TEST REPORT

EUT Description	**Convertible PC**
Brand Name	**Dell**
Model Name	**P168G**
FCC ID	**PD9AX201NG**
ISED ID	**1000M-AX201NG**
Date of Test Start/End	**2023-01-02 / 2023-01-06**
Features	**IEEE 802.11a/b/g/n/ac/ax**

Applicant	**Intel Mobile Communications**
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Test Report identification	**221125-05.TR01**
Revision Control	**Rev. 00** **This test report replaces any previous versions of this test report** (see Section 7)

The test results relate only to the samples tested.

Reviewed by

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by Chei el IN
Date: 2023.01.06
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1. Standards, reference documents and applicable test methods

a. KDB 388624 D02 Pre-Approval Guidance List v18, PRE-APPROVAL GUIDANCE LIST

b. FCC Presentations TCB Workshop November 2019, RF exposure procedures.

2. General conditions, competences and guarantees

- ✓ Intel WRF Lab only provides testing services and is committed to providing reliable, unbiased test results and interpretations.
- ✓ Intel WRF Lab is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.
- ✓ Intel WRF Lab has developed calibration and proficiency programs for its measurement equipment to ensure correlated and reliable results to its customers.
- ✓ This report is only referred to the item that has undergone the test.
- ✓ This report does not imply an approval of the product by the Certification Bodies or competent Authorities.

3. Environmental Conditions

✓ At the site where the measurements were performed the following limits were not exceeded during the tests:

Temperature	22.7ºC ± 2ºC
Humidity	48.6% ± 5%

4. Test Sample

Sample	ID #	Description	Model	Serial #	Note
#1	221125-05.S02	Convertible PC	P168G	2022102627914	-

5. EUT Features

The herein information is provided by the customer.
Intel WRF Lab declines any responsibility for the accuracy of the stated customer provided information, especially if it has any impact on the correctness of test results presented in this report.

Brand Name	Dell
Model Name	P168G
Prototype / Production	Production
Host Identification	Convertible PC

6. Remarks and comments

1. The test report is validation of the G sensor functionality

7. Test Results summary

7.1. WLAN Tx Power Table Summary

Device Mode	Lid Angle range	LCD Direction	2.4GHz-CH6				5GHz-CH40			
			Target Power (dBm)		Measured Power (dBm)		Target Power (dBm)		Measured Power (dBm)	
			Antenna AUX	Antenna MAIN	Antenna AUX	Antenna MAIN	Antenna AUX	Antenna MAIN	Antenna AUX	Antenna MAIN
Lid Close	**0°**	0°	19.0	19.0	18.23	18.20	15.0	15.0	14.28	14.49
Notebook	**0° - 190°**	0°	19.0	19.0	18.23	18.20	15.0	15.0	14.28	14.49
Tablet	**190° - 360°**	0°	17.0	17.0	16.21	16.12	12.0	12.0	11.46	11.57

8. Document Revision History

Revision #	Date	Modified by	Revision Details
Rev.00	2023-01-05	Axel A G	First Issue

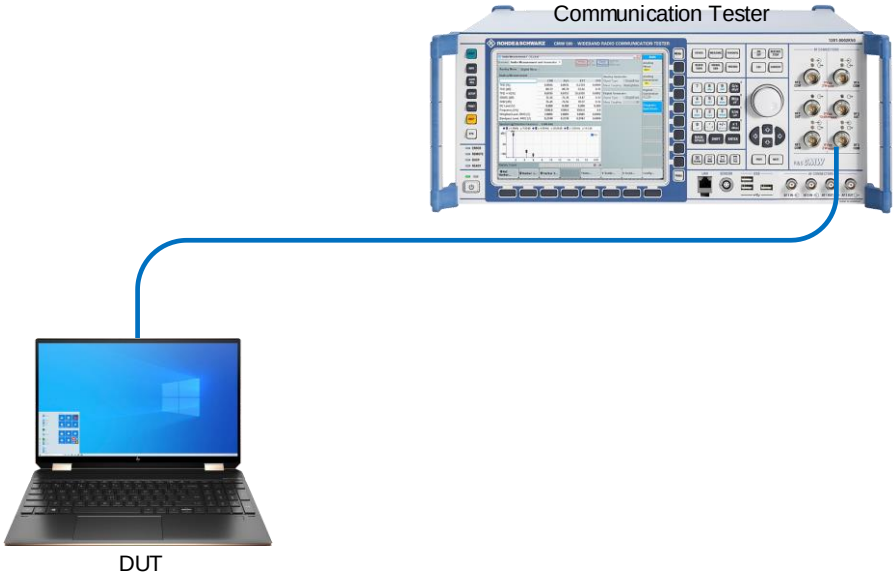
Annex A. Test & System description

A.1 Test setup

The conducted power measurement test setup is described in the following and illustrated in Figure 1.

- The DUT is convertible PC from *Dell* model *P168G.* An *AX201NGW* connectivity module is installed inside
- A control PC is used to configure the call box as an access point to manage the uplink and downlink data traffic.
- Uplink signal power is measured with the Call Box.
- Path loss in the power measurement setup from the wireless module antenna port to the Call Box.

Figure.1 – Power measurement test setup.



A.2 Procedure

The following additional guidance applies only to convertible laptops whose screen rotates around one axis, from 0 degrees to 360 degrees, in a clamshell style, i.e., from closed mode to open mode, to “tent” mode, and finally, to tablet mode. This process must be followed to determine the lid angle where a power reduction occurs, by taking power measurements at each step, as indicated in the step listed here below:

1. From the lid in closed mode (0 degrees), open the screen in 10-degree steps until laptop mode is obtained
2. Lower the screen by 5 degrees increments to verify that the “closed mode” is triggered
3. From the position of the previous step, open the screen in 1-degree increments until laptop mode is triggered again
4. Continue opening the screen in 1-degree increments until at least 5 degrees past where “laptop mode” was obtained, then continue opening the screen in 10-degree steps until the device switches to tablet mode
5. Reverse the previous procedure to go from tablet mode back down to closed mode

A.3 Test Equipment List

Equipment and accessories used for the conducted power measurement test setup are listed below. The Test Platform (DUT), test setup and associated equipment are shown in A.1

ID#	Device	Type/Model	Serial #	Manufacturer	Cal. Date	Cal. Due Date
125-000	Communication Tester	CMW500	129337	Rohde & Schwartz	2021-04-12	2023-04-12
022-003 022-004	RF path (RF cable + Adapters)	-	-	-	RF path loss was verified before usage	

Annex B. Test Results

B.1 Trigger lid angle detection and power verification 2.4GHz

B.1.1 The lid is rotating from 0° to 360°

Mode	Angle (degrees)	Power measured 2.4GHz-Ch6 (dBm)	
		AUX	MAIN
Lid close	0	18.23	18.20
Notebook	10	18.23	18.20
Notebook	5	18.23	18.20
Lid close	0	18.23	18.20
Notebook	1	18.23	18.20
	2	18.23	18.20
	3	18.23	18.20
	4	18.23	18.20
	5	18.23	18.20
	10	18.23	18.20
	20	18.23	18.20
	30	18.23	18.20
	40	18.23	18.20
	50	18.23	18.20
	60	18.23	18.20
	70	18.23	18.20
	80	18.23	18.20
	90	18.23	18.20
	100	18.23	18.20
	110	18.23	18.20
	120	18.23	18.20
	130	18.23	18.20
	140	18.23	18.20
	150	18.23	18.20
	160	18.23	18.20
	170	18.23	18.20
	180	18.23	18.20
Tablet	190	16.21	16.12

Mode	Angle (degrees)	Power measured 2.4GHz-Ch6 (dBm)	
		AUX	MAIN
Tablet	190	16.21	16.12
Notebook	185	18.23	18.20
	186	18.23	18.20
	187	18.23	18.20
	188	18.23	18.20
	189	18.23	18.20
Tablet	190	16.21	16.12
	191	16.21	16.12
	192	16.21	16.12
	193	16.21	16.12
	194	16.21	16.12
	195	16.21	16.12
	200	16.21	16.12
	210	16.21	16.12
	220	16.21	16.12
	230	16.21	16.12
	240	16.21	16.12
	260	16.21	16.12
	270	16.21	16.12
	280	16.21	16.12
	290	16.21	16.12
	300	16.21	16.12
	310	16.21	16.12
	320	16.21	16.12
	330	16.21	16.12
	340	16.21	16.12
	350	16.21	16.12
	360	16.21	16.12

B.1.2 The lid is rotating from 360° to 0°

Mode	Angle (degrees)	Power measured 2.4GHz-Ch6 (dBm)	
		AUX	MAIN
Tablet	360	16.21	16.12
	350	16.21	16.12
	340	16.21	16.12
	330	16.21	16.12
	320	16.21	16.12
	310	16.21	16.12
	300	16.21	16.12
	290	16.21	16.12
	280	16.21	16.12
	270	16.21	16.12
	260	16.21	16.12
	240	16.21	16.12
	230	16.21	16.12
	220	16.21	16.12
	210	16.21	16.12
	200	16.21	16.12
	190	16.21	16.12
Notebook	180	18.23	18.20
	185	18.23	18.20
Tablet	190	16.21	16.12
Notebook	189	18.23	18.20
	188	18.23	18.20
	187	18.23	18.20
	186	18.23	18.20
	185	18.23	18.20
	184	18.23	18.20
	183	18.23	18.20
	182	18.23	18.20
	181	18.23	18.20
	180	18.23	18.20

Mode	Angle (degrees)	Power measured 2.4GHz-Ch6 (dBm)	
		AUX	MAIN
Notebook	180	18.23	18.20
	170	18.23	18.20
	160	18.23	18.20
	150	18.23	18.20
	140	18.23	18.20
	130	18.23	18.20
	120	18.23	18.20
	110	18.23	18.20
	100	18.23	18.20
	90	18.23	18.20
	80	18.23	18.20
	70	18.23	18.20
	60	18.23	18.20
	50	18.23	18.20
	40	18.23	18.20
	30	18.23	18.20
	20	18.23	18.20
	10	18.23	18.20
Lid close	0	18.23	18.20
Notebook	5	18.23	18.20
	4	18.23	18.20
	3	18.23	18.20
	2	18.23	18.20
	1	18.23	18.20
Lid close	0	18.23	18.20

B.2 Trigger lid angle detection and power verification 5GHz

B.2.1 The lid is rotating from 0° to 360°

Mode	Angle (degrees)	Power measured 5GHz-Ch40 (dBm)	
		AUX	MAIN
Lid close	0	14.28	14.49
Notebook	10	14.28	14.49
Notebook	5	14.28	14.49
Lid close	0	14.28	14.49
Notebook	1	14.28	14.49
	2	14.28	14.49
	3	14.28	14.49
	4	14.28	14.49
	5	14.28	14.49
	10	14.28	14.49
	20	14.28	14.49
	30	14.28	14.49
	40	14.28	14.49
	50	14.28	14.49
	60	14.28	14.49
	70	14.28	14.49
	80	14.28	14.49
	90	14.28	14.49
	100	14.28	14.49
	110	14.28	14.49
	120	14.28	14.49
	130	14.28	14.49
	140	14.28	14.49
	150	14.28	14.49
	160	14.28	14.49
	170	14.28	14.49
	180	14.28	14.49
Tablet	190	11.46	11.57

Mode	Angle (degrees)	Power measured 5GHz-Ch40 (dBm)	
		AUX	MAIN
Tablet	190	11.46	11.57
Notebook	185	14.28	14.49
	186	14.28	14.49
	187	14.28	14.49
	188	14.28	14.49
	189	14.28	14.49
Tablet	190	11.46	11.57
	191	11.46	11.57
	192	11.46	11.57
	193	11.46	11.57
	194	11.46	11.57
	195	11.46	11.57
	200	11.46	11.57
	210	11.46	11.57
	220	11.46	11.57
	230	11.46	11.57
	240	11.46	11.57
	260	11.46	11.57
	270	11.46	11.57
	280	11.46	11.57
	290	11.46	11.57
	300	11.46	11.57
	310	11.46	11.57
	320	11.46	11.57
	330	11.46	11.57
	340	11.46	11.57
	350	11.46	11.57
	360	11.46	11.57

B.2.2 The lid is rotating from 360° to 0°

Mode	Angle (degrees)	Power measured 5GHz-Ch40 (dBm)	
		AUX	MAIN
Tablet	360	11.46	11.57
	350	11.46	11.57
	340	11.46	11.57
	330	11.46	11.57
	320	11.46	11.57
	310	11.46	11.57
	300	11.46	11.57
	290	11.46	11.57
	280	11.46	11.57
	270	11.46	11.57
	260	11.46	11.57
	240	11.46	11.57
	230	11.46	11.57
	220	11.46	11.57
	210	11.46	11.57
	200	11.46	11.57
	190	11.46	11.57
Notebook	180	14.28	14.49
	185	14.28	14.49
Tablet	190	11.46	11.57
Notebook	189	14.28	14.49
	188	14.28	14.49
	187	14.28	14.49
	186	14.28	14.49
	185	14.28	14.49
	184	14.28	14.49
	183	14.28	14.49
	182	14.28	14.49
	181	14.28	14.49
	180	14.28	14.49

Mode	Angle (degrees)	Power measured 5GHz-Ch40 (dBm)	
		AUX	MAIN
Notebook	180	14.28	14.49
	170	14.28	14.49
	160	14.28	14.49
	150	14.28	14.49
	140	14.28	14.49
	130	14.28	14.49
	120	14.28	14.49
	110	14.28	14.49
	100	14.28	14.49
	90	14.28	14.49
	80	14.28	14.49
	70	14.28	14.49
	60	14.28	14.49
	50	14.28	14.49
	40	14.28	14.49
	30	14.28	14.49
	20	14.28	14.49
	10	14.28	14.49
Lid close	0	14.28	14.49
Notebook	5	14.28	14.49
	4	14.28	14.49
	3	14.28	14.49
	2	14.28	14.49
	1	14.28	14.49
Lid close	0	14.28	14.49