RF Exposure Evaluation Report

Product Name : Intel® Wireless-AC 9260

Model No. : 9260NGW

FCC ID : 2ABTU-9260NG

Applicant : RuggON Corporation

Address : 4F, No. 298, Yang Guang St., Neihu Dist., Taipei City, Taiwan

Date of Receipt : Jun. 16, 2020

Date of Declaration : Sep. 11, 2020

Report No. : 2060585R-E3082100013-A

Issued Date: Sep. 11, 2020
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Product Name	Intel® Wireless-AC 9260	
Applicant	RuggON Corporation	
Address	4F, No. 298, Yang Guang St., Neihu Dist., Taipei City, Taiwan	
Manufacturer	Intel Mobile Communications	
Model No.	9260NGW	
FCC ID.	2ABTU-9260NG	
EUT Rated Voltage	DC 3.3V	
EUT Test Voltage	AC 120V/60Hz	
Trade Name	Intel	
Applicable Standard	KDB 447498 D01 v06	☒ Minimum test separation distance ≥ 20 cm ☐ For low power devices
Test Result	Complied	

Documented By : Peggy Tu

(Adm. Assistant / Peggy Tu)

Tested By : wen Lee

(Supervisor / Wen Lee)

Approved By :

(Director / Vincent Lin)

Revision History

Report No.	Version	Description	Issued Date
2060585R-E3082100013-A	V1.0	Initial issue of report	Sep. 11, 2020

1. GENERAL INFORMATION

1.1. EUT Description

Product Name	Intel® Wireless-AC 9260
Trade Name	Intel
Model No.	9260NGW
FCC ID.	2ABTU-9260NG
Frequency Range	802.11b/g/n-20: 2412-2472 MHz, 802.11n-40: 2422-2462 MHz 802.11a/n-20: 5180-5320 MHz, 5500-5700 MHz, 5745-5825MHz 802.11n-40: 5190-5310 MHz, 5510-5670 MHz, 5755-5795MHz 802.11ac-20MHz: 5720MHz, 802.11ac-40MHz: 5710MHz 802.11ac-80 MHz: 5210-5290 MHz, 5530-5610 MHz, 5775MHz 802.11ac-160: 5250MHz, 5570MHz, BT : 2402-2480MHz
Number of Channels	802.11b/g/n-20MHz: 13, n-40MHz: 9 802.11a/n-20MHz: 24; 802.11n-40MHz: 11 802.11ac-20MHz: 1, 802.11ac-40MHz: 1,802.11ac-80MHz: 6 802.11ac-160MHz: 2, BT : 79 , BLE : 40
Data Rate	802.11b: 1-11Mbps, 802.11a/g: 6-54Mbps, 802.11n: up to 300Mbps 802.11ac-80MHz: up to 866.7Mbps, 802.11ac-160: up to 1733.3Mbps BT : 3Mbps , BLE : 1Mpbs
Channel Separation	802.11b/g/n-20MHz: 5 MHz, 802.11a/n-20/ac-20MHz: 20MHz 802.11n-40/ac-40MHz: 40MHz, 802.11ac-80MHz: 80MHz 802.11ac-160MHz: 320MHz, BT : 1MHz , BLE : 2MHz
Type of Modulation	802.11b:DSSS, DBPSK, DQPSK, CCK 802.11a/g/n/ac: OFDM, BPSK, QPSK, 16QAM, 64QAM, 256QAM FHSS: GFSK(1Mbps) / π /4DQPSK(2Mbps) / 8DPSK(3Mbps)
Antenna Type	Dipole Antenna
Channel Control	Auto
Antenna Gain	Refer to the table “Antenna List”

Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	WIESON Technologies co ., ltd	GY121HT0321-003-H (Main), (Aux)	Dipole	2.89dBi for 2.4 GHz 2.92 dBi for 5.15~5.25GHz 3.19 dBi for 5.25~5.35GHz 4.41 dBi for 5.47~5.725GHz 4.22 dBi for 5.725~5.850GHz

2. RF Exposure Evaluation

2.1. Standard Applicable

According to KDB 447498 D01 (7.1), A minimum test separation distance ≥ 20 cm is required between the antenna and radiating structures of the device and nearby persons to apply mobile device exposure limits.

2.2. Limits

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Average Time (Minutes)
(A) Limits for Occupational/ Control Exposures				
300-1500	--	--	F/300	6
1500-100,000	--	--	5	6
(B) Limits for General Population/ Uncontrolled Exposures				
300-1500	--	--	F/1500	6
1500-100,000	--	--	1	30

F= Frequency in MHz

Friis Formula

Friis transmission formula: $Pd = (Pout*G)/(4*pi*r^2)$

Where

Pd = power density in mW/cm^2

Pout = output power to antenna in mW

G = gain of antenna in linear scale

Pi = 3.1416

R = distance between observation point and center of the radiator in cm

2.3. Test Result of RF Exposure Evaluation

Product : Intel® Wireless-AC 9260
Test Item : RF Exposure Evaluation

WLAN 2.4G Peak Gain: 2.89dBi

Band	Frequency (MHz)	Conducted maximum Peak Power (dBm)	Worst case Duty Cycle (%)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm2)	Limit (mW/cm2)	Pass/Fail
WLAN 2.4G	2442	24.88	100	307.610	0.1191	1	Pass

Note: The conducted output power is refer to original report No.: 2060585R-E3032160654-D from the DEKRA.

WLAN 5G Peak Gain: 4.22dBi

Band	Frequency (MHz)	Conducted maximum Average Power (dBm)	Worst case Duty Cycle (%)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm^2)	Limit (mW/cm^2)	Pass/Fail
WLAN 5G	5785	24.93	100	311.172	0.1636	1	Pass

Note: The conducted output power is refer to original report No.: 2060585R-E3032160654-A from the DEKRA.