



## Maximum Permissible Exposure

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**FCC ID:** HLZ-AMM

**APPLICANT:** Acer Incorporated

**Application Type:** Certification

**Product:** Air Monitor MATE

**Model No.:** AMM

**Brand Name:** acer

**FCC Rule Part(s):** Part 2.1091 (Mobile)

**Received Date:** June 10 ,2021

**Test Date:** July 8 ~ 7, 2021

**Reviewed By**

: 

( Paddy Chen )

**Approved By**

: 

( Chenz Ker )



The test results relate only to the samples tested.

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report. Test results reported herein relate only to the item(s) tested.

The test report shall not be reproduced except in full without the written approval of MRT Technology (Taiwan) Co., Ltd.

### Revision History

Report No.	Version	Description	Issue Date
2106TW0501-U5	1.0	Original Report	2021-08-20

## 1. PRODUCT INFORMATION

### 1.1. Equipment Description

Product Name	Air Monitor MATE
Model No.	AMM
Trademark	acer
Supports Radios Spec.	2.4G: 802.11b/g/n-20/n-40 Bluetooth: V5.1 LE LoRa 902MHz~928MHz
Accessory	
USB Cable	Brand: Ecobear Model No: 127-01210316+ Length: 0.2m (Shielded)
Power Adapter	Brand: BSY Model No: BSY01J3050200U U Input: AC 100-240V~ 50-60Hz,0.3A Output: DC 5V, 2A

Note: Model Difference: The different of models only for marketing different client, the other was the same.

### 1.2. Antenna Description

#### WIFI

No.	Brand	Part No.	Antenna Type	Peak Gain
1	Edimax	A0100204+A	PCB	2.37dBi

#### BLE

No.	Brand	Part No.	Antenna Type	Peak Gain
1	Gwell	STBT40-XXX	PCB	0.0dBi

#### LoRa

No.	Brand	Part No.	Antenna Type	Peak Gain
1	acer	A0100205+A	PCB	-6.17dBi

## 2. Maximum Permissible Exposure(MPE)

### 2.1. 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				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f <sup>2</sup>	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 Exposures				
0.3-1.4	614	1.63	*100	30
1.34-30	824/f	2.19/f	*180/f <sup>2</sup>	30
30-300	27.5	0.073	0.2	30
300-1500	--	--	f/1500	30
1500-100,000	--	--	1.0	30

Note : (1) f= Frequency in MHz , (2) \* = Plane-wave equivalent power density

Calculation Formula:  $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot r^2)$

Where

$P_d$  = power density in mW/cm<sup>2</sup>

$P_{out}$  = 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

Under normal use condition, is at least 20cm away from the body of the user .

So, this device is classified as **Mobile Device**.

## 2.2. Test Result

Frequency Band (MHz)	Output Power (dBm)	Output Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
2412~2462	24.16	260.62	2.37	20	0.0895	1
2402~2480	6.216	4.18	0	20	0.0008	1
902.4~927.6	17.353	54.36	-6.17	20	0.0026	0.6016

Therefore, the maximum calculations are less than the “1” limit. Complies with FCC radiation exposure requirement specified in the FCC Rule 2.1091.

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