

Test Report No:
2420385R-RFUSV17S-A

RF EXPOSURE EVALUATION DECLARATION

Product Name	Module
Brand Name	Semtech
Model No.	HL7900
FCC ID	N7NHL79
Applicant's Name / Address	Sierra Wireless, ULC 13811 Wireless Way, Richmond, BC V6V 3A4, Canada
Manufacturer's Name / Address	Sierra Wireless, ULC 13811 Wireless Way, Richmond, BC V6V 3A4, Canada
Test Method Requested, Standard	FCC CFR Title 47 Part 2.1091 Radiofrequency radiation exposure evaluation: mobile devices.
Verdict Summary	IN COMPLIANCE
Documented By	 Amelia Wu
Approved By	 Rueyyan Lin
Date of Receipt	Feb. 23, 2024
Date of Issue	Aug. 02, 2024
Report Version	V1.0

INDEX

	page
Competences and Guarantees.....	3
General Conditions	3
Revision History	4
1. General Information	5
1.1. EUT Description	5
1.2. Testing Location Information	6
2. RF Exposure Evaluation	7
2.1. Test Limit	7
2.2. Test Result of RF Exposure Evaluation	8

Competences and Guarantees

DEKRA is a testing laboratory competent to carry out the tests described in this report.

In order to assure the traceability to other national and international laboratories, DEKRA has a calibration and maintenance program for its measurement equipment.

DEKRA guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated in the report and it is based on the knowledge and technical facilities available at DEKRA at the time of performance of the test.

DEKRA is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

The results presented in this Test Report apply only to the particular item under test established in this document.

IMPORTANT: No parts of this report may be reproduced or quoted out of context, in any form or by any means, except in full, without the previous written permission of DEKRA.

General Conditions

1. The test results relate only to the samples tested.
2. The test results shown in the test report are traceable to the national/international standard through the calibration report of the equipment and evaluated measurement uncertainty herein.
3. This report must not be used to claim product endorsement by TAF or any agency of the government.
4. The test report shall not be reproduced without the written approval of DEKRA Testing and Certification Co., Ltd.
5. Measurement uncertainties evaluated for each testing system and associated connections are given here to provide the system information for reference. Compliance determinations do not take into account measurement uncertainties for each testing system, but are based on the results of the compliance measurement.

Revision History

Version	Description	Issued Date
V1.0	Initial issue of report	Aug. 02, 2024

1. General Information

1.1. EUT Description

RF General Information				
Evaluation Mode	Band	Uplink Frequency (MHz)	Downlink Frequency (MHz)	Modulation Type
WWAN 4G	LTE Band 2	1850 ~ 1910	1930 ~ 1990	Cat-M1: QPSK / 16QAM NB-IoT: BPSK / QPSK
	LTE Band 4	1710 ~ 1755	2110 ~ 2115	
	LTE Band 5	824 ~ 849	869 ~ 894	
	LTE Band 12	699 ~ 716	729 ~ 746	
	LTE Band 13	777 ~ 787	746 ~ 756	
	LTE Band 25	1850 ~ 1915	1930 ~ 1995	
	LTE Band 26	814 ~ 849	859 ~ 894	
	LTE Band 66	1710 ~ 1780	2110 ~ 2200	
	LTE Band 70	1695~1710	1995~2020	
	LTE Band 85	698 ~ 716	728 ~ 746	

Note: The above EUT information is declared by the manufacturer.

1.2. Testing Location Information

Testing Location Information		
Test Laboratory : DEKRA Testing and Certification Co., Ltd.		
1 (TAF: 3024)	ADD: No.372-2, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County 31061, Taiwan, R.O.C. TEL: +886-3-582-8001 FAX: +886-3-582-8958 Test site Designation No. TW3024 with FCC. Conformity Assessment Body Identifier (CABID) TW3024 with ISED.	
2 (TAF: 3024)	ADD: No.372, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County 31061, Taiwan, R.O.C. TEL: +886-3-582-8001 FAX: +886-3-582-8958 Test site Designation No. TW3024 with FCC. Conformity Assessment Body Identifier (CABID) TW3024 with ISED.	
Test site number for address 1 includes HC-SR02. Test site number for address 2 includes HC-CB02, HC-CB03, HC-CB04, HC-SR10 and HC-SR12.		

2. RF Exposure Evaluation

2.1. Test Limit

(A) Test Limit for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-3.0	614	1.63	*(100)	<6
3.0-30	1842/f	4.89/f	*(900/f ²)	<6
30-300	61.4	0.163	1.0	<6
300-1500	-	-	f/300	<6
1500-100,000	-	-	5	<6

(B) Test Limit for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-1.34	614	1.63	*(100)	<30
1.34-30	824/f	2.19/f	*(180/f ²)	<30
30-300	27.5	0.073	0.2	<30
300-1500	-	-	f/1500	<30
1500-100,000	-	-	1.0	<30

Note: f = frequency in MHz; *Plane-wave equivalent power density

Power Density (S) is calculated by the following formula:

$$S = (P \cdot G) / 4\pi R^2$$

where:

S = power density (in appropriate units, e.g. mW/ cm²)

P = power input to the antenna (in appropriate units, e.g., mW)

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

π = 3.1416

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

2.2. Test Result of RF Exposure Evaluation

Exposure Environment: General Population / Uncontrolled Exposure

Evaluation Mode	E.I.R.P (dBm)	E.I.R.P (mW)	Power Density (mW/cm ²)	Limit (mW/cm ²)	Test Result (PASS/FAIL)
Cat-M1 Band 2 / 25	27.000	501.187	0.100	1.000	PASS
Cat-M1 Band 4 / 66	27.000	501.187	0.100	1.000	PASS
Cat-M1 Band 5 / 26 (Part 22)	25.500	354.813	0.071	0.549	PASS
Cat-M1 Band 12	25.500	354.813	0.071	0.543	PASS
Cat-M1 Band 13	25.500	354.813	0.071	0.466	PASS
Cat-M1 Band 26 (Part 90)	25.500	354.813	0.071	0.518	PASS
NB-IoT Band 2 / 25	27.000	501.187	0.100	1.000	PASS
NB-IoT Band 4 / 66	27.000	501.187	0.100	1.000	PASS
NB-IoT Band 5 / 26 (Part 22)	25.500	354.813	0.071	0.549	PASS
NB-IoT Band 12	25.500	354.813	0.071	0.543	PASS
NB-IoT Band 13	25.500	354.813	0.071	0.466	PASS
NB-IoT Band 26 (Part 90)	25.500	354.813	0.071	0.518	PASS
NB-IoT Band 70	27.000	501.187	0.100	1.000	PASS
NB-IoT Band 85	25.500	354.813	0.071	0.465	PASS

Distance (cm): 20 for Maximum Permissible Exposure.

Note:

1. The above EUT information is declared by the manufacturer.
2. The results are based on the maximum power.