

## RF Exposure Evaluation

For

F5CS LTD

All-In-One laptop

Test Model: A7\_N6

Prepared for : F5CS LTD  
Address : 3500 S Dupont Hwy Suite 300, Dover, DE 19901

Prepared by : Guangzhou LCS Compliance Testing Laboratory Ltd.  
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Date of receipt of test sample : May 18, 2026  
Number of tested samples : 2  
Sample No. : C260515007-1, C260515007-2  
Serial number : Prototype  
Date of Test : May 18, 2026 ~ June 10, 2026  
Date of Report : June 11, 2026

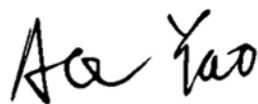
## RF Exposure Evaluation

**Report Reference No. .... : LCSC04206010EF**
**Date of Issue..... : June 11, 2026**
**Testing Laboratory Name ..... : Guangzhou LCS Compliance Testing Laboratory Ltd.**
**Address..... : No.44-1, Qianfeng North Road, Shiqi, Panyu District, Guangzhou, Guangdong, China**
**Testing Location/ Procedure.....**  
☒ Full application of Harmonised standards  
☐ Partial application of Harmonised standards  
☐ Other standard testing method

**Applicant's Name..... : F5CS LTD**
**Address..... : 3500 S Dupont Hwy Suite 300, Dover, DE 19901**
**Test Specification**
**Standard ..... : FCC KDB publication 447498 D01 General RF Exposure Guidance v06**  
 FCC CFR 47 part1 1.1310  
 FCC CFR 47 part2 2.1091

**Test Report Form No..... : TRF-4-E-214 A/0**
**TRF Originator ..... : Guangzhou LCS Compliance Testing Laboratory Ltd.**
**Master TRF ..... : Dated 2011-03**
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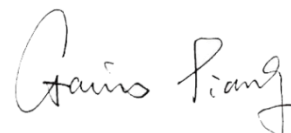
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**EUT Description..... : All-In-One laptop**
**Trade Mark..... : LAPBOOK, FUSION5**
**Test Model ..... : A7\_N6**
**Ratings..... : Please Refer to Page 6**
**Result ..... : PASS**
**Compiled by:**


Ace Yao/ Administrator

**Supervised by:**


Justin Zhu / Technique Director

**Approved by:**


Gavin Liang/ Manager

**RF Exposure Evaluation**

|                          |                       |                                       |
|--------------------------|-----------------------|---------------------------------------|
| <b>Test Report No. :</b> | <b>LCSC04206010EF</b> | <u>June 11, 2026</u><br>Date of issue |
|--------------------------|-----------------------|---------------------------------------|

|                          |                                                                                                  |
|--------------------------|--------------------------------------------------------------------------------------------------|
| EUT.....                 | : All-In-One laptop                                                                              |
| Test Model.....          | : A7_N6                                                                                          |
| <b>Applicant.....</b>    | <b>: F5CS LTD</b>                                                                                |
| Address.....             | : 3500 S Dupont Hwy Suite 300, Dover, DE 19901                                                   |
| Telephone.....           | : /                                                                                              |
| Fax.....                 | : /                                                                                              |
| <b>Manufacturer.....</b> | <b>: Dongguan Iproda Technology co., Ltd.</b>                                                    |
| Address.....             | : Floor 2-6, Building C, No. 99 Road Yadinanyilu, Village Shanhe, Town Qiaotou, Dongguan, China. |
| Telephone.....           | : /                                                                                              |
| Fax.....                 | : /                                                                                              |
| <b>Factory.....</b>      | <b>: Dongguan Iproda Technology co., Ltd.</b>                                                    |
| Address.....             | : Floor 2-6, Building C, No. 99 Road Yadinanyilu, Village Shanhe, Town Qiaotou, Dongguan, China. |
| Telephone.....           | : /                                                                                              |
| Fax.....                 | : /                                                                                              |

|                     |             |
|---------------------|-------------|
| <b>Test Result:</b> | <b>PASS</b> |
|---------------------|-------------|

The test report merely corresponds to the test sample.

It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

Revision History

| Report Version | Issue Date    | Revision Content | Revised By |
|----------------|---------------|------------------|------------|
| 000            | June 11, 2026 | Initial Issue    | ---        |
|                |               |                  |            |
|                |               |                  |            |

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## 1. Product Information

|                                                                                                                                           |                                                                                                                                                            |
|-------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EUT                                                                                                                                       | : All-In-One laptop                                                                                                                                        |
| Test Model                                                                                                                                | : A7_N6                                                                                                                                                    |
| Ratings                                                                                                                                   | : For Adapter Input: 100-240V~, 50/60Hz, 1.4A Max<br>For Adapter Output: 19.0V---3.42A                                                                     |
| Hardware Version                                                                                                                          | : ADNT1B                                                                                                                                                   |
| Software Version                                                                                                                          | : Windows 11 Home                                                                                                                                          |
| Bluetooth                                                                                                                                 | :                                                                                                                                                          |
| Frequency Range                                                                                                                           | : 2402MHz~2480MHz                                                                                                                                          |
| Channel Number                                                                                                                            | : 79 channels for Bluetooth V5.0 (DSS)<br>40 channels for Bluetooth V5.0 (DTS)                                                                             |
| Channel Spacing                                                                                                                           | : 1MHz for Bluetooth V5.0 (DSS)<br>2MHz for Bluetooth V5.0 (DTS)                                                                                           |
| Modulation Type                                                                                                                           | : GFSK, $\pi/4$ -DQPSK, 8-DPSK for Bluetooth V5.0 (DSS)<br>GFSK for Bluetooth V5.0 (DTS)                                                                   |
| Bluetooth Version                                                                                                                         | : V5.0                                                                                                                                                     |
| Antenna Description                                                                                                                       | : Antenna1: FPC Antenna, 2.43dBi(max.)                                                                                                                     |
| WIFI(2.4G Band)                                                                                                                           | :                                                                                                                                                          |
| Frequency Range                                                                                                                           | : 2412MHz~2462MHz                                                                                                                                          |
| Channel Spacing                                                                                                                           | : 5MHz                                                                                                                                                     |
| Channel Number                                                                                                                            | : 11 Channels for 20MHz bandwidth (2412~2462MHz)<br>7 Channels for 40MHz bandwidth (2422~2452MHz)                                                          |
| Modulation Type                                                                                                                           | : IEEE 802.11b: DSSS (CCK, DQPSK, DBPSK)<br>IEEE 802.11g: OFDM (64QAM, 16QAM, QPSK, BPSK)<br>IEEE 802.11n: OFDM (64QAM, 16QAM, QPSK, BPSK)                 |
| Antenna Description                                                                                                                       | : Antenna1: FPC Antenna, 2.43dBi(Max.)<br>Antenna2: FPC Antenna, 4.31dBi(Max.)                                                                             |
| WIFI(5.2G Band)                                                                                                                           | :                                                                                                                                                          |
| Frequency Range                                                                                                                           | : 5180MHz~5240MHz                                                                                                                                          |
| Channel Number                                                                                                                            | : 4 Channels for 20MHz bandwidth(5180MHz~5240MHz)<br>2 channels for 40MHz bandwidth(5190MHz~5230MHz)<br>1 channels for 80MHz bandwidth(5210MHz)            |
| Modulation Type                                                                                                                           | : IEEE 802.11a: OFDM (64QAM, 16QAM, QPSK, BPSK)<br>IEEE 802.11n: OFDM (64QAM, 16QAM, QPSK, BPSK)<br>IEEE 802.11ac: OFDM (256QAM, 64QAM, 16QAM, QPSK, BPSK) |
| Antenna Description                                                                                                                       | : Antenna1: FPC Antenna, 2.09dBi(Max.)<br>Antenna2: FPC Antenna, 2.37dBi(Max.)                                                                             |
| WIFI(5.8G Band)                                                                                                                           | :                                                                                                                                                          |
| Frequency Range                                                                                                                           | : 5745MHz~5825MHz                                                                                                                                          |
| Channel Number                                                                                                                            | : 5 channels for 20MHz bandwidth(5745MHz~5825MHz)<br>2 channels for 40MHz bandwidth(5755MHz~5795MHz)<br>1 channels for 80MHz bandwidth(5775MHz)            |
| Modulation Type                                                                                                                           | : IEEE 802.11a: OFDM (64QAM, 16QAM, QPSK, BPSK)<br>IEEE 802.11n: OFDM (64QAM, 16QAM, QPSK, BPSK)<br>IEEE 802.11ac: OFDM (256QAM, 64QAM, 16QAM, QPSK, BPSK) |
| Antenna Description                                                                                                                       | : Antenna1: FPC Antenna, 1.85dBi(max.)<br>Antenna2: FPC Antenna, 3.30dBi(max.)                                                                             |
| Exposure category                                                                                                                         | : General population/uncontrolled environment                                                                                                              |
| EUT Type                                                                                                                                  | : Production Unit                                                                                                                                          |
| Device Type                                                                                                                               | : Mobile Device                                                                                                                                            |
| Note: For a more detailed antenna description, please refer to the antenna specifications or the antenna report provided by the customer. |                                                                                                                                                            |

## 2. Evaluation 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.

In accordance with KDB447498D01 for Simultaneous transmission MPE test exclusion applies when the sum of the MPE ratios for all simultaneous transmitting antennas incorporated in a host device, based on the calculated/estimated, numerically modelled or measured field strengths or power density, is  $\leq 1.0$ . The MPE ratio of each antenna is determined at the minimum test separation distance required by the operating configurations and exposure conditions of the host device, according to the ratio of field strengths or power density to MPE limit, at the test frequency. Either the maximum peak or spatially averaged results from measurements or numerical simulations may be used to determine the MPE ratios. Spatial averaging does not apply when MPE is estimated using simple calculations based on far-field plane-wave equivalent conditions. The antenna installation and operating requirements for the host device must meet the minimum test separation distances required by all antennas, in both standalone and simultaneous transmission operations, to satisfy compliance.

## 3. Limit

### 3.1 Refer Evaluation Method

[ANSI C95.1–2019](#): IEEE Standard for Safety Levels with Respect to Human Exposure to Electric, Magnetic, and Electromagnetic Fields, 0 Hz to 300 GHz

[FCC KDB publication 447498 D01 General 1 RF Exposure Guidance v06](#): Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies.

[FCC CFR 47 part1 1.1310](#): Radiofrequency radiation exposure limits.

[FCC CFR 47 part2 2.1091](#): Radiofrequency radiation exposure evaluation: mobile devices.

### 3.2 Limit

Limits for Maximum Permissible Exposure (MPE)/Controlled Exposure

| Frequency Range(MHz)                        | Electric Field Strength(V/m) | Magnetic Field Strength(A/m) | Power Density (mW/cm <sup>2</sup> ) | Averaging Time (minute) |
|---------------------------------------------|------------------------------|------------------------------|-------------------------------------|-------------------------|
| Limits for Occupational/Controlled Exposure |                              |                              |                                     |                         |
| 0.3 – 3.0                                   | 614                          | 1.63                         | (100) <sup>*</sup>                  | 6                       |
| 3.0 – 30                                    | 1842/f                       | 4.89/f                       | (900/f <sup>2</sup> ) <sup>*</sup>  | 6                       |
| 30 – 300                                    | 61.4                         | 0.163                        | 1.0                                 | 6                       |
| 300 – 1500                                  | /                            | /                            | f/300                               | 6                       |
| 1500 – 100,000                              | /                            | /                            | 5                                   | 6                       |

Limits for Maximum Permissible Exposure (MPE)/Uncontrolled Exposure

| Frequency Range(MHz)                          | Electric Field Strength(V/m) | Magnetic Field Strength(A/m) | Power Density (mW/cm <sup>2</sup> ) | Averaging Time (minute) |
|-----------------------------------------------|------------------------------|------------------------------|-------------------------------------|-------------------------|
| Limits for Occupational/Uncontrolled Exposure |                              |                              |                                     |                         |
| 0.3 – 3.0                                     | 614                          | 1.63                         | (100) <sup>*</sup>                  | 30                      |
| 3.0 – 30                                      | 824/f                        | 2.19/f                       | (180/f <sup>2</sup> ) <sup>*</sup>  | 30                      |
| 30 – 300                                      | 27.5                         | 0.073                        | 0.2                                 | 30                      |
| 300 – 1500                                    | /                            | /                            | f/1500                              | 30                      |
| 1500 – 100,000                                | /                            | /                            | 1.0                                 | 30                      |

F=frequency in MHz

\*=Plane-wave equivalent power density

#### 4. MPE Calculation Method

Predication of MPE limit at a given distance

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

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

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

#### 5. Antenna Information

EUT can only use antennas certificated as follows provided by manufacturer;

| Internal/<br>External Identification | Antenna type<br>and antenna<br>number | Operate frequency<br>band | Maximum antenna gain                                                                                  | Notes                |
|--------------------------------------|---------------------------------------|---------------------------|-------------------------------------------------------------------------------------------------------|----------------------|
| Internal                             | FPC Antenna 1                         | 2400MHz ~ 6000MHz         | Bluetooth: 2.43dBi(Max)<br>2.4GWIFI: 2.43dBi(Max)<br>5.2GWIFI: 2.09dBi(Max)<br>5.8GWIFI: 1.85dBi(Max) | BT/WIFI Antenna<br>1 |
|                                      | FPC Antenna 2                         | 2400MHz ~ 6000MHz         | 2.4GWIFI: 4.31dBi(Max)<br>5.2GWIFI: 2.37dBi(Max)<br>5.8GWIFI: 3.30dBi(Max)                            | WIFI Antenna 2       |

#### 6. Conducted Power

[BT]

| Mode           | Channel | Frequency (MHz) | Peak Conducted Output<br>Power (dBm) |
|----------------|---------|-----------------|--------------------------------------|
| GFSK           | 0       | 2402            | -1.83                                |
|                | 39      | 2441            | -0.92                                |
|                | 79      | 2480            | -1.75                                |
| $\pi/4$ -DQPSK | 0       | 2402            | -0.68                                |
|                | 39      | 2441            | 0.35                                 |
|                | 79      | 2480            | -0.81                                |
| 8-DPSK         | 0       | 2402            | -0.54                                |
|                | 39      | 2441            | 0.47                                 |
|                | 79      | 2480            | -0.74                                |

[BLE 1M]

| Mode   | Channel | Frequency (MHz) | Peak Conducted Output<br>Power (dBm) |
|--------|---------|-----------------|--------------------------------------|
| BLE_1M | 0       | 2402            | 0.32                                 |
|        | 19      | 2440            | 0.34                                 |
|        | 39      | 2480            | 0.72                                 |

## [BLE 2M]

| Mode   | Channel | Frequency (MHz) | Peak Conducted Output Power (dBm) |
|--------|---------|-----------------|-----------------------------------|
| BLE_1M | 0       | 2402            | 0.29                              |
|        | 19      | 2440            | 0.19                              |
|        | 39      | 2480            | 0.67                              |

## [2.4G WIFI]

| Mode       | Channel | Frequency (MHz) | Ant1 Max Conducted Power(dBm) | Ant2 Max Conducted Power(dBm) |
|------------|---------|-----------------|-------------------------------|-------------------------------|
| 11B        | 1       | 2412            | 13.76                         | 14.87                         |
|            | 6       | 2437            | 12.3                          | 14.83                         |
|            | 11      | 2462            | 13.33                         | 14.78                         |
| 11G        | 1       | 2412            | 12.97                         | 14.49                         |
|            | 6       | 2437            | 11.53                         | 14.98                         |
|            | 11      | 2462            | 12.27                         | 14.72                         |
| 11N20 SISO | 1       | 2412            | 13.09                         | 14.47                         |
|            | 6       | 2437            | 12.03                         | 14.59                         |
|            | 11      | 2462            | 12.38                         | 14.58                         |
| 11N40 SISO | 3       | 2422            | 13.04                         | 14.38                         |
|            | 6       | 2437            | 12.05                         | 17.48                         |
|            | 9       | 2452            | 11.18                         | 14.44                         |

## [5.2G WIFI Max Conducted Power]

| Mode        | Channel | Frequency (MHz) | Ant1 Max Conducted Power(dBm) | Ant2 Max Conducted Power(dBm) |
|-------------|---------|-----------------|-------------------------------|-------------------------------|
| 11A         | 36      | 5180            | 18.61                         | 18.53                         |
|             | 40      | 5200            | 18.29                         | 17.11                         |
|             | 48      | 5240            | 18.42                         | 17.70                         |
| 11N20 SISO  | 36      | 5180            | 18.24                         | 17.49                         |
|             | 40      | 5200            | 18.20                         | 17.04                         |
|             | 48      | 5240            | 18.15                         | 17.48                         |
| 11N40 SISO  | 38      | 5190            | 18.25                         | 17.15                         |
|             | 46      | 5230            | 17.99                         | 17.04                         |
| 11AC20 SISO | 36      | 5180            | 18.09                         | 17.48                         |
|             | 40      | 5200            | 17.70                         | 17.32                         |
|             | 48      | 5240            | 17.90                         | 17.60                         |
| 11AC40 SISO | 38      | 5190            | 17.90                         | 16.78                         |
|             | 46      | 5230            | 17.99                         | 17.56                         |
| 11AC80 SISO | 42      | 5210            | 17.86                         | 16.56                         |

[5.8G WIFI Max Conducted Power]

| Mode        | Channel | Frequency (MHz) | Ant1 Max Conducted Power(dBm) | Ant2 Max Conducted Power(dBm) |
|-------------|---------|-----------------|-------------------------------|-------------------------------|
| 11A         | 149     | 5745            | 17.91                         | 17.43                         |
|             | 157     | 5785            | 17.49                         | 16.68                         |
|             | 165     | 5825            | 17.27                         | 16.72                         |
| 11N20 SISO  | 149     | 5745            | 17.95                         | 17.27                         |
|             | 157     | 5785            | 17.48                         | 16.77                         |
|             | 165     | 5825            | 17.17                         | 16.32                         |
| 11N40 SISO  | 151     | 5755            | 18.24                         | 16.71                         |
|             | 159     | 5795            | 17.85                         | 16.49                         |
| 11AC20 SISO | 149     | 5745            | 17.87                         | 17.41                         |
|             | 157     | 5785            | 17.57                         | 16.83                         |
|             | 165     | 5825            | 17.07                         | 15.99                         |
| 11AC40 SISO | 151     | 5755            | 18.19                         | 16.25                         |
|             | 159     | 5795            | 17.69                         | 16.86                         |
| 11AC80 SISO | 155     | 5775            | 18.00                         | 14.64                         |

## 7. Manufacturing Tolerance

[BT]

| GFSK (Peak)          |           |            |            |
|----------------------|-----------|------------|------------|
| Channel              | Channel 0 | Channel 39 | Channel 78 |
| Target (dBm)         | -1.0      | 0          | -1.0       |
| Tolerance $\pm$ (dB) | 1.0       | 1.0        | 1.0        |
| $\pi/4$ DQPSK (Peak) |           |            |            |
| Channel              | Channel 0 | Channel 39 | Channel 78 |
| Target (dBm)         | 0         | 0          | 0          |
| Tolerance $\pm$ (dB) | 1.0       | 1.0        | 1.0        |
| 8DPSK (Peak)         |           |            |            |
| Channel              | Channel 0 | Channel 19 | Channel 39 |
| Target (dBm)         | 0         | 0          | 0          |
| Tolerance $\pm$ (dB) | 1.0       | 1.0        | 1.0        |

[BLE 1M]

| BT LE (Peak)         |           |            |            |
|----------------------|-----------|------------|------------|
| Channel              | Channel 0 | Channel 19 | Channel 39 |
| Target (dBm)         | 0         | 0          | 0          |
| Tolerance $\pm$ (dB) | 1.0       | 1.0        | 1.0        |

[BLE 2M]

| BT LE (Peak)         |           |            |            |
|----------------------|-----------|------------|------------|
| Channel              | Channel 0 | Channel 19 | Channel 39 |
| Target (dBm)         | 0         | 0          | 0          |
| Tolerance $\pm$ (dB) | 1.0       | 1.0        | 1.0        |

## [2.4G WIFI Ant1]

| 11B (Average)        |           |           |            |
|----------------------|-----------|-----------|------------|
| Channel              | Channel 1 | Channel 6 | Channel 11 |
| Target (dBm)         | 13.0      | 12.0      | 13.0       |
| Tolerance $\pm$ (dB) | 1.0       | 1.0       | 1.0        |
| 11G (Average)        |           |           |            |
| Channel              | Channel 1 | Channel 6 | Channel 11 |
| Target (dBm)         | 12.0      | 11.0      | 12.0       |
| Tolerance $\pm$ (dB) | 1.0       | 1.0       | 1.0        |
| 11N20(Average)       |           |           |            |
| Channel              | Channel 1 | Channel 6 | Channel 11 |
| Target (dBm)         | 13.0      | 12.0      | 12.0       |
| Tolerance $\pm$ (dB) | 1.0       | 1.0       | 1.0        |
| 11N40(Average)       |           |           |            |
| Channel              | Channel 3 | Channel 6 | Channel 9  |
| Target (dBm)         | 13.0      | 12.0      | 11.0       |
| Tolerance $\pm$ (dB) | 1.0       | 1.0       | 1.0        |

## [2.4G WIFI Ant2]

| 11B (Average)        |           |           |            |
|----------------------|-----------|-----------|------------|
| Channel              | Channel 1 | Channel 6 | Channel 11 |
| Target (dBm)         | 14.0      | 14.0      | 14.0       |
| Tolerance $\pm$ (dB) | 1.0       | 1.0       | 1.0        |
| 11G (Average)        |           |           |            |
| Channel              | Channel 1 | Channel 6 | Channel 11 |
| Target (dBm)         | 14.0      | 14.0      | 14.0       |
| Tolerance $\pm$ (dB) | 1.0       | 1.0       | 1.0        |
| 11N20(Average)       |           |           |            |
| Channel              | Channel 1 | Channel 6 | Channel 11 |
| Target (dBm)         | 14.0      | 14.0      | 14.0       |
| Tolerance $\pm$ (dB) | 1.0       | 1.0       | 1.0        |
| 11N40(Average)       |           |           |            |
| Channel              | Channel 3 | Channel 6 | Channel 9  |
| Target (dBm)         | 14.0      | 17.0      | 14.0       |
| Tolerance $\pm$ (dB) | 1.0       | 1.0       | 1.0        |

## [5.2G WIFI Ant1]

| 11A(Average)         |            |            |            |
|----------------------|------------|------------|------------|
| Channel              | Channel 36 | Channel 40 | Channel 48 |
| Target (dBm)         | 18.0       | 18.0       | 18.0       |
| Tolerance $\pm$ (dB) | 1.0        | 1.0        | 1.0        |
| 11N20(Average)       |            |            |            |
| Channel              | Channel 36 | Channel 40 | Channel 48 |
| Target (dBm)         | 18.0       | 18.0       | 18.0       |
| Tolerance $\pm$ (dB) | 1.0        | 1.0        | 1.0        |
| 11N40(Average)       |            |            |            |

|                 |            |            |            |            |
|-----------------|------------|------------|------------|------------|
| Channel         | Channel 38 |            | Channel 46 |            |
| Target (dBm)    | 18.0       |            | 17.0       |            |
| Tolerance ±(dB) | 1.0        |            | 1.0        |            |
| 11AC20(Average) |            |            |            |            |
| Channel         | Channel 36 | Channel 40 |            | Channel 48 |
| Target (dBm)    | 18.0       | 17.0       |            | 17.0       |
| Tolerance ±(dB) | 1.0        | 1.0        |            | 1.0        |
| 11AC40(Average) |            |            |            |            |
| Channel         | Channe 38  |            | Channel 46 |            |
| Target (dBm)    | 17.0       |            | 17.0       |            |
| Tolerance ±(dB) | 1.0        |            | 1.0        |            |
| 11AC80(Average) |            |            |            |            |
| Channel         | Channel 42 |            |            |            |
| Target (dBm)    | 17.0       |            |            |            |
| Tolerance ±(dB) | 1.0        |            |            |            |

## [5.2G WIFI Ant2]

3.20 W/17Ant2

|                 |            |            |            |
|-----------------|------------|------------|------------|
| 11A(Average)    |            |            |            |
| Channel         | Channel 36 | Channel 40 | Channel 48 |
| Target (dBm)    | 18.0       | 17.0       | 17.0       |
| Tolerance ±(dB) | 1.0        | 1.0        | 1.0        |
| 11N20(Average)  |            |            |            |
| Channel         | Channel 36 | Channel 40 | Channel 48 |
| Target (dBm)    | 17.0       | 17.0       | 17.0       |
| Tolerance ±(dB) | 1.0        | 1.0        | 1.0        |
| 11N40(Average)  |            |            |            |
| Channel         | Channel 38 | Channel 46 |            |
| Target (dBm)    | 17.0       | 17.0       |            |
| Tolerance ±(dB) | 1.0        | 1.0        |            |
| 11AC20(Average) |            |            |            |
| Channel         | Channel 36 | Channel 40 | Channel 48 |
| Target (dBm)    | 17.0       | 17.0       | 17.0       |
| Tolerance ±(dB) | 1.0        | 1.0        | 1.0        |
| 11AC40(Average) |            |            |            |
| Channel         | Channe 38  | Channel 46 |            |
| Target (dBm)    | 16.0       | 17.0       |            |
| Tolerance ±(dB) | 1.0        | 1.0        |            |
| 11AC80(Average) |            |            |            |
| Channel         | Channel 42 |            |            |
| Target (dBm)    | 16.0       |            |            |
| Tolerance ±(dB) | 1.0        |            |            |

## [5.8G WIFI Ant1]

| 11A (Average)        |             |             |             |
|----------------------|-------------|-------------|-------------|
| Channel              | Channel 149 | Channel 157 | Channel 165 |
| Target (dBm)         | 17.0        | 17.0        | 17.0        |
| Tolerance $\pm$ (dB) | 1.0         | 1.0         | 1.0         |
| 11N20(Average)       |             |             |             |
| Channel              | Channel 149 | Channel 157 | Channel 165 |
| Target (dBm)         | 17.0        | 17.0        | 17.0        |
| Tolerance $\pm$ (dB) | 1.0         | 1.0         | 1.0         |
| 11N40(Average)       |             |             |             |
| Channel              | Channel 151 | Channel 159 |             |
| Target (dBm)         | 18.0        | 17.0        |             |
| Tolerance $\pm$ (dB) | 1.0         | 1.0         |             |
| 11AC20(Average)      |             |             |             |
| Channel              | Channel 149 | Channel 157 | Channel 165 |
| Target (dBm)         | 17.0        | 17.0        | 17.0        |
| Tolerance $\pm$ (dB) | 1.0         | 1.0         | 1.0         |
| 11AC40(Average)      |             |             |             |
| Channel              | Channel 151 | Channel 159 |             |
| Target (dBm)         | 18.0        | 17.0        |             |
| Tolerance $\pm$ (dB) | 1.0         | 1.0         |             |
| 11AC80 (Average)     |             |             |             |
| Channel              | Channel 155 |             |             |
| Target (dBm)         | 18.0        |             |             |
| Tolerance $\pm$ (dB) | 1.0         |             |             |

## [5.8G WIFI Ant2]

| 11A (Average)        |             |             |             |
|----------------------|-------------|-------------|-------------|
| Channel              | Channel 149 | Channel 157 | Channel 165 |
| Target (dBm)         | 17.0        | 16.0        | 16.0        |
| Tolerance $\pm$ (dB) | 1.0         | 1.0         | 1.0         |
| 11N20(Average)       |             |             |             |
| Channel              | Channel 149 | Channel 157 | Channel 165 |
| Target (dBm)         | 17.0        | 16.0        | 16.0        |
| Tolerance $\pm$ (dB) | 1.0         | 1.0         | 1.0         |
| 11N40(Average)       |             |             |             |
| Channel              | Channel 151 | Channel 159 |             |
| Target (dBm)         | 16.0        | 16.0        |             |
| Tolerance $\pm$ (dB) | 1.0         | 1.0         |             |
| 11AC20(Average)      |             |             |             |
| Channel              | Channel 149 | Channel 157 | Channel 165 |
| Target (dBm)         | 17.0        | 16.0        | 15.0        |
| Tolerance $\pm$ (dB) | 1.0         | 1.0         | 1.0         |
| 11AC40(Average)      |             |             |             |
| Channel              | Channel 151 | Channel 159 |             |
| Target (dBm)         | 16.0        | 16.0        |             |
| Tolerance $\pm$ (dB) | 1.0         | 1.0         |             |
| 11AC80 (Average)     |             |             |             |

|                      |             |
|----------------------|-------------|
| Channel              | Channel 155 |
| Target (dBm)         | 14.0        |
| Tolerance $\pm$ (dB) | 1.0         |

## 8. Measurement Results

### 8.1 Standalone MPE Evaluation

As declared by the Applicant, the EUT is a wireless device used in a fix application, at least 20 cm from any body part of the user or nearby persons; from the maximum EUT RF output power, the minimum separation distance,  $r=20\text{cm}$ , as well as the gain of the used antenna refer to antenna information, the RF power density can be obtained.

#### [BT]

| Modulation Type | Output power |        | Antenna Gain (dBi) | Antenna Gain (linear) | MPE (mW/cm <sup>2</sup> ) | MPE Limits (mW/cm <sup>2</sup> ) |
|-----------------|--------------|--------|--------------------|-----------------------|---------------------------|----------------------------------|
|                 | dBm          | mW     |                    |                       |                           |                                  |
| GFSK            | 1.0          | 1.2589 | 2.43               | 1.7498                | 0.0004                    | 1.0000                           |
| $\pi/4$ -DQPSK  | 1.0          | 1.2589 | 2.43               | 1.7498                | 0.0004                    | 1.0000                           |
| 8-DPSK          | 1.0          | 1.2589 | 2.43               | 1.7498                | 0.0004                    | 1.0000                           |

#### [BT LE]

| Modulation Type | Output power |        | Antenna Gain (dBi) | Antenna Gain (linear) | MPE (mW/cm <sup>2</sup> ) | MPE Limits (mW/cm <sup>2</sup> ) |
|-----------------|--------------|--------|--------------------|-----------------------|---------------------------|----------------------------------|
|                 | dBm          | mW     |                    |                       |                           |                                  |
| BLE1M           | 1.0          | 1.2589 | 2.43               | 1.7498                | 0.0004                    | 1.0000                           |
| BLE2M           | 1.0          | 1.2589 | 2.43               | 1.7498                | 0.0004                    | 1.0000                           |

#### [2.4G WIFI Ant1]

| Modulation Type   | Output power |         | Antenna Gain (dBi) | Antenna Gain (linear) | MPE (mW/cm <sup>2</sup> ) | MPE Limits (mW/cm <sup>2</sup> ) |
|-------------------|--------------|---------|--------------------|-----------------------|---------------------------|----------------------------------|
|                   | dBm          | mW      |                    |                       |                           |                                  |
| IEEE 802.11b      | 14.0         | 25.1189 | 2.43               | 1.7498                | 0.0087                    | 1.0000                           |
| IEEE 802.11g      | 13.0         | 19.9526 | 2.43               | 1.7498                | 0.0069                    | 1.0000                           |
| IEEE 802.11n HT20 | 14.0         | 25.1189 | 2.43               | 1.7498                | 0.0087                    | 1.0000                           |
| IEEE 802.11n HT40 | 14.0         | 25.1189 | 2.43               | 1.7498                | 0.0087                    | 1.0000                           |

#### [2.4G WIFI Ant2]

| Modulation Type   | Output power |         | Antenna Gain (dBi) | Antenna Gain (linear) | MPE (mW/cm <sup>2</sup> ) | MPE Limits (mW/cm <sup>2</sup> ) |
|-------------------|--------------|---------|--------------------|-----------------------|---------------------------|----------------------------------|
|                   | dBm          | mW      |                    |                       |                           |                                  |
| IEEE 802.11b      | 15.0         | 31.6228 | 4.31               | 2.6977                | 0.0170                    | 1.0000                           |
| IEEE 802.11g      | 15.0         | 31.6228 | 4.31               | 2.6977                | 0.0170                    | 1.0000                           |
| IEEE 802.11n HT20 | 15.0         | 31.6228 | 4.31               | 2.6977                | 0.0170                    | 1.0000                           |
| IEEE 802.11n HT40 | 18.0         | 63.0957 | 4.31               | 2.6977                | 0.0339                    | 1.0000                           |

#### [5.2G WIFI Ant1]

| Modulation Type     | Output power |         | Antenna Gain (dBi) | Antenna Gain (linear) | MPE (mW/cm <sup>2</sup> ) | MPE Limits (mW/cm <sup>2</sup> ) |
|---------------------|--------------|---------|--------------------|-----------------------|---------------------------|----------------------------------|
|                     | dBm          | mW      |                    |                       |                           |                                  |
| IEEE 802.11a        | 19.0         | 79.4328 | 2.09               | 1.6181                | 0.0256                    | 1.0000                           |
| IEEE 802.11n HT20   | 19.0         | 79.4328 | 2.09               | 1.6181                | 0.0256                    | 1.0000                           |
| IEEE 802.11n HT40   | 19.0         | 79.4328 | 2.09               | 1.6181                | 0.0256                    | 1.0000                           |
| IEEE 802.11ac VHT20 | 19.0         | 79.4328 | 2.09               | 1.6181                | 0.0256                    | 1.0000                           |
| IEEE 802.11ac VHT40 | 18.0         | 63.0957 | 2.09               | 1.6181                | 0.0203                    | 1.0000                           |
| IEEE 802.11ac VHT80 | 18.0         | 63.0957 | 2.09               | 1.6181                | 0.0203                    | 1.0000                           |

[5.2G WIFI Ant2]

| Modulation Type     | Output power |         | Antenna Gain (dBi) | Antenna Gain (linear) | MPE (mW/cm <sup>2</sup> ) | MPE Limits (mW/cm <sup>2</sup> ) |
|---------------------|--------------|---------|--------------------|-----------------------|---------------------------|----------------------------------|
|                     | dBm          | mW      |                    |                       |                           |                                  |
| IEEE 802.11a        | 19.0         | 79.4328 | 2.37               | 1.7258                | 0.0273                    | 1.0000                           |
| IEEE 802.11n HT20   | 18.0         | 63.0957 | 2.37               | 1.7258                | 0.0217                    | 1.0000                           |
| IEEE 802.11n HT40   | 18.0         | 63.0957 | 2.37               | 1.7258                | 0.0217                    | 1.0000                           |
| IEEE 802.11ac VHT20 | 18.0         | 63.0957 | 2.37               | 1.7258                | 0.0217                    | 1.0000                           |
| IEEE 802.11ac VHT40 | 18.0         | 63.0957 | 2.37               | 1.7258                | 0.0217                    | 1.0000                           |
| IEEE 802.11ac VHT80 | 17.0         | 50.1187 | 2.37               | 1.7258                | 0.0172                    | 1.0000                           |

[5.8G WIFI Ant1]

| Modulation Type     | Output power |         | Antenna Gain (dBi) | Antenna Gain (linear) | MPE (mW/cm <sup>2</sup> ) | MPE Limits (mW/cm <sup>2</sup> ) |
|---------------------|--------------|---------|--------------------|-----------------------|---------------------------|----------------------------------|
|                     | dBm          | mW      |                    |                       |                           |                                  |
| IEEE 802.11a        | 18.0         | 63.0957 | 1.85               | 1.5311                | 0.0192                    | 1.0000                           |
| IEEE 802.11n HT20   | 18.0         | 63.0957 | 1.85               | 1.5311                | 0.0192                    | 1.0000                           |
| IEEE 802.11n HT40   | 19.0         | 79.4328 | 1.85               | 1.5311                | 0.0242                    | 1.0000                           |
| IEEE 802.11ac VHT20 | 18.0         | 63.0957 | 1.85               | 1.5311                | 0.0192                    | 1.0000                           |
| IEEE 802.11ac VHT40 | 19.0         | 79.4328 | 1.85               | 1.5311                | 0.0242                    | 1.0000                           |
| IEEE 802.11ac VHT80 | 19.0         | 79.4328 | 1.85               | 1.5311                | 0.0242                    | 1.0000                           |

[5.8G WIFI Ant2]

| Modulation Type     | Output power |         | Antenna Gain (dBi) | Antenna Gain (linear) | MPE (mW/cm <sup>2</sup> ) | MPE Limits (mW/cm <sup>2</sup> ) |
|---------------------|--------------|---------|--------------------|-----------------------|---------------------------|----------------------------------|
|                     | dBm          | mW      |                    |                       |                           |                                  |
| IEEE 802.11a        | 18.0         | 63.0957 | 3.3                | 2.1380                | 0.0269                    | 1.0000                           |
| IEEE 802.11n HT20   | 18.0         | 63.0957 | 3.3                | 2.1380                | 0.0269                    | 1.0000                           |
| IEEE 802.11n HT40   | 17.0         | 50.1187 | 3.3                | 2.1380                | 0.0213                    | 1.0000                           |
| IEEE 802.11ac VHT20 | 18.0         | 63.0957 | 3.3                | 2.1380                | 0.0269                    | 1.0000                           |
| IEEE 802.11ac VHT40 | 17.0         | 50.1187 | 3.3                | 2.1380                | 0.0213                    | 1.0000                           |
| IEEE 802.11ac VHT80 | 15.0         | 31.6228 | 3.3                | 2.1380                | 0.0135                    | 1.0000                           |

Remark:

1. Output power including tune-up tolerance;
2. Output power was adjust to duty cycle at 100% if measured duty cycle less than 98%;
3. MPE evaluate distance is 20cm from user manual provide by manufacturer.

## 8.2 Simultaneous Transmission MPE Evaluation

The sample support one BT&BLE&2.4GWLAN&5.2G WLAN&5.8G WLAN, another one 2.4GWLAN&5.2G WLAN&5.8G WLAN, so need consider simultaneous transmission;

Simultaneous transmission MPE

According to KDB447498 for Transmitters used in mobile exposure conditions for simultaneous transmission operations;

$\sum$  of MPE ratios  $\leq 1.0$

<the worst simultaneous transmission operations result-2.4GWIFI>

| 2.4GWIFI-Ant 1 | 2.4GWIFI-Ant 2 | $\sum$ MPE ratios | Limit | Results |
|----------------|----------------|-------------------|-------|---------|
| 0.0087         | 0.0339         | 0.0426            | 1.0   | Pass    |

<the worst simultaneous transmission operations result-5GWIFI>

| 5GWIFI-Ant 1 | 5GWIFI-Ant 2 | $\sum$ MPE ratios | Limit | Results |
|--------------|--------------|-------------------|-------|---------|
| 0.0256       | 0.0217       | 0.0473            | 1.0   | Pass    |

**Remark:**

1. Output power including tune-up tolerance;
2. BT/BLE output power is burst peak power;
3. 2.4G WIFI/5G WIFI output power is burst average power;
4. MPE evaluate distance is 20cm from user manual provide by manufacturer;
5. MPE values =  $PG/4\pi R^2$
6. Both Bluetooth and WIFI cannot be transmitter simultaneously.
7. Both 2.4GWIFI and 5GWIFI cannot be transmitter simultaneously.

**9. Conclusion**

The measurement results comply with the FCC Limit per 47 CFR 2.1091 for the uncontrolled RF Exposure of mobile device.

**10. Description of Test Facility**

CNAS Registration Number is L11555  
 A2LA Certificate Number: 5099.01  
 FCC Designation Number is CN1379  
 Test Firm Registration Number: 729882

**11. Measurement Uncertainty**

BT/BLE/2.4GWIFI/5.2GWIFI/5.8GWIFI:

| Test Item    |   | Frequency Range | Uncertainty         | Note |
|--------------|---|-----------------|---------------------|------|
| Output power | : | 1GHz-40GHz      | $\pm 0.57\text{dB}$ | (1)  |

(1). This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.