

**RF Exposure**

Applicant: Hunter Douglas  
 Device: Silhouette Window Blind Controller

**FCC**

**From KDB 447498 D01 v05:**

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances  $\leq 50$  mm are determined by:

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [v f(\text{GHz})] \leq 3.0$  for 1-g SAR and  $\leq 7.5$  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<sup>1</sup>
- The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum test separation distance is  $\leq 50$  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

\*Note: minimum separation distance was defined as the closest point from the transmitting antenna to human tissue. It is assumed that the user could hold the remote from any point on the outside case.

**Peak EIRP**

CHANNEL	CHANNEL FREQUENCY (MHz)	EIRP PEAK POWER OUTPUT (dBm)	RESULT
1	2407	0.34	PASS
2	2440	-1.40	PASS
3	2480	1.66	PASS

Taken from NCEE Labs test report R20141003-20A

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### Lowest Channel

$$f(\text{GHz}) = 2.407$$

$$\text{Power} = 0.34 \text{ dBm} = 1.08 \text{ mW, round to nearest mW} = 1 \text{ mW}$$

Minimum separation distance = 5.00 mm (device is handheld and transmitting antenna can be less than 5 mm, so the 5 mm minimum was used)

$$[1.00 \text{ mW}] / [5.00 \text{ mm}] \cdot [\sqrt{2.407}] = 0.3 \quad \text{Limit} = 3.0$$

0.34 dBm was taken from NCEE Labs test report R20140505-23-FCC, Section 4.4.

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### Middle Channel

$$f(\text{GHz}) = 2.440$$

$$\text{Power} = -1.40 \text{ dBm} = 0.31 \text{ mW, rounded to nearest mW (non-zero)} = 1 \text{ mW}$$

Minimum separation distance = 5.00 mm (device is handheld and transmitting antenna can be less than 5 mm, so the 5 mm minimum was used)

$$[1 \text{ mW}] / [5.00 \text{ mm}] \cdot [\sqrt{2.440}] = 0.3 \quad \text{Limit} = 3.0$$

-1.40 dBm was taken from NCEE Labs test report R20140505-23-FCC, Section 4.4.

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### Highest Channel

$$f(\text{GHz}) = 2.480$$

$$\text{Power} = 1.66 \text{ dBm} = 1.47 \text{ mW, rounded to nearest mW} = 1 \text{ mW}$$

Minimum separation distance = 5.00 mm (device is handheld and transmitting antenna can be less than 5 mm, so the 5 mm minimum was used)

$$[1 \text{ mW}] / [5.00 \text{ mm}] \cdot [\sqrt{2.480}] = 0.3 \quad \text{Limit} = 3.0$$

1.66 dBm was taken from NCEE Labs test report R20140505-23-FCC, Section 4.4.

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**IC**

From RSS-102 Issue 5, Section 2.5.1, Table 1, <5mm limits were used

**Table 1: SAR evaluation – Exemption limits for routine evaluation based on frequency and separation distance<sup>4,5</sup>**

Frequency (MHz)	Exemption Limits (mW)				
	At separation distance of ≤5 mm	At separation distance of 10 mm	At separation distance of 15 mm	At separation distance of 20 mm	At separation distance of 25 mm
≤300	71 mW	101 mW	132 mW	162 mW	193 mW
450	52 mW	70 mW	88 mW	106 mW	123 mW
835	17 mW	30 mW	42 mW	55 mW	67 mW
1900	7 mW	10 mW	18 mW	34 mW	60 mW
2450	4 mW	7 mW	15 mW	30 mW	52 mW
3500	2 mW	6 mW	16 mW	32 mW	55 mW
5800	1 mW	6 mW	15 mW	27 mW	41 mW

Frequency (MHz)	Exemption Limits (mW)				
	At separation distance of 30 mm	At separation distance of 35 mm	At separation distance of 40 mm	At separation distance of 45 mm	At separation distance of ≥50 mm
≤300	223 mW	254 mW	284 mW	315 mW	345 mW
450	141 mW	159 mW	177 mW	195 mW	213 mW
835	80 mW	92 mW	105 mW	117 mW	130 mW
1900	99 mW	153 mW	225 mW	316 mW	431 mW
2450	83 mW	123 mW	173 mW	235 mW	309 mW
3500	86 mW	124 mW	170 mW	225 mW	290 mW
5800	56 mW	71 mW	85 mW	97 mW	106 mW

**EIRP compared to Limit**

CHANNEL	CHANNEL FREQUENCY (MHz)	EIRP PEAK POWER OUTPUT (dBm)	EXEMPTIONLIMIT 4mW = 6.02 dBm (dBm)	RESULT
1	2407	0.34	6.02	EXEMPT
2	2440	-1.40	6.02	EXEMPT
3	2480	1.66	6.02	EXEMPT

Taken from NCEE Labs test report R20141003-20A