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# TEST REPORT

EMI Test for FCC Certification of WSP-W40 Model

APPLICANT  
WOOSIM SYSTEMS INC.

REPORT NO.  
HCT-EM-2107-FC004

DATE OF ISSUE  
August 10, 2021

Tested by  
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F-TP22-03 (Rev. 04)

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# TEST REPORT

EMI Test for  
FCC Certification

REPORT NO.

HCT-EM-2107-FC004

DATE OF ISSUE

August 10, 2021

FCC ID.

QDD-WSPW40

Applicant

**WOOSIM SYSTEMS INC.**

60, Sandan-ro 388beon-gil, Chwisaeng-ri, Galsan-myeon, Hongseong-gun,  
Chungcheongnam-do, Korea

Product Name

Mobile Printer

Model Name

WSP-W40

Series Model Name

PORTI-W40

Date of Test

July 14, 2021 to July 15, 2021

Test Standard Used

FCC CFR 47 PART 15 Subpart B Class B  
ANSI C63.4-2014

Test Results

Refer to the present document

Manufacturer

WOOSIM SYSTEMS INC.

The result shown in this test report refer only to the sample(s) tested unless  
otherwise stated.

This test results were applied only to the test methods required by the standard.



## REVISION HISTORY

The revision history for this test report is shown in table.

| Revision No. | Date of Issue   | Description     |
|--------------|-----------------|-----------------|
| 0            | August 10, 2021 | Initial Release |

The above Test Report is not related to the accredited test result by (KS Q) ISO/IEC 17025 and KOLAS(Korea Laboratory Accreditation Scheme), which signed the ILAC-MRA.

If this report is required to confirmation of authenticity, please contact to [www.hct.co.kr](http://www.hct.co.kr)



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## 1. GENERAL INFORMATION

### 1.1 Description of EUT

The EUT is Mobile Printer.

|                          |                                                                                           |
|--------------------------|-------------------------------------------------------------------------------------------|
| <b>FCC ID</b>            | QDD-WSPW40                                                                                |
| <b>Model Name</b>        | WSP-W40                                                                                   |
| <b>Series Model Name</b> | PORTI-W40                                                                                 |
| <b>Product Name</b>      | Mobile Printer                                                                            |
| <b>Frequency Range</b>   | 2 402 MHz ~ 2 480 MHz                                                                     |
| <b>Power Voltage</b>     | Rating: DC 8.4 V, 0.8 A<br>TA: AC 100 ~ 240 V, 50 / 60 Hz<br>Battery: DC 7.4 V, 1 880 mAh |
| <b>Manufacturer</b>      | WOOSIM SYSTEMS INC.                                                                       |

### 1.2 Tested System Details

All equipment descriptions used in the tested system (including inserted cards) are:

| Device Type         | Model Name             | Serial Number | Manufacturer                             |
|---------------------|------------------------|---------------|------------------------------------------|
| Mobile Printer      | WSP-W40                | -             | WOOSIM SYSTEMS                           |
| Adaptor             | P36-084080             | B5033-V2-2110 | Something High Electric (Xiamen) Company |
| Notebook PC         | ProBook6560b           | 5CB2053MXF    | HP                                       |
| Notebook PC Adaptor | Series PPP009L-E       | -             | LITE-ON TECHNOLOGY (CHANGZHOU)           |
| Gateway             | TL-WR747N              | -             | TP Link                                  |
| Gateway Adaptor     | T090060-2H1            | -             | TP Link                                  |
| Serial Mouse        | Serial 2 Button mouse  | 02031069      | Radio Shack                              |
| Cellphone           | Galaxy Note20 Ultra 5G | R3CN7086HXJ   | Samsung Electronics                      |



### 1.3 Cable Description

#### EUT + Adaptor + Notebook PC

| Product Name | Port           | Power Cord Shielded (Y/N) | I/O Cable Shielded (Y/N) | Length (m) |
|--------------|----------------|---------------------------|--------------------------|------------|
| EUT          | DC IN          | N                         | N/A                      | (P)1.5     |
|              | USB            | N/A                       | N/A                      | (D)1.2     |
| Notebook PC  | RJ 45          | N/A                       | N                        | (D) 1.6    |
|              | Serial (Mouse) | N/A                       | Y                        | (D) 1.8    |
|              | DC IN          | N                         | N/A                      | (P) 1.8    |
|              | DC IN          | N                         | N/A                      | (P) 1.8    |
| Gateway      | DC IN          | N                         | N/A                      | (P)1.5     |

"(D)" Data Cable, "(P)" Power Cable.

#### EUT in battery + Notebook PC

| Product Name | Port           | Power Cord Shielded (Y/N) | I/O Cable Shielded (Y/N) | Length (m) |
|--------------|----------------|---------------------------|--------------------------|------------|
| EUT          | USB            | N/A                       | N/A                      | (D)1.2     |
| Notebook PC  | RJ 45          | N/A                       | N                        | (D) 1.6    |
|              | Serial (Mouse) | N/A                       | Y                        | (D) 1.8    |
|              | DC IN          | N                         | N/A                      | (P) 1.8    |
|              | DC IN          | N                         | N/A                      | (P) 1.8    |
| Gateway      | USB            | N/A                       | N/A                      | (D)1.2     |

"(D)" Data Cable, "(P)" Power Cable.

#### EUT + Adaptor + Cellphone

| Product Name | Port  | Power Cord Shielded (Y/N) | I/O Cable Shielded (Y/N) | Length (m) |
|--------------|-------|---------------------------|--------------------------|------------|
| EUT          | DC IN | N                         | N/A                      | (P)1.5     |
| Cellphone    | -     | -                         | -                        | -          |

#### EUT only + Cellphone

| Product Name | Port | Power Cord Shielded (Y/N) | I/O Cable Shielded (Y/N) | Length (m) |
|--------------|------|---------------------------|--------------------------|------------|
| EUT          | -    | -                         | -                        | -          |

NOTE. This product has a removable battery.



#### 1.4 Noise Suppression Parts on Cable (I/O Cable)

##### EUT + Adaptor + Notebook PC

| Product Name | Port           | Ferrite Bead<br>(Y/N) | Location | Metal Hood<br>(Y/N) | Location     |
|--------------|----------------|-----------------------|----------|---------------------|--------------|
| EUT          | DC IN          | N                     | N/A      | Y                   | EUT End      |
|              | USB            | N                     | N/A      | Y                   | Both End     |
| Notebook PC  | RJ 45          | N                     | N/A      | N                   | N/A          |
|              | Serial (Mouse) | N                     | N/A      | Y                   | Notebook End |

##### EUT in battery + Notebook PC

| Product Name | Port           | Ferrite Bead<br>(Y/N) | Location | Metal Hood<br>(Y/N) | Location     |
|--------------|----------------|-----------------------|----------|---------------------|--------------|
| EUT          | USB            | N                     | N/A      | Y                   | Both End     |
| Notebook PC  | RJ 45          | N                     | N/A      | N                   | N/A          |
|              | Serial (Mouse) | N                     | N/A      | Y                   | Notebook End |

##### EUT + Adaptor + Cellphone

| Product Name | Port | Ferrite Bead<br>(Y/N) | Location | Metal Hood<br>(Y/N) | Location |
|--------------|------|-----------------------|----------|---------------------|----------|
| EUT          | EUT  | DC IN                 | N        | N/A                 | Y        |

##### EUT only + Cellphone

| Product Name | Port | Ferrite Bead<br>(Y/N) | Location | Metal Hood<br>(Y/N) | Location |
|--------------|------|-----------------------|----------|---------------------|----------|
| EUT          | -    | -                     | -        | -                   | -        |



### 1.5 Test Facility

Test site is located at 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, Rep. of Korea.  
Those measurement facilities are constructed in conformance with the requirements of ANSI C63.4-2014.  
The Normalized site attenuations (30 MHz to 1 GHz) and Site validation (1 GHz to 18 GHz) were performed in accordance with the standard in ANSI C63.4-2014  
This testing laboratories are accredited and accordance with the recognized international Standard ISO/IEC 17025:2017.

### 1.6 Calibration of Measuring Instrument

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturers recommendations for utilizing calibration equipment, which is traceable to recognized national standards. Especially, all antenna for measurement is calibrated in accordance with the requirements of C63.5:2017

### 1.7 Measurement Uncertainty

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.4-2014. All measurement uncertainty values are shown with a coverage factor of  $k = 2$  to indicate a 95 % level of confidence. The measurement data shown herein meets or exceeds the  $U_{CISPR}$  measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

| Test Item                              | Test Site (Chamber)          | Expanded Uncertainty |
|----------------------------------------|------------------------------|----------------------|
| Conducted Emission (150 kHz to 30 MHz) | EMI Shield Room              | 2.0 dB               |
| Radiated Emissions (30 MHz to 1 GHz)   | 3 m Semi Anechoic Chamber #1 | 4.9 dB               |
| Radiated Emissions (1 GHz to 18 GHz)   | 3 m Semi Anechoic Chamber #1 | 4.8 dB               |

## 2. DESCRIPTION OF TEST

### 2.1 Measurement of Conducted Emission

The test procedure was in accordance with ANSI C63.4-2014, Clause 7.3

- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN).  
If the EUT is connected to the PC through USB, the AC power-line adapter of the PC is directly connected to a line impedance stabilization network (LISN).  
Other support units were connected to the power mains through another LISN.  
The two LISNs provide  $50\ \Omega$  /  $50\ \mu\text{H}$  of coupling impedance for the measuring instrument.
- b. Both conducted lines are measured in Quasi-Peak and Average mode, including the worst-case data points for each tested configuration.
- c. The frequency range from 150 kHz to 30 MHz was searched.

[Conducted Emission Limits]

| Frequency<br>(MHz) | Class A                           |                                | Class B                           |                                |
|--------------------|-----------------------------------|--------------------------------|-----------------------------------|--------------------------------|
|                    | Quasi-Peak<br>(dB $\mu\text{V}$ ) | Average<br>(dB $\mu\text{V}$ ) | Quasi-Peak<br>(dB $\mu\text{V}$ ) | Average<br>(dB $\mu\text{V}$ ) |
| 0.15 to 0.5        | 79                                | 66                             | 66 to 56*                         | 56 to 46*                      |
| 0.5 to 5           | 73                                | 60                             | 56                                | 46                             |
| 5 to 30            | 73                                | 60                             | 60                                | 50                             |

[\*] Decreases with the logarithm of the frequency.

## 2.2 Measurement of Radiated Emission

The test procedure was in accordance with ANSI C63.4-2014, Clause 8.3

- The EUT was placed on the top of a turn table 0.8 meters above the ground at a semi-anechoic chamber.  
The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 m away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- The antenna height is varied from 1 m to 4 m above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 m to 4 m and the turn table was turned from 0 degrees to 360 degrees to find the maximum reading.
- The test-receiver system was set to Quasi-Peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- The test-receiver system was set to Peak and Average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz.
- Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. (1 GHz to 40 GHz)

[Radiated Emission Limits]

| Frequency<br>(MHz) | Class A                 |                                              |                                            | Class B                              |                                              |                                            |
|--------------------|-------------------------|----------------------------------------------|--------------------------------------------|--------------------------------------|----------------------------------------------|--------------------------------------------|
|                    | Antenna Distance<br>(m) | Field Strength<br>( $\mu\text{V}/\text{m}$ ) | Quasi-Peak<br>(dB $\mu\text{V}/\text{m}$ ) | Antenna Distance<br>(m)              | Field Strength<br>( $\mu\text{V}/\text{m}$ ) | Quasi-Peak<br>(dB $\mu\text{V}/\text{m}$ ) |
| 30 to 88           | 10                      | 90                                           | 39.0                                       | 3                                    | 100                                          | 40.0                                       |
| 88 to 216          | 10                      | 150                                          | 43.5                                       | 3                                    | 150                                          | 43.5                                       |
| 216 to 960         | 10                      | 210                                          | 46.4                                       | 3                                    | 200                                          | 46.0                                       |
| Above 960          | 10                      | 300                                          | 49.5                                       | 3                                    | 500                                          | 54.0                                       |
| Frequency<br>(MHz) | Antenna Distance<br>(m) | Class A                                      |                                            | Class B                              |                                              |                                            |
|                    |                         | Peak<br>(dB $\mu\text{V}/\text{m}$ )         | Average<br>(dB $\mu\text{V}/\text{m}$ )    | Peak<br>(dB $\mu\text{V}/\text{m}$ ) | Average<br>(dB $\mu\text{V}/\text{m}$ )      |                                            |
| Above 1 000        | 3                       | 80                                           | 60                                         | 74                                   | 54                                           |                                            |

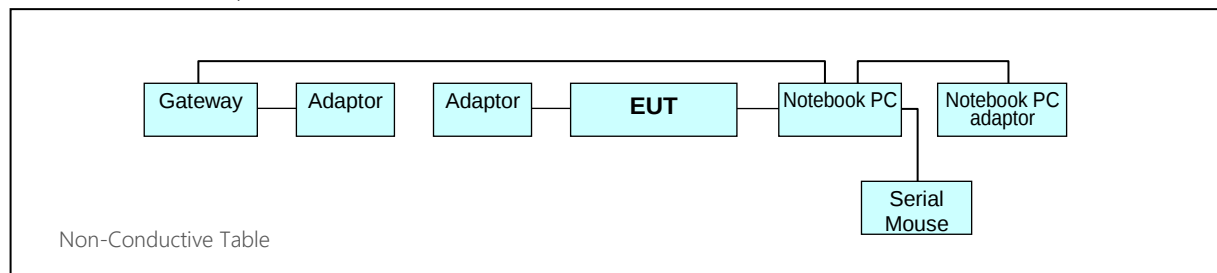
### 2.2.1 Frequency Range of Radiated Measurements

An unintentional radiator, including a digital device, the spectrum shall be investigated from the lowest radio frequency signal generated or used in the device, without going below the lowest frequency for which a Radiated Emission limit is specified, up to the frequency shown in the following table

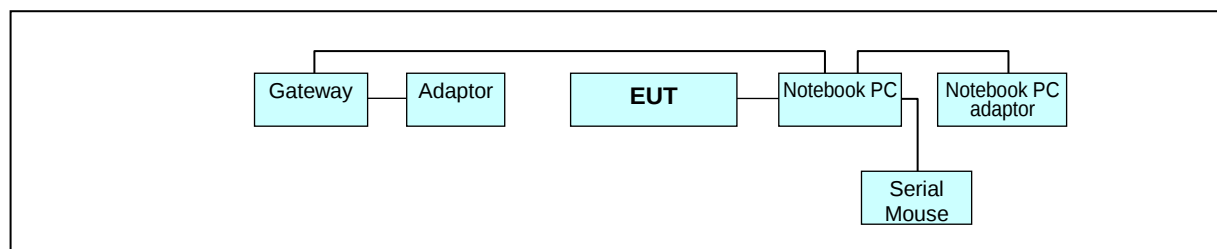
| Highest frequency generated or used in the device or on which the device operates or tunes (MHz) | Upper frequency of measurement range (MHz)                          |
|--------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| Below 1.705                                                                                      | 30                                                                  |
| 1.705 to 108                                                                                     | 1 000                                                               |
| 108 to 500                                                                                       | 2 000                                                               |
| 500 to 1 000                                                                                     | 5 000                                                               |
| Above 1 000                                                                                      | 5th harmonic of the highest frequency or 40 GHz, whichever is lower |

### 2.3 Configuration of Tested System

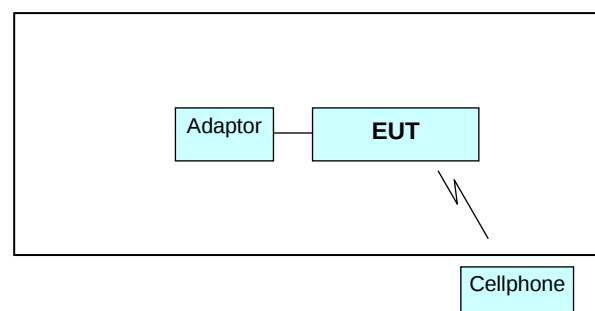
[PRINTER] EUT + Adaptor + Notebook PC



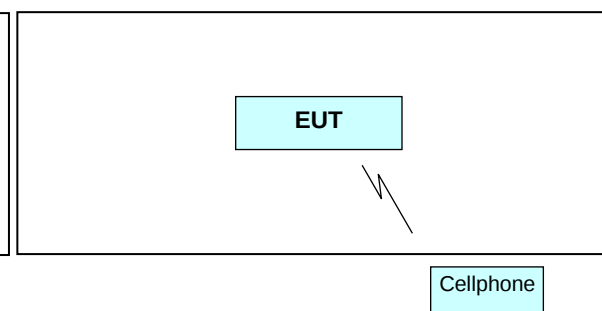
[PRINTER] EUT (in battery) + Notebook PC



[Bluetooth Idle] EUT+ Adaptor + Cellphone



[Bluetooth Idle] EUT (in battery) + Cellphone





### 3. PRELIMINARY TEST

#### 3.1 Conducted Emission

It was tested the following operating mode, after connecting all peripheral devices.

**Operating Mode:**

|                     |                               |
|---------------------|-------------------------------|
| Bluetooth Idle mode | : EUT + Adaptor + Cellphone   |
| PRINTER mode        | : EUT + Adaptor + Notebook PC |

#### 3.2 Radiated Emission

It was tested the following operating mode, after connecting all peripheral devices.

**Operating Mode:**

|                     |                                  |
|---------------------|----------------------------------|
| Bluetooth Idle mode | : EUT + Adaptor + Cellphone      |
|                     | : EUT (in battery) + Cellphone   |
| PRINTER mode        | : EUT + Adaptor + Notebook PC    |
|                     | : EUT (in battery) + Notebook PC |



#### 4. CONDUCTED EMISSION AND RADIATED EMISSION TEST SUMMARY

##### 4.1 Conducted Emission

##### 4.1.1 Measuring instruments

| Type                                                  | Model Name | Manufacturer    | Serial Number | Calibration Cycle | Calibration Date |
|-------------------------------------------------------|------------|-----------------|---------------|-------------------|------------------|
| <input checked="" type="checkbox"/> EMI test receiver | ESR7       | Rohde & Schwarz | 101910        | 1 year            | 06.17.2021       |
| <input checked="" type="checkbox"/> LISN              | ENV216     | Rohde & Schwarz | 102245        | 1 year            | 09.04.2020       |
| <input checked="" type="checkbox"/> LISN              | ENV216     | Rohde & Schwarz | 100073        | 1 year            | 04.07.2021       |
| <input checked="" type="checkbox"/> Software          | EMC32      | Rohde & Schwarz | -             | -                 | -                |

##### 4.1.2 Operating Condition

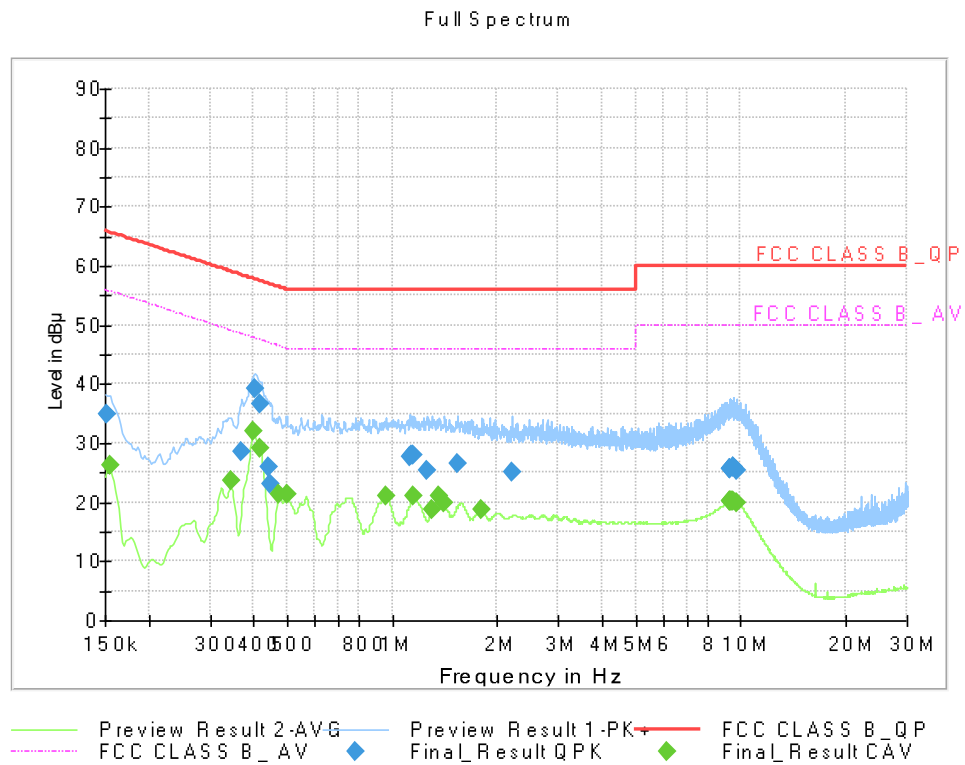
The test results of conducted emission at mains ports provide the following information:

|                    |                                                         |
|--------------------|---------------------------------------------------------|
| Test Standard Used | FCC CFR 47 PART 15 Subpart B Class B<br>ANSI C63.4-2014 |
| Frequency Range    | 0.15 MHz to 30 MHz                                      |
| Detector           | Quasi-Peak, CISPR-Average                               |
| Bandwidth          | 9 kHz (6 dB)                                            |
| Test Site          | EMI Shield Room                                         |
| Temperature        | 21.4 °C                                                 |
| Relative Humidity  | 49.0 %                                                  |
| Test Date          | July 15, 2021                                           |

- Calculation Formula:
1. Conductor L1 = Hot, Conductor N = Neutral
  2. Corr. = LISN Factor + Cable Loss
  3. QuasiPeak or CAverage= Receiver Reading + Corr.
  4. Margin = Limit – QuasiPeak or CAverage

#### 4.1.3 Measuring Data

Figure 1: Conducted Emission (0.15 to 30) MHz, Bluetooth Idle mode, Line (L1)





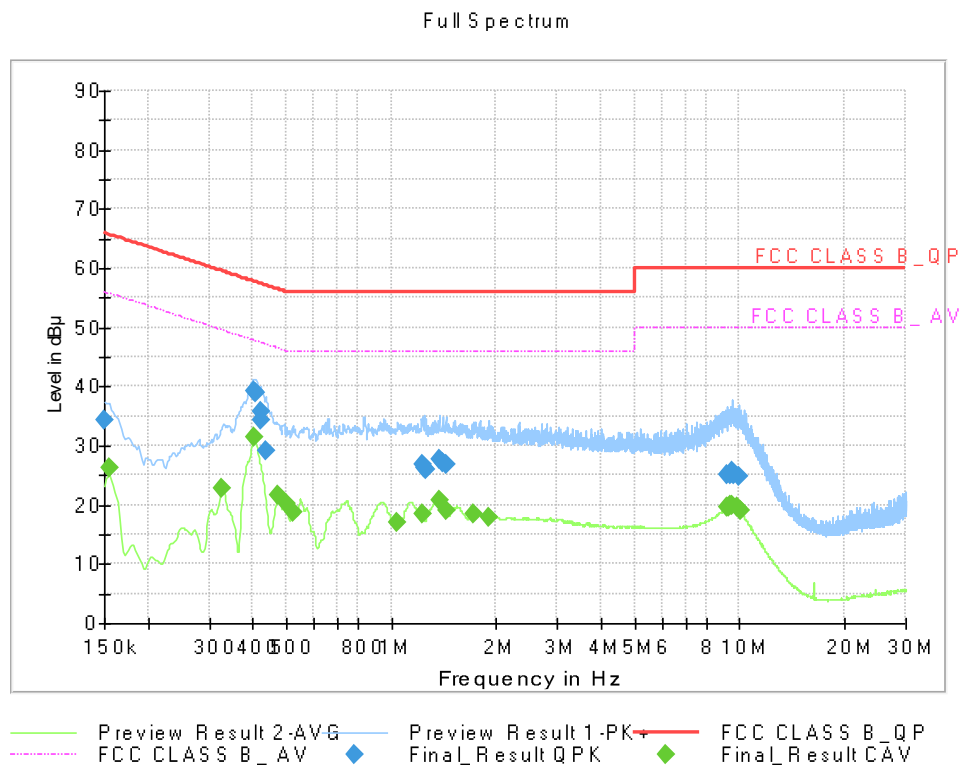
#### QuasiPeak Final Result

| Frequency<br>(MHz) | QuasiPeak<br>(dBμV) | Limit<br>(dBμV) | Margin<br>(dB) | Bandwidth<br>(kHz) | Line | Corr.<br>(dB) |
|--------------------|---------------------|-----------------|----------------|--------------------|------|---------------|
| 0.1523             | 34.90               | 65.88           | 30.98          | 9.000              | L1   | 9.6           |
| 0.3705             | 28.48               | 58.49           | 30.00          | 9.000              | L1   | 9.6           |
| 0.4043             | 39.19               | 57.77           | 18.58          | 9.000              | L1   | 9.6           |
| 0.4178             | 36.69               | 57.49           | 20.80          | 9.000              | L1   | 9.6           |
| 0.4403             | 25.91               | 57.06           | 31.15          | 9.000              | L1   | 9.6           |
| 0.4470             | 23.03               | 56.93           | 33.90          | 9.000              | L1   | 9.6           |
| 1.1255             | 27.77               | 56.00           | 28.23          | 9.000              | L1   | 9.6           |
| 1.1368             | 27.85               | 56.00           | 28.15          | 9.000              | L1   | 9.6           |
| 1.1548             | 27.93               | 56.00           | 28.07          | 9.000              | L1   | 9.6           |
| 1.2628             | 25.40               | 56.00           | 30.60          | 9.000              | L1   | 9.6           |
| 1.5373             | 26.52               | 56.00           | 29.48          | 9.000              | L1   | 9.6           |
| 2.2010             | 25.18               | 56.00           | 30.82          | 9.000              | L1   | 9.7           |
| 9.2885             | 25.71               | 60.00           | 34.29          | 9.000              | L1   | 9.8           |
| 9.3290             | 25.72               | 60.00           | 34.28          | 9.000              | L1   | 9.8           |
| 9.3515             | 25.75               | 60.00           | 34.25          | 9.000              | L1   | 9.8           |
| 9.5090             | 25.93               | 60.00           | 34.07          | 9.000              | L1   | 9.8           |
| 9.5518             | 25.89               | 60.00           | 34.11          | 9.000              | L1   | 9.8           |
| 9.7498             | 25.50               | 60.00           | 34.50          | 9.000              | L1   | 9.8           |

#### CAverage Final Result

| Frequency<br>(MHz) | CAverage<br>(dBμV) | Limit<br>(dBμV) | Margin<br>(dB) | Bandwidth<br>(kHz) | Line | Corr.<br>(dB) |
|--------------------|--------------------|-----------------|----------------|--------------------|------|---------------|
| 0.1545             | 26.29              | 55.75           | 29.47          | 9.000              | L1   | 9.6           |
| 0.3458             | 23.66              | 49.06           | 25.40          | 9.000              | L1   | 9.6           |
| 0.3998             | 32.00              | 47.86           | 15.86          | 9.000              | L1   | 9.6           |
| 0.4178             | 29.24              | 47.49           | 18.25          | 9.000              | L1   | 9.6           |
| 0.4718             | 21.37              | 46.48           | 25.12          | 9.000              | L1   | 9.6           |
| 0.5000             | 21.42              | 46.00           | 24.58          | 9.000              | L1   | 9.6           |
| 0.9568             | 21.18              | 46.00           | 24.82          | 9.000              | L1   | 9.6           |
| 1.1548             | 21.14              | 46.00           | 24.86          | 9.000              | L1   | 9.6           |
| 1.3033             | 18.72              | 46.00           | 27.28          | 9.000              | L1   | 9.6           |
| 1.3640             | 20.91              | 46.00           | 25.09          | 9.000              | L1   | 9.6           |
| 1.4090             | 19.84              | 46.00           | 26.16          | 9.000              | L1   | 9.6           |
| 1.8118             | 18.78              | 46.00           | 27.22          | 9.000              | L1   | 9.6           |
| 9.2638             | 20.07              | 50.00           | 29.93          | 9.000              | L1   | 9.8           |
| 9.2863             | 20.11              | 50.00           | 29.89          | 9.000              | L1   | 9.8           |
| 9.3740             | 20.20              | 50.00           | 29.80          | 9.000              | L1   | 9.8           |
| 9.3875             | 20.16              | 50.00           | 29.84          | 9.000              | L1   | 9.8           |
| 9.4888             | 20.16              | 50.00           | 29.84          | 9.000              | L1   | 9.8           |
| 9.7498             | 20.03              | 50.00           | 29.97          | 9.000              | L1   | 9.8           |

Figure 2: Conducted Emission (0.15 to 30) MHz, Bluetooth Idle mode, Line (N)





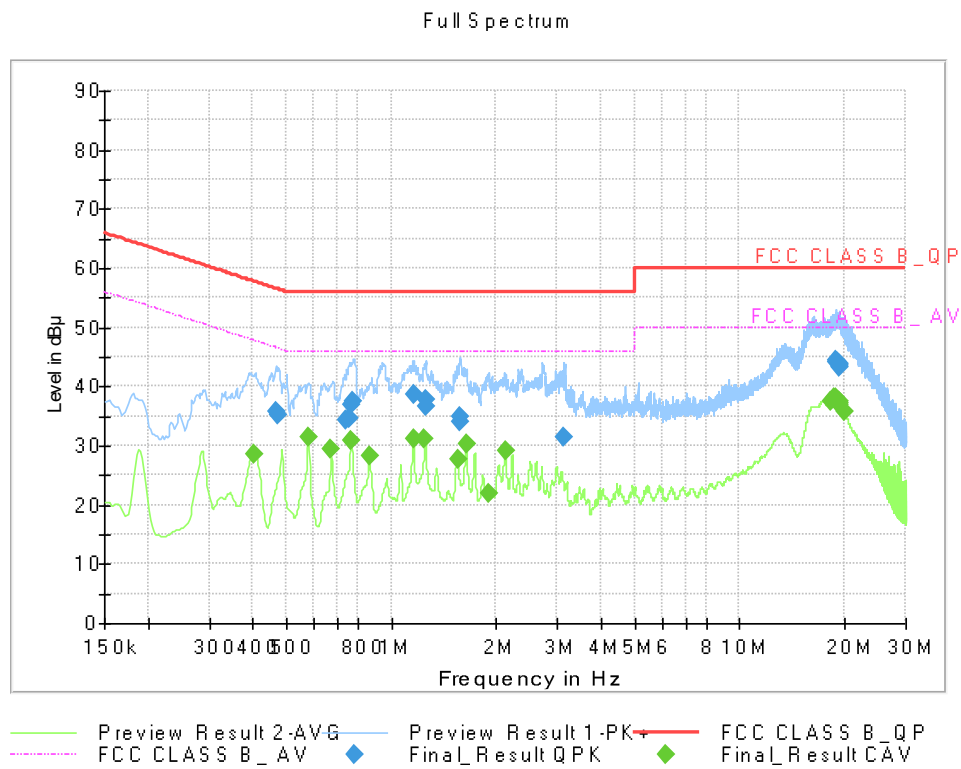
#### QuasiPeak Final Result

| Frequency<br>(MHz) | QuasiPeak<br>(dBμV) | Limit<br>(dBμV) | Margin<br>(dB) | Bandwidth<br>(kHz) | Line | Corr.<br>(dB) |
|--------------------|---------------------|-----------------|----------------|--------------------|------|---------------|
| 0.1500             | 34.30               | 66.00           | 31.70          | 9.000              | N    | 9.6           |
| 0.4020             | 39.29               | 57.81           | 18.52          | 9.000              | N    | 9.6           |
| 0.4065             | 39.03               | 57.72           | 18.69          | 9.000              | N    | 9.6           |
| 0.4200             | 35.82               | 57.45           | 21.63          | 9.000              | N    | 9.6           |
| 0.4245             | 34.24               | 57.36           | 23.12          | 9.000              | N    | 9.6           |
| 0.4358             | 29.27               | 57.14           | 27.87          | 9.000              | N    | 9.6           |
| 1.2290             | 26.91               | 56.00           | 29.09          | 9.000              | N    | 9.6           |
| 1.2448             | 26.13               | 56.00           | 29.87          | 9.000              | N    | 9.6           |
| 1.2515             | 26.09               | 56.00           | 29.91          | 9.000              | N    | 9.6           |
| 1.3730             | 27.71               | 56.00           | 28.29          | 9.000              | N    | 9.6           |
| 1.4045             | 27.21               | 56.00           | 28.79          | 9.000              | N    | 9.6           |
| 1.4338             | 26.84               | 56.00           | 29.16          | 9.000              | N    | 9.6           |
| 9.2233             | 25.14               | 60.00           | 34.86          | 9.000              | N    | 9.8           |
| 9.4123             | 24.99               | 60.00           | 35.01          | 9.000              | N    | 9.8           |
| 9.4955             | 25.57               | 60.00           | 34.43          | 9.000              | N    | 9.8           |
| 9.5023             | 25.27               | 60.00           | 34.73          | 9.000              | N    | 9.8           |
| 9.6080             | 25.11               | 60.00           | 34.89          | 9.000              | N    | 9.8           |
| 9.9095             | 24.87               | 60.00           | 35.13          | 9.000              | N    | 9.8           |

#### CAverage Final Result

| Frequency<br>(MHz) | CAverage<br>(dBμV) | Limit<br>(dBμV) | Margin<br>(dB) | Bandwidth<br>(kHz) | Line | Corr.<br>(dB) |
|--------------------|--------------------|-----------------|----------------|--------------------|------|---------------|
| 0.1545             | 26.23              | 55.75           | 29.52          | 9.000              | N    | 9.6           |
| 0.3278             | 22.75              | 49.51           | 26.76          | 9.000              | N    | 9.6           |
| 0.4043             | 31.54              | 47.77           | 16.23          | 9.000              | N    | 9.6           |
| 0.4718             | 21.51              | 46.48           | 24.98          | 9.000              | N    | 9.6           |
| 0.5000             | 20.21              | 46.00           | 25.79          | 9.000              | N    | 9.6           |
| 0.5225             | 18.75              | 46.00           | 27.25          | 9.000              | N    | 9.6           |
| 1.0423             | 16.99              | 46.00           | 29.01          | 9.000              | N    | 9.6           |
| 1.2290             | 18.53              | 46.00           | 27.47          | 9.000              | N    | 9.6           |
| 1.3730             | 20.83              | 46.00           | 25.17          | 9.000              | N    | 9.6           |
| 1.4338             | 18.91              | 46.00           | 27.09          | 9.000              | N    | 9.6           |
| 1.7218             | 18.41              | 46.00           | 27.59          | 9.000              | N    | 9.6           |
| 1.9018             | 17.90              | 46.00           | 28.10          | 9.000              | N    | 9.6           |
| 9.2233             | 19.69              | 50.00           | 30.31          | 9.000              | N    | 9.8           |
| 9.2728             | 19.74              | 50.00           | 30.26          | 9.000              | N    | 9.8           |
| 9.4663             | 19.80              | 50.00           | 30.20          | 9.000              | N    | 9.8           |
| 9.4955             | 19.83              | 50.00           | 30.17          | 9.000              | N    | 9.8           |
| 9.8128             | 19.52              | 50.00           | 30.48          | 9.000              | N    | 9.8           |
| 10.0333            | 19.05              | 50.00           | 30.95          | 9.000              | N    | 9.8           |

Figure 3: Conducted Emission (0.15 to 30) MHz, PRINTER mode, Line (L1)





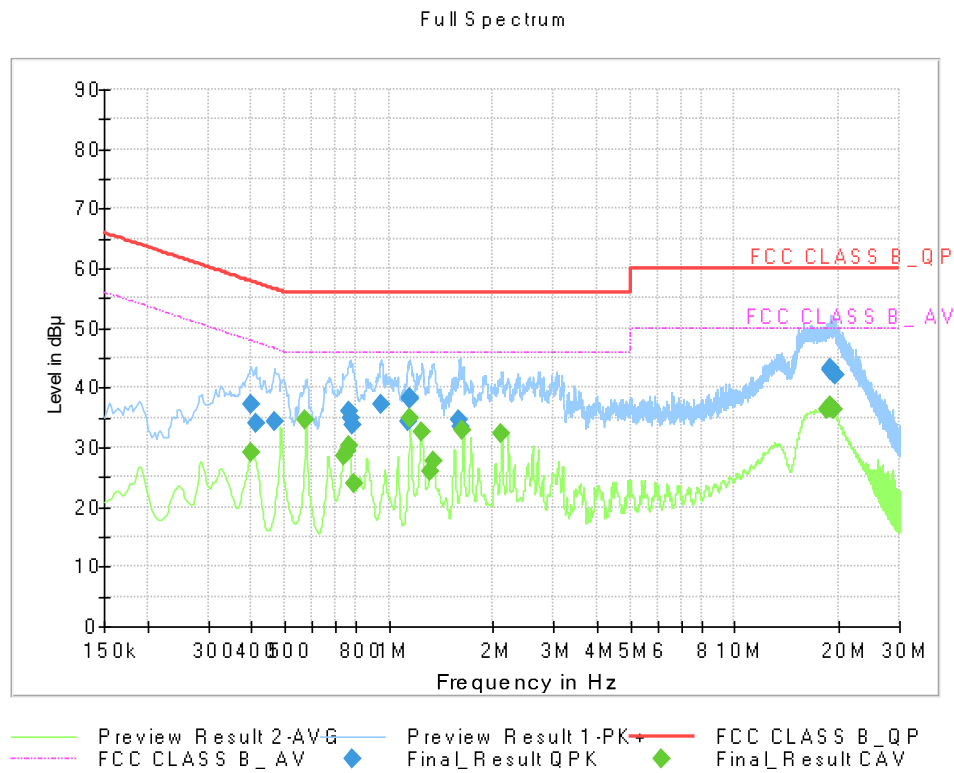
#### QuasiPeak Final Result

| Frequency<br>(MHz) | QuasiPeak<br>(dBμV) | Limit<br>(dBμV) | Margin<br>(dB) | Bandwidth<br>(kHz) | Line | Corr.<br>(dB) |
|--------------------|---------------------|-----------------|----------------|--------------------|------|---------------|
| 0.4650             | 35.69               | 56.60           | 20.92          | 9.000              | L1   | 9.6           |
| 0.4740             | 35.18               | 56.44           | 21.27          | 9.000              | L1   | 9.6           |
| 0.7430             | 34.23               | 56.00           | 21.77          | 9.000              | L1   | 9.6           |
| 0.7565             | 34.63               | 56.00           | 21.37          | 9.000              | L1   | 9.6           |
| 0.7678             | 36.99               | 56.00           | 19.01          | 9.000              | L1   | 9.6           |
| 0.7768             | 37.63               | 56.00           | 18.37          | 9.000              | L1   | 9.6           |
| 1.1570             | 38.53               | 56.00           | 17.47          | 9.000              | L1   | 9.6           |
| 1.2538             | 37.75               | 56.00           | 18.25          | 9.000              | L1   | 9.6           |
| 1.2583             | 36.51               | 56.00           | 19.49          | 9.000              | L1   | 9.6           |
| 1.5688             | 34.86               | 56.00           | 21.14          | 9.000              | L1   | 9.6           |
| 1.5800             | 34.13               | 56.00           | 21.87          | 9.000              | L1   | 9.6           |
| 3.1370             | 31.45               | 56.00           | 24.55          | 9.000              | L1   | 9.7           |
| 18.8713            | 44.28               | 60.00           | 15.72          | 9.000              | L1   | 9.9           |
| 18.9658            | 44.27               | 60.00           | 15.73          | 9.000              | L1   | 9.9           |
| 19.0378            | 44.17               | 60.00           | 15.83          | 9.000              | L1   | 9.9           |
| 19.3010            | 43.71               | 60.00           | 16.29          | 9.000              | L1   | 9.9           |
| 19.3843            | 43.31               | 60.00           | 16.69          | 9.000              | L1   | 9.9           |
| 19.4270            | 43.42               | 60.00           | 16.58          | 9.000              | L1   | 9.9           |

#### CAverage Final Result

| Frequency<br>(MHz) | CAverage<br>(dBμV) | Limit<br>(dBμV) | Margin<br>(dB) | Bandwidth<br>(kHz) | Line | Corr.<br>(dB) |
|--------------------|--------------------|-----------------|----------------|--------------------|------|---------------|
| 0.4043             | 28.47              | 47.77           | 19.30          | 9.000              | L1   | 9.6           |
| 0.5765             | 31.49              | 46.00           | 14.51          | 9.000              | L1   | 9.6           |
| 0.6710             | 29.33              | 46.00           | 16.67          | 9.000              | L1   | 9.6           |
| 0.7678             | 31.00              | 46.00           | 15.00          | 9.000              | L1   | 9.6           |
| 0.8645             | 28.38              | 46.00           | 17.62          | 9.000              | L1   | 9.6           |
| 1.1570             | 31.03              | 46.00           | 14.97          | 9.000              | L1   | 9.6           |
| 1.2493             | 31.16              | 46.00           | 14.84          | 9.000              | L1   | 9.6           |
| 1.5485             | 27.74              | 46.00           | 18.26          | 9.000              | L1   | 9.6           |
| 1.6408             | 30.28              | 46.00           | 15.72          | 9.000              | L1   | 9.6           |
| 1.9018             | 21.90              | 46.00           | 24.10          | 9.000              | L1   | 9.6           |
| 2.1268             | 29.10              | 46.00           | 16.90          | 9.000              | L1   | 9.7           |
| 18.3875            | 37.43              | 50.00           | 12.57          | 9.000              | L1   | 9.9           |
| 18.7745            | 38.10              | 50.00           | 11.90          | 9.000              | L1   | 9.9           |
| 18.9028            | 38.02              | 50.00           | 11.98          | 9.000              | L1   | 9.9           |
| 19.3438            | 37.38              | 50.00           | 12.62          | 9.000              | L1   | 9.9           |
| 19.3550            | 37.21              | 50.00           | 12.79          | 9.000              | L1   | 9.9           |
| 19.3978            | 37.03              | 50.00           | 12.97          | 9.000              | L1   | 9.9           |
| 19.9108            | 35.78              | 50.00           | 14.22          | 9.000              | L1   | 9.9           |

Figure 4: Conducted Emission (0.15 to 30) MHz, PRINTER mode, Line (N)





#### QuasiPeak Final Result

| Frequency<br>(MHz) | QuasiPeak<br>(dBμV) | Limit<br>(dBμV) | Margin<br>(dB) | Bandwidth<br>(kHz) | Line | Corr.<br>(dB) |
|--------------------|---------------------|-----------------|----------------|--------------------|------|---------------|
| 0.3975             | 37.35               | 57.91           | 20.56          | 9.000              | N    | 9.6           |
| 0.4110             | 34.13               | 57.63           | 23.50          | 9.000              | N    | 9.6           |
| 0.4650             | 34.35               | 56.60           | 22.25          | 9.000              | N    | 9.6           |
| 0.7655             | 36.13               | 56.00           | 19.87          | 9.000              | N    | 9.6           |
| 0.7723             | 34.90               | 56.00           | 21.10          | 9.000              | N    | 9.6           |
| 0.7813             | 33.72               | 56.00           | 22.28          | 9.000              | N    | 9.6           |
| 0.9478             | 37.28               | 56.00           | 18.72          | 9.000              | N    | 9.6           |
| 1.1323             | 34.22               | 56.00           | 21.78          | 9.000              | N    | 9.6           |
| 1.1480             | 38.50               | 56.00           | 17.50          | 9.000              | N    | 9.6           |
| 1.1525             | 37.97               | 56.00           | 18.03          | 9.000              | N    | 9.6           |
| 1.5980             | 34.58               | 56.00           | 21.42          | 9.000              | N    | 9.6           |
| 1.6025             | 33.54               | 56.00           | 22.46          | 9.000              | N    | 9.6           |
| 18.8960            | 42.98               | 60.00           | 17.02          | 9.000              | N    | 9.9           |
| 18.9478            | 42.98               | 60.00           | 17.02          | 9.000              | N    | 9.9           |
| 18.9568            | 42.96               | 60.00           | 17.04          | 9.000              | N    | 9.9           |
| 18.9838            | 43.16               | 60.00           | 16.84          | 9.000              | N    | 9.9           |
| 19.2875            | 42.38               | 60.00           | 17.62          | 9.000              | N    | 9.9           |
| 19.4608            | 42.05               | 60.00           | 17.95          | 9.000              | N    | 9.9           |

#### CAverage Final Result

| Frequency<br>(MHz) | CAverage<br>(dBμV) | Limit<br>(dBμV) | Margin<br>(dB) | Bandwidth<br>(kHz) | Line | Corr.<br>(dB) |
|--------------------|--------------------|-----------------|----------------|--------------------|------|---------------|
| 0.3998             | 29.27              | 47.86           | 18.59          | 9.000              | N    | 9.6           |
| 0.5743             | 34.68              | 46.00           | 11.32          | 9.000              | N    | 9.6           |
| 0.7385             | 28.69              | 46.00           | 17.31          | 9.000              | N    | 9.6           |
| 0.7543             | 29.31              | 46.00           | 16.69          | 9.000              | N    | 9.6           |
| 0.7633             | 30.21              | 46.00           | 15.79          | 9.000              | N    | 9.6           |
| 0.7948             | 23.87              | 46.00           | 22.13          | 9.000              | N    | 9.6           |
| 1.1503             | 34.98              | 46.00           | 11.02          | 9.000              | N    | 9.6           |
| 1.2403             | 32.60              | 46.00           | 13.40          | 9.000              | N    | 9.6           |
| 1.3123             | 26.04              | 46.00           | 19.96          | 9.000              | N    | 9.6           |
| 1.3415             | 27.64              | 46.00           | 18.36          | 9.000              | N    | 9.6           |
| 1.6363             | 32.93              | 46.00           | 13.07          | 9.000              | N    | 9.6           |
| 2.1200             | 32.29              | 46.00           | 13.71          | 9.000              | N    | 9.6           |
| 18.5765            | 36.46              | 50.00           | 13.54          | 9.000              | N    | 9.9           |
| 18.8938            | 36.77              | 50.00           | 13.23          | 9.000              | N    | 9.9           |
| 18.9478            | 36.78              | 50.00           | 13.22          | 9.000              | N    | 9.9           |
| 18.9860            | 36.69              | 50.00           | 13.31          | 9.000              | N    | 9.9           |
| 19.0108            | 36.78              | 50.00           | 13.22          | 9.000              | N    | 9.9           |
| 19.2853            | 36.36              | 50.00           | 13.64          | 9.000              | N    | 9.9           |

## 4.2 Radiated Emission Below 1 GHz

### 4.2.1 Measuring instruments

| Type                                                          | Model Name   | Manufacturer    | Serial Number          | Calibration Cycle | Calibration Date |
|---------------------------------------------------------------|--------------|-----------------|------------------------|-------------------|------------------|
| <input checked="" type="checkbox"/> EMI test receiver         | ESU40        | Rohde & Schwarz | 100524                 | 1 year            | 05.10.2021       |
| <input checked="" type="checkbox"/> Bilog antenna             | VULB9168     | Schwarzbeck     | 255                    | 2 year            | 03.15.2021       |
| <input checked="" type="checkbox"/> Antenna master            | MA4640-XP-ET | INNCO SYSTEM    | -                      | -                 | -                |
| <input checked="" type="checkbox"/> Antenna master controller | CO3000       | INNCO SYSTEM    | CO3000/870 /35990515/L | -                 | -                |
| <input checked="" type="checkbox"/> Turn Table                | 1060         | INNCO SYSTEM    | -                      | -                 | -                |
| <input checked="" type="checkbox"/> Turn Table controller     | CO2000       | INNCO SYSTEM    | CO2000/095 /7590304/L  | -                 | -                |
| <input checked="" type="checkbox"/> Software                  | EMC32        | Rohde & Schwarz | -                      | -                 | -                |

### 4.2.2 Operating Condition

The test results of radiated emission provide the following information:

|                    |                                                         |
|--------------------|---------------------------------------------------------|
| Used Test Standard | FCC CFR 47 PART 15 Subpart B Class B<br>ANSI C63.4-2014 |
| Frequency Range    | 30 MHz to 1 000 MHz                                     |
| Detector           | Quasi-Peak                                              |
| Bandwidth          | 120 kHz (6 dB)                                          |
| Test Site          | 3 m Semi Anechoic Chamber #1                            |
| Temperature        | 22.5 °C                                                 |
| Relative Humidity  | 47.1 %                                                  |
| Test Date          | July 14, 2021                                           |

**-Calculation Formula:**

1. POL. H = Horizontal, POL. V = Vertical
2. QuasiPeak = Reading (Receiver Reading) + Corr.
3. Corr. (Correction Factor) = Antenna Factor + Cable Loss
4. Margin = Limit - QuasiPeak

#### 4.2.3 Measuring Data

Bluetooth Idle Mode: EUT + Adaptor + Cellphone

| Frequency<br>(MHz) | Quasi Peak<br>(dB $\mu$ V/m) | Antenna<br>Height<br>(cm) | POL.<br>(H/V) | Azimuth<br>(deg) | Corr.<br>(dB) | Margin<br>(dB) | Limit<br>(dB $\mu$ V/m) |
|--------------------|------------------------------|---------------------------|---------------|------------------|---------------|----------------|-------------------------|
| 39.7082            | 27.6                         | 125.1                     | V             | 0.0              | 19.3          | 12.4           | 40.0                    |
| 47.6045            | 26.0                         | 100.0                     | V             | 299.0            | 19.9          | 14.0           | 40.0                    |
| 279.9472           | 37.6                         | 100.0                     | H             | 32.0             | 19.8          | 8.4            | 46.0                    |
| 392.1110           | 29.7                         | 100.0                     | H             | 0.0              | 22.6          | 16.3           | 46.0                    |
| 402.7643           | 28.7                         | 100.0                     | H             | 209.0            | 22.9          | 17.3           | 46.0                    |
| 864.1494           | 39.2                         | 100.0                     | H             | 75.0             | 31.1          | 6.8            | 46.0                    |

Bluetooth Idle Mode: EUT (in battery) + Cellphone

| Frequency<br>(MHz) | Quasi Peak<br>(dB $\mu$ V/m) | Antenna<br>Height<br>(cm) | POL.<br>(H/V) | Azimuth<br>(deg) | Corr.<br>(dB) | Margin<br>(dB) | Limit<br>(dB $\mu$ V/m) |
|--------------------|------------------------------|---------------------------|---------------|------------------|---------------|----------------|-------------------------|
| 44.9794            | 17.0                         | 174.9                     | V             | 74.0             | 19.7          | 23.0           | 40.0                    |
| 65.6460            | 16.3                         | 325.2                     | H             | 251.0            | 18.8          | 23.7           | 40.0                    |
| 279.9472           | 34.0                         | 100.0                     | H             | 74.0             | 19.8          | 12.0           | 46.0                    |
| 463.3001           | 27.7                         | 117.9                     | V             | 202.0            | 24.5          | 18.3           | 46.0                    |
| 624.0470           | 32.6                         | 325.0                     | H             | 238.0            | 27.7          | 13.4           | 46.0                    |
| 864.0940           | 39.5                         | 100.0                     | H             | 40.0             | 31.1          | 6.5            | 46.0                    |



PRINTER Mode: EUT + Adaptor + Notebook PC

| Frequency<br>(MHz) | Quasi Peak<br>(dB $\mu$ V/m) | Antenna<br>Height<br>(cm) | POL.<br>(H/V) | Azimuth<br>(deg) | Corr.<br>(dB) | Margin<br>(dB) | Limit<br>(dB $\mu$ V/m) |
|--------------------|------------------------------|---------------------------|---------------|------------------|---------------|----------------|-------------------------|
| 30.1618            | 31.2                         | 100.0                     | V             | 176.0            | 18.5          | 8.8            | 40.0                    |
| 32.1760            | 34.2                         | 100.0                     | V             | 92.0             | 18.7          | 5.8            | 40.0                    |
| 38.2603            | 32.0                         | 100.0                     | V             | 69.0             | 19.2          | 8.0            | 40.0                    |
| 39.7235            | 30.7                         | 100.0                     | V             | 209.0            | 19.3          | 9.3            | 40.0                    |
| 66.3769            | 34.2                         | 125.3                     | V             | 0.0              | 18.7          | 5.8            | 40.0                    |
| 352.1055           | 39.1                         | 100.0                     | H             | 247.0            | 21.7          | 6.9            | 46.0                    |

PRINTER Mode: EUT (in battery) + Notebook PC

| Frequency<br>(MHz) | Quasi Peak<br>(dB $\mu$ V/m) | Antenna<br>Height<br>(cm) | POL.<br>(H/V) | Azimuth<br>(deg) | Corr.<br>(dB) | Margin<br>(dB) | Limit<br>(dB $\mu$ V/m) |
|--------------------|------------------------------|---------------------------|---------------|------------------|---------------|----------------|-------------------------|
| 33.9034            | 31.3                         | 100.0                     | V             | 233.0            | 18.8          | 8.7            | 40.0                    |
| 66.3895            | 29.4                         | 100.0                     | V             | 299.0            | 18.7          | 10.6           | 40.0                    |
| 140.0045           | 31.6                         | 100.0                     | V             | 143.0            | 19.2          | 11.9           | 43.5                    |
| 271.9267           | 36.3                         | 125.2                     | H             | 329.0            | 19.5          | 9.7            | 46.0                    |
| 592.1424           | 35.8                         | 100.0                     | V             | 200.0            | 27.3          | 10.2           | 46.0                    |
| 864.1366           | 40.2                         | 100.0                     | H             | 87.0             | 31.1          | 5.8            | 46.0                    |

#### 4.3 Radiated Emission Above 1 GHz

##### 4.3.1 Measuring instruments

|                                     | Type                      | Model Name   | Manufacturer    | Serial Number         | Calibration Cycle | Calibration Date |
|-------------------------------------|---------------------------|--------------|-----------------|-----------------------|-------------------|------------------|
| <input checked="" type="checkbox"/> | EMI test receiver         | ESU40        | Rohde & Schwarz | 100524                | 1 year            | 05.10.2021       |
| <input checked="" type="checkbox"/> | Antenna master            | MA4640-XP-ET | INNCO SYSTEM    | -                     | -                 | -                |
| <input checked="" type="checkbox"/> | Antenna master controller | CO3000       | INNCO SYSTEM    | CO3000/870/35990515/L | -                 | -                |
| <input checked="" type="checkbox"/> | Turn table                | 1060         | INNCO SYSTEM    | -                     | -                 | -                |
| <input checked="" type="checkbox"/> | Turn table controller     | CO2000       | INNCO SYSTEM    | CO2000/095/7590304/L  | -                 | -                |
| <input checked="" type="checkbox"/> | Horn antenna              | BBHA 9120D   | Schwarzbeck     | 01836                 | 1 year            | 07.20.2021       |
| <input checked="" type="checkbox"/> | Low noise amplifier       | TK-PA18H     | TESTEK          | 170034-L              | 1 year            | 03.02.2021       |
| <input type="checkbox"/>            | Horn Antenna              | BBHA 9170    | Schwarzbeck     | BBHA 9170 #786        | 1 year            | 11.18.2020       |
| <input type="checkbox"/>            | Power Amplifier           | TK-PA1840H   | TESTEK          | 170030-L              | 1 year            | 03.09.2021       |
| <input checked="" type="checkbox"/> | Software                  | EMC32        | Rohde & Schwarz | -                     | -                 | -                |

##### 4.3.2 Operating Condition

The test results of radiated emission provide the following information:

|                        |                                                                                               |
|------------------------|-----------------------------------------------------------------------------------------------|
| Used Test Standard     | FCC CFR 47 PART 15 Subpart B Class B<br>ANSI C63.4-2014                                       |
| Detector               | Peak mode: Peak (RBW: 1 MHz, VBW: 3 MHz)<br>CISPR-Average mode: Peak (RBW: 1 MHz, VBW: 10 Hz) |
| Highest Frequency      | 2 480 MHz                                                                                     |
| Tested Frequency Range | 1 GHz to 18 GHz                                                                               |
| Test Site              | 3 m Semi Anechoic Chamber #1                                                                  |
| Temperature            | 24.5 °C                                                                                       |
| Relative Humidity      | 49.2 %                                                                                        |
| Test Date              | July 15, 2021                                                                                 |

**-Calculation Formula:**

1. POL. H = Horizontal, POL. V = Vertical
2. Peak or CAverage = Reading (Receiver Reading) + Corr.
3. Corr. (Correction Factor) = Antenna Factor+ Cable Loss –Amplifier Gain
4. Margin = Limit - Peak or CAverage

#### 4.3.3 Measuring Data

Bluetooth Idle Mode: EUT + Adaptor + Cellphone

| Frequency (MHz) | Peak (dB $\mu$ V/m) | Antenna Height (cm) | POL. (H/V) | Azimuth (deg) | Corr. (dB) | Margin (dB) | Limit (dB $\mu$ V/m) |
|-----------------|---------------------|---------------------|------------|---------------|------------|-------------|----------------------|
| 1300.2000       | 37.8                | 350.0               | H          | 339.0         | -27.2      | 36.2        | 74.0                 |
| 1620.3350       | 41.5                | 100.0               | H          | 190.0         | -26.2      | 32.5        | 74.0                 |
| 1627.3350       | 41.0                | 100.0               | H          | 205.0         | -26.2      | 33.0        | 74.0                 |
| 1649.1950       | 42.7                | 113.3               | H          | 196.0         | -26.1      | 31.3        | 74.0                 |
| 9659.7750       | 51.0                | 248.6               | H          | 321.0         | -8.0       | 23.0        | 74.0                 |
| 9909.7100       | 44.4                | 306.5               | H          | 256.0         | -7.5       | 29.6        | 74.0                 |

| Frequency (MHz) | CAverage (dB $\mu$ V/m) | Antenna Height (cm) | POL. (H/V) | Azimuth (deg) | Corr. (dB) | Margin (dB) | Limit (dB $\mu$ V/m) |
|-----------------|-------------------------|---------------------|------------|---------------|------------|-------------|----------------------|
| 1300.2000       | 16.2                    | 350.0               | H          | 339.0         | -27.2      | 37.8        | 54.0                 |
| 1620.3350       | 17.9                    | 100.0               | H          | 190.0         | -26.2      | 36.1        | 54.0                 |
| 1627.3350       | 17.9                    | 100.0               | H          | 205.0         | -26.2      | 36.1        | 54.0                 |
| 1649.1950       | 17.7                    | 113.3               | H          | 196.0         | -26.1      | 36.3        | 54.0                 |
| 9659.7750       | 31.2                    | 248.6               | H          | 321.0         | -8.0       | 22.8        | 54.0                 |
| 9909.7100       | 31.8                    | 306.5               | H          | 256.0         | -7.5       | 22.2        | 54.0                 |

Bluetooth Idle Mode: EUT (in battery) + Cellphone

| Frequency (MHz) | Peak (dB $\mu$ V/m) | Antenna Height (cm) | POL. (H/V) | Azimuth (deg) | Corr. (dB) | Margin (dB) | Limit (dB $\mu$ V/m) |
|-----------------|---------------------|---------------------|------------|---------------|------------|-------------|----------------------|
| 1366.1500       | 38.5                | 140.7               | H          | 226.0         | -26.9      | 35.5        | 74.0                 |
| 1439.9350       | 34.7                | 307.5               | H          | 204.0         | -26.7      | 39.3        | 74.0                 |
| 1623.8800       | 41.9                | 100.0               | H          | 196.0         | -26.2      | 32.1        | 74.0                 |
| 1652.4250       | 43.9                | 319.4               | H          | 204.0         | -26.1      | 30.1        | 74.0                 |
| 6689.2300       | 40.3                | 150.1               | V          | 229.0         | -12.8      | 33.7        | 74.0                 |
| 9760.6250       | 44.2                | 350.0               | H          | 270.0         | -7.8       | 29.8        | 74.0                 |

| Frequency (MHz) | CAverage (dB $\mu$ V/m) | Antenna Height (cm) | POL. (H/V) | Azimuth (deg) | Corr. (dB) | Margin (dB) | Limit (dB $\mu$ V/m) |
|-----------------|-------------------------|---------------------|------------|---------------|------------|-------------|----------------------|
| 1366.1500       | 18.4                    | 140.7               | H          | 226.0         | -26.9      | 35.6        | 54.0                 |
| 1439.9350       | 28.8                    | 307.5               | H          | 204.0         | -26.7      | 25.2        | 54.0                 |
| 1623.8800       | 19.2                    | 100.0               | H          | 196.0         | -26.2      | 34.8        | 54.0                 |
| 1652.4250       | 18.4                    | 319.4               | H          | 204.0         | -26.1      | 35.6        | 54.0                 |
| 6689.2300       | 27.3                    | 150.1               | V          | 229.0         | -12.8      | 26.7        | 54.0                 |
| 9760.6250       | 30.9                    | 350.0               | H          | 270.0         | -7.8       | 23.1        | 54.0                 |



PRINTER Mode: EUT + Adaptor + Notebook PC

| Frequency (MHz) | Peak (dB $\mu$ V/m) | Antenna Height (cm) | POL. (H/V) | Azimuth (deg) | Corr. (dB) | Margin (dB) | Limit (dB $\mu$ V/m) |
|-----------------|---------------------|---------------------|------------|---------------|------------|-------------|----------------------|
| 1498.8300       | 42.2                | 291.4               | V          | 0.0           | -26.5      | 31.8        | 74.0                 |
| 1935.4500       | 41.9                | 113.3               | V          | 50.0          | -25.5      | 32.1        | 74.0                 |
| 2428.3550       | 32.8                | 100.0               | V          | 324.0         | -23.4      | 41.2        | 74.0                 |
| 2658.4950       | 43.4                | 149.5               | V          | 210.0         | -22.6      | 30.6        | 74.0                 |
| 4486.7350       | 43.0                | 202.4               | V          | 0.0           | -17.6      | 31.0        | 74.0                 |
| 5990.6800       | 40.1                | 113.5               | V          | 326.0         | -15.0      | 33.9        | 74.0                 |

| Frequency (MHz) | CAverage (dB $\mu$ V/m) | Antenna Height (cm) | POL. (H/V) | Azimuth (deg) | Corr. (dB) | Margin (dB) | Limit (dB $\mu$ V/m) |
|-----------------|-------------------------|---------------------|------------|---------------|------------|-------------|----------------------|
| 1498.8300       | 35.4                    | 291.4               | V          | 0.0           | -26.5      | 18.6        | 54.0                 |
| 1935.4500       | 19.9                    | 113.3               | V          | 50.0          | -25.5      | 34.1        | 54.0                 |
| 2428.3550       | 20.3                    | 100.0               | V          | 324.0         | -23.4      | 33.7        | 54.0                 |
| 2658.4950       | 21.1                    | 149.5               | V          | 210.0         | -22.6      | 32.9        | 54.0                 |
| 4486.7350       | 27.2                    | 202.4               | V          | 0.0           | -17.6      | 26.8        | 54.0                 |
| 5990.6800       | 26.1                    | 113.5               | V          | 326.0         | -15.0      | 27.9        | 54.0                 |

PRINTER Mode: EUT (in battery) + Notebook PC

| Frequency (MHz) | Peak (dB $\mu$ V/m) | Antenna Height (cm) | POL. (H/V) | Azimuth (deg) | Corr. (dB) | Margin (dB) | Limit (dB $\mu$ V/m) |
|-----------------|---------------------|---------------------|------------|---------------|------------|-------------|----------------------|
| 1333.0450       | 47.0                | 150.0               | V          | 306.0         | -27.0      | 27.0        | 74.0                 |
| 1499.2300       | 42.7                | 299.5               | V          | 4.0           | -26.5      | 31.3        | 74.0                 |
| 2661.5150       | 45.1                | 111.5               | V          | 0.0           | -22.5      | 28.9        | 74.0                 |
| 4481.7300       | 43.9                | 199.4               | V          | 0.0           | -17.6      | 30.1        | 74.0                 |
| 5974.5950       | 41.3                | 100.0               | V          | 116.0         | -15.0      | 32.7        | 74.0                 |
| 7734.0800       | 42.6                | 100.0               | V          | 311.0         | -10.4      | 31.4        | 74.0                 |

| Frequency (MHz) | CAverage (dB $\mu$ V/m) | Antenna Height (cm) | POL. (H/V) | Azimuth (deg) | Corr. (dB) | Margin (dB) | Limit (dB $\mu$ V/m) |
|-----------------|-------------------------|---------------------|------------|---------------|------------|-------------|----------------------|
| 1333.0450       | 21.3                    | 150.0               | V          | 306.0         | -27.0      | 32.7        | 54.0                 |
| 1499.2300       | 35.2                    | 299.5               | V          | 4.0           | -26.5      | 18.8        | 54.0                 |
| 2661.5150       | 21.1                    | 111.5               | V          | 0.0           | -22.5      | 32.9        | 54.0                 |
| 4481.7300       | 27.0                    | 199.4               | V          | 0.0           | -17.6      | 27.0        | 54.0                 |
| 5974.5950       | 26.5                    | 100.0               | V          | 116.0         | -15.0      | 27.5        | 54.0                 |
| 7734.0800       | 29.9                    | 100.0               | V          | 311.0         | -10.4      | 24.1        | 54.0                 |



## 5. CONCLUSION

The data collected shows that the **Product Name: Mobile Printer, Model Name: WSP-W40** complies with §15.107 and §15.109 of the FCC rules



## 6. APPENDIX A. TEST SETUP PHOTO

Please refer to Appendix. A and test setup photo file no. as follows;

| File No.            | Date of Issue   | Description     |
|---------------------|-----------------|-----------------|
| HCT-EM-2107-FC004-P | August 10, 2021 | Initial Release |

End of report