



# A Test Lab Techno Corp.

Changan Lab : No. 140-1, Changan Street, Bade District, Taoyuan City 33465, Taiwan (R.O.C)  
Tel : 886-3-271-0188 / Fax : 886-3-271-0190



## MPE Report

|                       |  |
|-----------------------|--|
| Test Report No.       | : 1707FS11   |
| Applicant             | : TP-Link Technologies Co., Ltd.   |
| Product Type          | : AC1900 Wireless Dual Band DOSIS 3.0 Cable Modem Router                                 |
| Trade Name            | : TP-Link  |
| Model Number          | : CR1900   |
| Date of Received      | : Mar. 02, 2017  |
| Test Period           | : Mar. 09, 2017  |
| Date of Issued        | : Jul. 20, 2017  |
| Test Specification    | : ANSI / IEEE Std.C95.1-1992 / IEEE Std. 1528-2013<br>47 CFR § 2.1091<br>47 CFR § 1.1310 |
| Location of Test Lab. | : Chang-an Lab.  |

1. The test operations have to be performed with cautious behavior, the test results are as attached.
2. The test results are under chamber environment of A Test Lab Techno Corp. A Test Lab Techno Corp. does not assume responsibility for any conclusions and generalizations drawn from the test results with regard to other specimens or samples.
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Approved By : Bill Hu  
(Bill Hu)

Tested By : Mark Duan  
(Mark Duan)



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## 1. Description of Equipment under Test (EUT)

|                                       |   |                  |                 |      |                       |      |
|---------------------------------------|---|------------------|-----------------|------|-----------------------|------|
| Applicant                             | TP-Link Technologies Co., Ltd.<br>Building 24 (floors 1,3,4,5) and 28 (floors1-4), Central Science and Technology Park,<br>Nanshan, Shenzhen, China 518057  |                  |                 |      |                       |      |
| Manufacturer                          | TP-Link Technologies Co., Ltd.<br>Building 24 (floors 1,3,4,5) and 28 (floors1-4), Central Science and Technology Park,<br>Nanshan, Shenzhen, China 518057  |                  |                 |      |                       |      |
| Product Type                          | AC1900 Wireless Dual Band DOSIS 3.0 Cable Modem Router  |                  |                 |      |                       |      |
| Trade Name                            | TP-Link   |                  |                 |      |                       |      |
| Model Number                          | CR1900  |                  |                 |      |                       |      |
| FCC ID                                | TE7CR1900   |                  |                 |      |                       |      |
| Frequency Range                       | Operate Band  |                  |                 |      | Frequency Range (MHz) |      |
|                                       | IEEE 802.11b / 802.11g<br>IEEE 802.11n 2.4GHz 20MHz(256QAM)   |                  |                 |      | 2412 - 2462           |      |
|                                       | IEEE 802.11n 2.4GHz 40 MHz(256QAM)  |                  |                 |      | 2422 - 2452           |      |
|                                       | IEEE 802.11a U-NII Band I   |                  |                 |      | 5180 - 5240           |      |
|                                       | IEEE 802.11a U-NII Band III   |                  |                 |      | 5745 - 5825           |      |
|                                       | IEEE 802.1ac / 802.11n 5GHz 20MHz U-NII Band I  |                  |                 |      | 5180 - 5240           |      |
|                                       | IEEE 802.1ac / 802.11n 5GHz 20MHz U-NII Band III  |                  |                 |      | 5745 - 5825           |      |
|                                       | IEEE 802.1ac / 802.11n 5GHz 40MHz U-NII Band I  |                  |                 |      | 5190 - 5230           |      |
|                                       | IEEE 802.1ac / 802.11n 5GHz 40MHz U-NII Band III  |                  |                 |      | 5755 - 5795           |      |
|                                       | IEEE 802.11ac 80MHz U-NII Band I  |                  |                 |      | 5210                  |      |
|                                       | IEEE 802.11ac 80MHz U-NII Band III  |                  |                 |      | 5775                  |      |
| Antenna information                   | Model   | Type             | Max. Gain (dBi) |      |                       |      |
|                                       |   |                  | 2.4GHz          |      | 5GHz                  |      |
|                                       | 3101501221  | Internal Antenna | ANT-0           | 1.78 | ANT-2                 | 2.90 |
|                                       | 3101501222  | Internal Antenna | ANT-1           | 1.90 | ANT-1                 | 2.93 |
|                                       | 3101501223  | Internal Antenna | ANT-2           | 1.82 | ANT-0                 | 2.88 |
|                                       | G <sub>ANT</sub>  |                  |                 | 1.83 |                       | 2.90 |
| Directional Gain (refer to RF report) |   |                  | 6.60            |      | 7.67                  |      |
| Antenna Delivery                      | IEEE 802.11b/IEEE 802.11g: 3TX / 3RX (CDD)<br>IEEE 802.11n 2.4GHz 20MHz/40MHz: 3TX / 3RX (CDD/Beamforming on)<br>IEEE 802.11a: 3TX / 3RX (CDD)<br>IEEE 802.11ac 20MHz/40MHz/80MHz: 3TX / 3RX (CDD/Beamforming on) |                  |                 |      |                       |      |
| RF Evaluation                         | 0.806 mW/cm <sup>2</sup>  |                  |                 |      |                       |      |
| Temperature Range                     | 0 ~ +40°C   |                  |                 |      |                       |      |

The above equipment was tested by A Test Lab Techno Corp. For compliance with the requirements set forth in 47 CFR § 2.1091 / 47 CFR § 1.1310. The results of testing in this report apply only to the product/system, which was tested. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties



## 2. Human Exposure Assessment

Due to the design and installation of this product, it is not possible to conduct SAR evaluation. This is because client either manufactures or supplies the antenna(s) that will be used in the installation of this product. Therefore, this product will be evaluated as a mobile device per 47 CFR § 1.1310 titled "Radiofrequency radiation exposure limits", generally referred to as MPE limits.

In 47 CFR § 2.1091, paragraph (b) defines a mobile device as "a transmitting device designed to be used in other than fixed locations and to generally be used in such a way that a separation distance of at least 20 cm is normally maintained between the transmitter's radiating structure(s) and the body of the user or nearby persons." This product is intended to be installed into a vehicle such that the unit is physically secured at one location. In the installation guide supplied with the product,

Client has made the following statement: "IMPORTANT: To meet the FCC's RF Exposure Guidelines, the antenna should be installed so there is at least 20 cm of separation between the body of the user and nearby persons and the antenna". Based on the installation of the transceiver and the antenna, the transmitters radiating structure is more than 20 cm from the user. Thus, this product is a "mobile device" as defined in section § 2.1091 paragraph (b).

Exposure evaluation

$$S = \frac{PG}{4\pi R^2}$$

Where

S: power density

P: power input to the 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.



### 3. RF Output Power

The conducted power turn-up tolerance reference manufacturer specification.

| Band                      | Date Rate (Mbps) | Frequency (MHz) | Average Conducted power (dBm) |       |       |           |
|---------------------------|------------------|-----------------|-------------------------------|-------|-------|-----------|
|                           |                  |                 | ANT-0                         | ANT-1 | ANT-2 | ANT-0+1+2 |
| IEEE 802.11b              | 1                | 2412.0          | 24.19                         | 25.32 | 24.64 | 29.51     |
|                           |                  | 2437.0          | 24.02                         | 25.40 | 24.54 | 29.46     |
|                           |                  | 2462.0          | 23.72                         | 25.10 | 24.17 | 29.14     |
| IEEE 802.11g              | 6                | 2412.0          | 18.13                         | 18.73 | 18.29 | 23.16     |
|                           |                  | 2437.0          | 24.08                         | 25.61 | 24.83 | 29.66     |
|                           |                  | 2462.0          | 17.94                         | 18.81 | 18.24 | 23.12     |
| IEEE 802.11n 2.4GHz 20MHz | 19.5             | 2412.0          | 18.11                         | 19.25 | 18.68 | 23.48     |
|                           |                  | 2437.0          | 24.11                         | 25.68 | 24.85 | 29.70     |
|                           |                  | 2462.0          | 17.87                         | 18.96 | 18.14 | 23.12     |
| IEEE 802.11n 2.4GHz 40MHz | 40.5             | 2422.0          | 14.94                         | 16.03 | 15.51 | 20.29     |
|                           |                  | 2437.0          | 19.21                         | 19.97 | 19.71 | 24.41     |
|                           |                  | 2452.0          | 14.57                         | 15.41 | 15.06 | 19.80     |

Beamforming on

| Band                      | Date Rate (Mbps) | Frequency (MHz) | Average Conducted power (dBm) |       |       |           |
|---------------------------|------------------|-----------------|-------------------------------|-------|-------|-----------|
|                           |                  |                 | ANT-0                         | ANT-1 | ANT-2 | ANT-0+1+2 |
| IEEE 802.11n 2.4GHz 20MHz | 19.5             | 2412.0          | 13.83                         | 14.51 | 14.11 | 18.93     |
|                           |                  | 2437.0          | 23.78                         | 25.15 | 24.36 | 29.24     |
|                           |                  | 2462.0          | 15.91                         | 16.97 | 16.24 | 21.17     |
| IEEE 802.11n 2.4GHz 40MHz | 40.5             | 2422.0          | 14.11                         | 15.09 | 14.43 | 19.33     |
|                           |                  | 2437.0          | 17.06                         | 18.23 | 17.68 | 22.45     |
|                           |                  | 2452.0          | 14.28                         | 15.61 | 14.74 | 19.68     |

Note:1. The relevant measured result has the offset with cable loss already.

2. Evaluated high and low data rate, the report record worst case low data rate measurement results.



| Band                | Date Rate (Mbps) | Frequency (MHz) | Average Conducted power (dBm) |       |       |           |
|---------------------|------------------|-----------------|-------------------------------|-------|-------|-----------|
|                     |                  |                 | ANT-0                         | ANT-1 | ANT-2 | ANT-0+1+2 |
| IEEE 802.11a        | 6                | 5180.0          | 21.30                         | 21.04 | 21.55 | 26.07     |
|                     |                  | 5200.0          | 21.96                         | 21.49 | 22.40 | 26.74     |
|                     |                  | 5220.0          | 21.86                         | 21.42 | 22.43 | 26.69     |
|                     |                  | 5240.0          | 21.85                         | 21.50 | 22.11 | 26.60     |
|                     |                  | 5745.0          | 24.98                         | 24.67 | 25.41 | 29.80     |
|                     |                  | 5765.0          | 24.83                         | 25.18 | 25.34 | 29.89     |
|                     |                  | 5785.0          | 24.85                         | 24.56 | 25.32 | 29.69     |
|                     |                  | 5805.0          | 24.84                         | 24.66 | 25.35 | 29.73     |
|                     |                  | 5825.0          | 24.79                         | 24.63 | 25.27 | 29.68     |
| IEEE 802.11ac 20MHz | 19.5             | 5180.0          | 20.76                         | 20.41 | 21.02 | 25.51     |
|                     |                  | 5200.0          | 22.09                         | 21.56 | 22.35 | 26.78     |
|                     |                  | 5220.0          | 22.02                         | 21.53 | 22.34 | 26.75     |
|                     |                  | 5240.0          | 21.86                         | 21.68 | 22.35 | 26.74     |
|                     |                  | 5745.0          | 25.21                         | 25.02 | 25.43 | 29.99     |
|                     |                  | 5765.0          | 25.24                         | 25.00 | 25.41 | 29.99     |
|                     |                  | 5785.0          | 25.26                         | 24.98 | 25.38 | 29.98     |
|                     |                  | 5805.0          | 25.25                         | 24.97 | 25.39 | 29.98     |
|                     |                  | 5825.0          | 25.20                         | 24.98 | 25.40 | 29.97     |
| IEEE 802.11ac 40MHz | 40.5             | 5190.0          | 15.28                         | 15.72 | 15.32 | 20.22     |
|                     |                  | 5230.0          | 23.37                         | 23.15 | 23.71 | 28.19     |
|                     |                  | 5755.0          | 25.08                         | 24.90 | 25.45 | 29.92     |
|                     |                  | 5795.0          | 25.17                         | 24.79 | 25.20 | 29.83     |
| IEEE 802.11ac 80MHz | 87.9             | 5210.0          | 14.30                         | 14.04 | 14.31 | 18.99     |
|                     |                  | 5775.0          | 23.65                         | 23.48 | 23.75 | 28.40     |

Note:1. The relevant measured result has the offset with cable loss already.

2. Evaluated high and low data rate, the report record worst case low data rate measurement results.



Beamforming on

| Band                | Date Rate (Mbps) | Frequency (MHz) | Average Conducted power (dBm) |       |       |           |
|---------------------|------------------|-----------------|-------------------------------|-------|-------|-----------|
|                     |                  |                 | ANT-0                         | ANT-1 | ANT-2 | ANT-0+1+2 |
| IEEE 802.11ac 20MHz | 19.5             | 5180.0          | 18.88                         | 20.18 | 19.18 | 24.22     |
|                     |                  | 5200.0          | 22.26                         | 22.97 | 22.32 | 27.30     |
|                     |                  | 5220.0          | 22.38                         | 22.98 | 22.29 | 27.33     |
|                     |                  | 5240.0          | 22.29                         | 23.01 | 22.25 | 27.30     |
|                     |                  | 5745.0          | 23.21                         | 23.31 | 23.48 | 28.11     |
|                     |                  | 5765.0          | 23.12                         | 23.15 | 24.25 | 28.31     |
|                     |                  | 5785.0          | 23.38                         | 23.14 | 23.35 | 28.06     |
|                     |                  | 5805.0          | 23.34                         | 23.04 | 23.31 | 28.00     |
|                     |                  | 5825.0          | 23.43                         | 23.11 | 23.44 | 28.10     |
| IEEE 802.11ac 40MHz | 40.5             | 5190.0          | 12.25                         | 13.28 | 12.19 | 17.37     |
|                     |                  | 5230.0          | 22.76                         | 24.04 | 23.18 | 28.13     |
|                     |                  | 5755.0          | 22.96                         | 23.61 | 23.39 | 28.10     |
|                     |                  | 5795.0          | 22.98                         | 23.68 | 23.46 | 28.15     |
| IEEE 802.11ac 80MHz | 87.9             | 5210.0          | 11.79                         | 12.87 | 11.57 | 16.89     |
|                     |                  | 5775.0          | 22.64                         | 23.64 | 23.41 | 28.02     |

Note:1. The relevant measured result has the offset with cable loss already.

2. Evaluated high and low data rate, the report record worst case low data rate measurement results.



#### 4. Test Results

| Band                                | Data Rate (Mbps) | Frequency (MHz) | Limit (mw) | Distance [R] (cm) | Max tune-up Power (upper limit) [P] (dBm) | ANT Gain (dBi) | Numeric Gain [G] | Duty Cycle | [P] x [G] with Duty cycle [TP] (mW) | Power Density [S] (mw/cm <sup>2</sup> ) |
|-------------------------------------|------------------|-----------------|------------|-------------------|---|----------------|------------------|------------|-------------------------------------|---|
| IEEE 802.11b_CDD                    | 1                | 2412.0          | 1          | 28                | 29.60                                     | 1.83           | 1.52             | 1          | 1386.26                             | 0.141                                   |
|                                     |                  | 2437.0          | 1          | 28                | 29.60                                     | 1.83           | 1.52             | 1          | 1386.26                             | 0.141                                   |
|                                     |                  | 2462.0          | 1          | 28                | 29.60                                     | 1.83           | 1.52             | 1          | 1386.26                             | 0.141                                   |
| IEEE 802.11g_CDD                    | 6                | 2412.0          | 1          | 28                | 23.20                                     | 1.83           | 1.52             | 1          | 317.57                              | 0.032                                   |
|                                     |                  | 2437.0          | 1          | 28                | 29.70                                     | 1.83           | 1.52             | 1          | 1418.55                             | 0.144                                   |
|                                     |                  | 2462.0          | 1          | 28                | 23.20                                     | 1.83           | 1.52             | 1          | 317.57                              | 0.032                                   |
| IEEE 802.11n 2.4GHz 20MHz_CDD       | 19.5             | 2412.0          | 1          | 28                | 23.50                                     | 1.83           | 1.52             | 1          | 340.29                              | 0.035                                   |
|                                     |                  | 2437.0          | 1          | 28                | 29.80                                     | 1.83           | 1.52             | 1          | 1451.59                             | 0.147                                   |
|                                     |                  | 2462.0          | 1          | 28                | 23.20                                     | 1.83           | 1.52             | 1          | 317.57                              | 0.032                                   |
| IEEE 802.11n 2.4GHz 40MHz_CDD       | 40.5             | 2422.0          | 1          | 28                | 20.40                                     | 1.83           | 1.52             | 1          | 166.66                              | 0.017                                   |
|                                     |                  | 2437.0          | 1          | 28                | 24.50                                     | 1.83           | 1.52             | 1          | 428.39                              | 0.043                                   |
|                                     |                  | 2452.0          | 1          | 28                | 19.90                                     | 1.83           | 1.52             | 1          | 148.54                              | 0.015                                   |
| IEEE 802.11n 2.4GHz 20MHz_CDD_BF ON | 19.5             | 2412.0          | 1          | 28                | 20.00                                     | 6.60           | 4.57             | 1          | 457                                 | 0.046                                   |
|                                     |                  | 2437.0          | 1          | 28                | 29.30                                     | 6.60           | 4.57             | 1          | 3889.7                              | 0.395                                   |
|                                     |                  | 2462.0          | 1          | 28                | 21.20                                     | 6.60           | 4.57             | 1          | 602.44                              | 0.061                                   |
| IEEE 802.11n 2.4GHz 40MHz_CDD_BF ON | 40.5             | 2422.0          | 1          | 28                | 19.40                                     | 6.60           | 4.57             | 1          | 398.03                              | 0.040                                   |
|                                     |                  | 2437.0          | 1          | 28                | 22.50                                     | 6.60           | 4.57             | 1          | 812.67                              | 0.082                                   |
|                                     |                  | 2452.0          | 1          | 28                | 19.70                                     | 6.60           | 4.57             | 1          | 426.5                               | 0.043                                   |





| Band                    | Data Rate (Mbps) | Frequency (MHz) | Limit (mw) | Distance [R] (cm) | Max tune-up Power (upper limit) [P] (dBm) | ANT Gain (dBi) | Numeric Gain [G] | Duty Cycle | [P] x [G] with Duty cycle [TP] (mW) | Power Density [S] (mw/cm <sup>2</sup> ) |
|-------------------------|------------------|-----------------|------------|-------------------|---|----------------|------------------|------------|-------------------------------------|---|
| IEEE 802.11a_CDD        | 6                | 5180.0          | 1          | 28                | 26.8                                      | 2.9            | 1.95             | 1          | 933.33                              | 0.095                                   |
|                         |                  | 5200.0          | 1          | 28                | 26.8                                      | 2.9            | 1.95             | 1          | 933.33                              | 0.095                                   |
|                         |                  | 5220.0          | 1          | 28                | 26.8                                      | 2.9            | 1.95             | 1          | 933.33                              | 0.095                                   |
|                         |                  | 5240.0          | 1          | 28                | 26.8                                      | 2.9            | 1.95             | 1          | 933.33                              | 0.095                                   |
|                         |                  | 5745.0          | 1          | 28                | 30  | 2.9            | 1.95             | 1          | 1950                                | 0.198                                   |
|                         |                  | 5765.0          | 1          | 28                | 30  | 2.9            | 1.95             | 1          | 1950                                | 0.198                                   |
|                         |                  | 5785.0          | 1          | 28                | 30  | 2.9            | 1.95             | 1          | 1950                                | 0.198                                   |
|                         |                  | 5805.0          | 1          | 28                | 30  | 2.9            | 1.95             | 1          | 1950                                | 0.198                                   |
|                         |                  | 5825.0          | 1          | 28                | 30  | 2.9            | 1.95             | 1          | 1950                                | 0.198                                   |
| IEEE 802.11ac 20MHz_CDD | 19.5             | 5180.0          | 1          | 28                | 26.8                                      | 2.9            | 1.95             | 1          | 933.33                              | 0.095                                   |
|                         |                  | 5200.0          | 1          | 28                | 26.8                                      | 2.9            | 1.95             | 1          | 933.33                              | 0.095                                   |
|                         |                  | 5220.0          | 1          | 28                | 26.8                                      | 2.9            | 1.95             | 1          | 933.33                              | 0.095                                   |
|                         |                  | 5240.0          | 1          | 28                | 26.8                                      | 2.9            | 1.95             | 1          | 933.33                              | 0.095                                   |
|                         |                  | 5745.0          | 1          | 28                | 30  | 2.9            | 1.95             | 1          | 1950                                | 0.198                                   |
|                         |                  | 5765.0          | 1          | 28                | 30  | 2.9            | 1.95             | 1          | 1950                                | 0.198                                   |
|                         |                  | 5785.0          | 1          | 28                | 30  | 2.9            | 1.95             | 1          | 1950                                | 0.198                                   |
|                         |                  | 5805.0          | 1          | 28                | 30  | 2.9            | 1.95             | 1          | 1950                                | 0.198                                   |
|                         |                  | 5825.0          | 1          | 28                | 30  | 2.9            | 1.95             | 1          | 1950                                | 0.198                                   |
| IEEE 802.11ac 40MHz_CDD | 40.5             | 5190.0          | 1          | 28                | 20.3                                      | 2.9            | 1.95             | 1          | 208.95                              | 0.021                                   |
|                         |                  | 5230.0          | 1          | 28                | 28.3                                      | 2.9            | 1.95             | 1          | 1318.36                             | 0.134                                   |
|                         |                  | 5755.0          | 1          | 28                | 30  | 2.9            | 1.95             | 1          | 1950                                | 0.198                                   |
|                         |                  | 5795.0          | 1          | 28                | 30  | 2.9            | 1.95             | 1          | 1950                                | 0.198                                   |
| IEEE 802.11ac 80MHz_CDD | 87.9             | 5210.0          | 1          | 28                | 20  | 2.9            | 1.95             | 1          | 195                                 | 0.020                                   |
|                         |                  | 5775.0          | 1          | 28                | 28.5                                      | 2.9            | 1.95             | 1          | 1380.49                             | 0.140                                   |



| Band                                 | Data Rate (Mbps) | Frequency (MHz) | Limit (mw) | Distance [R] (cm) | Max tune-up Power (upper limit) [P] (dBm) | ANT Gain (dBi) | Numeric Gain [G] | Duty Cycle | [P] x [G] with Duty cycle [TP] (mW) | Power Density [S] (mw/cm <sup>2</sup> ) |
|--------------------------------------|------------------|-----------------|------------|-------------------|---|----------------|------------------|------------|-------------------------------------|---|
| IEEE 802.11ac<br>20MHz_CDD<br>_BF ON | 19.5             | 5180.0          | 1          | 28                | 24.3                                      | 7.67           | 5.85             | 1          | 1574.55                             | 0.160                                   |
|                                      |                  | 5200.0          | 1          | 28                | 27.4                                      | 7.67           | 5.85             | 1          | 3214.81                             | 0.326                                   |
|                                      |                  | 5220.0          | 1          | 28                | 27.4                                      | 7.67           | 5.85             | 1          | 3214.81                             | 0.326                                   |
|                                      |                  | 5240.0          | 1          | 28                | 27.4                                      | 7.67           | 5.85             | 1          | 3214.81                             | 0.326                                   |
|                                      |                  | 5745.0          | 1          | 28                | 28.4                                      | 7.67           | 5.85             | 1          | 4047.21                             | 0.411                                   |
|                                      |                  | 5765.0          | 1          | 28                | 28.4                                      | 7.67           | 5.85             | 1          | 4047.21                             | 0.411                                   |
|                                      |                  | 5785.0          | 1          | 28                | 28.4                                      | 7.67           | 5.85             | 1          | 4047.21                             | 0.411                                   |
|                                      |                  | 5805.0          | 1          | 28                | 28.4                                      | 7.67           | 5.85             | 1          | 4047.21                             | 0.411                                   |
| IEEE 802.11ac<br>40MHz_CDD<br>_BF ON | 40.5             | 5190.0          | 1          | 28                | 17.4                                      | 7.67           | 5.85             | 1          | 321.48                              | 0.033                                   |
|                                      |                  | 5230.0          | 1          | 28                | 28.2                                      | 7.67           | 5.85             | 1          | 3865.06                             | 0.392                                   |
|                                      |                  | 5755.0          | 1          | 28                | 28.2                                      | 7.67           | 5.85             | 1          | 3865.06                             | 0.392                                   |
|                                      |                  | 5795.0          | 1          | 28                | 28.2                                      | 7.67           | 5.85             | 1          | 3865.06                             | 0.392                                   |
| IEEE 802.11ac<br>80MHz_CDD<br>_BF ON | 87.9             | 5210.0          | 1          | 28                | 17  | 7.67           | 5.85             | 1          | 293.19                              | 0.030                                   |
|                                      |                  | 5775.0          | 1          | 28                | 28.1                                      | 7.67           | 5.85             | 1          | 3777.08                             | 0.383                                   |

**Note:**

- 1.Mobile or fixed location transmitters, minimum separation distance is 28cm, even if calculations indicate MPE distance is less.
- 2.The Numeric Gain calculated by  $10^{(\text{ant. Gain(dBi)} / 10)}$ .
- 3.Each band max power which perform MPE of any configurations.
- 4.The device operating IEEE 802.11 a/b/g/n/ac mode is 3TX CDD.
- 5.Gain of Beamforming ON = Antenna Gain + Beamforming Gain.

**Simultaneous Transmitting:**

Simultaneous MPE = 2.4GHz MPE+5GHz MPE = 0.395 + 0.411 = 0.806 mw/cm<sup>2</sup> < 1 mw/cm<sup>2</sup>