

RF Exposure Requirements

Product Description: multi-sensor intelligent terminal for Internet of Things

Model No.: ZS-100

FCC ID: 2ACRJZS-100

According to the KDB-447498, the following RF exposure evaluation shall to demonstrate RF exposure compliance.

- 2) At 100 MHz to 6 GHz and for *test separation distances* > 50 mm, the SAR test exclusion threshold is determined according to the following, and as illustrated in Appendix B:²⁷
- a) [Power allowed at numeric threshold for 50 mm in step 1) + (test separation distance - 50 mm) · (f_(MHz)/150)] mW, at 100 MHz to 1500 MHz
 - b) [Power allowed at numeric threshold for 50 mm in step 1) + (test separation distance - 50 mm) · 10] mW at > 1500 MHz and ≤ 6 GHz

For a) 50mm in step 1 is 164mW, So the limit is $164 + (200 - 50) \cdot (f_{\text{MHz}} / 150)$

b) 50mm in step 1 is 109mW, So the limit is $109 + (200 - 50) \cdot 10 = 1609\text{mW}$

Channel	Frequency (MHz)	Average Power (dBm)	Antenna Gain (dBi)	Duty Factor (for 2slots)	Separation (mm)	Calculate (mW)	Limit (mW)
128	824.2	31.78	1.5	1/4	200	532.03	988.20
190	836.6	31.84	1.5	1/4	200	539.44	1000.60
251	848.8	31.85	1.5	1/4	200	540.68	1012.80

Channel	Frequency (MHz)	Average Power (dBm)	Antenna Gain (dBi)	Duty Factor (for 2slots)	Separation (cm)	Calculate (mW)	Limit (mW)
512	1850.2	28.86	-2.0	1/4	200	121.32	1609
661	1880.0	28.89	-2.0	1/4	200	122.16	1609
810	1909.8	28.96	-2.0	1/4	200	124.15	1609

Therefore, the transmitters comply with the RF exposure requirements and the SAR is not required.