

RF EXPOSURE EVALUATION REPORT

Equipment : CC2745R10-Q1 LaunchPad™ Development Kit
Brand Name : Texas Instruments
Model Name : LP-EM-CC2745R10-Q1
Marketing Name : LP-EM-CC2745R10-Q1
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 above standards 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. Laboratory, the test report shall not be reproduced except in full.



Approved by: Cona Huang / Deputy Manager



SPORTON INTERNATIONAL INC. Wensan Laboratory

No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan



Table of Contents

1. GENERAL INFORMATION	4
1.1. Description of Equipment Under Test (EUT)	4
2. MAXIMUM RF OUTPUT POWER (UNIT: DBM)	4
3. RF EXPOSURE LIMIT INTRODUCTION	5
4. RF EXPOSURE EVALUATION	6
4.1. Standalone Power Density Calculations.....	6



History of this test report

Report No.	Version	Description	Issued Date
EA4O0417	Rev. 01	Initial issue of report	Dec. 24, 2024



1. General Information

1.1. Description of Equipment Under Test (EUT)

Product Feature & Specification	
EUT Type	CC2745R10-Q1 LaunchPad™ Development Kit
Brand Name	Texas Instruments
Model Name	LP-EM-CC2745R10-Q1
Marketing Name	LP-EM-CC2745R10-Q1
Wireless Technology and Frequency Range	Bluetooth: 2400 MHz ~ 2483.5 MHz
Mode	Bluetooth LE

Reviewed by: **Jason Wang**

Report Producer: **Daisy Peng**

2. Maximum RF Output Power (Unit: dBm)

Band / Mode	Average Power (dBm)			
	LE			
	1Mbps	2Mbps	125kpbs	500kbp
Bluetooth	6.54	6.59	6.58	6.56

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 ²)
0-1 Hz	—	$3,2 \times 10^4$	4×10^4	—
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	$87/f$	$0,73/f$	$0,92/f$	—
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. Standalone Power Density Calculations

Band	Antenna Gain (dBi)	Maximum Power (dBm)	Maximum EIRP (dBm)	Maximum PG (mW)	Power Density at 20cm (W/m ²)	Limit (W/m ²)
Bluetooth	3.30	6.59	9.89	9.75	0.02	10.00

Conclusion:

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