RF EXPOSURE EVALUATION

EUT Specification

EUT	WI-FI baby car monitor
Frequency band (Operating)	☒WLAN: 2.412GHz ~ 2.462GHz ☐WLAN: 5.18GHz ~ 5.24GHz ☐WLAN: 5.745GHz ~ 5825GHz ☐Others(Bluetooth: 2.402GHz ~ 2.480GHz)
Device category	☐Portable (<20cm separation) ☒Mobile (>20cm separation) ☐Others ___
Antenna diversity	☒Single antenna ☐Multiple antennas ☐Tx diversity ☐Rx diversity ☐Tx/Rx diversity
Max. output power	21.321dBm(133.55mW)
Antenna gain	2 dBi
Evaluation applied	☒MPE Evaluation ☐SAR Evaluation

Limits for Maximum Permissible Exposure (MPE)

Frequency Range(MHz)	Electric Field Strength(V/m)	Magnetic Field Strength(A/m)	Power Density(mW/cm^2)
300-1500	**--**	**--**	**F/1500**
1500-100000	**--**	**--**	**1**

Friis transmission formula: Pd=(Pout*G)\(4*pi*R^2)

Where
Pd= Power density in mW/cm^2
Pout=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
Pd the limit of MPE, 1mW/cm2. 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	Channel Frequency (MHz)	Max Output power (dBm)	Max Output power (mW)	Power density at 20cm (mW/ cm^2)	Power density Limits (mW/cm^2)
Test mode: IEEE 802.11b					
Low	2412	18.750	74.99	0.02365	1
Middle	2437	17.551	56.90	0.01794	1
High	2462	18.497	70.75	0.02231	1
Test mode: IEEE 802.11g					
Low	2412	21.321	135.55	0.04274	1
Middle	2437	20.467	111.35	0.03511	1
High	2462	20.978	125.26	0.03950	1
Test mode: IEEE 802.11n(HT20)					
Low	2412	20.562	113.82	0.03589	1
Middle	2437	19.244	84.02	0.02649	1
High	2462	19.770	94.84	0.02991	1

According to the test result of power density at separation distance 20cm, compliance with RF Exposure requirement.