



SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch

EMC-TRF-03 Rev 1.1

Report No.: GZCR241000116103

Page: 1 of 10

FCC ID: PX8-SW-LWIFI

RF EXPOSURE EVALUATION REPORT

Application No.: GZCR2410001161AT
Applicant: Comba Telecom Network Systems Limited
Address of Applicant: Flat/Rm 10, 3/F, Bio-Informatics Ctr, 2 Science Park West Avenue, HK Science Park, Pak Shek Kok, N.T. Hong Kong
Manufacturer: Comba Network Systems Company Limited
Address of Manufacturer: No. 10 Shenzhou Road, Guangzhou Science City, Guangzhou 510663, Guangdong, P.R.China
Factory: Comba Telecom Technology (Guangzhou) Ltd.
Address of Factory: No. 6 Jinbi Road, Economics and Technology Development District, Guangzhou, Guangdong, China
Product Name: SailaLite
Model No.: SW-L
Trade Mark: SailaWave
Standard(s) : 47 CFR Part 1.1310
KDB447498 D01 General RF Exposure Guidance v06
Date of Receipt: 2024-10-08
Date of Evaluation: 2024-11-20 to 2024-11-20
Date of Issue: 2024-11-21

Evaluation Result:	Pass*
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* In the configuration evaluated, the EUT complied with the standards specified above.

Ricky Liu
Manager



SGS-CSTC Standards Technical Services Co., Ltd.
Guangzhou Branch Testing Center EEC Laboratory

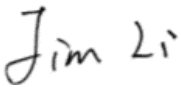
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Revision Record			
Version	Report No.	Date	Remark
01	GZCR241000116103	2024-11-21	Original

Authorized for issue by:			
			
		Jim Li/Project Engineer	
			
		Vico Cui/Reviewer	

2 Evaluation Summary

Item	Standard	Method	Requirement	Result
RF Exposure	KDB447498 D01 General RF Exposure Guidance v06	KDB447498 D01 General RF Exposure Guidance v06	47 CFR Part 1.1310	Pass

Note:

E.U.T./EUT means Equipment Under Test.

Pass means the test result passed the test standard requirement, please find the detailed decision rule in the report relative section.

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4 General Information

4.1 Details of E.U.T.

Power supply: Power Input: 48VDC (From PoE Port)
 Cable(s): PoE Port (RJ45 Type)
 Refer to report GZCR241000116101 for 2.4G Wi-Fi details.
 RF character(s): Refer to report GZCR241000116102 for 5G Wi-Fi details.
 Refer to report SEWA2204000008RG01 for WCDMA/LTE/NR details.

Remark: The information in this section is provided by the applicant or manufacturer, SGS is not liable to the accuracy, suitability, reliability or/and integrity of the information.

4.2 Evaluating Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou Branch EMC Laboratory,
 No.198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou,
 Guangdong, China 510663

Tel: +86 20 82155555

No tests were sub-contracted.



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4.3 Facility

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

● ACMA

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory can also perform testing for the Australian/New Zealand Regulatory Compliance Mark (RCM).

● SGS UK(Certificate No.: 32), SGS-TUV SAARLAND and SGS-FIMKO

Have approved SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory as a supplier of EMC TESTING SERVICES and SAFETY TESTING SERVICES.

● FCC Recognized Accredited Test Firm(Registration No.: 486818)

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been accredited and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Designation Number: CN5016, Test Firm Registration Number: 486818.

● ISED (Registration No.: 4620B, CAB identifier: CN0052)

SGS-CSTC Standards Technical Services Co., Ltd., has been registered by Innovation Science and Economic Development Canada for Wireless Device Testing laboratories to test to Canadian radio equipment requirements. Registration No. 4620B, CAB identifier: CN0052.

● VCCI (Registration No.: R-12460, C-12584, G-20107 and T-11179)

The 10m Semi-anechoic chamber, 966 Anechoic Chamber and Shielded Room of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-12460, C-12584, G-20107 and T-11179 respectively.

● CBTL (Lab Code: TL129)

SGS-CSTC Standards Technical Services Co., Ltd., E&E Laboratory has been assessed and fully comply with the requirements of ISO/IEC 17025:2017, the Basic Rules, IECEE 01 and Rules of procedure IECEE 02, and the relevant IECEE CB-Scheme Operational documents.

4.4 Deviation from Standards

None

4.5 Abnormalities from Standard Conditions

None



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5 Technical Requirements Specification

5.1 General Description of Applied Standards

KDB447498 D01 General RF Exposure Guidance v06

4.3.1. 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.

5.2 RF Exposure Evaluation

5.2.1 Limit & Test Method

According to FCC Part1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in part1.1307(b)

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
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) Limits for General Population/Uncontrolled Exposure				
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

F= Frequency in MHz

Friis Formula

Friis transmission formula: $P_d = (P_{out} * G) / (4 * P_i * R^2)$

Where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

P_i = 3.1416

R = distance between observation point and center of the radiator in cm

P_d is the limit of MPE, 1 mW/cm². If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.



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5.2.2 Conclusion

Normal use condition for Distance
between antenna and body: > 25 cm

4 dBi for 2.4GHz Wi-Fi both Ant 1 & Ant 2.

4 dBi for 5.8GHz Wi-Fi both Ant 1 & Ant 2.

7.01 dBi directional gain for 2.4 GHz Wi-Fi

7.01 dBi directional gain for 5.8 GHz Wi-Fi

Antenna Gain:

617-960 MHz: 0.5 dBi

1710-2690 MHz: 1.5 dBi

3300-3800 MHz: 2.5 dBi

For Cellular.

Band	Frequency (MHz)	Antenna Gain (dBi)	Max Conducted Average Output Power	Output Power to Antenna (dBm)	Output Power to Antenna (mW)	Power Density (mw/cm^2)	Limit (mw/cm^2)	PASS/FAIL	Numeric Gain
LTE B2/CA_2C/n2	1880	1.50	25.00	26.50	446.684	0.0803	1.0000	PASS	1.41
LTE B4	1710.7	1.50	25.00	26.50	446.684	0.0803	1.0000	PASS	1.41
LTE B5/CA_5B/n5	824.7	0.50	25.00	25.50	354.813	0.0507	0.5498	PASS	1.12
LTE B7/CA_7C/n7	2502.5	1.50	25.00	26.50	446.684	0.0803	1.0000	PASS	1.41
LTE B12/n12	699.7	0.50	25.00	25.50	354.813	0.0507	0.4665	PASS	1.12
LTE B13/n13	779.5	0.50	25.00	25.50	354.813	0.0507	0.5197	PASS	1.12
LTE B14/n14	790.5	0.50	25.00	25.50	354.813	0.0507	0.5270	PASS	1.12
LTE B17	706.5	0.50	25.00	25.50	354.813	0.0507	0.4710	PASS	1.12
LTE B25/n25	1850.7	1.50	25.00	26.50	446.684	0.0803	1.0000	PASS	1.41
LTE B26/n26 (814-824)	814.7	0.50	25.00	25.50	354.813	0.0507	0.5431	PASS	1.12
LTE B26/n26 (824-849)	824.7	0.50	25.00	25.50	354.813	0.0507	0.5498	PASS	1.12
LTE B30/n30*	2307.5	1.50	25.00	26.50	446.684	0.0803	1.0000	PASS	1.41
LTE B38/n38/CA_38C	2572.5	1.50	28.00	29.50	891.251	0.1603	1.0000	PASS	1.41
LTE B48/CA_48C*	3550	2.50	27.00	29.50	891.251	0.2018	1.0000	PASS	1.78
LTE B41/CA_41C/n41	2498.5	1.50	28.00	29.50	891.251	0.1603	1.0000	PASS	1.41
LTE B42/42C (3450-3550)	3452.5	2.50	27.00	29.50	891.251	0.2018	1.0000	PASS	1.78
LTE B43 (3700-3800)	3702.5	2.50	27.00	29.50	891.251	0.2018	1.0000	PASS	1.78
LTE B66/n66	1710.7	1.50	25.00	26.50	446.684	0.0803	1.0000	PASS	1.41
NR Bn70	1997.5	1.50	25.00	26.50	446.684	0.0803	1.0000	PASS	1.41
LTE B71/n71	665.5	0.50	25.00	25.50	354.813	0.0507	0.4437	PASS	1.12
NR Bn77	3455.01	2.50	27.00	29.50	891.251	0.2018	1.0000	PASS	1.78
NR Bn78	3455.01	2.50	27.00	29.50	891.251	0.2018	1.0000	PASS	1.78
WCDMA II	1852.4	1.50	25.00	26.50	446.684	0.0803	1.0000	PASS	1.41
WCDMA IV	1712.4	1.50	25.00	26.50	446.684	0.0803	1.0000	PASS	1.41
WCDMA V	826.4	0.50	25.00	25.50	354.813	0.0507	0.5509	PASS	1.12

Note: Refer to report No. SEWA2204000008RG01, for EUT test Max Conducted Peak Output Power value.



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For 2.4 GHz Wi-Fi

Antenna Gain: 7.01 dBi

Frequency (MHz)	Antenna Gain (Numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
2437	5.023425895	28.21	662.22	0.42355	1	Complies

For 5.8 GHz Wi-Fi

Antenna Gain: 7.01 dBi

Frequency (MHz)	Antenna Gain (Numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
5825	5.023425895	23.77	238.23	0.15237	1	Complies

Note: Refer to report No. XEWM2304000191RG03 and XEWM2304000191RG04, for EUT test Max Conducted Peak Output Power value.

The 2.4G Wi-Fi, 5.8G Wi-Fi & Cellular can be transmitted together, the result $0.42355/1+0.15237/1+0.2018/1=0.77772 <1$

So SAR report is not required.



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6 EUT Constructional Details (EUT Photos)

Refer to Appendix - External and Internal Photos for GZCR2410001161AT

- End of the Report -



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