

# FCC RF EXPOSURE REPORT

## FCC ID: 2ATECVK-FR-U-1280

**Project No.** : 2108C098  
**Equipment** : UHF RFID fixed reader  
**Brand Name** : KALEWA  
**Test Model** : VK-FR-U-1280  
**Series Model** : VK-FR-U-105  
VK-FR-U-110  
VK-FR-U-115  
VK-FR-U-120  
VK-FR-U-1270  
**Applicant** : Shenzhen Kalewa IoT Technology Co.,Ltd  
**Address** : Room C605-606,Shenzhen Virtual University Park,Building 2,Yue Xing 3rd Road,Nanshan District, Shenzhen,Guangdong,P.R.China  
**Manufacturer** : Shenzhen Kalewa IoT Technology Co.,Ltd  
**Address** : Room C605-606,Shenzhen Virtual University Park,Building 2,Yue Xing 3rd Road,Nanshan District, Shenzhen,Guangdong,P.R.China  
**Factory** : Shenzhen Kalewa IoT Technology Co.,Ltd  
**Address** : Room C605-606,Shenzhen Virtual University Park,Building 2,Yue Xing 3rd Road,Nanshan District, Shenzhen,Guangdong,P.R.China  
**Date of Receipt** : Aug. 09, 2021  
**Date of Test** : Aug. 23, 2021 ~ Oct. 09, 2021  
**Issued Date** : Oct. 27, 2021  
**Report Version** : R02  
**Test Sample** : Engineering Sample No.: DG2021082347  
**Standard(s)** : FCC Guidelines for Human Exposure IEEE C95.1 & KDB447498 D01

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc.



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TESTING CERT #5123.02

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**REPORT ISSUED HISTORY**

Report Version	Description	Issued Date
R00	Original Issue	Oct. 09, 2021
R01	Revised report to address comments	Oct. 22, 2021
R02	Revised report to address comments	Oct. 27, 2021

## 1. TEST FACILITY

The test facilities used to collect the test data in this report is at the location of No. 3 Jinshagang 1st Rd. Shixia, Dalang Town, Dongguan City, Guangdong, People's Republic of China.  
BTL's Test Firm Registration Number for FCC: 357015  
BTL's Designation Number for FCC: CN1240

## 2. GENERAL CONCLUSION

According to FCC KDB447498 D01, Appendix A, SAR Test Exclusion Thresholds for 100 MHz – 6 GHz and  $\leq 50$  mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following:

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

Appendix A - SAR Test Exclusion Thresholds for 100 MHz - 6 GHz and $\leq 50$ mm											
MHz	5	10	15	20	25	30	35	40	45	50	mm
150	39	77	116	155	194	232	271	310	349	387	SAR Test Exclusion Thresholds (mW)
300	27	55	82	110	137	164	192	219	246	274	
450	22	45	67	89	112	134	157	179	201	224	
835	16	33	49	66	82	98	115	131	148	164	
900	16	32	47	63	79	95	111	126	142	158	
1500	12	24	37	49	61	73	86	98	110	122	
1900	11	22	33	44	54	65	76	87	98	109	
2450	10	19	29	38	48	57	67	77	86	96	
3600	8	16	24	32	40	47	55	63	71	79	
5200	7	13	20	26	33	39	46	53	59	66	
5400	6	13	19	26	32	39	45	52	58	65	
5800	6	12	19	25	31	37	44	50	56	62	

### 3. TABLE FOR FILED ANTENNA

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	N/A	N/A	Dipole	N/A	9.0
2	N/A	N/A	Dipole	N/A	9.0
3	N/A	N/A	Dipole	N/A	9.0
4	N/A	N/A	Dipole	N/A	9.0

Note:

1. The antenna gain is provided by the manufacturer.
2. When the product is working, only one antenna is transmitting at a time.
3. We tested the individual transmission of each antenna and recorded the test data of the worst mode (Antenna 1).

### 4. TEST RESULTS

The highest AV EIRP adjusted with tune-up tolerance is  $87.06 - 95.30 = -8.24\text{dBm} = 0.15\text{mW} < 16\text{mW}$  (Test Exclusion Thresholds of 900MHz at 5mm). Therefore, the SAR requirement is deemed to be satisfied without test.

**End of Test Report**