

RF Exposure Evaluation

**Test report
On Behalf of
Shenzhen Guansheng Technology Co., LTD.
For
SWH01 Wireless controller
Model No.: SWH01**

FCC ID: 2AV2L-SWH01

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1 General Description of EUT

Product Name:	SWH01 Wireless controller
Model/Type reference:	SWH01
Serial Model:	N/A
Trade Mark	N/A
FCC ID	2AV2L-SWH01
Hardware Version:	V1.0
Software Version:	V1.8
Version:	Supported EDR/BDR
Modulation:	GFSK, $\pi/4$ DQPSK, 8DPSK
Operation frequency:	2402MHz~2480MHz
Channel number:	79CH
Channel separation:	1MHz
Antenna type:	PCB Antenna
Antenna gain:	0.68dBi
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:

$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$$
 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR,

Where $f(\text{GHz})$ is the RF channel transmit frequency in GHz

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

The results 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

For EDR+BDR:

GFSK						
Channel	Maximum Peak Conducted Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power		Calculated value	Exclusion threshold
			(dBm)	(mW)		
Lowest (2402MHz)	-3.331	-3 ± 1	-2.0	0.631	0.196	3.0
Middle (2441MHz)	-2.858	-3 ± 1	-2.0	0.631	0.197	
Highest (2480MHz)	-5.329	-5 ± 1	-4.0	0.398	0.125	
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)	-2.906	-3 ± 1	-2.0	0.631	0.196	3.0
Middle (2441MHz)	-2.098	-3 ± 1	-2.0	0.631	0.197	
Highest (2480MHz)	-4.639	-5 ± 1	-4.0	0.398	0.125	
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)	-2.630	-3 ± 1	-2.0	0.631	0.196	3.0
Middle (2441MHz)	-2.086	-3 ± 1	-2.0	0.631	0.197	
Highest (2480MHz)	-4.557	-5 ± 1	-4.0	0.398	0.125	
Conclusion: the calculated value ≤ 3.0 , SAR is exempted.						

Remark: The Max Conducted Peak Output Power data refer to report Report No.: HK2004090565-E