



## RF Exposure Evaluation

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**FCC ID** : 2A348SPARKLINK  
**APPLICANT** : Positive LLC  
**Product** : Wireless System  
**Model No.** : Spark Link  
**Brand Name** : Positive Grid  
**FCC Rule Part(s):** : Part 2.1093 (Portable)  
**Received Date** : December 25, 2023

**Tested By** : *Fran Chen*  
( Fran Chen )  
**Reviewed By** : *Paddy Chen*  
( Paddy Chen )  
**Approved By** : *Chenz Ker*  
( Chenz Ker )



The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standards through the calibration of the equipment and evaluated measurement uncertainty herein.

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## Revision History

Report No.	Version	Description	Issue Date	Note
2312TWQ803-U3	1.0	Original Report	2024-01-15	

## 1. PRODUCT INFORMATION

### 1.1. Equipment Description

Product Name	Wireless System
Model No.	Positive Grid
Brand Name	Spark Link
Supports Radios Spec.	<b>WPAN:</b> SRD 2.4G

### 1.2. Antenna Description

No.	Brand	Part No.	Antenna Type	Peak Gain
1	WISVATION	WS105A	IFA	1.6dBi

## 2. RF Exposure Evaluation

### 2.1. FCC Limits

According to FCC KDB 447498 D04V01 - SAR-Based Exemption

This method shall only be used at separation distances from 0.5 cm to 40 cm and at frequencies from 0.3 GHz to 6 GHz (inclusive).  $P_{th}$  is given by Formula .

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases}$$

where

$$x = -\log_{10} \left( \frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right)$$

and  $f$  is in GHz,  $d$  is the separation distance (cm), and  $ERP_{20 \text{ cm}}$  is per Formula.

$$P_{th} \text{ (mW)} = ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases}$$

The example values shown as below are for illustration only.

Example Power Thresholds (mW)

Frequency (MHz)	Distance (mm)										
	5	10	15	20	25	30	35	40	45	50	
300	39	65	88	110	129	148	166	184	201	217	
450	22	44	67	89	112	135	158	180	203	226	
835	9	25	44	66	90	116	145	175	207	240	
1900	3	12	26	44	66	92	122	157	195	236	
2450	3	10	22	38	59	83	111	143	179	219	
3600	2	8	18	32	49	71	96	125	158	195	
5800	1	6	14	25	40	58	80	106	136	169	

Note: when 10-g extremity SAR applies, SAR test exemption may be considered by applying a factor of 2.5 to the SAR-based exemption thresholds.

## 2.2. Test Result of RF Exposure Evaluation

Mode	Frequency Band (MHz)	Average Output Power (dBm)	Output Power (mW)	Antenna Gain (dBi)	ERP (mW)	FCC SAR Test Exclusion Threshold (mW) @10mm
SRD 2.4G	2404.5~2479.5	4.74	2.98	1.6	2.62	7

So, this device can complies the SAR test exclusion.

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