

FCC RF Exposure

EUT Description: Baby monitor
Model No.: OT-BC003-BU
FCC ID: YIG-OT-BC003-BU
Equipment type: fixed equipment

1. Limits

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 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/f ²) | 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/f ²) | 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

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

Where :

P_d = power density in mW/cm²,

P_{out} = output power to antenna in mW;

G = gain of antenna in linear scale,

π = 3.14;

R = distance between observation point and center of the radiator in cm

P_d is the limit of MPE, 1 mW/cm². 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.

2. Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

3. Test Result of RF Exposure Evaluation

| Modulation | Channel Freq. (MHz) | Conduct ed power (dBm) | Tune-up power (dBm) | Max tune-up power (dBm) | Max tune-up power (mW) | Antenna Gain Numeric | Evaluation result (mW/cm2) | Power density Limits (mW/cm2) |
|------------|---------------------|------------------------|---------------------|-------------------------|------------------------|----------------------|-----------------------------|-------------------------------|
| GFSK | 2410 | 6.98 | 7±1 | 8.00 | 6.30 | 1.0 | 0.0016 | 1 |
| | 2441 | 6.93 | 7±1 | 8.00 | 6.30 | 1.0 | 0.0016 | 1 |
| | 2477 | 6.95 | 7±1 | 8.00 | 6.30 | 1.0 | 0.0016 | 1 |

Conclusion: the max result : $0.0016 \leq 1.0$ compliance with FCC's RF Exposure. Summary: Since the ERP (effective radiated power) operated at < 1.5 GHz is less than 1.5 watts and > 1.5 GHz is less than 3 watts, the routine environmental evaluation is not required, and the MPE result calculated for this device complies with the MPE limit as specified in 47 CFR §1.1310.