

RF Exposure Evaluation declaration

Product Name	Network Media Module
Model No.	CY920-C,CY920-A
FCC ID	ZQO-CY920C

Applicant	MICROCHIP TECHNOLOGY INC.
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Date of Receipt	June. 04, 2014
Date of Declaration	Oct. 27, 2014
Report No.	1460175R-RFUSP30V00-A

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.

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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/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 : Network Media Module
Test Item : RF Exposure Evaluation
Test Site : No.3 OATS

WLAN:

Operation Frequency	2412-2462MHz, 2422-2452MHz
Maximum Conducted output power	21.74dBm
Antenna gain	1.84dBi

Output Power Into Antenna & RF Exposure Evaluation Distance:

Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm ²)
149.2794	0.045366

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

WLAN:

Operation Frequency	5745-5825MHz, 5755-5795MHz 5180-5240MHz, 5190-5230MHz
Maximum Conducted output power	19.99dBm
Antenna gain	2.77dBi

Output Power Into Antenna & RF Exposure Evaluation Distance:

Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm ²)
99.7700	0.037560

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

BT:

Operation Frequency	2402-2480MHz
Maximum Conducted output power	2.46dBm
Antenna gain	1.84dBi

Output Power Into Antenna & RF Exposure Evaluation Distance:

Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm ²)
1.7620	0.000535

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