# TEST REPORT

**REPORT NUMBER: I21W00004-EMC**

**ON**

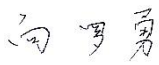
| | |
|---|---|
| **Type of Equipment:** | Tracker |
| **Type of Designation:** | AT Pro NG |
| **Manufacturer:** | Micron Electronics LLC. |

**ACCORDING TO**
**Subpart B, PART 15, RADIO FREQUENCY DEVICES**

**Chongqing Academy of Information and Communication Technology**

*Month date, year*
*Apr, 08, 2021*

*Signature*



***Xiang Luoyong***
Director

**Note:**

The test results in this test report relate only to the devices specified in this report. This report shall not be reproduced except in full without the written approval of Chongqing Academy of Information and Communication Technology.

**Revision Version**

| Report Number | Revision | Date | Memo |
|---|---|---|---|
| I21W00004-EMC | 00 | 2021-04-08 | Initial creation of test report |

**Chongqing Academy of Information and Communication Technology**
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| | |
|---|---|
| **FCC ID:** | ZKQ-ATPNG |
| **Report Date:** | 2021-04-08 |
| **Test Firm Name:** | Chongqing Academy of Information and Communication Technology |
| **FCC Registration Number:** | CN1239 |

Statement

The measurements shown in this report were made in accordance with the procedures described on test pages. All reported tests were carried out on a sample equipment to demonstrate limited compliance with FCC CFR 47 Part 15B. The sample tested was found to comply with the requirements defined in the applied rules.

# CONTENTS

# 1 General Information

## 1.1 Notes

All reported tests were carried out on a sample equipment to demonstrate limited compliance with FCC CFR 47 Part15B.

The test results of this test report relate exclusively to the item(s) tested as specified in section 2.

The following deviation from, additions to, or exclusions from the test specifications have been made. See Annex C.

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## 1.2 Testers

| | |
|---|---|
| Name: | Chen Xin |
| Position: | Engineer |
| Department: | Department of EMC test |
| Date: | 2021-04-08 |
| Signature: |  |

Editor of this test report:

| | |
|---|---|
| Name: | Xiao Yu |
| Position: | Engineer |
| Department: | Department of EMC test |
| Date: | 2021-04-08 |
| Signature: |  |

Technical responsibility for area of testing:

| | |
|---|---|
| Name: | Xiang Luoyong |
| Position: | Manager |
| Department: | Department of EMC test |
| Date: | 2021-04-08 |
| Signature: |  |

## 1.3 Testing Laboratory information

1.3.1 Location

| | |
|---|---|
| Name: | Chongqing Academy of Information and Communcations |
| Address: | Building B, Technology Innovation Center, No.8, Yuma Road, Chayuan New Area, Nan'an District, Chongqing, People's Republic of China, 401336 |
| Tel: | +86 23 88069965 |
| Fax: | +86 23 88608777 |
| Email: | liqiao@caict.ac.cn |

1.3.2 Details of accreditation status

| | |
|---|---|
| Accredited by: | -- |
| Registration number: | -- |
| Standard: | -- |

1.3.3 Test location, where different from section 1.3.1

| | |
|---|---|
| Name: | -- |
| Address: | -- |

## 1.4 Details of applicant or manufacturer

1.4.1 Applicant

| | |
|---|---|
| Name: | Micron Electronics LLC. |
| Address: | 1001 Yamato Road, Suite 400, Boca Raton, FL 33431, USA |
| Country: | USA |
| Telephone: | 1 888 538 3489 |
| Fax: | -- |
| Contact: | Ping Cheng |
| Email: | pcheng@micron-electronics.com |

1.4.2 Manufacturer (if different from applicant in section 1.4.1)

| | |
|---|---|
| Name: | Micron Electronics LLC. |
| Address: | 1001 Yamato Road, Suite 400, Boca Raton, FL 33431, USA |
| Country: | USA |

# 2 Test Item

## 2.1 General Information

| | |
|---|---|
| Manufacturer: | Micron Electronics LLC. |
| Name: | Tracker |
| Model Number: | AT Pro NG |
| Serial Number: | K4L10504010013 |
| IMEI: | 866884045634250 |
| Production Status: | Product |
| Receipt date of test item: | 2021-03-22 |

## 2.2 Outline of EUT

The EUT AT Pro NG is a Product supporting CAT M1 Band 2/4/5/12/13, GSM850 and PCS1900.

## 2.3 Modifications Incorporated in EUT

The EUT has not been modified from what is described by the brand name and unique type identification stated above.

## 2.4 Equipment Configuration

Equipment configuration list:

| Item | Generic Description | Manufacturer | Type | Serial No. | Remarks |
|---|---|---|---|---|---|
| A | Product | Micron Electronics LLC. | AT Pro NG | K4L1050401 0013 | None |

## 2.5 Other Information

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# 3 Summary of Test Results

A brief summary of the tests carried out is shown as following.

| Configuration1 | | |
|---|---|---|
| Specification Clause | Name of Test | Result |
| 15.107 | Conducted limits | P |
| 15.109 | Radiated Emission limits | P |

# 4.Test equipment and Test software

| **Test equipment Used:** | | | | | | |
|---|---|---|---|---|---|---|
| **Number** | **Description** | **Manufacturer** | **Model Number** | **Serial Number** | **Cal Due** | **State** |
| 1 | EMI Test Receiver | R/S | ESU | 100367 | 2021-06-25 | Normal |
| 2 | Ultra Broadband Antenna | R/S | VULB 9163 | 00995 | 2023-04-03 | Normal |
| 3 | Double-Ridged Horn Antenna | R/S | HF907 | 100357 | 2021-08-20 | Normal |
| 4 | Fully-Anechoic Chamber | ETS | 11.8m×6.5m×6.3m | CT000174-1035 | 2024-01-22 | Normal |
| 5 | AMN | R/S | ENV216 | 101128 | 2021-06-25 | Normal |
| 6 | EMI Test Receiver | R/S | ESCI 9KHz-3GHZ | 101214 | 2021-06-25 | Normal |

| **Test software Used:** | | | | |
|---|---|---|---|---|
| Number | Test item | Test software name | Manufacturer | Version: |
| 1 | Radiated Emission | EMC32 | R/S | V8.51.0 |
| 2 | Conducted Emission | EMC32 | R/S | V8.51.0 |

# 5 Test Results

## 5.1 Radiated Emission

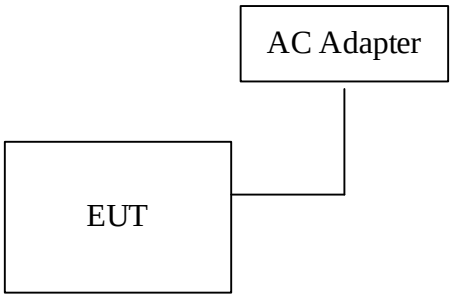
| | |
|---|---|
| **Specifications:** | 15.109 |
| **Date of Tests** | 2021-03-22-2021-04-08 |
| **Test conditions:** | Ambient Temperature:15℃-35℃<br>Relative Humidity:30%-60%<br>Air pressure: 86-106kPa |
| **Operation Mode** | Normal |
| **Test Results:** | Pass |

**Limit Level Construction(Except for Class A digital devices):**

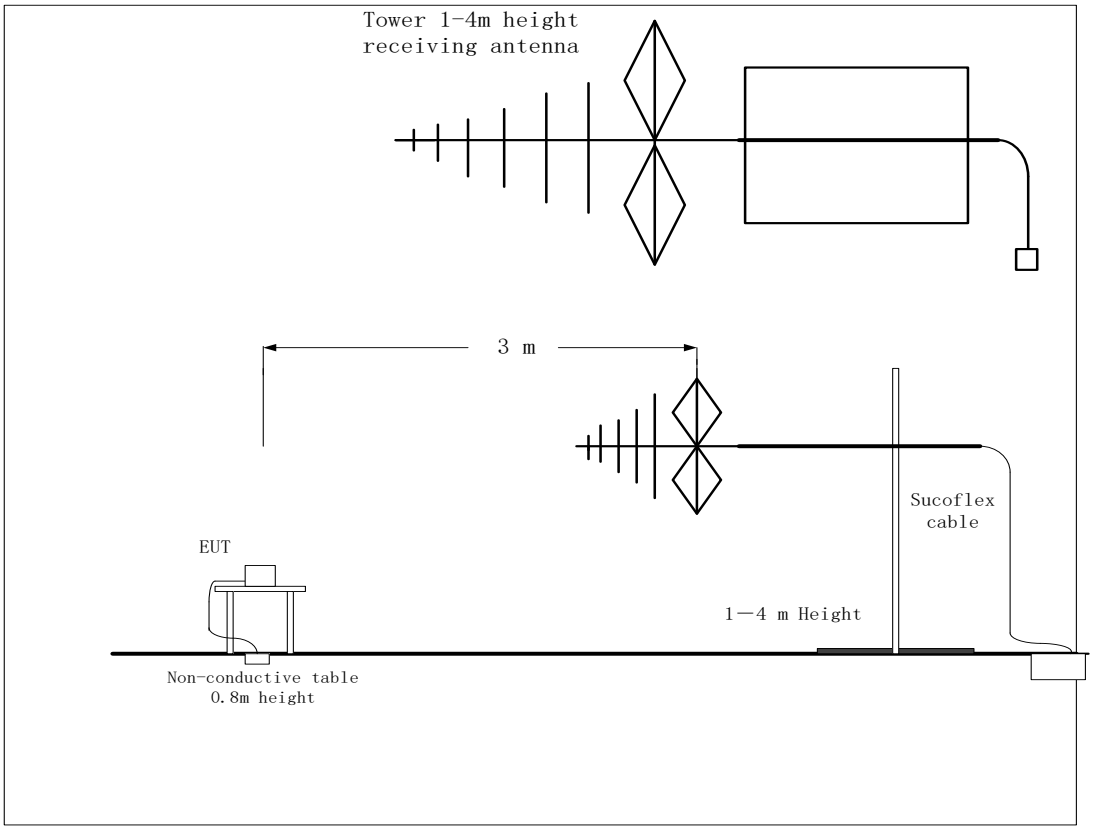
| Frequency Range (MHz) | Quasi-Peak (dBuV/m) |
|---|---|
| 30-88 | 40 |
| 88-216 | 43.5 |
| 216-960 | 46 |
| Above 960 | 54 |

| Frequency Range (MHz) | Peak (dBuV/m) | Average (dBuV/m) |
|---|---|---|
| Above 1000 | 74 | 54 |

**EUT Setup:**



**Test Setup:**

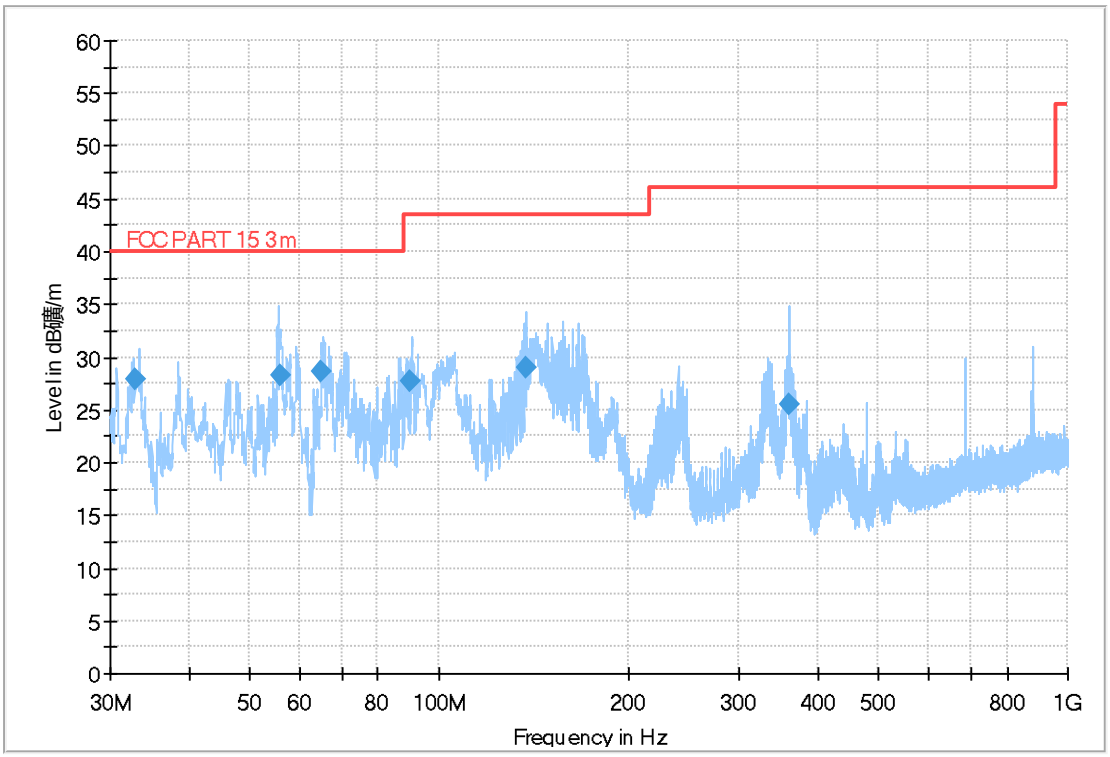



**Test Method:**

For 30-1000MHz, the EUT was placed on the top of a rotating 0.8m table above the ground at a semi-anechoic chamber. The distance between the EUT and the received antenna was 3 meters. The table was rotated 360 degree and the received antenna mounted on a variable-height antenna tower was varied from 1m to 4m to find the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna were set during the measurement. Tested in accordance with the procedures of ANSI C63.4-2014, section 8.3.

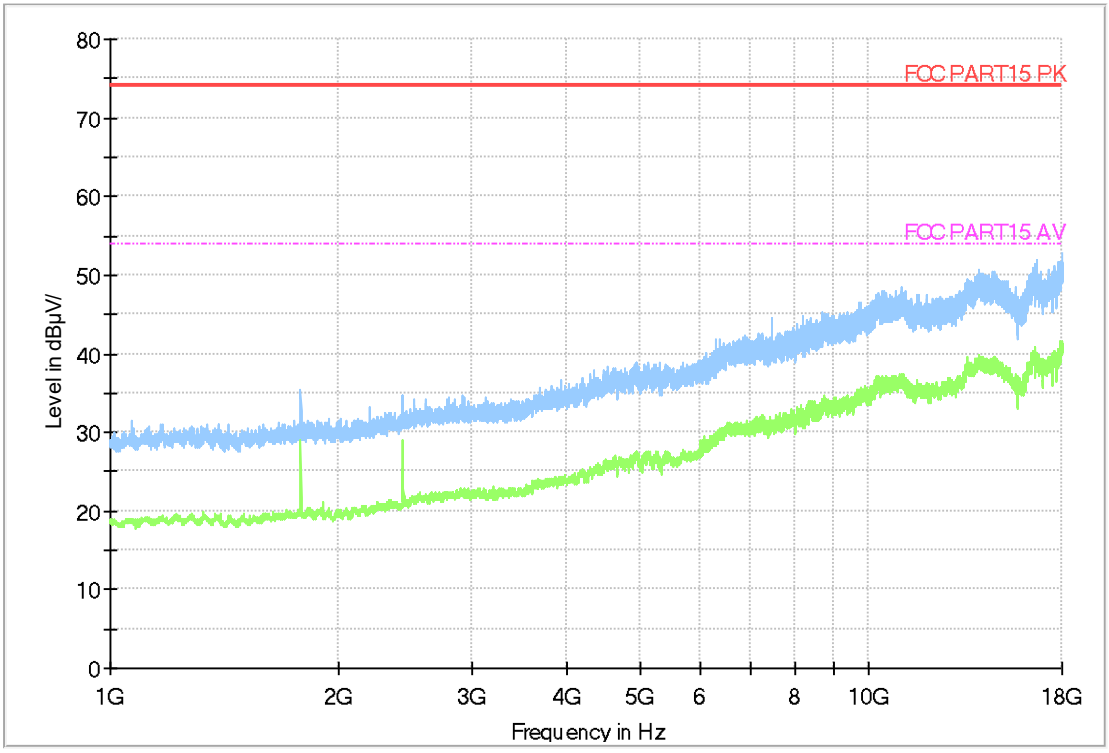
For 1000-18000MHz, the maximal emission value was acquired by adjusting the antenna height, and the table was rotated 360 degree to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna were set during the measurement.

**Test Data**




RE 30M-1G

| Frequency (MHz) | QuasiPeak (dB µV/m) | Limit (dB µV/m) | Margin (dB) | Meas. Time | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) |
|---|---|---|---|---|---|---|---|---|---|
| 32.946500 | 27.85 | 40.00 | 12.15 | 1000.0 | 120.000 | 120.0 | V | 17.0 | -22.1 |
| 55.822500 | 28.20 | 40.00 | 11.80 | 1000.0 | 120.000 | 116.0 | V | -41.0 | -18.4 |
| 64.874000 | 28.54 | 40.00 | 11.46 | 1000.0 | 120.000 | 105.0 | V | -38.0 | -21.2 |
| 90.191000 | 27.76 | 43.50 | 15.74 | 1000.0 | 120.000 | 105.0 | V | -11.0 | -22.6 |
| 137.793500 | 28.98 | 43.50 | 14.52 | 1000.0 | 120.000 | 100.0 | V | 45.0 | -24.3 |
| 359.994000 | 25.51 | 46.00 | 20.49 | 1000.0 | 120.000 | 150.0 | V | -16.0 | -17.2 |


80
70
60
50
40
30
20
10
0
Level in dBµV/
FCC PART15 PK
FCC PART15 AV
1G
2G
3G
4G
5G
6
8
10G
18G
Frequency in Hz

RE 1-18G

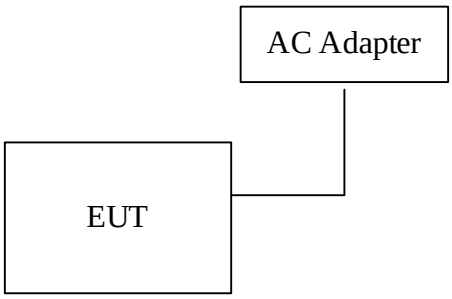
## 5.2 Conducted Emission

| | |
|---|---|
| **Specifications:** | 15.107 |
| **Date of Tests** | 2021-03-22-2021-04-08 |
| **Test conditions:** | Ambient Temperature:15℃-35℃<br>Relative Humidity:30%-60%<br>Air pressure: 86-106kPa |
| **Operation Mode** | Normal |
| **Test Results:** | Pass |

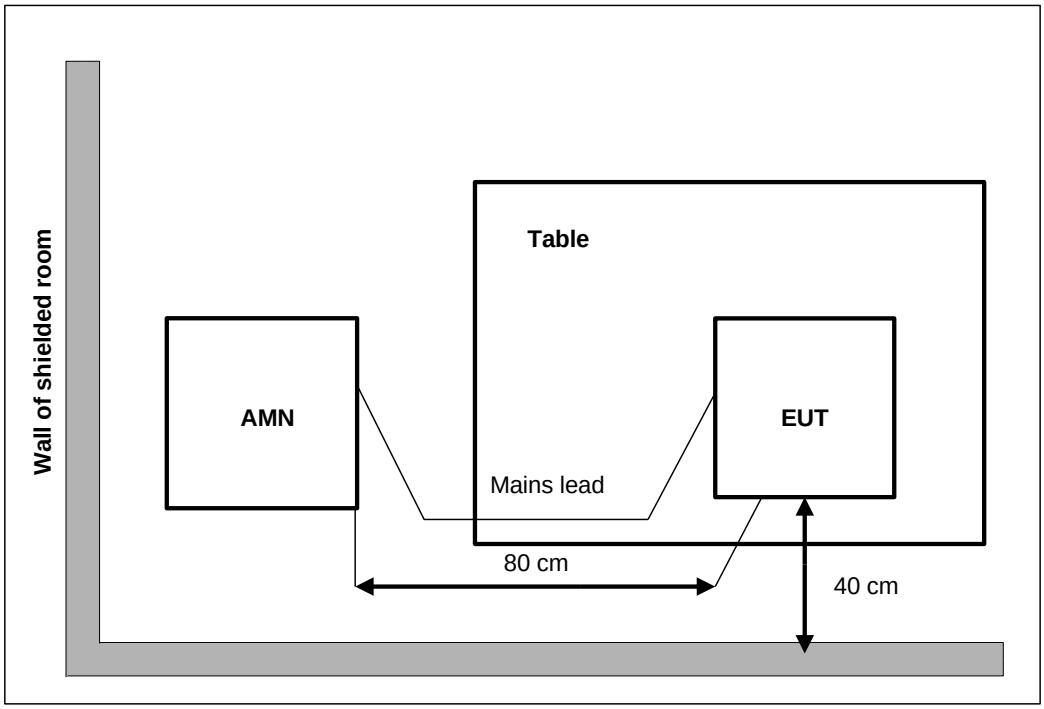
**Limit Level Construction:**

| Frequency Range (MHz) | Conducted Limit (dBuV) | |
|---|---|---|
| | Quasi-peak | Average |
| 0.15-0.5 | 66 to 56* | 56 to 46* |
| 0.5-5 | 56 | 46 |
| 5-30 | 60 | 50 |
| *Decreases with the logarithm of the frequency | | |

**EUT Setup:**



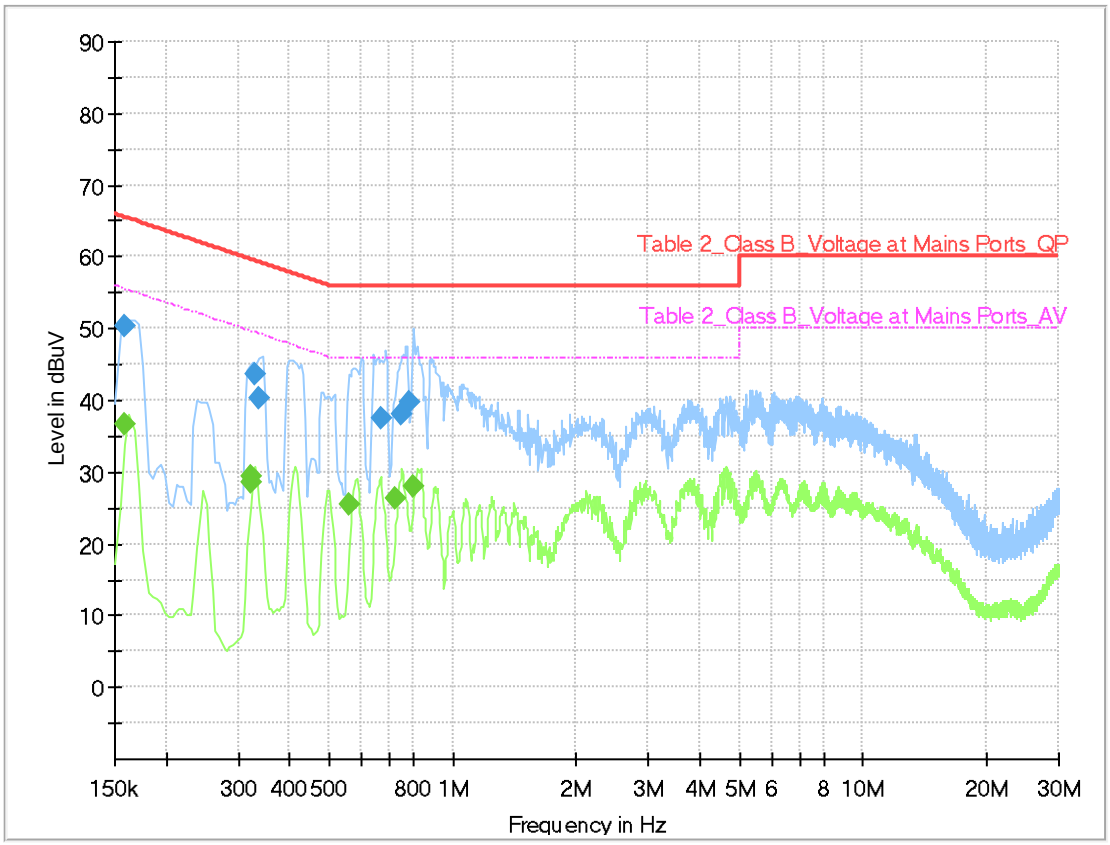
**Test Setup:**




**Test Method:**

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 with the band 150 kHz to 30MHz shall not exceed the limits. Both lines of the power mains connected to the EUT were checked for maximum conducted interference. Tested in accordance with the procedures of ANSI C63.4-2014, section 7.3

**Test Data**




L&N 150KHz-30MHz

| Frequency | QuasiPeak | CAverage | Limit | Margin | Meas. Time | Line | Filter | Corr. |
|---|---|---|---|---|---|---|---|---|
| 0.159000 | 50.37 | --- | 65.52 | 15.14 | 1000.0 | N | ON | 10.2 |
| 0.159000 | --- | 36.60 | 55.52 | 18.92 | 1000.0 | L1 | ON | 10.2 |
| 0.320978 | --- | 29.30 | 49.68 | 20.38 | 1000.0 | L1 | ON | 9.9 |
| 0.323382 | --- | 28.63 | 49.62 | 20.98 | 1000.0 | L1 | ON | 9.9 |
| 0.329757 | 43.53 | --- | 59.46 | 15.93 | 1000.0 | L1 | ON | 9.9 |
| 0.337103 | 40.19 | --- | 59.27 | 19.09 | 1000.0 | L1 | ON | 9.9 |
| 0.557691 | --- | 25.36 | 46.00 | 20.64 | 1000.0 | L1 | ON | 10.0 |
| 0.669750 | 37.52 | --- | 56.00 | 18.48 | 1000.0 | L1 | ON | 10.0 |
| 0.726596 | --- | 26.31 | 46.00 | 19.69 | 1000.0 | N | ON | 10.0 |
| 0.753044 | 38.10 | --- | 56.00 | 17.90 | 1000.0 | L1 | ON | 9.9 |
| 0.781566 | 39.64 | --- | 56.00 | 16.36 | 1000.0 | L1 | ON | 9.9 |
| 0.803735 | --- | 27.89 | 46.00 | 18.11 | 1000.0 | N | ON | 9.9 |

**Test photo**

See the Pic1~3 in document" I21W00004_EMC Test Setup Photos".

## Annex A External Photos

See the document" I21W00004 -External Photos".

## Annex B Internal Photos

See the document" I21W00004 -Internal Photos".

## ANNEX C Deviations from Prescribed Test Methods

No deviation from Prescribed Test Methods.

**The End of this Report**