

# RF EXPOSURE EVALUATION REPORT

Equipment : CC2340R5 Launchpad™ Development Kit  
Brand Name : Texas Instruments  
Model Name : LP-EM-CC2340R5  
Applicant : Texas Instruments Incorporated  
12500 TI BLVD., Dallas, Texas, 75243  
Manufacturer : Texas Instruments Incorporated  
12500 TI BLVD., Dallas, Texas, 75243  
Standard : EN IEC 62311:2020  
EN 50665:2017

We, SPORTON INTERNATIONAL INC has been evaluated this product in accordance with EN IEC 62311:2020, EN 50665:2017 and it complies with applicable limit.

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

Approved by: Cona Huang / Deputy Manager



**SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory**

No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan



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Draft Report



### History of this test report

Report No.	Version	Description	Issued Date
EA331602	Rev. 01	Initial issue of report	Apr. 17, 2023

**1. General Information****1.1. Description of Equipment Under Test (EUT)**

Product Feature & Specification	
EUT Type	CC2340R5 Launchpad™ Development Kit
Brand Name	Texas Instruments
Model Name	LP-EM-CC2340R5
Wireless Technology and Frequency Range	Bluetooth: 2400 MHz ~ 2483.5 MHz
Mode	Bluetooth LE (125 kbps, 500 kbps, 1 Mbps, 2Mbps)

Reviewed by: Jason Wang

Report Producer: Paula Chen

**2. Maximum RF Output Power (Unit: dBm)**

Mode	Maximum Average Power (dBm)
Bluetooth LE	6.2

### 3. RF Exposure Limit Introduction

The table of the reference field levels shown as below is given in Annex III of the Council Recommendation 1999/519/EC.

Frequency range	E-field strength (V/m)	H-field strength (A/m)	B-field (μT)	Equivalent plane wave power density $S_{eq}$ (W/m <sup>2</sup> )
0-1 Hz	—	$3,2 \times 10^4$	$4 \times 10^4$	—
1-8 Hz	10 000	$3,2 \times 10^4/f^2$	$4 \times 10^4/f^2$	—
8-25 Hz	10 000	$4\,000/f$	$5\,000/f$	—
0,025-0,8 kHz	$250/f$	$4/f$	$5/f$	—
0,8-3 kHz	$250/f$	5	6,25	—
3-150 kHz	87	5	6,25	—
0,15-1 MHz	87	$0,73/f$	$0,92/f$	—
1-10 MHz	$87/f^{1/2}$	$0,73/f$	$0,92/f$	—
10-400 MHz	28	0,073	0,092	2
400-2 000 MHz	$1,375\ f^{1/2}$	$0,0037\ f^{1/2}$	$0,0046\ f^{1/2}$	$f/200$
2-300 GHz	61	0,16	0,20	10

#### Notes:

1.  $f$  as indicated in the frequency range column.
2. For frequencies between 100 kHz and 10 GHz,  $S_{eq}$ ,  $E^2$ ,  $H^2$ , and  $B^2$  are to be averaged over any six-minute period.
3. For frequencies exceeding 10 GHz,  $S_{eq}$ ,  $E^2$ ,  $H^2$ , and  $B^2$  are to be averaged over any  $68/f^{1.05}$ -minute period ( $f$  in GHz).
4. No E-field value is provided for frequencies < 1 Hz, which are effectively static electric fields. For most people the annoying perception of surface electric charges will not occur at field strengths less than 25 kV/m. Spark discharges causing stress or annoyance should be avoided.

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. RF Exposure Evaluation**

### **4.1. Power Density Calculations**

Band	Antenna Gain (dBi)	Maximum Power (dBm)	Maximum EIRP (dBm)	Average EIRP (mW)	Power Density at 20cm (W/m <sup>2</sup> )	Limit (W/m <sup>2</sup> )
Bluetooth	3.30	6.20	9.50	8.91	0.02	10.00

### **Conclusion:**

According to Council Recommendation 1999/519/EC, the RF exposure analysis concludes that the RF Exposure is CE compliant.