

RF Exposure Evaluation declaration

Product Name	802.11 ac PCIe Module
Model No.	NGP1058
FCC ID	HZB-NGP1058W

Applicant	Proxim Wireless Corporation
Address	47633 Westinghouse Drive,Fremont City,California,United States 94539

Date of Receipt	Aug. 24, 2015
Date of Declaration	Nov. 09, 2015
Report No.	1580639R-RFUSP63V00

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 of the equipment and evaluated measurement uncertainty herein.

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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 : 802.11 ac PCIe Module
Test Item : RF Exposure Evaluation
Test Site : No.3 OATS

➤ For Dipole antenna:

Operation Frequency	5260-5320, 5500-5700MHz 5270-5310, 5510-5670MHz 5720, 5710, 5290, 5530-5690MHz
Maximum Conducted output power	23.51dBm
Antenna gain	5dBi

Output Power Into Antenna & RF Exposure Evaluation Distance:

Output Power to Antenna (mW)	Power Density at R = 20cm (mW/cm ²)
224.3881924	0.1412

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

➤ For DISH antenna:

Operation Frequency	5260-5320, 5500-5700MHz 5270-5310, 5510-5670MHz 5720, 5710, 5290, 5530-5690MHz
Maximum Conducted output power	-3.51dBm
Antenna gain	33.5dBi

Output Power Into Antenna & RF Exposure Evaluation Distance:

Output Power to Antenna (mW)	Power Density at R = 20cm (mW/cm ²)
0.445656248	0.1985

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

➤ **For Omni antenna:**

Operation Frequency	5260-5320, 5500-5700MHz 5270-5310, 5510-5670MHz 5720, 5710, 5290, 5530-5690MHz
Maximum Conducted output power	19.85dBm
Antenna gain	10dBi

Output Power Into Antenna & RF Exposure Evaluation Distance:

Output Power to Antenna (mW)	Power Density at R = 20cm (mW/cm ²)
96.6050879	0.1922

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

➤ **For Panel antenna:**

Operation Frequency	5260-5320, 5500-5700MHz 5270-5310, 5510-5670MHz 5720, 5710, 5290, 5530-5690MHz
Maximum Conducted output power	-0.64dBm
Antenna gain	30dBi

Output Power Into Antenna & RF Exposure Evaluation Distance:

Output Power to Antenna (mW)	Power Density at R = 20cm (mW/cm ²)
0.862978548	0.1717

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

➤ **For Sector antenna:**

Operation Frequency	5260-5320, 5500-5700MHz 5270-5310, 5510-5670MHz 5720, 5710, 5290, 5530-5690MHz
Maximum Conducted output power	7.38dBm
Antenna gain	20dBi

Output Power Into Antenna & RF Exposure Evaluation Distance:

Output Power to Antenna (mW)	Power Density at R = 20cm (mW/cm ²)
5.470159629	0.1088

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