

# RF Exposure Evaluation Report

**APPLICANT** : Queclink Wireless Solutions Co., Ltd.  
**EQUIPMENT** : QLC300NA  
**BRAND NAME** : Queclink  
**MODEL NAME** : QLC300NA  
**FCC ID** : YQD-QLC300NA  
**STANDARD** : 47 CFR Part 2.1091  
FCC KDB 447498 D01 v06

The product evaluation date was started from Aug. 22, 2023 and completed on Aug. 22, 2023. We, Sporton International Inc. (Shenzhen), would like to declare that the device has been evaluated in accordance with 47 CFR Part 2.1091 and FCC KDB 447498 D01 v06, and pass the limit. Without written approval of Sporton International Inc. (Shenzhen), the test report shall not be reproduced except in full.



Approved by: Si Zhang

**Sporton International Inc. (Shenzhen)**

**1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055**

**People's Republic of China**



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**Revision History**

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA371703	Rev. 01	Initial issue of report.	Sep. 07, 2023



## **1. Administration Data**

### **1.1. Testing Laboratory**

Sporton International Inc. (Shenzhen) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.01.

<b>Testing Laboratory</b>			
<b>Test Firm</b>	Sporton International Inc. (Shenzhen)		
<b>Test Site Location</b>	1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055 People's Republic of China TEL: +86-755-86379589 FAX: +86-755-86379595		
<b>Test Site No.</b>	<b>Sporton Site No.</b>	<b>FCC Designation No.</b>	<b>FCC Test Firm Registration No.</b>
	SAR01-SZ	CN1256	421272

<b>Applicant</b>	
<b>Company Name</b>	Quealink Wireless Solutions Co., Ltd.
<b>Address</b>	No.30, Lane 500, Xinlong Road, Minhang District, Shanghai, China, 201101

<b>Manufacturer</b>	
<b>Company Name</b>	Quealink Wireless Solutions Co., Ltd.
<b>Address</b>	No.30, Lane 500, Xinlong Road, Minhang District, Shanghai, China, 201101



2. Description of Equipment Under Test (EUT)

Table with 2 columns: Feature Name, Specification. Rows include EUT Type, Brand Name, Model Name, FCC ID, Wireless Technology and Frequency Range, Mode, Antenna Gain, Antenna Type, HW Version, SW Version, and EUT Stage.

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

Comments and Explanations: 1. The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification. 2. The maximum RF output tune up power, antenna gain also the safe distance used for evaluate RF exposure were declared by manufacturer.

3. Maximum RF average output tune up power among production units

<LTE>

Table with 2 columns: Mode, Maximum Average power(dBm). Rows show LTE power for Band 2, Band 4, Band 5, Band 12, and Band 13, all at 25.0 dBm.

**4. RF Exposure Limit Introduction**

According to ANSI/IEEE C95.1-1992, the criteria listed in Table 1 shall be used to evaluate the environmental impact of human exposure to radio frequency (RF) radiation as specified in §1.1310.

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm <sup>2</sup> )	Averaging time (minutes)
<b>(A) Limits for Occupational/Controlled Exposures</b>				
0.3-3.0	614	1.63	*(100)	6
3.0-30	1842/f	4.89/f	*(900/f <sup>2</sup> )	6
30-300	61.4	0.163	1.0	6
300-1500			f/300	6
1500-100,000			5	6
<b>(B) Limits for General Population/Uncontrolled Exposure</b>				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f <sup>2</sup> )	30
30-300	27.5	0.073	0.2	30
300-1500			f/1500	30
1500-100,000			1.0	30

The MPE was calculated at 20 cm to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

$$S = \frac{PG}{4\pi R^2}$$

Where:

S = Power Density

P = Output Power at Antenna Terminals

G = Gain of Transmit Antenna (linear gain)

R = Distance from Transmitting Antenna



## 5. Radio Frequency Radiation Exposure Evaluation

### 5.1. Standalone Power Density Calculation

Band	Frequency (MHz)	Antenna Gain (dBi)	Maximum Power (dBm)	Maximum EIRP (dBm)	Average EIRP (mW)	Power Density at 20cm (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
LTE Band 2	1850.7	2.56	25.00	27.560	570.164	0.113	1.000
LTE Band 4	1710.7	3.13	25.00	28.130	650.130	0.129	1.000
LTE Band 5	824.7	0.85	25.00	25.850	384.592	0.077	0.550
LTE Band 12	699.7	0.33	25.00	25.330	341.193	0.068	0.466
LTE Band 13	779.5	1.49	25.00	26.490	445.656	0.089	0.520

**Note:**

1. For conservativeness, the lowest frequency of each band is used to determine the MPE limit of that band.
2. Chose the maximum power to do MPE analysis.

### Conclusion:

According to 47 CFR §2.1091, the RF exposure analysis concludes that the RF Exposure is FCC compliant.

-----THE END-----