

TEST REPORT							
FCC ID:	NBGFS197R						
Test Report No::	TCT231226E025	(3)	(C)				
Date of issue::	Feb. 05, 2024						
Testing laboratory:	SHENZHEN TONGCE TESTING	S LAB					
Testing location/ address:	Fuhai Subdistrict, Bao'an District	2101 & 2201, Zhenchang Factory, Renshan Industrial Zone, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, 518103, People's Republic of China					
Applicant's name::	HELLA GmbH & Co. KGaA						
Address::	Rixbecker Strasse 75, Lippstadt	D-59552, Germany					
Manufacturer's name:	HELLA GmbH & Co. KGaA						
Address::	Rixbecker Strasse 75, Lippstadt	Rixbecker Strasse 75, Lippstadt D-59552, Germany					
Factory's name:	HELLA GmbH & Co. KGaA						
Address::	Römerstraße 66 59075 Hamm Germany						
Standard(s)::	KDB 447498 D04 Interim General	RF Exposure Guidance v0	1				
Product Name::	Passive Entry-Passive Start Rac	lio Identification Device					
Trade Mark:	HELLA						
Model/Type reference:	FS197R						
Rating(s)::	DC 3V						
Date of receipt of test item:	Dec. 26, 2023	(5)					
Date (s) of performance of test:	Dec. 26, 2023 - Feb. 05, 2024						
Tested by (+signature):	Brews XU	forent war.					
Check by (+signature):	Beryl ZHAO BodC FTCT						
Approved by (+signature):	Tomsin						

General disclaimer:

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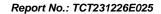




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1. General Product Information

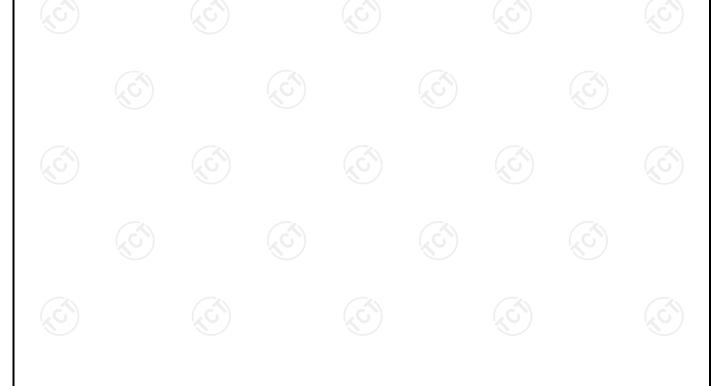
1.1. EUT description

Product Name:	Passive Entry-Passive Start Radio Identification	tion Device	(C)
Model/Type reference:	FS197R		
Sample Number:	TCT231226E009-0101		
Operation Frequency:	UWB: 6988.8MHz, 7488MHz UHF: 433.46MHz, 433.92MHz, 434.36MHz	(0)	
Modulation Type:	UWB: BPM-BPSK UHF:FSK		
Antenna Type:	UWB: PCB Integrated Monopole Antenna UHF: Integrated PCB loop Antenna		
Antenna Gain:	UWB: 0dBi UHF: -23dBi	(6)	
Rating(s):	DC 3V		

Note: The antenna gain listed in this report is provided by applicant, and the test laboratory is not responsible for this parameter.

1.2. Model(s) list

None.



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2. General Information

2.1. Test environment and mode

Item	Normal condition						
Temperature	+25°C						
Voltage	DC 3V						
Humidity	56%						
Atmospheric Pressure:	1008 mbar	(C					
Test Mode:							
Engineering mode:	Keep the EUT in continuous transmitting by select channel						

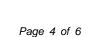
2.2. Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Equipment	Model No.	Serial No.	FCC ID	Trade Name
				1

Note:

- 1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
- 2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.
- 3. For conducted measurements (Output Power, 20dB Occupied Bandwidth, Carrier Frequencies Separation, Hopping Channel Number, Dwell Time, Spurious Emissions), the antenna of EUT is connected to the test equipment via temporary antenna connector, the antenna connector is soldered on the antenna port of EUT, and the temporary antenna connector is listed in the Test Instruments.





3. Facilities and Accreditations

3.1. Facilities

The test facility is recognized, certified, or accredited by the following organizations:

• FCC - Registration No.: 645098

SHENZHEN TONGCE TESTING LAB

Designation Number: CN1205

The testing lab has been registered and fully described in a report with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files.

IC - Registration No.: 10668A-1

SHENZHEN TONGCE TESTING LAB

CAB identifier: CN0031

The testing lab has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing.

3.2. Location

SHENZHEN TONGCE TESTING LAB

Address: 2101 & 2201, Zhenchang Factory Renshan Industrial Zone, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, 518103, People's Republic of China

TEL: +86-755-27673339





4. Test Results and Measurement Data

4.1. Requirements

For single RF sources (*i.e.*, any single fixed RF source, mobile device, or portable device, as defined in paragraph (b)(2) of this section): A single RF source is exempt if the available maximum time-averaged power is no more than 1 mW, regardless of separation distance.

4.2. Test Result

UHF PKE mode

	Frequency (MHz)	Electric field strength (dBuV/m)@3m	Max. Power (dBm)	Tune up Power (dBm)	Max. Tune up Power (dBm)	Max. Tune up Power (mW)	Test Exemption limit(mW)
1	433.46	80.57	-19.36	-20±1	-19	0.01	minic(iiii)
	433.92	80.61	-19.32	-20±1	-19	0.01	1.0
Ī	434.36	80.71	-19.22	-20±1	-19	0.01	

UHF RKE mode

	Fraguenay	Electric field	Max.	Tune up	Max. Tune up	Max. Tune	Test
	Frequency (MHz)	strength	Power	Power	Power	up Power	Exemption
	(1011-12)	(dBuV/m)@3m	(dBm)	(dBm)	(dBm)	(mW)	limit(mW)
(433.46	80.59	-19.34	-20±1	-19	0.01	
	433.92	80.77	-19.16	-20±1	-19	0.01	1.0
	434.36	80.59	-19.34	-20±1	-19	0.01	

UWB

	Frequency (MHz)	Electric field strength (dBuV/m)@3m	Max. Power (dBm)	Tune up Power (dBm)	Max. Tune up Power (dBm)	Max. Tune up Power (mW)	Test Exemption limit(mW)
J	6988.8	85.26	-10.04	-10±1	-9	0.13	1.0
	7488	88.56	-6.74	-7±1	-6	0.25	1.0

For simultaneous transmitting:

Simultaneous Transmitting Mode	Total Value	Test Exemption limit
PKE+UWB	0.26	1
RKE+UWB	0.26	

Note: Computational formula for below 1GHz

 $EIRP[dBm] = E[dB\mu V/m] + 20 log (d[m]) - 104.77;$

Conducted Power = EIRP-4.7;

where

E is the electric field strength in V/m; d is the measurement distance in meters (m)

Computational formula for above 1GHz: EIRP(dBm) = $E(dB\mu V/m) - 95.3$

Result:

Because the max tune up power is less than the exemption limit, so No SAR measurement is required.

*****END OF REPORT****