RF Exposure Evaluation Report

APPLICANT	**:**	**Getac Technology Corporation.**
EQUIPMENT	**:**	**WLAN module**
BRAND NAME	**:**	**Intel**
MODEL NAME	**:**	**7260NGW**
FCC ID	**:**	**QYL7260NGW**
STANDARD	**:**	**47 CFR Part 2.1091**

We, SPORTON INTERNATIONAL INC., would like to declare that the device has been evaluated in accordance with 47 CFR Part 2.1091, and pass the limit. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

Reviewed by: Eric Huang / Deputy Manager

Approved by: Jones Tsai / Manager

Testing Laboratory
1190

SPORTON INTERNATIONAL INC.
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Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA391728	Rev. 01	Initial issue of report	Nov. 20, 2013

1. Administration Data

1.1. Testing Laboratory

Test Site	SPORTON INTERNATIONAL INC.
Test Site Location	No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL: +886-3-327-3456 FAX: +886-3-328-4978

1.2. Applicant

Company Name	Getac Technology Corporation.
Address	5F., Building A, No. 209, Sec.1, Nangang Rd.,Nangang Dist., Taipei City 11568, Taiwan, R.O.C.

1.3. Manufacturer

Company Name	Getac Technology(Kunshan)Co., LTD.
Address	No. 269, No. 2 Avenue, Kunshan Comprehensive Free Trade Zone, Jiangsu Province, P.R.C

2. Description of Equipment Under Test (EUT)

Product Feature & Specification	
EUT Type	WLAN module
Brand Name	Intel
Model Name	7260NGW
FCC ID	QYL7260NGW
Wireless Technology and Frequency Range	WLAN 2.4GHz Band: 2412 MHz ~ 2462 MHz WLAN 5.2GHz Band: 5180 MHz ~ 5240 MHz WLAN 5.3GHz Band: 5260 MHz ~ 5320 MHz WLAN 5.5GHz Band: 5500 MHz ~ 5700 MHz WLAN 5.8GHz Band: 5745 MHz ~ 5825 MHz Bluetooth: 2402 MHz ~ 2480 MHz
Mode	• 802.11a/b/g/n HT20/HT40/VHT20/VHT40/VHT80 • Bluetooth 2.1+EDR， Bluetooth 4.0+LE
Antenna Type	WLAN: PIFA Antenna Bluetooth: PIFA Antenna
HW Version	R00
SW Version	R0.50.070520E BIOS:R0.50.070520E EC:R0.01C
EUT Stage	Production Unit

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

3. Maximum RF average output power among production units

Band / Mode	Average Power (dBm)	
	v2.1+EDR	v4.0+LE
Bluetooth	6	6

Band / Frequency (MHz)		IEEE 802.11 Average Power (dBm)									
		Ant 0				Ant 1				Ant 0+1	
		11b	11g	HT20	HT40	11b	11g	HT20	HT40	HT20	HT40
2.4GHz Band	2412	15.5	13.5	13.5		14	12	12		15.5	
	2422				12				10		11.5
	2437	15.5	16.5	16.5	16.5	14	15.5	15.5	13.5	16.5	16
	2452				13				13		15
	2462	15.5	13.5	13.5		14	13.5	13.5		16.5	

Band / Frequency (MHz)		IEEE 802.11 Average Power (dBm)										
		Ant 0				Ant 1				Ant 0+1		
		11a	HT20 VTH20	HT40 VTH40	VHT80	11a	HT20 VTH20	HT40 VTH40	VHT80	HT20 VTH20	HT40 VTH40	VHT80
5.2GHz Band	5180	13.5	13.5			13	13			14		
	5190			9.5				10			11	
	5200	16	16			16	16			16		
	5210				8.5				8.5			9.5
	5220	16	16			16	16			16		
	5230			15.5				15.5			15.5	
	5240	15	15.5			15	15.5			15.5		
5.3GHz Band	5260	13.5	13.5			13	13			14		
	5270			9.5				10			11	
	5280	16	16			16	16			16		
	5290				10.5				11			11.5
	5300	16	16			16	16			16		
	5310			11				11			12	
	5320	13.5	13.5			13	13			14.5		
5.5GHz Band	5500	13.5	13.5			13	13			14		
	5510			10.5				10.5			11	
	5520	16.5	16.5			16.5	16.5			16.5		
	5530				9				9			9.5
	5540	16.5	16.5			16.5	16.5			16.5		
	5550			16.5				16.5			16.5	
	5560	16.5	16.5			16.5	16.5			16.5		
	5580	16.5	16.5			16.5	16.5			16.5		
	5660	16.5	16.5			16.5	16.5			16.5		
	5670			15.5				15.5			16	
	5680	16.5	16.5			16.5	16.5			16.5		
	5690				14				14			16.5
	5700	13	13			12.5	12.5			13.5		
	5710			16.5				16.5			16.5	
	5720	16.5	16.5			16.5	16.5			16.5		
5.8GHz Band	5745	16.5	16.5			16.5	16.5			16.5		
	5755			16.5				16.5			16.5	
	5765	16.5	16.5			16.5	16.5			16.5		
	5775				14				14			16.5
	5785	16.5	16.5			16.5	16.5			16.5		
	5795			16.5				16.5			16.5	
	5805	16.5	16.5			16.5	16.5			16.5		
	5825	16.5	16.5			16.5	16.5			16.5		

4. RF Exposure Limit Introduction

According to ANSI/IEEE C95.1-1992, the criteria listed in Table 1 shall be used to evaluate the environmental impact of human exposure to radio frequency (RF) radiation as specified in §1.1310.

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3-3.0	614	1.63	*(100)	6
3.0-30	1842/f	4.89/f	*(900/f2)	6
30-300	61.4	0.163	1.0	6
300-1500			f/300	6
1500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f2)	30
30-300	27.5	0.073	0.2	30
300-1500			f/1500	30
1500-100,000			1.0	30

The MPE was calculated at 20 cm to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

$$S = \frac{PG}{4\pi R^2}$$

Where:
S = Power Density
P = Output Power at Antenna Terminals
G = Gain of Transmit Antenna (linear gain)
R = Distance from Transmitting Antenna

5. Radio Frequency Radiation Exposure Evaluation

5.1. Standalone Power Density Calculations

Band	Frequency (MHz)	Antenna Gain (dBi)	Maximum Power (dBm)	Power Density at 20cm (mW/cm2)	Limit (mW/cm2)	Power Density / Limit
WLNA2.4GHz Band	2412.0	2.75	16.5	0.02	1.00	0.02
WLAN5.2GHz Band	5180.0	3.30	16.0	0.02	1.00	0.02
WLAN5.3GHz Band	5260.0	3.30	16.0	0.02	1.00	0.02
WLAN5.5GHz Band	5500.0	2.22	16.5	0.01	1.00	0.01
WLAN5.8GHz Band	5700.0	3.19	16.5	0.02	1.00	0.02
Bluetooth	2402.0	4.36	6.0	0.002	1.00	0.002

Note: For conservativeness, the lowest uplink frequency of each band is used to determine the MPE limit of that band

5.2. Collocated Power Density Calculations

Mode	WLAN Power Density / Limit	Bluetooth Power Density / Limit	∑(Power Density / Limit) of WLAN+Bluetooth
WLAN2.4GHz Band	0.02		0.022
WLAN5.2GHz Band	0.02		
WLAN5.3GHz Band	0.02		
WLAN5.5GHz Band	0.01		
WLAN5.8GHz Band	0.02		
Bluetooth 2.4GHz Band		0.002	

Note:

1. For colocation analysis, WLAN2.4GHz Band is chosen for summation due to the highest (power density/limit) among all WWAN wireless modes.
2. ∑(Power Density / Limit): This is a summation of [(power density for each transmitter/antenna included in the simultaneous transmission)/ (corresponding MPE limit)], for WLAN + Bluetooth.
3. Considering the WWAN module collocation with the WLAN and Bluetooth transmitter of the EIRP performance listed in the table above, the aggregated (power density /limit) is smaller than 1, and MPE of 3 collocated transmitters is compliant

Conclusion:

According to 47 CFR §2.1091, the RF exposure analysis concludes that the RF Exposure is FCC compliant.