RF EXPOSURE EVALUATION

EUT Specification

EUT	2.4G WIFI FPV DRONE
Model Name	Details refer model list.
Frequency band (Operating)	☐WLAN: 2.412GHz ~ 2.462GHz ☐WLAN: 5.18GHz ~ 5.32GHz / 5.50GHz ~ 5.70GHz ☐WLAN: 5.745GHz ~ 5825GHz ☒Others(2448~2472MHz)
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	101.24 dBuV/m (5.98dBm)(3.96mW)
Antenna gain	1.3dBi
Evaluation applied	☐MPE Evaluation ☒SAR Evaluation

Model list：

UA20, U36 U36C, U36W, U36F, U36B, U36D, U36E, U36G, U36Plus, U36Plus-C, U36Plus-W, U36Plus-F, U36Plus-R, U36Plus-WA, U36Plus-FA, U36Plus-D, U36Plus-E, U36Plus-G
U46 U46C, U46W, U46F, U46B, U46D, U46E, U46G, U46Plus, U46Plus-C, U46Plus-W, U46Plus-F, U46Plus-R, U46Plus-WA, U46Plus-FA, U46Plus-D, U46Plus-E, U46Plus-G
U54 U54C, U54W, U54F, U54B, U54D, U54E, U54G, U54Plus, U54Plus-C, U54Plus-W, U54Plus-F, U54Plus-R, U54Plus-WA, U54Plus-FA, U54Plus-D, U54Plus-E, U54Plus-G
U55, U55C, U55W, U55F, U55B, U55D, U55E, U55G, U55Plus, U55Plus-C, U55Plus-W, U55Plus-F, U55Plus-R, U55Plus-WA, U55Plus-FA, U55Plus-D, U55Plus-E, U55Plus-G

Standard Requirement

Portable Device

According to §15.247(i) and §1.1307b(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the Commission's guidelines. See KDB 447498 D01 General RF Exposure Guidance v05, section 4.3.1.

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:
[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] • [√f(GHz)] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR,[16] where
• f(GHz) is the RF channel transmit frequency in GHz
• Power and distance are rounded to the nearest mW and mm before calculation17
• The result is rounded to one decimal place for comparison
The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

Measurement Result

Channel Frequency (MHz)	Max Output power (dBm)	Max Output power (mW)	Calculation Value (Note 1)	Threshold Value
2448	0.73	1.18	0.3692	3.0
2456	5.22	3.32	1.0406	3.0
2472	5.98	3.96	1.2452	3.0

$$E = EIRP - 20\log D + 104.8$$

where:

E = electric field strength in dBμV/m,
EIRP = equivalent isotropic radiated power in dBm
D = specified measurement distance in meters.

EIRP=E-104.8+20logD=**101.24**-104.8+20log3=**5.98**dBm

Note 1: Calculation Value =[(max. power of channel, mW)/(min. test separation distance, mm)] • [√f(GHz)].
Fox example: 3.96/5*√2.472=1.2452 ≤ 3.0

According to KDB447498 D01 V05, threshold at which no SAR required is ≤3.0 for 1 -g SAR, separation distance is 5mm, and no simultaneous SAR measurement is required.

The SAR measurement is not necessary.