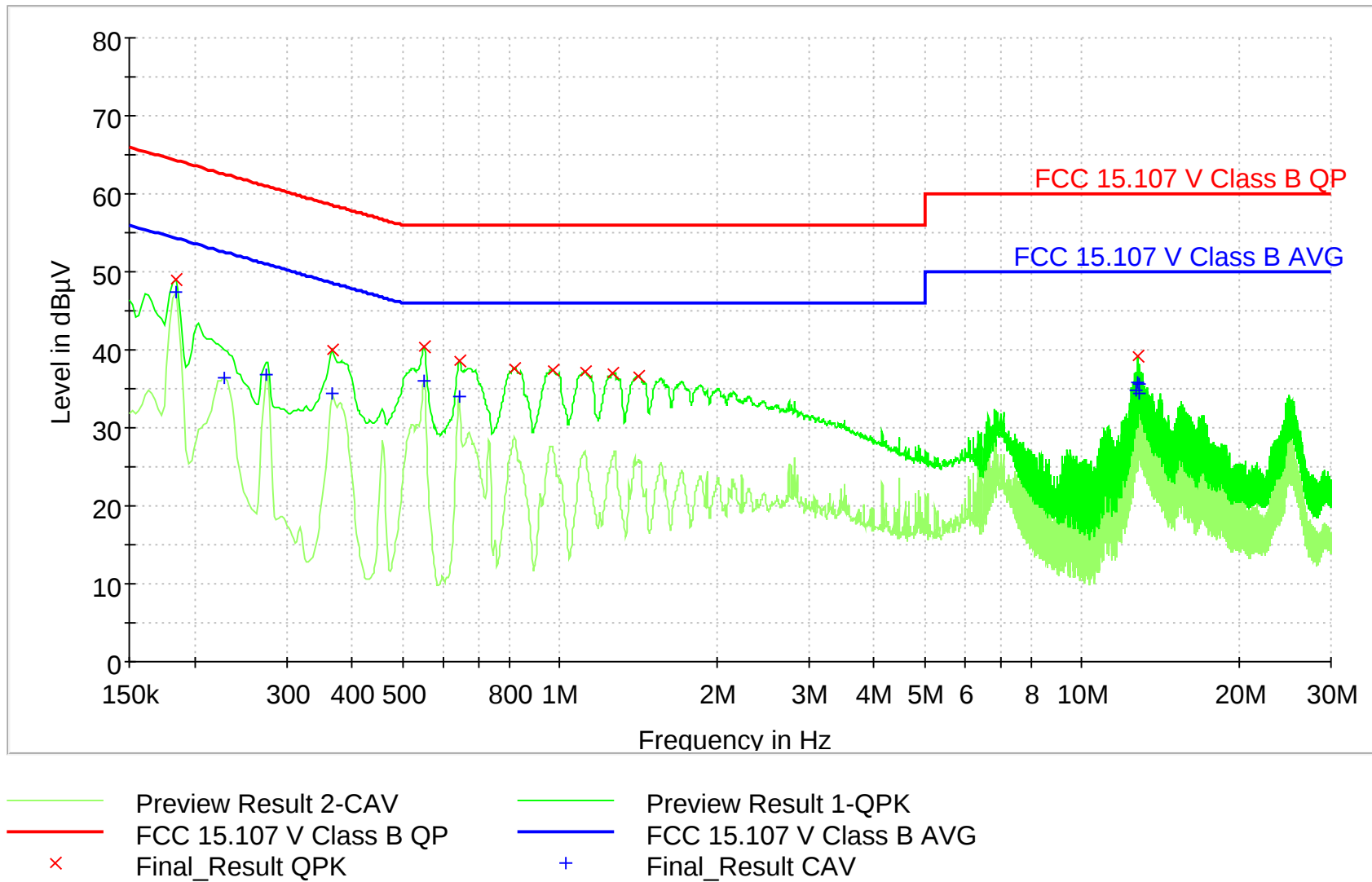
Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
Receiver: [ESW 44]					
9 kHz - 50 kHz	50 Hz	QPK ; CAV	200 Hz	1 s	0 dB
50 kHz - 150 kHz	50 Hz	QPK ; CAV	200 Hz	1 s	0 dB
150 kHz - 30 MHz	2.25 kHz	QPK ; CAV	9 kHz	1 s	0 dB

Final Result QPK

Frequency (MHz)	QuasiPeak (dB μ V)	Limit (dB μ V)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	PE	Corr. (dB)
0.183750	49.08	64.31	15.24	1000.0	9.000	L1	FLO	10.3
0.368250	40.09	58.54	18.45	1000.0	9.000	N	GND	10.3
0.550500	40.34	56.00	15.66	1000.0	9.000	N	FLO	10.3
0.642750	38.66	56.00	17.34	1000.0	9.000	L1	GND	10.4
0.820500	37.64	56.00	18.36	1000.0	9.000	L1	GND	10.4
0.969000	37.48	56.00	18.52	1000.0	9.000	L1	GND	10.4
1.117500	37.27	56.00	18.73	1000.0	9.000	L1	GND	10.4
1.266000	36.98	56.00	19.02	1000.0	9.000	L1	GND	10.4
1.414500	36.67	56.00	19.33	1000.0	9.000	L1	GND	10.4
12.759000	39.19	60.00	20.81	1000.0	9.000	L1	GND	11.2

Final Result CAV

Frequency (MHz)	CAverage (dB μ V)	Limit (dB μ V)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	PE	Corr. (dB)
0.183750	47.32	54.31	6.99	1000.0	9.000	L1	FLO	10.3
0.228750	36.39	52.50	16.10	1000.0	9.000	N	FLO	10.3
0.273750	36.74	51.00	14.27	1000.0	9.000	N	FLO	10.3
0.368250	34.37	48.54	14.17	1000.0	9.000	N	GND	10.3
0.550500	35.96	46.00	10.04	1000.0	9.000	N	GND	10.3
0.642750	33.96	46.00	12.04	1000.0	9.000	L1	GND	10.4
12.660000	34.78	50.00	15.22	1000.0	9.000	L1	GND	11.2
12.759000	35.74	50.00	14.26	1000.0	9.000	L1	GND	11.2
12.858000	35.54	50.00	14.46	1000.0	9.000	L1	GND	11.2
12.880500	34.38	50.00	15.62	1000.0	9.000	L1	GND	11.2



Conducted emission measurement

EUT Information

BGEMC number:	EMC-178-2024
EUT Name:	White FOx 1.2 (rev 2)
EUT Type/Model:	---
Manufacturer:	FOx Biosystems
HW version:	---
Serial number:	23360017
Comment:	T05 LISNs in line
Operational Mode:	1 - Emission test mode
Power Supply:	120V/60Hz
Standard used:	FCC sec 15.107 (ANSI C63.4:2014) : Conducted emissions (150kHz-30MHz)
Operator	Thomas Verniest

EMI Auto Test Template: FCC 15.107 CE 150k-30M Class B (L-N-PE)

Hardware Setup:	CE 150k-30M
Measurement Type:	2 Line LISN
Frequency Range:	150 kHz - 30 MHz
Graphics Level Range:	0 dB μ V - 80 dB μ V
Preview Measurements:	
Scan Test Template:	FCC 15.107 CE 150k-30M FFT Pre

Hardware Setup: EMI conducted\CE 150k-30M - [EMI conducted]

Subrange 1	
Frequency Range:	9 kHz - 30 MHz
Receiver:	ESW 44 [ESW 44] @ VISA (ADR TCP/IP::ESW44-101754::hislip0::INSTR), SN 1328.4100K44/101754, FW 3.00
Signal Path:	EMI RECEIVER - V-LISN FW 1.0 Correction Table: AP CP1(EMI)-Control R (EMI LISN AR) Correction Table: Cable PEMC 01-EM1 Correction Table: Trans. Lim. VTSD 9561-F-BNC (PEMC 01-113K) Correction Table: Cable LISN
LISN:	ESH3-Z5 (PEMC 01-006K) Correction Table (Line 0): LISN ESH3-Z5_N (PEMC 01-006K) Correction Table (Line 1): LISN ESH3-Z5_L1 (PEMC 01-006K)

EMI Auto Test Template: FCC 15.107 CE 150k-30M Class B (L-N-PE)

Hardware Setup: CE 150k-30M
Measurement Type: 2 Line LISN
Frequency Range: 150 kHz - 30 MHz
Graphics Level Range: 0 dB μ V - 80 dB μ V

Preview Measurements:
Scan Test Template: FCC 15.107 CE 150k-30M FFT Pre

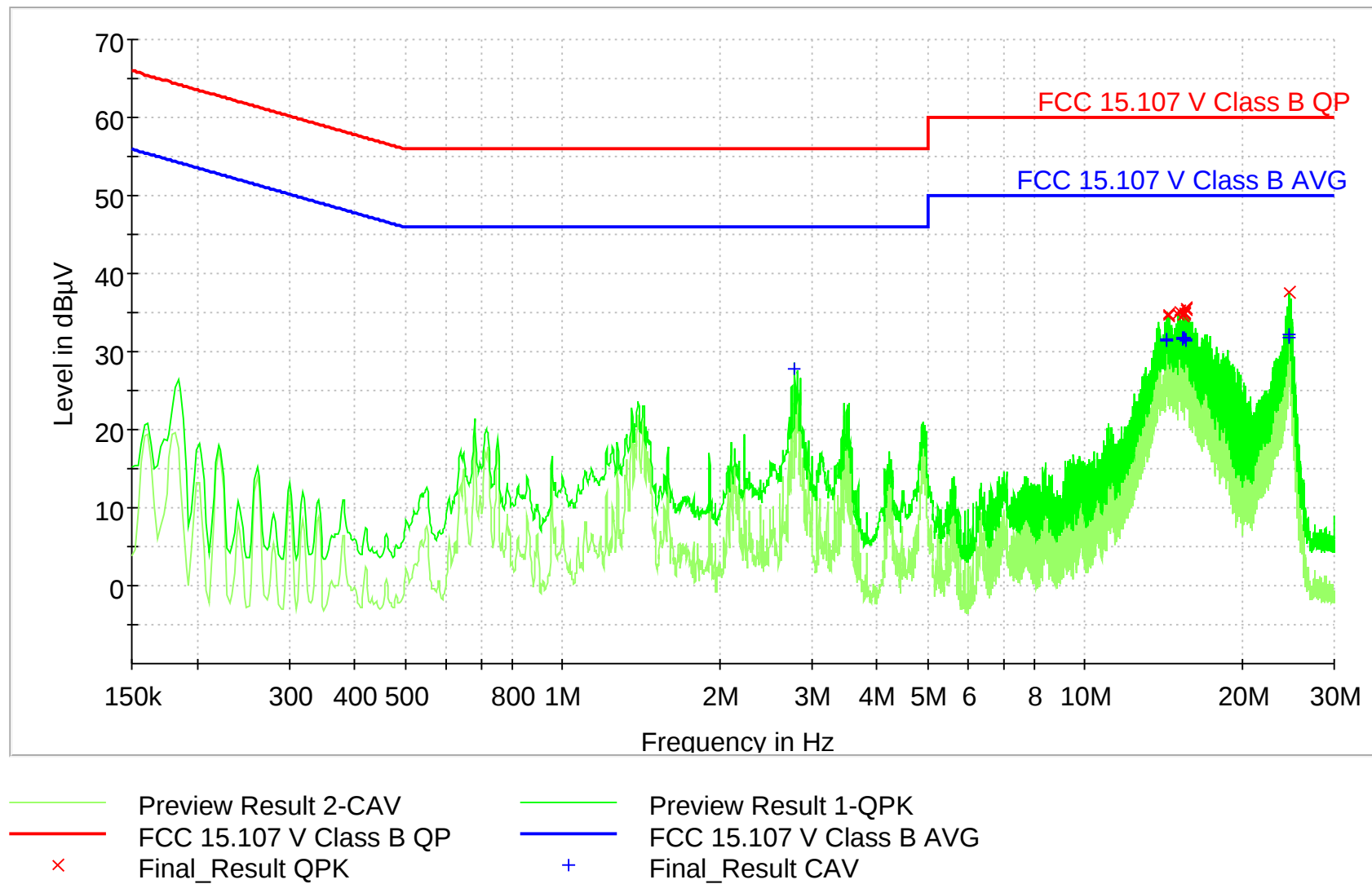
Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
Receiver: [ESW 44]					
9 kHz - 50 kHz	50 Hz	QPK ; CAV	200 Hz	1 s	0 dB
50 kHz - 150 kHz	50 Hz	QPK ; CAV	200 Hz	1 s	0 dB
150 kHz - 30 MHz	2.25 kHz	QPK ; CAV	9 kHz	1 s	0 dB

Final Result QPK

Frequency (MHz)	QuasiPeak (dB μ V)	Limit (dB μ V)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	PE	Corr. (dB)
14.401500	34.68	60.00	25.32	1000.0	9.000	N	GND	11.1
14.484750	34.79	60.00	25.21	1000.0	9.000	N	GND	11.2
15.047250	34.79	60.00	25.21	1000.0	9.000	N	GND	11.2
15.123750	35.23	60.00	24.77	1000.0	9.000	N	GND	11.2
15.364500	34.56	60.00	25.44	1000.0	9.000	N	GND	11.2
15.486000	34.74	60.00	25.26	1000.0	9.000	N	GND	11.2
15.531000	35.01	60.00	24.99	1000.0	9.000	N	GND	11.2
15.564750	35.59	60.00	24.41	1000.0	9.000	L1	GND	11.4
15.650250	35.32	60.00	24.68	1000.0	9.000	N	GND	11.2
24.659250	37.63	60.00	22.37	1000.0	9.000	L1	GND	11.9

Final Result CAV

Frequency (MHz)	CAverage (dB μ V)	Limit (dB μ V)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	PE	Corr. (dB)
2.784750	27.70	46.00	18.30	1000.0	9.000	N	FLO	10.5
14.322750	31.32	50.00	18.68	1000.0	9.000	N	GND	11.1
14.363250	31.50	50.00	18.50	1000.0	9.000	N	GND	11.1
15.364500	31.55	50.00	18.45	1000.0	9.000	N	GND	11.2
15.432000	31.85	50.00	18.15	1000.0	9.000	N	GND	11.2
15.531000	31.86	50.00	18.14	1000.0	9.000	N	GND	11.2
15.585000	31.37	50.00	18.63	1000.0	9.000	L1	GND	11.4
15.652500	31.59	50.00	18.41	1000.0	9.000	N	GND	11.2
24.517500	31.76	50.00	18.24	1000.0	9.000	L1	GND	11.9
24.625500	32.18	50.00	17.82	1000.0	9.000	L1	GND	11.9



USED EQUIPMENT

Version : 0.7

USED EQUIPMENT DURING MEASUREMENT - Radiated emissions

Identification	Description	Type	Serial n°	Manufacturer	Cal Status	Date Last performed Calibration	Cal Interval	Cal Due Date	Certificat n°
PEMC 01-000K	Anechoic Room	Siemens-Matsushita	003-002-033-94	Siemens Matsushita Components	A	13 jul 23	36	02-aug-26	202303001.00+01
PEMC 01-038K	Pre-amplifier A.R. 9 kHz - 2 GHz typ 29 dB	CPA9231A	3205 / 18564	Chase	A	28 jul 23	24	10-aug-25	202202307.00
PEMC 01-085	EMC32 Software Application	EMC32	Ver 10.50.40 or higher	Rohde & Schwarz		N/A	N/A	N/A	N/A
BGEMC 02-010K	Microwave antenna 1-26,5GHz	HL025	100071	Rohde&Schwarz	A	21 jul 23	24	21-jul-25	202202303.00
PEMC 01-094K	Pre-Amplifier 500MHz-18GHz	PAM-118A	18040057	Com-Power Corporation	A	29 jul 24	12	29-jul-25	202402223.00
PEMC 01-103K	Bilog antenna 30MHz-1GHz	CBL6111D	57368	Teseq	A	24 jul 24	12	24-jul-25	202402241.00+.01+.02
PEMC 01-104K	EMI test receiver 20 Hz - 44 GHz	ESW44	101754	Rohde & Schwarz	A	24 jul 24	12	24-jul-25	1250A307146697

USED EQUIPMENT DURING MEASUREMENT - Conducted emissions

Identification	Description	Type	Serial n°	Manufacturer	Cal Status	Date Last performed Calibration	Cal Interval	Cal Due Date	Certificat n°
PEMC 01-000K	Anechoic Room	Siemens-Matsushita	003-002-033-94	Siemens Matsushita Components	A	13 jul 23	36	02-aug-26	202303001.00+01
PEMC 01-006K	LISN 9 KHz - 30 MHz 2 * 10A, TWO LINE V-NETWORK ESH3-Z5	ESH3-Z5	840730/001	Rohde & Schwarz	A	21 jul 23	24	21-jul-25	202303019.00
PEMC 01-082K	LISN 9 KHz - 30 MHz 2 * 10A, TWO LINE V-NETWORK ESH3-Z5	ESH3-Z5	100118	Rohde & Schwarz	A	21 jul 23	24	21-jul-25	202303138.00
PEMC 01-085	EMC32 Software Application	EMC32	Ver 10.50.40 or higher	Rohde & Schwarz		N/A	N/A	N/A	N/A
PEMC 01-104K	EMI test receiver 20 Hz - 44 GHz	ESW44	101754	Rohde & Schwarz	A	24 jul 24	12	24-jul-25	1250A307146697
PEMC 01-113K	Pulse limiter	VTSD 9561-F-BNC	00302	Schwarzbeck	A	12 dec 22	32	12-aug-25	AZ2212129561FBNC302