

# Maximum Permissible Exposure Evaluation

**FCC ID: L9VWAP5903**

## 1. Client Information

<b>Applicant</b>	:	COMTREND Corporation
<b>Address</b>	:	3F-1, 10 Lane 609, Chung Hsin Road, Section 5, San Chung Dist, New Taipei City, Taiwan 24159
<b>Manufacturer</b>	:	COMTREND Corporation
<b>Address</b>	:	3F-1, 10 Lane 609, Chung Hsin Road, Section 5, San Chung Dist, New Taipei City, Taiwan 24159
<b>Factory</b>	:	Shenzhen COMNECT Technology Co., Ltd.
<b>Address</b>	:	G Zone, 3/F, Building 1, Baisha High-Tech Park, No. 3011, Shahe Road West, XiLi Street, Nanshan District, Shenzhen, China

## 2. General Description of EUT

<b>EUT Name</b>	:	AC1200 Dual Band WiFi Mesh Extender		
<b>Models No.</b>	:	WAP-5903		
<b>S/N Number:</b>	:	M1914000765, M1914000766		
<b>Brand Name</b>	:	COMTREND		
<b>Product Description</b>	:	<table border="0"> <tr> <td>Operation Frequency:</td> <td>802.11b/g/n(HT20): 2412MHz~2462MHz 802.11n(HT40): 2422MHz~2452MHz U-NII-1: 5180MHz~5240MHz, U-NII-2A: 5260MHz~5320MHz U-NII-2C: 5500MHz~5720MHz U-NII-3: 5745MHz~5825MHz</td> </tr> </table>	Operation Frequency:	802.11b/g/n(HT20): 2412MHz~2462MHz 802.11n(HT40): 2422MHz~2452MHz U-NII-1: 5180MHz~5240MHz, U-NII-2A: 5260MHz~5320MHz U-NII-2C: 5500MHz~5720MHz U-NII-3: 5745MHz~5825MHz
Operation Frequency:	802.11b/g/n(HT20): 2412MHz~2462MHz 802.11n(HT40): 2422MHz~2452MHz U-NII-1: 5180MHz~5240MHz, U-NII-2A: 5260MHz~5320MHz U-NII-2C: 5500MHz~5720MHz U-NII-3: 5745MHz~5825MHz			
<b>Power Rating</b>	:	Adapter(RD1201500-C55-153MG): Input: AC 100-240V, 50/60Hz, 0.6A max Output: DC 12V, 1.5A		
<b>Software Version</b>	:	BS51-3411DCTU-C01_R03		
<b>Hardware Version</b>	:	AR-M400 V3.0		
<b>Connecting I/O Port(S)</b>	:	Please refer to the User's Manual		
<b>Remark</b>	:	the MPE report used the EUT-2(S/N number: M1914000766).		

TB-RF-075-1.0

## MPE Calculations

### 1. Antenna Gain:

Antenna	Brand	Model Name	Type	2.4G Antenna Gain(dBi)
ANT. A	N/A	SLEingB400150135	copper tube	5.05
ANT. B	N/A	SLEingB400150135	copper tube	5.05
Note: For MIMO mode: Directional Gain=ANT. Gain+10*LOG(N <sub>ANT</sub> ) =8.06 dBi 2.4G working with 802.11g/n(HT20/HT40) has MIMO mode. the 802.11 b Mode only use Ant. A				

Antenna	Brand	Model Name	Type	Antenna Gain (dBi)	Directional Gain (dBi)
ANT. A	N/A	SLEingB400150135	copper tube	U-NII-1: 5.42	<b>U-NII-1: 8.43</b> <b>U-NII-2A: 8.24</b> <b>U-NII-2C: 8.04</b> <b>U-NII-3: 8.10</b>
				U-NII-2A: 5.23	
				U-NII-2C: 5.03	
				U-NII-3: 5.09	
ANT. B	N/A	SLEingB400150135	copper tube	U-NII-1: 5.42	
				U-NII-2A: 5.23	
				U-NII-2C: 5.03	
				U-NII-3: 5.09	
Note: For MIMO mode: Directional Gain=ANT. Gain+10*LOG(N <sub>ANT</sub> ).					

### 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:**

## [2.4GHz WLAN]

Mode	Channel	Frequency	Peak Conducted Output Power (dBm)		Tolerance $\pm$ (dB)	Turn-up Power Tolerance (dB)	
			Ant.A	Ant.B		Ant.A	Ant.B
IEEE 802.11b	1	2412	28.93	/	1.0	28 $\pm$ 1	/
	6	2437	27.89	/	1.0	28 $\pm$ 1	/
	11	2462	27.39	/	1.0	28 $\pm$ 1	/
IEEE 802.11g	1	2412	24.46	24.47	1.0	24 $\pm$ 1	24 $\pm$ 1
	6	2437	24.26	24.39	1.0	24 $\pm$ 1	24 $\pm$ 1
	11	2462	24.52	24.50	1.0	24 $\pm$ 1	24 $\pm$ 1
IEEE 802.11n HT20	1	2412	24.64	24.51	1.0	24 $\pm$ 1	24 $\pm$ 1
	6	2437	24.34	24.41	1.0	24 $\pm$ 1	24 $\pm$ 1
	11	2462	24.58	24.45	1.0	24 $\pm$ 1	24 $\pm$ 1
IEEE 802.11n HT40	3	2422	24.58	24.32	1.0	24 $\pm$ 1	24 $\pm$ 1
	6	2437	24.43	24.49	1.0	24 $\pm$ 1	24 $\pm$ 1
	9	2452	24.42	24.26	1.0	24 $\pm$ 1	24 $\pm$ 1

## [5GHz WLAN U-NII-1]

Mode	Channel	Frequency	Peak Conducted Output Power (dBm)		Tolerance $\pm$ (dB)	Turn-up Power Tolerance (dB)	
			Ant.A	Ant.B		Ant.A	Ant.B
IEEE 802.11a	36	5180	18.96	18.49	1.0	18 $\pm$ 1	18 $\pm$ 1
	40	5200	18.90	18.69	1.0	18 $\pm$ 1	18 $\pm$ 1
	48	5240	19.15	18.93	1.0	19 $\pm$ 1	19 $\pm$ 1
IEEE 802.11n HT20	36	5180	18.86	19.41	1.0	19 $\pm$ 1	19 $\pm$ 1
	40	5200	19.03	19.44	1.0	19 $\pm$ 1	19 $\pm$ 1
	48	5240	19.52	19.36	1.0	19 $\pm$ 1	19 $\pm$ 1
IEEE 802.11ac VHT20	36	5180	19.39	19.84	1.0	19 $\pm$ 1	19 $\pm$ 1
	40	5200	19.52	19.41	1.0	19 $\pm$ 1	19 $\pm$ 1
	48	5240	19.95	19.22	1.0	19 $\pm$ 1	19 $\pm$ 1
IEEE 802.11n HT40	38	5190	22.17	22.51	1.0	22 $\pm$ 1	22 $\pm$ 1
	46	5230	22.56	22.10	1.0	22 $\pm$ 1	22 $\pm$ 1
IEEE 802.11ac VHT40	38	5190	22.27	22.49	1.0	22 $\pm$ 1	22 $\pm$ 1
	46	5230	22.59	22.08	1.0	22 $\pm$ 1	22 $\pm$ 1
IEEE 802.11ac VHT80	42	5210	21.69	21.42	1.0	22 $\pm$ 1	22 $\pm$ 1

[5GHz WLAN U-NII-2A]

Mode	Channel	Frequency	Peak Conducted Output Power (dBm)		Tolerance ± (dB)	Turn-up Power Tolerance (dB)	
			Ant.A	Ant.B		Ant.A	Ant.B
IEEE 802.11a	52	5260	13.14	12.89	1.0	13±1	13±1
	56	5300	13.13	13.27	1.0	13±1	13±1
	64	5320	13.20	13.19	1.0	13±1	13±1
IEEE 802.11n HT20	52	5260	13.86	13.19	1.0	13±1	13±1
	56	5300	13.24	13.72	1.0	13±1	13±1
	64	5320	13.63	13.68	1.0	13±1	13±1
IEEE 802.11ac VHT20	52	5260	13.81	13.55	1.0	13±1	13±1
	56	5300	13.19	13.79	1.0	13±1	13±1
	64	5320	13.48	13.76	1.0	13±1	13±1
IEEE 802.11n HT40	54	5270	16.61	16.47	1.0	17±1	17±1
	62	5310	16.40	16.77	1.0	17±1	17±1
IEEE 802.11ac VHT40	54	5270	16.97	16.39	1.0	17±1	17±1
	62	5310	17.08	16.32	1.0	17±1	17±1
IEEE 802.11ac VHT80	58	5290	18.32	18.11	1.0	18±1	18±1

[5GHz WLAN U-NII-2C]

Mode	Channel	Frequency	Peak Conducted Output Power (dBm)		Tolerance ± (dB)	Turn-up Power Tolerance (dB)	
			Ant.A	Ant.B		Ant.A	Ant.B
IEEE 802.11a	100	5500	12.97	13.00	1.0	13±1	13±1
	124	5600	13.45	13.02	1.0	13±1	13±1
	144	5720	12.78	12.40	1.0	13±1	13±1
IEEE 802.11n HT20	100	5500	13.21	13.27	1.0	13±1	13±1
	124	5600	13.32	13.69	1.0	13±1	13±1
	144	5720	13.16	13.69	1.0	13±1	13±1
IEEE 802.11ac VHT20	100	5500	12.90	12.81	1.0	13±1	13±1
	124	5600	13.26	12.89	1.0	13±1	13±1
	144	5720	13.21	13.02	1.0	13±1	13±1
IEEE 802.11n HT40	102	5510	16.76	16.61	1.0	16±1	16±1
	126	5630	16.29	15.73	1.0	16±1	16±1
	142	5710	15.87	16.19	1.0	16±1	16±1
IEEE 802.11ac VHT40	102	5510	16.82	16.61	1.0	16±1	16±1
	126	5630	16.27	15.73	1.0	16±1	16±1
	142	5710	15.87	16.19	1.0	16±1	16±1
IEEE 802.11ac VHT80	106	5530	18.47	18.25	1.0	18±1	18±1
	122	5610	18.25	18.62	1.0	18±1	18±1
	138	5690	18.47	18.24	1.0	18±1	18±1

## [5GHz WLAN U-NII-3]

Mode	Channel	Frequency	Peak Conducted Output Power (dBm)		Tolerance ± (dB)	Turn-up Power Tolerance (dB)	
			Ant.A	Ant.B		Ant.A	Ant.B
IEEE 802.11a	149	5745	24.38	24.43	1.0	24±1	24±1
	157	5785	24.24	24.52	1.0	24±1	24±1
	165	5825	24.24	24.62	1.0	24±1	24±1
IEEE 802.11n HT20	149	5745	24.50	24.45	1.0	24±1	24±1
	157	5785	24.49	24.73	1.0	24±1	24±1
	165	5825	24.41	24.67	1.0	24±1	24±1
IEEE 802.11ac VHT20	149	5745	24.61	24.51	1.0	24±1	24±1
	157	5785	24.42	24.56	1.0	24±1	24±1
	165	5825	24.28	24.57	1.0	24±1	24±1
IEEE 802.11n HT40	151	5755	24.43	24.14	1.0	24±1	24±1
	159	5795	24.40	24.72	1.0	24±1	24±1
IEEE 802.11ac VHT40	151	5755	24.30	24.52	1.0	24±1	24±1
	159	5795	24.28	24.73	1.0	24±1	24±1
IEEE 802.11ac VHT80	155	5775	23.56	24.81	1.0	24±1	24±1

**2.4GHz WLAN ANT. A**

Modulation Type	Output power (Turn-up Procedure)		Antenna Gain (dBi)	Antenna Gain (Numeric)	Distance (cm) [R]	MPE (mW/cm <sup>2</sup> )	MPE Limits (mW/cm <sup>2</sup> )
	dBm	mW					
IEEE 802.11b	29.00	794.3282	5.05	3.199	25	0.3235	1.0000
IEEE 802.11g	25.00	316.2278	5.05	3.199	25	0.1288	1.0000
IEEE 802.11n HT20	25.00	316.2278	5.05	3.199	25	0.1288	1.0000
IEEE 802.11n HT40	25.00	316.2278	5.05	3.199	25	0.1288	1.0000

**2.4GHz WLAN ANT. B**

Modulation Type	Output power (Turn-up Procedure)		Antenna Gain (dBi)	Antenna Gain (Numeric)	Distance (cm) [R]	MPE (mW/cm <sup>2</sup> )	MPE Limits (mW/cm <sup>2</sup> )
	dBm	mW					
IEEE 802.11b	/	/	/	/	/	/	/
IEEE 802.11g	25.00	316.2278	5.05	3.199	25	0.1288	1.0000
IEEE 802.11n HT20	25.00	316.2278	5.05	3.199	25	0.1288	1.0000
IEEE 802.11n HT40	25.00	316.2278	5.05	3.199	25	0.1288	1.0000

**5GHz WLAN U-NII-1 ANT. A**

Modulation Type	Output power (Turn-up Procedure)		Antenna Gain (dBi)	Antenna Gain (Numeric)	Distance (cm) [R]	MPE (mW/cm <sup>2</sup> )	MPE Limits (mW/cm <sup>2</sup> )
	dBm	mW					
IEEE 802.11a	19.00	79.4328	5.42	3.483	25	0.0352	1.0000
IEEE 802.11n HT20	19.00	79.4328	5.42	3.483	25	0.0352	1.0000
IEEE 802.11ac VHT20	19.00	79.4328	5.42	3.483	25	0.0352	1.0000
IEEE 802.11n HT40	23.00	199.5262	5.42	3.483	25	0.0885	1.0000
IEEE 802.11ac VHT40	23.00	199.5262	5.42	3.483	25	0.0885	1.0000
IEEE 802.11ac VHT80	23.00	199.5262	5.42	3.483	25	0.0885	1.0000

**5GHz WLAN U-NII-1 ANT. B**

Modulation Type	Output power (Turn-up Procedure)		Antenna Gain (dBi)	Antenna Gain (Numeric)	Distance (cm) [R]	MPE (mW/cm <sup>2</sup> )	MPE Limits (mW/cm <sup>2</sup> )
	dBm	mW					
IEEE 802.11a	19.00	79.4328	5.42	3.483	25	0.0352	1.0000
IEEE 802.11n HT20	19.00	79.4328	5.42	3.483	25	0.0352	1.0000
IEEE 802.11ac VHT20	19.00	79.4328	5.42	3.483	25	0.0352	1.0000
IEEE 802.11n HT40	23.00	199.5262	5.42	3.483	25	0.0885	1.0000
IEEE 802.11ac VHT40	23.00	199.5262	5.42	3.483	25	0.0885	1.0000
IEEE 802.11ac VHT80	23.00	199.5262	5.42	3.483	25	0.0885	1.0000

**5GHz WLAN U-NII-2A ANT. A**

Modulation Type	Output power (Turn-up Procedure)		Antenna Gain (dBi)	Antenna Gain (Numeric)	Distance (cm) [R]	MPE (mW/cm <sup>2</sup> )	MPE Limits (mW/cm <sup>2</sup> )
	dBm	mW					
IEEE 802.11a	14.00	25.1189	5.23	3.334	25	0.0111	1.0000
IEEE 802.11n HT20	14.00	25.1189	5.23	3.334	25	0.0111	1.0000
IEEE 802.11ac VHT20	14.00	25.1189	5.23	3.334	25	0.0111	1.0000
IEEE 802.11n HT40	18.00	63.0957	5.23	3.334	25	0.0280	1.0000
IEEE 802.11ac VHT40	18.00	63.0957	5.23	3.334	25	0.0280	1.0000
IEEE 802.11ac VHT80	19.00	79.4328	5.23	3.334	25	0.0352	1.0000

**5GHz WLAN U-NII-2A ANT. B**

Modulation Type	Output power (Turn-up Procedure)		Antenna Gain (dBi)	Antenna Gain (Numeric)	Distance (cm) [R]	MPE (mW/cm <sup>2</sup> )	MPE Limits (mW/cm <sup>2</sup> )
	dBm	mW					
IEEE 802.11a	14.00	25.1189	5.23	3.334	25	0.0111	1.0000
IEEE 802.11n HT20	14.00	25.1189	5.23	3.334	25	0.0111	1.0000
IEEE 802.11ac VHT20	14.00	25.1189	5.23	3.334	25	0.0111	1.0000
IEEE 802.11n HT40	18.00	63.0957	5.23	3.334	25	0.0280	1.0000
IEEE 802.11ac VHT40	18.00	63.0957	5.23	3.334	25	0.0280	1.0000
IEEE 802.11ac VHT80	19.00	79.4328	5.23	3.334	25	0.0352	1.0000

## 5GHz WLAN U-NII-2C ANT. A

Modulation Type	Output power (Turn-up Procedure)		Antenna Gain (dBi)	Antenna Gain (Numeric)	Distance (cm) [R]	MPE (mW/cm <sup>2</sup> )	MPE Limits (mW/cm <sup>2</sup> )
	dBm	mW					
IEEE 802.11a	14.00	25.1189	5.03	3.184	25	0.0102	1.0000
IEEE 802.11n HT20	14.00	25.1189	5.03	3.184	25	0.0102	1.0000
IEEE 802.11ac VHT20	14.00	25.1189	5.03	3.184	25	0.0102	1.0000
IEEE 802.11n HT40	17.00	50.1187	5.03	3.184	25	0.0203	1.0000
IEEE 802.11ac VHT40	17.00	50.1187	5.03	3.184	25	0.0203	1.0000
IEEE 802.11ac VHT80	19.00	79.4328	5.03	3.184	25	0.0322	1.0000

## 5GHz WLAN U-NII-2C ANT. B

Modulation Type	Output power (Turn-up Procedure)		Antenna Gain (dBi)	Antenna Gain (Numeric)	Distance (cm) [R]	MPE (mW/cm <sup>2</sup> )	MPE Limits (mW/cm <sup>2</sup> )
	dBm	mW					
IEEE 802.11a	14.00	25.1189	5.03	3.184	25	0.0102	1.0000
IEEE 802.11n HT20	14.00	25.1189	5.03	3.184	25	0.0102	1.0000
IEEE 802.11ac VHT20	14.00	25.1189	5.03	3.184	25	0.0102	1.0000
IEEE 802.11n HT40	17.00	50.1187	5.03	3.184	25	0.0203	1.0000
IEEE 802.11ac VHT40	17.00	50.1187	5.03	3.184	25	0.0203	1.0000
IEEE 802.11ac VHT80	19.00	79.4328	5.03	3.184	25	0.0322	1.0000

## 5GHz WLAN U-NII-3 ANT. A

Modulation Type	Output power (Turn-up Procedure)		Antenna Gain (dBi)	Antenna Gain (Numeric)	Distance (cm) [R]	MPE (mW/cm <sup>2</sup> )	MPE Limits (mW/cm <sup>2</sup> )
	dBm	mW					
IEEE 802.11a	25.00	316.2278	5.09	3.228	25	0.1300	1.0000
IEEE 802.11n HT20	25.00	316.2278	5.09	3.228	25	0.1300	1.0000
IEEE 802.11ac VHT20	25.00	316.2278	5.09	3.228	25	0.1300	1.0000
IEEE 802.11n HT40	25.00	316.2278	5.09	3.228	25	0.1300	1.0000
IEEE 802.11ac VHT40	25.00	316.2278	5.09	3.228	25	0.1300	1.0000
IEEE 802.11ac VHT80	25.00	316.2278	5.09	3.228	25	0.1300	1.0000

## 5GHz WLAN U-NII-3 ANT. B

Modulation Type	Output power (Turn-up Procedure)		Antenna Gain (dBi)	Antenna Gain (Numeric)	Distance (cm) [R]	MPE (mW/cm <sup>2</sup> )	MPE Limits (mW/cm <sup>2</sup> )
	dBm	mW					
IEEE 802.11a	25.00	316.2278	5.09	3.228	25	0.1300	1.0000
IEEE 802.11n HT20	25.00	316.2278	5.09	3.228	25	0.1300	1.0000
IEEE 802.11ac VHT20	25.00	316.2278	5.09	3.228	25	0.1300	1.0000
IEEE 802.11n HT40	25.00	316.2278	5.09	3.228	25	0.1300	1.0000
IEEE 802.11ac VHT40	25.00	316.2278	5.09	3.228	25	0.1300	1.0000
IEEE 802.11ac VHT80	25.00	316.2278	5.09	3.228	25	0.1300	1.0000

## Remark:

1. Output power (Average) 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 25cm from user manual provide by manufacturer.

## 6. Summary simultaneous transmission information

Modulation Type	Work Frequency Band	Transmit Antenna		Antenna A Antenna B Synchronization transmit
		Antenna A	Antenna B	
IEEE 802.11a	U-NII-1/ U-NII-2A U-NII-2C/ U-NII-3	Yes	Yes	Yes
IEEE 802.11b	2.4GHz	Yes	No	No
IEEE 802.11g	2.4GHz	Yes	Yes	Yes
IEEE 802.11n HT20	2.4GHz	Yes	Yes	Yes
IEEE 802.11n HT20	U-NII-1/ U-NII-2A U-NII-2C/ U-NII-3	Yes	Yes	Yes
IEEE 802.11n HT40	2.4GHz	Yes	Yes	Yes
IEEE 802.11n HT40	U-NII-1/ U-NII-2A U-NII-2C/ U-NII-3	Yes	Yes	Yes
IEEE 802.11ac VHT20	U-NII-1/ U-NII-2A U-NII-2C/ U-NII-3	Yes	Yes	Yes
IEEE 802.11ac VHT40	U-NII-1/ U-NII-2A U-NII-2C/ U-NII-3	Yes	Yes	Yes
IEEE 802.11ac VHT80	U-NII-1/ U-NII-2A U-NII-2C/ U-NII-3	Yes	Yes	Yes



## 7. Summary simultaneous transmission results

### Antenna A and Antenna B for 2.4G WLAN

Modulation Type	MPE <sub>Antenna A</sub> (mW/cm <sup>2</sup> )	MPE <sub>Antenna B</sub> (mW/cm <sup>2</sup> )	ΣMPE ratios	Limit	Results
IEEE 802.11b	0.3235	/	0.3235	1.0	PASS
IEEE 802.11g	0.1288	0.1288	0.2576	1.0	PASS
IEEE 802.11n HT20	0.1288	0.1288	0.2576	1.0	PASS
IEEE 802.11n HT40	0.1288	0.1288	0.2576	1.0	PASS

### Antenna A and Antenna B for 5G WLAN U-NII-1

Modulation Type	MPE <sub>Antenna A</sub> (mW/cm <sup>2</sup> )	MPE <sub>Antenna B</sub> (mW/cm <sup>2</sup> )	ΣMPE ratios	Limit	Results
IEEE 802.11a	0.0352	0.0352	0.0704	1.0	PASS
IEEE 802.11n HT20	0.0352	0.0352	0.0704	1.0	PASS
IEEE 802.11ac VHT20	0.0352	0.0352	0.0704	1.0	PASS
IEEE 802.11n HT40	0.0885	0.0885	0.1770	1.0	PASS
IEEE 802.11ac VHT40	0.0885	0.0885	0.1770	1.0	PASS
IEEE 802.11ac VHT80	0.0885	0.0885	0.1770	1.0	PASS

### Antenna A and Antenna B for 5G WLAN U-NII-2A

Modulation Type	MPE <sub>Antenna A</sub> (mW/cm <sup>2</sup> )	MPE <sub>Antenna B</sub> (mW/cm <sup>2</sup> )	ΣMPE ratios	Limit	Results
IEEE 802.11a	0.0111	0.0111	0.0222	1.0	PASS
IEEE 802.11n HT20	0.0111	0.0111	0.0222	1.0	PASS
IEEE 802.11ac VHT20	0.0111	0.0111	0.0222	1.0	PASS
IEEE 802.11n HT40	0.0280	0.0280	0.0560	1.0	PASS
IEEE 802.11ac VHT40	0.0280	0.0280	0.0560	1.0	PASS
IEEE 802.11ac VHT80	0.0352	0.0352	0.0704	1.0	PASS

### Antenna A and Antenna B for 5G WLAN U-NII-2C

Modulation Type	MPE <sub>Antenna A</sub> (mW/cm <sup>2</sup> )	MPE <sub>Antenna B</sub> (mW/cm <sup>2</sup> )	ΣMPE ratios	Limit	Results
IEEE 802.11a	0.0102	0.0102	0.0204	1.0	PASS
IEEE 802.11n HT20	0.0102	0.0102	0.0204	1.0	PASS
IEEE 802.11ac VHT20	0.0102	0.0102	0.0204	1.0	PASS
IEEE 802.11n HT40	0.0203	0.0203	0.0406	1.0	PASS
IEEE 802.11ac VHT40	0.0203	0.0203	0.0406	1.0	PASS
IEEE 802.11ac VHT80	0.0322	0.0322	0.0644	1.0	PASS

### Antenna A and Antenna B for 5G WLAN U-NII-3

Modulation Type	MPE <sub>Antenna A</sub> (mW/cm <sup>2</sup> )	MPE <sub>Antenna B</sub> (mW/cm <sup>2</sup> )	ΣMPE ratios	Limit	Results
IEEE 802.11a	0.1300	0.1300	0.2600	1.0	PASS
IEEE 802.11n HT20	0.1300	0.1300	0.2600	1.0	PASS
IEEE 802.11ac VHT20	0.1300	0.1300	0.2600	1.0	PASS
IEEE 802.11n HT40	0.1300	0.1300	0.2600	1.0	PASS
IEEE 802.11ac VHT40	0.1300	0.1300	0.2600	1.0	PASS
IEEE 802.11ac VHT80	0.1300	0.1300	0.2600	1.0	PASS

### Maximum Simultaneous transmission MPE Ratios for 2.4GHz WLAN and 5G WLAN

Maximum MPE ratio 2.4G WLAN	Maximum MPE ratio 5G WLAN	ΣMPE ratios	Limit	Results
0.3235	0.2600	0.5835	1.0	PASS

## 8. Conclusion:

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

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