

RF Exposure Evaluation declaration

Product Name	Intel® Dual Band Wireless-AC 3160
Model No.	3160NGW
FCC ID	PD93160NG

Applicant	Intel Mobile Communications France SAS
Address	Le Navigator B 505 route des Lucioles CS 70293 06905 Sophia Antipolis cedex

Date of Receipt	March 13, 2015
Date of Declaration	April 07, 2015
Report No.	1530265R-RFUSP25V00

The declaration results relate only to the samples calculated.

The declaration shall not be reproduced except in full without the written approval of QuiTek Corporation.

This report must not be used to claim product endorsement by TAF any agency of the U.S. Government

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

Where

P_d = power density in mW/cm^2

P_{out} = 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

P_d is the limit of MPE, 1 mW/cm^2 . 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® Dual Band Wireless-AC 3160
Test Item : RF Exposure Evaluation
Test Site : No.3 OATS

Operation Frequency Range	2412-2462MHz, 5180-5825MHz
Maximum Conducted output power	17.42dBm
Antenna gain	3.19dBi

Output Power Into Antenna & RF Exposure Evaluation Distance:

Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm ²)
55.2077	0.022894

Power density in column 4 is much lower than the limit (1 mW/cm²).

Enter Data in Linear Units			
Gain =	2.76	Numeric	4.41 dBi
Power =	55.21	mW	17.42 dBm
EIRP =	152.38	mW	152.38 mW
R (cm) =	3.4822383	cm	S (20 cm)= 0.03
R (cm) =	1.5573043	cm	