



# RF Exposure Evaluation

## FCC ID: 2A7WA-X1

### 1. Client Information

Applicant	:	SR2K Inc.
Address	:	100 Derailer,Irvine,USA
Manufacturer	:	SR2K Inc.
Address	:	100 Derailer,Irvine,USA

### 2. General Description of EUT

EUT Name	:	SmartAccess
Model(s) No.	:	X1
Model Different	:	----
Sample ID	:	202206-0142-1-1# & 202206-0142-1-2#
Product Description	Operation Frequency:	Bluetooth 5.0: 2402MHz~2480MHz
	Number of Channel:	Bluetooth 5.0: 40 channels
	Antenna Gain:	0dBi PCB Antenna
Power Supply	:	Input: DC 5V DC 1.5V AAA*4
Software Version	:	1.0
Hardware Version	:	1.0
Remark: The antenna gain provided by the applicant, the adapter and verified for the RF conduction test and adapter provided by TOBY test lab.		

**Note:** More test information about the EUT please refer the RF Test Report.



## The RF Exposure Evaluation for FCC:

### SAR Test Exclusion Calculations

**FCC:** According to 447498 D04 Interim General RF Exposure Guidance v01.

The SAR-based exemption formula of § 1.1307(b)(3)(i)(B), repeated here as Formula (B.2), applies for single fixed, mobile, and portable RF sources with available maximum time-averaged power or effective radiated power (ERP), whichever is greater, of less than or equal to the threshold  $P_{th}$  (mW).

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 (B.2).

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

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 (B.1). The example values shown in Table B.2 are for illustration only.

**Table B.2—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



### Calculation:

Test separation: 5mm					
Bluetooth LE Mode					
Frequency (GHz)	Conducted Power (dBm)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (dBm)	Max power of tune up tolerance (mW)	Limit P <sub>th</sub> (mW)
2.402	-5.033	-5±1	-4	0.398	3
2.440	-6.522	-6±1	-5	0.316	3
2.480	-7.334	-7±1	-6	0.251	3
The measurement results comply with the FCC Limit per 47 CFR 2.1093 for the uncontrolled RF Exposure and SAR Exclusion Threshold per KDB 447498 D04, No SAR is required.					

-----END OF REPORT-----