RF Exposure Evaluation

FCC ID: 2AK4WRUNCAM3

1. Client Information

Applicant	:	RunCam Technology (Shenzhen) Co., Ltd.
Address	:	Room 16E, Building B, World Trade Plaza, 9 Fuhong Rd, Futian District, Shenzhen, Guangdong, China
Manufacturer	:	RunCam Technology (Shenzhen) Co., Ltd.
Address	:	Room 16E, Building B, World Trade Plaza, 9 Fuhong Rd, Futian District, Shenzhen, Guangdong, China

2. General Description of EUT

EUT Name	:	Camera	
Models No.	:	RunCam3-Pro, RunCam3-Plus, RunCam3-Ultra, RunCam3-Cube, RunCam3+, RunCam4, RunCam4-Pro, RunCam4-Plus, RunCam4-Ultra, RunCam4-Cube, RunCam4+, RunCam5, RunCam5-Pro, RunCam5-Plus, RunCam5-Ultra, RunCam5-Cube, RunCam5+, RunCam6, RunCam6-Pro, RunCam6-Plus, RunCam6-Ultra, RunCam6-Cube, RunCam6+, RunCam7, RunCam7-Pro, RunCam7-Plus, RunCam7-Ultra, RunCam7-Cube, RunCam7+, RunCam8, RunCam8-Pro, RunCam8-Plus, RunCam8-Ultra, RunCam8-Cube, RunCam8+, RunCam9, RunCam9-Pro, RunCam9-Plus, RunCam9-Ultra, RunCam9-Cube, RunCam9+, RunCam Cube, RunCam Cube*, RunCam*, (* represents 18-digit characters, and each character can be anything ranging from 0 to 9, A to Z, and symbols like "- "or "space" and different product models. And * is targeted at different sales territories, sales regions, sales methods, varied client groups, different market positioning and different product colors, and will not affect the product safety and electromagnetic compatibility)	
Model Difference	:	All these models are identical in the same PCB layout and electrical circuit, the only difference is model name for commercial.	
Product Description	:	Operation Frequency:	802.11b/g/n(HT20):2412MHz~2462MHz 802.11n(HT40): 2422MHz~2452MHz
		Number of Channel:	802.11b/g/n(HT20):11 channels **see note(3)** 802.11n(HT40): 7 channels **see note(3)**
		Max Peak Output Power:	802.11b: 9.25dBm 802.11g: 8.98 dBm 802.11n (HT20): 8.26 dBm 802.11n (HT40): 8.71 dBm

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		Antenna Gain:	2 dBi PIFA Antenna
		Modulation Type:	802.11b: DSSS(CCK, QPSK, BPSK) 802.11g: OFDM 802.11n: OFDM
Power Supply	:	DC Voltage Supplied from the Host System. DC Voltage Supply by the Battery.	
Power Rating	:	DC 5.0 V from the PC by the USB Cable. DC 5.0 V~17.0 V by the External Power Supply. DC 3.8 V~2*480mAh by the Internal Li-Lion Battery.	
Connecting I/O Port(S)	:	Please refer to the User's Manual	

Note:

More test information about the EUT please refer to the RF Test Report.

SAR Test Exclusion Calculations

1. **FCC: According to KDB 447498 D01 Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies v06.**
   (1) Clause 4.3: General SAR test reduction and exclusion guidance
   Sub clause 4.31: Standalone SAR test exclusion considerations
   1) The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6GHz at test separation distance≤5 mm are determined by:
   [(max. power of channel, including tune-up tolerance, mW)/(min. test separation, mm)]*[$\sqrt{f_{(GHz)}}$] ≤3.0 for 1-g SAR
   [(max. power of channel, including tune-up tolerance, mW)/(min. test separation, mm)]*[$\sqrt{f_{(GHz)}}$] ≤7.5.0 for 10-g SAR

2. Calculation:

Test separation: 5mm						
802.11b						
Frequency (GHz)	Conducted Power (dBm)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (dbm)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.412	9.21	9±0.5	9.5	8.913	2.768	3.0
2.437	9.25	9±0.5	9.5	8.913	2.783	3.0
2.462	9.17	9±0.5	9.5	8.913	2.797	3.0
802.11g						
Frequency (GHz)	Conducted Power (dBm)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (dbm)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.412	8.98	9±0.5	9.5	8.913	2.768	3.0
2.437	8.88	9±0.5	9.5	8.913	2.783	3.0
2.462	8.76	9±0.5	9.5	8.913	2.797	3.0
802.11n(HT20)						
Frequency (GHz)	Conducted Power (dBm)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (dbm)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.412	8.17	8±0.5	8.5	7.079	2.199	3.0
2.437	8.26	8±0.5	8.5	7.079	2.210	3.0
2.462	8.03	8±0.5	8.5	7.079	2.222	3.0
802.11n(HT40)						
Frequency (GHz)	Conducted Power (dBm)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (dbm)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.422	8.71	9±0.5	9.5	8.913	2.774	3.0
2.437	8.01	8±0.5	8.5	7.079	2.210	3.0
2.452	8.24	8±0.5	8.5	7.079	2.217	3.0

So standalone SAR measurements are not required.

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