

# FCC Test Report

Compliance with Canada Interference-Causing  
Equipment Standard ICES-003

Product Name : Bluetooth Speakerphone

Model No. : PHS040Wa

Applicant : GN Audio A/S

Address : Lautrupbjerg 7, 2750 Ballerup, Denmark

Date of Receipt : 2019/12/06

Issued Date : 2019/12/19

Report No. : 19C0095R-ITUSP01V00

Report Version : V1.0



The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standard through the calibration of the equipment and evaluated measurement uncertainty herein.

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# Test Report

Issued Date: 2019/12/19

Report No.: 19C0095R-ITUSP01V00



Product Name : Bluetooth Speakerphone  
Applicant : GN Audio A/S  
Address : Lautrupbjerg 7, 2750 Ballerup, Denmark  
Manufacturer : GN Audio A/S  
Model No. : PHS040Wa  
EUT Rated Voltage : DC 3.8V  
EUT Test Voltage : AC 120V / 60Hz  
Trade Name : Jabra  
Applicable Standard : FCC CFR Title 47 Part 15 Subpart B: 2018, Class B  
CISPR 22: 2008, ANSI C63.4: 2014  
ICES-003 Issue 6: 2016 Class B  
Test Result : Complied  
Performed Location : DEKRA Testing and Certification Co., Ltd.  
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Approved By :   
( Director / Vincent Lin )

## Laboratory Information

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| <b>USA</b>    | <b>:</b> | <b>FCC</b>            |
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## 1. General Information

### 1.1. EUT Description

|                   |                        |
|-------------------|------------------------|
| Product Name      | Bluetooth Speakerphone |
| Trade Name        | Jabra                  |
| Model No.         | PHS040Wa               |
| EUT Max Frequency | 2.4GHz                 |

## 1.2. Mode of Operation

DEKRA has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

|                                   |                                   |
|-----------------------------------|-----------------------------------|
| Pre-Test Mode                     |                                   |
| Mode 1: BT + USB Dongle + Battery |                                   |
| Mode 2: USB + Charge              |                                   |
| Final Test Mode                   |                                   |
| Emission                          | Mode 1: BT + USB Dongle + Battery |
|                                   | Mode 2: USB + Charge              |

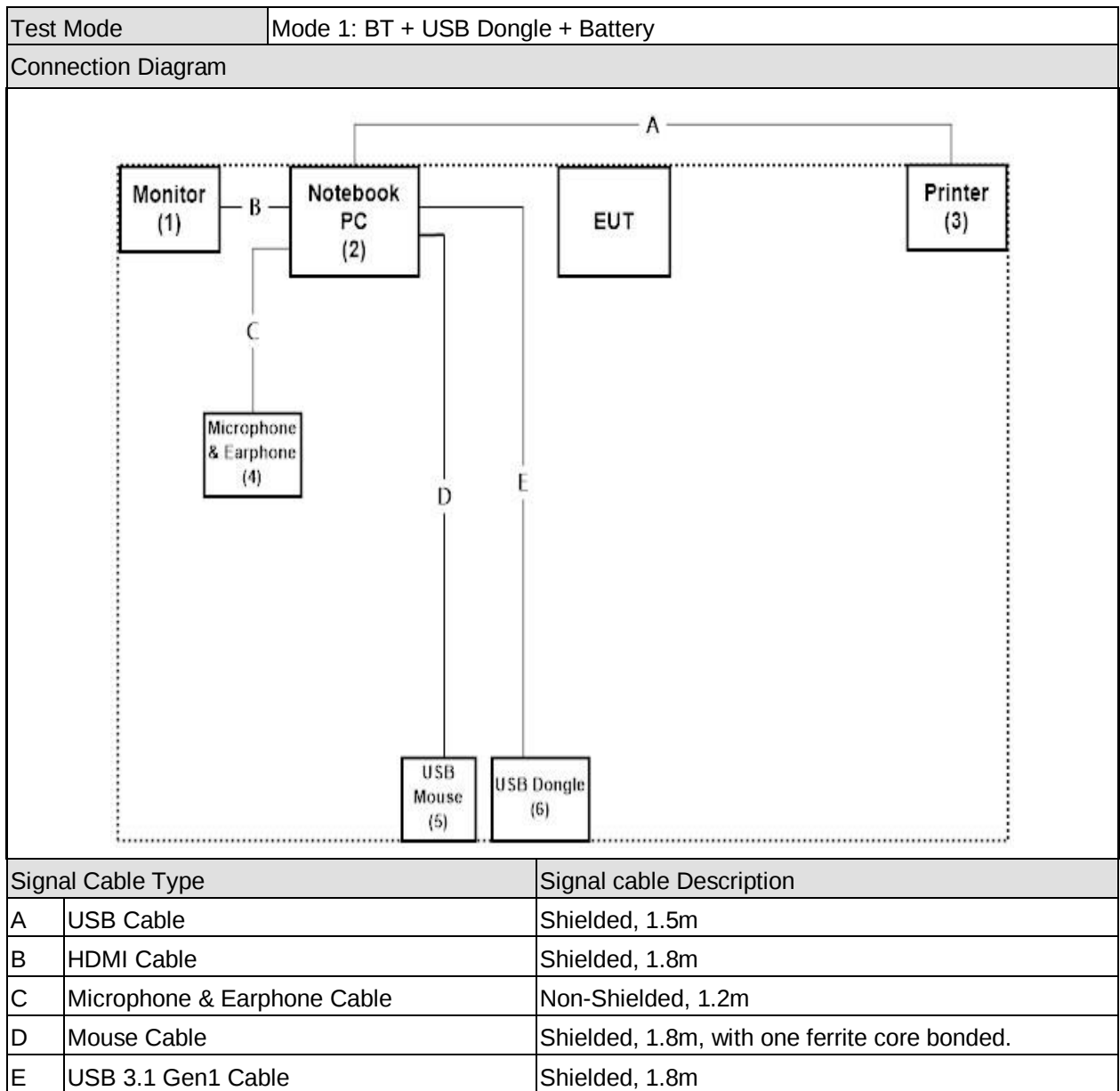
### 1.3. Tested System Details

The types for all equipments, plus descriptions of all cables used in the tested system (including inserted cards) are:

| Test Mode |                       | Mode 1: BT + USB Dongle + Battery |            |                              |                    |
|-----------|-----------------------|-----------------------------------|------------|------------------------------|--------------------|
| Product   |                       | Manufacturer                      | Model No.  | Serial No.                   | Power Cord         |
| 1         | Monitor               | DELL                              | U2410f     | CN-082WXD-72872-1A<br>V-AD8L | N/A                |
| 2         | Notebook PC           | DELL                              | XPS        | J0V3TY1                      | Non-Shielded, 0.8m |
| 3         | Printer               | EPSON                             | StyLus C63 | FAPY093574                   | Non-Shielded, 1.9m |
| 4         | Microphone & Earphone | RONEVER                           | MOE240     | N/A                          | N/A                |
| 5         | USB Mouse             | Microsoft                         | 1113       | N/A                          | N/A                |
| 6         | USB Dongle            | END040W                           | N/A        | N/A                          | N/A                |

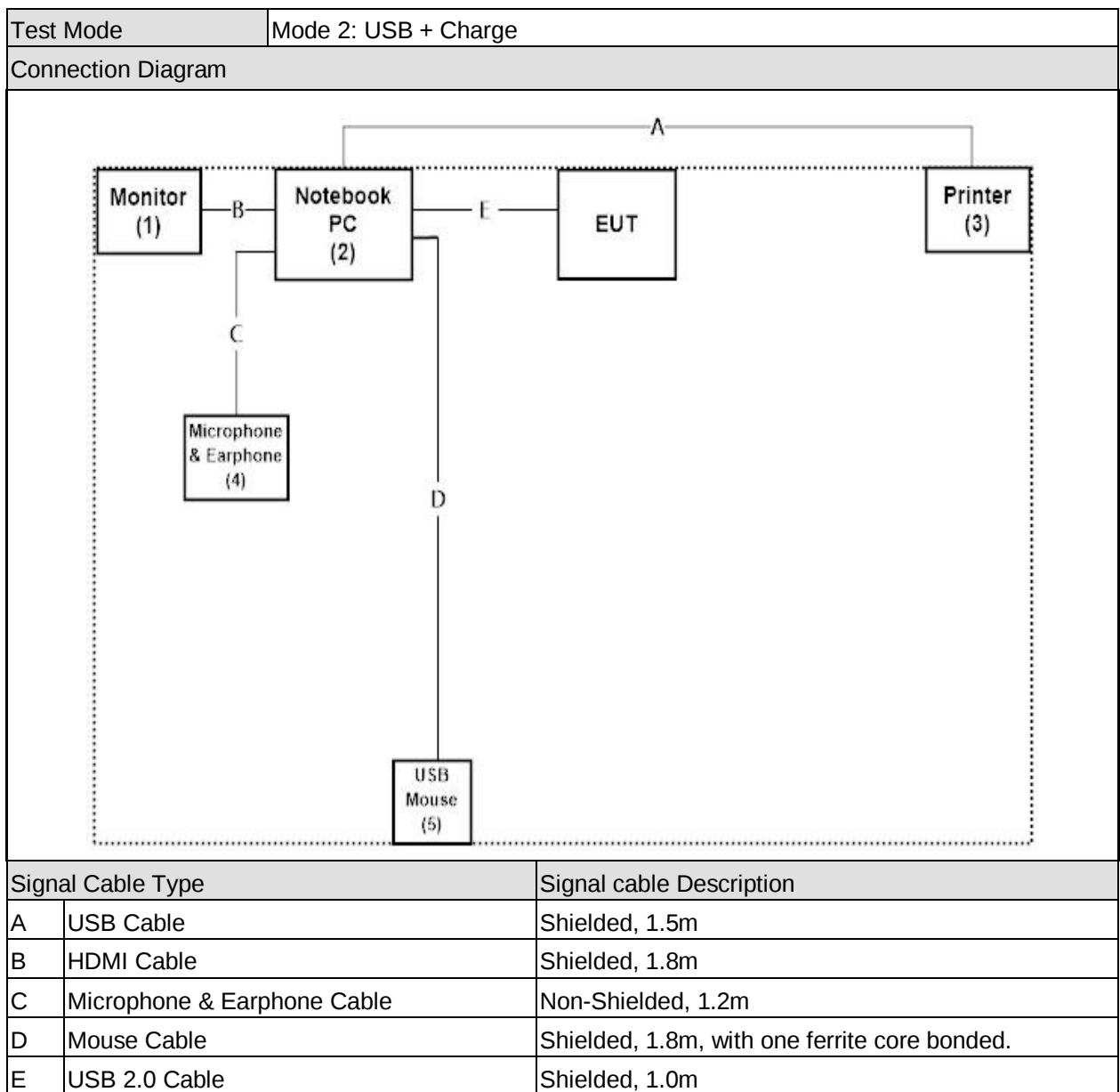
| Test Mode |                       | Mode 2: USB + Charge |            |                              |                    |
|-----------|-----------------------|----------------------|------------|------------------------------|--------------------|
| Product   |                       | Manufacturer         | Model No.  | Serial No.                   | Power Cord         |
| 1         | Monitor               | DELL                 | U2410f     | CN-082WXD-72872-1A<br>V-AD8L | N/A                |
| 2         | Notebook PC           | DELL                 | XPS        | J0V3TY1                      | Non-Shielded, 0.8m |
| 3         | Printer               | EPSON                | StyLus C63 | FAPY093574                   | Non-Shielded, 1.9m |
| 4         | Microphone & Earphone | RONEVER              | MOE240     | N/A                          | N/A                |
| 5         | USB Mouse             | Microsoft            | 1113       | N/A                          | N/A                |

#### 1.4. Configuration of Tested System



Note:

- ☒ Use Full system setup configuration determines Worst-Case Mode.
- ☐ Use 2dB law program determines Max. Cable Configuration and Worst-Case Mode.
- ☒ Radiated emission item test: Performed using the Horn Antenna 3dB Beamwidth to 3m from the EUT size sufficient to cover the procedure.
- ☐ Radiated emission item test: Performed using the Horn Antenna 3dB Beamwidth non 3m distance sufficient to cover the size of the EUT program.



## Note:

- ☒ Use Full system setup configuration determines Worst-Case Mode.
- ☐ Use 2dB law program determines Max. Cable Configuration and Worst-Case Mode.
- ☒ Radiated emission item test: Performed using the Horn Antenna 3dB Beamwidth to 3m from the EUT size sufficient to cover the procedure.
- ☐ Radiated emission item test: Performed using the Horn Antenna 3dB Beamwidth non 3m distance sufficient to cover the size of the EUT program.

### **1.5. EUT Exercise Software**

|   |                                                 |
|---|-------------------------------------------------|
| 1 | Setup the EUT and simulators as shown on 1.4.   |
| 2 | Turn on the power of all equipment.             |
| 3 | All the features of the EUT operation normally. |

## 2. Technical Test

### 2.1. Summary of Test Result

- ☒ No deviations from the test standards  
☐ Deviations from the test standards as below description:

| Emission           |                                                                       |                |           |
|--------------------|-----------------------------------------------------------------------|----------------|-----------|
| Performed Item     | Normative References                                                  | Test Performed | Deviation |
| Conducted Emission | FCC CFR Title 47 Part 15 Subpart B: 2018, Class B<br>ANSI C63.4: 2014 | Yes            | No        |
| Radiated Emission  | FCC CFR Title 47 Part 15 Subpart B: 2018, Class B<br>ANSI C63.4: 2014 | Yes            | No        |

Note : Test Procedure ☒ ANSI C63.4:2014 ☐ MP-5:1986

## 2.2. List of Test Equipment

### Conducted Emission / SR1

| Instrument        | Manufacturer | Type No. | Serial No  | Cal. Date  |
|-------------------|--------------|----------|------------|------------|
| EMI Test Receiver | R&S          | ESR3     | 102187     | 2019/05/13 |
| LISN              | Schwarzback  | 8226     | 176        | 2019/05/16 |
| LISN              | Schwarzback  | 8226     | 177        | 2019/05/16 |
| LISN              | R&S          | ESH2-Z5  | 836679/023 | 2019/03/11 |
| Coaxial Cable     | DEKRA        | RG 400   | LC016-RG   | 2019/06/20 |

**Note:Test Receiver Detector:Quasipeak and Average Bandwidth:9KHz**

### Radiated Emission / Site4

| Instrument            | Manufacturer | Type No.    | Serial No       | Cal. Date  |
|-----------------------|--------------|-------------|-----------------|------------|
| Broadband Antenna     | Schwarzbeck  | VULB 9168   | 1054            | 2019/11/18 |
| EMI Test Receiver     | R&S          | ESCS 30     | 825442/018      | 2019/03/04 |
| Coaxial Cable         | DEKRA        | RG 214      | LC004-RG        | 2019/06/14 |
| Pre-Amplifier         | Jet-Power    | JPA-10M1G33 | 170101000330011 | 2019/06/14 |
| Coaxial signal switch | Anritsu      | MP59B       | 6201415887      | 2019/06/14 |
| Site4 NSA             | DEKRA        | N/A         | N/A             | 2019/06/14 |

**Note:Test Receiver Detector:Quasipeak Bandwidth:120KHz**

### Radiated Emission / CB7

| Instrument        | Manufacturer | Type No.    | Serial No | Cal. Date  |
|-------------------|--------------|-------------|-----------|------------|
| EMI Test Receiver | R&S          | ESU26       | 100433    | 2019/11/11 |
| Horn Antenna      | ETS-Lindgren | 3117        | 00202819  | 2019/04/24 |
| Horn Antenna      | SCHWARZBECK  | 9120D       | 576       | 2019/12/18 |
| Pre-Amplifier     | EMCI         | EMC051845SE | 980359    | 2019/11/08 |
| CB7 VSWR          | DEKRA        | N/A         | N/A       | 2019/06/24 |

## **2.3. Measurement Uncertainty**

### Conducted Emission

The measurement uncertainty is evaluated as  $\pm 3.44$  dB.

### Radiated Emission

The measurement uncertainty is evaluated as  $\pm 4.22$  dB.

### Radiated Emission Above 1GHz

The measurement uncertainty is evaluated as  $\pm 5.08$  dB.

## 2.4. Test Environment

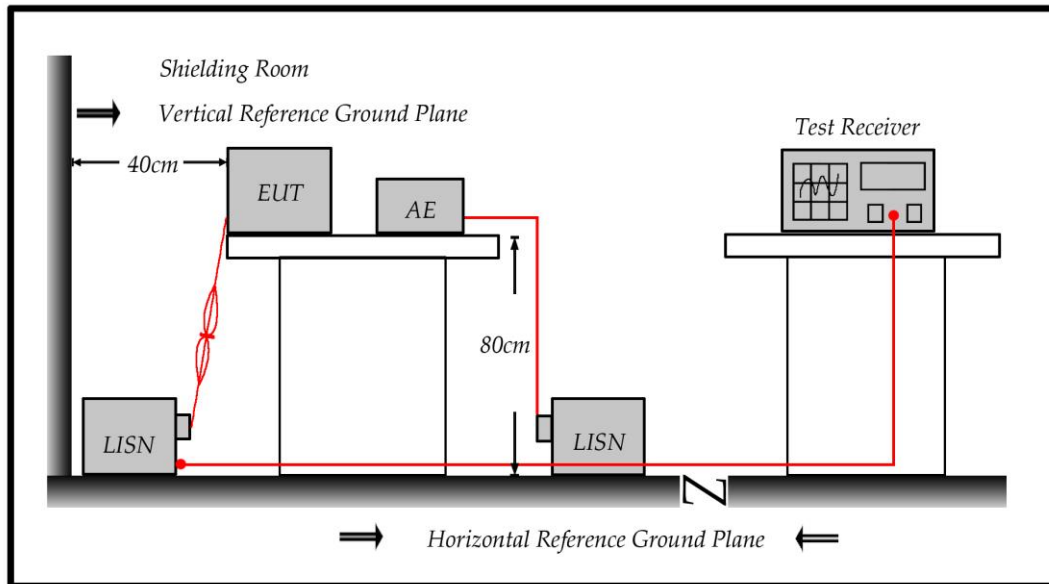
| Performed Item     | Items            | Required |
|--------------------|------------------|----------|
| Conducted Emission | Temperature (°C) | 10-40    |
|                    | Humidity (%RH)   | 10-90    |
| Radiated Emission  | Temperature (°C) | 10-40    |
|                    | Humidity (%RH)   | 10-90    |

### 3. Conducted Emission

#### 3.1. Test Specification

According to Standard : FCC Part 15 Subpart B, ANSI C63.4

#### 3.2. Test Setup



#### 3.3. Limit

| Limits          |           |           |
|-----------------|-----------|-----------|
| Frequency (MHz) | QP (dBuV) | AV (dBuV) |
| 0.15 - 0.50     | 66 - 56   | 56 – 46   |
| 0.50-5.0        | 56        | 46        |
| 5.0 - 30        | 60        | 50        |

Remarks: In the above table, the tighter limit applies at the band edges.

### **3.4. Test Procedure**

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination.

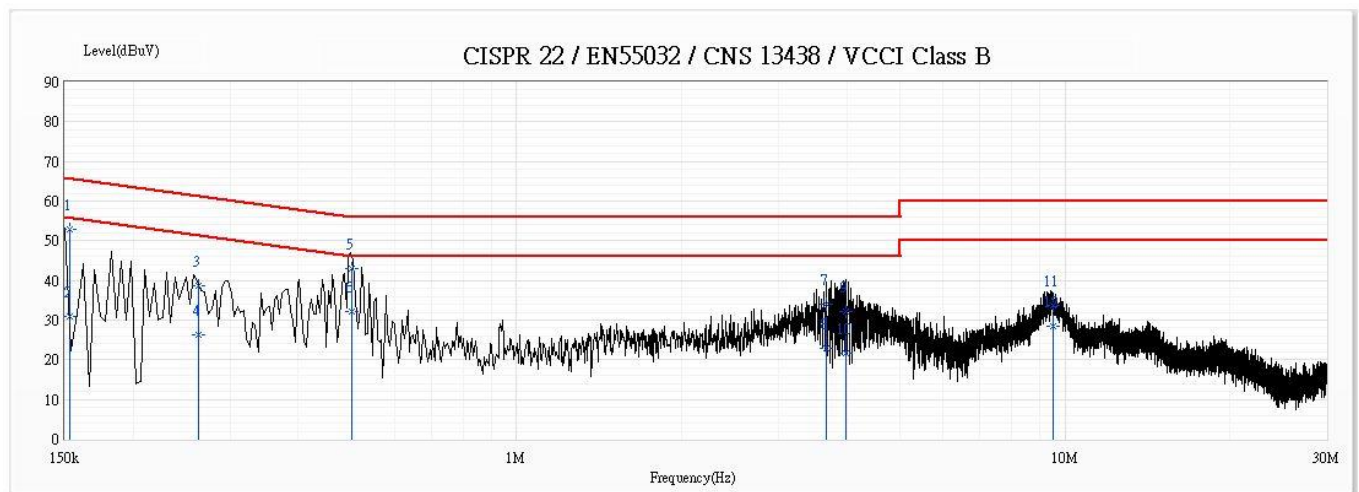
(Please refers to the block diagram of the test setup and photographs.)

Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed on conducted measurement.

Conducted emissions were invested over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

### 3.5. Test Result

|                          |                                                        |             |           |
|--------------------------|--------------------------------------------------------|-------------|-----------|
| Site :                   | SR1                                                    | Engineer :  | Aby       |
| EUT                      | Bluetooth Speakerphone                                 | Test Date : | 2019/12/6 |
| Test Voltage :           | AC 120V/60Hz                                           | Phase :     | L1        |
| Test Mode :              | Mode 1                                                 |             |           |
| Environmental Condition: | Temperature (°C) : 20.5 ; Relative Humidity (%RH) : 50 |             |           |

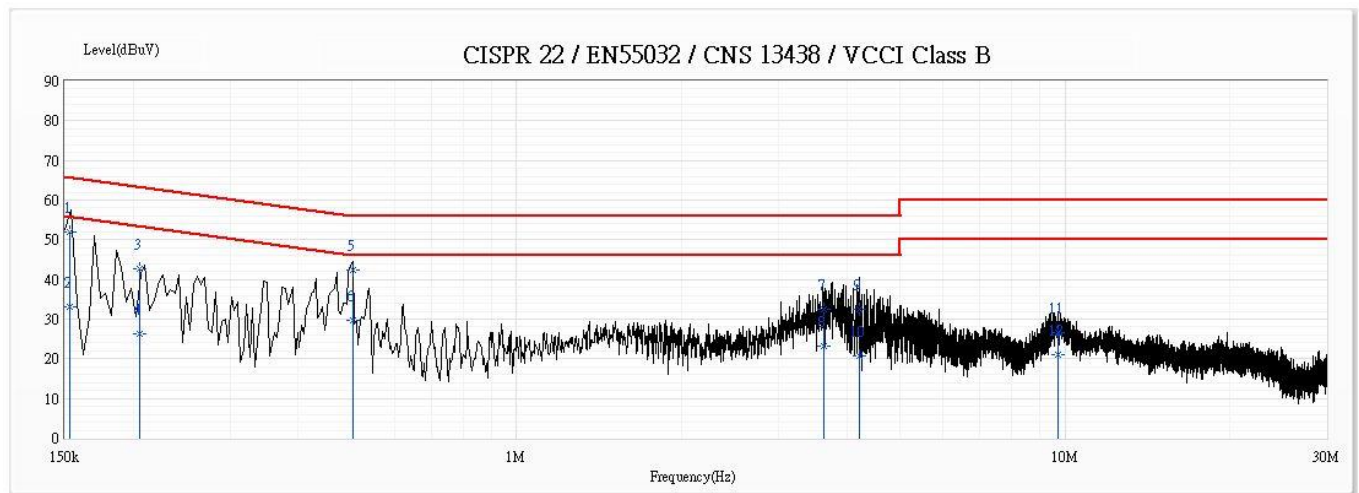


| No | Frequency (MHz) | Emission Level (dBuV) | Limit (dBuV) | Margin (dB) | Reading Level (dBuV) | Correct Factor (dB) | Detector Type |
|----|-----------------|-----------------------|--------------|-------------|----------------------|---------------------|---------------|
| *1 | 0.153           | 52.96                 | 65.84        | -12.88      | 43.25                | 9.71                | QP            |
| 2  | 0.153           | 31.02                 | 55.84        | -24.82      | 21.31                | 9.71                | AV            |
| 3  | 0.263           | 38.69                 | 61.35        | -22.66      | 28.99                | 9.71                | QP            |
| 4  | 0.263           | 26.31                 | 51.35        | -25.03      | 16.61                | 9.71                | AV            |
| 5  | 0.5             | 43.07                 | 56.01        | -12.94      | 33.36                | 9.71                | QP            |
| 6  | 0.5             | 32.07                 | 46.01        | -13.94      | 22.36                | 9.71                | AV            |
| 7  | 3.671           | 34.13                 | 56.00        | -21.87      | 24.28                | 9.84                | QP            |
| 8  | 3.671           | 22.83                 | 46.00        | -23.17      | 12.99                | 9.84                | AV            |
| 9  | 3.993           | 32.29                 | 56.00        | -23.71      | 22.44                | 9.85                | QP            |
| 10 | 3.993           | 21.72                 | 46.00        | -24.28      | 11.87                | 9.85                | AV            |
| 11 | 9.492           | 33.82                 | 60.00        | -26.18      | 23.79                | 10.03               | QP            |
| 12 | 9.492           | 28.52                 | 50.00        | -21.48      | 18.49                | 10.03               | AV            |

Remark:

1. "\*" means this data is the worst emission level; "!" means this data is over limit.
2. Emission Level=Reading Level + Correct Factor(Correct Factor=LISN Factor+Cable Loss).
3. Margin=Limit -Emission Level.

|                          |                                                        |             |           |
|--------------------------|--------------------------------------------------------|-------------|-----------|
| Site :                   | SR1                                                    | Engineer :  | Aby       |
| EUT                      | Bluetooth Speakerphone                                 | Test Date : | 2019/12/6 |
| Test Voltage :           | AC 120V/60Hz                                           | Phase :     | N         |
| Test Mode :              | Mode 1                                                 |             |           |
| Environmental Condition: | Temperature (°C) : 20.5 ; Relative Humidity (%RH) : 50 |             |           |

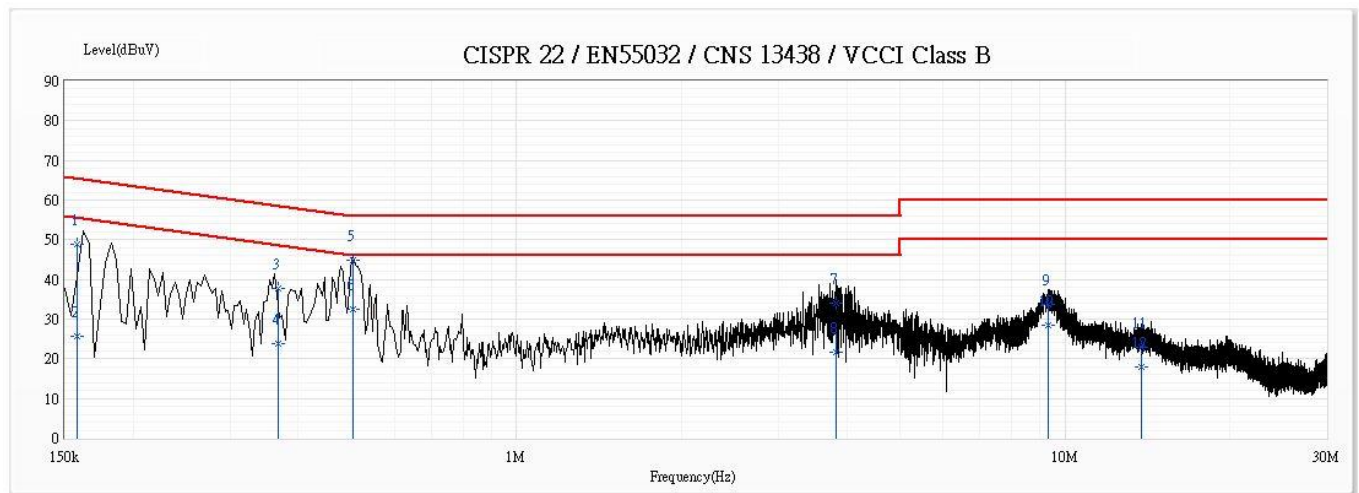


| No | Frequency (MHz) | Emission Level (dBuV) | Limit (dBuV) | Margin (dB) | Reading Level (dBuV) | Correct Factor (dB) | Detector Type |
|----|-----------------|-----------------------|--------------|-------------|----------------------|---------------------|---------------|
| 1  | 0.153           | 51.84                 | 65.82        | -13.98      | 42.12                | 9.72                | QP            |
| 2  | 0.153           | 32.95                 | 55.82        | -22.87      | 23.23                | 9.72                | AV            |
| 3  | 0.206           | 42.74                 | 63.37        | -20.63      | 33.03                | 9.71                | QP            |
| 4  | 0.206           | 26.38                 | 53.37        | -26.99      | 16.67                | 9.71                | AV            |
| *5 | 0.503           | 42.38                 | 56.00        | -13.62      | 32.66                | 9.72                | QP            |
| 6  | 0.503           | 29.69                 | 46.00        | -16.31      | 19.97                | 9.72                | AV            |
| 7  | 3.624           | 32.59                 | 56.00        | -23.41      | 22.74                | 9.85                | QP            |
| 8  | 3.624           | 23.19                 | 46.00        | -22.81      | 13.34                | 9.85                | AV            |
| 9  | 4.226           | 32.50                 | 56.00        | -23.50      | 22.63                | 9.87                | QP            |
| 10 | 4.226           | 20.63                 | 46.00        | -25.37      | 10.76                | 9.87                | AV            |
| 11 | 9.732           | 26.57                 | 60.00        | -33.43      | 16.50                | 10.07               | QP            |
| 12 | 9.732           | 20.89                 | 50.00        | -29.11      | 10.82                | 10.07               | AV            |

Remark:

1. "\*" means this data is the worst emission level; "!" means this data is over limit.
2. Emission Level=Reading Level + Correct Factor(Correct Factor=LISN Factor+Cable Loss).
3. Margin=Limit -Emission Level.

|                          |                                                        |             |           |
|--------------------------|--------------------------------------------------------|-------------|-----------|
| Site :                   | SR1                                                    | Engineer :  | Aby       |
| EUT                      | Bluetooth Speakerphone                                 | Test Date : | 2019/12/6 |
| Test Voltage :           | AC 120V/60Hz                                           | Phase :     | L1        |
| Test Mode :              | Mode 2                                                 |             |           |
| Environmental Condition: | Temperature (°C) : 20.5 ; Relative Humidity (%RH) : 50 |             |           |

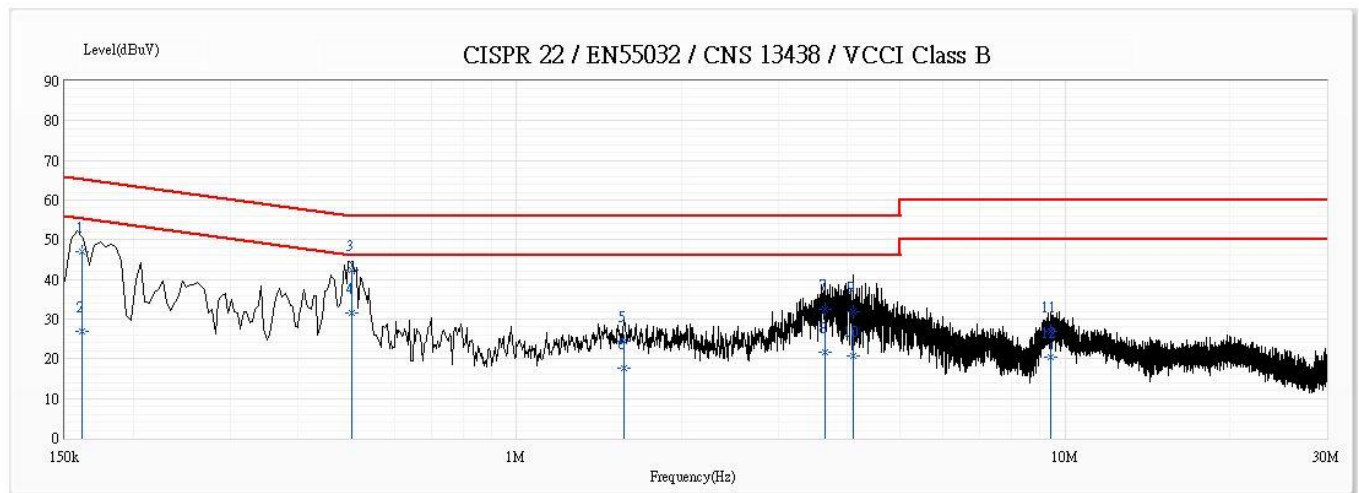


| No | Frequency (MHz) | Emission Level (dBuV) | Limit (dBuV) | Margin (dB) | Reading Level (dBuV) | Correct Factor (dB) | Detector Type |
|----|-----------------|-----------------------|--------------|-------------|----------------------|---------------------|---------------|
| 1  | 0.158           | 48.98                 | 65.55        | -16.57      | 39.27                | 9.71                | QP            |
| 2  | 0.158           | 25.75                 | 55.55        | -29.80      | 16.05                | 9.71                | AV            |
| 3  | 0.367           | 37.80                 | 58.57        | -20.77      | 28.10                | 9.70                | QP            |
| 4  | 0.367           | 23.82                 | 48.57        | -24.75      | 14.12                | 9.70                | AV            |
| *5 | 0.503           | 44.83                 | 56.00        | -11.17      | 35.12                | 9.71                | QP            |
| 6  | 0.503           | 32.46                 | 46.00        | -13.54      | 22.75                | 9.71                | AV            |
| 7  | 3.829           | 34.06                 | 56.00        | -21.94      | 24.22                | 9.85                | QP            |
| 8  | 3.829           | 21.60                 | 46.00        | -24.40      | 11.75                | 9.85                | AV            |
| 9  | 9.321           | 33.68                 | 60.00        | -26.32      | 23.65                | 10.03               | QP            |
| 10 | 9.321           | 28.40                 | 50.00        | -21.60      | 18.37                | 10.03               | AV            |
| 11 | 13.787          | 23.01                 | 60.00        | -36.99      | 12.87                | 10.14               | QP            |
| 12 | 13.787          | 17.94                 | 50.00        | -32.06      | 7.80                 | 10.14               | AV            |

Remark:

1. "\*" means this data is the worst emission level; "!" means this data is over limit.
2. Emission Level=Reading Level + Correct Factor(Correct Factor=LISN Factor+Cable Loss).
3. Margin=Limit -Emission Level.

|                          |                                                        |             |           |
|--------------------------|--------------------------------------------------------|-------------|-----------|
| Site :                   | SR1                                                    | Engineer :  | Aby       |
| EUT                      | Bluetooth Speakerphone                                 | Test Date : | 2019/12/6 |
| Test Voltage :           | AC 120V/60Hz                                           | Phase :     | N         |
| Test Mode :              | Mode 2                                                 |             |           |
| Environmental Condition: | Temperature (°C) : 20.5 ; Relative Humidity (%RH) : 50 |             |           |



| No | Frequency (MHz) | Emission Level (dBuV) | Limit (dBuV) | Margin (dB) | Reading Level (dBuV) | Correct Factor (dB) | Detector Type |
|----|-----------------|-----------------------|--------------|-------------|----------------------|---------------------|---------------|
| 1  | 0.161           | 46.88                 | 65.41        | -18.53      | 37.16                | 9.72                | QP            |
| 2  | 0.161           | 26.79                 | 55.41        | -28.61      | 17.07                | 9.72                | AV            |
| *3 | 0.501           | 42.41                 | 56.00        | -13.59      | 32.69                | 9.72                | QP            |
| 4  | 0.501           | 31.58                 | 46.00        | -14.42      | 21.86                | 9.72                | AV            |
| 5  | 1.568           | 24.38                 | 56.00        | -31.62      | 14.61                | 9.77                | QP            |
| 6  | 1.568           | 17.58                 | 46.00        | -28.42      | 7.81                 | 9.77                | AV            |
| 7  | 3.643           | 32.42                 | 56.00        | -23.58      | 22.57                | 9.85                | QP            |
| 8  | 3.643           | 21.78                 | 46.00        | -24.22      | 11.93                | 9.85                | AV            |
| 9  | 4.108           | 31.78                 | 56.00        | -24.22      | 21.92                | 9.87                | QP            |
| 10 | 4.108           | 20.71                 | 46.00        | -25.29      | 10.84                | 9.87                | AV            |
| 11 | 9.43            | 26.78                 | 60.00        | -33.22      | 16.72                | 10.06               | QP            |
| 12 | 9.43            | 20.50                 | 50.00        | -29.50      | 10.44                | 10.06               | AV            |

Remark:

1. "\*" means this data is the worst emission level; "!" means this data is over limit.
2. Emission Level=Reading Level + Correct Factor(Correct Factor=LISN Factor+Cable Loss).
3. Margin=Limit -Emission Level.

### 3.6. Test Photograph

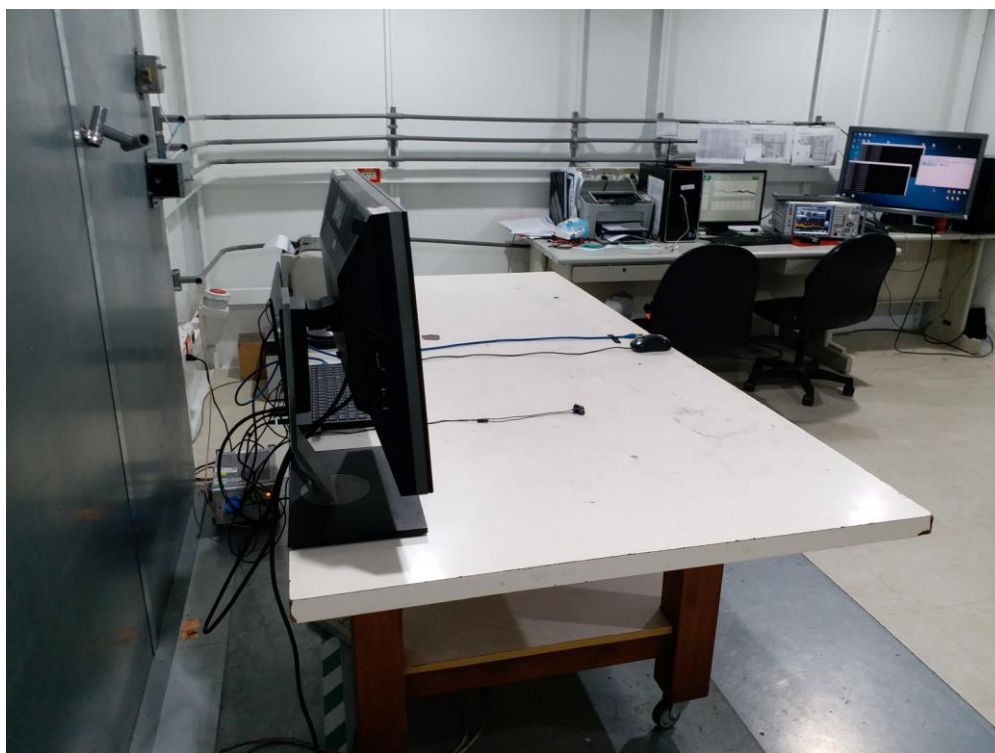
Test Mode : Mode 1: BT + USB Dongle + Battery

Description : Front View of Conducted Test



Test Mode : Mode 1: BT + USB Dongle + Battery

Description : Back View of Conducted Test



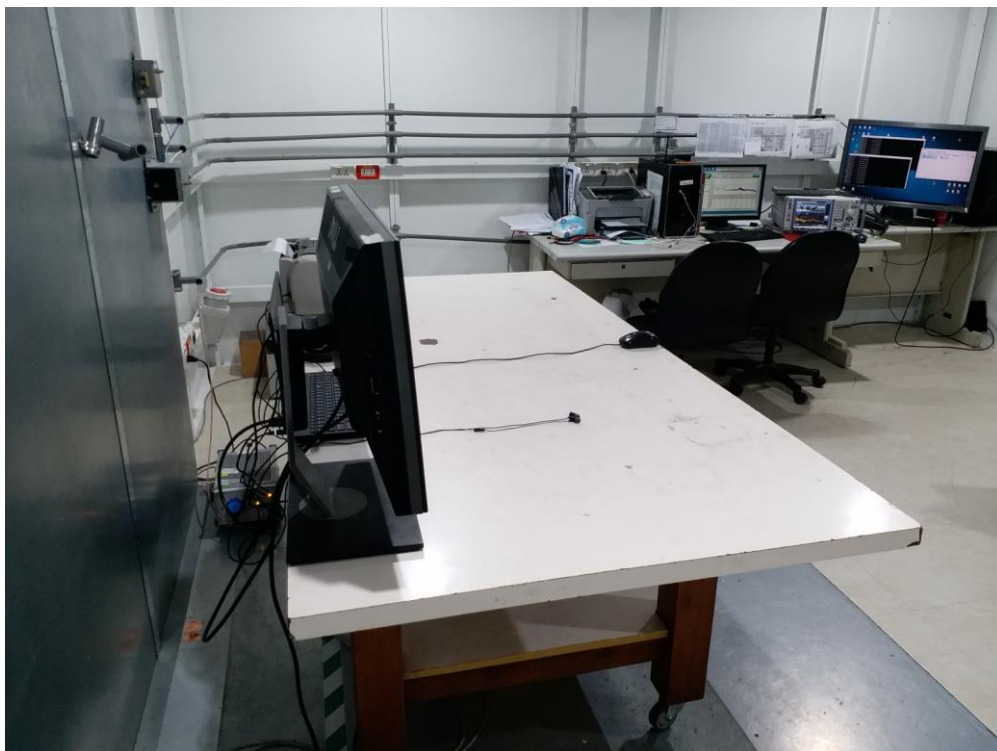
Test Mode : Mode 2: USB + Charge

Description : Front View of Conducted Test



Test Mode : Mode 2: USB + Charge

Description : Back View of Conducted Test



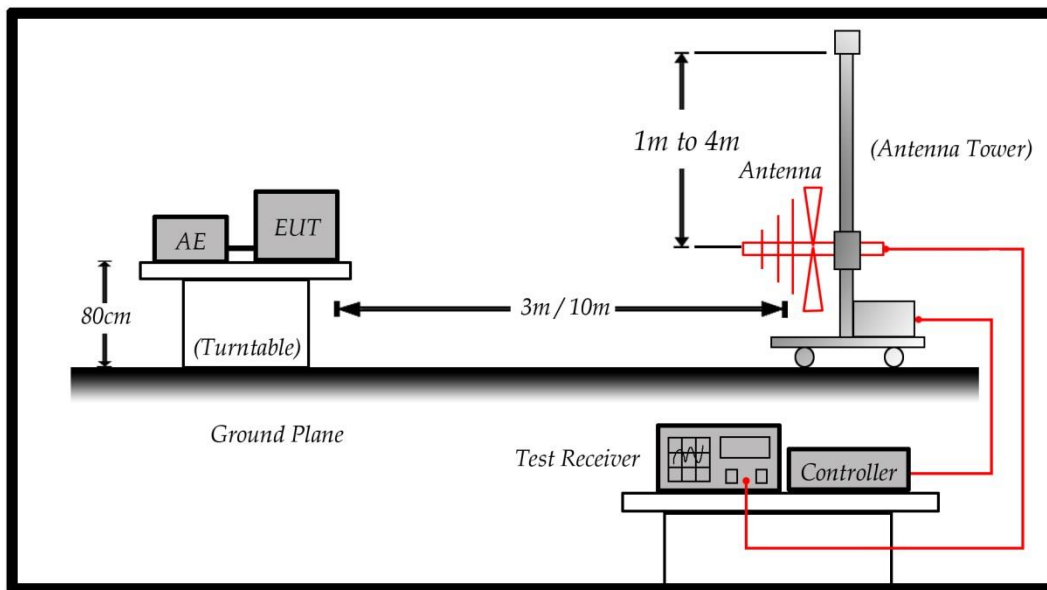
## 4. Radiated Emission

### 4.1. Test Specification

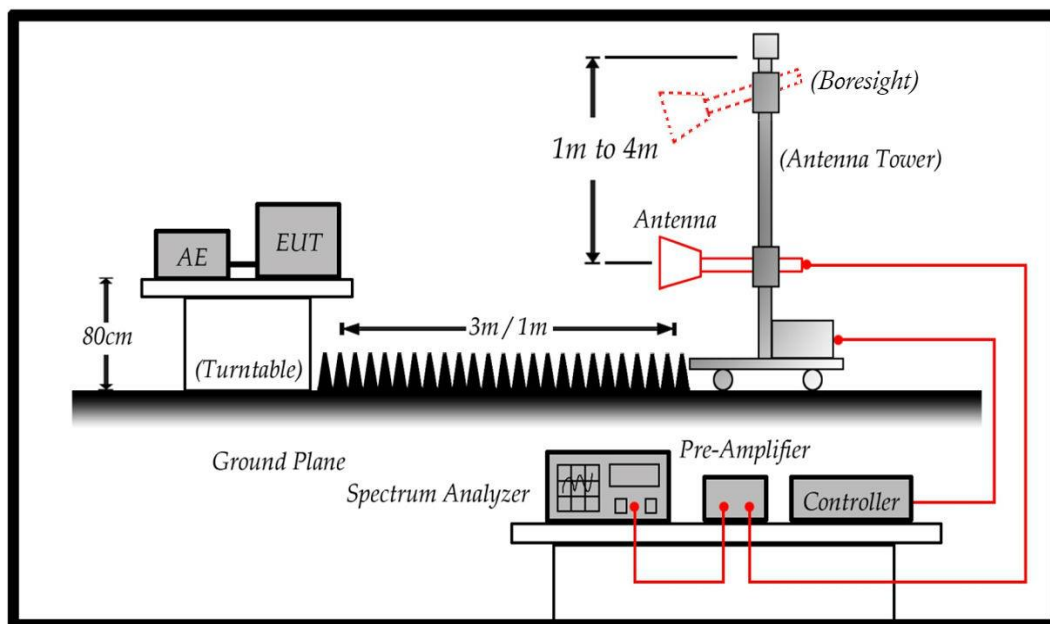
According to EMC Standard : FCC Part 15 Subpart B, ANSI C63.4

### 4.2. Test Setup

Under 1GHz Test Setup:



Above 1GHz Test Setup:



#### 4.3. Limit

Under 1GHz test shall not exceed the following value:

| Limits          |              |        |
|-----------------|--------------|--------|
| Frequency (MHz) | Distance (m) | dBuV/m |
| 30 – 230        | 10           | 30     |
| 230 – 1000      | 10           | 37     |

Remark:

1. The tighter limit shall apply at the edge between two frequency bands.
2. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

Above 1GHz test shall not exceed the following value:

| FCC Part 15 Subpart B Paragraph 15.109 Limits (dBuV/m) |              |        |
|--------------------------------------------------------|--------------|--------|
| Frequency (MHz)                                        | Distance (m) | dBuV/m |
| 30-88                                                  | 3            | 40     |
| 88-216                                                 | 3            | 43.5   |
| 216-960                                                | 3            | 46     |
| 960-18000                                              | 3            | 54     |
| Above 18000                                            | 1            | 63.54  |

Remark:

1. The tighter limit shall apply at the edge between two frequency bands.
2. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.
3. RF Voltage (dBuV/m) = 20 log RF Voltage (uV/m)

#### 4.4. Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground.

The turn table can rotate 360 degrees to determine the position of the maximum emission level and the antenna (boresight antenna tower) can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated on radiated measurement.

For 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 – 108                                                                                      | 1000                                                                            |
| 108 – 500                                                                                        | 2000                                                                            |
| 500 – 1000                                                                                       | 5000                                                                            |
| Above 1000                                                                                       | 5 <sup>th</sup> harmonic of the highest frequency or 40 GHz, whichever is lower |

On any frequency or frequencies below or equal to 1000 MHz, the radiated limits shown are based on measuring equipment employing a quasi-peak detector function and above 1000 MHz, the radiated limits shown are based measuring equipment employing an average detector function.

When average radiated emission measurement are included emission measurement Above 1000 MHz, there also is a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit.

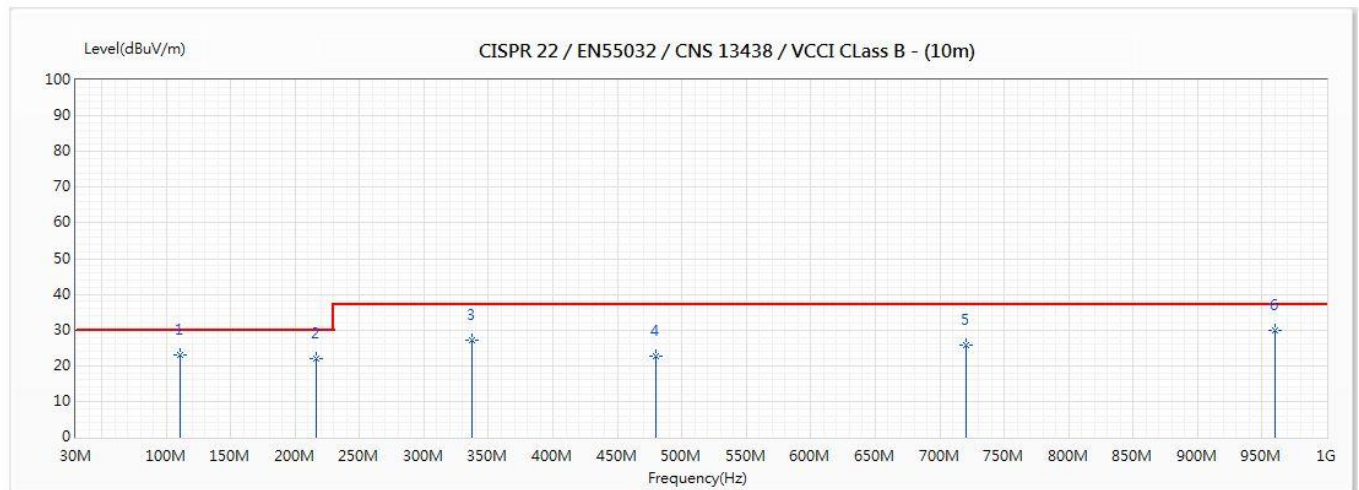
For class A, the measurement distance between the EUT and antenna is 10 meters for under 1GHz and above 1GHz.

For class B, the measurement distance between the EUT and antenna is 10 meters for under 1GHz and 3 meters for above 1GHz.

The bandwidth below 1GHz setting on the field strength meter (Test Receiver) is 120 kHz and above 1GHz is 1MHz.

#### 4.5. Test Result

|                          |                                                        |             |            |
|--------------------------|--------------------------------------------------------|-------------|------------|
| Site :                   | SITE4                                                  | Engineer :  | Don        |
| EUT                      | Bluetooth Speakerphone                                 | Test Date : | 2019/12/9  |
| Test Voltage :           | By Battery                                             | Polarity :  | Horizontal |
| Test Mode :              | Mode1                                                  |             |            |
| Environmental Condition: | Temperature (°C) : 20.1 ; Relative Humidity (%RH) : 66 |             |            |

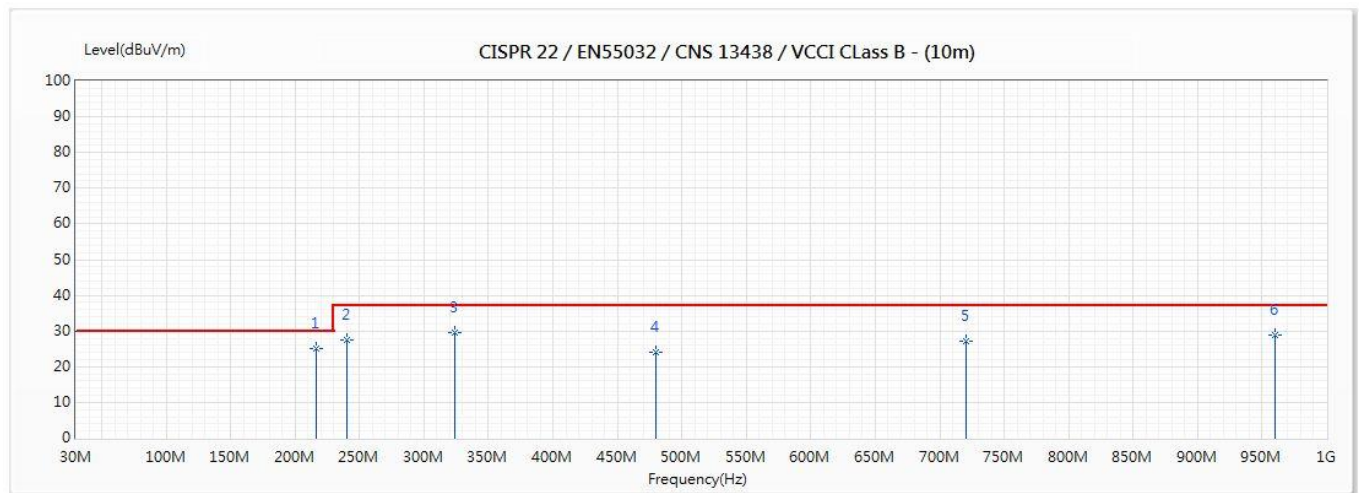


| No  | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Reading Level (dBuV) | Correct Factor (dB/m) | Ant Pos (cm) | TT Pos (deg) | Detector Type |
|-----|-----------------|-------------------------|----------------|-------------|----------------------|-----------------------|--------------|--------------|---------------|
| * 1 | 111             | 22.87                   | 30.00          | -7.13       | 36.31                | -13.44                | 380          | -81          | QP            |
| 2   | 216             | 21.92                   | 30.00          | -8.08       | 34.30                | -12.38                | 380          | 182          | QP            |
| 3   | 337.01          | 27.17                   | 37.00          | -9.83       | 34.31                | -7.14                 | 300          | 192          | QP            |
| 4   | 480             | 22.76                   | 37.00          | -14.24      | 25.60                | -2.84                 | 200          | 8            | QP            |
| 5   | 720             | 25.61                   | 37.00          | -11.39      | 22.20                | 3.41                  | 100          | 143          | QP            |
| 6   | 960             | 29.82                   | 37.00          | -7.18       | 21.30                | 8.52                  | 100          | -78          | QP            |

Remark:

1. "\*" means this data is the worst emission level; "!" means this data is over limit.
2. Emission Level=Reading Level + Correct Factor(Correct Factor=Ant Factor+Cable Loss-Pre Amp).
3. Margin=Limit -Emission Level.

|                          |                                                        |             |           |
|--------------------------|--------------------------------------------------------|-------------|-----------|
| Site :                   | SITE4                                                  | Engineer :  | Don       |
| EUT                      | Bluetooth Speakerphone                                 | Test Date : | 2019/12/9 |
| Test Voltage :           | By Battery                                             | Polarity :  | Vertical  |
| Test Mode :              | Mode1,                                                 |             |           |
| Environmental Condition: | Temperature (°C) : 20.1 ; Relative Humidity (%RH) : 66 |             |           |

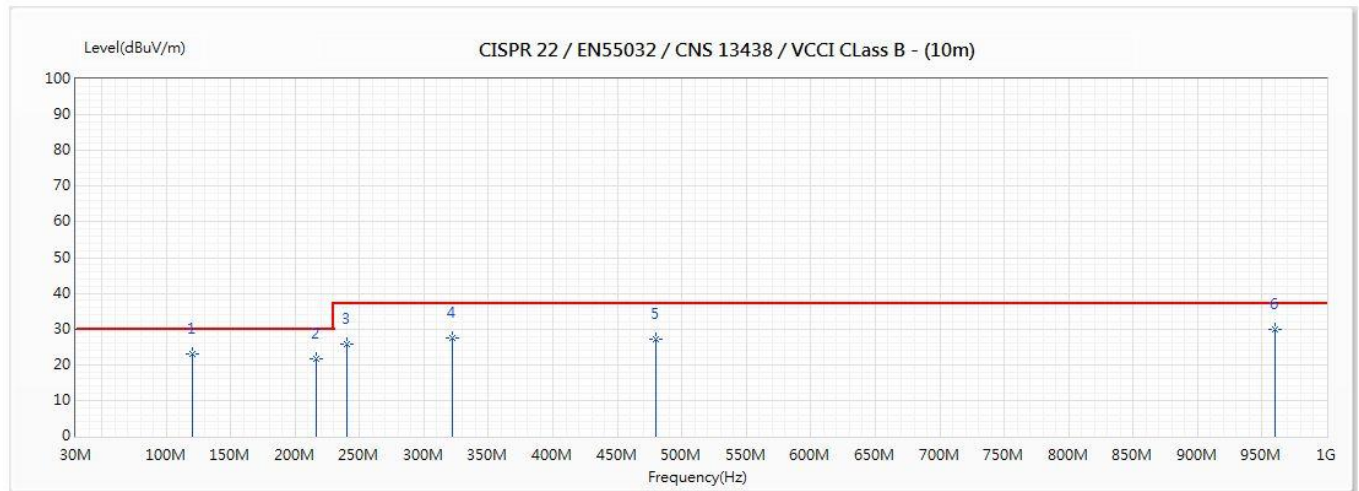


| No  | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Reading Level (dBuV) | Correct Factor (dB/m) | Ant Pos (cm) | TT Pos (deg) | Detector Type |
|-----|-----------------|-------------------------|----------------|-------------|----------------------|-----------------------|--------------|--------------|---------------|
| * 1 | 216             | 24.92                   | 30.00          | -5.08       | 37.30                | -12.38                | 100          | -73          | QP            |
| 2   | 240             | 27.63                   | 37.00          | -9.37       | 38.30                | -10.67                | 100          | 81           | QP            |
| 3   | 323.73          | 29.42                   | 37.00          | -7.58       | 37.00                | -7.58                 | 100          | -199         | QP            |
| 4   | 480             | 23.96                   | 37.00          | -13.04      | 26.80                | -2.84                 | 100          | -10          | QP            |
| 5   | 720             | 27.01                   | 37.00          | -9.99       | 23.60                | 3.41                  | 250          | -81          | QP            |
| 6   | 960             | 28.82                   | 37.00          | -8.18       | 20.30                | 8.52                  | 150          | 8            | QP            |

Remark:

1. "\*" means this data is the worst emission level; "!" means this data is over limit.
2. Emission Level=Reading Level + Correct Factor(Correct Factor=Ant Factor+Cable Loss-Pre Amp).
3. Margin=Limit -Emission Level.

|                          |                                                        |             |            |
|--------------------------|--------------------------------------------------------|-------------|------------|
| Site :                   | SITE4                                                  | Engineer :  | Don        |
| EUT                      | Bluetooth Speakerphone                                 | Test Date : | 2019/12/9  |
| Test Voltage :           | AC 120V/60Hz                                           | Polarity :  | Horizontal |
| Test Mode :              | Mode 2                                                 |             |            |
| Environmental Condition: | Temperature (°C) : 20.1 ; Relative Humidity (%RH) : 66 |             |            |

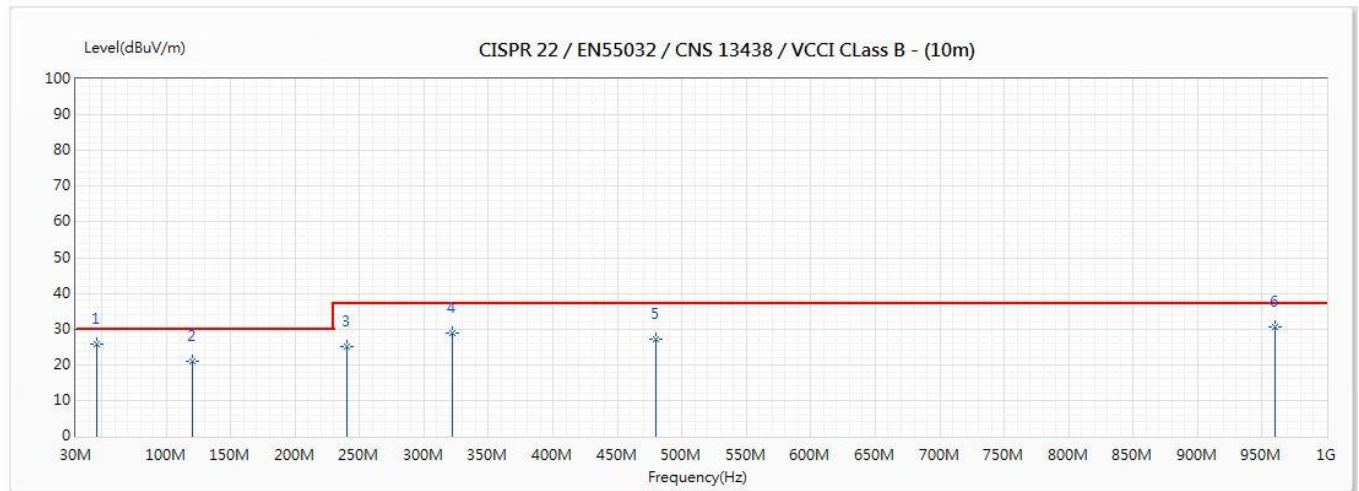


| No  | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Reading Level (dBuV) | Correct Factor (dB/m) | Ant Pos (cm) | TT Pos (deg) | Detector Type |
|-----|-----------------|-------------------------|----------------|-------------|----------------------|-----------------------|--------------|--------------|---------------|
| 1   | 120             | 22.92                   | 30.00          | -7.08       | 35.80                | -12.88                | 380          | -81          | QP            |
| 2   | 216             | 21.52                   | 30.00          | -8.48       | 33.90                | -12.38                | 380          | 118          | QP            |
| 3   | 240             | 25.63                   | 37.00          | -11.37      | 36.30                | -10.67                | 380          | 144          | QP            |
| 4   | 322             | 27.56                   | 37.00          | -9.44       | 35.20                | -7.64                 | 300          | 81           | QP            |
| 5   | 480             | 27.26                   | 37.00          | -9.74       | 30.10                | -2.84                 | 200          | -77          | QP            |
| * 6 | 960             | 30.02                   | 37.00          | -6.98       | 21.50                | 8.52                  | 100          | 92           | QP            |

Remark:

1. "\*" means this data is the worst emission level; "!" means this data is over limit.
2. Emission Level=Reading Level + Correct Factor(Correct Factor=Ant Factor+Cable Loss-Pre Amp).
3. Margin=Limit -Emission Level.

|                          |                                                        |             |           |
|--------------------------|--------------------------------------------------------|-------------|-----------|
| Site :                   | SITE4                                                  | Engineer :  | Don       |
| EUT                      | Bluetooth Speakerphone                                 | Test Date : | 2019/12/9 |
| Test Voltage :           | AC 120V/60Hz                                           | Polarity :  | Vertical  |
| Test Mode :              | Mode 2                                                 |             |           |
| Environmental Condition: | Temperature (°C) : 20.1 ; Relative Humidity (%RH) : 66 |             |           |

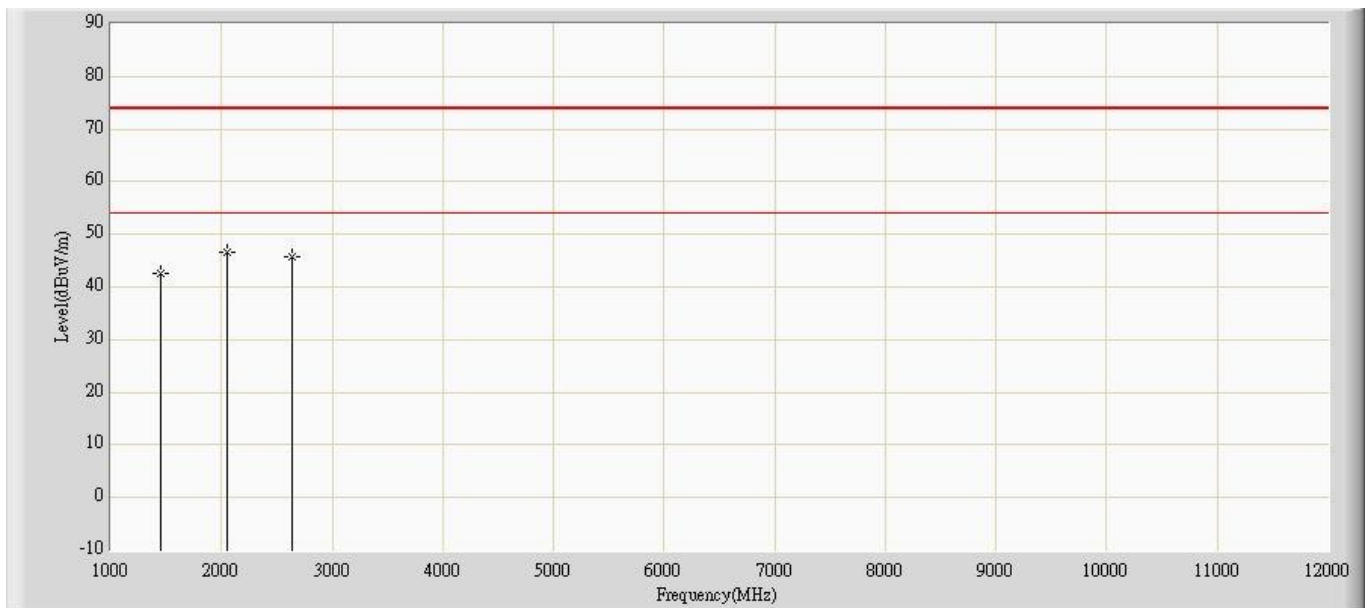


| No  | Frequency (MHz) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Reading Level (dBuV) | Correct Factor (dB/m) | Ant Pos (cm) | TT Pos (deg) | Detector Type |
|-----|-----------------|-------------------------|----------------|-------------|----------------------|-----------------------|--------------|--------------|---------------|
| * 1 | 46.2            | 25.68                   | 30.00          | -4.32       | 35.81                | -10.13                | 100          | 52           | QP            |
| 2   | 120             | 21.02                   | 30.00          | -8.98       | 33.90                | -12.88                | 100          | -40          | QP            |
| 3   | 240             | 25.03                   | 37.00          | -11.97      | 35.70                | -10.67                | 100          | 81           | QP            |
| 4   | 322.3           | 28.97                   | 37.00          | -8.03       | 36.60                | -7.63                 | 100          | -93          | QP            |
| 5   | 480             | 27.16                   | 37.00          | -9.84       | 30.00                | -2.84                 | 300          | 47           | QP            |
| 6   | 960             | 30.72                   | 37.00          | -6.28       | 22.20                | 8.52                  | 150          | 47           | QP            |

Remark:

1. "\*" means this data is the worst emission level; "!" means this data is over limit.
2. Emission Level=Reading Level + Correct Factor(Correct Factor=Ant Factor+Cable Loss-Pre Amp).
3. Margin=Limit -Emission Level.

|                             |                          |
|-----------------------------|--------------------------|
| Site: CB7                   | Time: 2019/12/06 - 23:38 |
| Limit: FCC_B_(Above_1G)     | Margin: 0                |
| Probe: CB7_Horn_3117_1908   | Polarity: Horizontal     |
| EUT: Bluetooth Speakerphone | Power: AC 120V/60Hz      |
| Note: 16.8°C ,77%RH, Mode 1 |                          |

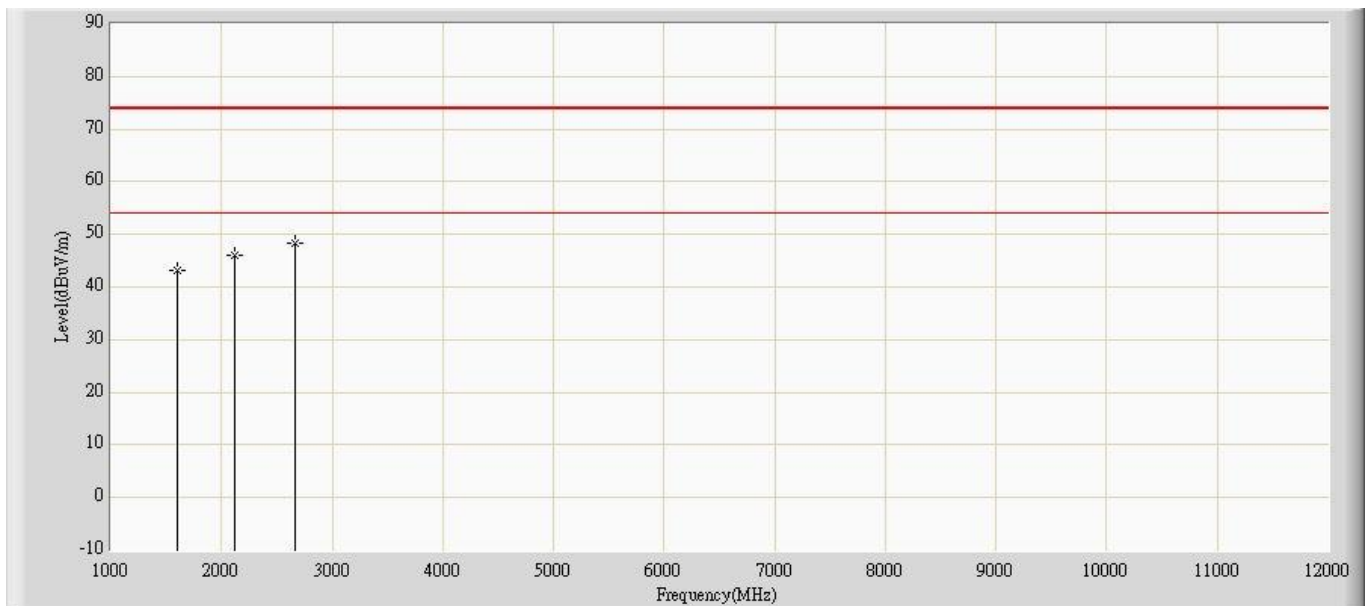


| No | Flag | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Factor  | Ant Pos (cm) | Table Pos (deg) | Type |
|----|------|------|-----------------|------------------------|----------------------|-----------------|----------------|---------|--------------|-----------------|------|
| 1  |      |      | 1450.000        | 42.634                 | 56.050               | -31.366         | 74.000         | -13.416 | 100          | 150             | PK   |
| 2  |      | *    | 2051.000        | 46.499                 | 55.600               | -27.501         | 74.000         | -9.102  | 100          | 10              | PK   |
| 3  |      |      | 2637.000        | 45.884                 | 53.050               | -28.116         | 74.000         | -7.166  | 100          | -50             | PK   |

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor (LISN factor + cable loss).

|                             |                          |
|-----------------------------|--------------------------|
| Site: CB7                   | Time: 2019/12/06 - 23:39 |
| Limit: FCC_B_(Above_1G)     | Margin: 0                |
| Probe: CB7_Horn_3117_1908   | Polarity: Vertical       |
| EUT: Bluetooth Speakerphone | Power: AC 120V/60Hz      |
| Note: 16.8°C ,77%RH, Mode 1 |                          |

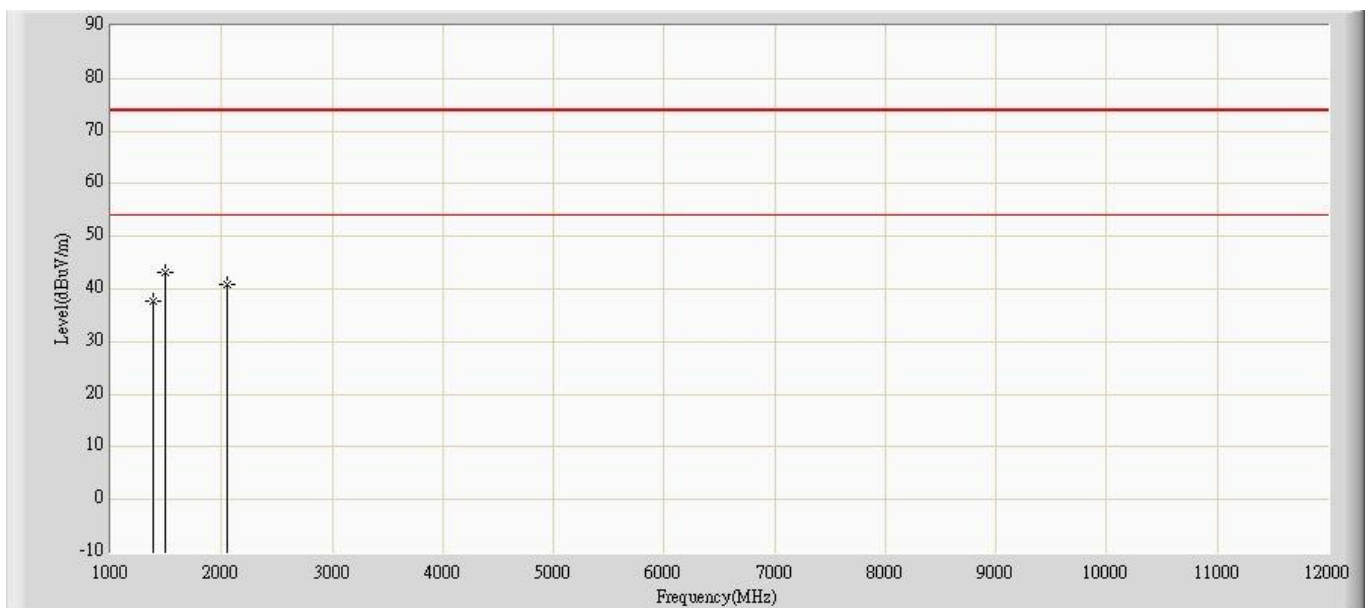


| No | Flag | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Factor  | Ant Pos (cm) | Table Pos (deg) | Type |
|----|------|------|-----------------|------------------------|----------------------|-----------------|----------------|---------|--------------|-----------------|------|
| 1  |      |      | 1595.000        | 43.081                 | 55.970               | -30.919         | 74.000         | -12.889 | 100          | 100             | PK   |
| 2  |      |      | 2125.000        | 46.162                 | 54.890               | -27.838         | 74.000         | -8.728  | 100          | 60              | PK   |
| 3  |      | *    | 2660.000        | 48.355                 | 55.390               | -25.645         | 74.000         | -7.035  | 100          | 30              | PK   |

## Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor (LISN factor + cable loss).

|                             |                          |
|-----------------------------|--------------------------|
| Site: CB7                   | Time: 2019/12/06 - 23:42 |
| Limit: FCC_B_(Above_1G)     | Margin: 0                |
| Probe: CB7_Horn_3117_1908   | Polarity: Horizontal     |
| EUT: Bluetooth Speakerphone | Power: AC 120V/60Hz      |
| Note: 16.8°C ,77%RH, Mode 2 |                          |

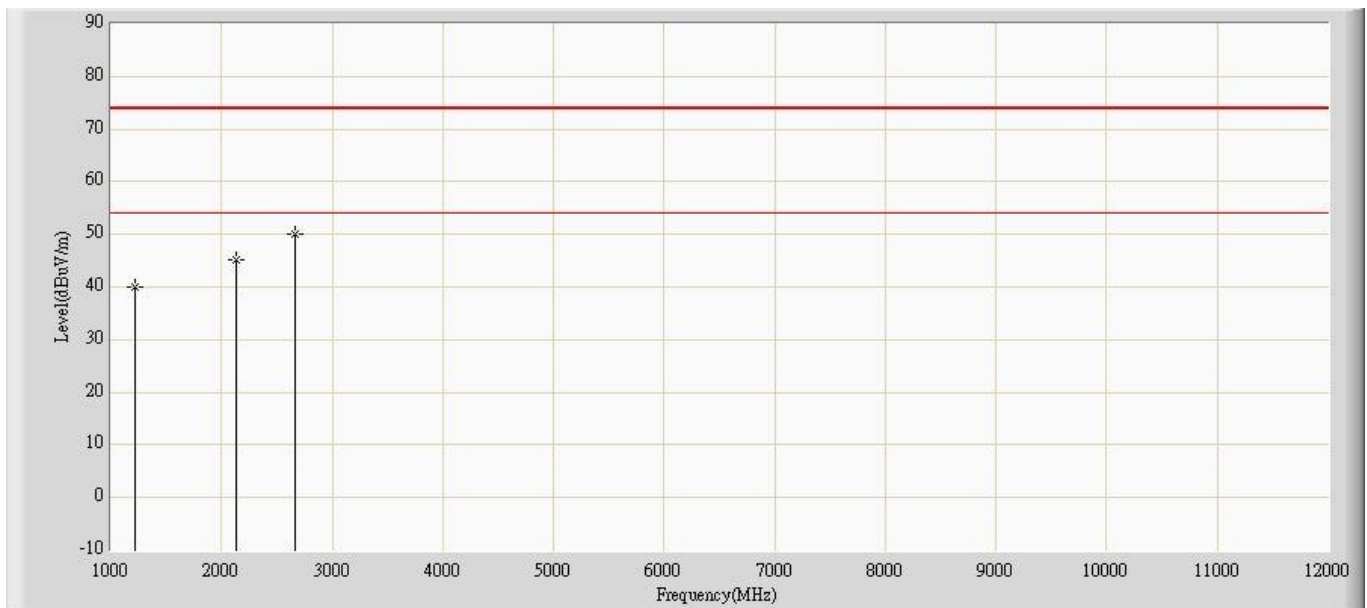


| No | Flag | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Factor  | Ant Pos (cm) | Table Pos (deg) | Type |
|----|------|------|-----------------|------------------------|----------------------|-----------------|----------------|---------|--------------|-----------------|------|
| 1  |      |      | 1379.000        | 37.594                 | 50.890               | -36.406         | 74.000         | -13.296 | 100          | 80              | PK   |
| 2  |      | *    | 1497.000        | 43.120                 | 56.780               | -30.880         | 74.000         | -13.660 | 100          | 10              | PK   |
| 3  |      |      | 2045.000        | 40.768                 | 49.890               | -33.232         | 74.000         | -9.122  | 100          | 100             | PK   |

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor (LISN factor + cable loss).

|                             |                          |
|-----------------------------|--------------------------|
| Site: CB7                   | Time: 2019/12/06 - 23:43 |
| Limit: FCC_B_(Above_1G)     | Margin: 0                |
| Probe: CB7_Horn_3117_1908   | Polarity: Vertical       |
| EUT: Bluetooth Speakerphone | Power: AC 120V/60Hz      |
| Note: 16.8°C ,77%RH, Mode 2 |                          |



| No | Flag | Mark | Frequency (MHz) | Measure Level (dBuV/m) | Reading Level (dBuV) | Over Limit (dB) | Limit (dBuV/m) | Factor  | Ant Pos (cm) | Table Pos (deg) | Type |
|----|------|------|-----------------|------------------------|----------------------|-----------------|----------------|---------|--------------|-----------------|------|
| 1  |      |      | 1219.000        | 40.122                 | 53.560               | -33.878         | 74.000         | -13.438 | 100          | 50              | PK   |
| 2  |      |      | 2134.000        | 45.171                 | 53.900               | -28.829         | 74.000         | -8.728  | 100          | 70              | PK   |
| 3  |      | *    | 2670.000        | 49.925                 | 56.890               | -24.075         | 74.000         | -6.965  | 100          | 100             | PK   |

## Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " \* ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor (LISN factor + cable loss).

#### 4.6. Test Photograph

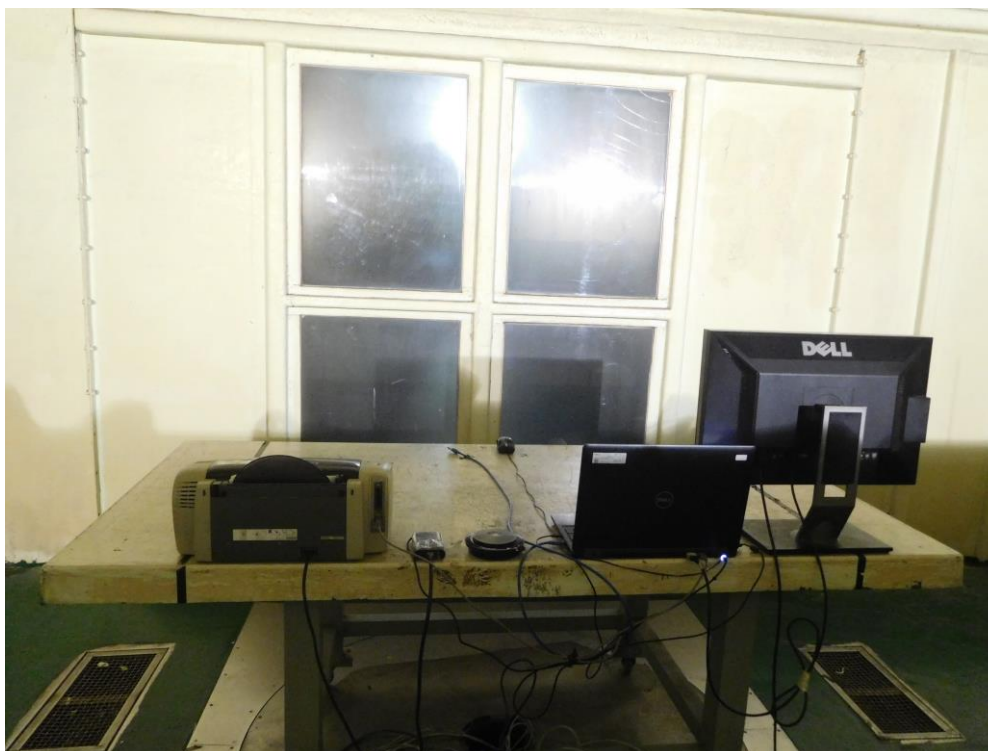
Test Mode : Mode 1: BT + USB Dongle + Battery

Description : Front View of Radiated Test



Test Mode : Mode 1: BT + USB Dongle + Battery

Description : Back View of Radiated Test



Test Mode : Mode 1: BT + USB Dongle + Battery

Description : Front View of High Frequency Radiated Test



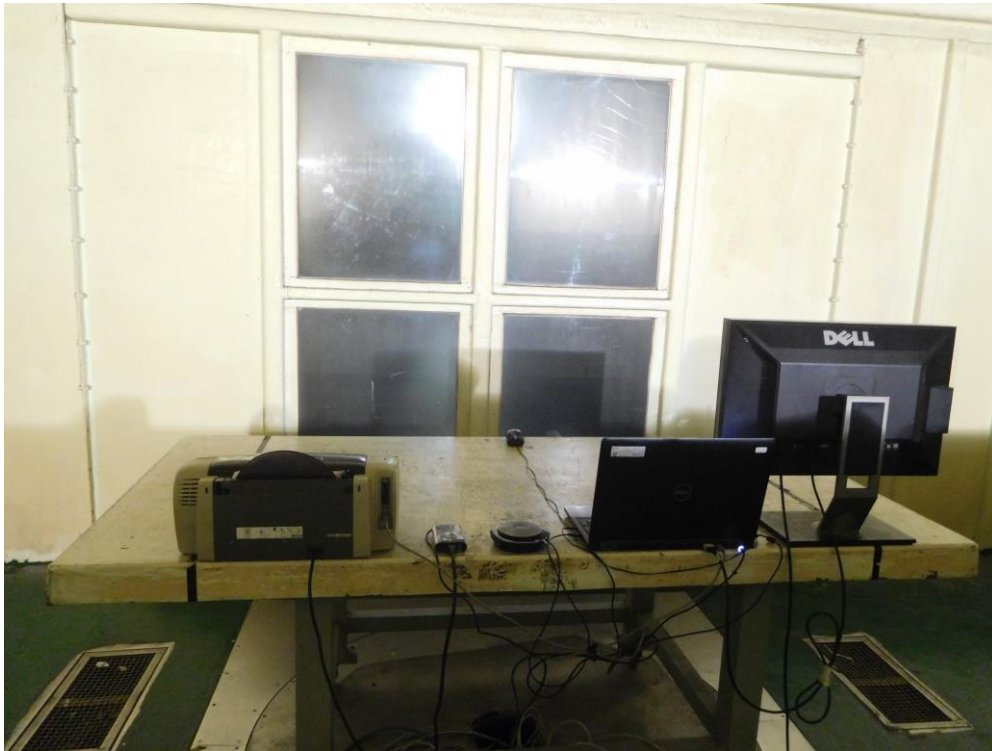
Test Mode : Mode 2: USB + Charge

Description : Front View of Radiated Test



Test Mode : Mode 2: USB + Charge

Description : Back View of Radiated Test



Test Mode : Mode 2: USB + Charge

Description : Front View of High Frequency Radiated Test



## 5. Attachment

### ➤ EUT Photograph

(1) EUT Photo



(2) EUT Photo



(3) EUT Photo\_ USB Dongle



(4) EUT Photo

