RF Exposure Evaluation

Test report
On Behalf of
Shenzhen Longhua Tianwangzhi Technology Manufacture
For
Wireless Headwear
Model No.: FAAH-200213, FAAE-200215, FAAE-200216, FAAE-200217, FAAH-200218, FAAH-200220, FAAH-200221, FAAE-200222, FAAE-200223
FCC ID: 2AW45-FAAH2002

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1 General Description of EUT

Product Name:	Wireless Headwear
Model/Type reference:	FAAH-200213
Serial Model:	FAAE-200215, FAAE-200216, FAAE-200217, FAAH-200218, FAAH-200220, FAAH-200221, FAAE-200222, FAAE-200223
Model Difference	All models have the same functionality, software and electronics, only the color, front frame shape and model names may differ. Test sample model: FAAH-200213
Trade Mark	N/A
FCC ID	2AW45-FAAH2002
Hardware Version:	BV2
Software Version:	V1.8
Version:	Supported EDR
Modulation:	GFSK, π/4DQPSK, 8DPSK
Operation frequency:	2402MHz~2480MHz
Channel number:	79CH
Channel separation:	1MHz
Antenna type:	PCB Antenna
Antenna gain:	0 dBi
Power supply:	DC 3.7V from battery

2 RF Exposure Compliance Requirement

2.1 Standard Requirement

According to KDB447498D01 General RF Exposure Guidance v06

4.3.1. Standalone SAR test exclusion considerations

Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

2.2 Limits

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, where

√f(GHz) is the RF channel transmit frequency in GHz

Power and distance are rounded to the nearest mW and mm before calculation[17]

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

3 EUT RF Exposure

GFSK						
Channel	Maximum Peak Conducted Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power		Calculated value	Exclusion threshold
			(dBm)	(mW)		
Lowest (2402MHz)	1.700	2±1	3	1.995	0.618	3.0
Middle (2441MHz)	1.743	2±1	3	1.995	0.623	
Highest (2480MHz)	1.659	2±1	3	1.995	0.628	
Conclusion: the calculated value ≤3.0, SAR is exempted.						

π/4DQPSK						
Channel	Maximum Peak Conducted Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power		Calculated value	Exclusion threshold
			(dBm)	(mW)		
Lowest (2402MHz)	3.966	4±1	5	3.162	0.980	3.0
Middle (2441MHz)	3.953	4±1	5	3.162	0.980	
Highest (2480MHz)	3.831	4±1	5	3.162	0.980	
Conclusion: the calculated value ≤3.0, SAR is exempted.						

8DPSK						
Channel	Maximum Peak Conducted Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power		Calculated value	Exclusion threshold
			(dBm)	(mW)		
Lowest (2402MHz)	4.270	4±1	5	3.162	0.980	3.0
Middle (2441MHz)	4.285	4±1	5	3.162	0.980	
Highest (2480MHz)	4.048	4±1	5	3.162	0.980	
Conclusion: the calculated value ≤3.0, SAR is exempted.						

Remark: The Max Conducted Peak Output Power data refer to report Report No.: HK2007281962-E