

RF Exposure

Applicant : Shenzhen ZKS Mobile IOT Tech. Co., Ltd
Address : Room 304, Building B, Huazhong University of Science and Technology Research Institute, No. 9, Yuexing 3rd Road, Nanshan District, Shenzhen, Guangdong, China
Product Name : YFL Temperature & Humidity AloT Datalogger
Brand Mark : YFL
Model : S6SA
FCC ID : 2BMOJ-S6SA
Report Number : BLA-EMC-202503-A9103
Date of Receipt : Mar. 24, 2025
Date of Test : Mar. 24, 2025 to July 14, 2025
Test Standard : KDB447498D04 General RF Exposure Guidance v01
Test Result : Pass

Compiled by: *Hugh*Review by: *Xavier*Approved by: *Blue Zheng*

Issued Date: July 14, 2025

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Revise Record

Version No.	Date	Description
01	July 14, 2025	Original

1 General information

1.1 General information

Applicant	Shenzhen ZKS Mobile IOT Tech. Co., Ltd
Address	Room 304, Building B, Huazhong University of Science and Technology Research Institute, No. 9, Yuexing 3rd Road, Nanshan District, Shenzhen, Guangdong, China
Manufacturer	Shenzhen ZKS Mobile IOT Tech. Co., Ltd
Address	Room 304, Building B, Huazhong University of Science and Technology Research Institute, No. 9, Yuexing 3rd Road, Nanshan District, Shenzhen, Guangdong, China
Factory	Shenzhen ZKS Mobile IOT Tech. Co., Ltd
Address	Room 304, Building B, Huazhong University of Science and Technology Research Institute, No. 9, Yuexing 3rd Road, Nanshan District, Shenzhen, Guangdong, China

1.2 General description of EUT

Product Name:	YFL Temperature & Humidity AIoT Datalogger
Test Model No.:	S6SA
Series model:	N/A
Operation Frequency range:	LTE Band 2:TX: 1850MHz-1910MHz, RX: 1930MHz-1990MHz LTE Band 4:TX: 1710MHz-1755MHz, RX: 2110MHz-2155MHz LTE Band 5:TX: 824MHz-849MHz, RX: 869MHz-894MHz LTE Band 12 TX:699MHz-716MHz, RX: 729MHz-746MHz LTE Band 13 TX: 777MHz-787MHz, RX: 746MHz-756MHz LTE Band 66 TX: 1710MHz-1780MHz, RX: 2110MHz-2200MHz
Modulation type:	QPSK
Antenna type:	Internal Antenna
Antenna gain:	LTE Band 2:TX: 1.8 dBi; LTE Band 4:TX: 1.8 dBi; LTE Band 5:TX: 1.8 dBi; LTE Band 12 TX: 1.8 dBi; LTE Band 13 TX: 1.8 dBi; LTE Band 66 TX: 1.8 dBi
Power supply:	Battery: DC3.7V Power supply: Model: GDB006L3-050200CU Input: 100-240V~50/60Hz 0.35A Output: 5V=2A
Hardware version:	N/A
Software version:	N/A
Remark:The Antenna Gain is supplied by the customer.BlueAsia is not responsible for this data	

2 RF Exposure Compliance Requirement

2.1 Standard Requirement

According to 447498 D04 Interim General RF Exposure Guidance v01

Standalone SAR test exclusion considerations

Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

2.2 Limits

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases} \quad (\text{B. 2})$$

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).

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

$$P_{th} \text{ (mW)} = ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases} \quad (\text{B. 1})$$

2.3 Result

LTE Band 2

Directional antennaGain (Numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Limit (mW/cm ²)	Test Result
1.8dBi(1.514)	26.18	414.954 (QPSK 1860)	3060	Compiles

$$ERP=26.18+1.8-2.15=382.825\text{mW}$$

LTE Band 4

Directional antennaGain (Numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Limit (mW/cm ²)	Test Result
1.8dBi(1.514)	25.68	369.828 (QPSK 1754.3)	3060	Compiles

$$ERP=25.68+1.8-2.15=341.193\text{mW}$$

LTE Band 5

Directional antennaGain (Numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Limit (mW/cm ²)	Test Result
1.8dBi(1.514)	21.9	154.882 (QPSK 836.5)	2040f=1706.46	Compiles

$$ERP=21.9+1.8-2.15=142.889\text{mW}$$

LTE Band 12

Directional antennaGain (Numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Limit (mW/cm ²)	Test Result
1.8dBi(1.514)	22.99	199.067 (QPSK 713.5)	2040f=1455.54	Compiles

$$ERP=22.99-1.8-2.15=80.168\text{mW}$$

LTE Band 13

Directional antennaGain (Numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Limit (mW/cm ²)	Test Result
1.8dBi(1.514)	21.66	146.555 (QPSK 782.0)	2040f=1595.28	Compiles

$$\text{ERP}=21.66+1.80-2.15=135.207\text{mW}$$

LTE Band 66

Directional antennaGain (Numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Limit (mW/cm ²)	Test Result
1.8dBi(1.514)	25.82	381.944 (QPSK 1775.0)	3060	Compiles

$$\text{ERP}=25.82+1.8-2.15=352.371\text{mW}$$

Comply with RF exposure exemption limit.

----END OF REPORT----

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