RF EXPOSURE REPORT

Report No.: Q181023S005-FCC-H

Supersede Report No.: N/A

Applicant	TP-LINK Technologies Co., Ltd.
Product Name	C5 Plus smartphone
Model No.	TP7031C
Serial No.	TP7031CXYZZ
Test Standard	FCC 2.1093
Test Date	Nov. 06 to Nov. 20, 2018
Issue Date	Nov. 22, 2018
Test Result	☑ Pass ☐ Fail
Equipment complied with the specification	☑
Equipment did not comply with the specification	☐

Aaron Liang	David Huang	
Aaron Liang Test Engineer	David Huang Checked By	

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Test result presented in this test report is applicable to the tested sample only

Issued by:

SIEMIC (SHENZHEN-CHINA) LABORATORIES

Zone A, Floor 1, Building 2 Wan Ye Long Technology Park

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Laboratories Introduction

SIEMIC, headquartered in the heart of Silicon Valley, with superior facilities in US and Asia, is one of the leading independent testing and certification facilities providing customers with one-stop shop services for Compliance Testing and Global Certifications.

In addition to testing and certification, SIEMIC provides initial design reviews and compliance management throughout a project. Our extensive experience with China, Asia Pacific, North America, European, and International compliance requirements, assures the fastest, most cost effective way to attain regulatory compliance for the global markets.

Accreditations for Conformity Assessment

Country/Region	Scope
USA	EMC, RF/Wireless, SAR, Telecom
Canada	EMC, RF/Wireless, SAR, Telecom
Taiwan	EMC, RF, Telecom, SAR, Safety
Hong Kong	RF/Wireless, SAR, Telecom
Australia	EMC, RF, Telecom, SAR, Safety
Korea	EMI, EMS, RF, SAR, Telecom, Safety
Japan	EMI, RF/Wireless, SAR, Telecom
Singapore	EMC, RF, SAR, Telecom
Europe	EMC, RF, SAR, Telecom, Safety

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1. Report Revision History

Report No.	Report Version	Description	Issue Date
Q181023S005-FCC-H	NONE	Original	Nov. 22, 2018

2. Customer information

Applicant Name	TP-LINK Technologies Co., Ltd.
Applicant Add	Building 24-1F/3F/4F/5F, 28-1F/2F/3F/4F Science and Technology Park, Shennan Road, Nanshan District, Shenzhen City, Guangdong Province, P.R. China
Manufacturer	TP-LINK Technologies Co.,Ltd
Manufacturer Add	Building 24-1F/3F/4F/5F, 28-1F/2F/3F/4F Science and Technology Park, Shennan Road, Nanshan District, Shenzhen City, Guangdong Province, P.R. China

3. Test site information

Lab performing tests	SIEMIC (Shenzhen-China) LABORATORIES
Lab Address	Zone A, Floor 1, Building 2 Wan Ye Long Technology Park South Side of Zhoushi Road, Bao' an District, Shenzhen, Guangdong China 518108
FCC Test Site No.	535293
IC Test Site No.	4842E-1
Test Software	Radiated Emission Program-To Shenzhen v2.0

4. Equipment under Test (EUT) Information

Description of EUT:	C5 Plus smartphone
Main Model:	TP7031C
Serial Model:	TP7031CXYZZ (Model Difference Description of Model Name Differentiation: X=2 , indicates Grey ; X=4 , indicates Gold ; X=7 , indicates Blue ; X=8 , indicates Red ; Y=0 , indicates the memory is 512MB RAM + 8GB Flash; Y=1 , indicates the memory is 1GB RAM + 8GB Flash; Y=2 , indicates the memory is 1GB RAM + 16GB Flash; Z=‘ A’ to ‘ Z’ , ZZ indicates different regions or customers. All models are same with electrical parameters and internal circuit structure.)
Date EUT received:	Nov. 05, 2018
Test Date(s):	Nov. 06 to Nov. 20, 2018
Antenna Gain:	Bluetooth/BLE: -0.5dBi
Antenna Type:	PIFA Antenna
Type of Modulation:	Bluetooth: GFSK, π /4DQPSK, 8DPSK BLE: GFSK
RF Operating Frequency (ies):	Bluetooth& BLE: 2402-2480 MHz

Number of Channels:	Bluetooth: 79CH BLE: 40CH
Port:	Please refer to the user’ s manual
Input Power:	Adapter : Model: A8-501000 Input: AC100-240V~50/60Hz,0.2A Max Output: DC 5.0V, 1.0A Battery : Model: NBL-40A2150 Spec: 3.8V, 2150mAh from Li-ion Limited charge voltage: 4.35V Rating:3.8V/2150mAh/8.17Wh Typical3.8V/2200mAh/8.36Wh
Trade Name :	neffos
FCC ID:	TE7C5PLUSV1

5. FCC §2.1093 - Radiofrequency radiation exposure evaluation: portable devices.

5.1 RF Exposure

Standard Requirement:

According to §15.247 (i) and §1.1307(b)(1), systems operating under the provisions of this 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.

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at *test separation distances* ≤ 50 mm are determined by:

[(*max. power of channel, including tune-up tolerance, mW*)/(*min. test separation distance, mm*)] · [$\sqrt{f_{(GHz)}}$] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR,[16] where

- $f_{(GHz)}$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation[17]
- The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum *test separation distance* is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum *test separation distance* is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

Routine SAR evaluation refers to that specifically required by § 2.1093, using measurements or computer simulation. When routine SAR evaluation is not required, portable transmitters with output power greater than the applicable low threshold require SAR evaluation to qualify for TCB approval.

result = $P\sqrt{F}\ /\ D$

P= Maximum turn-up power in mW

F= Channel frequency in GHz

D= Minimum test separation distance in mm

5.2 Test Result

Bluetooth Mode:

Modulation	CH	Frequency (MHz)	Conducted Power (dBm)	Tune Up Power (dBm)	Max Tune Up Power (dBm)	Max Tune Up Power (mW)	Result	Limit
GFSK	Low	2402	5.981	5±1	6	3.981	1.23	3
	Mid	2441	6.278	6±1	7	5.012	1.57	3
	High	2480	6.370	6±1	7	5.012	1.58	3
π /4 DQPSK	Low	2402	6.069	6±1	7	5.012	1.55	3
	Mid	2441	6.077	6±1	7	5.012	1.57	3
	High	2480	5.813	5±1	6	3.981	1.25	3
8-DPSK	Low	2402	5.805	5±1	6	3.981	1.23	3
	Mid	2441	6.099	6±1	7	5.012	1.57	3
	High	2480	5.912	5±1	6	3.981	1.25	3

BLE Mode:

Modulation	CH	Freq (MHz)	Conducted Power (dBm)	Tune Up Power (dBm)	Max Tune Up Power (dBm)	Max Tune Up Power (mW)	Result	Limit
GFSK	Low	2402	5.666	5±1	6	3.981	1.23	3
	Mid	2440	6.060	6±1	7	5.012	1.57	3
	High	2480	5.831	5±1	6	3.981	1.25	3

Result: Compliance

No SAR measurement is required.