

# RF Exposure Exemption Report

Apple Inc  
Model: A3238 and A3239

In accordance with FCC CFR 47 Pt 1.1307

Prepared for: Apple Inc  
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**EXECUTIVE SUMMARY**  
The wireless devices described within this report are compliant with the exemption criteria related to human exposure to electromagnetic fields laid out in FCC CFR 47 Part 1.1307.

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# 1 Report Summary

## 1.1 Report Modification Record

Alterations and additions to this report will be issued to the holders of each copy in the form of a complete document.

| Issue | Description of Change                                                              | Date of Issue   |
|-------|------------------------------------------------------------------------------------|-----------------|
| 1     | First Issue                                                                        | 15-Aug-2024     |
| 2     | 6 GHz WLAN evaluated using FCC 1.1307(b)(3)(i)(C) 'Option C' (MPE Based Exemption) | 08-October-2024 |
| 3     | Re-evaluated based on "Mobile" device                                              | 14-October-2024 |

Table 1

## 1.2 Introduction

|                          |                                                                      |
|--------------------------|----------------------------------------------------------------------|
| Applicant                | Apple Inc                                                            |
| Manufacturer             | Apple Inc                                                            |
| Model Number(s)          | A3238 and A3239                                                      |
| Hardware Version(s)      | REV1.0                                                               |
| Software Version(s)      | N/A                                                                  |
| Specification/Issue/Date | FCC 47 CFR Part 1.1307: 2022                                         |
| Related Document(s)      | <ul style="list-style-type: none"><li>• KDB 447498 D04 v01</li></ul> |



### **1.3 Brief Summary of Results**

The wireless device described within this report was compliant with the restrictions related to human exposure to electromagnetic fields for both general public and worker/occupational exposures for a separation distance of 20 cm.

The calculations shown in this report were made in accordance with the procedures specified in the applied test specification(s).



## 1.4 Product Information

### 1.4.1 Technical Description

The equipment under test (EUT) was a desktop computer.

### 1.4.2 Transmitter Description

The following radio access technologies and frequency bands are supported by the equipment under test.

| Radio Access Technology                   | Frequency Band (MHz) | Minimum Frequency (MHz) | Output Power (dBm) | Duty Cycle (%) |
|-------------------------------------------|----------------------|-------------------------|--------------------|----------------|
| Bluetooth (SISO) Core 0                   | 2400-2483.5          | 2402                    | 16.5               | 100            |
| Bluetooth (SISO) Core 1                   | 2400-2483.5          | 2402                    | 16.5               | 100            |
| Bluetooth (SISO) Core 2                   | 2400-2483.5          | 2402                    | 13.0               | 100            |
| Bluetooth (2x2 MIMO) Core 0 and Core 1    | 2400-2483.5          | 2402                    | 18.0               | 100            |
| Thread (SISO) Core 0                      | 2400-2483.5          | 2405                    | 20.5               | 100            |
| Thread (SISO) Core 1                      | 2400-2483.5          | 2405                    | 20.5               | 100            |
| Thread (SISO) Core 2                      | 2400-2483.5          | 2405                    | 13.5               | 100            |
| 2.4 GHz WLAN (SISO) Core 0                | 2400-2483.5          | 2412                    | 23.0               | 100            |
| 2.4 GHz WLAN (SISO) Core 1                | 2400-2483.5          | 2412                    | 23.0               | 100            |
| 2.4 GHz WLAN (2x2 MIMO) Core 0 and Core 1 | 2400-2483.5          | 2412                    | 26.0               | 100            |
| 5 GHz WLAN (SISO) Core 0                  | 5150-5850            | 5180                    | 21.5               | 100            |
| 5 GHz WLAN (SISO) Core 1                  | 5150-5850            | 5180                    | 21.5               | 100            |
| 5 GHz WLAN (2x2 MIMO) Core 0 and Core 1   | 5150-5850            | 5180                    | 24.5               | 100            |
| 6 GHz WLAN (SISO) Core 0                  | 5925-7125            | 5955                    | 21.5               | 100            |
| 6 GHz WLAN (SISO) Core 1                  | 5925-7125            | 5955                    | 21.5               | 100            |
| 6 GHz WLAN (2x2 MIMO) Core 0 and Core 1   | 5925-7125            | 5955                    | 24.5               | 100            |
| NB Core 0                                 | UNII-1               | 5162                    | 13.5               | 100            |
| NB Core 1                                 | UNII-1               | 5162                    | 13.5               | 100            |
| NB Core 0 and Core 1                      | UNII-1               | 5162                    | 13.0               | 100            |
| NB Core 0                                 | UNII-3               | 5733                    | 14.5               | 100            |
| NB Core 1                                 | UNII-3               | 5733                    | 14.5               | 100            |
| NB Core 0 and Core 1                      | UNII-3               | 5733                    | 17.5               | 100            |

**Table 2 – Transmitter Description - FCC**

Note: Transmitter power includes upper bounds of uncertainty therefore maximum values are used.



### 1.4.3 Antenna Description

The following antennas are supported by the equipment under test.

| Radio Access Technology                    | Antenna Model | Frequency Band (MHz) | Gain (dBi) | Antenna length (cm) | Minimum Separation Distance (cm) |
|--------------------------------------------|---------------|----------------------|------------|---------------------|----------------------------------|
| Bluetooth / Thread / 2.4 GHz WLAN – Core 0 | Not Specified | 2400-2483.5          | 1.8        | 4.59                | 20.1                             |
| Bluetooth / Thread / 2.4 GHz WLAN – Core 1 | Not Specified | 2400-2483.5          | 1.1        | 4.59                | 20.1                             |
| Bluetooth / Thread / 2.4 GHz WLAN – Core 2 | Not Specified | 2400-2483.5          | 0.2        | 4.72                | 20.1                             |
| 5 GHz WLAN – Core 0                        | Not Specified | 5150-5850            | 4.7        | 4.59                | 20.1                             |
| 5 GHz WLAN – Core 1                        | Not Specified | 5150-5850            | 4.6        | 4.59                | 20.1                             |
| 6 GHz WLAN – Core 0                        | Not Specified | 5925-7125            | 3.5        | 4.59                | 20.1                             |
| 6 GHz WLAN – Core 1                        | Not Specified | 5925-7125            | 3.6        | 4.59                | 20.1                             |
| NB UNII-1 Core 0                           | Not Specified | 5150-5250            | 3.1        | 4.59                | 20.1                             |
| NB UNII-1 Core 1                           | Not Specified | 5150-5250            | 3.3        | 4.59                | 20.1                             |
| NB UNII-3 Core 0                           | Not Specified | 5725-5850            | 1.8        | 4.59                | 20.1                             |
| NB UNII-3 Core 1                           | Not Specified | 5725-5850            | 1.1        | 4.59                | 20.1                             |

**Table 3 – Antenna Description**

In the case of more than one type of antenna being supported by the equipment, the calculation is based on the maximum of the antenna gains. If other antennas can be used that have greater gains, the minimum separation distances will need to be recalculated.

Note: Antenna gain includes upper bounds of uncertainty therefore maximum values are used.



#### 1.4.4 Equipment Configuration

The device supports the following modes:-

- Bluetooth can operate in SISO modes on Core 0, 1, 2 & MIMO Mode on Core 0 – 1
- Thread can operate in SISO modes on Core 0, 1, 2
- WLAN can operate in SISO modes on Core 0, 1 & MIMO Mode on Core 0 – 1
- NB can operate in SISO modes on Core 0, 1 & MIMO Mode on Core 0 – 1

The device supports simultaneous operation in the following modes:

- Bluetooth and 5 GHz WLAN
- Bluetooth or Thread and 5 GHz / 6 GHz WLAN
- NB (Core 0) and 2.4 GHz WLAN (Core 1)
- NB (Core 1) and 2.4 GHz WLAN (Core 0)

Worst case configurations for simultaneous transmission were identified as;

Combination 1 - Thread Core 0 + 6 GHz WLAN (2x2 MIMO on Core 0 & 1)

Combination 2 - 2.4 GHz WLAN (SISO) Core 0 + NB Core 1



## 2 Assessment Details

### 2.1 Single RF Source options for determination of exemption.

| Option                     | Reference                              | RF Exposure Test Exemptions for Single Source                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                           |                       |                |                        |               |                                        |              |                       |                 |                          |                     |                      |
|----------------------------|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|-----------------------|----------------|------------------------|---------------|----------------------------------------|--------------|-----------------------|-----------------|--------------------------|---------------------|----------------------|
| A<br>(1-mW Test Exemption) | FCC<br>1.1307(b)(3)(i)(A)              | The available maximum time averaged power is no more than 1 mW, regardless of separation distance.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                           |                       |                |                        |               |                                        |              |                       |                 |                          |                     |                      |
| B<br>(SAR-Based Exemption) | FCC<br>1.1307(b)(3)(i)(B)              | <p>The available maximum timeaveraged power or effective radiated power (ERP), whichever is greater, is less than or equal to the threshold P<sub>th</sub> (mW) described in the following formula. This method shall only be used at separation distances (cm) from 0.5 centimeters to 40 centimeters and at frequencies from 0.3 GHz to 6 GHz (inclusive). P<sub>th</sub> is given by:</p> $P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases}$ <p>Where</p> $x = -\log_{10} \left( \frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right) \text{ and } f \text{ is in GHz;}$ <p>and</p> $ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases}$ <p><i>d</i> = the separation distance (cm);</p>                                                                                                                                                                                                                                                                                                                    |                           |                       |                |                        |               |                                        |              |                       |                 |                          |                     |                      |
| C<br>(MPE-Based Exemption) | FCC<br>1.1307(b)(3)(i)(C)              | <p>Or using Table 1 and the minimum separation distance (R in meters) from the body of a nearby person for the frequency (f in MHz) at which the source operates, the ERP (watts) is no more than the calculated value prescribed for that frequency. For the exemption in Table 1 to apply, R must be at least λ/2π, where λ is the free-space operating wavelength in meters. If the ERP of a single RF source is not easily obtained, then the available maximum time-averaged power may be used in lieu of ERP if the physical dimensions of the radiating structure(s) do not exceed the electrical length of λ/4 or if the antenna gain is less than that of a half-wave dipole (1.64 linear value).</p> <p><b>TABLE 1 to § 1.1307(b)(3)(i)(C)—SINGLE RF SOURCES SUBJECT TO ROUTINE ENVIRONMENTAL EVALUATION</b></p> <table><tr><th>RF Source frequency (MHz)</th><th>Threshold ERP (watts)</th></tr><tr><td>0.3–1.34 .....</td><td>1,920 R<sup>2</sup>.</td></tr><tr><td>1.34–30 .....</td><td>3,450 R<sup>2</sup>/f<sup>2</sup>.</td></tr><tr><td>30–300 .....</td><td>3.83 R<sup>2</sup>.</td></tr><tr><td>300–1,500 .....</td><td>0.0128 R<sup>2</sup>f.</td></tr><tr><td>1,500–100,000 .....</td><td>19.2R<sup>2</sup>.</td></tr></table> | RF Source frequency (MHz) | Threshold ERP (watts) | 0.3–1.34 ..... | 1,920 R <sup>2</sup> . | 1.34–30 ..... | 3,450 R <sup>2</sup> /f <sup>2</sup> . | 30–300 ..... | 3.83 R <sup>2</sup> . | 300–1,500 ..... | 0.0128 R <sup>2</sup> f. | 1,500–100,000 ..... | 19.2R <sup>2</sup> . |
| RF Source frequency (MHz)  | Threshold ERP (watts)                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                           |                       |                |                        |               |                                        |              |                       |                 |                          |                     |                      |
| 0.3–1.34 .....             | 1,920 R <sup>2</sup> .                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                           |                       |                |                        |               |                                        |              |                       |                 |                          |                     |                      |
| 1.34–30 .....              | 3,450 R <sup>2</sup> /f <sup>2</sup> . |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                           |                       |                |                        |               |                                        |              |                       |                 |                          |                     |                      |
| 30–300 .....               | 3.83 R <sup>2</sup> .                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                           |                       |                |                        |               |                                        |              |                       |                 |                          |                     |                      |
| 300–1,500 .....            | 0.0128 R <sup>2</sup> f.               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                           |                       |                |                        |               |                                        |              |                       |                 |                          |                     |                      |
| 1,500–100,000 .....        | 19.2R <sup>2</sup> .                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                           |                       |                |                        |               |                                        |              |                       |                 |                          |                     |                      |



## 2.2 Multiple RF Sources options for determination of exemption.

| Option                                                                                              | Reference                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------------------------------------------------------------------------------------------|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A<br>1-mW Test<br>Exemption for<br>Multiple<br>Sources                                              | FCC<br>1.1307(b)(3)(ii)(A) | The available maximum time averaged power of each source is no more than 1 mW and there is a separation distance of two centimeters between any portion of a radiating structure operating and the nearest portion of any other radiating structure in the same device, except if the sum of multiple sources is less than 1 mW during the time-averaging period, in which case they may be treated as a single source (separation is not required). This exemption may not be used in conjunction with other exemption criteria other than those in paragraph (b)(3)(i)(A) of this section. Medical implant devices may only use this exemption and that in paragraph (b)(3)(i)(A). |
| B<br>Simultaneous<br>Transmission<br>with both<br>SAR-based<br>and MPE-<br>Based Test<br>Exemptions | FCC<br>1.1307(b)(3)(ii)(B) | <p>in the case of fixed RF sources operating in the same time-averaging period, or of multiple mobile or portable RF sources within a device operating in the same time averaging period, if the sum of the fractional contributions to the applicable thresholds is less than or equal to 1 as indicated in the following equation.</p> $\sum_{i=1}^a \frac{P_i}{P_{th,i}} + \sum_{j=1}^b \frac{ERP_j}{ERP_{th,j}} + \sum_{k=1}^c \frac{Evaluated_k}{Exposure\ Limit_k} \leq 1$                                                                                                                                                                                                     |



## 2.3 Individual Antenna Port Exposure Results

### 2.3.1 Calculation of Exposure at Specified Separation Distance

The frequencies shown in the tables below have been chosen based on the lowest possible frequency that the EUT can transmit. A full list of the regional requirements is shown in Annex A.

| RAT                                       | Frequency (MHz) | Conducted Power Output mW | Duty Cycle % | Time Average Conducted Power Output mW | Antenna Gain Ratio | Maximum Power (EIRP) mW | Maximum Power (ERP) mW | Minimum Antenna to User Separation Distance (mm) | Pth (mW) 1.1307 (b)(3)(i)(B) | Greater of Max time averaged conducted power or ERP? mW | 1.1307(b)(3)(i)(B) Exemption (Yes/No) (300 MHz to 6 GHz, 0.5 cm to 40 cm) |
|-------------------------------------------|-----------------|---------------------------|--------------|----------------------------------------|--------------------|-------------------------|------------------------|--------------------------------------------------|------------------------------|---------------------------------------------------------|---------------------------------------------------------------------------|
| Bluetooth (SISO) Core 0                   | 2402            | 44.668                    | 100          | 44.668                                 | 1.514              | 67.608                  | 41.225                 | 201                                              | 3060                         | 44.668                                                  | Yes                                                                       |
| Bluetooth (SISO) Core 1                   | 2402            | 44.668                    | 100          | 44.668                                 | 1.288              | 57.544                  | 35.088                 | 201                                              | 3060                         | 44.668                                                  | Yes                                                                       |
| Bluetooth (SISO) Core 2                   | 2402            | 19.953                    | 100          | 19.953                                 | 1.047              | 57.544                  | 35.088                 | 201                                              | 3060                         | 35.088                                                  | Yes                                                                       |
| Bluetooth (2x2 MIMO) Core 0 and Core 1    | 2402            | 63.096                    | 100          | 63.096                                 | 1.514              | 95.499                  | 58.231                 | 201                                              | 3060                         | 63.096                                                  | Yes                                                                       |
| Thread (SISO) Core 0                      | 2405            | 112.202                   | 100          | 112.202                                | 1.514              | 169.824                 | 103.551                | 201                                              | 3060                         | 112.202                                                 | Yes                                                                       |
| Thread (SISO) Core 1                      | 2405            | 112.202                   | 100          | 112.202                                | 1.288              | 144.544                 | 88.137                 | 201                                              | 3060                         | 112.202                                                 | Yes                                                                       |
| Thread (SISO) Core 2                      | 2405            | 22.387                    | 100          | 22.387                                 | 1.047              | 23.442                  | 14.294                 | 201                                              | 3060                         | 22.387                                                  | Yes                                                                       |
| 2.4 GHz WLAN (SISO) Core 0                | 2412            | 199.526                   | 100          | 199.526                                | 1.514              | 301.995                 | 184.143                | 201                                              | 3060                         | 199.526                                                 | Yes                                                                       |
| 2.4 GHz WLAN (SISO) Core 1                | 2412            | 199.526                   | 100          | 199.526                                | 1.288              | 257.040                 | 156.731                | 201                                              | 3060                         | 199.526                                                 | Yes                                                                       |
| 2.4 GHz WLAN (2x2 MIMO) Core 0 and Core 1 | 2412            | 398.107                   | 100          | 398.107                                | 1.514              | 602.560                 | 367.414                | 201                                              | 3060                         | 398.107                                                 | Yes                                                                       |
| 5 GHz WLAN (SISO) Core 0                  | 5180            | 141.254                   | 100          | 141.254                                | 2.951              | 416.869                 | 254.189                | 201                                              | 3060                         | 254.189                                                 | Yes                                                                       |
| 5 GHz WLAN (SISO) Core 1                  | 5180            | 141.254                   | 100          | 141.254                                | 2.884              | 407.380                 | 248.403                | 201                                              | 3060                         | 248.403                                                 | Yes                                                                       |
| 5 GHz WLAN (2x2 MIMO) Core 0 and Core 1   | 5180            | 281.838                   | 100          | 281.838                                | 2.951              | 831.764                 | 507.173                | 201                                              | 3060                         | 507.173                                                 | Yes                                                                       |
| NB Core 0                                 | 5162            | 22.387                    | 100          | 22.387                                 | 2.512              | 56.234                  | 34.289                 | 201                                              | 3060                         | 34.289                                                  | Yes                                                                       |
| NB Core 1                                 | 5162            | 22.387                    | 100          | 22.387                                 | 2.512              | 56.234                  | 34.289                 | 201                                              | 3060                         | 34.289                                                  | Yes                                                                       |



| RAT                  | Frequency (MHz) | Conducted Power Output mW | Duty Cycle % | Time Average Conducted Power Output mW | Antenna Gain Ratio | Maximum Power (EIRP) mW | Maximum Power (ERP) mW | Minimum Antenna to User Separation Distance (mm) | Pth (mW) 1.1307 (b)(3)(i)(B) | Greater of Max time averaged conducted power or ERP? mW | 1.1307(b)(3)(i)(B) Exemption (Yes/No) (300 MHz to 6 GHz, 0.5 cm to 40 cm) |
|----------------------|-----------------|---------------------------|--------------|----------------------------------------|--------------------|-------------------------|------------------------|--------------------------------------------------|------------------------------|---------------------------------------------------------|---------------------------------------------------------------------------|
| NB Core 0 and Core 1 | 5162            | 19.953                    | 100          | 19.953                                 | 2.512              | 50.119                  | 30.560                 | 201                                              | 3060                         | 30.560                                                  | Yes                                                                       |
| NB Core 0            | 5733            | 28.184                    | 100          | 28.184                                 | 2.042              | 57.544                  | 35.088                 | 201                                              | 3060                         | 35.088                                                  | Yes                                                                       |
| NB Core 1            | 5733            | 28.184                    | 100          | 28.184                                 | 2.138              | 60.256                  | 36.741                 | 201                                              | 3060                         | 36.741                                                  | Yes                                                                       |
| NB Core 0 and Core 1 | 5733            | 56.234                    | 100          | 56.234                                 | 2.138              | 120.226                 | 73.309                 | 201                                              | 3060                         | 73.309                                                  | Yes                                                                       |

**Table 4 – Transmitter Result**

The calculations show that the individual transmitters comply with FCC 1.1307(b)(3)(i)(B) SAR-based exemption at a minimum distance of 0.2 m.



### 2.3.2 Single Source Calculation of Exposure at Specified Separation Distance FCC 1.1307(b)(3)(i)(C) 'Option C' (MPE Based Exemption)

| RAT                                     | Frequency (MHz) | Conducted Power Output (mW) | Duty Cycle % | Time Average Conducted Power Output (mW) | Antenna Gain Ratio | Maximum Power (EIRP) mW | Maximum Power (ERP) mW | Minimum separation distance for MPE evaluation $\lambda/2$ $\pi$ mm | Actual Distance (mm) | Threshold ERP (mW) | 1.1307(b)(3)(i)(C) Exemption (Yes/No) (300 kHz to 100 GHz) |
|-----------------------------------------|-----------------|-----------------------------|--------------|------------------------------------------|--------------------|-------------------------|------------------------|---------------------------------------------------------------------|----------------------|--------------------|------------------------------------------------------------|
| 6 GHz WLAN (SISO) Core 0                | 5955            | 141.254                     | 100          | 141.254                                  | 2.239              | 316.228                 | 192.822                | 8.0                                                                 | 201                  | 776                | Yes                                                        |
| 6 GHz WLAN (SISO) Core 1                | 5955            | 141.254                     | 100          | 141.254                                  | 2.291              | 323.594                 | 197.313                | 8.0                                                                 | 201                  | 776                | Yes                                                        |
| 6 GHz WLAN (2x2 MIMO) Core 0 and Core 1 | 5955            | 281.838                     | 100          | 281.838                                  | 2.951              | 831.764                 | 507.173                | 8.0                                                                 | 201                  | 776                | Yes                                                        |

**Table 5 – Transmitter Result**

The calculations show that the individual transmitters comply with FCC 1.1307(b)(3)(i)(C) MPE-based exception at a minimum distance of 0.201 m.



## 2.4 Combined Antenna Port RF Exposure Results using “1.1307(b)(3)(i)(B) SAR / MPE Exemption”

### 2.4.1 Combination 1 - 6 GHz WLAN (2x2 MIMO on Core 0 & 1) + Thread Core 0

| RAT<br>Core                                                                                       | Frequency<br>(MHz) | Conducted Power<br>Output mW | Duty<br>Cycle % | Time Average<br>Conducted<br>Power Output<br>mW | Antenna<br>Gain Ratio | Maximum<br>Power (EIRP)<br>mW | Maximum<br>Power (ERP)<br>mW | Test Separation<br>Distance (mm) | ERPj / Max of<br>time averaged<br>conducted<br>power or ERPth |
|---------------------------------------------------------------------------------------------------|--------------------|------------------------------|-----------------|-------------------------------------------------|-----------------------|-------------------------------|------------------------------|----------------------------------|---------------------------------------------------------------|
| Thread Core 0                                                                                     | 2405               | 112.202                      | 100             | 112.202                                         | 1.514                 | 169.824                       | 103.551                      | 201                              | 0.0367                                                        |
| 6 GHz WLAN (2x2 MIMO) Core 0 and<br>Core 1                                                        | 5955               | 281.838                      | 100             | 281.838                                         | 2.951                 | 831.764                       | 507.173                      | 201                              | 0.6538                                                        |
| Calculated RF exposure level at minimum compliance boundary of 0.201 m as a fraction of the limit |                    |                              |                 |                                                 |                       |                               |                              |                                  | 0.6905                                                        |

**Table 6 – Transmitter Result**

### 2.4.2 Combination 2 – 2.4 GHz WLAN (Core 0) + NB (Core 1)

| RAT                                                                                               | Frequency<br>(MHz) | Conducted Power<br>Output mW | Duty<br>Cycle % | Time Average<br>Conducted<br>Power Output<br>mW | Antenna<br>Gain Ratio | Maximum<br>Power (EIRP)<br>mW | Maximum<br>Power (ERP)<br>mW | Test Separation<br>Distance (mm) | ERPj / Max of<br>time averaged<br>conducted<br>power or ERPth |
|---------------------------------------------------------------------------------------------------|--------------------|------------------------------|-----------------|-------------------------------------------------|-----------------------|-------------------------------|------------------------------|----------------------------------|---------------------------------------------------------------|
| 2.4 GHz WLAN (SISO) Core 0                                                                        | 2412               | 199.526                      | 100             | 199.526                                         | 1.514                 | 301.995                       | 184.143                      | 201                              | 0.0652                                                        |
| NB Core 1                                                                                         | 5733               | 28.184                       | 100             | 28.184                                          | 2.138                 | 60.256                        | 36.741                       | 201                              | 0.0120                                                        |
| Calculated RF exposure level at minimum compliance boundary of 0.201 m as a fraction of the limit |                    |                              |                 |                                                 |                       |                               |                              |                                  | 0.0774                                                        |

**Table 7 – Transmitter Result**