

RF Exposure Evaluation

FCC ID: 2AGUA-EXPLORERS

1. Client Information

Applicant : HK ELEPHONE COMMUNICATION TECH CO.,LIMITED
Address : UNIT 04, 7/F BRIGHT WAY TOWER NO.33 MONG KOK RD KL,
HONGKONG
Manufacturer : HK ELEPHONE COMMUNICATION TECH CO.,LIMITED
Address : UNIT 04, 7/F BRIGHT WAY TOWER NO.33 MONG KOK RD KL,
HONGKONG

2. General Description of EUT

EUT Name	:	Action camera
Models No.	:	Explorer S
Model Difference	:	N/A
Product Description	Operation Frequency:	802.11b/g/n(HT20): 2412MHz~2462MHz
	Number of Channel:	802.11b/g/n(HT20):11 channels see note(3)
	RF Output Power:	802.11b: 9.34 dBm 802.11g: 9.15 dBm 802.11n (HT20): 9.13 dBm
	Antenna Gain:	2.11 dBi Internal Antenna
	Modulation Type:	802.11b: DSSS(CCK, DQPSK, DBPSK) 802.11g/n:OFDM(BPSK,QPSK,16QAM, 64QAM)
	Bit Rate of Transmitter:	802.11b:11/5.5/2/1 Mbps 802.11g:54/48/36/24/18/12/9/6 Mbps 802.11n:up to 150Mbps
Power Supply	:	DC power by USB cable. DC power by Li-ion battery.
Power Rating	:	DC 5.0V by USB cable. DC 3.7V by 900mAh Li-ion battery.
Connecting I/O Port(S)	:	Please refer to the User's Manual

Note: More test information about the EUT please refer 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:

$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation, mm})] * [\sqrt{f_{\text{(GHz)}}}] \leq 3.0 \text{ for 1-g SAR}$$

$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation, mm})] * [\sqrt{f_{\text{(GHz)}}}] \leq 7.5.0 \text{ for 10-g SAR}$$

2.

Calculation:

Test separation: 5mm						
WiFi Mode(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	9.34	9±0.5	9.5	8.913	2.768	3.0
2.437	9.28	9±0.5	9.5	8.913	2.783	3.0
2.462	9.31	9±0.5	9.5	8.913	2.797	3.0
WiFi Mode(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	9.12	9±0.5	9.5	8.913	2.768	3.0
2.437	9.08	9±0.5	9.5	8.913	2.783	3.0
2.462	9.15	9±0.5	9.5	8.913	2.797	3.0
WiFi Mode(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	9.09	9±0.5	9.5	8.913	2.768	3.0
2.437	9.13	9±0.5	9.5	8.913	2.783	3.0
2.462	9.06	9±0.5	9.5	8.913	2.797	3.0

So standalone SAR measurements are not required.

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