

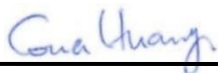
# RF EXPOSURE EVALUATION REPORT

**FCC ID** : S9GR760  
**Equipment** : R760 Access Point  
**Brand Name** : RUCKUS  
**Model Name** : R760  
**Applicant** : Ruckus Wireless Inc.  
350 W. Java Dr., Sunnyvale CA 94089 USA  
**Manufacturer** : Ruckus Wireless Inc.  
350 W. Java Dr., Sunnyvale CA 94089 USA  
**Standard** : 47 CFR Part 1.1307

We, SPORTON INTERNATIONAL INC has been evaluated this product in accordance with 47 CFR Part 1.1307 and it complies with applicable limit.

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code: 1190) and the FCC designation No. TW1190 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC evaluation.

The results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full



Approved by: Cona Huang / Deputy Manager



**SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory**  
No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)



## **Table of Contents**

<b>1. DESCRIPTION OF EQUIPMENT UNDER TEST (EUT) .....</b>	<b>4</b>
<b>2. MAXIMUM RF AVERAGE OUTPUT POWER AMONG PRODUCTION UNITS .....</b>	<b>5</b>
<b>3. RF EXPOSURE LIMIT INTRODUCTION .....</b>	<b>25</b>
<b>4. RADIO FREQUENCY RADIATION EXPOSURE EVALUATION .....</b>	<b>25</b>
4.1. Standalone Power Density Calculation .....	25
4.2. Collocated Power Density Calculation.....	26





1. Description of Equipment Under Test (EUT)

Product Feature & Specification	
EUT Type	R760 Access Point
Brand Name	RUCKUS
Model Name	R760
FCC ID	S9GR760
Wireless Technology and Frequency Range	WLAN 2.4GHz Band: 2400 MHz ~ 2483.5 MHz WLAN 5.2GHz Band: 5150 MHz ~ 5250 MHz WLAN 5.3GHz Band: 5250 MHz ~ 5350 MHz WLAN 5.5GHz Band: 5470 MHz ~ 5725 MHz WLAN 5.8GHz Band: 5725 MHz ~ 5855 MHz WLAN 6E: 5925 MHz ~ 6425 MHz, 6425 MHz ~ 6525 MHz, 6525 MHz ~ 6875 MHz, 6875 MHz ~ 7125 MHz Bluetooth: 2400 MHz ~ 2483.5 MHz Zigbee: 2405 MHz ~ 2475 MHz
Mode	WLAN: 802.11a/b/g/n/ac/ax HT20/HT40/VHT20/VHT40/VHT80/VHT160/HE20/HE40/HE80/HE160 Bluetooth LE NFC:ASK Zigbee: BPSK
SW Version	118.0.0.99.8120
EUT Stage	Production Unit
<b>Remark:</b>	
<ol style="list-style-type: none"> <li>The device is a special case of MIMO system with four outputs driving a cross-polarized pair of linearly polarized antennas (noted as "vertical" and "horizontal").The antenna printed on the secondary board which is vertically/horizontally mounted on the main board.</li> <li>The device has three radio circuits operating in WLAN 5GHz bands, the configuration of each circuit is listed in the following table</li> </ol>	

WLAN 5GHz Configuration	
Radio 1	UNII-1, UNII-2a
Radio 2	UNII-1, UNII-2a, UNII-2c, UNII-3
Radio 3	UNII-2c, UNII-3

Reviewed by: Jason Wang

Report Producer: Daisy Peng



**2. Maximum RF average output power among production units**

BLE	Freq. (MHz)	Tune-Up (dBm)
	2402	16.00
	2440	19.00
	2478	17.00
	2480	12.00

Zigbee	Freq. (MHz)	Tune-Up (dBm)
	2405	20.00
	2435	20.00
	2475	20.00
	2480	6.00

**<2.4GHz non-TXBF>**

2.4GHz Band		
Mod.	Freq (MHz)	Tune-Up (dBm)
		MIMO
11b	2412	28.00
11b	2437	29.00
11b	2462	29.00
11g	2412	26.00
11g	2437	28.00
11g	2462	25.00
HT20	2412	26.00
HT20	2437	28.00
HT20	2462	25.00
HT40	2422	25.00
HT40	2437	25.00
HT40	2452	23.00
VHT20	2412	26.00
VHT20	2437	28.00
VHT20	2462	25.00
VHT40	2422	25.00
VHT40	2437	25.00
VHT40	2452	23.00
HE20	2412	26.00
HE20	2437	28.00
HE20	2462	25.00
HE40	2422	25.00
HE40	2437	25.00
HE40	2452	23.00



**<2.4GHz TXBF>**

2.4GHz Band Beamforming Mode		
Mod.	Freq.(MHz)	Tune-Up (dBm)
		MIMO
HT20	2412	26.00
HT20	2437	28.00
HT20	2462	25.00
HT40	2422	25.00
HT40	2437	25.00
HT40	2452	23.00
VHT20	2412	26.00
VHT20	2437	28.00
VHT20	2462	25.00
VHT40	2422	25.00
VHT40	2437	25.00
VHT40	2452	23.00
HE20	2412	26.00
HE20	2437	28.00
HE20	2462	25.00
HE40	2422	25.00
HE40	2437	25.00
HE40	2452	23.00



**<Radio 1>**

**<5GHz non-TXBF>**

FCC UNII-1 MIMO 4Tx Mode Ant A + D + B + C		
Mod.	Freq.(MHz)	Tune-Up (dBm)
		MIMO
11a	5180	27.00
11a	5220	28.00
11a	5240	28.00
HT20	5180	27.00
HT20	5220	28.00
HT20	5240	28.00
HT40	5190	24.00
HT40	5230	28.00
VHT20	5180	27.00
VHT20	5220	28.00
VHT20	5240	28.00
VHT40	5190	24.00
VHT40	5230	28.00
VHT80	5210	23.00
VHT80+80	5210	21.00
	5290	21.00
HE20	5180	27.00
HE20	5220	28.00
HE20	5240	28.00
HE40	5190	24.00
HE40	5230	28.00
HE80	5210	23.00
HE80+80	5210	21.00
	5290	21.00

FCC UNII-2a MIMO 4Tx Mode Ant A + D + B + C		
Mod.	Freq.(MHz)	Tune-Up (dBm)
		MIMO
11a	5260	23.00
11a	5300	23.00
11a	5320	23.00
HT20	5260	23.00
HT20	5300	23.00
HT20	5320	23.00
HT40	5270	24.00
HT40	5310	23.00
VHT20	5260	23.00
VHT20	5300	23.00
VHT20	5320	23.00
VHT40	5270	24.00
VHT40	5310	23.00
VHT80	5290	22.00
HE20	5260	23.00
HE20	5300	23.00
HE20	5320	23.00



HE40	5270	24.00
HE40	5310	23.00
HE80	5290	22.00

**<5GHz TXBF>**

FCC UNII-1 Beamforming Mode Ant A + D + B + C		
Mod.	Freq.(MHz)	Tune-Up (dBm)
		MIMO
11a	5180	27.00
11a	5220	28.00
11a	5240	28.00
HT20	5180	27.00
HT20	5220	28.00
HT20	5240	28.00
HT40	5190	24.00
HT40	5230	28.00
VHT20	5180	27.00
VHT20	5220	28.00
VHT20	5240	28.00
VHT40	5190	24.00
VHT40	5230	28.00
VHT80	5210	23.00
HE20	5180	27.00
HE20	5220	28.00
HE20	5240	28.00
HE40	5190	24.00
HE40	5230	28.00
HE80	5210	23.00

FCC UNII-2a Beamforming Mode Ant A + D + B + C		
Mod.	Freq.(MHz)	Tune-Up (dBm)
		MIMO
11a	5260	23.00
11a	5300	23.00
11a	5320	23.00
HT20	5260	23.00
HT20	5300	23.00
HT20	5320	23.00
HT40	5270	24.00
HT40	5310	23.00
VHT20	5260	23.00
VHT20	5300	23.00
VHT20	5320	23.00
VHT40	5270	24.00
VHT40	5310	23.00
VHT80	5290	22.00
HE20	5260	23.00
HE20	5300	23.00
HE20	5320	23.00
HE40	5270	24.00





HE40	5310	23.00
HE80	5290	22.00

**<Radio 2>**

**<5GHz non-TXBF>**

FCC UNII-1 MIMO 4Tx Mode Ant A + D + B + C		
Mod.	Freq.(MHz)	Tune-Up (dBm)
		MIMO
11a	5180	25.00
11a	5220	28.00
11a	5240	28.00
HT20	5180	24.00
HT20	5220	28.00
HT20	5240	28.00
HT40	5190	24.00
HT40	5230	27.00
VHT20	5180	24.00
VHT20	5220	28.00
VHT20	5240	28.00
VHT40	5190	24.00
VHT40	5230	27.00
VHT80	5210	23.00
VHT80+80	5210	20.00
	5290	20.00
HE20	5180	24.00
HE20	5220	28.00
HE20	5240	28.00
HE40	5190	24.00
HE40	5230	27.00
HE80	5210	23.00
HE80+80	5210	20.00
	5290	20.00



FCC UNII-2a MIMO 4Tx Mode Ant A + D + B + C		
Mod.	Freq.(MHz)	Tune-Up (dBm)
		MIMO
11a	5260	23.00
11a	5300	23.00
11a	5320	23.00
HT20	5260	24.00
HT20	5300	24.00
HT20	5320	24.00
HT40	5270	24.00
HT40	5310	22.00
VHT20	5260	24.00
VHT20	5300	24.00
VHT20	5320	24.00
VHT40	5270	24.00
VHT40	5310	22.00
VHT80	5290	22.00
HE20	5260	24.00
HE20	5300	24.00
HE20	5320	24.00
HE40	5270	24.00
HE40	5310	22.00
HE80	5290	22.00

FCC UNII-2c MIMO 4Tx Mode Ant A + D + B + C		
Mod.	Freq.(MHz)	Tune-Up (dBm)
		MIMO
11a	5500	23.00
11a	5580	23.00
11a	5700	23.00
HT20	5500	23.00
HT20	5580	24.00
HT20	5700	23.00
HT40	5510	24.00
HT40	5550	24.00
HT40	5670	24.00
VHT20	5500	23.00
VHT20	5580	24.00
VHT20	5700	23.00
VHT40	5510	24.00
VHT40	5550	24.00
VHT40	5670	24.00
VHT80	5530	24.00
VHT80	5610	24.00
VHT80+80	5530+5610	24.00
11a	5720	23.00
HT20	5720	23.00
HT40	5710	24.00
VHT20	5720	23.00



**RF EXPOSURE EVALUATION REPORT**

**Report No. : FA210728001**

VHT40	5710	24.00
VHT80	5690	24.00
HE20	5500	23.00
HE20	5580	24.00
HE20	5700	24.00
HE40	5510	24.00
HE40	5550	24.00
HE40	5670	24.00
HE80	5530	24.00
HE80	5610	24.00
HE80+80	5530+5610	24.00
HE20	5720	23.00
HE40	5710	24.00
HE80	5690	24.00

FCC UNII-3 MIMO 4Tx Mode Ant A + D + B + C		
Mod.	Freq.(MHz)	Tune-Up (dBm)
		MIMO
11a	5745	26.00
11a	5785	26.00
11a	5825	26.00
HT20	5745	27.00
HT20	5785	27.00
HT20	5825	27.00
HT40	5755	25.00
HT40	5795	25.00
VHT20	5745	27.00
VHT20	5785	27.00
VHT20	5825	28.00
VHT40	5755	25.00
VHT40	5795	25.00
VHT80	5775	27.00
HE20	5745	27.00
HE20	5785	27.00
HE20	5825	28.00
HE40	5755	25.00
HE40	5795	25.00
HE80	5775	27.00



**<5GHz TXBF>**

FCC UNII-1 Beamforming Mode Ant A + D + B + C		
Mod.	Freq.(MHz)	Tune-Up (dBm)
		MIMO
11a	5180	25.00
11a	5220	28.00
11a	5240	28.00
HT20	5180	24.00
HT20	5220	28.00
HT20	5240	28.00
HT40	5190	24.00
HT40	5230	27.00
VHT20	5180	24.00
VHT20	5220	28.00
VHT20	5240	28.00
VHT40	5190	24.00
VHT40	5230	27.00
VHT80	5210	23.00
HE20	5180	24.00
HE20	5220	28.00
HE20	5240	28.00
HE40	5190	24.00
HE40	5230	27.00
HE80	5210	23.00

FCC UNII-2a Beamforming Mode Ant A + D + B + C		
Mod.	Freq.(MHz)	Tune-Up (dBm)
		MIMO
11a	5260	23.00
11a	5300	23.00
11a	5320	23.00
HT20	5260	24.00
HT20	5300	24.00
HT20	5320	24.00
HT40	5270	24.00
HT40	5310	22.00
VHT20	5260	24.00
VHT20	5300	24.00
VHT20	5320	24.00
VHT40	5270	24.00
VHT40	5310	22.00
VHT80	5290	22.00
HE20	5260	24.00
HE20	5300	24.00
HE20	5320	24.00
HE40	5270	24.00
HE40	5310	22.00
HE80	5290	22.00



# RF EXPOSURE EVALUATION REPORT

Report No. : FA210728001

FCC UNII-2c Beamforming Mode Ant A + D + B + C		
Mod.	Freq.(MHz)	Tune-Up (dBm)
		MIMO
11a	5500	23.00
11a	5580	23.00
11a	5700	23.00
HT20	5500	23.00
HT20	5580	24.00
HT20	5700	23.00
HT40	5510	24.00
HT40	5550	24.00
HT40	5670	24.00
VHT20	5500	23.00
VHT20	5580	24.00
VHT20	5700	23.00
VHT40	5510	24.00
VHT40	5550	24.00
VHT40	5670	24.00
VHT80	5530	24.00
VHT80	5610	24.00
11a	5720	23.00
HT20	5720	23.00
HT40	5710	24.00
VHT20	5720	23.00
VHT40	5710	24.00
VHT80	5690	24.00
HE20	5500	23.00
HE20	5580	24.00
HE20	5700	24.00
HE40	5510	24.00
HE40	5550	24.00
HE40	5670	24.00
HE80	5530	24.00
HE80	5610	24.00
HE20	5720	23.00
HE40	5710	24.00
HE80	5690	24.00



FCC UNII-3 Beamforming Mode Ant A + D + B + C		
Mod.	Freq.(MHz)	Tune-Up (dBm)
		MIMO
11a	5745	26.00
11a	5785	26.00
11a	5825	26.00
HT20	5745	27.00
HT20	5785	27.00
HT20	5825	27.00
HT40	5755	25.00
HT40	5795	25.00
VHT20	5745	27.00
VHT20	5785	27.00
VHT20	5825	28.00
VHT40	5755	25.00
VHT40	5795	25.00
VHT80	5775	27.00
HE20	5745	27.00
HE20	5785	27.00
HE20	5825	28.00
HE40	5755	25.00
HE40	5795	25.00
HE80	5775	27.00

**<Radio 3>****<5GHz non-TXBF>**

FCC UNII-2c MIMO 4Tx Mode Ant E + H + F + G		
Mod.	Freq.(MHz)	Tune-Up (dBm)
		MIMO
11a	5500	22.00
11a	5580	22.00
11a	5700	22.00
HT20	5500	23.00
HT20	5580	23.00
HT20	5700	23.00
HT40	5510	24.00
HT40	5550	24.00
HT40	5670	24.00
VHT20	5500	23.00
VHT20	5580	23.00
VHT20	5700	23.00
VHT40	5510	24.00
VHT40	5550	24.00
VHT40	5670	24.00
VHT80	5530	24.00
VHT80	5610	24.00
VHT160	5570	23.00
11a	5720	22.00
HT20	5720	23.00



**RF EXPOSURE EVALUATION REPORT**

**Report No. : FA210728001**

HT40	5710	24.00
VHT20	5720	23.00
VHT40	5710	24.00
VHT80	5690	24.00
HE20	5500	23.00
HE20	5580	23.00
HE20	5700	23.00
HE40	5510	24.00
HE40	5550	24.00
HE40	5670	24.00
HE80	5530	24.00
HE80	5610	24.00
HE160	5570	24.00
HE20	5720	23.00
HE40	5710	24.00
HE80	5690	24.00

FCC UNII-3 MIMO 4Tx Mode Ant E + H + F + G		
Mod.	Freq.(MHz)	Tune-Up (dBm)
		MIMO
11a	5745	28.00
11a	5785	27.00
11a	5825	27.00
HT20	5745	27.00
HT20	5785	27.00
HT20	5825	27.00
HT40	5755	28.00
HT40	5795	28.00
VHT20	5745	27.00
VHT20	5785	27.00
VHT20	5825	27.00
VHT40	5755	28.00
VHT40	5795	28.00
VHT80	5775	28.00
HE20	5745	27.00
HE20	5785	27.00
HE20	5825	27.00
HE40	5755	28.00
HE40	5795	28.00
HE80	5775	28.00



**<5GHz TXBF>**

FCC UNII-2c Beamforming Mode Ant E + H + F + G		
Mod.	Freq.(MHz)	Tune-Up (dBm)
		MIMO
11a	5500	22.00
11a	5580	22.00
11a	5700	22.00
HT20	5500	23.00
HT20	5580	23.00
HT20	5700	23.00
HT40	5510	24.00
HT40	5550	24.00
HT40	5670	24.00
VHT20	5500	23.00
VHT20	5580	23.00
VHT20	5700	23.00
VHT40	5510	24.00
VHT40	5550	24.00
VHT40	5670	24.00
VHT80	5530	24.00
VHT80	5610	24.00
VHT160	5570	23.00
11a	5720	22.00
HT20	5720	23.00
HT40	5710	24.00
VHT20	5720	23.00
VHT40	5710	24.00
VHT80	5690	24.00
HE20	5500	23.00
HE20	5580	23.00
HE20	5700	23.00
HE40	5510	24.00
HE40	5550	24.00
HE40	5670	24.00
HE80	5530	24.00
HE80	5610	24.00
HE160	5570	24.00
HE20	5720	23.00
HE40	5710	24.00
HE80	5690	24.00





FCC UNII-3 Beamforming Mode Ant E + H + F + G		
Mod.	Freq.(MHz)	Tune-Up (dBm)
		MIMO
11a	5745	28.00
11a	5785	27.00
11a	5825	27.00
HT20	5745	27.00
HT20	5785	27.00
HT20	5825	27.00
HT40	5755	28.00
HT40	5795	28.00
VHT20	5745	27.00
VHT20	5785	27.00
VHT20	5825	27.00
VHT40	5755	28.00
VHT40	5795	28.00
VHT80	5775	28.00
HE20	5745	27.00
HE20	5785	27.00
HE20	5825	27.00
HE40	5755	28.00
HE40	5795	28.00
HE80	5775	28.00



**<6E non-TXBF>**

UNII-5 Band		
Mod.	Freq.(MHz)	Tune-Up(dBm)
		MIMO
11a	5955	8.00
11a	6175	9.00
11a	6415	9.00
HT20	5955	10.00
HT20	5955	10.00
HT20	5955	10.00
HT20	6175	10.00
HT20	6175	10.00
HT20	6175	10.00
HT20	6175	10.00
HT20	6415	10.00
HT40	5965	12.00
HT40	6165	13.00
HT40	6405	13.00
VHT20	5955	10.00
VHT20	5955	10.00
VHT20	5955	10.00
VHT20	6175	10.00
VHT20	6175	10.00
VHT20	6175	10.00
VHT20	6175	10.00
VHT20	6415	10.00
VHT40	5965	12.00
VHT40	6165	13.00
VHT40	6405	13.00
VHT80	5985	15.00
VHT80	6145	15.00
VHT80	6385	16.00
VHT160	6025	18.00
VHT160	6185	18.00
VHT160	6345	19.00
HE20	5955	10.00
HE20	5955	10.00
HE20	5955	10.00
HE20	6175	10.00
HE20	6175	10.00
HE20	6175	10.00
HE20	6175	10.00
HE20	6415	10.00
HE40	5965	12.00
HE40	6165	13.00
HE40	6405	13.00
HE80	5985	15.00
HE80	6145	15.00
HE80	6385	16.00



# RF EXPOSURE EVALUATION REPORT

Report No. : FA210728001

HE160	6025	18.00
HE160	6185	18.00
HE160	6345	19.00

U-NII-6 Band		
Mod.	Freq.(MHz)	Tune-Up(dBm)
		MIMO
11a	6435	9.00
11a	6475	9.00
11a	6515	9.00
HT20	6435	10.00
HT20	6475	10.00
HT20	6515	10.00
HT40	6445	13.00
HT40	6485	13.00
VHT20	6435	10.00
VHT20	6475	10.00
VHT20	6515	10.00
VHT40	6445	13.00
VHT40	6485	13.00
VHT80	6465	16.00
HE20	6435	10.00
HE20	6475	10.00
HE20	6515	10.00
HE40	6445	13.00
HE40	6485	13.00
HE80	6465	16.00

U-NII-7 Band		
Mod.	Freq.(MHz)	Tune-Up(dBm)
		MIMO
11a	6535	9.00
11a	6695	9.00
11a	6855	9.00
11a	6875	9.00
HT20	6535	10.00
HT20	6695	10.00
HT20	6855	10.00
HT40	6565	13.00
HT40	6685	13.00
HT40	6845	13.00
HT20	6875	10.00
VHT20	6535	10.00
VHT20	6695	10.00
VHT20	6855	10.00
VHT40	6565	13.00
VHT40	6685	13.00
VHT40	6845	13.00
VHT80	6625	16.00
VHT80	6705	16.00



**RF EXPOSURE EVALUATION REPORT**

**Report No. : FA210728001**

VHT80	6785	15.00
VHT160	6665	19.00
VHT20	6875	10.00
VHT80	6865	15.00
VHT160	6825	19.00
HE20	6535	10.00
HE20	6695	10.00
HE20	6855	10.00
HE40	6565	13.00
HE40	6685	13.00
HE40	6845	13.00
HE80	6625	16.00
HE80	6705	16.00
HE80	6785	15.00
HE160	6665	19.00
HE20	6875	10.00
HE80	6865	15.00
HE160	6825	19.00

U-NII-8 Band		
Mod.	Freq.(MHz)	Tune-Up(dBm)
		MIMO
11a	6895	9.00
11a	6995	10.00
11a	7095	11.00
HT20	6895	10.00
HT20	6995	10.00
HT20	7095	10.00
HT20	7115	11.00
HT40	6925	13.00
HT40	7005	13.00
HT40	7085	13.00
HT40	6885	13.00
VHT20	6895	10.00
VHT20	6995	10.00
VHT20	7095	10.00
VHT20	7115	11.00
VHT40	6925	13.00
VHT40	7005	13.00
VHT40	7085	13.00
VHT80	6945	15.00
VHT80	7025	16.00
VHT160	6985	19.00
VHT40	6885	13.00
HE20	6895	10.00
HE20	6995	10.00
HE20	7095	11.00
HE20	7115	11.00
HE40	6925	13.00
HE40	7005	13.00



**RF EXPOSURE EVALUATION REPORT**

Report No. : FA210728001

HE40	7085	13.00
HE80	6945	16.00
HE80	7025	17.00
HE160	6985	19.00
HE40	6885	13.00

**<6E TXBF>**

U-NII-5 Beamforming mode		
Mod.	Freq.(MHz)	Tune-Up(dBm)
		MIMO
11a	5955	8.00
11a	6175	9.00
11a	6415	9.00
HT20	5955	10.00
HT20	5955	10.00
HT20	5955	10.00
HT20	6175	10.00
HT20	6175	10.00
HT20	6175	10.00
HT20	6175	10.00
HT20	6175	10.00
HT20	6415	10.00
HT40	5965	12.00
HT40	6165	13.00
HT40	6405	13.00
VHT20	5955	10.00
VHT20	5955	10.00
VHT20	5955	10.00
VHT20	6175	10.00
VHT20	6175	10.00
VHT20	6175	10.00
VHT20	6175	10.00
VHT20	6175	10.00
VHT20	6415	10.00
VHT40	5965	12.00
VHT40	6165	13.00
VHT40	6405	13.00
VHT80	5985	15.00
VHT80	6145	15.00
VHT80	6385	16.00
VHT160	6025	18.00
VHT160	6185	18.00
VHT160	6345	19.00
HE20	5955	10.00
HE20	5955	10.00
HE20	5955	10.00
HE20	6175	10.00
HE20	6175	10.00
HE20	6175	10.00
HE20	6175	10.00
HE20	6175	10.00
HE20	6415	10.00
HE40	5965	12.00



# RF EXPOSURE EVALUATION REPORT

Report No. : FA210728001

HE40	6165	13.00
HE40	6405	13.00
HE80	5985	15.00
HE80	6145	15.00
HE80	6385	16.00
HE160	6025	18.00
HE160	6185	18.00
HE160	6345	19.00

U-NII-6 Beamforming mode		
Mod.	Freq.(MHz)	Tune-Up(dBm)
		MIMO
11a	6435	9.00
11a	6475	9.00
11a	6515	9.00
HT20	6435	10.00
HT20	6475	10.00
HT20	6515	10.00
HT40	6445	13.00
HT40	6485	13.00
HT40	6525	13.00
VHT20	6435	10.00
VHT20	6475	10.00
VHT20	6515	10.00
VHT40	6445	13.00
VHT40	6485	13.00
VHT80	6465	16.00
VHT40	6525	13.00
VHT80	6545	16.00
VHT160	6505	19.00
HE20	6435	10.00
HE20	6475	10.00
HE20	6515	10.00
HE40	6445	13.00
HE40	6485	13.00
HE80	6465	16.00
HE40	6525	13.00
HE80	6545	16.00
HE160	6505	19.00

U-NII-7 Beamforming mode		
Mod.	Freq.(MHz)	Tune-Up(dBm)
		MIMO
11a	6535	9.00
11a	6695	9.00
11a	6855	9.00
11a	6875	9.00
HT20	6535	10.00
HT20	6695	10.00



**RF EXPOSURE EVALUATION REPORT**

**Report No. : FA210728001**

HT20	6855	10.00
HT40	6565	13.00
HT40	6685	13.00
HT40	6845	13.00
HT20	6875	10.00
VHT20	6535	10.00
VHT20	6695	10.00
VHT20	6855	10.00
VHT40	6565	13.00
VHT40	6685	13.00
VHT40	6845	13.00
VHT80	6625	16.00
VHT80	6705	16.00
VHT80	6785	15.00
VHT160	6665	19.00
VHT20	6875	10.00
VHT80	6865	15.00
VHT160	6825	19.00
HE20	6535	10.00
HE20	6695	10.00
HE20	6855	10.00
HE40	6565	13.00
HE40	6685	13.00
HE40	6845	13.00
HE80	6625	16.00
HE80	6705	16.00
HE80	6785	15.00
HE160	6665	19.00
HE20	6875	10.00
HE80	6865	15.00
HE160	6825	19.00

U-NII-8 Beamforming mode		
Mod.	Freq.(MHz)	Tune-Up(dBm)
		MIMO
11a	6895	9.00
11a	6995	10.00
11a	7095	11.00
HT20	6895	10.00
HT20	6995	10.00
HT20	7095	10.00
HT20	7115	11.00
HT40	6925	13.00
HT40	7005	13.00
HT40	7085	13.00
HT40	6885	13.00
VHT20	6895	10.00
VHT20	6995	10.00
VHT20	7095	10.00
VHT20	7115	11.00

**RF EXPOSURE EVALUATION REPORT**

Report No. : FA210728001

VHT40	6925	13.00
VHT40	7005	13.00
VHT40	7085	13.00
VHT80	6945	15.00
VHT80	7025	16.00
VHT160	6985	19.00
VHT40	6885	13.00
HE20	6895	10.00
HE20	6995	10.00
HE20	7095	11.00
HE20	7115	11.00
HE40	6925	13.00
HE40	7005	13.00
HE40	7085	13.00
HE80	6945	16.00
HE80	7025	17.00
HE160	6985	19.00
HE40	6885	13.00





### 3. RF Exposure Limit Introduction

According to ANSI/IEEE C95.1-1992, the criteria listed in Table 1 shall be used to evaluate the environmental impact of human exposure to radio frequency (RF) radiation as specified in §1.1310.

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm <sup>2</sup> )	Averaging time (minutes)
<b>(A) Limits for Occupational/Controlled Exposures</b>				
0.3-3.0	614	1.63	*(100)	6
3.0-30	1842/f	4.89/f	*(900/f <sup>2</sup> )	6
30-300	61.4	0.163	1.0	6
300-1500			f/300	6
1500-100,000			5	6
<b>(B) Limits for General Population/Uncontrolled Exposure</b>				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f <sup>2</sup> )	30
30-300	27.5	0.073	0.2	30
300-1500			f/1500	30
1500-100,000			1.0	30

The MPE was calculated at 28 cm to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

$$S = \frac{PG}{4\pi R^2}$$

Where:

- S = Power Density
- P = Output Power at Antenna Terminals
- G = Gain of Transmit Antenna (linear gain)
- R = Distance from Transmitting Antenna

### 4. Radio Frequency Radiation Exposure Evaluation

#### 4.1. Standalone Power Density Calculation

Band	Antenna Gain (dBi)	Maximum Power (dBm)	Maximum EIRP (dBm)	Maximum EIRP (W)	Average EIRP (mW)	Power Density at 28cm (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )	Power Density / Limit
WLAN2.4GHz Band	5.51	29.00	34.51	2.82	2824.88	0.287	1.000	0.287
Radio 1	5.91	24.00	29.91	0.98	979.49	0.099	1.000	0.099
Radio 2	5.91	27.50	33.41	2.19	2192.80	0.223	1.000	0.223
Radio 3	5.91	28.00	33.91	2.46	2460.37	0.250	1.000	0.250
WLAN6E	6.81	19.00	25.81	0.38	381.07	0.039	1.000	0.039
Zigbee	3.00	20.00	23.00	0.20	199.53	0.020	1.000	0.020
Bluetooth	3.00	19.00	22.00	0.16	158.49	0.016	1.000	0.016



4.2. Collocated Power Density Calculation

Note:

- 1. Σ(Power Density / Limit): This is a summation of [(power density for each transmitter/antenna included in the simultaneous transmission)/ (corresponding MPE limit)].
2. Considering the collocation with the transmitter of the EIRP performance listed in the table above, the aggregated (power density /limit) is smaller than 1, and MPE of 5 collocated transmitters is compliant

(1) BLE + Radio 1 + Radio 3 + WLAN 2.4GHz + WLAN 6GHz

Table with 6 columns: BLE Power Density / Limit, Radio 1 Power Density / Limit, Radio 3 Power Density / Limit, WLAN 2.4GHz Power Density / Limit, WLAN 6GHz Power Density / Limit, Σ(Power Density / Limit) of BLE+Radio1+Radio3 +2.4GHz+6GHz. Values: 0.016, 0.099, 0.250, 0.287, 0.039, 0.691

(2) Zigbee + Radio 1 + Radio 3 + WLAN 2.4GHz + WLAN 6GHz

Table with 6 columns: Zigbee Power Density / Limit, Radio 1 Power Density / Limit, Radio 3 Power Density / Limit, WLAN 2.4GHz Power Density / Limit, WLAN 6GHz Power Density / Limit, Σ(Power Density / Limit) of Zigbee+Radio1+Radio3 +2.4GHz+6GHz. Values: 0.020, 0.099, 0.250, 0.287, 0.039, 0.695

(3) BLE + Radio 2 + WLAN 2.4GHz + WLAN 6GHz

Table with 5 columns: BLE Power Density / Limit, Radio 2 Power Density / Limit, WLAN 2.4GHz Power Density / Limit, WLAN 6GHz Power Density / Limit, Σ(Power Density / Limit) of BLE+Radio2+2.4GHz+6GHz. Values: 0.016, 0.223, 0.287, 0.039, 0.565

(4) Zigbee + Radio 2 + WLAN 2.4GHz + WLAN 6GHz

Table with 5 columns: Zigbee Power Density / Limit, Radio 2 Power Density / Limit, WLAN 2.4GHz Power Density / Limit, WLAN 6GHz Power Density / Limit, Σ(Power Density / Limit) of Zigbee+Radio2+2.4GHz+6GHz. Values: 0.020, 0.223, 0.287, 0.039, 0.569

Conclusion:

According to 47 CFR §1.1307, the RF exposure analysis concludes that the RF Exposure is FCC compliant.