

# RF Exposure Evaluation declaration

Product Name : Baby Monitoring device  
Trade Name : raybaby  
Model No. : RYBBY01  
FCC ID. : 2AP3Y-RBY31012018

Applicant : RIOT SOLUTIONS, INC

Address : 2711 Centerville Road, Suite 400, Wilmington,  
New Castle County, Delaware 19808,USA

Date of Receipt : Apr. 24, 2018  
Date of Declaration : Jun. 08, 2018  
Report No. : 1840283R-RFUSP02V00  
Report Version : V1.0



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

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

$P_d$  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        | Baby Monitoring device |
| Test Mode      | Mode 1: Transmit       |
| Test Condition | RF Exposure Evaluation |

#### Antenna Gain

Antenna Gain: The maximum Gain measured in fully anechoic chamber is 5.9671 dBi or 3.95 in linear scale.

#### Output Power into Antenna

| Channel Frequency<br>(MHz) | Output Power to<br>Antenna<br>(mW) | Power Density at<br>R = 20 cm<br>(mW/cm <sup>2</sup> ) | Threshold<br>Power Density at<br>R = 20 cm<br>(mW/cm <sup>2</sup> ) |
|----------------------------|------------------------------------|--------------------------------------------------------|---------------------------------------------------------------------|
| 7250                       | 0.0008                             | 0.0000                                                 | 1                                                                   |

#### Conclusion:

No SAR evaluation required, since transmitter output power is below threshold.