TEST REPORT

Applicant:	Franklin Technology
Address:	#906 JEI Platz, 186, Gasan digital1-ro, Geumcheon-gu, Seoul 08502 Korea
Equipment Type:	Mobile Hotspot
Model Name:	RG3102
Brand Name:	N/A
FCC ID:	XHG-RG3102
Test Standard:	47 CFR Part 96.47
Sample Arrival Date:	Sep. 02, 2024
Test Date:	Nov. 08, 2024 - Nov. 21, 2024
Date of Issue:	Jan. 03, 2025

ISSUED BY:

Shenzhen BALUN Technology Co., Ltd.

Tested by: Jiamin Lu

Checked by: Wu Huihui

Approved by: Tolan Tu

(Testing Director)

Revision History

Version	Issue Date	Revisions Content
Rev. 01	Jan. 03, 2025	Initial Issue

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1 GENERAL INFORMATION

1.1 Test Laboratory

Name	Shenzhen BALUN Technology Co., Ltd.
Address	Block B, 1/F, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
Phone Number	+86 755 6685 0100

1.2 Test Location

Name	Shenzhen BALUN Technology Co., Ltd.
Location	☐ Block B, 1/F, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
	☑ 1/F, Building B, Ganghongji High-tech Intelligent Industrial Park, No. 1008, Songbai Road, Yangguang Community, Xili Sub-district, Nanshan District, Shenzhen, Guangdong Province, P. R. China
Accreditation Certificate	The laboratory is a testing organization accredited by FCC as a accredited testing laboratory. The designation number is CN1196.

2 PRODUCT INFORMATION

2.1 Applicant Information

Applicant	Franklin Technology
Address	#906 JEI Platz, 186, Gasan digital1-ro, Geumcheon-gu, Seoul 08502 Korea

2.2 Manufacturer Information

Manufacturer	Franklin Technology
Address	#906 JEI Platz, 186, Gasan digital1-ro, Geumcheon-gu, Seoul 08502 Korea

2.3 General Description for Equipment under Test (EUT)

EUT Name	Mobile Hotspot
Model Name Under Test	RG3102
Series Model Name	N/A
Description of Model name differentiation	N/A
Hardware Version	P1
Software Version	RG3102.AT.1298
Dimensions (Approx.)	L:133mm W:85mm H:25.3mm
Weight (Approx.)	N/A

2.4 Technical Information

The following is the technical information of the EUT tested frequency bands in this report.

Operating Bands		4G Network: TDD LTE Band48 5G Network: NR: SA n48 WIFI 802.11a, 802.11b, 802.11g, 802.11n(HT20/40), 802.11ac(VHT20/40/80/160) GPS	
Antenna Type		Embedded Antenna	
Product Type		End User Device	
Band	Power Class	Tx Frequency Range	Rx Frequency Range
LTE Band n48	3	3550 MHz ~ 3700 MHz	3550 MHz ~ 3700 MHz
NR n48	3	3550 MHz ~ 3700 MHz	3550 MHz ~ 3700 MHz

Note1: The EUT information provided by the applicant. For more detailed band specifications and features description, please refer to the manufacturer's specifications or user's manual.

3 SUMMARY OF TEST RESULTS

3.1 Test Standards

No.	Identity	Document Title
1	47 CFR Part 96	CITIZENS BROADBAND RADIO SERVICE

3.2 Test Verdict

No.	Test Description	FCC Part No.	Test Result	Test Verdict
1	End user device additional requirements.	96.47	ANNEX A.1	Pass

4 GENERAL TEST CONFIGURATIONS

4.1 Test Environments

During the measurement, the environmental conditions were within the listed ranges:

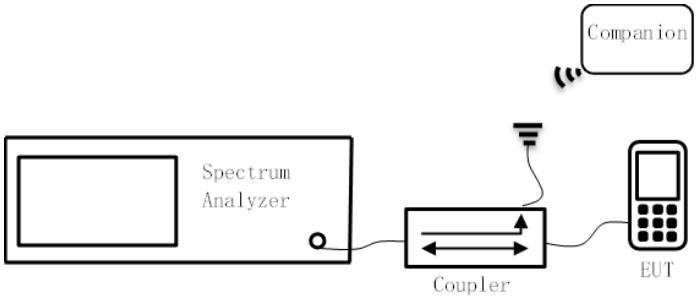
Relative Humidity		20% to 75%
Atmospheric Pressure		98 kPa to 102 kPa
Test Temperature of the EUT	NT (Normal Temperature)	15 °C to 35 °C

4.2 Test Equipment List

Description	Manufacturer	Model	Serial No.	Version	Cal. Date	Cal. Due
CBRS Test System						
Spectrum Analyzer	keysight	N9020A	MY50531628	A.16.09	2024-05-08	2025-05-07
LTE Base Station	Baicells	mBS31001	1202000240 19APP0129	N/A	N/A	N/A
5G NR Base Station	Baicells	BSC7048A243	AP21RBAA N0300107	N/A	N/A	N/A

4.3 Test Setup

4.3.1 For Conducted Test



(Diagram 1)

5 TEST ITEMS

5.1 End user device additional requirements

5.1.1 Limit

FCC § 96.47

(a)End User Devices may operate only if they can positively receive and decode an authorization signal transmitted by a CBSD, including the frequencies and power limits for their operation.

(1)An End User Device must discontinue operations, change frequencies, or change its operational power level within 10 seconds of receiving instructions from its associated CBSD.

5.1.2 Test Setup

The section 4.3.1 (Diagram 1) test setup description was used for this test. The photo of test setup please refer to ANNEX B.

5.1.3 Test Procedure

Following procedure can be done by applying WINNF-TS-0122-V1.0.2 CBRS CBSD Test Specification, use the certified Ruckus CBSD (FCCID:2AG32MBS3100196N & FCC ID: 2AG32BSC7048A243) as companion device to show compliance with Part 96.47requirement for End User Device (EUD):

1. Setup with frequency 3605-3625MHz and power level 17dBm/MHz
2. Enable AP service from Ruckus Cloud management
3. Check EUD Tx Frequency and power
4. Disable AP service from Ruckus Cloud management
   a. Check EUD stops transmission within 10seconds.
5. Setup with frequency 3670-3690MHz and power level 7dBm/MHz
6. Enable AP service from Ruckus Cloud management
7. Check EUD Tx Frequency and power
8. Disable AP service from Ruckus Cloud management
   a. Check EUD stops transmission within 10seconds.

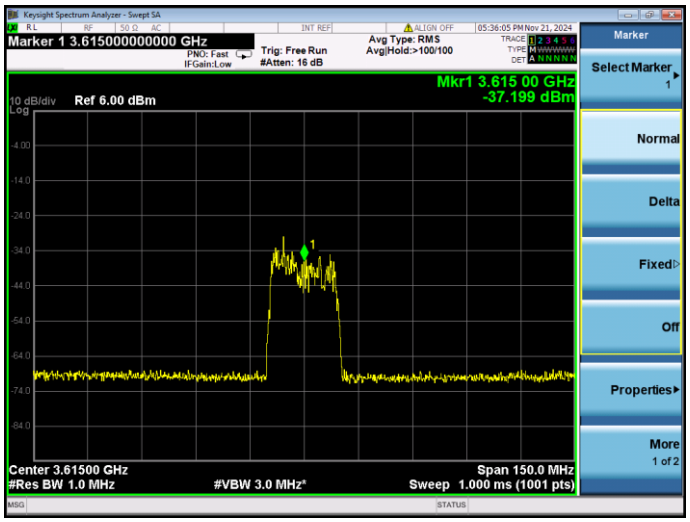
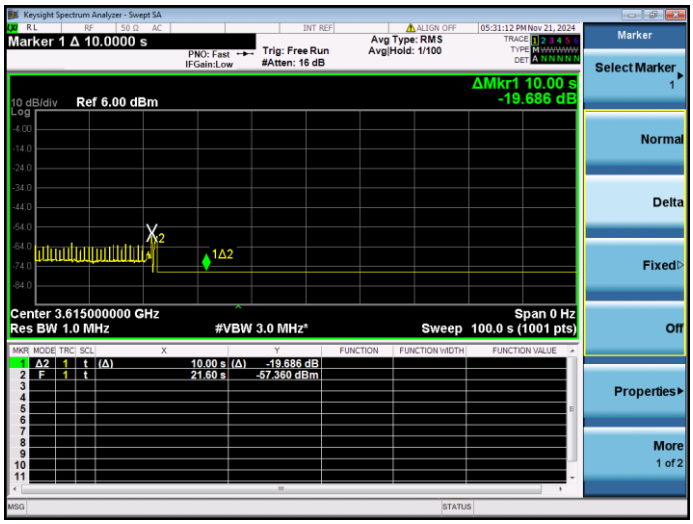
5.1.4 Test Result

Please refer to ANNEX A.1.

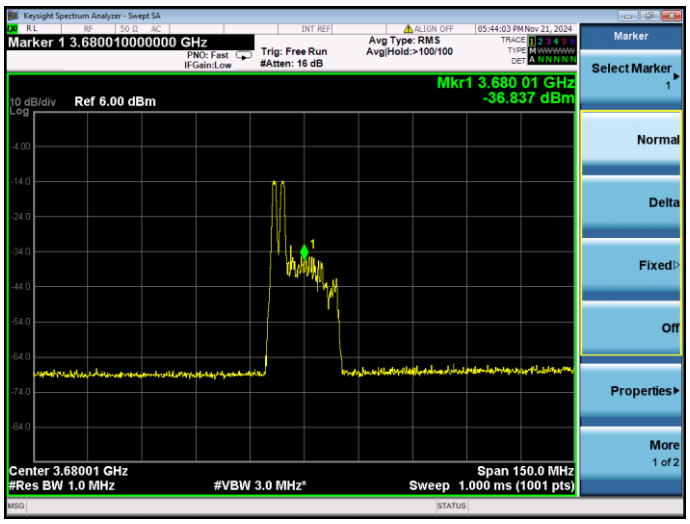
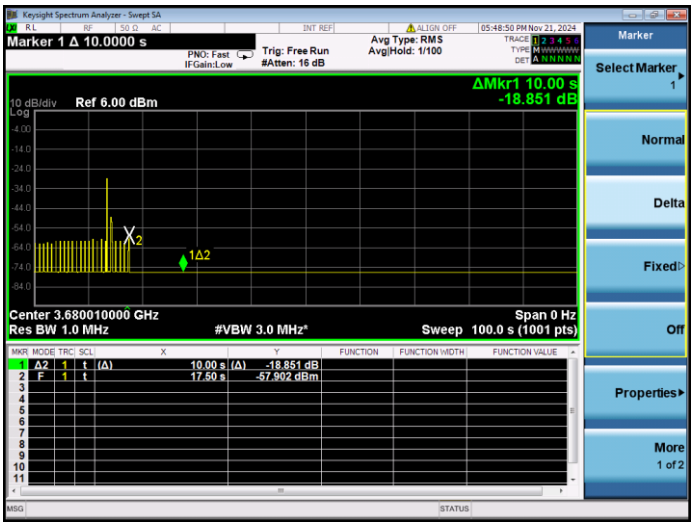
ANNEX A TEST RESULTS

A.1 End user device additional requirements

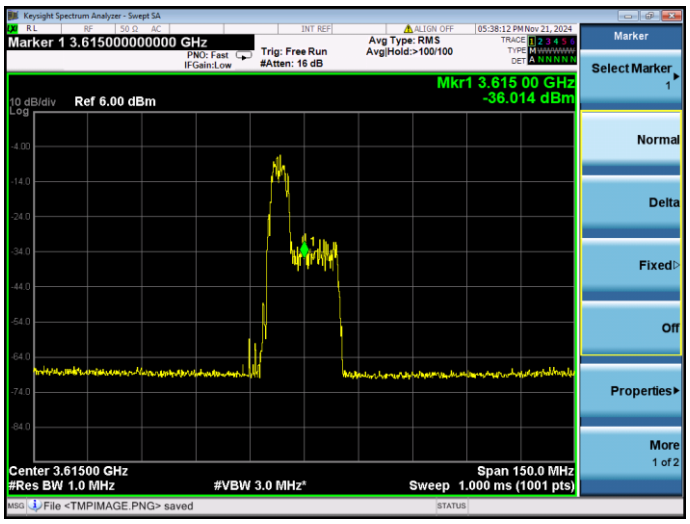
Test Band: CBSD transmit at frequency 3605-3625MHz of LTE B48

Frequency Operation

Discontinues Operations within 10s


Test Band: CBSD transmit at frequency 3670-3690MHz of LTE B48

Frequency Operation

Discontinues Operations within 10s


Test Band: CBSD transmit at frequency 3605-3625MHz and power level 17dBm/MHz of n48

Frequency Operation

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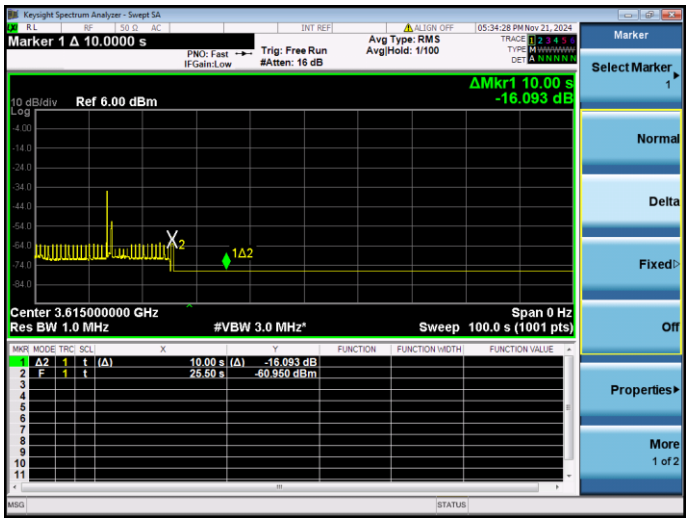
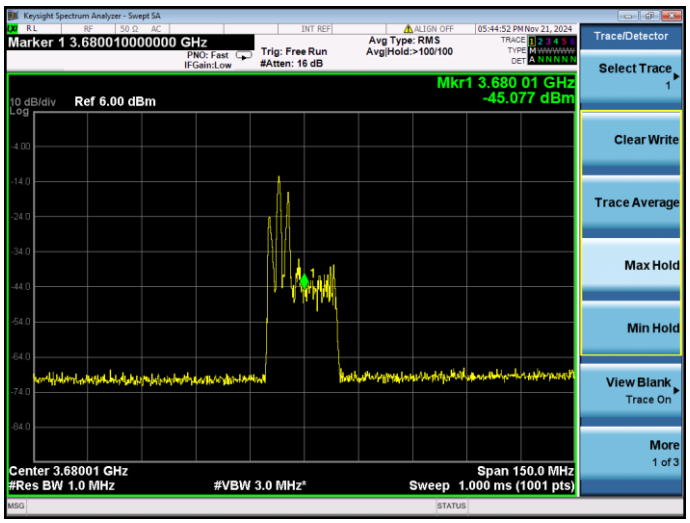
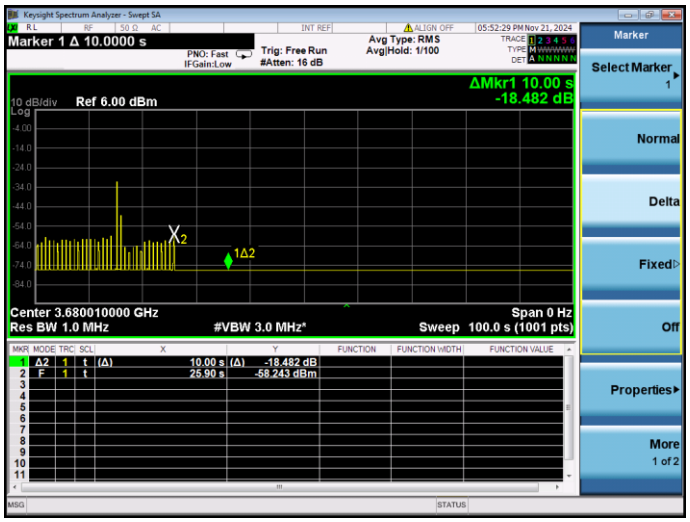


Test Band: CBSD transmit at frequency 3670-3690MHz and power level 7dBm/MHz of n48

Frequency Operation

Discontinues Operations within 10s


ANNEX B TEST SETUP PHOTOS

Please refer to the document “BL-SH2480613-AR-1.PDF”.

Statement

1. The laboratory guarantees the scientificity, accuracy and impartiality of the test, and is responsible for all the information in the report, except the information provided by the customer. The customer is responsible for the impact of the information provided on the validity of the results.
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3. For the report with CNAS mark or A2LA mark, the items marked with "☆" are not within the accredited scope.
4. This report is invalid if it is altered, without the signature of the testing and approval personnel, or without the “inspection and testing dedicated stamp” or test report stamp.
5. The test data and results are only valid for the tested samples provided by the customer.
6. This report shall not be partially reproduced without the written permission of the laboratory.
7. Any objection shall be raised to the laboratory within 30 days after receiving the report.

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