

# RF EXPOSURE EVALUATION REPORT

FCC ID : Z64-CC33SBMOD  
Equipment : CC33MOD  
Brand Name : Texas Instruments  
Model Name : Test Grade: 01  
Applicant : Texas Instruments Incorporated  
12500 TI BLVD., Dallas, Texas, 75243  
Manufacturer : Texas Instruments Incorporated  
12500 TI BLVD., Dallas, Texas, 75243  
Standard : 47 CFR Part 2.1091

We, SPORTON INTERNATIONAL INC has been evaluated this product in accordance with 47 CFR Part2.1091 and it complies with applicable limit.

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code: 3786) and the FCC designation No. TW3786 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC evaluation.

The results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. Laboratory, the test report shall not be reproduced except in full.



Approved by: Cona Huang / Deputy Manager



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## History of this test report

| Report No. | Version | Description             | Issued Date  |
|------------|---------|-------------------------|--------------|
| FA482308   | Rev. 01 | Initial issue of report | May 21, 2025 |
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**1. Description of Equipment Under Test (EUT)**

| Product Feature & Specification                                                                 |                                                                              |
|-------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| EUT Type                                                                                        | CC33MOD                                                                      |
| Brand Name                                                                                      | Texas Instruments                                                            |
| Model Name                                                                                      | Test Grade: 01                                                               |
| FCC ID                                                                                          | Z64-CC33SBMOD                                                                |
| Wireless Technology and Frequency Range                                                         | WLAN 2.4 GHz Band: 2400 MHz ~ 2483.5 MHz<br>Bluetooth: 2400 MHz ~ 2483.5 MHz |
| Mode                                                                                            | WLAN: 802.11b/g/n/ax HT20/HE20<br>Bluetooth LE                               |
| Remark:<br>1. Bluetooth function is turned on or off by software control, not hardware control. |                                                                              |

| Model Differences |            |             |       |
|-------------------|------------|-------------|-------|
| Model             | Test Grade | Wifi 2.4GHz | BT LE |
| CC33MOD           | 00         | Yes         | No    |
|                   | 01         | Yes         | Yes   |

**Reviewed by: Jason Wang****Report Producer: Carlie Tsai****2. Maximum RF average output power among production units**

| Mode         | Maximum Average power(dBm) |
|--------------|----------------------------|
| WLAN 2.4GHz  | 18.33                      |
| Bluetooth LE | 17.71                      |



### **3. RF Exposure Limit Introduction**

According to ANSI/IEEE C95.1-1992, the criteria listed in Table 1 shall be used to evaluate the environmental impact of human exposure to radio frequency (RF) radiation as specified in §1.1310.

| Frequency range (MHz)                                          | Electric field strength (V/m) | Magnetic field strength (A/m) | Power density (mW/cm <sup>2</sup> ) | Averaging time (minutes) |
|----------------------------------------------------------------|-------------------------------|-------------------------------|-------------------------------------|--------------------------|
| <b>(A) Limits for Occupational/Controlled Exposures</b>        |                               |                               |                                     |                          |
| 0.3-3.0                                                        | 614                           | 1.63                          | *(100)                              | 6                        |
| 3.0-30                                                         | 1842/f                        | 4.89/f                        | *(900/f <sup>2</sup> )              | 6                        |
| 30-300                                                         | 61.4                          | 0.163                         | 1.0                                 | 6                        |
| 300-1500                                                       |                               |                               | f/300                               | 6                        |
| 1500-100,000                                                   |                               |                               | 5                                   | 6                        |
| <b>(B) Limits for General Population/Uncontrolled Exposure</b> |                               |                               |                                     |                          |
| 0.3-1.34                                                       | 614                           | 1.63                          | *(100)                              | 30                       |
| 1.34-30                                                        | 824/f                         | 2.19/f                        | *(180/f <sup>2</sup> )              | 30                       |
| 30-300                                                         | 27.5                          | 0.073                         | 0.2                                 | 30                       |
| 300-1500                                                       |                               |                               | f/1500                              | 30                       |
| 1500-100,000                                                   |                               |                               | 1.0                                 | 30                       |

The MPE was calculated at 20 cm to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

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

Where:

S = Power Density

P = Output Power at Antenna Terminals

G = Gain of Transmit Antenna (linear gain)

R = Distance from Transmitting Antenna



#### **4. Radio Frequency Radiation Exposure Evaluation**

| Band        | Antenna Gain (dBi) | Maximum Power (dBm) | Maximum EIRP (dBm) | Maximum PG (mW) | Power Density at 20cm (mW/cm <sup>2</sup> ) | Limit (mW/cm <sup>2</sup> ) |
|-------------|--------------------|---------------------|--------------------|-----------------|---------------------------------------------|-----------------------------|
| 2.4GHz WLAN | 1.00               | 18.33               | 19.33              | 85.70           | 0.017                                       | 1.000                       |
| Bluetooth   | 1.00               | 17.71               | 18.71              | 74.30           | 0.015                                       | 1.000                       |

#### **Conclusion:**

According to 47 CFR §2.1091, the RF exposure analysis concludes that the RF Exposure is FCC compliant.