



Radio Frequency Exposure

EUT INFORMATION

FCC ID	WQL0001
EUT	Diagnostic Module
Frequency band (Operating)	2402 MHz ~ 2480 MHz
Max. output power	0.98 dBm
Antenna gain (Max)	1.5 dBi

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 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
(A) Limits for Occupational/Control Exposures				
300-1500	--	--	F/300	6
1500-100000	--	--	5	6
(B) Limits for General Population/Uncontrol Exposures				
300-1500	--	--	F/1500	6
1500-100000	--	--	1	30

TEST RESULT

The modular use shall be at least 20 cm distance away from human body.

MPE Calculation Method

$$E \text{ (V/m)} = \frac{\sqrt{30 \cdot P \cdot G}}{d}$$

$$\text{Power Density} = P_d \text{ (mW/cm}^2\text{)} = E^2 / 3770$$



Combine these two formulas can be changed to

$$Pd = (30 * P * G) / (3770 * d^2)$$

Note:

1. "E" means Electric field (V/m).
2. "P" means Peak RF output power (W).
3. "G" means EUT Antenna numeric gain (numeric).
4. "d" means the minimum mobile separation distance is 0.2 m between radiator and human body.

$$G = 10^{(2/10)} = 1.584$$

Modulation Type	Channel	Frequency (MHz)	Output Power to Antenna (dBm)	Tune-up power (dBm)	Power Density (mW/cm ²)	Limit of Power Density (mW/cm ²)
GFSK	00	2402	0.98	1±1	0.000631	1
	19	2440	0.28	1±1	0.000631	1
	39	2480	0.06	1±1	0.000631	1

Tested By:

Reviewed by:

Sep. 23, 2020

(Date)

Bing / Engineer

Sep. 23, 2020

(Date)

Bell / Manager

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