

# FCC MPE REPORT

## Certification

**Applicant Name:**

Bird Technologies Group

**Address:**

30303 Aurora Rd.  
Solon, OH 44139

**Date of Issue:**

August 20, 2019

**Test Site/Location:**

EMCE Engineering  
1726 Ringwood Avenue San Jose, California USA

**Report No.:** EMCE-R-1908-F002

**FCC ID:** EZZDMR604

**APPLICANT:** Bird Technologies Group

**Model:**

DMR604

**EUT Type:**

Bi-Directional Amplifier

The measurements shown in this report were made in accordance with the procedures specified in §2.947. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them.

EMCE Engineering, Inc. Certifies that no party to this application has subject to a denial of Federal benefits that includes FCC benefits pursuant to section 5301 of the Anti-Drug Abuse Act of 1998, 21 U.S.C. 853(a)



**Steve In**

**Test Engineer**

**Certification Division**

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**Billy Kim**

**Technical Manager**

**Certification Division**

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## Version

TEST REPORT NO.	DATE	DESCRIPTION
EMCE-R-1908-F002	August 20, 2019	- First Approval Report

## RF Exposure Statement

### 1. LIMITS

According to §1.1310 and §2.1091 RF exposure is calculated.

#### (B) Limits for General Population/Uncontrolled Exposures

Frequency range (MHz)	Electric field Strength (V/m)	Magnetic field Strength (A/m)	Power density (mW/cm²)	Averaging time (minutes)
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

F = frequency in MHz

\* = Plane-wave equivalent power density

### 2. MAXIMUM PERMISSIBLE EXPOSURE Prediction

Prediction of MPE limit at a given distance

$$S = PG/4\pi R^2$$

S = Power density

P = power input to antenna

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna

### 3. RESULTS

#### 3-1. UpLink

<b>Output Power at antenna input terminal</b>	26.5	dBm
<b>Output Power at antenna input terminal</b>	446.684	mW
<b>Prediction distance</b>	34.0	cm
<b>Prediction frequency</b>	462.4125	MHz
<b>Antenna Gain(typical)</b>	10	dBi
<b>Antenna Gain(numeric)</b>	10	-
<b>Power density at prediction frequency( S)</b>	0.3075	mW/cm <sup>2</sup>
<b>MPE limit for uncontrolled exposure at prediction frequency</b>	0.3083	mW/cm <sup>2</sup>

#### 3-2. DownLink

<b>Output Power at antenna input terminal</b>	26.5	dBm
<b>Output Power at antenna input terminal</b>	446.684	mW
<b>Prediction distance</b>	33.8	cm
<b>Prediction frequency</b>	467.4125	MHz
<b>Antenna Gain(typical)</b>	10	dBi
<b>Antenna Gain(numeric)</b>	10	-
<b>Power density at prediction frequency( S)</b>	0.3111	mW/cm <sup>2</sup>
<b>MPE limit for uncontrolled exposure at prediction frequency</b>	0.3116	mW/cm <sup>2</sup>

#### Result

The equipment operating in 462.4125MHz and 467.4125MHz passband in this application require a separation distance of at least 34 cm respectively. This distance must be maintained between the user and antenna when the product is used with a 10dBi antenna.