



# Maximum Permissible Exposure Evaluation

**FCC ID: 2A233-AM02**

## 1. Client Information

|                     |   |                                                                                                                                    |
|---------------------|---|------------------------------------------------------------------------------------------------------------------------------------|
| <b>Applicant</b>    | : | Shenzhen Konk Technology Co., Ltd                                                                                                  |
| <b>Address</b>      | : | Room 215, Building 22, Maker Town, No. 4109, Liuxian Avenue, Pingshan Community, Taoyuan Street, Nanshan District, Shenzhen, China |
| <b>Manufacturer</b> | : | Shenzhen Konk Technology Co., Ltd                                                                                                  |
| <b>Address</b>      | : | Room 215, Building 22, Maker Town, No. 4109, Liuxian Avenue, Pingshan Community, Taoyuan Street, Nanshan District, Shenzhen, China |

## 2. General Description of EUT

|                               |   |                                                                                                                                                                                                                                                              |
|-------------------------------|---|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>EUT Name</b>               | : | Retro Mini PC                                                                                                                                                                                                                                                |
| <b>Models No.</b>             | : | AYANEO Retro Mini PC AM02                                                                                                                                                                                                                                    |
| <b>Model Difference</b>       | : | ----                                                                                                                                                                                                                                                         |
| <b>Sample ID</b>              | : | HC-C-202311-0249-01-02-1#&HC-C-202311-0249-01-02-2#                                                                                                                                                                                                          |
| <b>Product Description</b>    | : | Operation Frequency:<br>Bluetooth 5.2: 2402MHz~2480MHz<br>802.11b/g/n(HT20): 2412MHz~2462MHz<br>802.11ax(HE20): 2412MHz~2462MHz<br>802.11n(HT40): 2422MHz~2452MHz<br>802.11ax(HE40): 2422MHz~2452MHz<br>U-NII-1: 5180MHz~5240MHz<br>U-NII-3: 5745MHz~5825MHz |
| <b>Power Rating</b>           | : | Adapter (Model: J652-1206000IX)<br>Input: 100-240V~ 50/60Hz, 1.7A<br>Output: 20.0V~5.0A, 100.0W                                                                                                                                                              |
| <b>Software Version</b>       | : | ----                                                                                                                                                                                                                                                         |
| <b>Hardware Version</b>       | : | ----                                                                                                                                                                                                                                                         |
| <b>Connecting I/O Port(S)</b> | : | Please refer to the User's Manual                                                                                                                                                                                                                            |
| <b>Remark</b>                 | : | the MPE report used the EUT-2(HC-C-202311-0249-01-02-2#).                                                                                                                                                                                                    |

## MPE Calculations

### 1. Antenna Gain:

| Antenna   | Brand | Model Name | Type | Antenna Gain(dBi) |       |
|-----------|-------|------------|------|-------------------|-------|
|           |       |            |      | Ant.1             | Ant.2 |
| Bluetooth | N/A   | N/A        | FPC  | 1.11              | /     |
| 2.4G WIFI | N/A   | N/A        | FPC  | 1.11              | 0.42  |
| U-NII-1   | N/A   | N/A        | FPC  | 0.08              | -0.26 |
| U-NII-3   | N/A   | N/A        | FPC  | 0.8               | -0.18 |

### 2. EUT Operation Condition:

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

### 3. Exposure Evaluation:

Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S=(PG)/4\pi R^2$$

Where

**S:** power density

**P:** power input to the antenna

**G:** power gain of the antenna in the direction of interest relative to an isotropic radiator.

**R:** distance to the center of radiation of the antenna

### 4. Simultaneous transmission MPE Considerations

According to KDB447498: All transmitters and antennas in the host must be either evaluated for MPE compliance, by measurement or computational modeling, or qualify for the standalone MPE test exclusion in section 7.1. Simultaneous transmission MPE test exclusion applies when the sum of the MPE ratios for all simultaneous transmitting antennas incorporated in a host device, based on the calculated/estimated, numerically modeled or measured field strengths or power density, is  $\leq 1.0$ .

This means that:

$$\sum \text{ of MPE ratios } \leq 1.0$$



## 5. Standalone MPE Evaluation:

| Bluetooth(BR+EDR) Worst Maximum MPE Result |                 |             |                            |                    |                             |                    |                   |                                         |
|--------------------------------------------|-----------------|-------------|----------------------------|--------------------|-----------------------------|--------------------|-------------------|-----------------------------------------|
| Mode                                       | N <sub>TX</sub> | Freq. (MHz) | Conducted Power(max) (dBm) | Turn-up Power (dB) | Max tune up power (dBm) [P] | ANT Gain (dBi) [G] | Distance (cm) [R] | Power Density (mW/cm <sup>2</sup> ) [S] |
| GFSK                                       | 1               | 2402        | 4.00                       | 4±1                | 5                           | 1.11               | 20                | 0.00081                                 |
|                                            |                 | 2441        | 4.26                       | 4±1                | 5                           | 1.11               | 20                | 0.00081                                 |
|                                            |                 | 2480        | 3.69                       | 3±1                | 4                           | 1.11               | 20                | 0.00064                                 |
| π/4-DQPSK                                  | 1               | 2402        | 5.79                       | 5±1                | 6                           | 1.11               | 20                | 0.00102                                 |
|                                            |                 | 2441        | 6.09                       | 6±1                | 7                           | 1.11               | 20                | 0.00128                                 |
|                                            |                 | 2480        | 5.58                       | 5±1                | 6                           | 1.11               | 20                | 0.00102                                 |
| 8-DPSK                                     | 1               | 2402        | 5.98                       | 5±1                | 6                           | 1.11               | 20                | 0.00102                                 |
|                                            |                 | 2441        | 6.17                       | 6±1                | 7                           | 1.11               | 20                | 0.00128                                 |
|                                            |                 | 2480        | 5.59                       | 5±1                | 6                           | 1.11               | 20                | 0.00102                                 |

Note:

N<sub>TX</sub>= Number of Transmit Antennas

RF Output power specifies that Maximum Conducted Peak Output Power.

| Bluetooth LE Worst Maximum MPE Result |                 |             |                            |                    |                             |                    |                   |                                         |
|---------------------------------------|-----------------|-------------|----------------------------|--------------------|-----------------------------|--------------------|-------------------|-----------------------------------------|
| Mode                                  | N <sub>TX</sub> | Freq. (MHz) | Conducted Power(max) (dBm) | Turn-up Power (dB) | Max tune up power (dBm) [P] | ANT Gain (dBi) [G] | Distance (cm) [R] | Power Density (mW/cm <sup>2</sup> ) [S] |
| GFSK-1M                               | 1               | 2402        | 5.21                       | 5±1                | 6                           | 1.11               | 20                | 0.00102                                 |
|                                       |                 | 2440        | 5.37                       | 5±1                | 6                           | 1.11               | 20                | 0.00102                                 |
|                                       |                 | 2480        | 4.85                       | 4±1                | 5                           | 1.11               | 20                | 0.00081                                 |
| GFSK-2M                               | 1               | 2402        | 5.17                       | 5±1                | 6                           | 1.11               | 20                | 0.00102                                 |
|                                       |                 | 2440        | 5.39                       | 5±1                | 6                           | 1.11               | 20                | 0.00102                                 |
|                                       |                 | 2480        | 4.84                       | 4±1                | 5                           | 1.11               | 20                | 0.00081                                 |

Note:

N<sub>TX</sub>= Number of Transmit Antennas

RF Output power specifies that Maximum Conducted Peak Output Power.



| 2.4G WiFi Worst Maximum MPE Result Ant.1                                                                                      |                 |                |                                  |                          |                                      |                          |                         |                                                  |
|-------------------------------------------------------------------------------------------------------------------------------|-----------------|----------------|----------------------------------|--------------------------|--------------------------------------|--------------------------|-------------------------|--------------------------------------------------|
| Mode                                                                                                                          | N <sub>TX</sub> | Freq.<br>(MHz) | Conducted<br>Power(max)<br>(dBm) | Turn-up<br>Power<br>(dB) | Max tune up<br>power<br>(dBm)<br>[P] | ANT Gain<br>(dBi)<br>[G] | Distance<br>(cm)<br>[R] | Power<br>Density<br>(mW/cm <sup>2</sup> )<br>[S] |
| 802.11b                                                                                                                       | 1               | 2412           | 16.01                            | 16±1                     | 17                                   | 1.11                     | 20                      | 0.01287                                          |
|                                                                                                                               |                 | 2437           | 16.10                            | 16±1                     | 17                                   | 1.11                     | 20                      | 0.01287                                          |
|                                                                                                                               |                 | 2462           | 16.05                            | 16±1                     | 17                                   | 1.11                     | 20                      | 0.01287                                          |
| 802.11g                                                                                                                       | 1               | 2412           | 15.81                            | 15±1                     | 16                                   | 1.11                     | 20                      | 0.01022                                          |
|                                                                                                                               |                 | 2437           | 15.91                            | 15±1                     | 16                                   | 1.11                     | 20                      | 0.01022                                          |
|                                                                                                                               |                 | 2462           | 15.93                            | 15±1                     | 16                                   | 1.11                     | 20                      | 0.01022                                          |
| 802.11n20                                                                                                                     | 1               | 2412           | 14.80                            | 14±1                     | 15                                   | 1.11                     | 20                      | 0.00812                                          |
|                                                                                                                               |                 | 2437           | 14.94                            | 14±1                     | 15                                   | 1.11                     | 20                      | 0.00812                                          |
|                                                                                                                               |                 | 2462           | 14.85                            | 14±1                     | 15                                   | 1.11                     | 20                      | 0.00812                                          |
| 802.11n40                                                                                                                     | 1               | 2422           | 15.41                            | 15±1                     | 16                                   | 1.11                     | 20                      | 0.01022                                          |
|                                                                                                                               |                 | 2437           | 15.42                            | 15±1                     | 16                                   | 1.11                     | 20                      | 0.01022                                          |
|                                                                                                                               |                 | 2452           | 15.37                            | 15±1                     | 16                                   | 1.11                     | 20                      | 0.01022                                          |
| 802.11ax20                                                                                                                    | 1               | 2412           | 14.10                            | 14±1                     | 15                                   | 1.11                     | 20                      | 0.00812                                          |
|                                                                                                                               |                 | 2437           | 14.08                            | 14±1                     | 15                                   | 1.11                     | 20                      | 0.00812                                          |
|                                                                                                                               |                 | 2462           | 14.06                            | 14±1                     | 15                                   | 1.11                     | 20                      | 0.00812                                          |
| 802.11ax40                                                                                                                    | 1               | 2422           | 14.26                            | 14±1                     | 15                                   | 1.11                     | 20                      | 0.00812                                          |
|                                                                                                                               |                 | 2437           | 14.28                            | 14±1                     | 15                                   | 1.11                     | 20                      | 0.00812                                          |
|                                                                                                                               |                 | 2452           | 14.37                            | 14±1                     | 15                                   | 1.11                     | 20                      | 0.00812                                          |
| Note:<br>N <sub>TX</sub> = Number of Transmit Antennas<br>RF Output power specifies that Maximum Conducted Peak Output Power. |                 |                |                                  |                          |                                      |                          |                         |                                                  |



| 2.4G WiFi Worst Maximum MPE Result Ant.2                                                                                      |                 |                |                                  |                          |                                      |                          |                         |                                                  |
|-------------------------------------------------------------------------------------------------------------------------------|-----------------|----------------|----------------------------------|--------------------------|--------------------------------------|--------------------------|-------------------------|--------------------------------------------------|
| Mode                                                                                                                          | N <sub>TX</sub> | Freq.<br>(MHz) | Conducted<br>Power(max)<br>(dBm) | Turn-up<br>Power<br>(dB) | Max tune up<br>power<br>(dBm)<br>[P] | ANT Gain<br>(dBi)<br>[G] | Distance<br>(cm)<br>[R] | Power<br>Density<br>(mW/cm <sup>2</sup> )<br>[S] |
| 802.11b                                                                                                                       | 1               | 2412           | 16.55                            | 16±1                     | 17                                   | 0.42                     | 20                      | 0.01098                                          |
|                                                                                                                               |                 | 2437           | 16.69                            | 16±1                     | 17                                   | 0.42                     | 20                      | 0.01098                                          |
|                                                                                                                               |                 | 2462           | 16.64                            | 16±1                     | 17                                   | 0.42                     | 20                      | 0.01098                                          |
| 802.11g                                                                                                                       | 1               | 2412           | 15.94                            | 15±1                     | 16                                   | 0.42                     | 20                      | 0.00872                                          |
|                                                                                                                               |                 | 2437           | 16.35                            | 16±1                     | 17                                   | 0.42                     | 20                      | 0.01098                                          |
|                                                                                                                               |                 | 2462           | 16.46                            | 16±1                     | 17                                   | 0.42                     | 20                      | 0.01098                                          |
| 802.11n20                                                                                                                     | 1               | 2412           | 14.01                            | 14±1                     | 15                                   | 0.42                     | 20                      | 0.00693                                          |
|                                                                                                                               |                 | 2437           | 15.18                            | 15±1                     | 16                                   | 0.42                     | 20                      | 0.00872                                          |
|                                                                                                                               |                 | 2462           | 15.43                            | 15±1                     | 16                                   | 0.42                     | 20                      | 0.00872                                          |
| 802.11n40                                                                                                                     | 1               | 2422           | 15.97                            | 15±1                     | 16                                   | 0.42                     | 20                      | 0.00872                                          |
|                                                                                                                               |                 | 2437           | 16.02                            | 16±1                     | 17                                   | 0.42                     | 20                      | 0.01098                                          |
|                                                                                                                               |                 | 2452           | 16.07                            | 16±1                     | 17                                   | 0.42                     | 20                      | 0.01098                                          |
| 802.11ax20                                                                                                                    | 1               | 2412           | 14.12                            | 14±1                     | 15                                   | 0.42                     | 20                      | 0.00693                                          |
|                                                                                                                               |                 | 2437           | 14.56                            | 14±1                     | 15                                   | 0.42                     | 20                      | 0.00693                                          |
|                                                                                                                               |                 | 2462           | 14.88                            | 14±1                     | 15                                   | 0.42                     | 20                      | 0.00693                                          |
| 802.11ax40                                                                                                                    | 1               | 2422           | 15.03                            | 15±1                     | 16                                   | 0.42                     | 20                      | 0.00872                                          |
|                                                                                                                               |                 | 2437           | 15.12                            | 15±1                     | 16                                   | 0.42                     | 20                      | 0.00872                                          |
|                                                                                                                               |                 | 2452           | 15.27                            | 15±1                     | 16                                   | 0.42                     | 20                      | 0.00872                                          |
| Note:<br>N <sub>TX</sub> = Number of Transmit Antennas<br>RF Output power specifies that Maximum Conducted Peak Output Power. |                 |                |                                  |                          |                                      |                          |                         |                                                  |



| 5.2G WiFi Worst Maximum MPE Result Ant.1                                                                                             |                 |             |                            |                    |                             |                    |                   |                                         |
|--------------------------------------------------------------------------------------------------------------------------------------|-----------------|-------------|----------------------------|--------------------|-----------------------------|--------------------|-------------------|-----------------------------------------|
| Mode                                                                                                                                 | N <sub>TX</sub> | Freq. (MHz) | Conducted Power(max) (dBm) | Turn-up Power (dB) | Max tune up power (dBm) [P] | ANT Gain (dBi) [G] | Distance (cm) [R] | Power Density (mW/cm <sup>2</sup> ) [S] |
| 802.11a                                                                                                                              | 1               | 5180        | 16.80                      | 16±1               | 17                          | 0.08               | 20                | 0.01015                                 |
|                                                                                                                                      |                 | 5200        | 16.86                      | 16±1               | 17                          | 0.08               | 20                | 0.01015                                 |
|                                                                                                                                      |                 | 5240        | 14.99                      | 14±1               | 15                          | 0.08               | 20                | 0.00640                                 |
| 802.11n20                                                                                                                            | 1               | 5180        | 12.77                      | 12±1               | 13                          | 0.08               | 20                | 0.00404                                 |
|                                                                                                                                      |                 | 5200        | 12.86                      | 12±1               | 13                          | 0.08               | 20                | 0.00404                                 |
|                                                                                                                                      |                 | 5240        | 13.01                      | 13±1               | 14                          | 0.08               | 20                | 0.00509                                 |
| 802.11n40                                                                                                                            | 1               | 5190        | 10.70                      | 10±1               | 11                          | 0.08               | 20                | 0.00255                                 |
|                                                                                                                                      |                 | 5230        | 10.93                      | 10±1               | 11                          | 0.08               | 20                | 0.00255                                 |
| 802.11ac20                                                                                                                           | 1               | 5180        | 10.21                      | 10±1               | 11                          | 0.08               | 20                | 0.00255                                 |
|                                                                                                                                      |                 | 5200        | 10.52                      | 10±1               | 11                          | 0.08               | 20                | 0.00255                                 |
|                                                                                                                                      |                 | 5240        | 10.59                      | 10±1               | 11                          | 0.08               | 20                | 0.00255                                 |
| 802.11ac40                                                                                                                           | 1               | 5190        | 10.47                      | 10±1               | 11                          | 0.08               | 20                | 0.00255                                 |
|                                                                                                                                      |                 | 5230        | 10.78                      | 10±1               | 11                          | 0.08               | 20                | 0.00255                                 |
| 802.11ac80                                                                                                                           | 1               | 5210        | 10.19                      | 10±1               | 11                          | 0.08               | 20                | 0.00255                                 |
| 802.11ax20                                                                                                                           | 1               | 5180        | 11.13                      | 11±1               | 12                          | 0.08               | 20                | 0.00321                                 |
|                                                                                                                                      |                 | 5200        | 11.27                      | 11±1               | 12                          | 0.08               | 20                | 0.00321                                 |
|                                                                                                                                      |                 | 5240        | 11.54                      | 11±1               | 12                          | 0.08               | 20                | 0.00321                                 |
| 802.11ax40                                                                                                                           | 1               | 5190        | 9.75                       | 9±1                | 10                          | 0.08               | 20                | 0.00202                                 |
|                                                                                                                                      |                 | 5230        | 9.78                       | 9±1                | 10                          | 0.08               | 20                | 0.00202                                 |
| 802.11ax80                                                                                                                           | 1               | 5210        | 9.85                       | 9±1                | 10                          | 0.08               | 20                | 0.00202                                 |
| <b>Note:</b><br>N <sub>TX</sub> = Number of Transmit Antennas<br>RF Output power specifies that Maximum Conducted Peak Output Power. |                 |             |                            |                    |                             |                    |                   |                                         |



| 5.2G WiFi Worst Maximum MPE Result Ant.2                                                                                             |                 |             |                            |                    |                             |                    |                   |                                         |
|--------------------------------------------------------------------------------------------------------------------------------------|-----------------|-------------|----------------------------|--------------------|-----------------------------|--------------------|-------------------|-----------------------------------------|
| Mode                                                                                                                                 | N <sub>TX</sub> | Freq. (MHz) | Conducted Power(max) (dBm) | Turn-up Power (dB) | Max tune up power (dBm) [P] | ANT Gain (dBi) [G] | Distance (cm) [R] | Power Density (mW/cm <sup>2</sup> ) [S] |
| 802.11a                                                                                                                              | 1               | 5180        | 17.01                      | 17±1               | 18                          | -0.26              | 20                | 0.01182                                 |
|                                                                                                                                      |                 | 5200        | 17.34                      | 17±1               | 18                          | -0.26              | 20                | 0.01182                                 |
|                                                                                                                                      |                 | 5240        | 15.36                      | 15±1               | 16                          | -0.26              | 20                | 0.00746                                 |
| 802.11n20                                                                                                                            | 1               | 5180        | 13.29                      | 13±1               | 14                          | -0.26              | 20                | 0.00470                                 |
|                                                                                                                                      |                 | 5200        | 13.47                      | 13±1               | 14                          | -0.26              | 20                | 0.00470                                 |
|                                                                                                                                      |                 | 5240        | 13.49                      | 13±1               | 14                          | -0.26              | 20                | 0.00470                                 |
| 802.11n40                                                                                                                            | 1               | 5190        | 12.34                      | 12±1               | 13                          | -0.26              | 20                | 0.00373                                 |
|                                                                                                                                      |                 | 5230        | 12.61                      | 12±1               | 13                          | -0.26              | 20                | 0.00373                                 |
| 802.11ac20                                                                                                                           | 1               | 5180        | 12.24                      | 12±1               | 13                          | -0.26              | 20                | 0.00373                                 |
|                                                                                                                                      |                 | 5200        | 12.14                      | 12±1               | 13                          | -0.26              | 20                | 0.00373                                 |
|                                                                                                                                      |                 | 5240        | 12.23                      | 12±1               | 13                          | -0.26              | 20                | 0.00373                                 |
| 802.11ac40                                                                                                                           | 1               | 5190        | 12.39                      | 12±1               | 13                          | -0.26              | 20                | 0.00373                                 |
|                                                                                                                                      |                 | 5230        | 12.56                      | 12±1               | 13                          | -0.26              | 20                | 0.00373                                 |
| 802.11ac80                                                                                                                           | 1               | 5210        | 10.76                      | 10±1               | 11                          | -0.26              | 20                | 0.00235                                 |
| 802.11ax20                                                                                                                           | 1               | 5180        | 11.67                      | 11±1               | 12                          | -0.26              | 20                | 0.00296                                 |
|                                                                                                                                      |                 | 5200        | 11.73                      | 11±1               | 12                          | -0.26              | 20                | 0.00296                                 |
|                                                                                                                                      |                 | 5240        | 11.92                      | 11±1               | 12                          | -0.26              | 20                | 0.00296                                 |
| 802.11ax40                                                                                                                           | 1               | 5190        | 9.97                       | 9±1                | 10                          | -0.26              | 20                | 0.00187                                 |
|                                                                                                                                      |                 | 5230        | 10.21                      | 10±1               | 11                          | -0.26              | 20                | 0.00235                                 |
| 802.11ax80                                                                                                                           | 1               | 5210        | 10.16                      | 10±1               | 11                          | -0.26              | 20                | 0.00235                                 |
| <b>Note:</b><br>N <sub>TX</sub> = Number of Transmit Antennas<br>RF Output power specifies that Maximum Conducted Peak Output Power. |                 |             |                            |                    |                             |                    |                   |                                         |



| 5.8G WiFi Worst Maximum MPE Result Ant.1                                                                                             |                 |             |                            |                    |                             |                    |                   |                                         |
|--------------------------------------------------------------------------------------------------------------------------------------|-----------------|-------------|----------------------------|--------------------|-----------------------------|--------------------|-------------------|-----------------------------------------|
| Mode                                                                                                                                 | N <sub>TX</sub> | Freq. (MHz) | Conducted Power(max) (dBm) | Turn-up Power (dB) | Max tune up power (dBm) [P] | ANT Gain (dBi) [G] | Distance (cm) [R] | Power Density (mW/cm <sup>2</sup> ) [S] |
| 802.11a                                                                                                                              | 1               | 5745        | 20.27                      | 20±1               | 21                          | 0.8                | 20                | 0.03011                                 |
|                                                                                                                                      |                 | 5785        | 20.27                      | 20±1               | 21                          | 0.8                | 20                | 0.03011                                 |
|                                                                                                                                      |                 | 5825        | 20.17                      | 20±1               | 21                          | 0.8                | 20                | 0.03011                                 |
| 802.11n20                                                                                                                            | 1               | 5745        | 19.63                      | 19±1               | 20                          | 0.8                | 20                | 0.02391                                 |
|                                                                                                                                      |                 | 5785        | 19.61                      | 19±1               | 20                          | 0.8                | 20                | 0.02391                                 |
|                                                                                                                                      |                 | 5825        | 19.73                      | 19±1               | 20                          | 0.8                | 20                | 0.02391                                 |
| 802.11n40                                                                                                                            | 1               | 5755        | 17.75                      | 17±1               | 18                          | 0.8                | 20                | 0.01509                                 |
|                                                                                                                                      |                 | 5795        | 17.79                      | 17±1               | 18                          | 0.8                | 20                | 0.01509                                 |
| 802.11ac20                                                                                                                           | 1               | 5745        | 17.19                      | 17±1               | 18                          | 0.8                | 20                | 0.01509                                 |
|                                                                                                                                      |                 | 5785        | 17.47                      | 17±1               | 18                          | 0.8                | 20                | 0.01509                                 |
|                                                                                                                                      |                 | 5825        | 17.24                      | 17±1               | 18                          | 0.8                | 20                | 0.01509                                 |
| 802.11ac40                                                                                                                           | 1               | 5755        | 16.33                      | 16±1               | 17                          | 0.8                | 20                | 0.01198                                 |
|                                                                                                                                      |                 | 5795        | 16.36                      | 16±1               | 17                          | 0.8                | 20                | 0.01198                                 |
| 802.11ac80                                                                                                                           | 1               | 5775        | 16.74                      | 16±1               | 17                          | 0.8                | 20                | 0.01198                                 |
| 802.11ax20                                                                                                                           | 1               | 5745        | 16.38                      | 16±1               | 17                          | 0.8                | 20                | 0.01198                                 |
|                                                                                                                                      |                 | 5785        | 16.44                      | 16±1               | 17                          | 0.8                | 20                | 0.01198                                 |
|                                                                                                                                      |                 | 5825        | 16.38                      | 16±1               | 17                          | 0.8                | 20                | 0.01198                                 |
| 802.11ax40                                                                                                                           | 1               | 5755        | 16.45                      | 16±1               | 17                          | 0.8                | 20                | 0.01198                                 |
|                                                                                                                                      |                 | 5795        | 16.49                      | 16±1               | 17                          | 0.8                | 20                | 0.01198                                 |
| 802.11ax80                                                                                                                           | 1               | 5775        | 16.44                      | 16±1               | 17                          | 0.8                | 20                | 0.01198                                 |
| <b>Note:</b><br>N <sub>TX</sub> = Number of Transmit Antennas<br>RF Output power specifies that Maximum Conducted Peak Output Power. |                 |             |                            |                    |                             |                    |                   |                                         |



| 5.8G WiFi Worst Maximum MPE Result Ant.2                                                                                             |                 |             |                            |                    |                             |                    |                   |                                         |
|--------------------------------------------------------------------------------------------------------------------------------------|-----------------|-------------|----------------------------|--------------------|-----------------------------|--------------------|-------------------|-----------------------------------------|
| Mode                                                                                                                                 | N <sub>TX</sub> | Freq. (MHz) | Conducted Power(max) (dBm) | Turn-up Power (dB) | Max tune up power (dBm) [P] | ANT Gain (dBi) [G] | Distance (cm) [R] | Power Density (mW/cm <sup>2</sup> ) [S] |
| 802.11a                                                                                                                              | 1               | 5745        | 20.18                      | 20±1               | 21                          | -0.18              | 20                | 0.02402                                 |
|                                                                                                                                      |                 | 5785        | 19.99                      | 19±1               | 20                          | -0.18              | 20                | 0.01908                                 |
|                                                                                                                                      |                 | 5825        | 20.09                      | 20±1               | 21                          | -0.18              | 20                | 0.02402                                 |
| 802.11n20                                                                                                                            | 1               | 5745        | 20.20                      | 20±1               | 21                          | -0.18              | 20                | 0.02402                                 |
|                                                                                                                                      |                 | 5785        | 20.08                      | 20±1               | 21                          | -0.18              | 20                | 0.02402                                 |
|                                                                                                                                      |                 | 5825        | 20.07                      | 20±1               | 21                          | -0.18              | 20                | 0.02402                                 |
| 802.11n40                                                                                                                            | 1               | 5755        | 18.31                      | 18±1               | 19                          | -0.18              | 20                | 0.01516                                 |
|                                                                                                                                      |                 | 5795        | 18.10                      | 18±1               | 19                          | -0.18              | 20                | 0.01516                                 |
| 802.11ac20                                                                                                                           | 1               | 5745        | 17.90                      | 17±1               | 18                          | -0.18              | 20                | 0.01204                                 |
|                                                                                                                                      |                 | 5785        | 17.64                      | 17±1               | 18                          | -0.18              | 20                | 0.01204                                 |
|                                                                                                                                      |                 | 5825        | 17.48                      | 17±1               | 18                          | -0.18              | 20                | 0.01204                                 |
| 802.11ac40                                                                                                                           | 1               | 5755        | 17.00                      | 17±1               | 18                          | -0.18              | 20                | 0.01204                                 |
|                                                                                                                                      |                 | 5795        | 16.88                      | 16±1               | 17                          | -0.18              | 20                | 0.00956                                 |
| 802.11ac80                                                                                                                           | 1               | 5775        | 16.93                      | 16±1               | 17                          | -0.18              | 20                | 0.00956                                 |
| 802.11ax20                                                                                                                           | 1               | 5745        | 16.67                      | 16±1               | 17                          | -0.18              | 20                | 0.00956                                 |
|                                                                                                                                      |                 | 5785        | 16.41                      | 16±1               | 17                          | -0.18              | 20                | 0.00956                                 |
|                                                                                                                                      |                 | 5825        | 16.38                      | 16±1               | 17                          | -0.18              | 20                | 0.00956                                 |
| 802.11ax40                                                                                                                           | 1               | 5755        | 16.84                      | 16±1               | 17                          | -0.18              | 20                | 0.00956                                 |
|                                                                                                                                      |                 | 5795        | 16.68                      | 16±1               | 17                          | -0.18              | 20                | 0.00956                                 |
| 802.11ax80                                                                                                                           | 1               | 5775        | 16.58                      | 16±1               | 17                          | -0.18              | 20                | 0.00956                                 |
| <b>Note:</b><br>N <sub>TX</sub> = Number of Transmit Antennas<br>RF Output power specifies that Maximum Conducted Peak Output Power. |                 |             |                            |                    |                             |                    |                   |                                         |



Remark:

1. Output power including turn-up tolerance;
2. Output power was adjust to duty cycle at 100% if measured duty cycle less than 98%;
3. MPE evaluate distance is 20cm from user manual provide by manufacturer.
4. Only the worst power was evaluated for each wireless function

## 6. Conclusion:

As specified in Table 1B of 47 CFR 1.1310- Limits for Maximum Permissible Exposure (MPE),

### Limits for General Population/ Uncontrolled Exposure

| Frequency Range (MHz) | Power density (mW/ cm <sup>2</sup> ) |
|-----------------------|--------------------------------------|
| 300-1,500             | F/1500                               |
| 1,500-100,000         | 1.0                                  |

## 7. Summary simultaneous transmission information

The sample supports two antennas for (BT/2.4G WIFI/5G WIFI) Ant.1 and (2.4G WIFI/5G WIFI) Ant.2. The (BT/2.4G WIFI/5G WIFI) Ant.1 and (2.4G WIFI/5G WIFI) Ant.2 can transmit simultaneous. The (BT/2.4G WIFI/5G WIFI) Ant.1 and (2.4G WIFI/5G WIFI) Ant.2 with two different Antenna. According to KDB447498 for Transmitters used in mobile exposure conditions for simultaneous transmission operations;  
 $\sum$  of MPE ratios  $\leq 1.0$

## 8. Summary simultaneous transmission results

(BT/2.4G WIFI/5G WIFI) Ant.1 + (2.4G WIFI/5G WIFI) Ant.2 Maximum Simultaneous transmission MPE Ratios is

$$0.03011+0.02402=0.05413 \leq 1.0$$

## 9. Conclusion:

The measurement results comply with the FCC Limit per 47 CFR 2.1091 for the uncontrolled RF Exposure of mobile device.

-----END OF THE REPORT-----

