

FCC TEST REPORT

Product Name: Mobile Phone

Trade Mark: BOLD

Model No.: T5

Report Number: 200113001EMC-1

Test Standards: FCC 47 CFR Part 15 Subpart B

FCC ID: YHLBOLDT5

Test Result: PASS

Date of Issue: March 12, 2020

Prepared for:

BLU Products, Inc. 10814 NW 33rd St # 100 Doral, FL 33172, USA

Prepared by:

Shenzhen UnionTrust Quality and Technology Co., Ltd. 16/F, Block A, Building 6, Baoneng Science and Technology Park, Qingxiang Road No.1, Longhua New District, Shenzhen, China

> TEL: +86-755-2823 0888 FAX: +86-755-2823 0886

Prepared by:

Henry Lu Team Leader Reviewed by:

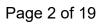
Kevin Liang Assistant Manager

Approved by:

Cer Billy Li **Technical Director** Date:

March 12, 2020

Shenzhen UnionTrust Quality and Technology Co., Ltd.





Version

| Version No. Date | | Description | |
|---------------------|--|-------------|--|
| V1.0 March 12, 2020 | | Original | |





CONTENTS

| 1. | GENI | ERAL INFORMATION | 4 |
|----|------------|---------------------------------------------|----|
| | 1.1 1.2 | CLIENT INFORMATIONEUT INFORMATION | |
| | 1.2 | 1.2.1 GENERAL DESCRIPTION OF EUT | |
| | | 1.2.2 DESCRIPTION OF ACCESSORIES | |
| | 1.3 | DESCRIPTION OF SUPPORT UNITS | |
| | 1.4 | TEST LOCATION | |
| | 1.5 | TEST FACILITY | |
| | 1.6 | DEVIATION FROM STANDARDS | |
| | 1.7 | ABNORMALITIES FROM STANDARD CONDITIONS | 5 |
| | 1.8 | OTHER INFORMATION REQUESTED BY THE CUSTOMER | |
| | 1.9 | MEASUREMENT UNCERTAINTY | 6 |
| 2. | TEST | T SUMMARY | 6 |
| 3. | FQUI | IPMENT LIST | 7 |
| 4. | | CONFIGURATION | |
| | 4.1 | ENVIRONMENTAL CONDITIONS FOR TESTING | 0 |
| | 4.1 | 4.1.1 NORMAL OR EXTREME TEST CONDITIONS | |
| | | 4.1.2 RECORD OF NORMAL ENVIRONMENT | |
| | 4.2 | TEST MODES. | |
| | 4.3 | TEST SETUP | |
| | | 4.3.1 FOR RADIATED EMISSIONS TEST SETUP | 9 |
| | | 4.3.2 FOR CONDUCTED EMISSIONS TEST SETUP | |
| | 4.4 | SYSTEM TEST CONFIGURATION | 10 |
| 5. | REFE | ERENCE DOCUMENTS FOR TESTING | 11 |
| 6. | | REQUIREMENTS SPECIFICATION | |
| ٠. | | | |
| | | | |
| | 6.1 | RADIATED EMISSION | |
| | 6.2 | CONDUCTED EMISSION | 16 |
| ΑP | 6.2 | | 16 |



1. GENERAL INFORMATION

1.1 CLIENT INFORMATION

| 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 |

Report No.: 200113001EMC-1

1.2 EUT INFORMATION

1.2.1 **General Description of EUT**

| | 0.1 0.1 20 1 | | |
|------------------------------------|------------------------------------------------------|--|--|
| Product Name: | Mobile Phone | | |
| Model No.: | T5 | | |
| Trade Mark: | BOLD | | |
| DUT Stage: | Identical Prototype | | |
| Rated Voltage: | | | |
| Classification of digital devices: | 3.8Vdc (1x3.8V Li-ion Rechargeable battery) Class B | | |
| Highest Internal Frequency: | 2617.5 MHz | | |
| Sample Received Date: | January 13, 2020 | | |
| Sample Tested Date: | January 13, 2020 to March 4, 2020 | | |

1.2.2 **Description of Accessories**

| Adapter | | | | |
|---------------|----------------------------------------|--|--|--|
| Model No.: | US-WW-1003 | | | |
| Input: | 100-240 V~50/60 Hz 0.2 A | | | |
| Output: | 5.0 V == 1000mA | | | |
| DC Cable: | 0.80 Meter, Unshielded without ferrite | | | |
| Manufacturer: | ShenZhen NanBang Electronics co., LTD | | | |

| Battery | | | | |
|-------------------------------------------------------|----------------------------------|--|--|--|
| Model No.: | C775443200L | | | |
| Battery Type: | Lithium-ion Rechargeable Battery | | | |
| Rated Voltage: 3.8 Vdc | | | | |
| Limited Charge Voltage: | 4.35 Vdc | | | |
| Rated Capacity: | 2000 mAh | | | |
| Manufacturer: Shenzhen Aerospace Electronic Co., Ltd. | | | | |

| Earphone | | | |
|------------------------|------------|--|--|
| Cable Type: Unshielded | | | |
| Length: | 1.20 Meter | | |



Page 5 of 19 Report No.: 200113001EMC-1

1.3 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested with associated equipment below.

1) Support Equipment

| Description | Manufacturer | Model No. | Serial Number | Supplied by |
|-------------|--------------|-----------|---------------|-------------|
| Notebook | Lenovo | E450 | SL10G10780 | UnionTrust |
| Mouse | DELL | MS111 | CN-011D3V-738 | UnionTrust |

2) Support Cable

| Cable No. | Description | Connector | Length | Supplied by |
|-----------|-------------|---------------------------|-----------|-------------|
| 1 | USB | USB Micro-B Plug Cable | 1.2 Meter | UnionTrust |

1.4 TEST LOCATION

Shenzhen UnionTrust Quality and Technology Co., Ltd.

Address: 16/F, Block A, Building 6, Baoneng Science and Technology Park, Qingxiang Road No.1, Longhua

New District, Shenzhen, China 518109 Telephone: +86 (0) 755 2823 0888 Fax: +86 (0) 755 2823 0886

1.5 TEST FACILITY

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

CNAS-Lab Code: L9069

The measuring equipment utilized to perform the tests documented in this report has been calibrated once a year or in accordance with the manufacturer's recommendations, and is traceable under the ISO/IEC/EN 17025 to international or national standards. Equipment has been calibrated by accredited calibration laboratories.

A2LA-Lab Certificate No.: 4312.01

Shenzhen UnionTrust Quality and Technology Co., Ltd. has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

ISED Wireless Device Testing Laboratories

CAB identifier: CN0032

FCC Accredited Lab.

Designation Number: CN1194

Test Firm Registration Number: 259480

1.6 DEVIATION FROM STANDARDS

None.

1.7 ABNORMALITIES FROM STANDARD CONDITIONS

Shenzhen UnionTrust Quality and Technology Co., Ltd.



None.

1.8 OTHER INFORMATION REQUESTED BY THE CUSTOMER

None.

1.9 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the Product as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

| | pproximately the 60% comments for a doing a corolage laster of R 2. | | | | | |
|-----|---------------------------------------------------------------------|-------------------------|--|--|--|--|
| No. | Item | Measurement Uncertainty | | | | |
| 1 | Conducted emission 9KHz-150KHz | ±3.8 dB | | | | |
| 2 | Conducted emission 150KHz-30MHz | ±3.4 dB | | | | |
| 3 | Radiated emission 9KHz-30MHz | ±4.9 dB | | | | |
| 4 | Radiated emission 30MHz-1GHz | ±4.7 dB | | | | |
| 5 | Radiated emission 1GHz-18GHz | ±5.1 dB | | | | |
| 6 | Radiated emission 18GHz-26GHz | ±5.2 dB | | | | |
| 7 | Radiated emission 26GHz-40GHz | ±5.2 dB | | | | |

2. TEST SUMMARY

| FCC 47 CFR Part 15 Subpart B Test Cases | | | | | | |
|-----------------------------------------|------------------------|-----------------|------|--|--|--|
| Test Item Test Requirement Test Method | | | | | | |
| Conducted Emission | FCC 47 CFR Part 15.107 | ANSI C63.4-2014 | PASS | | | |
| Radiated Emission | FCC 47 CFR Part 15.109 | ANSI C63.4-2014 | PASS | | | |



3. EQUIPMENT LIST

| | Radiated Emission Test Equipment List | | | | | | | | |
|-------------|---------------------------------------|--------------|----------------|------------------|-----------------------------------------------------|--------------------------------|--|--|--|
| Used | Equipment | Manufacturer | Model No. | Serial Number | Cal. date (mm dd, yyyy) | Cal. Due date (mm dd, yyyy) | | | |
| | 3M Chamber & Accessory Equipment | ETS-LINDGREN | 3M | N/A | Dec. 03, 2018 | Dec. 03, 2021 | | | |
| \boxtimes | Receiver | R&S | ESIB26 | 100114 | Nov. 24, 2019 | Nov. 23, 2020 | | | |
| | Loop Antenna | ETS-LINDGREN | 6502 | 00202525 | Nov. 24, 2019 | Nov. 23, 2020 | | | |
| \boxtimes | Broadband Antenna | ETS-LINDGREN | 3142E | 00201566 | Nov. 16, 2019 | Nov. 15, 2020 | | | |
| \boxtimes | 6dB Attenuator | Talent | RA6A5-N- 18 | 18103001 | Nov. 16, 2019 | Nov. 15, 2020 | | | |
| \boxtimes | Preamplifier | HP | 8447F | 2805A02960 | Nov. 16, 2019 | Nov. 15, 2020 | | | |
| | Broadband Antenna (Pre-amplifier) | ETS-LINDGREN | 3142E-PA | 00201891 | Nov. 24, 2019 | Nov. 23, 2020 | | | |
| | 6dB Attenuator | Talent | RA6A5-N- 18 | 18103002 | Nov. 24, 2019 | Nov. 23, 2020 | | | |
| | Horn Antenna | ETS-LINDGREN | 3117 | 00164202 | Nov. 24, 2019 | Nov. 23, 2020 | | | |
| × | Horn Antenna (Pre-amplifier) | ETS-LINDGREN | 3117-PA | 00201874 | Nov. 16, 2019 | Nov. 15, 2020 | | | |
| | Horn Antenna | ETS-LINDGREN | 3116C | 00200180 | May 18, 2019 | May 18, 2020 | | | |
| \boxtimes | Horn Antenna (Pre-amplifier) | ETS-LINDGREN | 3116C-PA | 00202652 | Nov. 16, 2019 | Nov. 15, 2020 | | | |
| | Multi device Controller | ETS-LINDGREN | 7006-001 | 00160105 | N/A | N/A | | | |
| \boxtimes | Test Software | Audix | e3 | Sof | ☐ Test Software Audix e3 Software Version: 9.160323 | | | | |

| | Conducted Emission Test Equipment List | | | | | |
|------|----------------------------------------|--------------|-----------|----------------------------|----------------------------|--------------------------------|
| Used | Equipment | Manufacturer | Model No. | Serial Number | Cal. date (mm dd, yyyy) | Cal. Due date (mm dd, yyyy) |
| | Receiver | R&S | ESR7 | 1316.3003K07 -101181-K3 | Nov. 24, 2019 | Nov. 23, 2020 |
| | Pulse Limiter | R&S | ESH3-Z2 | 0357.8810.54 | Nov. 24, 2019 | Nov. 23, 2020 |
| | LISN | R&S | ESH2-Z5 | 860014/024 | Nov. 24, 2019 | Nov. 23, 2020 |
| | LISN | ETS-Lindgren | 3816/2SH | 00201088 | Nov. 24, 2019 | Nov. 23, 2020 |
| | Test Software | Audix | e3 | Software Version: 9.160323 | | |



4. TEST CONFIGURATION

4.1 ENVIRONMENTAL CONDITIONS FOR TESTING

Normal or Extreme Test Conditions

| Environment Parameter | Selected Values During Tests | | | |
|-------------------------------------------------------|------------------------------|----------------------|-----------------------|--|
| Test Condition | Ambient | | | |
| rest Condition | Temperature (°C) | Voltage (V) | Relative Humidity (%) | |
| NT/NV | +15 to +35 | 3.8Vdc or 120/240Vac | 20 to 75 | |
| Remark: 1) NV: Normal Voltage; NT: Normal Temperature | | | | |

4.1.2 **Record of Normal Environment**

| Test Item | Temperature (°C) | Relative Humidity (%) | Pressure (kPa) | Tested by |
|--------------------|---------------------|-----------------------|-------------------|-----------|
| Conducted Emission | 23.6 | 50 | 100.60 | Andy Lin |
| Radiated Emission | 24.6 | 50 | 100.55 | Andy Lin |

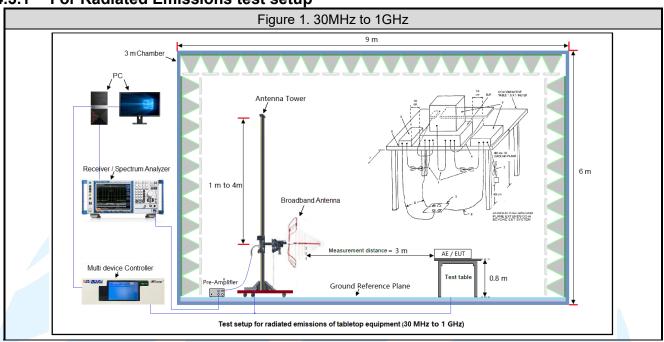
4.2 TEST MODES

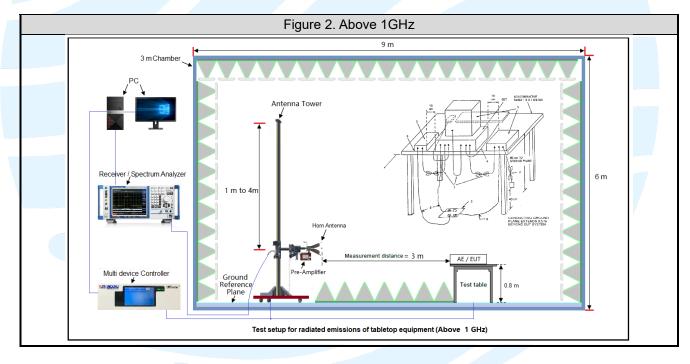
| ٠. | Z I E O I MODEO | |
|----|---------------------|------------------------------------------------------------------------|
| | Test Item | EMI Test Modes |
| | | Mode 1: Charging from 120 Vac + MP4 playing (With TF Card) + |
| 1 | | Earphone |
| | | Mode 2: Charging from 120 Vac + FM (With Earphone) + Camera (Front)+ |
| | D. Est. I.E. Sector | With TF Card +Light on |
| | Radiated Emission | Mode 3: Charging from 120 Vac + Camera (Rear) + With TF Card+ Light on |
| | | Mode 4: Charging from 240 Vac + Worse from mode 1~3 + GPS on |
| | | Mode 5: Battery + Worse from mode 1~3 + GPS on |
| | | Mode 6: USB Cable (data transfer with notebook) + With TF Card |
| | | Mode 1: Charging from 120 Vac + MP4 playing (With TF Card) + Earphone |
| | | Mode 2: Charging from 120 Vac + FM (With Earphone) + Camera |
| | Conducted Emission | (Front)+ With TF Card +Light on |
| | | Mode 3: Charging from 120 Vac + Camera (Rear) + With TF Card+ Light on |
| | | Mode 4: Charging from 240 Vac + Worse from mode 1~3 + GPS on |



4.3TEST SETUP

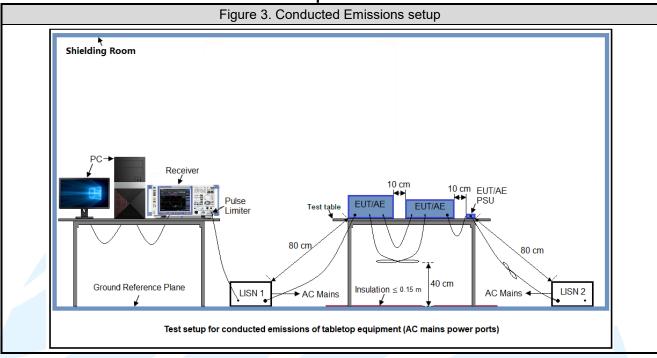
4.3.1 For Radiated Emissions test setup







4.3.2 For Conducted Emissions test setup



4.4 SYSTEM TEST CONFIGURATION

All readings are extrapolated back to the equivalent three meter reading using inverse scaling with distance. Analyzer resolution is 100 kHz or greater for frequencies below 1000MHz. The resolution is 1 MHz or greater for frequencies above 1000MHz. The spurious emissions more than 20 dB below the permissible value are not reported.

Radiated emission measurement were performed from the lowest radio frequency signal generated in the device which is greater than 9 kHz to the tenth harmonic (according to KDB 896810 D02 SDoC FAQ v01r01) of the highest fundamental frequency or to 40 GHz, whichever is lower.

Page 11 of 19 Report No.: 200113001EMC-1

5. REFERENCE DOCUMENTS FOR TESTING

| No. | Identity | Document Title | | | |
|-----|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|
| 1 | FCC 47 CFR Part15 Subpart B | Unintentional Radiators | | | |
| 2 | ANSI C63.4-2014 | American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz | | | |
| 3 | KDB 174176 D01 Line Conducted FAQ v01r01 | AC power-line conducted emission frequency asked questions | | | |
| 4 | KDB 896810 D02 SDoC FAQ v01r02 | Supplier's Declaration of Conformity frequency asked questions | | | |

6. EMC REQUIREMENTS SPECIFICATION 6.1 RADIATED EMISSION

Test Requirement: FCC 47 CFR Part 15.109

Test Method: ANSI C63.4-2014

Receiver Setup:

| Frequency: (f) | Detector type | Measurement receiver bandwidth | | |
|----------------|---------------|--------------------------------|---------|--|
| (MHz) | Detector type | RBW | VBW | |
| 30 ≤ f ≤ 1 000 | Quasi Peak | 120 kHz | 300 kHz | |
| f≥1000 | Peak | 1 MHz | 3 MHz | |
| 1 ≥ 1000 | Average | 1 MHz | 3 MHz | |

Measured frequency range

| Highest frequency generated or used in the device or on which the device operates or tunes (MHz) | Upper frequency of measurement range (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. |

Limits:

Limits for Class B devices

| Fraguency (MHz) | limits at 3m (dBµV/m) | | | |
|-----------------|-----------------------|-------------|-------------|--|
| Frequency (MHz) | QP Detector | PK Detector | AV Detector | |
| 30-88 | 40.0 | - | | |
| 88-216 | 43.5 | | | |
| 216-960 | 46.0 | | | |
| 960 to 1000 | 54.0 | | | |
| Above 1000 | | 74.0 | 54.0 | |

Remark:

- 1. The lower limit shall apply at the transition frequencies.
- 2. Emission level $(dB\mu V/m) = 20 \log Emission level (\mu V/m)$.
- 3. For frequencies above 1000 MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20 dB under any condition of modulation.

Test Setup: Refer to section 4.3.1 for details.

Test Procedures:

1. From 30 MHz to 1GHz test procedure as below:

Shenzhen UnionTrust Quality and Technology Co., Ltd.



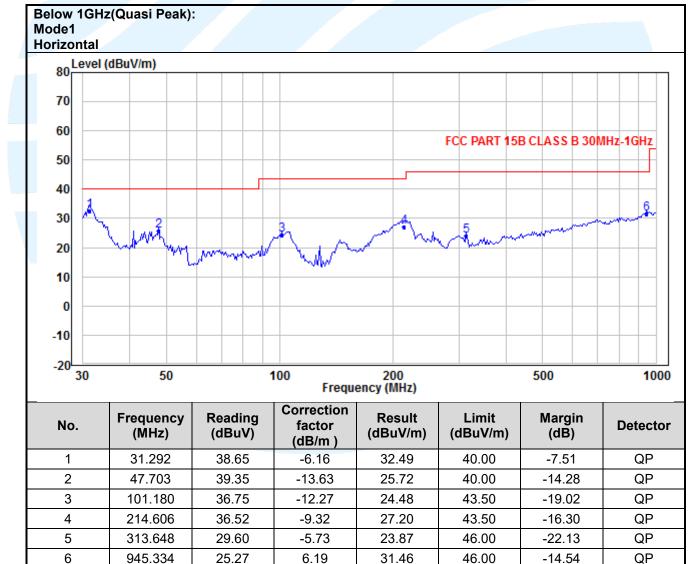
- 1) The Product was placed on the non-conductive turntable 0.8 m above the ground at a chamber.
- 2) Set the spectrum analyzer/receiver in Peak detector, Max Hold mode, and 120 kHz RBW. Record the maximum field strength of all the pre-scan process in the full band when the antenna is varied between 1~4 m in both horizontal and vertical, and the turntable is rotated from 0 to 360 degrees.

- 3) For each frequency whose maximum record was higher or close to limit, measure its QP value: vary the antenna's height and rotate the turntable from 0 to 360 degrees to find the height and degree where Product radiated the maximum emission, then set the test frequency analyzer/receiver to QP Detector and specified bandwidth with Maximum Hold Mode, and record the maximum value.
- 2. Above 1GHz test procedure as below:
- 1) The Product was placed on the non-conductive turntable 0.8 m above the ground at a chamber.
- 2) Set the spectrum analyzer/receiver in Peak detector, Max Hold mode, and 1MHz RBW. Record the maximum field strength of all the pre-scan process in the full band when the antenna is varied in both horizontal and vertical, and the turntable is rotated from 0 to 360 degrees.
- 3) For each frequency whose maximum record was higher or close to limit, measure its AV value: rotate the turntable from 0 to 360 degrees to find the degree where Product radiated the maximum emission, then set the test frequency analyzer/receiver to AV value and specified bandwidth with Maximum Hold Mode, and record the maximum value.

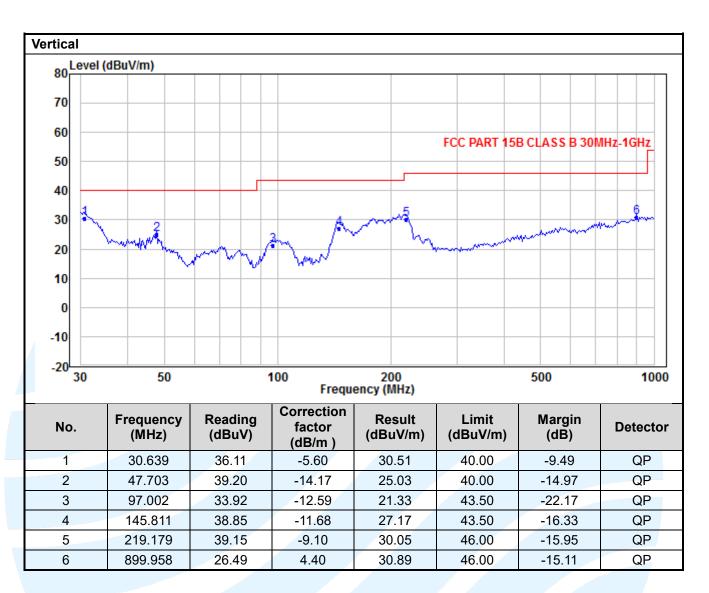
Equipment Used: Refer to section 3 for details.

Test Result: Pass

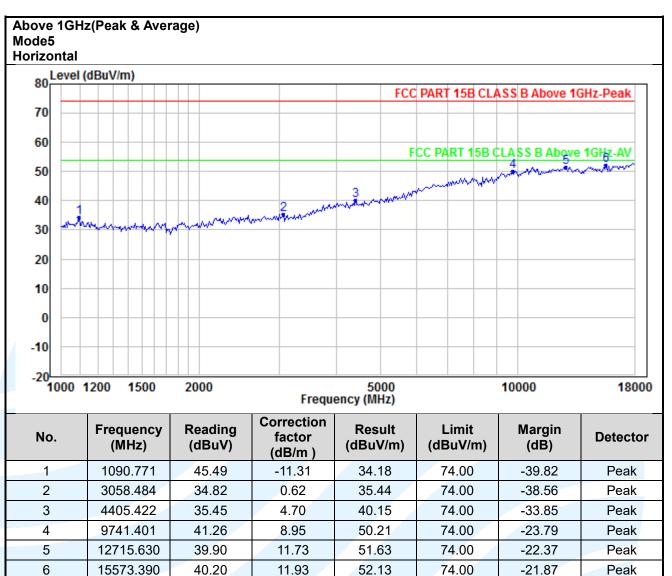
The measurement data as follows:



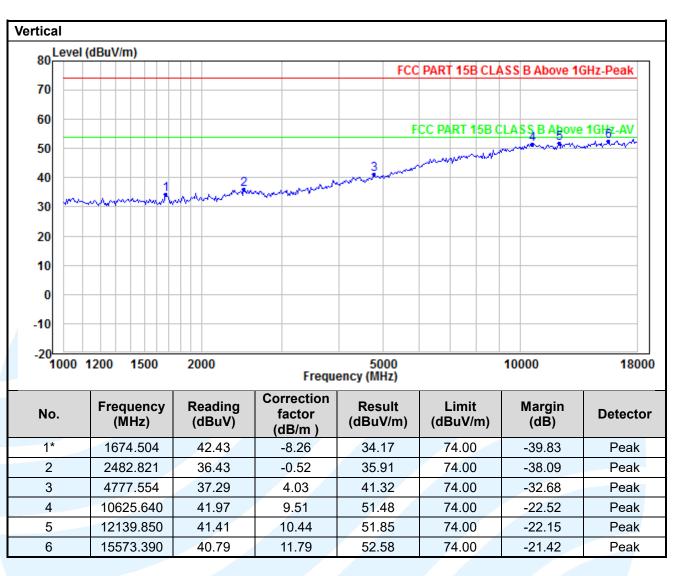












Remark:

- Correct Factor = Antenna Factor + Cable Loss Amplifier Gain, the value was added to Original Receiver Reading by the software automatically.
- Result = Reading + Correct Factor. 2.
- Margin = Result Limit
- 4. All possible modes of operation were investigated, and testing at two nominal voltages of 240V/50Hz and 120V/60Hz, only the worst case emissions reported.
- For Radiated Emission above 18GHz, there was not any unwanted emission detected.
- As shown in this section, for frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. So, only the peak measurements were shown in the report.



Page 16 of 19 Report No.: 200113001EMC-1

6.2 CONDUCTED EMISSION

Test Requirement: FCC 47 CFR Part 15.107

Test Method: ANSI C63.4-2014

Limits:

Limits for Class B devices

| Frequency range | Limits (dB(μV) | | |
|-----------------|----------------|----------|--|
| (MHz) | Quasi-peak | Average | |
| 0,15 to 0,50 | 66 to 56 | 56 to 46 | |
| 0,50 to 5 | 56 | 46 | |
| 5 to 30 | 60 | 50 | |

Remark:

1. The lower limit shall apply at the transition frequencies.

2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 to 0.50 MHz.

Test Setup: Refer to section 4.3.2 for details.

Test Procedures:

1) The Product was placed on a nonconductive table 0.8 m above the horizontal ground reference plane, and 0.4 m from the vertical ground reference plane, and connected to the main through Line Impedance Stability Network (L.I.S.N).

2) The RBW of the receiver was set at 9 kHz in 150 kHz ~ 30MHz with Peak and AVG detector in Max Hold mode. Run the receiver's pre-scan to record the maximum disturbance generated from Product in all power lines in the full band.

For each frequency whose maximum record was higher or close to limit, measure its QP and AVG values and record.

Equipment Used: Refer to section 3 for details.

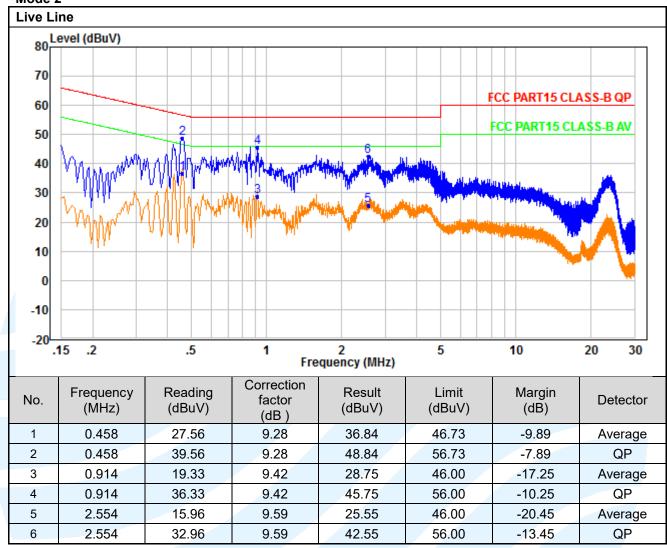
Test Result: Pass



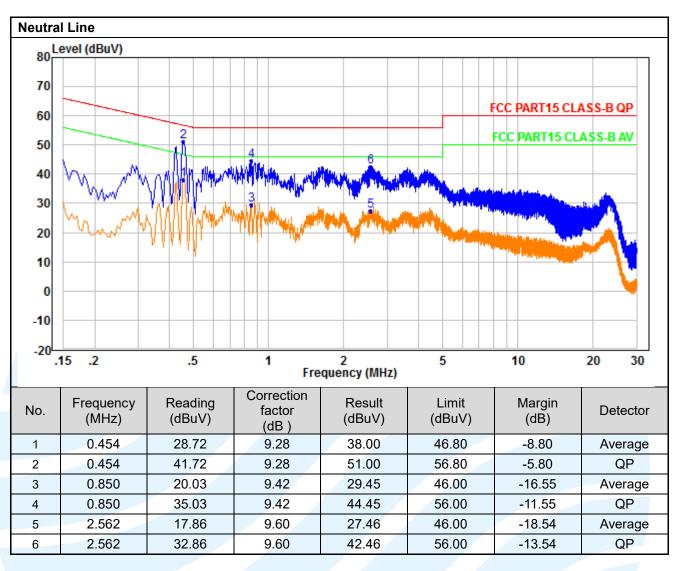
The measurement data as follows:

Quasi Peak and Average:

Mode 2







Remark:

- Correct Factor = LISN Factor + Cable Loss + Pulse Limiter Factor, the value was added to Original Receiver Reading by the software automatically.
- 2. Result = Reading + Correct Factor.
- Margin = Result Limit 3.
- An initial pre-scan was performed on the Phase and neutral lines with peak detector. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.
- All possible modes of operation were investigated, and testing at two nominal voltages of 240V/50Hz and 120V/60Hz, only the worst case emissions reported.



APPENDIX 1 PHOTOS OF TEST SETUP

See test photos attached in Appendix 1 for the actual connections between Product and support equipment.

Report No.: 200113001EMC-1

APPENDIX 2 PHOTOS OF EUT CONSTRUCTIONAL DETAILS

