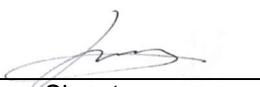



FCC & ISED MPE TEST REPORT

Project Number : EA1912C-014
Test Report Number : TR-W1912-003
Type of Equipment : BLE Module
Model Name : CRM-24B
FCC ID : CCECRM-24B
ISED ID : 22254-CRM24B
Multiple Model Name : N/A
Applicant : COMMAX Co., Ltd.
Address : 494 Dunchon-Daero, Jungwon-Gu, Seongnam-si, Gyeonggi-do, South Korea
Manufacturer : COMMAX Co., Ltd.
Address : 494 Dunchon-Daero, Jungwon-Gu, Seongnam-si, Gyeonggi-do, South Korea
Regulation : FCC Part 15 Subpart C Section 15.247, ISED RSS-247 Issue2
Total page of Report : 5 Pages
Date of Receipt : 2019-11-12
Date of Issue : 2019-12-05
Test Result : PASS

This test report only contains the result of a single test of the sample supplied for the examination.
 It is not a generally valid assessment of the features of the respective products of the mass-production.

Prepared by	Song, In-young / Senior Engineer		2019-12-05
		Signature	Date
Reviewed by	Choi, Yeong-min / Technical Manager		2019-12-05
		Signature	Date

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Release Control Record

Issue Report No.	Issued Date	Revisions	Effect Section
TR-W1912-003	2019-12-05	Initial Release	All

1. EUT (Equipment Under Test) INFORMATION

1.1 General Description

The COMMAX Co., Ltd., Model CRM-24B (referred to as the EUT in this report) is a BLE Module. The EUT is a device for transferring Bluetooth low energy signal to a Bluetooth low energy Device through wireless communication. The product specification described herein was obtained from product data sheet or user's manual.

Operating Frequency	2 402 MHz ~ 2 480 MHz
Kind of Class	DTS – Digital Transmission System
Generated or used Freq. in EUT	32.768 kHz, 16 MHz
Operating Temperature	-40 °C ~ + 85 °C
Normal Test Voltage	DC 3.3 V
Electrical Rating	DC 3.3 V
Software Version	19114
Hardware Version	2.01

1.2 Additional Model

None

2. TEST RESULT

2.1 Measured RF Output Level

Operating Mode	Conducted Output Power (dBm)	Antenna Gain (dBi)	EIRP	
			(dBm)	(mW)
GFSK	0.76	3.90	4.66	2.92

Note: EIRP = Conducted Output Power + Antenna Gain

2.2 MPE Evaluation

The EUT will only be used with a separation of 0.5 centimeters or greater between the antenna and the body of the user.

The MPE sample calculation for this exposure is shown below.

$$S = \text{EIRP} / (4 \times R^2 \times \pi)$$

$$= 2.92 / (4 \times 0.5^2 \times \pi)$$

$$= 0.929 \text{ 463 mW/cm}^2$$

Note: S= Power density (mW/cm²)

EIRP= Equivalent Isotropic Radiated Power (mW)

R= Distance to the center of the radiation of the antenna

$\pi \approx 3.1416$

Limits for Maximum Permissible Exposure (MPE)

Frequency range (MHz)	Electric Field strength (V/m)	Magnetic field strength (A/m)	Power Density (mW/cm ²)	Averaging time (minutes)
0.3 – 1.34	614	1.63	*100	30
1.34 – 30	824 / f	2.19 / f	*180 / f ²	30
30 – 300	27.5	0.073	0.2	30
300 – 1 500			f / 1500	30
1 500 – 100 000			1.0	30