

RF Exposure Evaluation Report

Product Name : Intel® Wi-Fi 6E AX211

Model No. : AX211D2WH

FCC ID : PD9AX211D2H

Applicant : Intel Corporation

Address : 100 Center Point Circle, Suite 200 Columbia, South Carolina 29210, USA

Date of Receipt : Apr. 06, 2022

Date of Declaration : Apr. 29, 2022

Report No. : 2240084R-RFUSMPEV02-A

Report Version : V1.0



The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standard through the calibration report of the equipment and evaluated measurement uncertainty herein.

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Measurement uncertainties evaluated for each testing system and associated connections are given here to provide the system information for reference. Compliance determinations do not take into account measurement uncertainties for each testing system, but are based on the results of the compliance measurement.

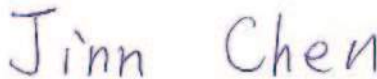
Issued Date: Apr. 29, 2022

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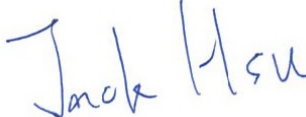
| | | |
|---------------------|--|---|
| Product Name | Intel® Wi-Fi 6E AX211 | |
| Applicant | Intel Corporation | |
| Address | 100 Center Point Circle, Suite 200 Columbia, South Carolina 29210, USA | |
| Manufacturer | Intel Corporation | |
| Model No. | AX211D2WH | |
| FCC ID. | PD9AX211D2H | |
| Trade Name | Intel | |
| Applicable Standard | KDB 447498 D01 v06 | <input checked="" type="checkbox"/> Minimum test separation distance \geq 20 cm <input type="checkbox"/> For low power devices |
| Test Result | Complied | |

Documented By :



(Supervisor / Jinn Chen)

Tested By :



(Senior Engineer / Jack Hsu)

Approved By :



(Manager / Tim Sung)

Revision History

| Report No. | Version | Description | Issued Date |
|-----------------------|----------------|--------------------------|--------------------|
| 2240084R-RFUSMPEV02-A | V1.0 | Initial issue of report. | Apr. 29, 2022 |

1. GENERAL INFORMATION

1.1. EUT Description

| | | |
|-----------------|-----------------------------------|----------------------------|
| Product Name | Intel® Wi-Fi 6E AX211 | |
| Trade Name | Intel | |
| Model No. | AX211D2WH | |
| FCC ID. | PD9AX211D2H | |
| Frequency Range | 802.11b/g/n/ax | 2.4GHz (2400.0-2483.5 MHz) |
| | 802.11a/n/ac/ax | 5.2GHz (5150.0-5350.0 MHz) |
| | | 5.6GHz (5470.0-5725.0 MHz) |
| | | 5.8GHz (5725.0-5895.0 MHz) |
| | 802.11ax | 6.0GHz (5925.0-7125.0 MHz) |
| Bluetooth 5.2 | 2.4GHz (2400.0-2483.5 MHz) | |
| Channel Control | Auto | |
| Antenna Type | PIFA Antenna | |
| Antenna Gain | Refer to the table “Antenna List” | |

1.2. Antenna List

| No. | Manufacturer | Part No. | Antenna Type | Peak Gain |
|-----|---------------|--------------------|--------------|----------------------|
| 1 | Intel WRF Lab | WRF-6dBi-PIFA-2.4G | PIFA Antenna | 6.40 dBi for 2.4 GHz |
| | | WRF-8dBi-PIFA-5G | | 8.39 dBi for 5 GHz |
| | | WRF-8dBi-PIFA-6G | | 8.10 dBi for 6 GHz |

1.3. Test Facility

USA : FCC Registration Number: TW0031

Canada : CAB Identifier Number: TW3023 / Company Number: 26443

Site Description : Accredited by TAF
Accredited Number: 3023

Test Laboratory : DEKRA Testing and Certification Co., Ltd
Address : No. 5-22, Ruishukeng Linkou District, New Taipei City,
24451, Taiwan

Performed Location : No. 6, Lane 75, Wenlin St., Linkou Dist., New Taipei
City 24457, Taiwan, R.O.C.

Phone number : +886-2-2602-6888

Fax number : +886-2-2602-6881

Email address : info.tw@dekra.com

Website : <http://www.dekra.com.tw>

2. RF Exposure Evaluation

2.1. Standard Applicable

According to KDB 447498 D01 (7.1), A minimum test separation distance ≥ 20 cm is required between the antenna and radiating structures of the device and nearby persons to apply mobile device exposure limits.

2.2. Limits

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

| Frequency Range (MHz) | Electric Field Strength (V/m) | Magnetic Field Strength (A/m) | Power Density (mW/cm ²) | Average Time (Minutes) |
|---|-------------------------------|-------------------------------|-------------------------------------|------------------------|
| (A) Limits for Occupational/ Control Exposures | | | | |
| 300-1500 | -- | -- | F/300 | 6 |
| 1500-100,000 | -- | -- | 5 | 6 |
| (B) Limits for General Population/ Uncontrolled Exposures | | | | |
| 300-1500 | -- | -- | F/1500 | 6 |
| 1500-100,000 | -- | -- | 1 | 30 |

F= Frequency in MHz

Friis Formula

Friis transmission formula: $P_d = (P_{out} * G) / (4 * \pi * r^2)$

Where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

R = distance between observation point and center of the radiator in cm

Simultaneous transmission MPE test exclusion applies when the sum of the MPE ratios for all simultaneously transmitting antennas incorporated in a host device is ≤ 1.0

2.3. Test Result of RF Exposure Evaluation

Product : Intel® Wi-Fi 6E AX211
 Test Item : RF Exposure Evaluation

Bluetooth

| Band | Frequency (MHz) | Conducted maximum Power (dBm) | Antenna Gain (dBi) | Power Density at R = 20 cm (mW/cm ²) | Limit (mW/cm ²) |
|------|-----------------|-------------------------------|--------------------|--|-----------------------------|
| BT | 2480 | 10.62 | 6.40 | 0.0100 | 1 |

Note: The conducted output power is refer to report No.: 220117-04.TR05 and 220117-04.TR63 from the Intel.

WLAN 2.4GHz

| Band | Frequency (MHz) | Conducted maximum Power (dBm) | Antenna Gain (dBi) | Power Density at R = 20 cm (mW/cm ²) | Limit (mW/cm ²) |
|--------|-----------------|-------------------------------|--------------------|--|-----------------------------|
| 2.4GHz | 2442 | 23.07 | 6.40 | 0.1761 | 1 |

Note: The conducted output power is refer to report No.: 220117-04.TR04 from the Intel.

WLAN 5GHz

| Band | Frequency (MHz) | Conducted maximum Power (dBm) | Antenna Gain (dBi) | Power Density at R = 20 cm (mW/cm ²) | Limit (mW/cm ²) |
|------|-----------------|-------------------------------|--------------------|--|-----------------------------|
| 5GHz | 5795 | 23.99 | 8.39 | 0.3441 | 1 |

Note: The conducted output power is refer to report No.: 220117-04.TR01, 220117-04.TR02, 220117-04.TR03 and 220117-04.TR19 from the Intel.

WLAN 6GHz

| Band | Frequency (MHz) | Conducted maximum Power (dBm) | Antenna Gain (dBi) | Power Density at R = 20 cm (mW/cm ²) | Limit (mW/cm ²) |
|------|-----------------|-------------------------------|--------------------|--|-----------------------------|
| 6GHz | 6985 | 10.62 | 8.10 | 0.0148 | 1 |

Note: The conducted output power is refer to report No.: 220117-04.TR16 and 220117-04.TR17 from the Intel.

2.4. Calculations for Multi-Transmitter

| Mode | Ratios | result | Limit |
|------|--------|--------|-------|
| BT | 0.0100 | 0.3541 | 1 |
| WLAN | 0.3441 | | |

Ratios = Power Density / Power Density Limit

| | |
|---------|------|
| Results | PASS |
|---------|------|