

## MPE EVALUATION

Model Name: Tie Rod Speakers

Model No.: PLAY2GO/Hybrid Driver

FCC ID: 2AAH3-PLAY2GO

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
(A) Limits for Occupational/Control Exposures				
300-1500	--	--	F/300	6
1500-100000	--	--	5	6
(B) Limits for General Population/Uncontrol Exposures				
300-1500	--	--	F/1500	6
1500-100000	--	--	1	30

**transmission formula:  $P_d = (P_{out} * G) / (4 * \pi * R^2)$**

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

$P_d$  the limit of MPE, 1mW/cm<sup>2</sup>. If we know the maximum gain of the antenna and total power input to the antenna, through the calculation, we will know the distance where the MPE limit is reached.

## Measurement Result

Channel Frequency (MHz)	Output Peak power (mW)	Antenna Gain (dBi)	Power density at 20cm (mW/ cm <sup>2</sup> )	Power density Limits (mW/cm <sup>2</sup> )	Modulation
2402	1.46	0	2.905e-4	1	GFSK
2441	1.75	0	3.482e-4	1	GFSK
2480	1.88	0	3.740e-4	1	GFSK
2402	1.05	0	2.089 e-4	1	$\pi$ /4DQPSK
2441	1.23	0	2.447e-4	1	$\pi$ /4DQPSK
2480	1.40	0	2.785e-4	1	$\pi$ /4DQPSK
2402	1.05	0	2.089e-4	1	8DPSK
2441	1.23	0	2.447e-4	1	8DPSK
2480	1.40	0	2.785e-4	1	8DPSK