



FCC RF EXPOSURE REPORT

For

Huawei STB / Huawei BOX

MODEL NUMBER: Q21F

FCC ID: QIS-Q21F

REPORT NUMBER: 4788692075.1-7

ISSUE DATE: November 9, 2018

Prepared for

**Huawei Technologies Co., Ltd.
Administration Building, Huawei Technologies Co., Ltd. Bantian, Longgang
District, Shenzhen, P.R. China, 518129**

Prepared by

**UL Verification Services (Guangzhou) Co., Ltd, Song Shan Lake Branch
Building 10, Innovation Technology Park, No. 1, Li Bin Road, Song Shan Lake
Hi-Tech Development Zone Dongguan, People's Republic of China**

Tel: +86 769 22038881

Fax: +86 769 33244054

Website: www.ul.com



Revision History

<u>Rev.</u>	<u>Issue Date</u>	<u>Revisions</u>	<u>Revised By</u>
V0	11/09/2018	Initial Issue	



TABLE OF CONTENTS

1. ATTESTATION OF TEST RESULTS	4
2. TEST METHODOLOGY	5
3. FACILITIES AND ACCREDITATION	5
4. REQUIREMENT	6



1. ATTESTATION OF TEST RESULTS

Applicant Information

Company Name: HUAWEI TECHNOLOGIES CO., LTD.
Address: Administration Building, Huawei Technologies Co., Ltd. Bantian, Longgang District, Shenzhen, P.R. China, 518129

Manufacturer Information

Company Name: HUAWEI TECHNOLOGIES CO., LTD.
Address: Administration Building, Huawei Technologies Co., Ltd. Bantian, Longgang District, Shenzhen, P.R. China, 518129

EUT Description

EUT Name: Huawei STB / Huawei BOX
Model: Q21F
Brand Name: HUAWEI
Sample Status: Normal
Sample Received Date: September 28, 2018
Date of Tested: October 8, 2018 ~ October 17, 2018

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC 47CFR§2.1091	PASS

Tested By:

Denny Huang
Engineer Project Associate

Checked By:

Shawn Wen
Laboratory Leader

Approved By:

Stephen Guo
Laboratory Manager



2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091.

3. FACILITIES AND ACCREDITATION

Accreditation Certificate	<p>A2LA (Certificate No.: 4102.01) UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with A2LA.</p> <p>FCC (FCC Designation No.: CN1187) UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. Has been recognized to perform compliance testing on equipment subject to the Commission's Declaration of Conformity (DoC) and Certification rules</p> <p>IC(Company No.: 21320) UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been registered and fully described in a report filed with ISED. The Company Number is 21320.</p> <p>VCCI (Registration No.: G-20019, R-20004, C-20012 and T-20011) UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with VCCI, the Membership No. is 3793. Facility Name: Chamber D, the VCCI registration No. is G-20019 and R-20004 Shielding Room B , the VCCI registration No. is C-20012 and T-20011</p>
---------------------------	---

Note 1: All tests measurement facilities use to collect the measurement data are located at Building 10, Innovation Technology Park, Song Shan Lake Hi tech Development Zone, Dongguan, 523808, China

Note 2 : For below 30MHz, lab had performed measurements at test anechoic chamber and comparing to measurements obtained on an open field site. These measurements below 30MHz had been correlated to measurements performed on an OATS.



4. REQUIREMENT

LIMIT AND CALCULATION METHOD

Systems operating under the provisions of FCC 47 CFR section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as mobile device whereby a distance of 0.2m normally can be maintained between the user and the device, and below RF Permissible Exposure limit shall comply with.

Limits for General Population/Uncontrolled Exposure

RF EXPOSURE LIMIT

Frequency Range (MHz)	E-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

CALCULATION METHOD

$$S = PG / 4\pi R^2$$

Where:

S=power density

P=power input to antenna

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

R=distance to the center of radiation of the antenna



CALCULATED RESULTS

BT Mode					
Frequency	Output Power	Output Power	Power Density	Limit	Test Result
MHz	dBm	mW	mW/cm ²	mW/cm ²	--
2402~2480	5	3.16	0.001	1.0	Complies

2.4GHz WiFi Mode					
Frequency	Output Power	Output Power	Power Density	Limit	Test Result
MHz	dBm	mW	mW/cm ²	mW/cm ²	--
2412~2472	18	63.10	0.016	1.0	Complies

5GHz WiFi Mode					
Frequency	Output Power	Output Power	Power Density	Limit	Test Result
MHz	dBm	mW	mW/cm ²	mW/cm ²	--
5150~5825	18	63.10	0.016	1.0	Complies

- Note: 1. Antenna Gain: 0dBi (Numeric=1) for 2.4GHz, 1dBi (Numeric=1.26) for 5GHz, $\pi=3.141$.
 2. The Power comes from turn up power which declared by customer.
 3. The minimum separation distance of the device is greater than 20 cm.
 4. All of transmitter function can Tx simultaneously, so the combined Power Density is $0.001+0.01+0.016=0.033\text{mW/cm}^2$ less than 1.0mW/cm^2 .
 5. Calculate by WORST-CASE mode.

END OF REPORT