

Report No.: SZEM191001943701

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TEST REPORT

Application No.: SZEM1910019437CR(ZR/2019/A0010)

Applicant: BLU Products, inc.

Address of Applicant: 10814 NW 33rd St # 100 Doral, FL 33172, USA

Manufacturer: BLU Products, inc.

Address of Manufacturer: 10814 NW 33rd St # 100 Doral, FL 33172, USA

Equipment Under Test (EUT):

EUT Name: BLU aria2 Model No.: BLU aria2 Trade mark: BLU Lifestyle

FCC ID: YHLBLUARIA2

47 CFR Part 15, Subpart B Standard(s):

Date of Receipt: 2019-10-18

2019-10-18 to 2019-12-04 **Date of Test:**

Date of Issue: 2019-12-06

Pass* **Test Result:**

EMC Laboratory Manager

Ceny. Ku



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^{*} In the configuration tested, the EUT complied with the standards specified above.



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	Revision Record							
Version	Version Chapter Date Modifier Rem							
01		2019-12-06		Original				

Authorized for issue by:		
	Damon Su	
	Damon Su /Project Engineer	
	EvicFu	
	Eric Fu /Reviewer	



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Test Summary

Emission Part								
Item	Standard	Method	Requirement	Result				
Conducted Emissions at Mains Terminals (150kHz-30MHz)	47 CFR Part 15, Subpart B	ANSI C63.4:2014	Class B	Pass				
Radiated Emissions (30MHz-1GHz)	47 CFR Part 15, Subpart B	ANSI C63.4:2014	Class B	Pass				

Internal Source	Upper Frequency
Below 1.705MHz	30MHz
1.705MHz to 108MHz	1GHz
108MHz to 500MHz	2GHz
500MHz to 1GHz	5GHz
Above 1GHz	5th harmonic of the highest frequency or 40GHz, whichever is lower



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General Information

Details of E.U.T.

Power Supply:	Lithium Ion Battery: DC 3.7V 400mAh rechargeable battery which charged
	by USB port

4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
Galaxy S8	SAMSUNG	SM-G9500	R28J9140LPB
U-disk	Sandisk	SDCZ60-016G	REF.No.ZEA0100
Adapter	Apple	A1357W010A051	REF.No.SEA0500
AUX IN Cable	SAMZHE	YPH-8310	REF.No.SEA0800

4.3 Measurement Uncertainty

No.	Item	Measurement Uncertainty
1	Conduction Emission	± 3.0dB (150kHz to 30MHz)
2	Radiated Emission	± 4.5dB (30MHz-1GHz)
3	Temperature test	± 1 ℃
4	Humidity test	± 3%



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4.4 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen Branch

No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, Guangdong, China. 518057.

Tel: +86 755 2601 2053 Fax: +86 755 2671 0594

No tests were sub-contracted.

4.5 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

A2LA (Certificate No. 3816.01)

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

VCCI

The 3m Fully-anechoic chamber for above 1GHz, 10m Semi-anechoic chamber for below 1GHz, Shielded Room for Mains Port Conducted Interference Measurement and Telecommunication Port Conducted Interference Measurement of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-20026, R-14188, C-12383 and T-11153 respectively.

FCC –Designation Number: CN1178

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1178. Test Firm Registration Number: 406779.

Innovation, Science and Economic Development Canada

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0006.

IC#: 4620C.

4.6 Deviation from Standards

4.7 Abnormalities from Standard Conditions

None



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Equipment List

Conducted Emissions at Mains Terminals (150kHz-30MHz)								
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date			
Shielding Room	ChangZhou ZhongYu	GB-88	SEM001-06	2019-06-13	2022-06-12			
Measurement Software	AUDIX	e3 V8.2014-6- 27	N/A	N/A	N/A			
Coaxial Cable	SGS	N/A	SEM024-01	2019-07-11	2020-07-10			
LISN	Rohde & Schwarz	ENV216	SEM007-01	2019-09-24	2020-09-23			
LISN	ETS-LINDGREN	3816/2	SEM007-02	2019-04-01	2020-03-31			
EMI Test Receiver	Rohde & Schwarz	ESCI	SEM004-02	2019-04-01	2020-03-31			

Radiated Emissions (30MHz-1GHz)								
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date			
3m Semi-Anechoic Chamber	ETS-LINDGREN	N/A	SEM001-01	2017-08-05	2020-08-04			
Measurement Software	AUDIX	e3 V8.2014-6- 27	N/A	N/A	N/A			
Coaxial Cable	SGS	N/A	SEM025-01	2019-07-11	2020-07-10			
EMI Test Receiver	Agilent Technologies	N9038A	SEM004-05	2019-09-24	2020-09-23			
BiConiLog Antenna (26-3000MHz)	ETS-LINDGREN	3142C	SEM003-01	2017-06-27	2020-06-26			
Pre-amplifier (0.1-1300MHz)	Agilent Technologies	8447D	SEM005-01	2019-04-01	2020-03-31			

General used equipment							
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date		
Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	ZJ1-2B	SEM002-03	2019-09-26	2020-09-25		
Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	ZJ1-2B	SEM002-04	2019-09-26	2020-09-25		
Humidity/ Temperature Indicator	Mingle	N/A	SEM002-08	2019-09-26	2020-09-25		
Barometer	Changchun Meteorological Industry Factory	DYM3	SEM002-01	2019-04-04	2020-04-03		



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Emission Test Results 6

6.1 Conducted Emissions at Mains Terminals (150kHz-30MHz)

Test Requirement: 47 CFR Part 15, Subpart B

Test Method: ANSI C63.4:2014 Frequency Range: 150kHz to 30MHz

Limit:

 $66dB(\mu V)$ - $56dB(\mu V)$ quasi-peak, $56dB(\mu V)$ - $46dB(\mu V)$ average 0.15M-0.5MHz

0.5M-5MHz 56dB(µV) quasi-peak, 46dB(µV) average 5M-30MHz 60dB(μV) quasi-peak, 50dB(μV) average

Detector: Peak for pre-scan (9kHz resolution bandwidth) 0.15M to 30MHz

6.1.1 E.U.T. Operation

Operating Environment:

Temperature: 22.7 °C Humidity: 60.3 % RH Atmospheric Pressure: 1015 mbar

Pretest these e: Charging_Keep the battery of the EUT in charging mode

modes to find

f: AUX Input+Charging Sound:1kHz Sine Wave and Keep the battery of the EUT the worst case:

in charging mode.

g: TF Card+Charging Sound:1kHz Sine Wave and Keep the battery of the EUT in

charging mode

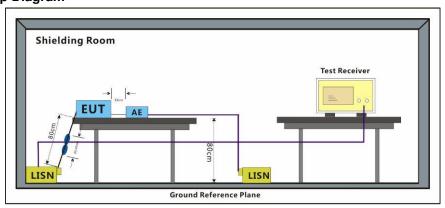
h: USB disk+Charging Sound:1kHz Sine Wave and Keep the battery of the EUT

in charging mode

f: AUX Input+Charging Sound:1kHz Sine Wave and Keep the battery of the EUT The worst case

for final test: in charging mode.

6.1.2 Test Setup Diagram



6.1.3 Measurement Data

An initial pre-scan was performed with peak detector. Quasi-Peak or Average measurement were performed at the frequencies with maximized peak emission were detected.



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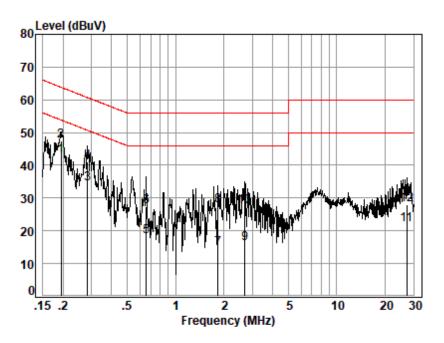
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Mode:f; Line:Live Line



: Shielding Room

Condition: Line Job No. : 19437CR

Test mode: f

	Freq	Cable Loss	LISN Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.19	0.02	9.51	33.25	42.78	53.84	-11.06	Average
2	0.19	0.02	9.51	37.95	47.48	63.84	-16.36	QP
3	0.28	0.04	9.54	24.72	34.30	50.68	-16.38	Average
4	0.28	0.04	9.54	31.44	41.02	60.68	-19.66	QP
5	0.66	0.07	9.63	8.62	18.32	46.00	-27.68	Average
6	0.66	0.07	9.63	17.72	27.42	56.00	-28.58	QP
7	1.83	0.15	9.64	4.72	14.51	46.00	-31.49	Average
8	1.83	0.15	9.64	17.77	27.56	56.00	-28.44	QP
9	2.69	0.16	9.66	6.19	16.01	46.00	-29.99	Average
10	2.69	0.16	9.66	17.41	27.23	56.00	-28.77	QP
11	27.27	0.27	10.24	11.45	21.96	50.00	-28.04	Average
12	27.27	0.27	10.24	17.53	28.04	60.00	-31.96	QP



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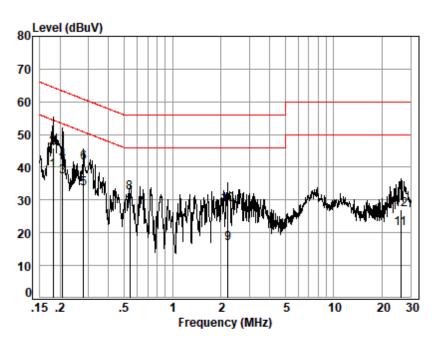
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Mode:f; Line:Neutral Line



: Shielding Room

Condition: Neutral Job No. : 19437CR

Test mode: f

	Freq	Cable Loss	LISN Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.18	0.02	9.44	29.58	39.04	54.42	-15.38	Average
2	0.18	0.02	9.44	36.37	45.83	64.42	-18.59	QP
3	0.21	0.02	9.45	27.75	37.22	53.32	-16.10	Average
4	0.21	0.02	9.45	32.37	41.84	63.32	-21.48	QP
5	0.28	0.04	9.48	23.96	33.48	50.81	-17.33	Average
6	0.28	0.04	9.48	31.75	41.27	60.81	-19.54	QP
7	0.54	0.06	9.59	17.88	27.53	46.00	-18.47	Average
8	0.54	0.06	9.59	22.67	32.32	56.00	-23.68	QP
9	2.20	0.16	9.70	7.02	16.88	46.00	-29.12	Average
10	2.20	0.16	9.70	18.83	28.69	56.00	-27.31	QP
11	26.14	0.27	10.42	10.55	21.24	50.00	-28.76	Average
12	26.14	0.27	10.42	16.26	26.95	60.00	-33.05	QP



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6.2 Radiated Emissions (30MHz-1GHz)

Test Requirement: 47 CFR Part 15, Subpart B

Test Method: ANSI C63.4:2014 Frequency Range: 30MHz to 1GHz

Measurement Distance: 3m

Limit:

30MHz -88MHz 40.0(dBµV/m) quasi-peak 88MHz-216MHz 43.5(dBµV/m) quasi-peak 216MHz-960MHz 46.0(dBµV/m) quasi-peak 960MHz-1000MHz 54.0(dBµV/m) quasi-peak

Detector: Peak for pre-scan (120kHz resolution bandwidth) 30M to1000MHz

6.2.1 E.U.T. Operation

Operating Environment:

Temperature: 23 °C Humidity: 55 % RH Atmospheric Pressure: 1015 mbar

Pretest these d: AUX Input_Sound:1kHz Sine Wave

modes to find e: Charging Keep the battery of the EUT in charging mode the worst case:

f: AUX Input+Charging Sound:1kHz Sine Wave and Keep the battery of the EUT

in charging mode.

g: TF Card+Charging_Sound:1kHz Sine Wave and Keep the battery of the EUT in

charging mode

h: USB disk+Charging Sound:1kHz Sine Wave and Keep the battery of the EUT

in charging mode

i: Idle Keep the EUT standby.

The worst case for final test:

g: TF Card+Charging Sound:1kHz Sine Wave and Keep the battery of the EUT in

charging mode

h: USB disk+Charging Sound:1kHz Sine Wave and Keep the battery of the EUT

in charging mode



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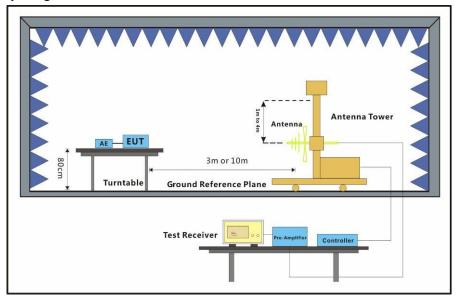
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6.2.2 Test Setup Diagram



6.2.3 Measurement Data

An initial pre-scan was performed in the chamber using the spectrum analyser in peak detection mode. Quasi-peak measurements were conducted based on the peak sweep graph. The EUT was measured by BiConiLog antenna with 2 orthogonal polarities.



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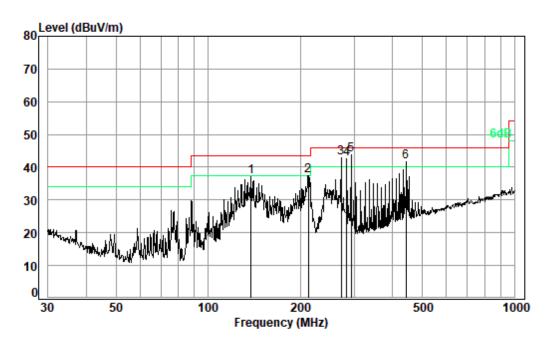
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Mode:g; Polarization:Horizontal



Condition: 3m HORIZONTAL

Job No. : 19437CR

Test mode: g

	Freq			Preamp Factor					Remark
-	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	137.90	1.29	13.64	27.42	49.64	37.15	43.50	-6.35	QP
2	212.27	1.47	16.94	27.13	46.23	37.51	43.50	-5.99	QP
3	272.28	1.78	18.91	26.96	49.15	42.88	46.00	-3.12	QP
4	282.99	1.83	18.92	26.93	48.87	42.69	46.00	-3.31	QP
5 pp	293.08	1.87	19.33	26.91	49.61	43.90	46.00	-2.10	QP
6	443.29	2.38	23.41	27.61	43.51	41.69	46.00	-4.31	QP



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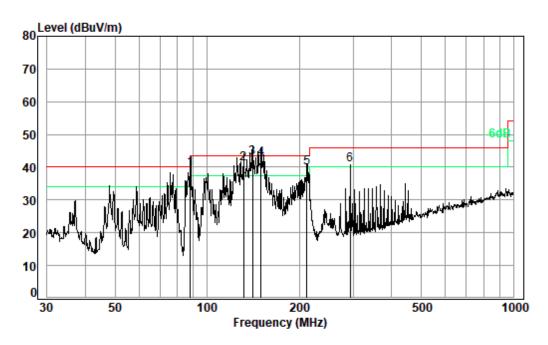
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Mode:g; Polarization:Vertical



Condition: 3m VERTICAL Job No. : 19437CR

Test mode: g

	Ū	Cable	Ant	Preamp	Read		Limit	0ver	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
_	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	88.03	1.10	12.89	27.65	53.09	39.43	43.50	-4.07	QP
2	131.30	1.28	13.45	27.45	53.87	41.15	43.50	-2.35	QP
3 pp	140.84	1.30	13.78	27.41	55.21	42.88	43.50	-0.62	QP
4	150.01	1.32	14.63	27.36	53.87	42.46	43.50	-1.04	QP
5	211.53	1.47	16.91	27.13	48.58	39.83	43.50	-3.67	QP
6	293.08	1.87	19.33	26.91	46.44	40.73	46.00	-5.27	QP



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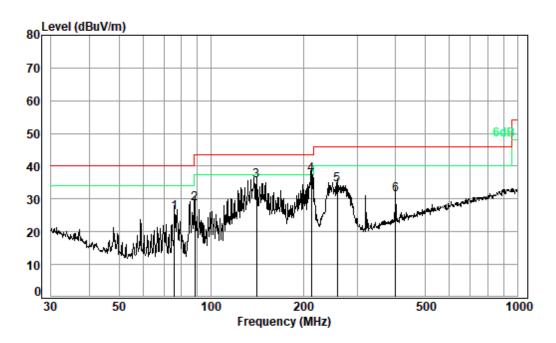
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Mode:h; Polarization:Horizontal



Condition: 3m HORIZONTAL

Job No. : 19437CR

Test mode: h

		Cable	Ant	Preamp	Read		Limit	0ver	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
_									
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	75.98	0.98	12.31	27.66	40.28	25.91	40.00	-14.09	QP
2	88.34	1.10	12.93	27.65	42.25	28.63	43.50	-14.87	QP
3	140.84	1.30	13.78	27.41	48.04	35.71	43.50	-7.79	QP
4 pp	212.27	1.47	16.94	27.13	46.05	37.33	43.50	-6.17	QP
5	258.33	1.71	19.08	26.99	40.45	34.25	46.00	-11.75	QP
6	400.43	2.20	22.41	27.42	34.27	31.46	46.00	-14.54	QP



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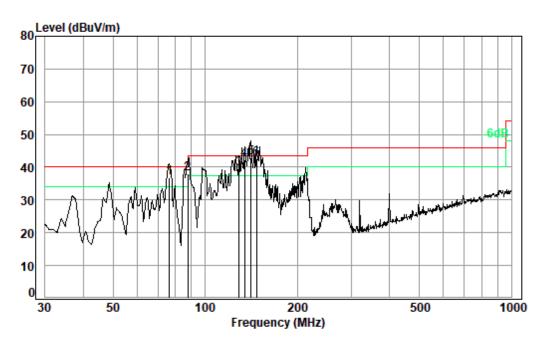
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Mode:h; Polarization:Vertical



Condition: 3m VERTICAL Job No. : 19437CR

Test mode: h

	Freq			Preamp Factor					Remark
-	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	76.51	1.00	12.27	27.66	51.24	36.85	40.00	-3.15	QP
2	87.72	1.10	12.86	27.65	51.75	38.06	40.00	-1.94	QP
3	129.01	1.27	13.38	27.47	52.45	39.63	43.50	-3.87	QP
4	134.56	1.29	13.55	27.44	54.80	42.20	43.50	-1.30	QP
5 pp	141.33	1.30	13.83	27.40	55.26	42.99	43.50	-0.51	QP
6	147.40	1.31	14.39	27.38	54.18	42.50	43.50	-1.00	QP



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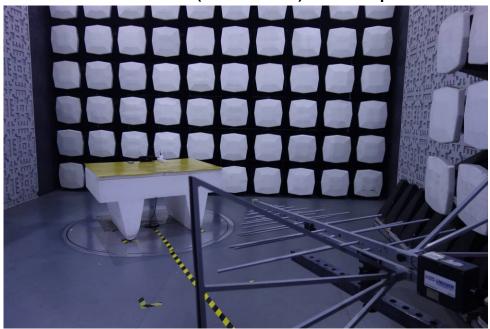
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Photographs 7

Conducted Emissions at Mains Terminals (150kHz-30MHz) Test Setup



7.2 Radiated Emissions (30MHz-1GHz) Test Setup





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7.3 EUT Constructional Details (EUT Photos)

Refer to Appendix A-Photographs of EUT Constructional Details for ZR/2019/A0010.

- End of the Report -



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