

## RF Exposure Evaluation declaration

Product Name	Long Range Wireless 5 x 2 HD Matrix Pro -Transmitter
Model No.	GWHDMS52MB - T
FCC ID	QLEGWHDMS52MB

Applicant	ATEN Technology, Inc., dba IOGEAR
Address	19641 Da Vinci Foothill Ranch, CA 92610 United States

Date of Receipt	Feb. 13, 2014
Date of Declaration	Mar. 14, 2014
Report No.	1420159R-RFUSP06V00

The declaration results relate only to the samples calculated.

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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 <sup>2</sup> )	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<sup>2</sup>

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

Pd is the limit of MPE, 1 mW/cm<sup>2</sup>. 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 : Long Range Wireless 5 x 2 HD Matrix Pro -Transmitter  
 Test Item : RF Exposure Evaluation  
 Test Site : No.3 OATS

Operation Frequency Range	5190~5230MHz, 5270~5310MHz, 5510~5670MHz, 5755~5795MHz.
Maximum Conducted output power	25.39dBm
Antenna gain	2.5dBi

#### Output Power Into Antenna & RF Exposure Evaluation Distance:

Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm <sup>2</sup> )
345.9394	0.122386

Power density in column 4 is much lower than the limit (1 mW/cm<sup>2</sup>).