RF Exposure / MPE Calculation

Customer	**AlphaTheta Corporation**
Description of EUT	**DJ Mixer**
Model Number of EUT	**DJM-V5**
FCC ID	**2AM73-0005**
Issue Date	**August 20, 2025**
Approver	
	Shunsaku Yumi **Engineer**

AlphaTheta Corporation declares that Model: DJM-V5 complies with FC radiation exposure requirement specified in the FCC Rule 2.1091 (for mobile).

RF Exposure Calculations:

The following information provides the minimum separation distance for the highest gain antenna provided with the "DJM-V5" as calculated from (B) Limits for General Population / Uncontrolled Exposure of TABLE 1- LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE) of §1.1310 Radiofrequency radiation exposure limits.

[RFID Part]

This calculation is based on the highest EIRP possible from the system, considering maximum power and antenna gain, and considering a 0.97mW/cm^2 (180/f^2) uncontrolled exposure limit. The Friis formula used was:

$$S = \frac{P \times G}{4 \times \pi \times r^2}$$

Where

PG = 0.000000754 mW (Maximum average output power)

r = 20 cm (Separation distance)

Power Density Result S = **0.00000000015 mW/cm^2**

[2.4 GHz Part]

*A 2.4 GHz evaluates simultaneous transmission with installed certified modules (FCC ID: 2BHC6RTX1290)

This calculation is based on the highest EIRP possible from the system, considering maximum power and antenna gain, and considering a 1mW/cm^2 uncontrolled exposure limit. The Friis formula used was:

$$S = \frac{P \times G}{4 \times \pi \times r^2}$$

Where

P = 4.57 mW (Maximum average output power)

G = 1.914 Numerical Antenna gain; equal to 2.82 dBi

r = 20 cm (Separation distance)

Power Density Result S = **0.00174 mW/cm^2**

Therefore, if RFID and 2.4 GHz transmit simultaneously,

0.00000000015 / 0.97 + 0.00174 / 1 = 0.00174000015 < 1