

RF Exposure Evaluation Report

Product Name : Intel® Wireless-AC 9461

Model No. : 9461NGW

FCC ID : PD99461NG

Applicant : Intel Mobile Communications

Address : 100 Center Point Circle, Suite 200 Columbia, South Carolina 29210 USA

Date of Receipt : Sep. 21, 2017

Date of Declaration : Jan. 25, 2018

Report No. : 1790286R-RFUSP02V00

The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standard through the calibration report of the equipment and evaluated measurement uncertainty herein.

This report must not be used to claim product endorsement by TAF or any agency of the government.

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Issued Date: Jan. 25, 2018

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Product Name	Intel® Wireless-AC 9461
Applicant	Intel Mobile Communications
Address	100 Center Point Circle, Suite 200 Columbia, South Carolina 29210 USA
Manufacturer	Intel Mobile Communications
Model No.	9461NGW
FCC ID.	PD99461NG
EUT Rated Voltage	DC 3.3V
EUT Test Voltage	DC 3.3V
Trade Name	Intel
Applicable Standard	FCC 47 CFR 1.1310
Test Result	Complied

Documented By :



(Senior Adm. Specialist / Joanne Lin)

Tested By :



(Assistant Engineer / Steven Tsai)

Approved By :



(Director / Vincent Lin)

1. RF Exposure Evaluation

1.1. 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: $P_d = (P_{out} * G) / (4 * \pi * r^2)$

Where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

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

P_d is the limit of MPE, 1 mW/cm². If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

1.2. Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

The temperature and related humidity: 18°C and 78% RH.

1.3. Test Result of RF Exposure Evaluation

Product : Intel® Wireless-AC 9461
 Test Item : RF Exposure Evaluation

RF Exposure 5G:

Operation Frequency	802.11a/n-20MHz: 5180-5320MHz, 5500-5700MHz, 5745-5825MHz 802.11n-40MHz: 5190-5310MHz, 5510-5670MHz, 5755-5795MHz 802.11ac-20MHz: 5720MHz 802.11ac-40MHz: 5710MHz 802.11ac-80MHz: 5210-5290MHz, 5530-5690MHz, 5775MHz
Maximum Conducted output power	21.47dBm
Antenna gain	4.41dBi

Output Power Into Antenna & RF Exposure Evaluation Distance:

Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm ²)
140.2814	0.0770

Power density is lower than the limit (1 mW/cm²).

RF Exposure 2.4G:

Operation Frequency	802.11b/g/n: 2412-2472MHz Bluetooth: 2402-2480MHz
Maximum Conducted output power	22.74dBm
Antenna gain	2.89dBi

Output Power Into Antenna & RF Exposure Evaluation Distance:

Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm ²)
187.9317	0.0727

Power density is lower than the limit (1 mW/cm²).