



# SPORTON International Inc.

No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.  
Ph: 886-3-327-3456 / FAX: 886-3-327-0973 / www.sporton.com.tw

Certificate No.: CB10310203

## Maximum Permissible Exposure

Applicant's company	Motorola Solutions, Inc.
Applicant Address	One Motorola Plaza Holtsville, NY 11742 USA
FCC ID	UZ7KHAP800
Manufacturer's company	Wistron NeWeb Corporation
Manufacturer Address	20 Park Avenue II, Hsinchu Science Park, Hsinchu 308, Taiwan, R.O.C.

Product Name	802.11 a/b/g/n Module
Brand Name	MOTOROLA
Model Name	KHAP-800
Ref. Standard(s)	47 CFR FCC Part 2 Subpart J, section 2.1091
EUT Freq. Range	2400 ~ 2483.5MHz / 5150 ~ 5350MHz / 5470 ~ 5725MHz / 5725 ~ 5850MHz
Received Date	Apr. 02, 2012
Final Test Date	Nov. 03, 2014
Submission Type	Class II Change

Sam Chen

SPORTON INTERNATIONAL INC.



## Table of Contents

<b>1. TABLE FOR CLASS II CHANGE.....</b>	<b>1</b>
1.1. Table for Class II Change .....	1
<b>2. MAXIMUM PERMISSIBLE EXPOSURE.....</b>	<b>2</b>
2.1. Applicable Standard .....	2
2.2. MPE Calculation Method .....	2
2.3. Calculated Result and Limit.....	3



## 1. TABLE FOR CLASS II CHANGE

### 1.1. Table for Class II Change

This product is an extension of original one reported under Sporton project number: 240223-04.

Below is the table for the change of the product with respect to the original one

Modifications	Performance Checking
1. Adding beamforming function for certified antenna (Model: ML-2499-FHPA9-01R, ML-2499-BPNA3-01R, ML-5299-FHPA10-01R and ML-2452-PNA5-01R) at 802.11n. 2. Adding an antenna (Model: ML-2452-PNL3M3-1).	It was evaluated for EMF.

Note:

The model name shall be same as before. There is no change in hardware or in existing RF relevant portion.

## 2. MAXIMUM PERMISSIBLE EXPOSURE

### 2.1. Applicable Standard

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.2 m normally can be maintained between the user and the device.

(A) Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842 / f	4.89 / f	(900 / f)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-100,000			5	6

(B) Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1.0	30

Note: f = frequency in MHz ; \*Plane-wave equivalent power density

### 2.2. MPE Calculation Method

$$E \text{ (V/m)} = \frac{\sqrt{30 \times P \times G}}{d} \quad \text{Power Density: } Pd \text{ (W/m}^2\text{)} = \frac{E^2}{377}$$

**E** = Electric field (V/m)

**P** = Peak RF output power (W)

**G** = EUT Antenna numeric gain (numeric)

**d** = Separation distance between radiator and human body (m)

The formula can be changed to

$$Pd = \frac{30 \times P \times G}{377 \times d^2}$$

From the EUT RF output power, the minimum mobile separation distance, d=0.35m, as well as the gain of the used antenna, the RF power density can be obtained.

### 2.3. Calculated Result and Limit

Exposure Environment: General Population / Uncontrolled Exposure

#### 1. MOTOROLA / AP-8132:

For 5GHz UNII Band:

Radio B (5G) RF module (FCC ID: UZ7KHAP800)

Antenna Type : Dipole Antenna

Conducted Power for IEEE 802.11 n MCS0 HT40 (3TX) : 17.22dBm

Distance (m)	Directional Gain (dBi)	Antenna Gain (numeric)	The maximum combined Average Output Power		Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
			(dBm)	(mW)			
0.35	12.77	18.9234	17.2226	52.7548	0.064884	1	Complies

Note:  $DirectionalGain = 10 \cdot \log \left[ \frac{\sum_{j=1}^{N_{ANT}} \left\{ \sum_{k=1}^{N_{MAX}} G_{jA} \right\}^2}{N_{ANT}} \right] = 12.77 \text{ dBi.}$

For 5GHz ISM Band:

Radio B (5G) RF module (FCC ID: UZ7KHAP800)

Antenna Type : Dipole Antenna

Conducted Power for IEEE 802.11 n MCS0 HT20 (3TX): 23.21dBm

Distance (m)	Directional Gain (dBi)	Antenna Gain (numeric)	The maximum combined Average Output Power		Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
			(dBm)	(mW)			
0.35	12.77	18.9234	23.2077	209.2998	0.257420	1	Complies

Note:  $DirectionalGain = 10 \cdot \log \left[ \frac{\sum_{j=1}^{N_{ANT}} \left\{ \sum_{k=1}^{N_{MAX}} G_{jA} \right\}^2}{N_{ANT}} \right] = 12.77 \text{ dBi.}$

For 2.4GHz Band:

Radio A (2.4G) RF module (FCC ID: UZ7KHAP800)

Antenna Type : 3-Port Dual-Band Directional Panel Antenna

Conducted Power for IEEE 802.11b (2TX): 26.79 dBm

Distance (m)	Antenna Gain (dBi)	Antenna Gain (numeric)	The maximum combined Average Output Power		Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
			(dBm)	(mW)			
0.35	8.00	6.3096	26.7854	477.0282	0.195622	1	Complies

**For 2.4G Dongle:**
**802.11 a/b/g/n USB Dongle (FCC ID: UZ7KHUSB600)**
**Max Conducted Power : 25.02 dBm**

Distance (m)	Antenna Gain (dBi)	Antenna Gain (numeric)	Average Output Power		Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
			(dBm)	(mW)			
0.35	8.25	6.6834	25.02	317.6874	0.187831	1	Complies

**For 5G Dongle:**
**802.11 a/b/g/n USB Dongle (FCC ID: UZ7KHUSB600)**
**Max Conducted Power : 25.41 dBm**

Distance (m)	Antenna Gain (dBi)	Antenna Gain (numeric)	Average Output Power		Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
			(dBm)	(mW)			
0.35	8.69	7.3961	25.41	347.5362	0.227388	1	Complies

**CONCLUSION:**

Both of the Radio A(2.4G) RF module (FCC ID: UZ7KHAP800), Radio B (5G) RF module (FCC ID: UZ7KHAP800) and 2.4G/5G USB Dongle (FCC ID: UZ7KHUSB600) can transmit simultaneously on the AP (MOTOROLA / AP-8132), the formula of calculated the MPE is:

$$CPD1 / LPD1 + CPD2 / LPD2 + \dots \text{etc.} < 1$$

CPD = Calculation power density

LPD = Limit of power density

**MOTOROLA / AP-8132:**

Radio A (2.4G) 3-Port Dual-Band Directional Panel Antenna+Radio B (5G) Dipole Antenna+USB 2.4G sensor dongle

Therefore, the worst-case situation is  $0.195622/1 + 0.257420/1 + 0.187831/1 = 0.640873$ , which is less than "1".

This confirmed that the device comply with FCC 1.1310 MPE limit.

Radio A (2.4G) 3-Port Dual-Band Directional Panel Antenna+Radio B (5G) Dipole Antenna+USB 5G sensor dongle

Therefore, the worst-case situation is  $0.195622/1 + 0.257420/1 + 0.227388/1 = 0.680430$ , which is less than "1".

This confirmed that the device comply with FCC 1.1310 MPE limit.

## 2. MOTOROLA / AP-8122:

For 5GHz UNII Band:

Radio B (5G) RF module (FCC ID: UZ7KHAP800)

Antenna Type : Dipole Antenna

Conducted Power for IEEE 802.11 n MCS0 HT40 (3TX) : 17.22dBm

Distance (m)	Directional Gain (dBi)	Antenna Gain (numeric)	The maximum combined Average Output Power		Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
			(dBm)	(mW)			
0.35	12.77	18.9234	17.2226	52.7548	0.064884	1	Complies

Note:  $DirectionalGain = 10 \cdot \log \left[ \frac{\sum_{j=1}^{N_{ANT}} \left\{ \sum_{k=1}^{N_{SIGNAL}} G_{j/A} \right\}^2}{N_{ANT}} \right] = 12.77 \text{ dBi.}$

For 5GHz ISM Band:

Radio B (5G) RF module (FCC ID: UZ7KHAP800)

Antenna Type : Dipole Antenna

Conducted Power for IEEE 802.11 n MCS0 HT20 (3TX): 23.21dBm

Distance (m)	Directional Gain (dBi)	Antenna Gain (numeric)	The maximum combined Average Output Power		Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
			(dBm)	(mW)			
0.35	12.77	18.9234	23.2077	209.2998	0.257420	1	Complies

Note:  $DirectionalGain = 10 \cdot \log \left[ \frac{\sum_{j=1}^{N_{ANT}} \left\{ \sum_{k=1}^{N_{SIGNAL}} G_{j/A} \right\}^2}{N_{ANT}} \right] = 12.77 \text{ dBi.}$

For 2.4GHz Band:

Radio A (2.4G) RF module (FCC ID: UZ7KHAP800)

Antenna Type : 3-Port Dual-Band Directional Panel Antenna

Conducted Power for IEEE 802.11b (2TX): 26.79 dBm

Distance (m)	Antenna Gain (dBi)	Antenna Gain (numeric)	The maximum combined Average Output Power		Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
			(dBm)	(mW)			
0.35	8.00	6.3096	26.7854	477.0282	0.195622	1	Complies



## CONCLUSION:

Both of the Radio A (2.4G) RF module (FCC ID: UZ7KHAP800) and Radio B (5G) RF module (FCC ID: UZ7KHAP800) can transmit simultaneously on the AP (MOTOROLA / AP-8122), the formula of calculated the MPE is:

$$\text{CPD1} / \text{LPD1} + \text{CPD2} / \text{LPD2} + \dots \text{etc.} < 1$$

CPD = Calculation power density

LPD = Limit of power density

MOTOROLA / AP-8122:

Radio A (2.4G) 3-Port Dual-Band Directional Panel Antenna+Radio B (5G) Dipole Antenna

Therefore, the worst-case situation is  $0.195622/1 + 0.257420/1 = 0.453042$ , which is less than "1". This confirmed that the device comply with FCC 1.1310 MPE limit.

### 3. MOTOROLA / AP-8163:

For 5GHz UNII Band:

Radio B (5G) RF module (FCC ID: UZ7KHAP800)

Antenna Type : Dipole Antenna

Conducted Power for IEEE 802.11 n MCS0 HT40 (3TX) : 17.22dBm

Distance (m)	Directional Gain (dBi)	Antenna Gain (numeric)	The maximum combined Average Output Power		Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
			(dBm)	(mW)			
0.35	12.77	18.9234	17.2226	52.7548	0.064884	1	Complies

Note:  $DirectionalGain = 10 \cdot \log \left[ \frac{\sum_{j=1}^{N_{ANT}} \left\{ \sum_{k=1}^{N_{SIGNAL}} S_{j,k} \right\}^2}{N_{ANT}} \right] = 12.77 \text{ dBi.}$

For 5GHz ISM Band:

Radio B (5G) RF module (FCC ID: UZ7KHAP800)

Antenna Type : Dipole Antenna

Conducted Power for IEEE 802.11 n MCS0 HT20 (3TX): 23.21dBm

Distance (m)	Directional Gain (dBi)	Antenna Gain (numeric)	The maximum combined Average Output Power		Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
			(dBm)	(mW)			
0.35	12.77	18.9234	23.2077	209.2998	0.257420	1	Complies

Note:  $DirectionalGain = 10 \cdot \log \left[ \frac{\sum_{j=1}^{N_{ANT}} \left\{ \sum_{k=1}^{N_{SIGNAL}} S_{j,k} \right\}^2}{N_{ANT}} \right] = 12.77 \text{ dBi.}$

For 2.4GHz Band:

Radio A (2.4G) RF module (FCC ID: UZ7KHAP800)

Antenna Type : 3-Port Dual-Band Directional Panel Antenna

Conducted Power for IEEE 802.11b (2TX): 26.79 dBm

Distance (m)	Antenna Gain (dBi)	Antenna Gain (numeric)	The maximum combined Average Output Power		Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
			(dBm)	(mW)			
0.35	8.00	6.3096	26.7854	477.0282	0.195622	1	Complies

**For 2.4G Dongle:**
**802.11 a/b/g/n USB Dongle (FCC ID: UZ7KHUSB601)**
**Antenna Type : Dipole Antenna**
**Max Conducted Power for IEEE 802.11g (1TX): 19.01 dBm**

Distance (m)	Antenna Gain (dBi)	Antenna Gain (numeric)	Average Output Power		Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
			(dBm)	(mW)			
0.35	4.00	2.5119	19.0100	79.6159	0.012998	1	Complies

**For 5G Dongle:**
**802.11 a/b/g/n USB Dongle (FCC ID: UZ7KHUSB601)**
**Antenna Type : Dipole Antenna**
**Max Conducted Power for IEEE 802.11n MCS8 40MHz (2TX): 20.57 dBm**

Distance (m)	Antenna Gain (dBi)	Antenna Gain (numeric)	Average Output Power		Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
			(dBm)	(mW)			
0.35	6.35	4.3152	20.5697	114.0169	0.031977	1	Complies

**CONCLUSION:**

Both of the Radio A (2.4G) RF module (FCC ID: UZ7KHAP800), Radio B (5G) RF module (FCC ID: UZ7KHAP800) and 2.4G/5G USB Dongle (FCC ID: UZ7KHUSB601) can transmit simultaneously on the AP (MOTOROLA / AP-8163), the formula of calculated the MPE is:

$$CPD1 / LPD1 + CPD2 / LPD2 + \dots \text{etc.} < 1$$

CPD = Calculation power density

LPD = Limit of power density

**MOTOROLA / AP-8163:**

Radio A (2.4G) 3-Port Dual-Band Directional Panel Antenna+Radio B (5G) Dipole Antenna+USB 2.4G sensor dongle

Therefore, the worst-case situation is  $0.195622/1 + 0.257420/1 + 0.012998/1 = 0.466040$ , which is less than "1".

This confirmed that the device comply with FCC 1.1310 MPE limit.

Radio A (2.4G) 3-Port Dual-Band Directional Panel Antenna+Radio B (5G) Dipole Antenna+USB 5G sensor dongle

Therefore, the worst-case situation is  $0.195622/1 + 0.257420/1 + 0.031977/1 = 0.485019$ , which is less than "1".

This confirmed that the device comply with FCC 1.1310 MPE limit.

#### 4. MOTOROLA / AP-8232:

For 5GHz ISM Band:

RadioB (5G) RF module (FCC ID: UZ7RAAP800)

Antenna Type : Panel Antenna

Max Conducted Power for IEEE 802.11a (2TX) : 26.44dBm

Distance (m)	Antenna Gain (dBi)	Antenna Gain (numeric)	The maximum combined Average Output Power		Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
			(dBm)	(mW)			
0.35	12.50	17.7828	26.4400	440.5549	0.509183	1	Complies

For 2.4GHz Band:

Radio A (2.4G) RF module (FCC ID: UZ7KHAP800)

Antenna Type : 3-Port Dual-Band Directional Panel Antenna

Conducted Power for IEEE 802.11b (2TX): 26.79 dBm

Distance (m)	Antenna Gain (dBi)	Antenna Gain (numeric)	The maximum combined Average Output Power		Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
			(dBm)	(mW)			
0.35	8.00	6.3096	26.7854	477.0282	0.195622	1	Complies

For 2.4G Dongle:

802.11 a/b/g/n USB Dongle (FCC ID: UZ7KHUSB600)

Antenna Type : PIFA Antenna

Max Conducted Power for IEEE 802.11g: 23.31 dBm

Distance (m)	Antenna Gain (dBi)	Antenna Gain (numeric)	Average Output Power		Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
			(dBm)	(mW)			
0.35	8.25	6.6834	23.3100	214.2891	0.093084	1	Complies

For 5G Dongle:

802.11 a/b/g/n USB Dongle (FCC ID: UZ7KHUSB600)

Antenna Type : PIFA Antenna

Max Conducted Power for IEEE 802.11n MCS8 20MHz: 20.26 dBm

Distance (m)	Antenna Gain (dBi)	Antenna Gain (numeric)	Average Output Power		Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
			(dBm)	(mW)			
0.35	5.87	3.8637	20.2600	106.1696	0.026661	1	Complies

#### CONCLUSION:

Both of the Radio A (2.4G) RF module (FCC ID: UZ7KHAP800), Radio B (5G) RF module (FCC ID: UZ7RAAP800) and 2.4G/5G USB Dongle (FCC ID: UZ7KHUSB600) can transmit simultaneously on the AP (MOTOROLA / AP-8232), the formula of calculated the MPE is:

$$CPD1 / LPD1 + CPD2 / LPD2 + \dots \text{etc.} < 1$$

CPD = Calculation power density

LPD = Limit of power density

MOTOROLA / AP-8232:

Radio A (2.4G) 3-Port Dual-Band Directional Panel Antenna+Radio B (5G) Panel Antenna+USB 2.4G sensor dongle

Therefore, the worst-case situation is  $0.195622/1 + 0.509183/1 + 0.093084/1 = 0.797889$ , which is less than "1".

This confirmed that the device comply with FCC 1.1310 MPE limit.

Radio A (2.4G) 3-Port Dual-Band Directional Panel Antenna+Radio B (5G) Panel Antenna+USB 5G sensor dongle

Therefore, the worst-case situation is  $0.195622/1 + 0.509183/1 + 0.026661/1 = 0.731466$ , which is less than "1".

This confirmed that the device comply with FCC 1.1310 MPE limit.

### 5. MOTOROLA / AP-8222:

For 5GHz ISM Band:

Radio B (5G) RF module (FCC ID: UZ7RAAP800)

Antenna Type : Panel Antenna

Max Conducted Power for IEEE 802.11a (2TX) : 26.44dBm

Distance (m)	Antenna Gain (dBi)	Antenna Gain (numeric)	The maximum combined Average Output Power		Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
			(dBm)	(mW)			
0.35	12.50	17.7828	26.4400	440.5549	0.509183	1	Complies

For 2.4GHz Band:

Radio A (2.4G) RF module (FCC ID: UZ7KHAP800)

Antenna Type : 3-Port Dual-Band Directional Panel Antenna

Conducted Power for IEEE 802.11b (2TX): 26.79 dBm

Distance (m)	Antenna Gain (dBi)	Antenna Gain (numeric)	The maximum combined Average Output Power		Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
			(dBm)	(mW)			
0.35	8.00	6.3096	26.7854	477.0282	0.195622	1	Complies

### CONCLUSION:

Both of the Radio A (2.4G) RF module (FCC ID: UZ7KHAP800) and Radio B (5G) RF module (FCC ID: UZ7RAAP800) can transmit simultaneously on the AP (MOTOROLA / AP-8222), the formula of calculated the MPE is:

$$CPD1 / LPD1 + CPD2 / LPD2 + \dots \text{etc.} < 1$$

CPD = Calculation power density

LPD = Limit of power density

### MOTOROLA / AP-8222:

Radio A (2.4G) 3-Port Dual-Band Directional Panel Antenna+Radio B (5G) Panel Antenna

Therefore, the worst-case situation is  $0.195622/1+0.509183/1=0.704805$ , which is less than "1". This confirmed that the device comply with FCC 1.1310 MPE limit.

## 6. MOTOROLA / AP-8263:

For 5GHz ISM Band:

Radio B (5G) RF module (FCC ID: UZ7RAAP800)

Antenna Type : Panel Antenna

Max Conducted Power for IEEE 802.11a (2TX) : 26.44dBm

Distance (m)	Antenna Gain (dBi)	Antenna Gain (numeric)	The maximum combined Average Output Power		Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
			(dBm)	(mW)			
0.35	12.50	17.7828	26.4400	440.5549	0.509183	1	Complies

For 2.4GHz Band:

Radio A (2.4G) RF module (FCC ID: UZ7KHAP800)

Antenna Type : 3-Port Dual-Band Directional Panel Antenna

Conducted Power for IEEE 802.11b (2TX): 26.79 dBm

Distance (m)	Antenna Gain (dBi)	Antenna Gain (numeric)	The maximum combined Average Output Power		Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
			(dBm)	(mW)			
0.35	8.00	6.3096	26.7854	477.0282	0.195622	1	Complies

For 2.4G Dongle:

802.11 a/b/g/n USB Dongle (FCC ID: UZ7KHUSB601)

Antenna Type : Dipole Antenna

Max Conducted Power for IEEE 802.11g (1TX): 19.01 dBm

Distance (m)	Antenna Gain (dBi)	Antenna Gain (numeric)	Average Output Power		Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
			(dBm)	(mW)			
0.35	4.00	2.5119	19.0100	79.6159	0.012998	1	Complies

For 5G Dongle:

802.11 a/b/g/n USB Dongle (FCC ID: UZ7KHUSB601)

Antenna Type : Dipole Antenna

Max Conducted Power for IEEE 802.11n MCS0 20MHz (2TX): 20.13 dBm

Distance (m)	Antenna Gain (dBi)	Antenna Gain (numeric)	Average Output Power		Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
			(dBm)	(mW)			
0.35	6.35	4.3152	20.1303	103.0460	0.028901	1	Complies

**CONCLUSION:**

Both of the Radio A (2.4G) RF module (FCC ID: UZ7KHAP800), Radio B (5G) RF module (FCC ID: UZ7RAAP800) and 2.4G/5G USB Dongle (FCC ID: UZ7KHUSB601) can transmit simultaneously on the AP (MOTOROLA / AP-8263), the formula of calculated the MPE is:

$$\text{CPD1} / \text{LPD1} + \text{CPD2} / \text{LPD2} + \dots \text{etc.} < 1$$

**CPD = Calculation power density**

**LPD = Limit of power density**

**MOTOROLA / AP-8263:**

Radio A (2.4G) 3-Port Dual-Band Directional Panel Antenna+Radio B (5G) Panel Antenna+USB 2.4G sensor dongle

Therefore, the worst-case situation is  $0.195622/1 + 0.509183/1 + 0.012998/1 = 0.717803$ , which is less than "1".

This confirmed that the device comply with FCC 1.1310 MPE limit.

Radio A (2.4G) 3-Port Dual-Band Directional Panel Antenna+Radio B (5G) Panel Antenna+USB 5G sensor dongle

Therefore, the worst-case situation is  $0.195622/1 + 0.509183/1 + 0.028901/1 = 0.733706$ , which is less than "1".

This confirmed that the device comply with FCC 1.1310 MPE limit.