

Shaanxi ShengKe Electronic Technology Co., Ltd

MPE ASSESSMENT REPORT

Report Type:

FCC Part §2.1091 and §1.1307(b) assessment report

Model:

SK-R800E

REPORT NUMBER:

2409B0618SHA-002

ISSUE DATE:

January 15, 2025

DOCUMENT CONTROL NUMBER:

TTRFFCCMPE-01_V1 © 2018 Intertek



Applicant: Shaanxi ShengKe Electronic Technology Co., Ltd
Room 1911, Junminronghe Builing, No25 Fazhan Road, Gaoxin zone

Manufacturer: Shaanxi ShengKe Electronic Technology Co., Ltd
Room 1911, Junminronghe Builing, No25 Fazhan Road, Gaoxin zone

Manufacturer Site: Shaanxi ShengKe Electronic Technology Co., Ltd
Room 1911, Junminronghe Builing, No25 Fazhan Road, Gaoxin zone

Product Name: 80GHz Radar Level Sensor

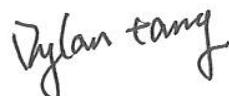
Type/Model: SK-R800E

FCC ID: 2BK46SK-R800E

SUMMARY:

The equipment complies with the requirements according to the following standard(s) or Specification:

KDB447498 D01 General RF Exposure Guidance v06
FCC Part2.1091, FCC Part1.1307(b)

PREPARED BY:

Project Engineer
Dylan Tang

REVIEWED BY:

Reviewer
Wakeyou Wang

This report is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to permit copying or distribution of this report and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results in this report are relevant only to the sample tested. This report by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program.

TEST REPORT**Revision History**

Report No.	Version	Description	Issued Date
2409B0618SHA-002	Rev. 01	Initial issue of report	January 15, 2025

TEST REPORT**1 GENERAL INFORMATION****1.1 Description of Equipment Under Test (EUT)**

Product name:	80GHz Radar Level Sensor
Type/Model/PMN/HVIN:	SK-R800E
Description of EUT:	The EUT is a 80GHz Radar Level Sensor, it supports 80G Radar and BLE functions, there is only one model. We test and list the worst results in this report.
Rating:	DC 24V
EUT type:	<input checked="" type="checkbox"/> Table top <input type="checkbox"/> Floor standing
Software Version:	v511
Hardware Version:	SK-R-E21-V1.1.0
Sample received date:	September 20, 2024
Date of test:	September 20, 2024 ~ December 10, 2024

1.2 Technical Specification

Frequency Range:	76000MHz ~ 81000MHz
Type of Modulation:	FMCW
Channel Number:	1
Antenna Information:	Lens Horn antenna
Antenna Gain	26.8 dBi

TEST REPORT**1.3 Description of Test Facility**

Name:	Intertek Testing Services (Shanghai FTZ) Co., Ltd.
Address:	Building 86, No. 1198 Qinzhou Road(North), Shanghai 200233, P.R. China
Telephone:	86 21 61278200
Telefax:	86 21 54262353

The test facility is recognized, certified, or accredited by these organizations:	CNAS Accreditation Lab Registration No. CNAS L21189
	FCC Accredited Lab Designation Number: CN0175
	IC Registration Lab CAB identifier.: CN0014
	VCCI Registration Lab Registration No.: R-14243, G-10845, C-14723, T-12252
	A2LA Accreditation Lab Certificate Number: 3309.02

TEST REPORT**2 MPE Assessment****Test result:** **Pass****2.1 MPE Assessment Limit**

Mobile device exposure for standalone operations:

Frequency range	E-field strength (V/m)	H-field strength (A/m)	B-field (uT)	Equivalent plane wave power density S_{eq} (W/m ²)
0-1 Hz	-	$3,2 \times 10^4$	4×10^4	-
1-8 Hz	10 000	$3,2 \times 10^4/f^2$	$4 \times 10^4/f^2$	-
8-25 Hz	10 000	$4 000/f$	$5 000/f$	-
0,025-0,8 kHz	250/f	4/f	5/f	-
0,8-3 kHz	250/f	5	6,25	-
3-150 kHz	87	5	6,25	-
0,15-1 MHz	87	0,73/f	0,92/f	-
1-10 MHz	$87/f^{1/2}$	0,73/f	0,92/f	-
10-400 MHz	28	0,073	0,092	2
400-2 000 MHz	$1,375 f^{1/2}$	$0,0037 f^{1/2}$	$0,0046 f^{1/2}$	$f/200$
2-300 GHz	61	0,16	0,20	10

Mobile device exposure for simultaneous transmission operations: **the sum of the MPE ratios for all simultaneously transmitting antennas incorporated in a host device is ≤ 1.0**

TEST REPORT**2.2 Assessment Results**

Power density (S) is calculated according to the formula:

$$S = PG / (4\pi R^2)$$

Where S = power density in mW/cm^2

P = Radiated transmit power in mW

G = numeric gain of transmit antenna

R = distance (cm)

As we can see from the test report: 2409B0618SHA-00.

The power for BLE modular refer certificate of FCC ID: 2AMWO-FSC-BT691

The calculations in the table below use the highest gain of antenna for client EUT. These calculations represent worst case in terms of the exposure levels.

The calculations in the table below use the highest gain of antenna for client EUT. These calculations represent worst case in terms of the exposure levels.

Frequency band (MHz)	Power		Antenna Gain dBi	R (cm)	S (mW/cm^2)	Limits (mW/cm^2)
	dBm	mW				
2400 -2483.5	1.081	1.28	2.0	20	0.00051	1
76000 - 81000	5.56	3.60	26.8	20	0.0192	1

Note: 1 mW/cm^2 from 1.310 Table 1.

BLE and 80G Radar can simultaneous transmitting, so the maximum rate of MPE is,
 $0.00051/1+0.0192/1=0.01971 \leq 1.0$.

TEST REPORT

Appendix I

Definition below must be outlined in the User Manual:

To satisfy FCC RF exposure requirements, a separation distance of 20 cm or more should be maintained between the antenna of this device and persons during device operation. To ensure compliance, operations at closer than this distance is not recommended.

*****END*****