



FCC PART 15 SUBPART B

CLASS B TEST REPORT

For

AOR USA, Inc.

426 West Taft Ave.
Orange, CA 92865, USA

FCC ID: NVJAR5700D
Model: AR5700D

Report Type: Original Report	Product Type: Digital Communications Receiver
Prepared By	Steven Lianto Test Engineer
Report Number	R1908305
Report Date	2020-04-13
Reviewed By	Shoaib Khan EMC Lead
Bay Area Compliance Laboratories Corp. 1274 Anvilwood Ave Sunnyvale, CA 94089, USA Tel: (408) 732-9162, Fax: (408) 732 9164	



Note: This test report was prepared for the customer shown above and for the device described herein. It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp. This test report **shall not** be used by the customer to claim product certification, approval, or endorsement by A2LA or any agency of the United States Government or any foreign government.

* This test report may contain data and test methods that are not covered by BACL's scope of accreditation as of the test report date shown above. These items are marked within the test report text with an asterisk "*"

TABLE OF CONTENTS

1	GENERAL INFORMATION.....	5
1.1	GENERAL STATEMENTS.....	5
1.2	PURPOSE.....	5
1.3	AGENT FOR THE RESPONSIBLE PARTY.....	6
1.4	RESPONSIBLE PARTY.....	6
1.5	PRODUCT DESCRIPTION OF THE EQUIPMENT UNDER TEST (EUT).....	6
1.6	MECHANICAL DESCRIPTION OF THE EUT.....	6
1.7	EUT INPUT POWER.....	6
1.8	RELATED SUBMITTAL(S)/GRANT(S).....	6
1.9	TEST FACILITY REGISTRATIONS.....	7
1.10	TEST FACILITY ACCREDITATIONS.....	7
1.11	MEASUREMENT UNCERTAINTIES.....	10
2	EUT TEST CONFIGURATION.....	12
2.1	JUSTIFICATION.....	12
2.2	EUT EXERCISE SOFTWARE.....	12
2.3	BACL EMI MEASUREMENT SOFTWARE.....	12
2.4	EQUIPMENT MODIFICATIONS.....	12
2.5	SPECIAL EQUIPMENT.....	12
2.6	EUT MODE OF OPERATION.....	12
2.7	METHOD OF MONITORING.....	12
2.8	LOCAL SUPPORT EQUIPMENT.....	13
2.9	EUT INTERNAL CONFIGURATIONS.....	13
2.10	EXTERNAL I/O CABLING LIST AND DETAILS.....	13
2.11	EUT POWER SUPPLY LIST AND DETAILS.....	13
3	SUMMARY OF TEST RESULTS.....	14
4	FCC 15B §15.107 – CONDUCTED EMISSIONS.....	15
4.1	APPLICABLE STANDARD.....	15
4.2	EUT SETUP.....	16
4.3	TEST PROCEDURE.....	16
4.4	TEST SETUP BLOCK DIAGRAM.....	17
4.5	CORRECTED AMPLITUDE & MARGIN CALCULATION.....	18
4.6	TEST EQUIPMENT LIST AND DETAILS.....	19
4.7	ENVIRONMENTAL CONDITIONS.....	19
4.8	SUMMARY OF TEST RESULTS.....	20
4.9	CONDUCTED EMISSIONS TEST PLOTS AND DATA.....	22
5	FCC 15B §15.109 – RADIATED EMISSIONS.....	38
5.1	APPLICABLE STANDARD.....	38
5.2	EUT SETUP.....	39
5.3	TEST PROCEDURE.....	39
5.4	CORRECTED AMPLITUDE & MARGIN CALCULATION.....	40
5.5	TEST SETUP BLOCK DIAGRAM.....	41
5.6	TEST EQUIPMENT LIST AND DETAILS.....	42
5.7	ENVIRONMENTAL CONDITIONS.....	42
5.9	SUMMARY OF TEST RESULTS.....	43
5.10	RADIATED EMISSIONS TEST PLOT AND DATA.....	48
6	ANNEX A (NORMATIVE) – EUT TEST SETUP PHOTOGRAPHS.....	66
7	ANNEX B (NORMATIVE) – EUT EXTERNAL PHOTOGRAPHS.....	67
8	ANNEX C (NORMATIVE) – EUT INTERNAL PHOTOGRAPHS.....	68

9 ANNEX D (NORMATIVE) – ISO/IEC 17025 CERTIFICATE AND SCOPE OF ACCREDITATION 69

Document Revision History

Revision Number	Report Number	Description of Revision	Date of Revision
0	R1908305	Original Report	2020-04-13

1 General Information

1.1 General Statements

Bay Area Compliance Laboratory Corp. [BACL] hereby makes the following Statements:

- The Unit(s) described in this Test Report were received at BACL's facilities on 19 February 2020. Testing was performed on the Unit(s) described in this Test Report during the period 04 March through 10 April 2020.
- The Test Results reported herein apply only to the Unit(s) actually tested, and to substantially identical Units.
- This Test Report must not be used to claim product endorsement by A2LA, or any agency of the U.S. Government, or by any other foreign government.
- This Test Report is the property of BACL, and shall not be reproduced, except in full, without prior written approval of BACL.

1.2 Purpose

This report was prepared on behalf of *AOR USA, Inc.* and their product *Digital Communications Receiver*, Model: *AR5700D* in accordance with FCC Part 15B, Information Technology Equipment – Radio Disturbance Characteristics – Limits and Methods of Measurements standard.

THE DATA CONTAINED IN THIS TEST REPORT WAS COLLECTED AND COMPILED BY:



Steven Lianto
[Test Engineer]

1.3 Agent for the Responsible Party

None

1.4 Responsible Party

Company Name: AOR USA, INC.
Contact: Naoto Nozaki
Street Address: 426 West Taft Ave.
City/State/Zip: Orange, CA 92865
Country: USA
Telephone: +1 (310) 787-8615
Fax Number: +1 (310) 787-8619
Email: Nozaki@aorja.com
Website: www.aorusa.com

1.5 Product Description of the Equipment under Test (EUT)

The Equipment Under Test (EUT) was a Digital Communications Receiver, Model: AR5700D. The highest frequency used and/or generated was 3.7 GHz.

1.6 Mechanical Description of the EUT

Dimensions: approximately 34.2 cm (L) x 22.0 cm (W) x 9.7 cm (H)

Weight: approximately 5.1 kg

Serial Number: 09710001

EUT Photos: See Annex A of this Test Report.

1.7 EUT Input Power

The EUT was AC powered through an AC Adapter.

1.8 Related Submittal(s)/Grant(s)

No related submittals.

1.9 Test Facility Registrations

BACLs test facilities that are used to perform Radiated and Conducted Emissions tests are currently recognized by the Federal Communications Commission as Accredited with NIST Designation Number US1129.

BACL's test facilities that are used to perform Radiated and Conducted Emissions tests are currently registered with Industry Canada under Registration Numbers: 3062A-1, 3062A-2, and 3062A-3.

BACL is a Chinese Taipei Bureau of Standards Metrology and Inspection (BSMI) validated Conformity Assessment Body (CAB), under Appendix B, Phase I Procedures of the APEC Mutual Recognition Arrangement (MRA). BACL's BSMI Lab Code Number is: SL2-IN-E-1002R

BACL's test facilities that are used to perform AC Line Conducted Emissions, Telecommunications Line Conducted Emissions, Radiated Emissions from 30 MHz to 1 GHz, and Radiated Emissions from 1 GHz to 6 GHz are currently recognized as Accredited in accordance with the Voluntary Control Council for Interference [VCCI] Article 15 procedures under Registration Number A-0308.

1.10 Test Facility Accreditations

Bay Area Compliance Laboratories Corp. (BACL) is:

A- An independent, 3rd-Party, Commercial Test Laboratory accredited to ISO/IEC 17025:2005 by A2LA (Test Laboratory Accreditation Certificate Number 3297.02), in the fields of: Electromagnetic Compatibility and Telecommunications. Unless noted by an Asterisk (*) in the Compliance Matrix (See Section 3 of this Test Report), BACL's ISO/IEC 17025:2005 Scope of Accreditation includes all of the Test Method Standards and/or the Product Family Standards detailed in this Test Report..

BACL's ISO/IEC 17025:2005 Scope of Accreditation includes a comprehensive suite of EMC Emissions, EMC Immunity, Radio, RF Exposure, Safety and wireline Telecommunications test methods applicable to a wide range of product categories. These product categories include Central Office Telecommunications Equipment [including NEBS - Network Equipment Building Systems], Unlicensed and Licensed Wireless and RF devices, Information Technology Equipment (ITE); Telecommunications Terminal Equipment (TTE); Medical Electrical Equipment; Industrial, Scientific and Medical Test Equipment; Professional Audio and Video Equipment; Industrial and Scientific Instruments and Laboratory Apparatus; Cable Distribution Systems, and Energy Efficient Lighting.

B- A Product Certification Body accredited to ISO/IEC 17065:2012 by A2LA (Product Certification Body Accreditation Certificate Number 3297.03) to certify

- For the USA (Federal Communications Commission):

- 1- All Unlicensed radio frequency devices within FCC Scopes A1, A2, A3, and A4;
- 2- All Licensed radio frequency devices within FCC Scopes B1, B2, B3, and B4;
- 3- All Telephone Terminal Equipment within FCC Scope C.

- For the Canada (Industry Canada):

- 1 All Scope 1-Licence-Exempt Radio Frequency Devices;
- 2 All Scope 2-Licensed Personal Mobile Radio Services;
- 3 All Scope 3-Licensed General Mobile & Fixed Radio Services;
- 4 All Scope 4-Licensed Maritime & Aviation Radio Services;
- 5 All Scope 5-Licensed Fixed Microwave Radio Services
- 6 All Broadcasting Technical Standards (BETS) in the Category I Equipment Standards List.

- For Singapore (Info-Communications Development Authority (IDA)):

- 1 All Line Terminal Equipment: All Technical Specifications for Line Terminal Equipment – Table 1 of IDA MRA Recognition Scheme: 2011, Annex 2

2. All Radio-Communication Equipment: All Technical Specifications for Radio-Communication Equipment – Table 2 of IDA MRA Recognition Scheme: 2011, Annex 2
- For the Hong Kong Special Administrative Region:
 - 1 All Radio Equipment, per KHCA 10XX-series Specifications;
 - 2 All GMDSS Marine Radio Equipment, per HKCA 12XX-series Specifications;
 - 3 All Fixed Network Equipment, per HKCA 20XX-series Specifications.
- For Japan:
 - 1 MIC Telecommunication Business Law (Terminal Equipment):
 - All Scope A1 - Terminal Equipment for the Purpose of Calls;
 - All Scope A2 - Other Terminal Equipment
 - 2 Radio Law (Radio Equipment):
 - All Scope B1 - Specified Radio Equipment specified in Article 38-2-2, paragraph 1, item 1 of the Radio Law
 - All Scope B2 - Specified Radio Equipment specified in Article 38-2-2, paragraph 1, item 2 of the Radio Law
 - All Scope B3 - Specified Radio Equipment specified in Article 38-2-2, paragraph 1, item 3 of the Radio Law

C- A Product Certification Body accredited to ISO/IEC 17065:2012 by A2LA (Product Certification Body Accreditation Certificate Number 3297.01) to certify Products to USA's Environmental Protection Agency (EPA) ENERGY STAR Product Specifications for:

- 1 Electronics and Office Equipment:
 - for Telephony (ver. 3.0)
 - for Audio/Video (ver. 3.0)
 - for Battery Charging Systems (ver. 1.1)
 - for Set-top Boxes & Cable Boxes (ver. 4.1)
 - for Televisions (ver. 6.1)
 - for Computers (ver. 6.0)
 - for Displays (ver. 6.0)
 - for Imaging Equipment (ver. 2.0)
 - for Computer Servers (ver. 2.0)
- 2 Commercial Food Service Equipment
 - for Commercial Dishwashers (ver. 2.0)
 - for Commercial Ice Machines (ver. 2.0)
 - for Commercial Ovens (ver. 2.1)
 - for Commercial Refrigerators and Freezers
- 3 Lighting Products
 - For Decorative Light Strings (ver. 1.5)
 - For Luminaires (including sub-components) and Lamps (ver. 1.2)
 - For Compact Fluorescent Lamps (CFLs) (ver. 4.3)
 - For Integral LED Lamps (ver. 1.4)
- 4 Heating, Ventilation, and AC Products
 - for Residential Ceiling Fans (ver. 3.0)
 - for Residential Ventilating Fans (ver. 3.2)
- 5 Other
 - For Water Coolers (ver. 3.0)

D- A NIST Designated Phase-I and Phase-II Conformity Assessment Body (CAB) for the following economies and regulatory authorities under the terms of the stated MRAs/Treaties:

- Australia: ACMA (Australian Communication and Media Authority) – APEC Tel MRA -Phase I;
- Canada: (Innovation, Science and Economic development Canada - ISEDC) Foreign Certification Body – FCB – APEC Tel MRA -Phase I & Phase II;
- Chinese Taipei (Republic of China – Taiwan):

- BSMI (Bureau of Standards, Metrology and Inspection) APEC Tel MRA -Phase I;
 - NCC (National Communications Commission) APEC Tel MRA -Phase I;
- European Union:
 - EMC Directive 2014/30/EU US-EU EMC & Telecom MRA CAB (NB)
 - Radio Equipment (RE) Directive 2014/53/EU US-EU EMC & Telecom MRA CAB (NB)
 - Low Voltage Directive (LVD) 2014/35/EU
- Hong Kong Special Administrative Region: (Office of the Telecommunications Authority – OFTA)
APEC Tel MRA -Phase I & Phase II
- Israel – US-Israel MRA Phase I
- Republic of Korea (Ministry of Communications - Radio Research Laboratory) APEC Tel MRA -Phase I
- Singapore: (Infocomm Media Development Authority - IMDA) APEC Tel MRA -Phase I & Phase II;
- Japan: VCCI - Voluntary Control Council for Interference US-Japan Telecom Treaty VCCI Side Letter-
- USA:
 - ENERGY STAR Recognized Test Laboratory – US EPA
 - Telecommunications Certification Body (TCB) – US FCC;
 - Nationally Recognized Test Laboratory (NRTL) – US OSHA
- Vietnam: APEC Tel MRA -Phase I;

1.11 Measurement Uncertainties

All measurements involve uncertainties. In the case of EMC Emissions tests, the influence quantities (factors) that make a significant contribution to the measurement uncertainties for most types of Emissions measurements are detailed in the latest version of CISPR 16-4-2 “Specification for radio disturbance and immunity measuring apparatus and methods – Part 4-2: Uncertainties, statistics and limit modelling – Measurement instrumentation uncertainty” (i.e., in CISPR 16-4-2:2011-06 + C1:2013-04 + A1:2014-02).

Based on the uncertainty models given in the latest version of CISPR16-4-2, and, based on the calibration uncertainties of the specific instruments and facilities used at BACL to perform the measurements documented in this Test Report, the following estimates have been made of BACL’s Measurement Uncertainties for the measurements documented in this Test Report.

(Note: the phrase “Typical U_{LAB} values” means that the U_{LAB} values presented are the Expanded Measurement Uncertainty values that resulted from the use of the ordinary test processes that are employed on a daily basis in our Test Laboratory. Note that the smaller the value of Expanded Measurement Uncertainty, the better (i.e., the “less uncertain”) the measurement is.

Type of Measurement: ANSI C63.4-2014 Conducted Emissions (on the BACL Ground Plane Test Site) Note: Measurements made using a n R&S ESCI EMI Receiver	BACL Typical U_{LAB} Value (for a k=2 Coverage Factor, equivalent to ~ 95% level of confidence)	U_{CISPR} Value worst-allowable values of the latest version of CISPR 16-4-2 (for a k=2 Coverage Factor, equivalent to ~ 95% level of confidence)
Conducted Disturbance (Mains Port) 9 kHz to 150 MHz (i.e., AC/DC Line Conducted Emissions measurements made using the Narda PMM L3-100 4-Line LISN)	3.05 dB	3.83 dB
Conducted Disturbance (Mains Port) 150 kHz to 30 MHz (i.e., AC/DC Line Conducted Emissions measurements made using the Narda PMM L3-100 4-Line LISN)	3.05 dB	3.44 dB
Conducted Disturbance (Mains Port) 150 kHz to 30 MHz (i.e., AC/DC Line Conducted Emissions measurements made with a Fischer FCC-LISN-50-25-2-10 LISN)	2.26 dB	3.44 dB
Conducted Disturbance (Mains Port) 9 kHz to 30 MHz (i.e., AC/DC Line Conducted Emissions measurements made with an ETS- Lindgren Model 3701 Line Voltage Probe)	1.04 dB	2.91 dB

Type of Measurement: ANSI C63.4-2014 Radiated Emissions (in the BACL 10 m - 1 SAC) Note: Measurements up to 1 GHz made using an R&S ESCI EMI Receiver; Measurements from 1 GHz to 40 GHz made using an R&S ESU40 EMI Receiver	BACL Typical U_{LAB} Value (for a k=2 Coverage Factor, equivalent to ~ 95% level of confidence)	U_{CISPR} Value worst-allowable values of the latest version of CISPR 16-4-2 (for a k=2 Coverage Factor, equivalent to ~ 95% level of confidence)
Radiated Magnetic Field Disturbance – 9 kHz to 30 MHz (i.e., Radiated H-Field levels measured using a Single-axis Active Loop Antenna at a fixed height at either 3 or 10 metres distance)	1.64 dB	U _{CISPR} Value is Not Specified
Radiated Electric Field Disturbance – Horizontal Polarization, 30 MHz – 200 MHz (i.e., Radiated Emissions measured at 3 metres distance)	3.25 dB (No Tilting)	5.06 dB (No Tilting)
Radiated Electric Field Disturbance – Vertical Polarization, 30 MHz – 200 MHz (i.e., Radiated Emissions at 3 metres distance)	3.87 dB (No Tilting)	5.17 dB (No Tilting)
Radiated Electric Field Disturbance – Horizontal Polarization, 30 MHz – 200 MHz (i.e., Radiated Emissions measured at 10 metres distance)	4.21 dB	5.05 dB
Radiated Electric Field Disturbance – Vertical Polarization, 30 MHz – 200 MHz (i.e., Radiated Emissions measured at 10 metres distance)	4.07 dB	5.03 dB
Radiated Electric Field Disturbance – Horizontal Polarization, 200 MHz – 1000 MHz (i.e., Radiated Emissions measured at 3 metres distance)	4.60 dB (No Tilting)	5.34 dB (No Tilting)
Radiated Electric Field Disturbance – Vertical Polarization, 200 MHz – 1000 MHz (i.e., Radiated Emissions measured at 3 metres distance)	5.51 dB (No Tilting)	6.32 dB (No Tilting)
Radiated Electric Field Disturbance – Horizontal Polarization, 200 MHz – 1000 MHz (i.e., Radiated Emissions at 10 metres distance)	4.17 dB	5.21 dB
Radiated Electric Field Disturbance – Vertical Polarization, 200 MHz – 1000 MHz z (i.e., Radiated Emissions measured at 10 metres distance)	4.46 dB	5.22 dB
Radiated Electric Field Disturbance Horizontal & Vertical Polarizations, 1 GHz – 6 GHz (i.e., Radiated Emissions measured at 3 metres distance)	4.62 dB (With Boresighting)	U _{CISPR} Value is Not Specified
Radiated Electric Field Disturbance Horizontal & Vertical Polarizations, 1 GHz – 6 GHz (i.e., Radiated Emissions measured at 3 metres distance)	4.67 dB (With Boresighting)	U _{CISPR} Value is Not Specified
Radiated Electric Field Disturbance Horizontal & Vertical Polarizations, 18 GHz – 26.5 GHz (i.e., Radiated Emissions measured at 1 metres distance)	4.81 dB (With Boresighting)	U _{CISPR} Value is Not Specified
Radiated Electric Field Disturbance Horizontal & Vertical Polarizations, 26.5 GHz – 40 GHz (i.e., Radiated Emissions at 1 metres distance)	5.00 dB (With Boresighting)	U _{CISPR} Value is Not Specified

2 EUT Test Configuration

2.1 Justification

The EUT was configured for testing in accordance with requirements of the ANSI C63.4-2014.

2.2 EUT Exercise Software

No exercising software was used during testing.

2.3 BACL EMI Measurement Software

The software used was EMISoft-Vasona 6.0 for EMI testing.

2.4 Equipment Modifications

No modifications were made to the equipment during testing.

2.5 Special Equipment

No special equipment was used during testing.

2.6 EUT Mode of Operation

There were 3 bands which the EUT could operate on: Low (10 kHz), Mid (1850 MHz), and High Bands (3690 MHz). The EUT was tested on 20 different modes: FM, FMST, AM, SAM, USB, LSB, CW, AIQ, WFM1, WFM2, FMST2, NFM, SFM, WAM, AM6, NAM, SAM6, USB3, LSB3, CW1 to find the worst case. After determining AM6 as the worst case, the rest of the tests were done using this mode. A transmitting signal was paired to the receiver so that it could be tested in normal operating mode. The EUT was also tested in scanning mode.

2.7 Method of Monitoring

The EUT was monitored visually from the EUT display panel. As long as the EUT received the appropriate tuned frequency, the signal strength meter should increase and the EUT was working as intended.

2.8 Local Support Equipment

Manufacturer	Description	Model	Serial Number
AOR USA	Antenna	R0D	-

2.9 EUT Internal Configurations

Manufacturer	Description	Model Number	Serial Number
AOR USA	3.7~2.1 GHz Front End	141203-4	-
AOR USA	2.1~0.9 GHz Front End	141202-2	-
AOR USA	Local Generator (Filter)	130827-3	-
AOR USA	RF Main Board	141018-6	-
AOR USA	Decoder	141015-1	-
AOR USA	Controller	071109-8	-
AOR USA	Digital Decoder	160411-1	-
AOR USA	Control Panel	100514-1	-

2.10 External I/O Cabling List and Details

Cable Description	Length (m)	From	To
Power Cable	<1	EUT	AC Adapter

2.11 EUT Power Supply List and Details

Manufacturer	Description	Model Number	Serial Number
AOR USA	AC Adapter	-	-

3 Summary of Test Results

Standards	Test Description	Result
FCC §15.107 (a)	Conducted Emissions	Compliant with Class B Limits
FCC §15.109 (a)	Radiated Emissions	Compliant with Class B Limits

4 FCC 15B §15.107 – Conducted Emissions

4.1 Applicable Standard

As per FCC 15B §15.107: Conducted Emission Limits

(a) Except for Class A digital devices, for equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50 μ H/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the band edges.

Table 1- Limits for conducted disturbance at the mains ports of class B ITE

Frequency range (MHz)	Limits dB (μ V/)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56*	56 to 46*
0.5 to 5	56	46
5 to 30	60	50
NOTE *Decreases with the logarithm of the frequency.		

4.2 EUT Setup

The conducted emissions tests were performed on the Ground Plane Test Site, using the setup in accordance with ANSI C63.4 measurement procedures. The specifications used were in accordance with FCC 15B Class B limits.

If applicable, the spacing between the peripherals was 10 cm.

If applicable, the external I/O cables were draped along the test table and bundled as required.

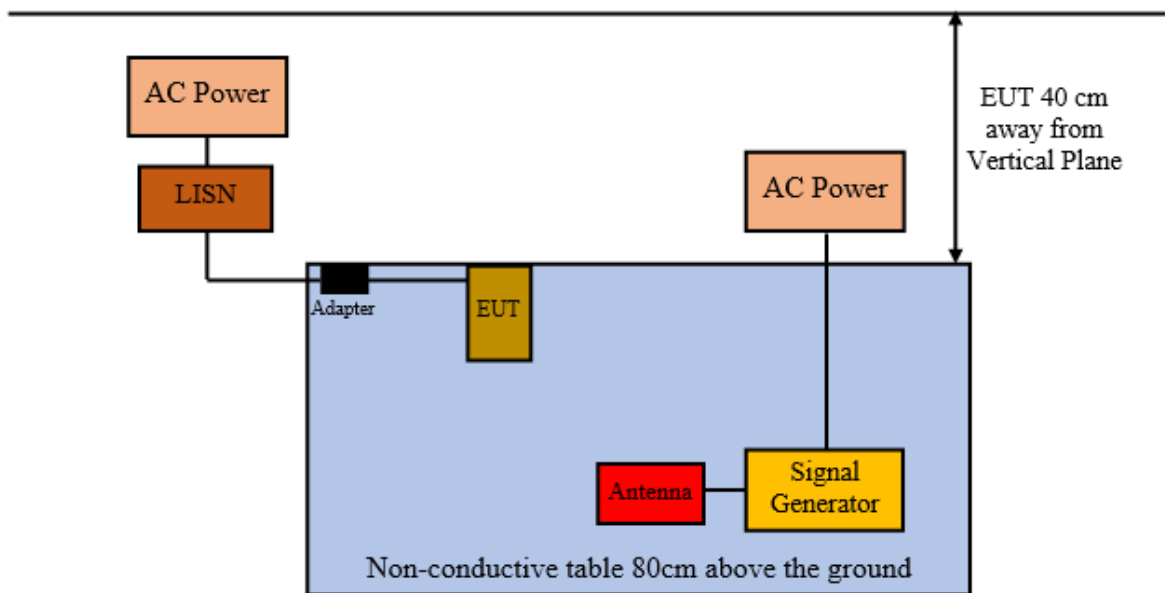
The EUT was connected (via the LISN) to an EMI-filtered AC power receptacle through an AC Adapter.

4.3 Test Procedure

During the conducted emissions test, the power cord of the EUT was connected to the LISN.

4.4 Test Setup Block Diagram

AC Line



4.5 Corrected Amplitude & Margin Calculation

The Corrected Amplitude (CA) is calculated by adding the Cable Loss (CL) and the Attenuator Factor (Atten) to indicated Amplitude (Ai) reading. The basic equation is as follows:

$$CA = Ai + CL + Atten$$

For example, a corrected amplitude of 46 dBμV = Indicated Reading (32.5 dBμV) + Cable Loss (3.5 dB) + Attenuator (10 dB)

The “**Margin**” column of the following data tables indicates the degree of compliance within the applicable limit. For example, a margin of -7 dB means the emission is 7 dB below the maximum limit for Class B. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Corrected Amplitude} - \text{Class B Limit}$$

4.6 Test Equipment List and Details

BACL Asset #	Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due
00124	Rhode & Schwarz	EMI Test Receiver	ESCI 1166.5950K03	100044	2018-10-26	2020-10-26
00680	Rohde & Schwarz	Impulse Limiter	ESH3-Z2	101964	2019-07-31	2020-07-31
00724	Solar Electronics Company	High Pass Filter	Type 7930-100	7930150202	2020-02-26	2021-02-26
00732	FCC	LISN	FCC-LISN-50-25-2-10-CISPR16	160129	2019-04-11	2020-04-11
00885	Fairview Microwave	Micro-Coax Cable	FMC0101223-240	1907181	2019-07-18	2020-07-18
00348	California Instruments	AC/DC Power Source	5001ix-208	57079	Calibration not Required	Calibration not Required
00343	HP	Signal Generator	8648C	3847M00143	2020-01-28	2021-01-28
00688	Keysight Technologies	Vector Signal Generator	N5182B	MY51350070	2020-02-11	2021-02-11
00110	A.H. Systems	Horn Antenna	SAS-200/571	261	2019-06-07	2021-06-07

Statement of Traceability: BACL Corp. attests that all of the calibrations on the equipment items listed above were traceable to NIST or to another internationally recognized National Metrology Institute (NMI), and were compliant with A2LA Policy P102 (dated 9 June 2016) "A2LA Policy on Metrological Traceability".

4.7 Environmental Conditions

Testing Date:	2020-03-06	2020-03-31
Testing Site:	Ground Plane Test Site	Ground Plane Test Site
Temperature:	19 °C	22 °C
Relative Humidity:	46 %	47 %
ATM Pressure:	101.7 kPa	102.7 kPa
Testing Personnel:	Steven Lianto	Steven Lianto

4.8 Summary of Test Results

According to the recorded data, the EUT complied with FCC 15B §15.107 Class B Conducted Emissions limits, and had the worst margin reading of:

Scanning Mode: Worst Case: AC Line: 120VAC/60Hz						
Conductor (Hot/Neutral)	Quasi- Peak Frequency (MHz)	Highest Quasi-Peak Corrected Amplitude (dBμV)	Worst-Case Quasi-Peak Margin (dB)	Average Frequency (MHz)	Highest Average Corrected Amplitude (dBμV)	Worst-Case Average Margin (dB)
Hot	0.450662	51.36	-5.5	0.450662	46.09	-0.78
Neutral	0.447487	52.42	-4.5	0.447328	43.61	-3.32

Low Band: Worst Case: AC Line: 120VAC/60Hz						
Conductor (Hot/Neutral)	Quasi- Peak Frequency (MHz)	Highest Quasi-Peak Corrected Amplitude (dBμV)	Worst-Case Quasi-Peak Margin (dB)	Average Frequency (MHz)	Highest Average Corrected Amplitude (dBμV)	Worst-Case Average Margin (dB)
Hot	0.448527	49.91	-6.99	0.448527	41.93	-4.98
Neutral	0.449206	52.99	-3.9	0.449206	45.62	-1.27

Mid Band: Worst Case: AC Line: 120VAC/60Hz						
Conductor (Hot/Neutral)	Quasi- Peak Frequency (MHz)	Highest Quasi-Peak Corrected Amplitude (dBμV)	Worst-Case Quasi-Peak Margin (dB)	Average Frequency (MHz)	Highest Average Corrected Amplitude (dBμV)	Worst-Case Average Margin (dB)
Hot	0.482001	48.55	-7.75	0.535509	41.11	-4.89
Neutral	0.440631	51.93	-5.12	0.440631	45.07	-1.98

High Band: Worst Case: AC Line: 120VAC/60Hz						
Conductor (Hot/Neutral)	Quasi- Peak Frequency (MHz)	Highest Quasi-Peak Corrected Amplitude (dBμV)	Worst-Case Quasi-Peak Margin (dB)	Average Frequency (MHz)	Highest Average Corrected Amplitude (dBμV)	Worst-Case Average Margin (dB)
Hot	0.485992	49.29	-6.95	0.445275	44.61	-2.35
Neutral	0.455562	51.29	-5.48	0.455562	41.31	-5.46

Scanning Mode: Worst Case: AC Line: 240VAC/60Hz						
Conductor (Hot/Neutral)	Quasi- Peak Frequency (MHz)	Highest Quasi-Peak Corrected Amplitude (dBμV)	Worst-Case Quasi-Peak Margin (dB)	Average Frequency (MHz)	Highest Average Corrected Amplitude (dBμV)	Worst-Case Average Margin (dB)
Hot	0.477478	49.62	-6.76	0.546197	39.13	-6.87
Neutral	0.468745	52.11	-4.43	0.468745	44.33	-2.21

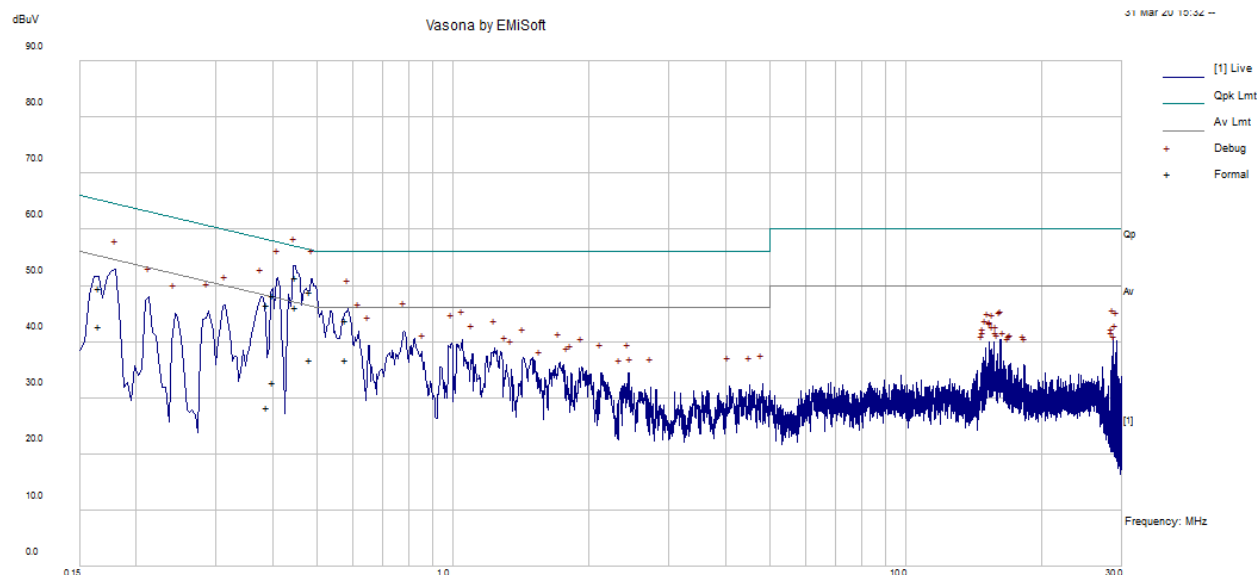
Low-Band: Worst Case: AC Line: 240VAC/60Hz						
Conductor (Hot/Neutral)	Quasi- Peak Frequency (MHz)	Highest Quasi-Peak Corrected Amplitude (dBμV)	Worst-Case Quasi-Peak Margin (dB)	Average Frequency (MHz)	Highest Average Corrected Amplitude (dBμV)	Worst-Case Average Margin (dB)
Hot	0.474599	51.42	-5.02	0.474599	43.96	-2.47
Neutral	0.472409	50.64	-5.83	0.472409	41.38	-5.09

Mid Band: Worst Case: AC Line: 240VAC/60Hz						
Conductor (Hot/Neutral)	Quasi- Peak Frequency (MHz)	Highest Quasi-Peak Corrected Amplitude (dBμV)	Worst-Case Quasi-Peak Margin (dB)	Average Frequency (MHz)	Highest Average Corrected Amplitude (dBμV)	Worst-Case Average Margin (dB)
Hot	0.470531	52.9	-3.6	0.470531	44.74	-1.76
Neutral	0.466931	52.42	-4.15	0.543147	42.4	-3.6

High Band: Worst Case: AC Line: 240VAC/60Hz						
Conductor (Hot/Neutral)	Quasi- Peak Frequency (MHz)	Highest Quasi-Peak Corrected Amplitude (dBμV)	Worst-Case Quasi-Peak Margin (dB)	Average Frequency (MHz)	Highest Average Corrected Amplitude (dBμV)	Worst-Case Average Margin (dB)
Hot	0.468508	52.27	-4.27	0.468508	39.34	-7.2
Neutral	0.46894	51.64	-4.89	0.544459	43.6	-2.4

4.9 Conducted Emissions Test Plots and Data

AC Line: 120VAC/60Hz, Hot Conductor (Scanning Mode)

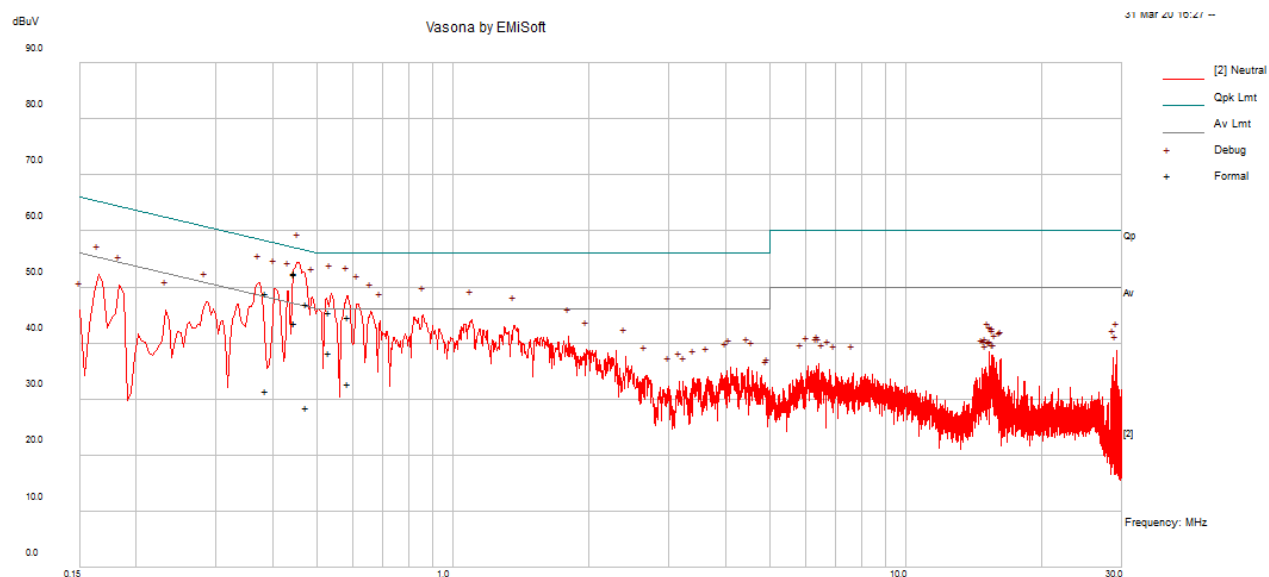


Quasi-Peak Measurements

Frequency (MHz)	Corrected Amplitude (dBμV)	Conductor (Hot/ Neutral)	Limit (dBμV)	Margin (dB)
0.450662	51.36	Hot	56.86	-5.5
0.485049	48.88	Hot	56.25	-7.37
0.401791	48.26	Hot	57.82	-9.56
0.390294	46.63	Hot	58.06	-11.43
0.579836	43.84	Hot	56	-12.16
0.165758	49.58	Hot	65.17	-15.59

Average Measurements

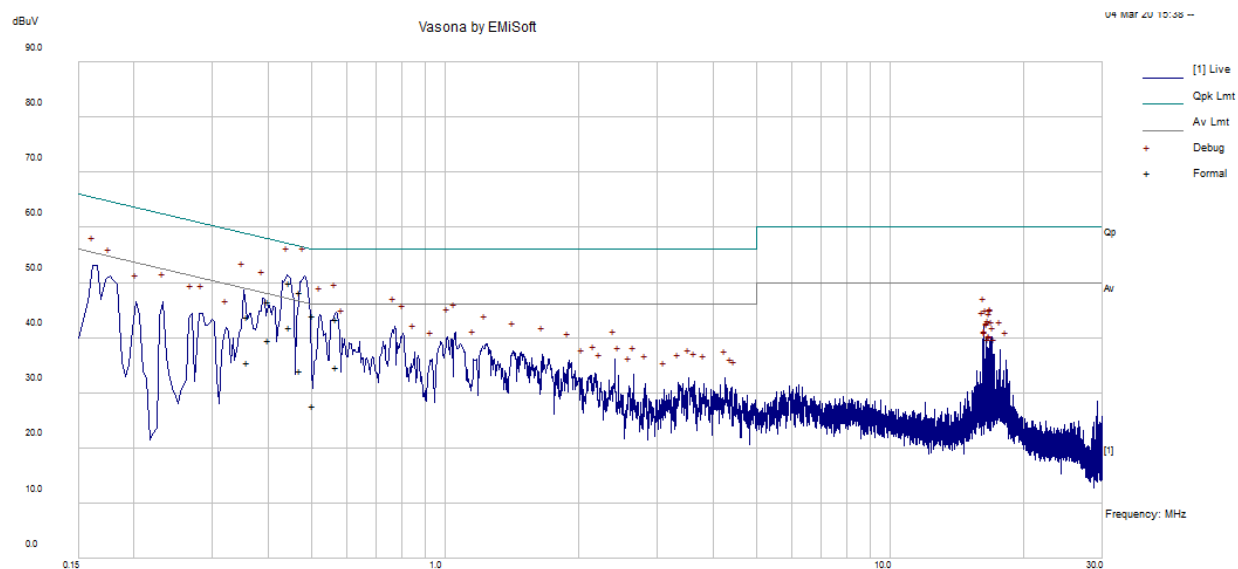
Frequency (MHz)	Corrected Amplitude (dBμV)	Conductor (Hot/ Neutral)	Limit (dBμV)	Margin (dB)
0.450662	46.09	Hot	46.86	-0.78
0.579836	36.87	Hot	46	-9.13
0.485049	36.89	Hot	46.25	-9.36
0.165758	42.68	Hot	55.17	-12.49
0.401791	32.72	Hot	47.82	-15.1
0.390294	28.23	Hot	48.06	-19.83

AC Line: 120VAC/60Hz, Neutral Conductor (Scanning Mode)**Quasi-Peak Measurements**

Frequency (MHz)	Corrected Amplitude (dBμV)	Conductor (Hot/ Neutral)	Limit (dBμV)	Margin (dB)
0.447487	52.42	Neutral	56.92	-4.5
0.447328	52.39	Neutral	56.92	-4.53
0.387948	48.94	Neutral	58.11	-9.16
0.476355	47.06	Neutral	56.4	-9.34
0.533036	45.41	Neutral	56	-10.59
0.586688	44.65	Neutral	56	-11.35

Average Measurements

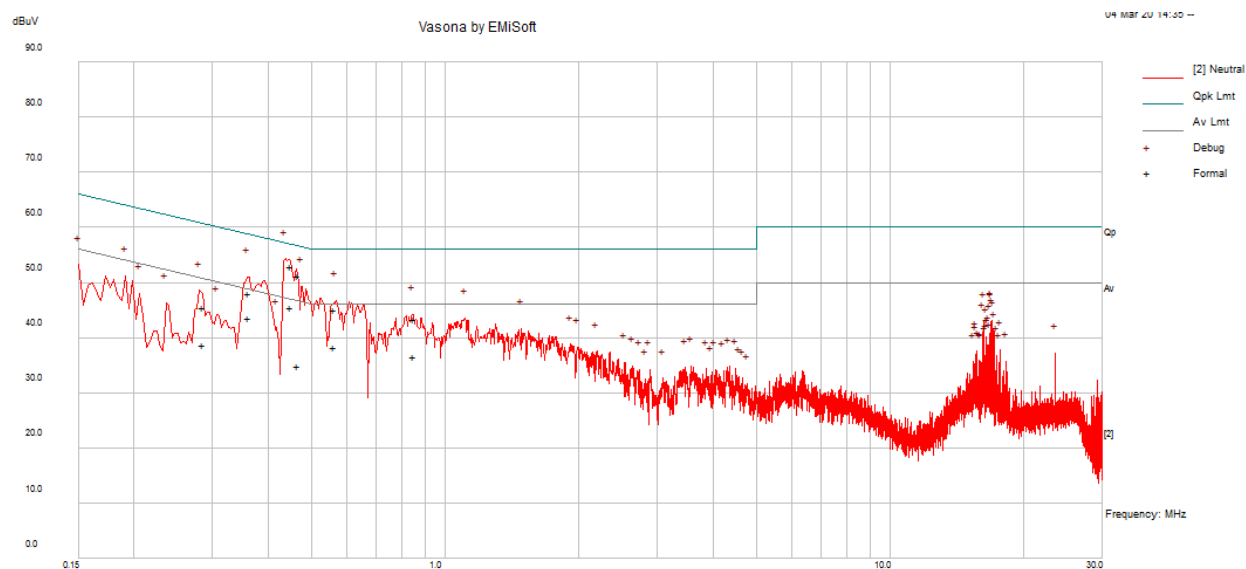
Frequency (MHz)	Corrected Amplitude (dBμV)	Conductor (Hot/ Neutral)	Limit (dBμV)	Margin (dB)
0.447328	43.61	Neutral	46.92	-3.32
0.447487	43.57	Neutral	46.92	-3.35
0.533036	38.26	Neutral	46	-7.74
0.586688	32.87	Neutral	46	-13.13
0.387948	31.4	Neutral	48.11	-16.71
0.476355	28.47	Neutral	46.4	-17.93

AC Line: 120VAC/60Hz, Hot Conductor (Low Band, 10 kHz)**Quasi-Peak Measurements**

Frequency (MHz)	Corrected Amplitude (dBμV)	Conductor (Hot/ Neutral)	Limit (dBμV)	Margin (dB)
0.448527	49.91	Hot	56.9	-6.99
0.472888	48.27	Hot	56.46	-8.19
0.401902	46.54	Hot	57.81	-11.28
0.50533	44.05	Hot	56	-11.95
0.570862	43.49	Hot	56	-12.51
0.359259	43.77	Hot	58.75	-14.98

Average Measurements

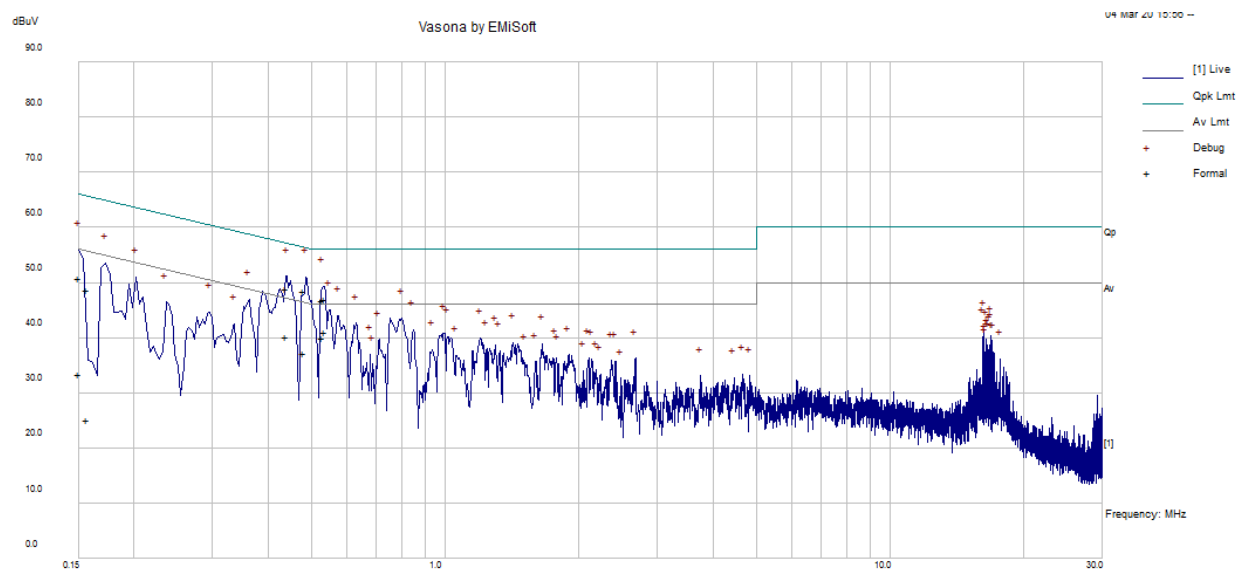
Frequency (MHz)	Corrected Amplitude (dBμV)	Conductor (Hot/ Neutral)	Limit (dBμV)	Margin (dB)
0.448527	41.93	Hot	46.9	-4.98
0.401902	39.62	Hot	47.81	-8.2
0.570862	34.71	Hot	46	-11.29
0.472888	33.96	Hot	46.46	-12.51
0.359259	35.61	Hot	48.75	-13.14
0.50533	27.63	Hot	46	-18.37

AC Line: 120VAC/60Hz, Neutral Conductor (Low Band, 10 kHz)**Quasi-Peak Measurements**

Frequency (MHz)	Corrected Amplitude (dBμV)	Conductor (Hot/ Neutral)	Limit (dBμV)	Margin (dB)
0.449206	52.99	Neutral	56.89	-3.9
0.465605	51.26	Neutral	56.59	-5.33
0.362582	48.15	Neutral	58.67	-10.52
0.562168	45.15	Neutral	56	-10.85
0.849609	43.3	Neutral	56	-12.7
0.286363	45.5	Neutral	60.63	-15.13

Average Measurements

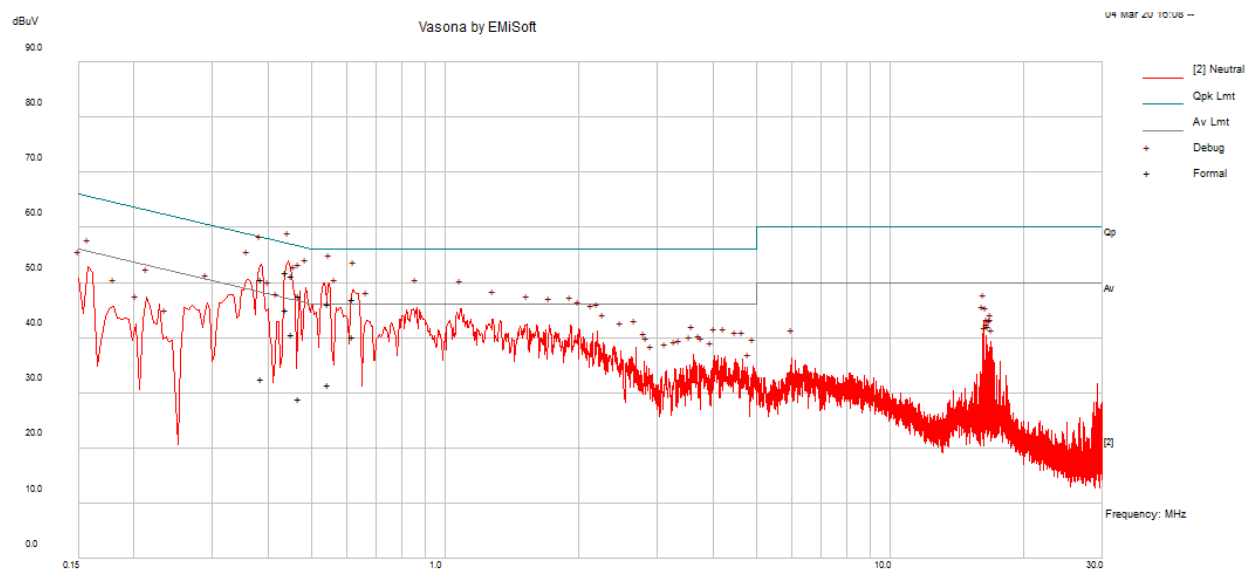
Frequency (MHz)	Corrected Amplitude (dBμV)	Conductor (Hot/ Neutral)	Limit (dBμV)	Margin (dB)
0.449206	45.62	Neutral	46.89	-1.27
0.362582	43.57	Neutral	48.67	-5.1
0.562168	38.34	Neutral	46	-7.66
0.849609	36.48	Neutral	46	-9.52
0.465605	34.95	Neutral	46.59	-11.64
0.286363	38.72	Neutral	50.63	-11.91

AC Line: 120VAC/60Hz, Hot Conductor (Mid Band, 1850 MHz)**Quasi-Peak Measurements**

Frequency (MHz)	Corrected Amplitude (dB μ V)	Conductor (Hot/ Neutral)	Limit (dB μ V)	Margin (dB)
0.482001	48.55	Hot	56.3	-7.75
0.439797	48.94	Hot	57.07	-8.13
0.535509	46.93	Hot	56	-9.07
0.531271	46.76	Hot	56	-9.24
0.150397	50.74	Hot	65.98	-15.24
0.156819	48.73	Hot	65.63	-16.9

Average Measurements

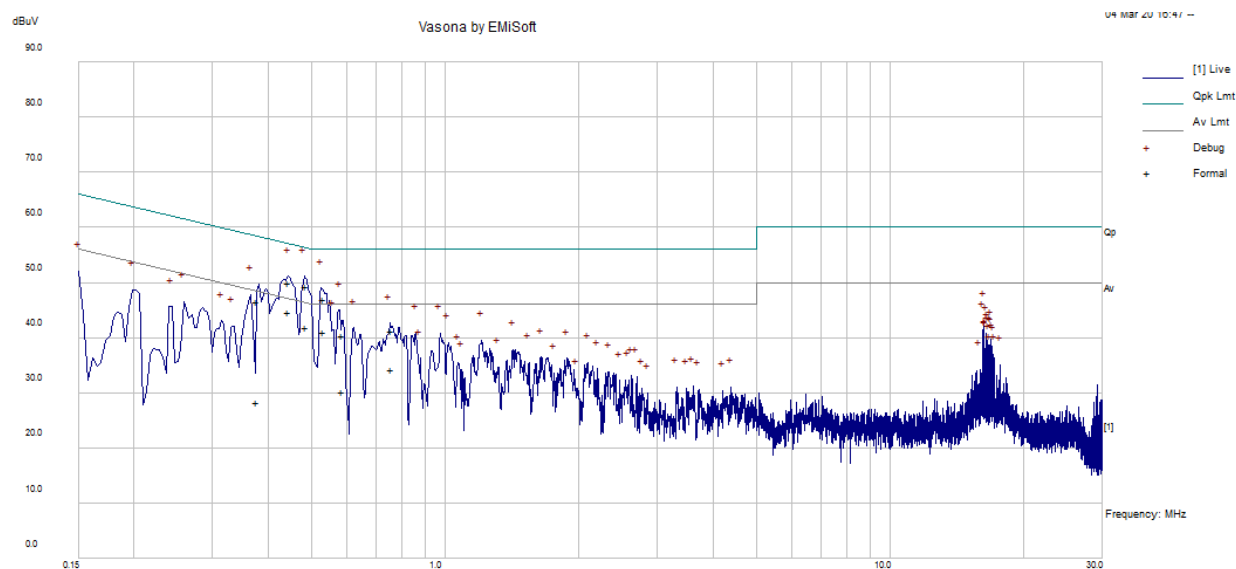
Frequency (MHz)	Corrected Amplitude (dB μ V)	Conductor (Hot/ Neutral)	Limit (dB μ V)	Margin (dB)
0.535509	41.11	Hot	46	-4.89
0.531271	39.91	Hot	46	-6.09
0.439797	40.24	Hot	47.07	-6.83
0.482001	37.12	Hot	46.3	-9.18
0.150397	33.42	Hot	55.98	-22.56
0.156819	25.02	Hot	55.63	-30.61

AC Line: 120VAC/60Hz, Neutral Conductor (Mid Band, 1850 MHz)**Quasi-Peak Measurements**

Frequency (MHz)	Corrected Amplitude (dBμV)	Conductor (Hot/ Neutral)	Limit (dBμV)	Margin (dB)
0.440631	51.93	Neutral	57.05	-5.12
0.453557	51.31	Neutral	56.81	-5.5
0.386777	50.68	Neutral	58.13	-7.45
0.469131	47.68	Neutral	56.53	-8.85
0.619797	47.08	Neutral	56	-8.92
0.547039	46.13	Neutral	56	-9.87

Average Measurements

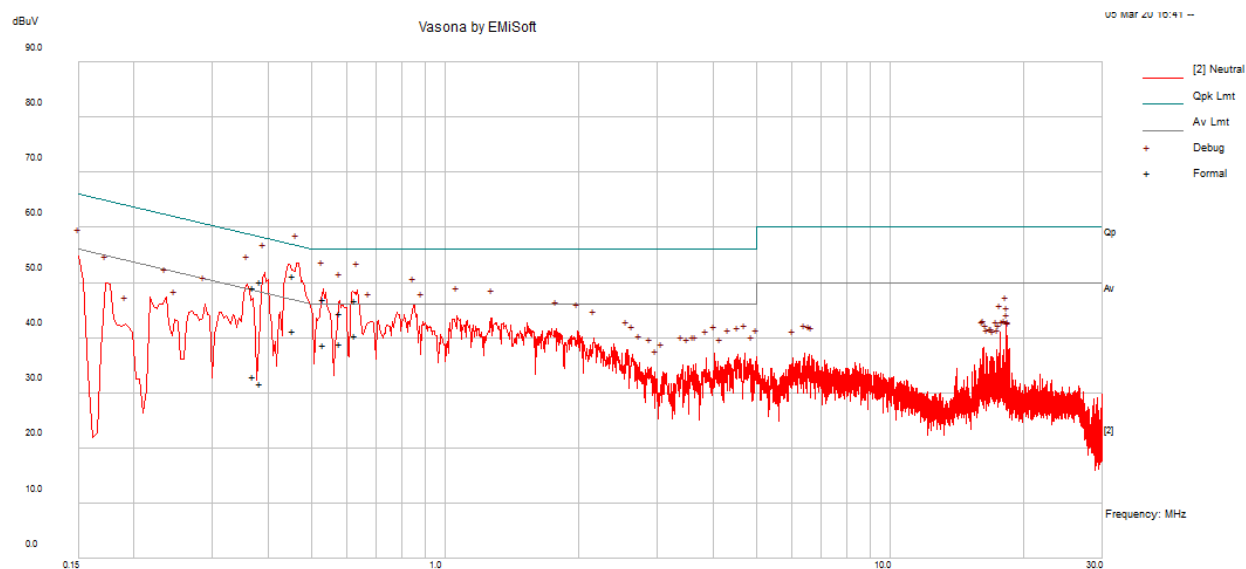
Frequency (MHz)	Corrected Amplitude (dBμV)	Conductor (Hot/ Neutral)	Limit (dBμV)	Margin (dB)
0.440631	45.07	Neutral	47.05	-1.98
0.619797	40.23	Neutral	46	-5.77
0.453557	40.57	Neutral	46.81	-6.24
0.547039	31.46	Neutral	46	-14.54
0.386777	32.54	Neutral	48.13	-15.6
0.469131	28.97	Neutral	46.53	-17.56

AC Line: 120VAC/60Hz, Hot Conductor (High Band, 3690 MHz)**Quasi-Peak Measurements**

Frequency (MHz)	Corrected Amplitude (dBμV)	Conductor (Hot/ Neutral)	Limit (dBμV)	Margin (dB)
0.485992	49.29	Hot	56.24	-6.95
0.445275	50	Hot	56.96	-6.96
0.534622	46.97	Hot	56	-9.03
0.376993	46.53	Hot	58.35	-11.81
0.75871	41.3	Hot	56	-14.7
0.588627	40.35	Hot	56	-15.65

Average Measurements

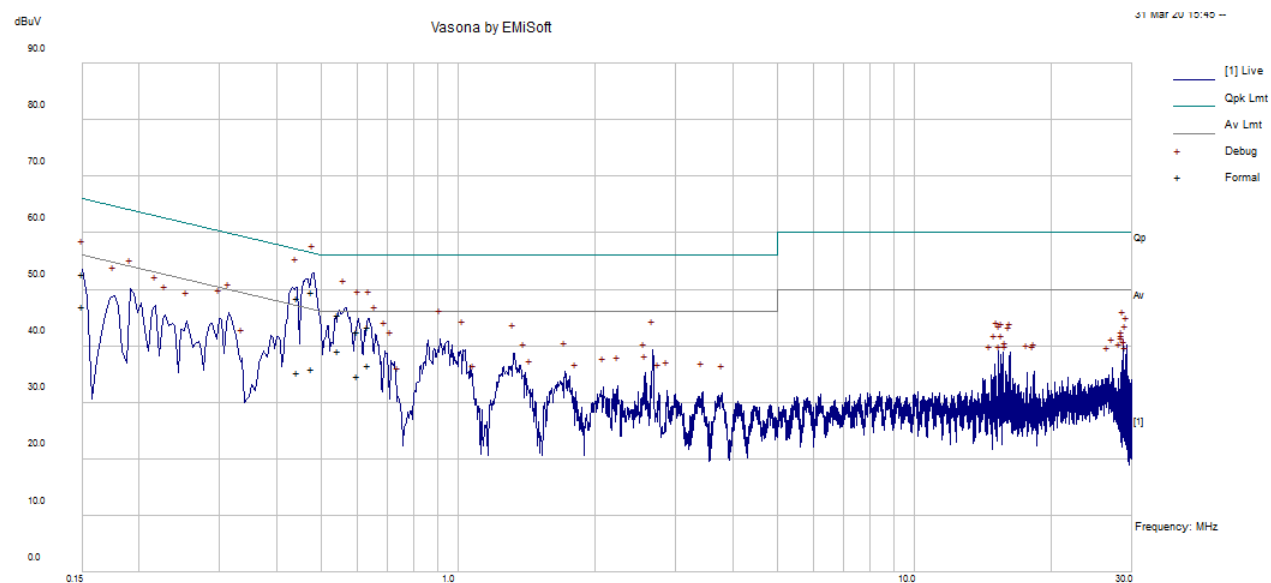
Frequency (MHz)	Corrected Amplitude (dBμV)	Conductor (Hot/ Neutral)	Limit (dBμV)	Margin (dB)
0.445275	44.61	Hot	46.96	-2.35
0.485992	41.98	Hot	46.24	-4.26
0.534622	41.14	Hot	46	-4.86
0.75871	34.16	Hot	46	-11.84
0.588627	30.22	Hot	46	-15.78
0.376993	28.35	Hot	48.35	-19.99

AC Line: 120VAC/60Hz, Neutral Conductor (High Band. 3690 MHz)**Quasi-Peak Measurements**

Frequency (MHz)	Corrected Amplitude (dBμV)	Conductor (Hot/ Neutral)	Limit (dBμV)	Margin (dB)
0.455562	51.29	Neutral	56.77	-5.48
0.385114	50.29	Neutral	58.17	-7.88
0.532071	46.94	Neutral	56	-9.06
0.629605	46.81	Neutral	56	-9.19
0.370898	49.07	Neutral	58.48	-9.42
0.580905	44.39	Neutral	56	-11.61

Average Measurements

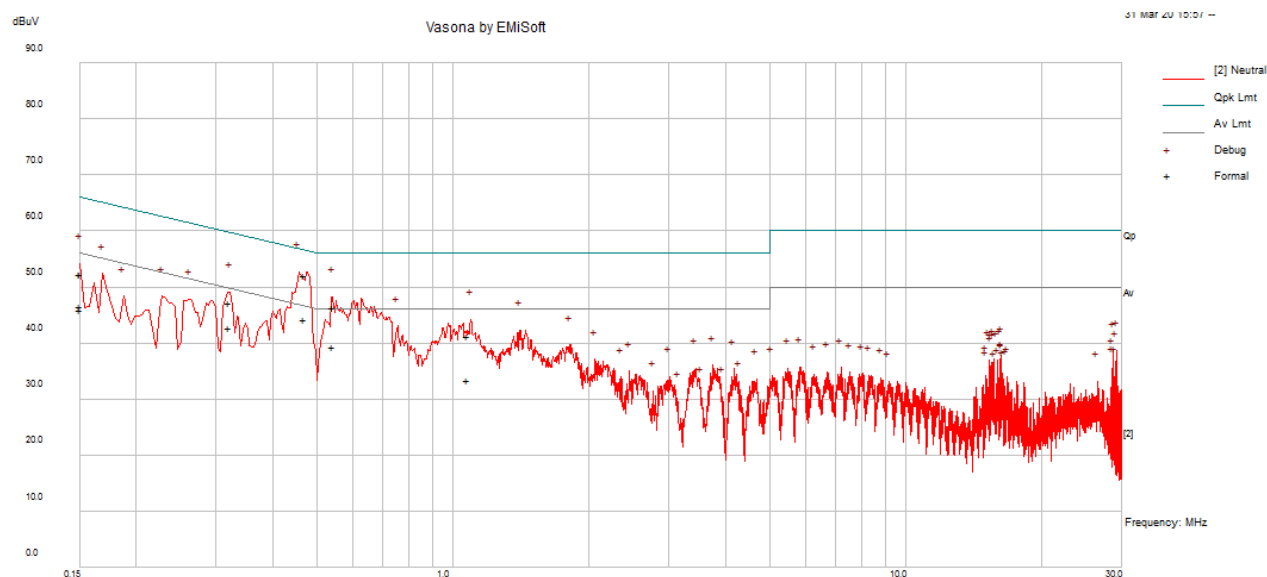
Frequency (MHz)	Corrected Amplitude (dBμV)	Conductor (Hot/ Neutral)	Limit (dBμV)	Margin (dB)
0.455562	41.31	Neutral	46.77	-5.46
0.629605	40.45	Neutral	46	-5.55
0.580905	38.83	Neutral	46	-7.17
0.532071	38.74	Neutral	46	-7.26
0.370898	32.96	Neutral	48.48	-15.52
0.385114	31.78	Neutral	48.17	-16.39

AC Line: 240VAC/60Hz, Hot Conductor (Scanning Mode)**Quasi-Peak Measurements**

Frequency (MHz)	Corrected Amplitude (dBμV)	Conductor (Hot/ Neutral)	Limit (dBμV)	Margin (dB)
0.477478	49.62	Hot	56.38	-6.76
0.446007	48.56	Hot	56.95	-8.39
0.546197	45.48	Hot	56	-10.52
0.633985	43.41	Hot	56	-12.59
0.150209	52.68	Hot	65.99	-13.31
0.601913	42.64	Hot	56	-13.36

Average Measurements

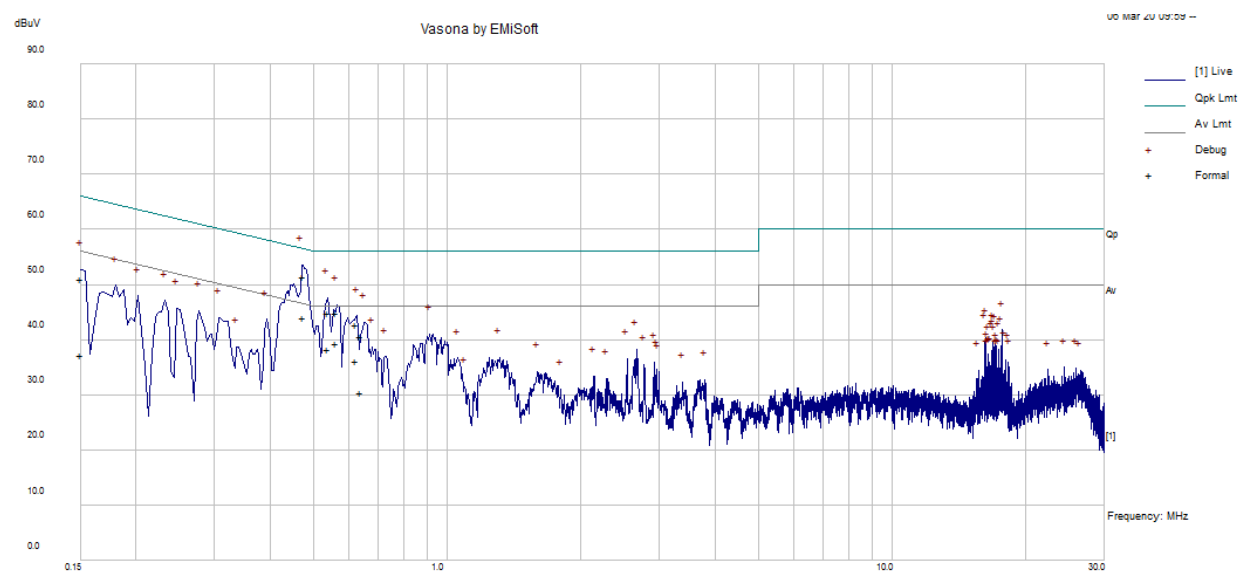
Frequency (MHz)	Corrected Amplitude (dBμV)	Conductor (Hot/ Neutral)	Limit (dBμV)	Margin (dB)
0.546197	39.13	Hot	46	-6.87
0.150209	46.99	Hot	55.99	-9
0.633985	36.5	Hot	46	-9.5
0.477478	35.93	Hot	46.38	-10.46
0.601913	34.7	Hot	46	-11.3
0.446007	35.3	Hot	46.95	-11.65

AC Line: 240VAC/60Hz, Neutral Conductor (Scanning Mode)**Quasi-Peak Measurements**

Frequency (MHz)	Corrected Amplitude (dBμV)	Conductor (Hot/ Neutral)	Limit (dBμV)	Margin (dB)
0.468745	52.11	Neutral	56.54	-4.43
0.544184	46.39	Neutral	56	-9.61
0.320443	47.14	Neutral	59.7	-12.56
0.150256	52.38	Neutral	65.99	-13.6
0.150658	52.22	Neutral	65.96	-13.75
1.079346	41.35	Neutral	56	-14.65

Average Measurements

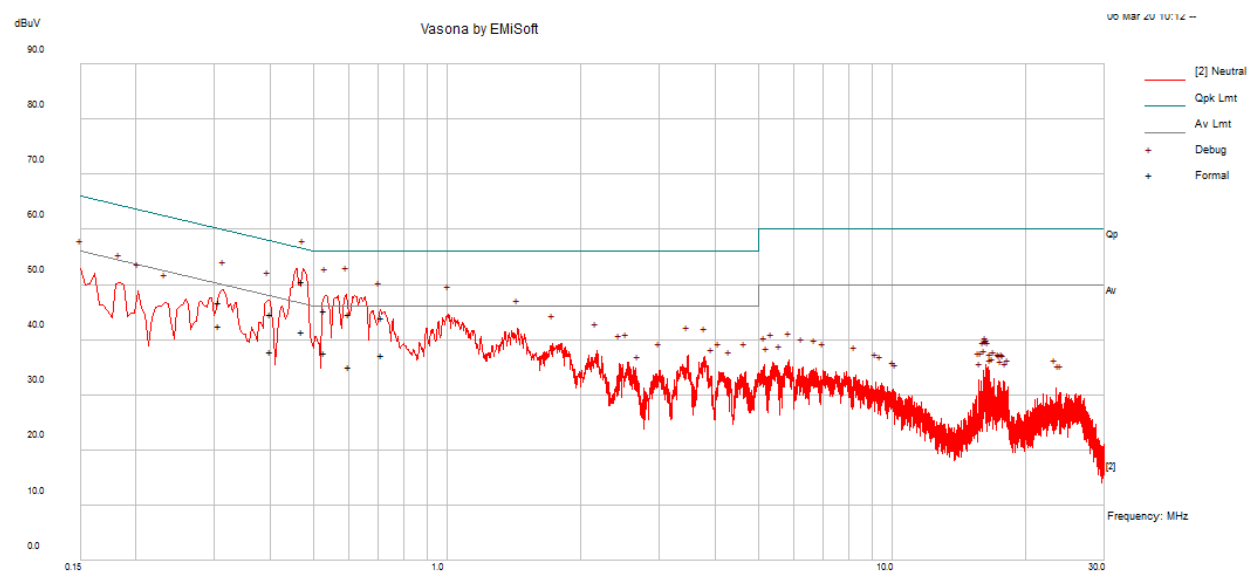
Frequency (MHz)	Corrected Amplitude (dBμV)	Conductor (Hot/ Neutral)	Limit (dBμV)	Margin (dB)
0.468745	44.33	Neutral	46.54	-2.21
0.544184	39.3	Neutral	46	-6.7
0.320443	42.85	Neutral	49.7	-6.84
0.150256	46.58	Neutral	55.99	-9.41
0.150658	45.93	Neutral	55.96	-10.03
1.079346	33.37	Neutral	46	-12.63

AC Line: 240VAC/60Hz, Hot Conductor (Low Band, 10 kHz)**Quasi-Peak Measurements**

Frequency (MHz)	Corrected Amplitude (dBμV)	Conductor (Hot/ Neutral)	Limit (dBμV)	Margin (dB)
0.474599	51.42	Hot	56.43	-5.02
0.562703	44.91	Hot	56	-11.09
0.540542	44.9	Hot	56	-11.1
0.623798	42.79	Hot	56	-13.21
0.150244	50.95	Hot	65.99	-15.04
0.640517	40.64	Hot	56	-15.36

Average Measurements

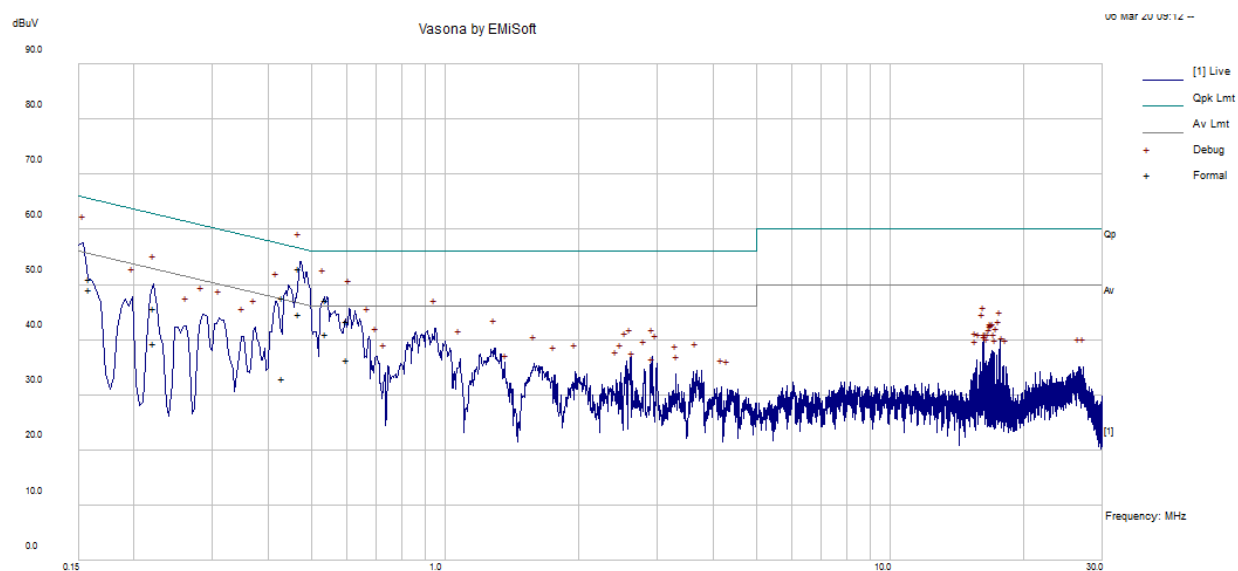
Frequency (MHz)	Corrected Amplitude (dBμV)	Conductor (Hot/ Neutral)	Limit (dBμV)	Margin (dB)
0.474599	43.96	Hot	46.43	-2.47
0.562703	39.35	Hot	46	-6.65
0.540542	38.32	Hot	46	-7.68
0.623798	36.19	Hot	46	-9.81
0.640517	30.39	Hot	46	-15.61
0.150244	37.15	Hot	55.99	-18.83

AC Line: 240VAC/60Hz, Neutral Conductor (Low Band, 10 kHz)**Quasi-Peak Measurements**

Frequency (MHz)	Corrected Amplitude (dBμV)	Conductor (Hot/ Neutral)	Limit (dBμV)	Margin (dB)
0.472409	50.64	Neutral	56.47	-5.83
0.529953	45.35	Neutral	56	-10.65
0.601843	44.67	Neutral	56	-11.33
0.711718	43.96	Neutral	56	-12.04
0.307868	46.82	Neutral	60.03	-13.21
0.401085	44.61	Neutral	57.83	-13.22

Average Measurements

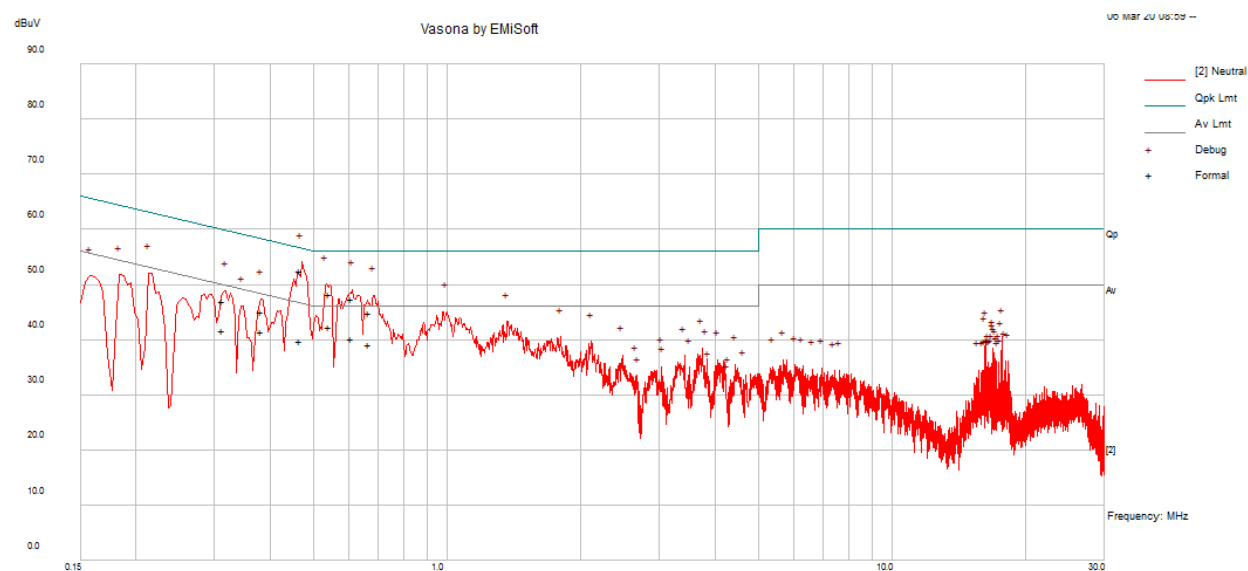
Frequency (MHz)	Corrected Amplitude (dBμV)	Conductor (Hot/ Neutral)	Limit (dBμV)	Margin (dB)
0.472409	41.38	Neutral	46.47	-5.09
0.307868	42.57	Neutral	50.03	-7.46
0.529953	37.63	Neutral	46	-8.37
0.711718	37.28	Neutral	46	-8.72
0.401085	37.88	Neutral	47.83	-9.95
0.601843	35.02	Neutral	46	-10.98

AC Line: 240VAC/60Hz, Hot Conductor (Mid Band, 1850 MHz)**Quasi-Peak Measurements**

Frequency (MHz)	Corrected Amplitude (dBμV)	Conductor (Hot/ Neutral)	Limit (dBμV)	Margin (dB)
0.470531	52.9	Hot	56.5	-3.6
0.541221	47.18	Hot	56	-8.82
0.431394	47.66	Hot	57.23	-9.56
0.602567	43.34	Hot	56	-12.66
0.159132	51.05	Hot	65.51	-14.46
0.221331	45.66	Hot	62.77	-17.11

Average Measurements

Frequency (MHz)	Corrected Amplitude (dBμV)	Conductor (Hot/ Neutral)	Limit (dBμV)	Margin (dB)
0.470531	44.74	Hot	46.5	-1.76
0.541221	41.1	Hot	46	-4.9
0.159132	49.21	Hot	55.51	-6.29
0.602567	36.35	Hot	46	-9.65
0.221331	39.42	Hot	52.77	-13.35
0.431394	33.04	Hot	47.23	-14.19

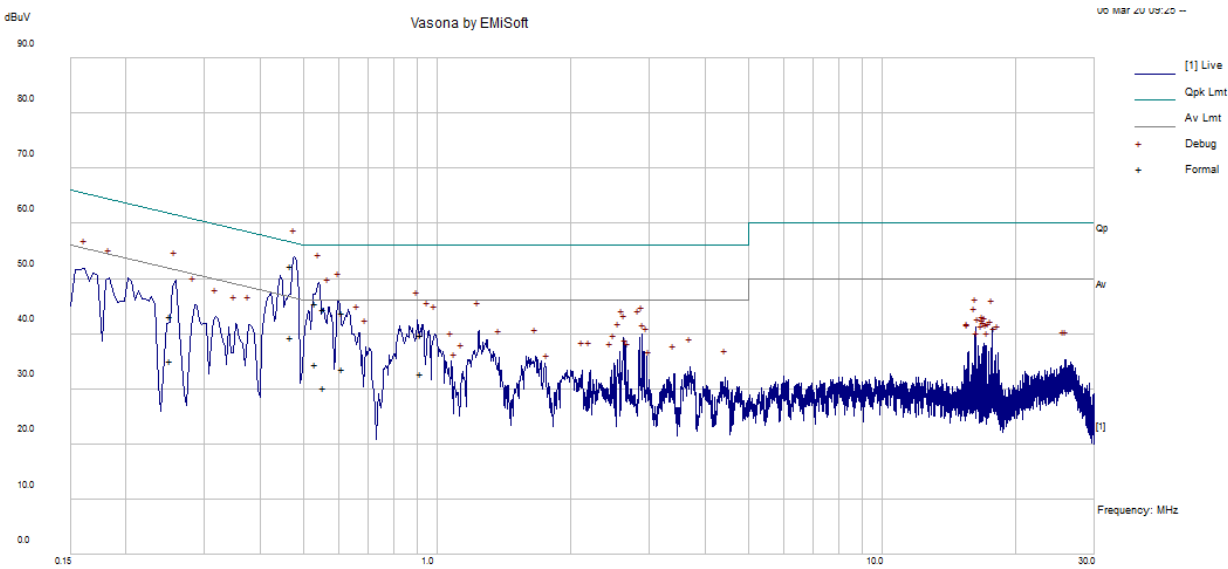
AC Line: 240VAC/60Hz, Neutral Conductor (Mid Band, 1850 MHz)**Quasi-Peak Measurements**

Frequency (MHz)	Corrected Amplitude (dBμV)	Conductor (Hot/ Neutral)	Limit (dBμV)	Margin (dB)
0.466931	52.42	Neutral	56.57	-4.15
0.543147	48.36	Neutral	56	-7.64
0.60835	47.52	Neutral	56	-8.48
0.668503	44.94	Neutral	56	-11.06
0.313616	47.06	Neutral	59.87	-12.82
0.382559	45.03	Neutral	58.22	-13.2

Average Measurements

Frequency (MHz)	Corrected Amplitude (dBμV)	Conductor (Hot/ Neutral)	Limit (dBμV)	Margin (dB)
0.543147	42.4	Neutral	46	-3.6
0.60835	40.21	Neutral	46	-5.79
0.382559	41.51	Neutral	48.22	-6.72
0.466931	39.7	Neutral	46.57	-6.87
0.668503	39.09	Neutral	46	-6.91
0.313616	41.74	Neutral	49.87	-8.13

AC Line: 240VAC/60Hz, Hot Conductor (High Band, 3690 MHz)

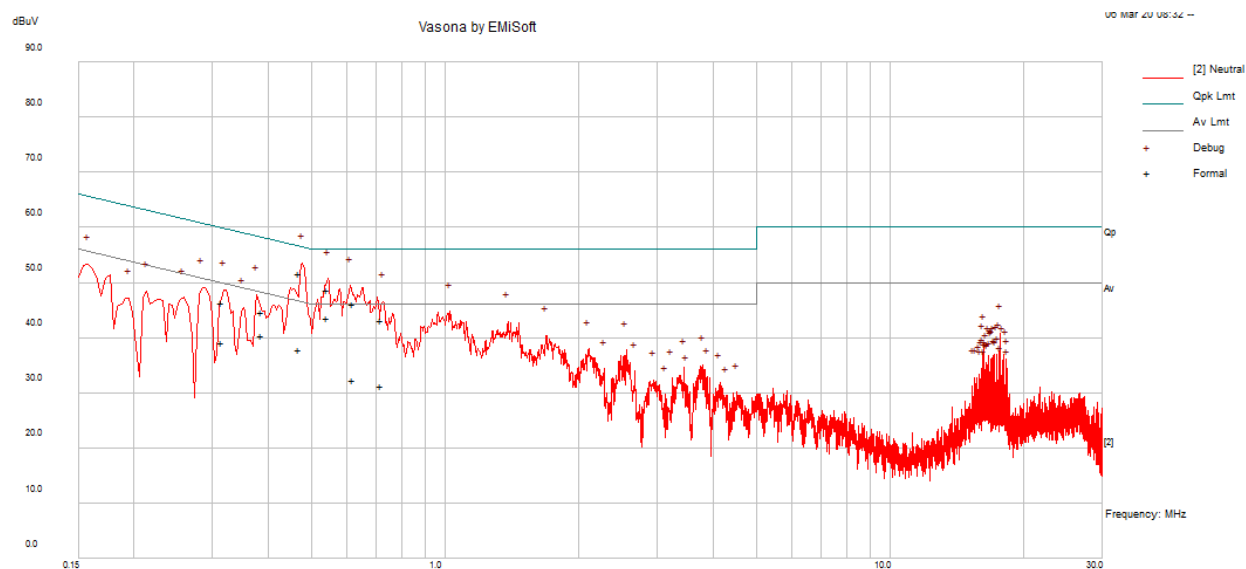


Quasi-Peak Measurements

Frequency (MHz)	Corrected Amplitude (dBμV)	Conductor (Hot/ Neutral)	Limit (dBμV)	Margin (dB)
0.468508	52.27	Hot	56.54	-4.27
0.533096	45.55	Hot	56	-10.45
0.557476	44.43	Hot	56	-11.57
0.612978	43.83	Hot	56	-12.17
0.917443	39.79	Hot	56	-16.21
0.252184	43.16	Hot	61.68	-18.53

Average Measurements

Frequency (MHz)	Corrected Amplitude (dBμV)	Conductor (Hot/ Neutral)	Limit (dBμV)	Margin (dB)
0.468508	39.34	Hot	46.54	-7.2
0.533096	34.55	Hot	46	-11.45
0.612978	33.66	Hot	46	-12.34
0.917443	32.81	Hot	46	-13.19
0.557476	30.15	Hot	46	-15.85
0.252184	35.19	Hot	51.68	-16.49

AC Line: 240VAC/60Hz, Neutral Conductor (High Band, 3690 MHz)**Quasi-Peak Measurements**

Frequency (MHz)	Corrected Amplitude (dBμV)	Conductor (Hot/ Neutral)	Limit (dBμV)	Margin (dB)
0.46894	51.64	Neutral	56.53	-4.89
0.544459	48.68	Neutral	56	-7.32
0.62248	46.19	Neutral	56	-9.81
0.716299	43.18	Neutral	56	-12.82
0.387072	44.69	Neutral	58.13	-13.44
0.314354	46.4	Neutral	59.85	-13.45

Average Measurements

Frequency (MHz)	Corrected Amplitude (dBμV)	Conductor (Hot/ Neutral)	Limit (dBμV)	Margin (dB)
0.544459	43.6	Neutral	46	-2.4
0.387072	40.52	Neutral	48.13	-7.61
0.46894	37.82	Neutral	46.53	-8.71
0.314354	39.2	Neutral	49.85	-10.65
0.62248	32.32	Neutral	46	-13.68
0.716299	31.2	Neutral	46	-14.8

5 FCC 15B §15.109 – Radiated Emissions

5.1 Applicable Standard

As per FCC 15B §15.109: Radiated Emission Limits

(a) Except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Frequency of Emission (MHz)	Field Strength (microvolts/meter)
30 to 88	100
88 to 216	150
216 to 960	200
Above 960	500

(g) As an alternative to the radiated emission limits shown in paragraphs (a) and (b) of this section, digital devices may be shown to comply with the standards contained in Third Edition of the International Special Committee on Radio Interference (CISPR), Pub. 22: “Information Technology Equipment – Radio Disturbance Characteristics – Limits and Methods of Measurement.”

NOTE 1: The lower limit shall apply at the transition frequency.

NOTE 2: Additional provisions may be required for cases where interference occurs.

5.2 EUT Setup

The radiated emissions tests were performed in the 10-meter test chamber, using the setup in accordance with ANSI C63.4 measurement procedures. The specifications used were in accordance with FCC 15B Class B limits.

If applicable, the spacing between the peripherals was 10 cm.

If applicable, the external I/O cables were draped along the test table and bundled as required.

The EUT was AC powered through an AC Adapter.

5.3 Test Procedure

Maximization procedure was performed on the six (6) highest emissions readings to ensure the EUT is compliant with all installation combinations.

All data was recorded in the Quasi-Peak detection mode for below 1 GHz and Max Peak and Average detection mode for above 1 GHz.

5.4 Corrected Amplitude & Margin Calculation

The Corrected Amplitude (CA) is calculated by adding the Antenna Factor (AF), the Cable Loss (CL), the Attenuator Factor (Atten) and subtracting the Amplifier Gain (Ga) to the indicated Amplitude (Ai) reading. The basic equation is as follows:

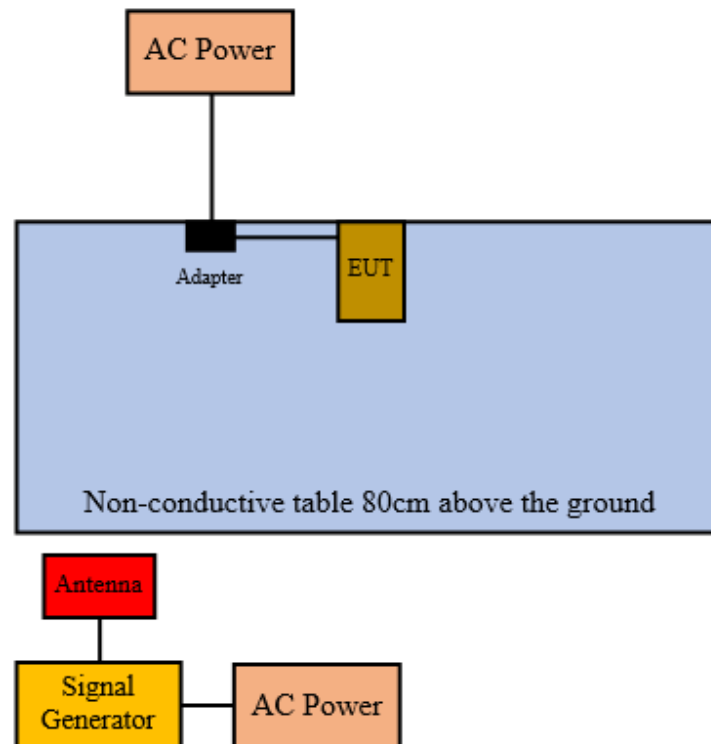
$$CA = Ai + AF + CL + Atten - Ga$$

For example, the Corrected Amplitude (CA) of 40.3 dB μ V/m = indicated Amplitude reading (Ai) 32.5 dB μ V + Antenna Factor (AF) 23.5dB + Cable Loss (CL) 3.7 dB + Attenuator (Atten) 10 dB - Amplifier Gain (Ga) 29.4 dB

The “**Margin**” column of the following data tables indicates the degree of compliance within the applicable limit. For example, a margin of -7 dB means the emission is 7 dB below the maximum limit for Class B. The equation for margin calculation is as follows:

$$\text{Margin (dB)} = \text{Corrected Amplitude (dB}\mu\text{V/m)} - \text{Class B Limit (dB}\mu\text{V/m)}$$

5.5 Test Setup Block Diagram



5.6 Test Equipment List and Details

BACL Asset #	Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due
00311	Sunol Sciences	Controller, System	SC104V	113005-1	Calibration not Required	Calibration not Required
00445	SONOMA INSTRUMENT	Amplifier	315	303125	2019-07-31	2020-07-31
00714	Keysight Technologies	RF Limiter	11867A	MY42242932	2020-01-30	2021-01-30
00321	Sunol Sciences	Antenna, BiConiLog	JB3	A020106-2	2019-11-20	2021-11-20
00831	Rohde & Schwarz	EMI Test Receiver	ESU-40	100433	2019-02-06	*2020-03-06
00124	Rhode & Schwarz	EMI Test Receiver	ESCI 1166.5950K03	100044	2018-10-26	2020-10-26
00624	Agilent	Spectrum Analyzer	E4446A	MY48250238	2019-06-26	2020-06-26
00784	ETS LINGEREN	Horn Antenna built in Pre Amp	3117-PA	203557	2018-10-15	2020-10-15
00827	A.H. System	Pre-amplifier	PAM-1840VH	170	2019-09-24	2020-09-24
00090	Wisewave	Antenna, Horn	ARH-4223-02	10555-01	2020-02-27	2022-02-27
00690	Wireless Solutions	N-Type Coax Cable	LMR 400	690	2019-03-12	2020-04-12
00601	UTiFLEX	High Frequency Cable	223458-002	223458-001	2019-09-11	2020-09-11
00343	HP	Signal Generator	8648C	3847M00143	2020-01-28	2021-01-28
00742	HP	Signal Generator	83620B	3844A00849	2019-11-18	2020-11-20
00110	A.H. Systems	Horn Antenna	SAS-200/571	261	2019-06-07	2021-06-07

* Only used when EUT was tested on 2020-03-04

Statement of Traceability: BACL Corp. attests that all of the calibrations on the equipment items listed above were traceable to NIST or to another internationally recognized National Metrology Institute (NMI), and were compliant with A2LA Policy P102 (dated 9 June 2016) "A2LA Policy on Metrological Traceability".

5.7 Environmental Conditions

Testing Dates	2020-03-04	2020-04-10
Testing Site	10m Chamber 1	10m Chamber 1
Temperature:	18 °C	23 °C
Relative Humidity:	48 %	44 %
Barometric Pressure:	101.4 kPa	102.3 kPa
Test Personnel:	Steven Lianto	Steven Lianto

5.9 Summary of Test Results

According to the data in the following table, the EUT complied with FCC 15B §15.109 Class B Radiated Emissions limits, and had the worst margin reading of:

FCC 15B Radiated Emissions Scanning Mode: Worst Case (30 MHz – 1 GHz):			
Frequency (MHz)	Polarization (Horizontal / Vertical)	Highest Amplitude Quasi-Peak Corrected Amplitude (dBμV/m)	Worst-Case Quasi-Peak Margin (dB)
31.59625	Horizontal	16.97	-13.03

FCC 15B Radiated Emissions Receiving Mode (30 MHz): Worst Case (30 MHz – 1 GHz):			
Frequency (MHz)	Polarization (Horizontal / Vertical)	Highest Amplitude Quasi-Peak Corrected Amplitude (dBμV/m)	Worst-Case Quasi-Peak Margin (dB)
31.3045	Vertical	17.32	-12.68

FCC 15B Radiated Emissions Receiving Mode (495 MHz): Worst Case (30 MHz – 1 GHz):			
Frequency (MHz)	Polarization (Horizontal / Vertical)	Highest Amplitude Quasi-Peak Corrected Amplitude (dBμV/m)	Worst-Case Quasi-Peak Margin (dB)
990.0515	Vertical	37.17	-6.83

FCC 15B Radiated Emissions Receiving Mode (960 MHz): Worst Case (30 MHz – 1 GHz):			
Frequency (MHz)	Polarization (Horizontal / Vertical)	Highest Amplitude Quasi-Peak Corrected Amplitude (dBμV/m)	Worst-Case Quasi-Peak Margin (dB)
90.75925	Vertical	21.01	-12.49

FCC 15B Radiated Emissions Receiving Mode (10 kHz): Worst Case (30 MHz – 1 GHz):			
Frequency (MHz)	Polarization (Horizontal / Vertical)	Highest Amplitude Quasi-Peak Corrected Amplitude (dBμV/m)	Worst-Case Quasi-Peak Margin (dB)
89.807	Vertical	19.89	-13.61

FCC 15B Radiated Emissions Receiving Mode (1850 MHz): Worst Case (30 MHz – 1 GHz):			
Frequency (MHz)	Polarization (Horizontal / Vertical)	Highest Amplitude Quasi-Peak Corrected Amplitude (dBμV/m)	Worst-Case Quasi-Peak Margin (dB)
30.6385	Vertical	25.49	-4.51

FCC 15B Radiated Emissions Receiving Mode (3690 MHz): Worst Case (30 MHz – 1 GHz):			
Frequency (MHz)	Polarization (Horizontal / Vertical)	Highest Amplitude Quasi- Peak Corrected Amplitude (dB μ V/m)	Worst-Case Quasi- Peak Margin (dB)
30	Vertical	27.38	-2.62

FCC 15B Radiated Emissions Scanning Mode: Peak Worst Case (Above 1 GHz):			
Frequency (MHz)	Polarization (Horizontal / Vertical)	Highest Peak Corrected Amplitude (dB μ V/m)	Worst-Case Peak Margin (dB)
16872.77	Horizontal	52.62	-21.38

FCC 15B Radiated Emissions Scanning Mode: CISPR Average Worst Case (Above 1 GHz):			
Frequency (MHz)	Polarization (Horizontal / Vertical)	Highest CISPR Average Corrected Amplitude (dB μ V/m)	Worst-Case CISPR Average Margin (dB)
19923.43	Horizontal	41.89	-12.11

FCC 15B Radiated Emissions Receiving Mode (30 MHz): Peak Worst Case (Above 1 GHz):			
Frequency (MHz)	Polarization (Horizontal / Vertical)	Highest Peak Corrected Amplitude (dB μ V/m)	Worst-Case Peak Margin (dB)
1998.948	Vertical	47.34	-26.66

FCC 15B Radiated Emissions Receiving Mode (30 MHz): CISPR Average Worst Case (Above 1 GHz):			
Frequency (MHz)	Polarization (Horizontal / Vertical)	Highest CISPR Average Corrected Amplitude (dB μ V/m)	Worst-Case CISPR Average Margin (dB)
1998.948	Vertical	44.44	-9.56

FCC 15B Radiated Emissions Receiving Mode (495 MHz): Peak Worst Case (Above 1 GHz):			
Frequency (MHz)	Polarization (Horizontal / Vertical)	Highest Peak Corrected Amplitude (dB μ V/m)	Worst-Case Peak Margin (dB)
1998.893	Vertical	46.08	-27.92

FCC 15B Radiated Emissions Receiving Mode (495 MHz): CISPR Average Worst Case (Above 1 GHz):			
Frequency (MHz)	Polarization (Horizontal / Vertical)	Highest CISPR Average Corrected Amplitude (dB μ V/m)	Worst-Case CISPR Average Margin (dB)
1998.893	Vertical	43.4	-10.6

FCC 15B Radiated Emissions Receiving Mode (960 MHz): Peak Worst Case (Above 1 GHz):			
Frequency (MHz)	Polarization (Horizontal / Vertical)	Highest Peak Corrected Amplitude (dB μ V/m)	Worst-Case Peak Margin (dB)
2563.902	Vertical	46.5	-27.5

FCC 15B Radiated Emissions Receiving Mode (960 MHz): CISPR Average Worst Case (Above 1 GHz):			
Frequency (MHz)	Polarization (Horizontal / Vertical)	Highest CISPR Average Corrected Amplitude (dB μ V/m)	Worst-Case CISPR Average Margin (dB)
1920.018	Vertical	42.92	-11.08

FCC 15B Radiated Emissions Receiving Mode (10 kHz): Peak Worst Case (Above 1 GHz):			
Frequency (MHz)	Polarization (Horizontal / Vertical)	Highest Peak Corrected Amplitude (dB μ V/m)	Worst-Case Peak Margin (dB)
16950.82	Vertical	49.74	-24.26

FCC 15B Radiated Emissions Receiving Mode (10 kHz): CISPR Average Worst Case (Above 1 GHz):			
Frequency (MHz)	Polarization (Horizontal / Vertical)	Highest CISPR Average Corrected Amplitude (dB μ V/m)	Worst-Case CISPR Average Margin (dB)
3998.038	Horizontal	47.03	-6.97

FCC 15B Radiated Emissions Receiving Mode (1850 MHz): Peak Worst Case (Above 1 GHz):			
Frequency (MHz)	Polarization (Horizontal / Vertical)	Highest Peak Corrected Amplitude (dB μ V/m)	Worst-Case Peak Margin (dB)
9048.222	Horizontal	51.69	-22.31

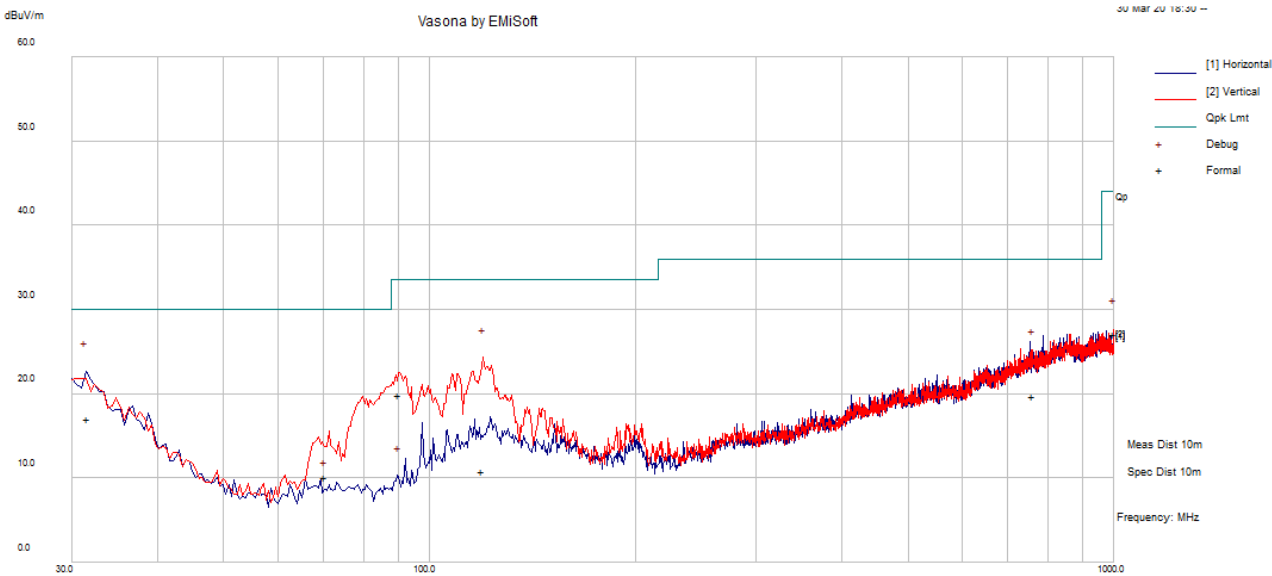
FCC 15B Radiated Emissions Receiving Mode (1850 MHz): CISPR Average Worst Case (Above 1 GHz):			
Frequency (MHz)	Polarization (Horizontal / Vertical)	Highest CISPR Average Corrected Amplitude (dB μ V/m)	Worst-Case CISPR Average Margin (dB)
9048.222	Horizontal	47.96	-6.04

FCC 15B Radiated Emissions Receiving Mode (3690 MHz): Peak Worst Case (Above 1 GHz):			
Frequency (MHz)	Polarization (Horizontal / Vertical)	Highest Peak Corrected Amplitude (dB μ V/m)	Worst-Case Peak Margin (dB)
16773.62	Horizontal	50.16	-23.84

FCC 15B Radiated Emissions Receiving Mode (3690 MHz): CISPR Average Worst Case (Above 1 GHz):			
Frequency (MHz)	Polarization (Horizontal / Vertical)	Highest CISPR Average Corrected Amplitude (dB μ V/m)	Worst-Case CISPR Average Margin (dB)
6556.122	Horizontal	45.39	-8.61

5.10 Radiated Emissions Test Plot and Data

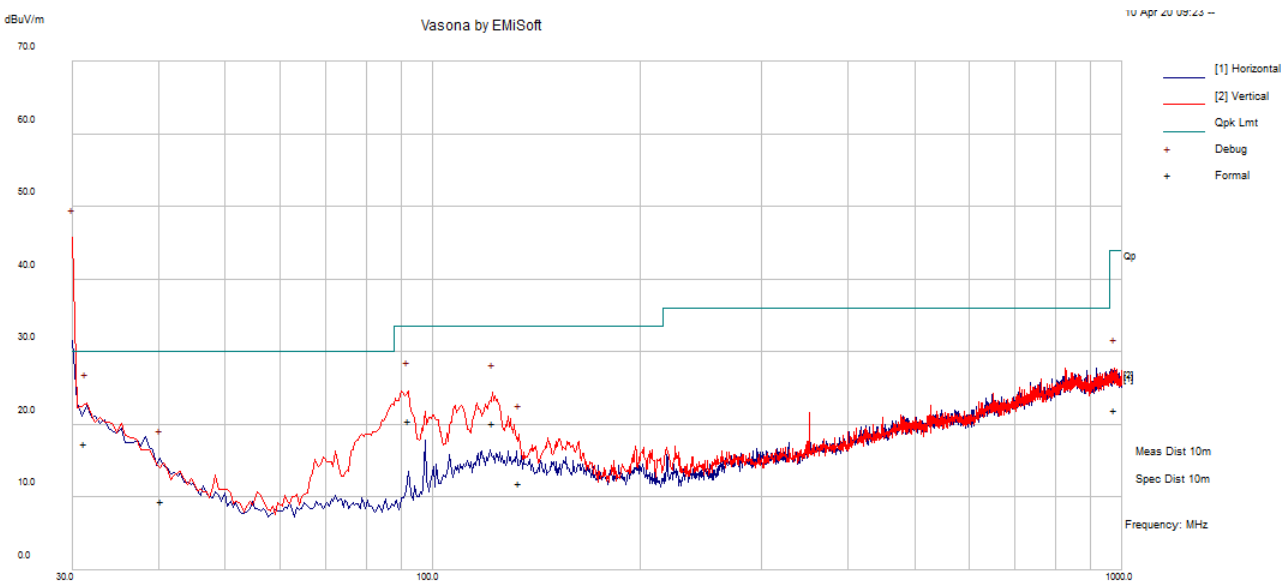
30 MHz to 1000 MHz (Scanning Mode)



Quasi-Peak Measurements

Frequency (MHz)	Corrected Amplitude (dBμV/m)	Antenna Polarity (H/V)	Antenna Height (cm)	Turntable Azimuth (degrees)	Limit (dBμV/m)	Margin (dB)
31.59625	16.97	H	351	283	30	-13.03
90.13225	19.85	V	166	57	33.5	-13.65
760.7015	19.77	V	195	321	36	-16.23
999.502	27.07	V	158	0	44	-16.93
70.17525	10.06	V	336	88	30	-19.94
119.5683	10.78	V	129	236	33.5	-22.72

30 MHz to 1000 MHz (Receiving Mode, 30 MHz)

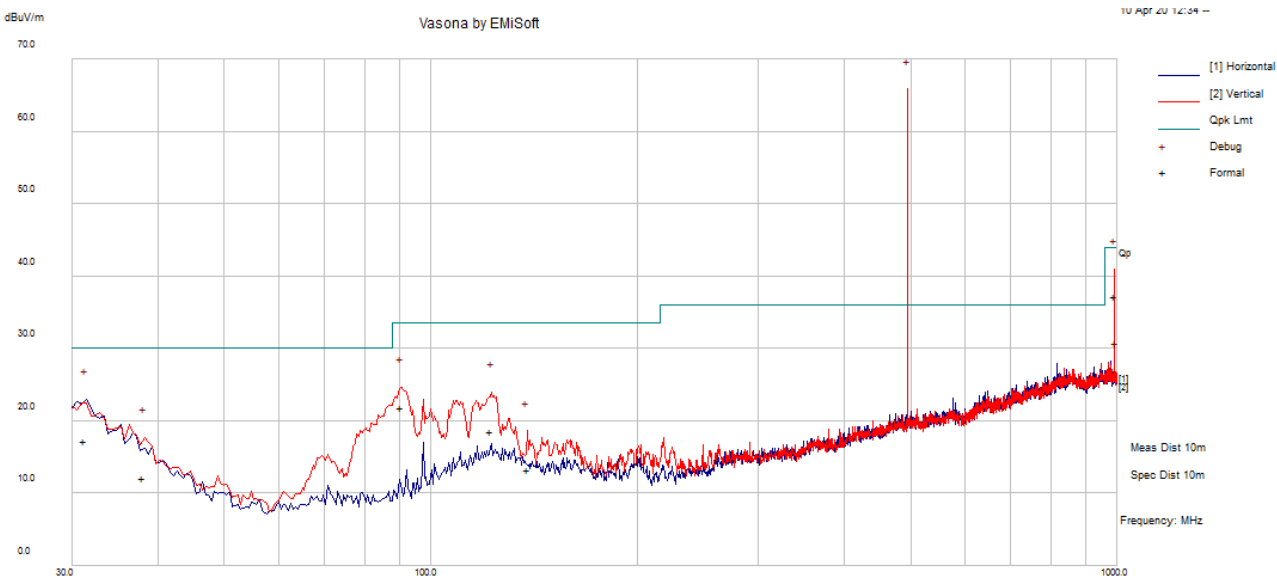


Note: Intentionally radiating at 30 MHz so that frequency was not applicable

Quasi-Peak Measurements

Frequency (MHz)	Corrected Amplitude (dBµV/m)	Antenna Polarity (H/V)	Antenna Height (cm)	Turntable Azimuth (degrees)	Limit (dBµV/m)	Margin (dB)
31.3045	17.32	V	330	278	30	-12.68
92.295	20.46	V	206	67	33.5	-13.04
122.2953	20.24	V	178	179	33.5	-13.26
40.418	9.41	H	264	299	30	-20.59
133.4343	12	V	107	157	33.5	-21.5
975.0128	22.03	V	181	266	44	-21.97

30 MHz to 1000 MHz (Receiving Mode, 495 MHz)

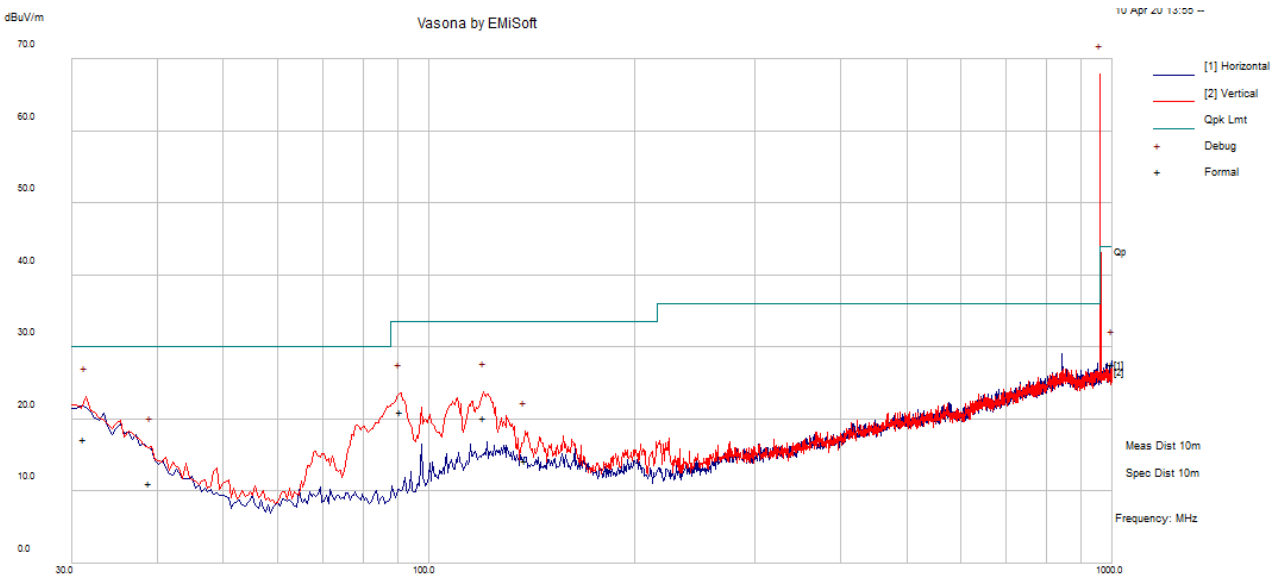


Note: Intentionally radiating at 495 MHz so that frequency was not applicable

Quasi-Peak Measurements

Frequency (MHz)	Corrected Amplitude (dBμV/m)	Antenna Polarity (H/V)	Antenna Height (cm)	Turntable Azimuth (degrees)	Limit (dBμV/m)	Margin (dB)
990.0515	37.17	V	254	36	44	-6.83
90.55775	21.87	V	378	132	33.5	-11.63
31.29675	17.16	H	200	263	30	-12.84
122.4775	18.61	V	233	210	33.5	-14.89
38.07975	12.07	V	291	101	30	-17.93
138.177	13.19	V	143	82	33.5	-20.31

30 MHz to 1000 MHz (Receiving Mode, 960 MHz)

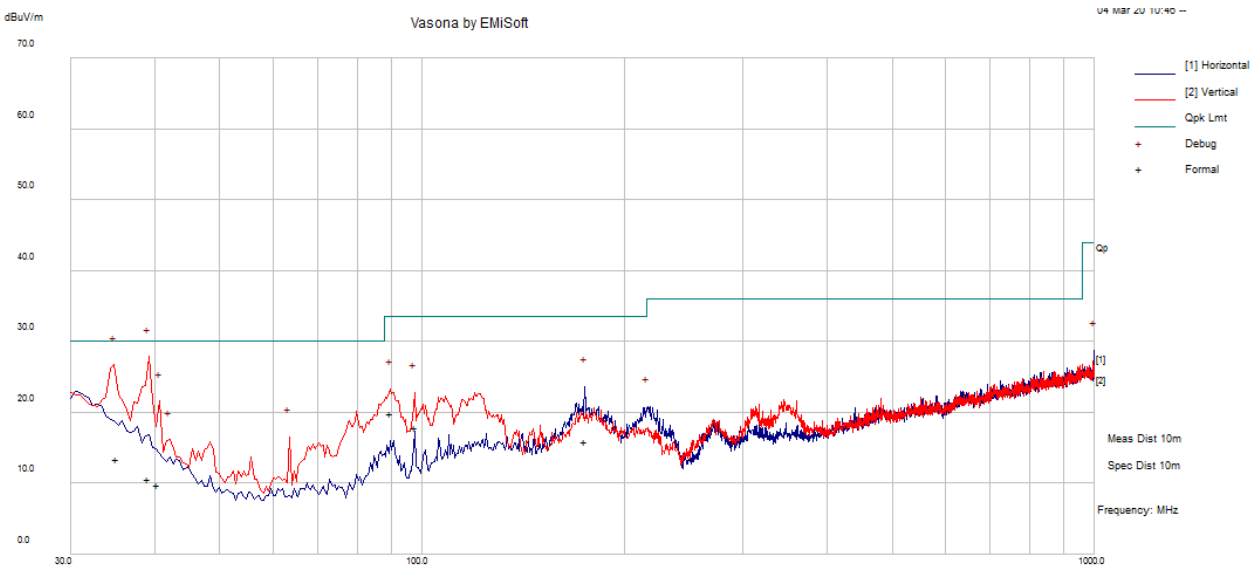


Note: Intentionally radiating at 960 MHz so that frequency was not applicable

Quasi-Peak Measurements

Frequency (MHz)	Corrected Amplitude (dBμV/m)	Antenna Polarity (H/V)	Antenna Height (cm)	Turntable Azimuth (degrees)	Limit (dBμV/m)	Margin (dB)
90.75925	21.01	V	354	87	33.5	-12.49
31.2395	17.25	V	345	133	30	-12.75
120.1958	20.13	V	126	179	33.5	-13.37
999.512	27.65	H	105	324	44	-16.35
38.9835	11.11	V	384	273	30	-18.89
138.3063	14.19	V	108	119	33.5	-19.31

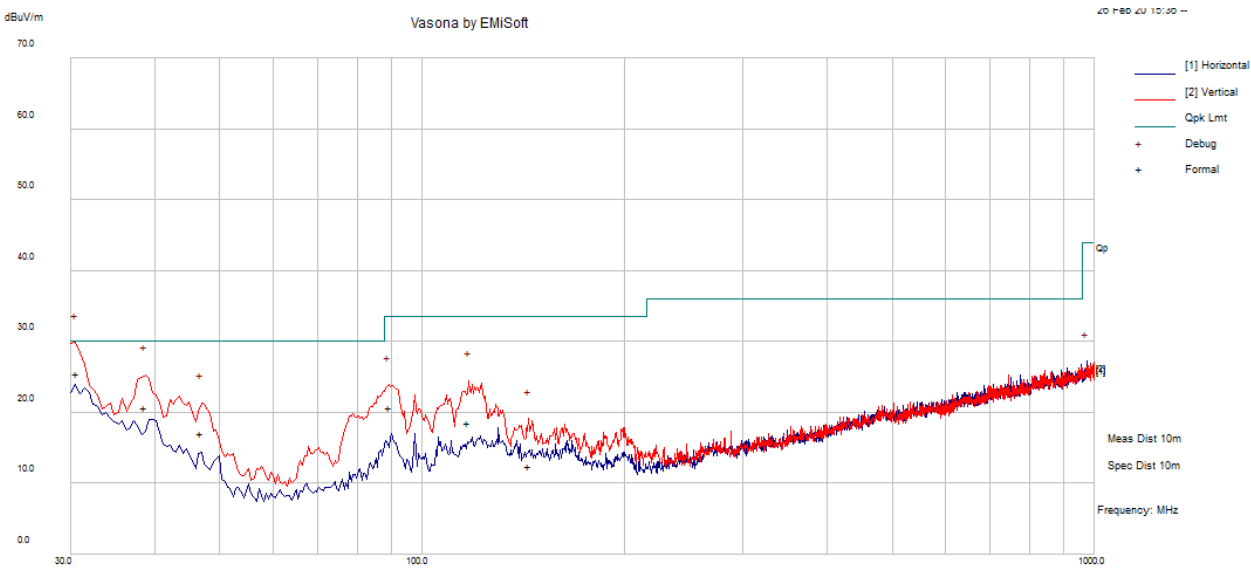
30 MHz to 1000 MHz (Receiving Mode, 10 kHz)



Quasi-Peak Measurements

Frequency (MHz)	Corrected Amplitude (dBμV/m)	Antenna Polarity (H/V)	Antenna Height (cm)	Turntable Azimuth (degrees)	Limit (dBμV/m)	Margin (dB)
89.807	19.89	V	141	52	33.5	-13.61
97.64925	17.9	V	237	132	33.5	-15.6
35.0715	13.48	V	314	150	30	-16.52
174.371	15.86	H	276	246	33.5	-17.64
39.08425	10.63	V	370	211	30	-19.37
40.431	9.85	V	229	360	30	-20.15

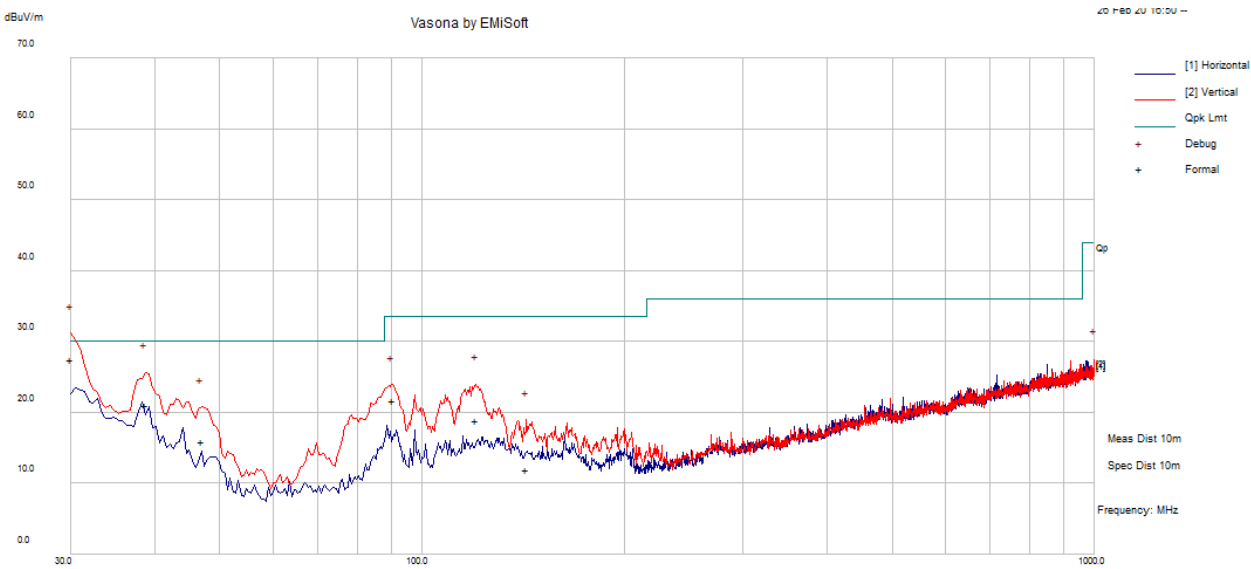
30 MHz to 1000 MHz (Receiving Mode, 1850 MHz)



Quasi-Peak Measurements

Frequency (MHz)	Corrected Amplitude (dB μ V/m)	Antenna Polarity (H/V)	Antenna Height (cm)	Turntable Azimuth (degrees)	Limit (dB μ V/m)	Margin (dB)
30.6385	25.49	V	112	52	30	-4.51
38.695	20.7	V	247	354	30	-9.3
89.36225	20.69	V	394	111	33.5	-12.81
46.8115	17.04	V	215	0	30	-12.96
117.1253	18.5	V	159	135	33.5	-15
144.015	12.45	V	119	247	33.5	-21.05

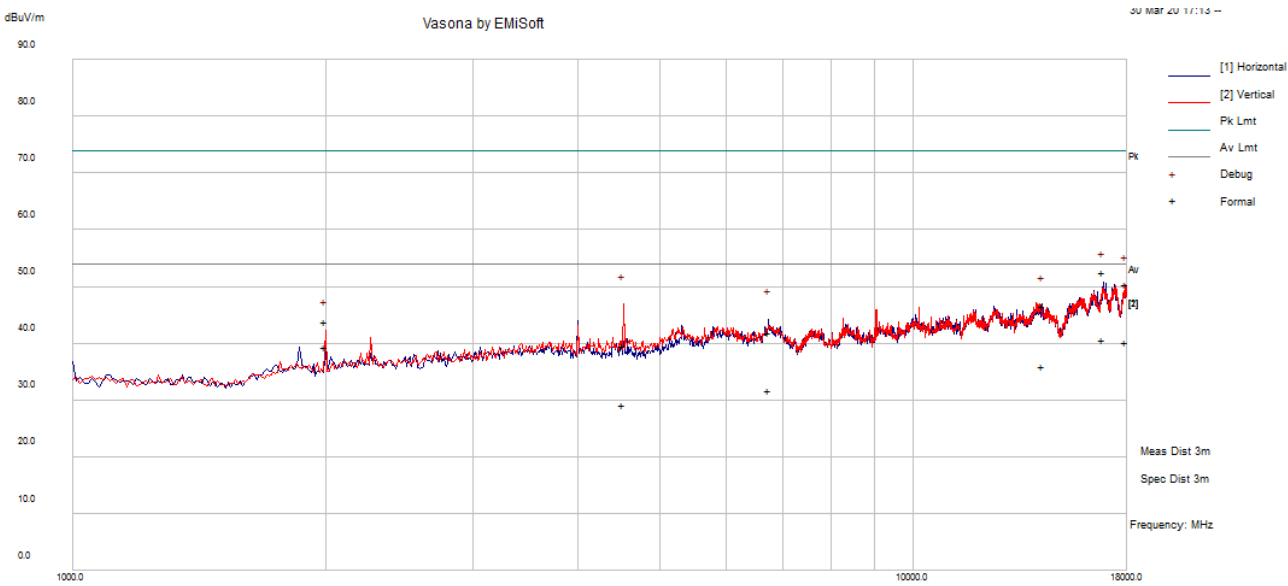
30 MHz to 1000 MHz (Receiving Mode, 3690 MHz)



Quasi-Peak Measurements

Frequency (MHz)	Corrected Amplitude (dB μ V/m)	Antenna Polarity (H/V)	Antenna Height (cm)	Turntable Azimuth (degrees)	Limit (dB μ V/m)	Margin (dB)
30	27.38	V	112	346	30	-2.62
38.846	21.07	V	101	231	30	-8.93
90.3825	21.63	V	140	84	33.5	-11.87
47.12925	15.94	V	157	112	30	-14.06
120.1883	18.86	V	161	185	33.5	-14.64
142.8203	11.85	V	280	106	33.5	-21.65

1 GHz to 18 GHz (Scanning Mode)

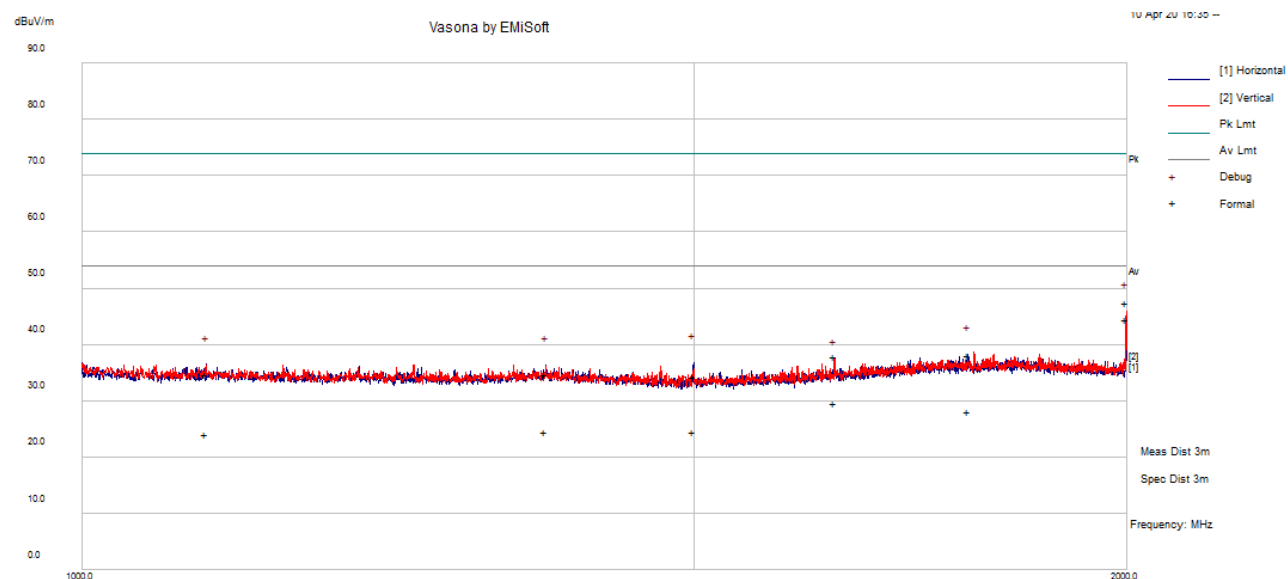


Peak Measurements

Frequency (MHz)	Corrected Amplitude (dBμV/m)	Antenna Polarity (H/V)	Antenna Height (cm)	Turntable Azimuth (degrees)	Limit (dBμV/m)	Margin (dB)
16872.77	52.62	H	116	356	74	-21.38
17924.14	50.33	V	115	314	74	-23.67
14263.23	46.57	H	146	85	74	-27.43
1998.963	43.78	V	114	27	74	-30.22
6737.03	41.95	H	165	239	74	-32.05
4525.56	39.56	V	140	245	74	-34.44

Average Measurements

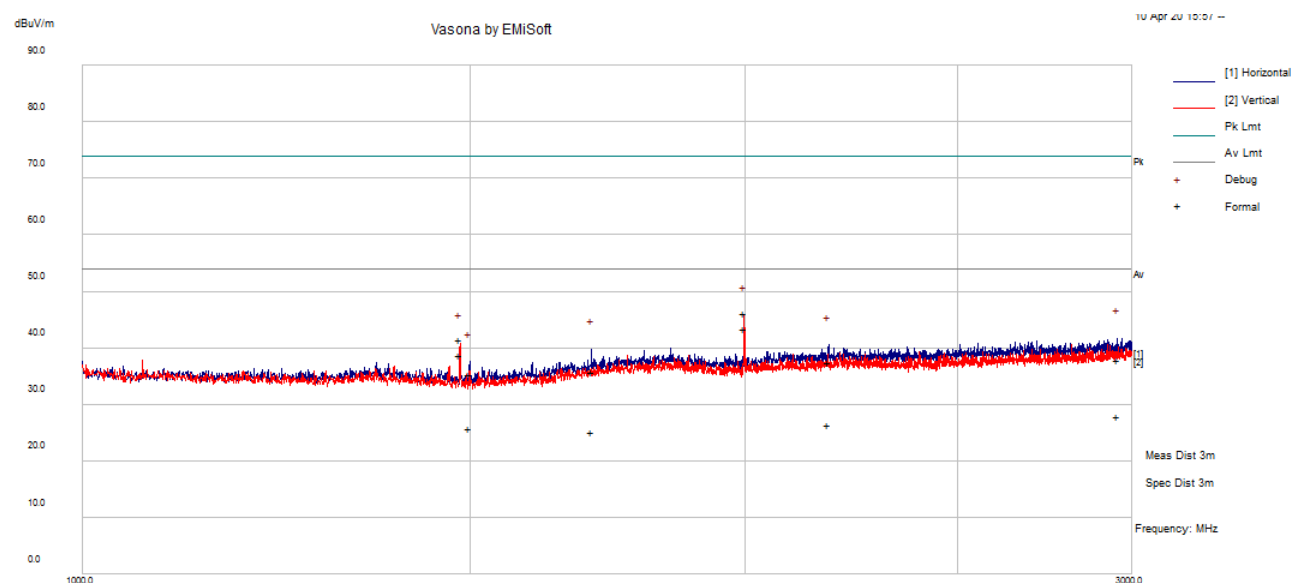
Frequency (MHz)	Corrected Amplitude (dBμV/m)	Antenna Polarity (H/V)	Antenna Height (cm)	Turntable Azimuth (degrees)	Limit (dBμV/m)	Margin (dB)
16872.77	40.69	H	116	356	54	-13.31
17924.14	40.22	V	115	314	54	-13.78
1998.963	39.43	V	114	27	54	-14.57
14263.23	35.98	H	146	85	54	-18.02
6737.03	31.7	H	165	239	54	-22.3
4525.56	29.05	V	140	245	54	-24.95

1 GHz to 2 GHz (Receiving Mode, 30 MHz)**Peak Measurements**

Frequency (MHz)	Corrected Amplitude (dB μ V/m)	Antenna Polarity (H/V)	Antenna Height (cm)	Turntable Azimuth (degrees)	Limit (dB μ V/m)	Margin (dB)
1998.948	47.34	V	102	348	74	-26.66
1800.169	38.02	V	180	178	74	-35.98
1647.114	37.77	V	137	346	74	-36.23
1085.372	34.77	V	125	256	74	-39.23
1359.049	34.74	V	132	137	74	-39.26
1499.462	34.15	V	151	59	74	-39.85

Average Measurements

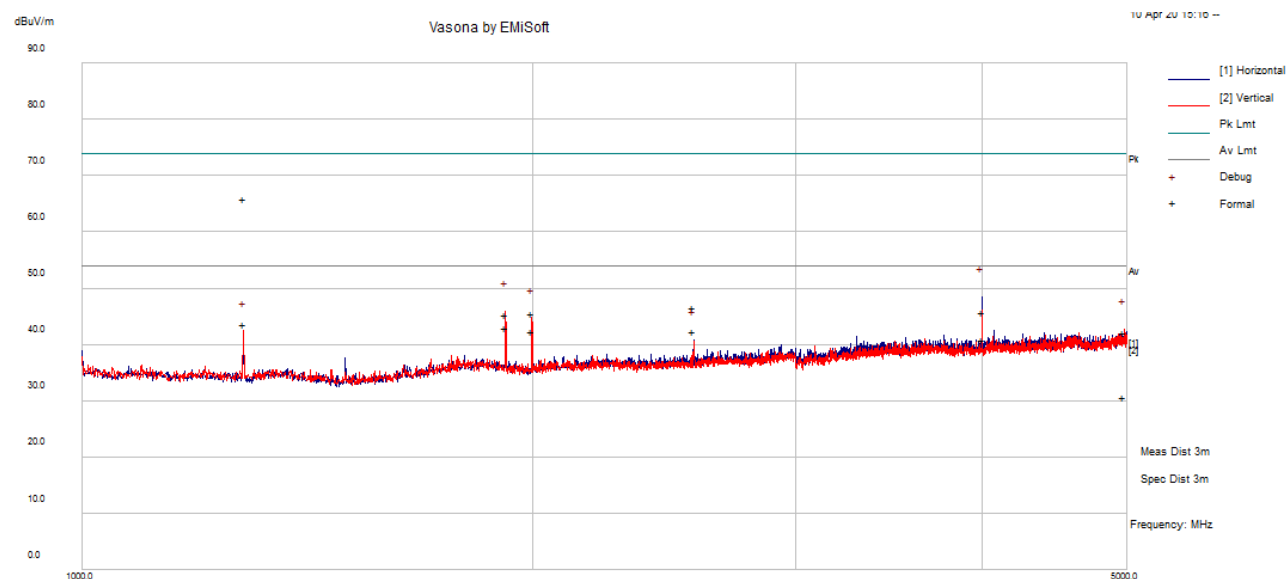
Frequency (MHz)	Corrected Amplitude (dB μ V/m)	Antenna Polarity (H/V)	Antenna Height (cm)	Turntable Azimuth (degrees)	Limit (dB μ V/m)	Margin (dB)
1998.948	44.44	V	102	348	54	-9.56
1647.114	29.59	V	137	346	54	-24.41
1800.169	28.05	V	180	178	54	-25.95
1359.049	24.53	V	132	137	54	-29.47
1499.462	24.45	V	151	59	54	-29.55
1085.372	23.94	V	125	256	54	-30.06

1 GHz to 3 GHz (Receiving Mode, 490 MHz)**Peak Measurements**

Frequency (MHz)	Corrected Amplitude (dBμV/m)	Antenna Polarity (H/V)	Antenna Height (cm)	Turntable Azimuth (degrees)	Limit (dBμV/m)	Margin (dB)
1998.893	46.08	V	112	18	74	-27.92
1485.13	41.55	V	109	211	74	-32.45
2953.24	37.84	H	155	28	74	-36.16
2182.452	37.39	V	170	358	74	-36.61
1704.122	35.68	V	152	252	74	-38.32
1500.211	35.39	V	110	58	74	-38.61

Average Measurements

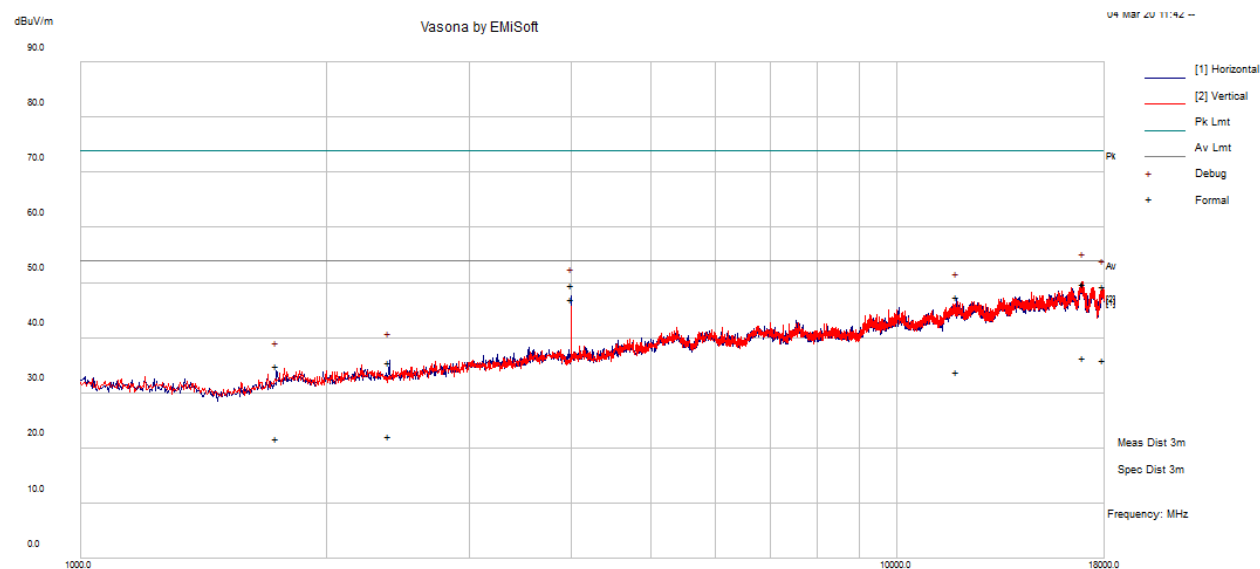
Frequency (MHz)	Corrected Amplitude (dBμV/m)	Antenna Polarity (H/V)	Antenna Height (cm)	Turntable Azimuth (degrees)	Limit (dBμV/m)	Margin (dB)
1998.893	43.4	V	112	18	54	-10.6
1485.13	38.71	V	109	211	54	-15.29
2953.24	27.83	H	155	28	54	-26.17
2182.452	26.31	V	170	358	54	-27.69
1500.211	25.65	V	110	58	54	-28.35
1704.122	25.21	V	152	252	54	-28.79

1 GHz to 5 GHz (Receiving Mode, 960 MHz)**Peak Measurements**

Frequency (MHz)	Corrected Amplitude (dB μ V/m)	Antenna Polarity (H/V)	Antenna Height (cm)	Turntable Azimuth (degrees)	Limit (dB μ V/m)	Margin (dB)
2563.902	46.5	V	137	19	74	-27.5
3998.49	45.79	H	116	234	74	-28.21
1999.085	45.44	V	101	14	74	-28.56
1920.018	45.28	V	117	26	74	-28.72
1281.915	43.65	V	112	25	74	-30.35
4975.09	42.02	V	186	101	74	-31.98

Average Measurements

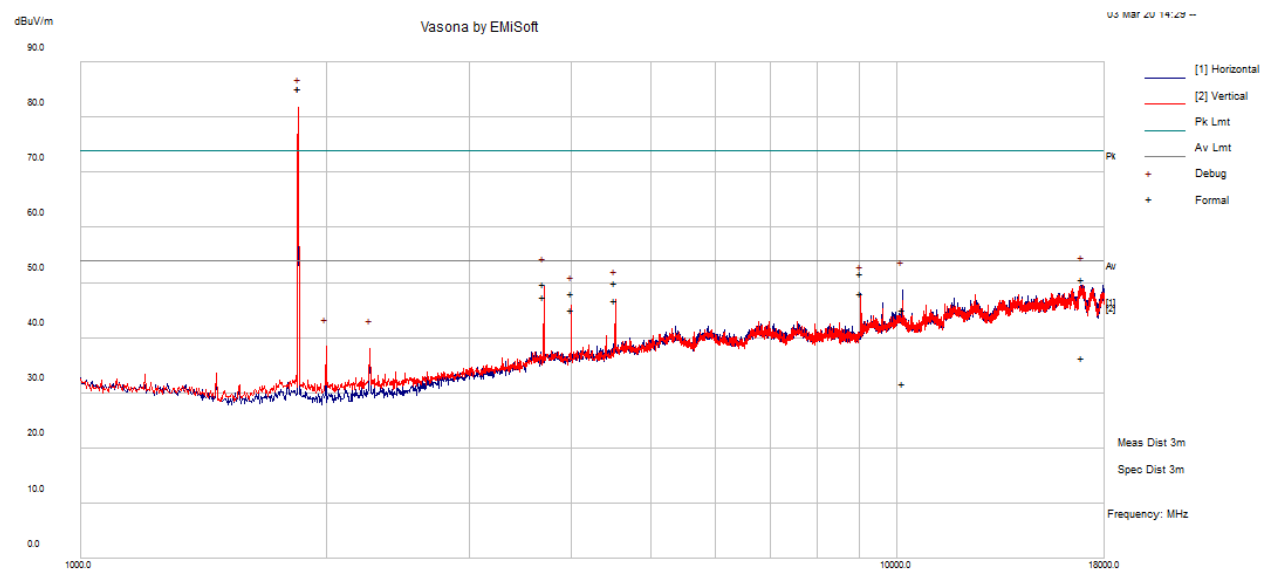
Frequency (MHz)	Corrected Amplitude (dB μ V/m)	Antenna Polarity (H/V)	Antenna Height (cm)	Turntable Azimuth (degrees)	Limit (dB μ V/m)	Margin (dB)
1920.018	42.92	V	117	26	54	-11.08
1999.085	42.4	V	101	14	54	-11.6
2563.902	42.35	V	137	19	54	-11.65
3998.49	40.79	H	116	234	54	-13.21
1281.915	36.89	V	112	25	54	-17.11
4975.09	30.72	V	186	101	54	-23.28

1 GHz to 18 GHz (Receiving Mode, 10 kHz)**Peak Measurements**

Frequency (MHz)	Corrected Amplitude (dBμV/m)	Antenna Polarity (H/V)	Antenna Height (cm)	Turntable Azimuth (degrees)	Limit (dBμV/m)	Margin (dB)
16950.82	49.74	V	200	165	74	-24.26
3998.038	49.6	H	173	239	74	-24.4
17933.81	49.35	H	135	119	74	-24.65
11863.24	47.37	V	137	41	74	-26.63
2389.468	35.54	V	122	181	74	-38.46
1739.976	34.94	V	176	301	74	-39.06

Average Measurements

Frequency (MHz)	Corrected Amplitude (dBμV/m)	Antenna Polarity (H/V)	Antenna Height (cm)	Turntable Azimuth (degrees)	Limit (dBμV/m)	Margin (dB)
3998.038	47.03	H	173	239	54	-6.97
16950.82	36.36	V	200	165	54	-17.64
17933.81	35.98	H	135	119	54	-18.02
11863.24	33.86	V	137	41	54	-20.14
2389.468	22.03	V	122	181	54	-31.97
1739.976	21.7	V	176	301	54	-32.3

1 GHz to 18 GHz (Receiving Mode, 1850 MHz)

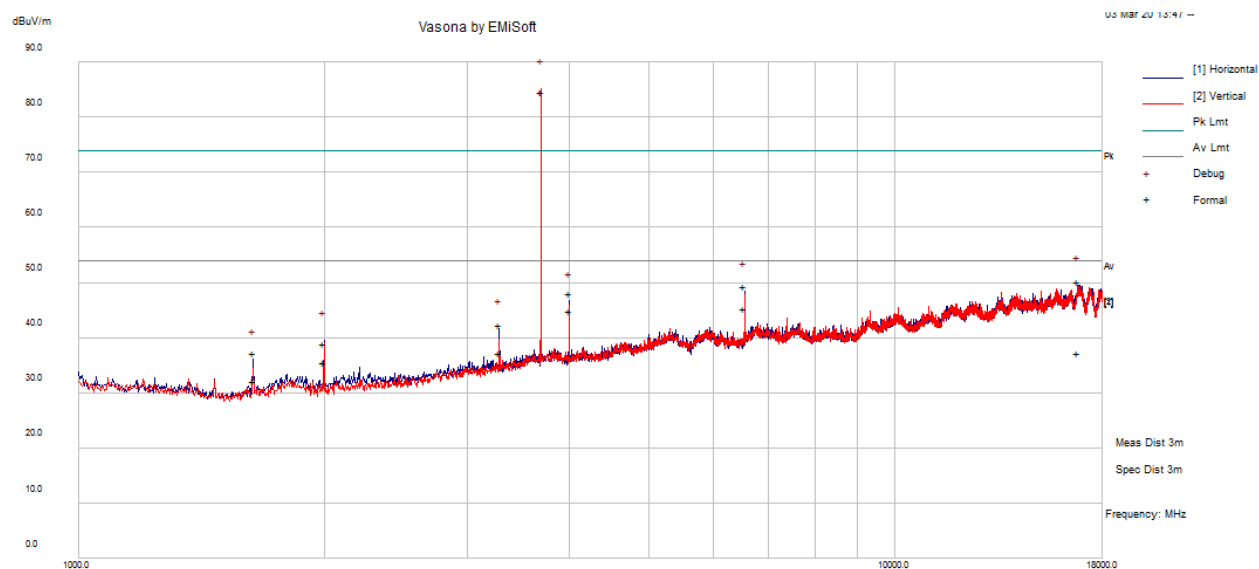
Note: Intentionally radiating at 1850 MHz so that frequency was not applicable

Peak Measurements

Frequency (MHz)	Corrected Amplitude (dBμV/m)	Antenna Polarity (H/V)	Antenna Height (cm)	Turntable Azimuth (degrees)	Limit (dBμV/m)	Margin (dB)
9048.222	51.69	H	199	223	74	-22.31
16879.13	50.63	H	126	292	74	-23.37
4524.086	49.93	V	120	356	74	-24.07
3700.07	49.74	V	104	18	74	-24.26
3997.96	48.08	V	199	186	74	-25.92
10176.78	45.03	H	139	49	74	-28.97

Average Measurements

Frequency (MHz)	Corrected Amplitude (dBμV/m)	Antenna Polarity (H/V)	Antenna Height (cm)	Turntable Azimuth (degrees)	Limit (dBμV/m)	Margin (dB)
9048.222	47.96	H	199	223	54	-6.04
3700.07	47.48	V	104	18	54	-6.52
4524.086	46.78	V	120	356	54	-7.22
3997.96	45	V	199	186	54	-9
16879.13	36.45	H	126	292	54	-17.55
10176.78	31.61	H	139	49	54	-22.39

1 GHz to 18 GHz (Receiving Mode, 3690 MHZ)

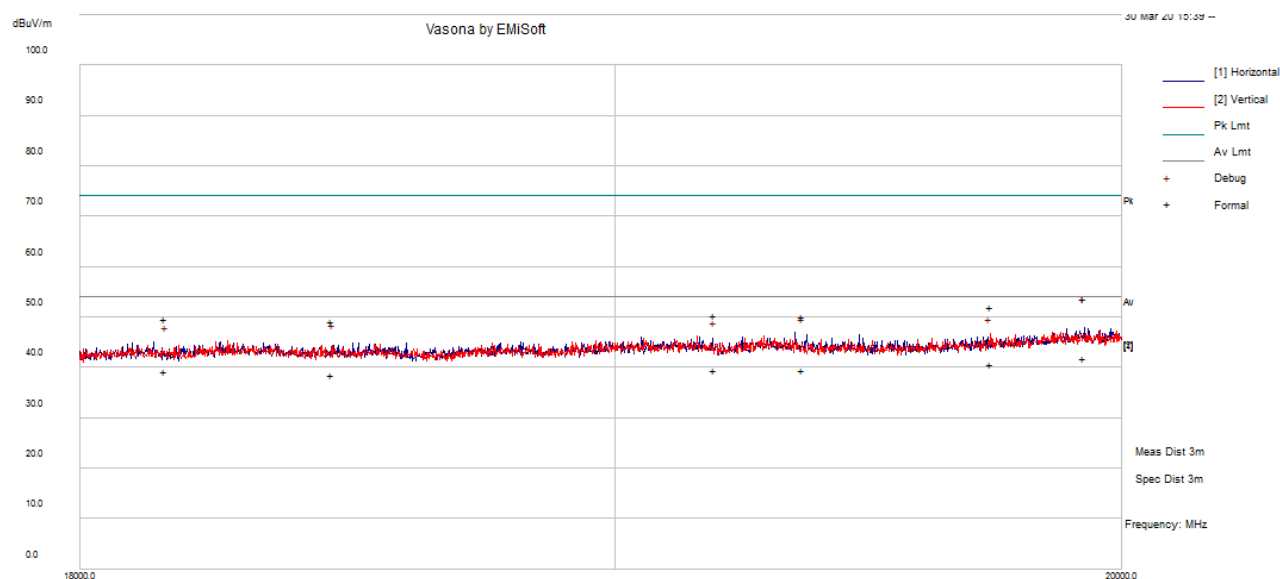
Note: Intentionally radiating at 3690 MHz so that frequency was not applicable

Peak Measurements

Frequency (MHz)	Corrected Amplitude (dBμV/m)	Antenna Polarity (H/V)	Antenna Height (cm)	Turntable Azimuth (degrees)	Limit (dBμV/m)	Margin (dB)
16773.62	50.16	H	149	115	74	-23.84
6556.122	49.44	H	106	151	74	-24.56
3998.2	48.02	H	195	237	74	-25.98
3277.76	42.35	H	126	242	74	-31.65
1999.002	39.02	H	194	334	74	-34.98
1638.908	37.13	H	125	328	74	-36.87

Average Measurements

Frequency (MHz)	Corrected Amplitude (dBμV/m)	Antenna Polarity (H/V)	Antenna Height (cm)	Turntable Azimuth (degrees)	Limit (dBμV/m)	Margin (dB)
6556.122	45.39	H	106	151	54	-8.61
3998.2	44.84	H	195	237	54	-9.16
3277.76	37.21	H	126	242	54	-16.79
16773.62	37.19	H	149	115	54	-16.81
1999.002	35.59	H	194	334	54	-18.41
1638.908	32.16	H	125	328	54	-21.84

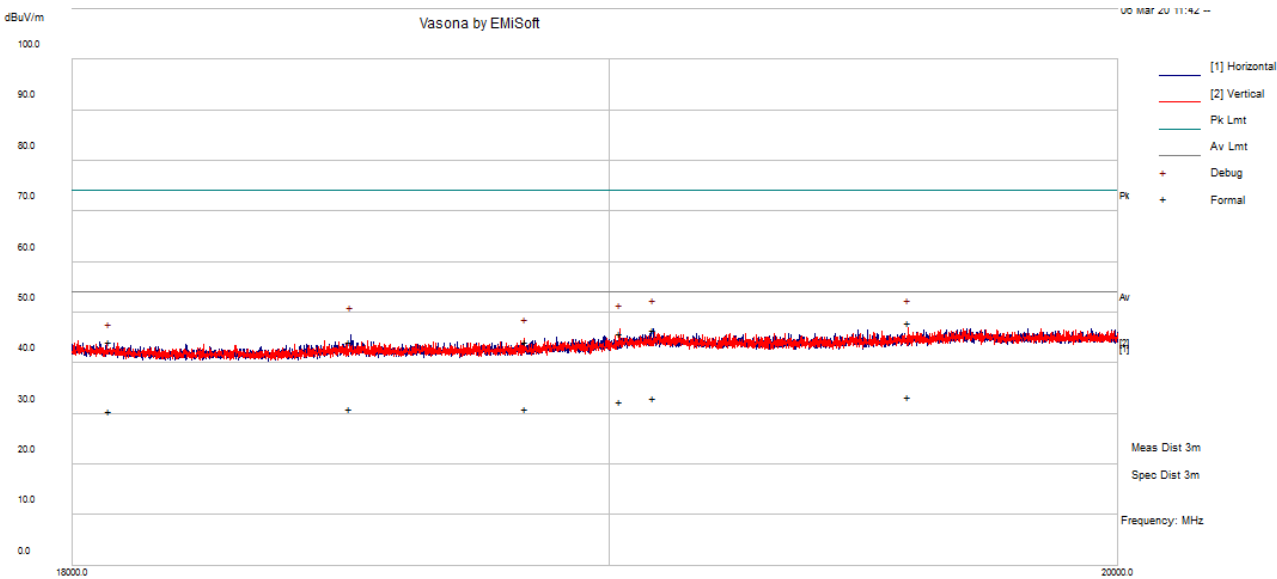
18 GHz to 20 GHz (Scanning Mode)**Peak Measurements**

Frequency (MHz)	Corrected Amplitude (dBμV/m)	Antenna Polarity (H/V)	Antenna Height (cm)	Turntable Azimuth (degrees)	Limit (dBμV/m)	Margin (dB)
19923.43	53.56	H	177	95	74	-20.44
19737.15	52.06	H	171	170	74	-21.94
19192.24	50.25	H	111	53	74	-23.75
19365.01	50.15	H	107	24	74	-23.85
18156.5	49.63	H	172	259	74	-24.37
18464.3	49.04	H	188	185	74	-24.96

Average Measurements

Frequency (MHz)	Corrected Amplitude (dBμV/m)	Antenna Polarity (H/V)	Antenna Height (cm)	Turntable Azimuth (degrees)	Limit (dBμV/m)	Margin (dB)
19923.43	41.89	H	177	95	54	-12.11
19737.15	40.63	H	171	170	54	-13.37
19365.01	39.49	H	107	24	54	-14.51
19192.24	39.39	H	111	53	54	-14.61
18156.5	39.16	H	172	259	54	-14.84
18464.3	38.47	H	188	185	54	-15.53

18 GHz to 20 GHz (Receiving Mode, 10 kHz)

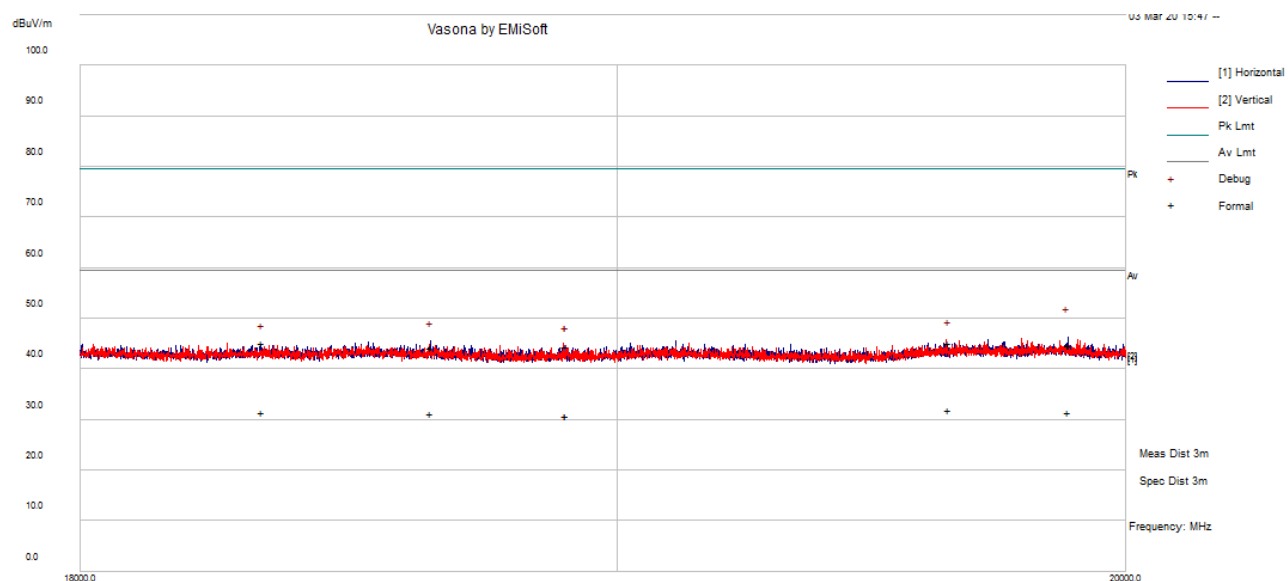


Peak Measurements

Frequency (MHz)	Corrected Amplitude (dBμV/m)	Antenna Polarity (H/V)	Antenna Height (cm)	Turntable Azimuth (degrees)	Limit (dBμV/m)	Margin (dB)
19581.62	48.05	V	100	316	74	-25.95
19086.32	46.49	V	100	101	74	-27.51
19022.79	45.88	V	100	6	74	-28.12
18841.65	44.3	V	100	331	74	-29.7
18511.82	44.29	V	100	60	74	-29.71
18069	44.22	V	100	68	74	-29.78

Average Measurements

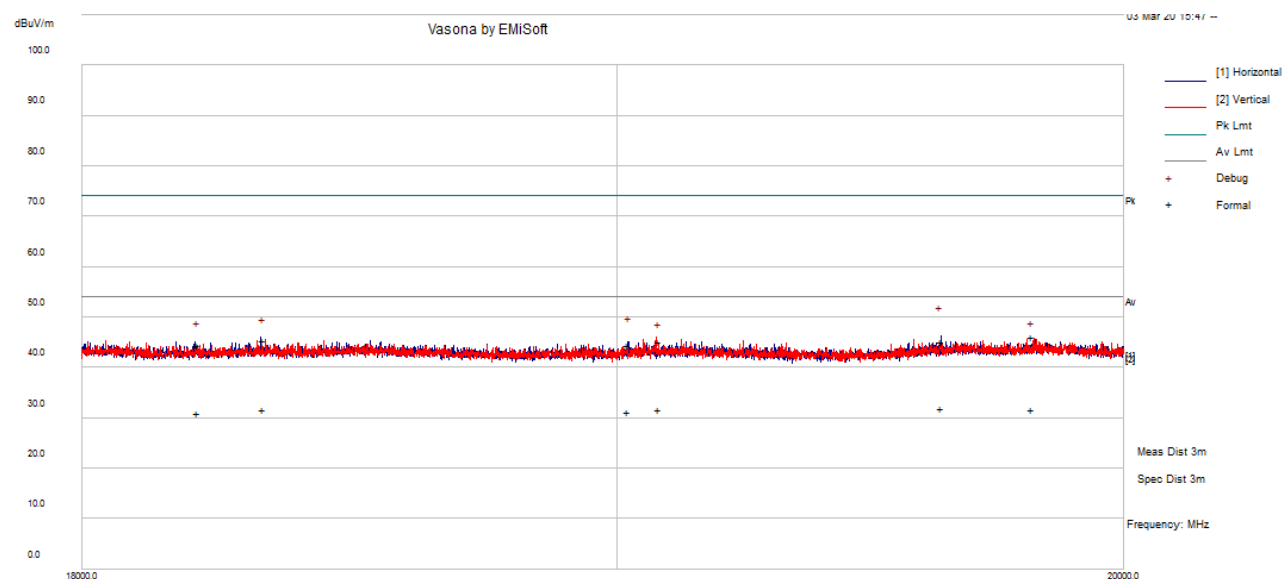
Frequency (MHz)	Corrected Amplitude (dBμV/m)	Antenna Polarity (H/V)	Antenna Height (cm)	Turntable Azimuth (degrees)	Limit (dBμV/m)	Margin (dB)
19581.62	33.4	V	100	316	54	-20.6
19086.32	33.08	V	100	101	54	-20.92
19022.79	32.42	V	100	6	54	-21.58
18841.65	30.89	V	100	331	54	-23.11
18511.82	30.88	V	100	60	54	-23.12
18069	30.53	V	100	68	54	-23.47

18 GHz to 20 GHz (Receiving Mode, 1850 MHz)**Peak Measurements**

Frequency (MHz)	Corrected Amplitude (dB μ V/m)	Antenna Polarity (H/V)	Antenna Height (cm)	Turntable Azimuth (degrees)	Limit (dB μ V/m)	Margin (dB)
19647.1	45.06	V	100	322	74	-28.94
18334.5	45.04	V	100	265	74	-28.96
19883.76	44.77	H	100	0	74	-29.23
18903.03	44.51	V	100	55	74	-29.49
18902.62	44.49	V	100	277	74	-29.51
18647.69	44.31	V	100	250	74	-29.69

Average Measurements

Frequency (MHz)	Corrected Amplitude (dB μ V/m)	Antenna Polarity (H/V)	Antenna Height (cm)	Turntable Azimuth (degrees)	Limit (dB μ V/m)	Margin (dB)
19647.1	31.85	V	100	322	54	-22.15
18334.5	31.55	V	100	265	54	-22.45
19883.76	31.47	H	100	0	54	-22.53
18647.69	31.23	V	100	250	54	-22.77
18902.62	30.84	V	100	277	54	-23.16
18903.03	30.83	V	100	55	54	-23.17

18 GHz to 20 GHz (Receiving Mode, 3690 MHz)**Peak Measurements**

Frequency (MHz)	Corrected Amplitude (dBμV/m)	Antenna Polarity (H/V)	Antenna Height (cm)	Turntable Azimuth (degrees)	Limit (dBμV/m)	Margin (dB)
19815.12	46.01	V	100	319	74	-27.99
18334.58	45.37	V	100	291	74	-28.63
19081.8	45.14	V	100	161	74	-28.86
19634.37	45.12	H	100	296	74	-28.88
18211.45	44.36	V	100	136	74	-29.64
19022.11	44.32	V	100	300	74	-29.68

Average Measurements

Frequency (MHz)	Corrected Amplitude (dBμV/m)	Antenna Polarity (H/V)	Antenna Height (cm)	Turntable Azimuth (degrees)	Limit (dBμV/m)	Margin (dB)
19634.37	31.97	H	100	296	54	-22.03
19815.12	31.64	V	100	319	54	-22.36
18334.58	31.59	V	100	291	54	-22.41
19081.8	31.57	V	100	161	54	-22.43
19022.11	31.14	V	100	300	54	-22.86
18211.45	31.01	V	100	136	54	-22.99

6 Annex A (Normative) – EUT Test Setup Photographs

Please refer to the attachment

7 Annex B (Normative) – EUT External Photographs

Please refer to the attachment

8 Annex C (Normative) – EUT Internal Photographs

Please refer to the attachment

9 Annex D (Normative) – ISO/IEC 17025 Certificate and Scope of Accreditation



Please follow the web link below for a full ISO 17025 scope

<https://www.a2la.org/scopepdf/3297-02.pdf>

--- END OF REPORT ---