

# JianYan Testing Group Shenzhen Co., Ltd.

Report No.: JYTSZ-R12-2301683

# **RF Exposure Evaluation Report**

**Report No.:** JYTSZ-R12-2301683

Applicant: Shenzhen Giesonwell Technology Co., Ltd

Address of Applicant: Room 201, Building 25, Zhiheng Industiral Park, No.15

Guankou 2nd Road, Nantou Street, Shenzhen, China

**Equipment Under Test (EUT)** 

Product Name: Booster

Model No.: Link50, Link10, Link30

Trade mark: N/A

**FCC ID:** 2BDYJ-LK103050

**Applicable standards:** FCC CFR Title 47 Part 2 (§2.1091)

Date of sample receipt: 27 Nov., 2023

**Date of Test:** 28 Nov., to 26 Dec., 2023

Date of report issue: 27 Dec., 2023

Test Result: PASS

Project by: Date: 27 Dec., 2023

Reviewed by: Date: 27 Dec., 2023

Approved by: \_\_\_\_\_ Date: \_\_\_\_ 27 Dec., 2023

Manager

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in above the application standard version. Test results reported herein relate only to the item(s) tested.

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# 1 Version

Version No.	Date	Description
00	27 Dec., 2023	Original





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### **General Information**

### 3.1 Client Information

Applicant:	Shenzhen Giesonwell Technology Co., Ltd			
Address:	Room 201, Building 25, Zhiheng Industiral Park, No.15 Guankou 2nd Road, Nantou Street, Shenzhen, China			
Manufacturer/Factory:	Shenzhen Giesonwell Technology Co., Ltd			
Address:	Room 201, Building 25, Zhiheng Industiral Park, No.15 Guankou 2nd Road, Nantou Street, Shenzhen, China			

3.2 General Description of E.U.T.

Product Name:	Booster				
Model No.:	Link50, Link10, Link30				
Operation Frequency:	LTE band 4:	Uplink: 1710 MHz - 1755 MHz			
		Downlink: 2110 MHz - 2155 MHz			
	LTE band 5:	824 MHz - 849 MHz			
		Downlink: 869 MHz - 894 MHz			
	LTE band 12:	Uplink: 699 MHz - 716 MHz			
		Downlink: 729 MHz - 746 MHz			
	LTE band 13:	Uplink: 777MHz - 787 MHz			
		Downlink:746 MHz - 756 MHz			
	LTE band 25:	Uplink:1850MHz - 1910 MHz			
		Downlink:1930 MHz - 1990 MHz			
Antenna Type:	Wall mounted a	ounted antenna(ANT1)			
	log periodic ant	ntenna(ANT2)			
Antenna gain:	LTE band 4:	ANT1: 7.02dBi; ANT2: 7.63 (declare by Applicant)			
	LTE band 5:	ANT1: 6.20dBi; ANT2: 7.24 (declare by Applicant)			
	LTE band 12:	ANT1: 4.51dBi; ANT2: 6.30 (declare by Applicant)			
	LTE band 13:	ANT1: 4.51dBi; ANT2: 6.30 (declare by Applicant)			
	LTE band 25:	: ANT1: 7.82dBi; ANT2: 7.38 (declare by Applicant)			
Test Sample Condition:	Link50, Link10, Link30 were identical inside, the electrical circuit design, layout, components used and internal wiring, with only difference being model name.				

# 3.3 Operating Modes

Operating mode	Detail description
Uplink mode:	Keep the EUT in B4/5/12/13/25 Uplink mode
Downlink mode:	Keep the EUT in B4/5/12/13/25Downlink mode

# 3.4 Additions to, deviations, or exclusions from the method

No

# 3.5 Laboratory Facility

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

• FCC - Designation No.: CN1211

JianYan Testing Group Shenzhen Co., Ltd. has been accredited as a testing laboratory by FCC(Federal Communications Commission). The test firm Registration No. is 727551.

ISED – CAB identifier.: CN0021

The 3m Semi-anechoic chamber and 10m Semi-anechoic chamber of JianYan Testing Group Shenzhen Co., Ltd. has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 10106A-1.

JianYan Testing Group Shenzhen Co., Ltd. Report Template No.: JYTSZ4b-177-C No.101, Building 8, Innovation Wisdom Port, No.155 Hongtian Road, Huangpu Community, Xinqiao Street, Bao'an District, Shenzhen, Guangdong, People's Republic of China. Tel: +86-755-23118282, Fax: +86-755-23116366



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#### CNAS - Registration No.: CNAS L15527

JianYan Testing Group Shenzhen Co., Ltd. is accredited to ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration laboratories for the competence of testing. The Registration No. is CNAS L15527.

#### ● A2LA - Registration No.: 4346.01

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories. The test scope can be found as below link: https://portal.a2la.org/scopepdf/4346-01.pdf

## 3.6 Laboratory Location

JianYan Testing Group Shenzhen Co., Ltd.

Address: No.101, Building 8, Innovation Wisdom Port, No.155 Hongtian Road, Huangpu Community, Xingiao Street, Bao'an District, Shenzhen, Guangdong, People's Republic of China.

Tel: +86-755-23118282, Fax: +86-755-23116366

Email: info-JYTee@lets.com, Website: http://jyt.lets.com



# 4 Technical Requirements Specification

### 4.1 Limits

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 1.1307(b)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm <sup>2</sup> )	Averaging time (minutes)			
(A) Limits for Occupational/Controlled Exposures							
0.3–3.0 614 1.63 *(100)							
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) 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 <sup>2</sup> )	30			
30–300	27.5	0.073	0.2	30			
300–1500			f/1500	30			
1500–100,000			1.0	30			

### 4.2 Test Procedure

Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S = \frac{P \times G}{4 \times \pi \times R^2}$$

Where:

S = power density

P = power input to the antenna

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

R = distance to the centre of radiation of the antenna



### 4.3 Result

Frequency (MHz)	Maximum Output power (dBm)	Maximum Output power (mW)	Antenna Gain (dBi)	Antenna Gain (numeric)	Distance (cm)	Result (mW/cm <sup>2</sup> )	Limits for General Population/ Uncontrolled Exposure (mW/cm²)
			E	34			
1732.5	11.94	15.63	7.63	5.79	20	0.002	1.0
2132.5	20.30	107.15	7.63	5.79	20	0.014	1.0
			Е	35			
863.5	11.30	13.489	7.24	5.30	20	0.002	0.58
881.5	18.31	67.76	7.24	5.30	20	0.008	0.59
			В	12			
707.5	12.25	16.79	6.30	4.27	20	0.002	0.58
737.5	18.57	71.94	6.30	4.27	20	0.007	0.59
			В	13			
782.00	11.92	15.56	6.30	4.27	20	0.001	0.58
751.00	18.57	71.94	6.30	4.27	20	0.007	0.59
			В	25			
1882.5	12.38	17.29	7.82	6.05	20	0.002	1.0
1962.5	19.65	92.26	7.82	6.05	20	0.012	1.0
	BT						
2480	-8.418	0.14	1	1.26	20	0.011	1.0
	2.4GHz WiFi						
2412	16.48	44.46	1	1.26	20	0.00004	1.0

Simultaneous transmission(Worse mode):

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Mode	Ratio	Total Ratio	Limit
2.4G WiFi	0.011		1.00
LTE Band 4 (1732.5MHz)	0.002	0.027	
LTE Band 4 (2132.5MHz)	0.014		

Note: Just the worst case mode was shown in report.

### 4.4 Conclusion

The device is exempt from the SAR test and satisfies RF exposure evaluation.

-----End of report-----