

TEST REPORT

EUT Description	Convertible PC
Brand Name	Dell
Model Name	P166G
FCC ID	PD9BE200DW
ISED ID	1000M-BE200DW
Date of Test Start/End	2024-01-23 / 2024-01-23
Features	IEEE 802.11a/b/g/n/ac/ax/be

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Test Report identification	231106-01.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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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	21.8°C ± 1°C
Humidity	37.4% ± 5%

4. Test Sample

Sample	ID #	Description	Model	Serial #	Note
#1	231106-01.S03	Convertible PC	P166G	7701003600031	-

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	P166G
Prototype / Production	Pre-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	2.4GHz-CH6 802.11b - 1Mbps				5GHz-CH120 802.11a - 6Mbps			
		Target Power (dBm)		Measured Power (dBm)		Target Power (dBm)		Measured Power (dBm)	
		Antenna AUX (1)	Antenna MAIN (2)	Antenna AUX (1)	Antenna MAIN (2)	Antenna AUX (1)	Antenna MAIN (2)	Antenna AUX (1)	Antenna MAIN (2)
Lid Close	0°(Movement)	18.0	18.0	17.5	17.7	12.5	11.0	12.4	10.8
Lid Close	0°(Stay)	18.0	18.0	17.9	18.0	18.0	18.0	17.6	17.9
Notebook	0° - 190°	16.5	16.5	16.2	16.5	12.5	12.5	12.5	12.2
Tent/Stand	191° - 359°	18.0	18.0	17.9	18.0	12.5	11.0	12.5	10.4
Tablet	360°	18.0	18.0	17.9	18.0	12.5	11.0	12.5	10.4

8. Document Revision History

Revision #	Date	Modified by	Revision Details
Rev.00	-	Cheiel In	First release

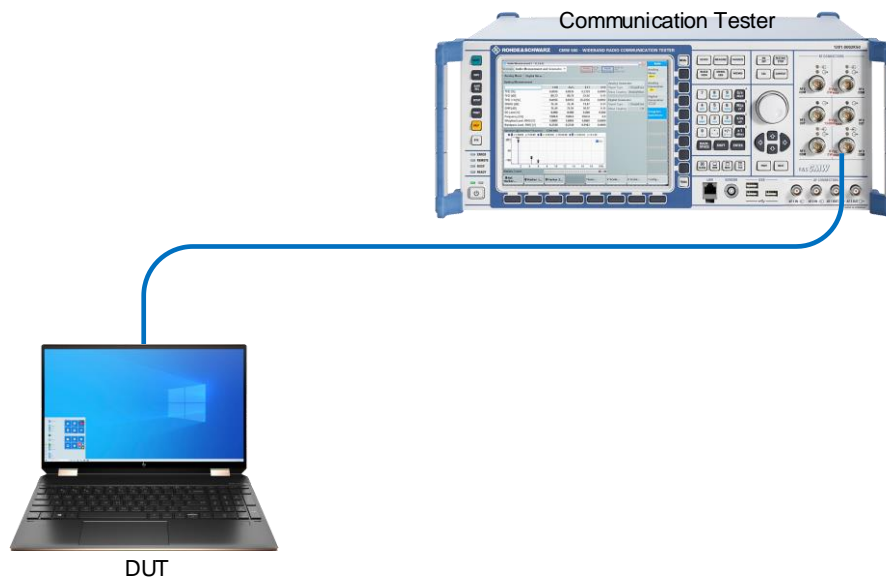
Annex A. Test & System description

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 P166G. An BE200D2W connectivity module is installed inside
- The call box is used as an access point to manage the uplink and downlink data traffic.
- Uplink signal power is measured with the access point.
- Path loss in the power measurement setup from the wireless module antenna port to the access point is compensated
- ANT tool version .01404.23.0.0 is used on the DUT to query the power table index and sensor status

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	2023-04-12	2025-04-12
022-003 022-004	RF path (RF cable + Adapters)	-	-	-	RF path loss was verified before usage	

A.4 Measurement Uncertainty Evaluation

The system uncertainty evaluation is shown in the table below with a coverage factor of $k = 2$ to indicate a 95% level of confidence:

Measurement type	Uncertainty	Unit
Power level	± 1	dB

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 (1)	MAIN (2)
Lid close (movement)	0	17.5	17.7
Lid close (stay)	0	17.9	18.0
Notebook	10	16.2	16.5
Notebook	5	16.2	16.5
Lid close (movement)	0	17.5	17.7
Lid close (stay)	0	17.9	18.0
Notebook	1	16.2	16.5
	2	16.2	16.5
	3	16.2	16.5
	4	16.2	16.5
	5	16.2	16.5
	10	16.2	16.5
	20	16.2	16.5
	30	16.2	16.5
	40	16.2	16.5
	50	16.2	16.5
	60	16.2	16.5
	70	16.2	16.5
	80	16.2	16.5
	90	16.2	16.5
	100	16.2	16.5
	110	16.2	16.5
	120	16.2	16.5
	130	16.2	16.5
140	16.2	16.5	
150	16.2	16.5	
160	16.2	16.5	
170	16.2	16.5	
180	16.2	16.5	
Tent/Stand	190	17.9	18.0

Mode	Angle (degrees)	Power measured 2.4GHz-Ch6 (dBm)	
		AUX (1)	MAIN (2)
Tent/Stand	190	17.9	18.0
Notebook	185	16.2	16.5
	186	16.2	16.5
	187	16.2	16.5
	188	16.2	16.5
	189	16.2	16.5
Tent/Stand	190	17.9	18.0
	191	17.9	18.0
	192	17.9	18.0
	193	17.9	18.0
	194	17.9	18.0
	195	17.9	18.0
	200	17.9	18.0
	210	17.9	18.0
	220	17.9	18.0
	230	17.9	18.0
	240	17.9	18.0
	260	17.9	18.0
	270	17.9	18.0
	280	17.9	18.0
	290	17.9	18.0
	300	17.9	18.0
	310	17.9	18.0
	320	17.9	18.0
330	17.9	18.0	
340	17.9	18.0	
350	17.9	18.0	
Tablet	360	17.9	18.0
Tent/Stand	355	17.9	18.0
	356	17.9	18.0
	357	17.9	18.0
	358	17.9	18.0
	359	17.9	18.0
Tablet	360	17.9	18.0

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

Mode	Angle (degrees)	Power measured 2.4GHz-Ch6 (dBm)		
		AUX (1)	MAIN (2)	
Tablet	360	17.9	18.0	
Tent/Stand	350	17.9	18.0	
Tent/Stand	355	17.9	18.0	
Tablet	360	17.9	18.0	
Tent/Stand	359	17.9	18.0	
	358	17.9	18.0	
	357	17.9	18.0	
	356	17.9	18.0	
	355	17.9	18.0	
	354	17.9	18.0	
	353	17.9	18.0	
	352	17.9	18.0	
	351	17.9	18.0	
	350	17.9	18.0	
	340	17.9	18.0	
	330	17.9	18.0	
	320	17.9	18.0	
	310	17.9	18.0	
	300	17.9	18.0	
	290	17.9	18.0	
	280	17.9	18.0	
	270	17.9	18.0	
	260	17.9	18.0	
	240	17.9	18.0	
	230	17.9	18.0	
	220	17.9	18.0	
	210	17.9	18.0	
	200	17.9	18.0	
	190	17.9	18.0	
	Notebook	180	16.2	16.5
	Notebook	185	16.2	16.5
Tent/Stand	190	17.9	18.0	
Notebook	189	16.2	16.5	
	188	16.2	16.5	
	187	16.2	16.5	
	186	16.2	16.5	
	185	16.2	16.5	
	184	16.2	16.5	
	183	16.2	16.5	
	182	16.2	16.5	
Notebook	181	16.2	16.5	
Notebook	180	16.2	16.5	

Mode	Angle (degrees)	Power measured 2.4GHz-Ch6 (dBm)	
		AUX (1)	MAIN (2)
Notebook	180	16.2	16.5
	170	16.2	16.5
	160	16.2	16.5
	150	16.2	16.5
	140	16.2	16.5
	130	16.2	16.5
	120	16.2	16.5
	110	16.2	16.5
	100	16.2	16.5
	90	16.2	16.5
	80	16.2	16.5
	70	16.2	16.5
	60	16.2	16.5
	50	16.2	16.5
	40	16.2	16.5
	30	16.2	16.5
	20	16.2	16.5
10	16.2	16.5	
Lid close(movement)	0	17.5	17.7
Notebook	5	16.2	16.5
	4	16.2	16.5
	3	16.2	16.5
	2	16.2	16.5
	1	16.2	16.5
Lid close(movement)	0	17.5	17.7
Lid close(stay)	0	17.9	18.0

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-Ch120 (dBm)	
		AUX (1)	MAIN (2)
Lid close (movement)	0	12.4	10.8
Lid close (stay)	0	17.6	17.9
Notebook	10	12.5	12.2
Notebook	5	12.5	12.2
Lid close (movement)	0	12.4	10.8
Lid close (stay)	0	17.6	17.9
Notebook	1	12.5	12.2
	2	12.5	12.2
	3	12.5	12.2
	4	12.5	12.2
	5	12.5	12.2
	10	12.5	12.2
	20	12.5	12.2
	30	12.5	12.2
	40	12.5	12.2
	50	12.5	12.2
	60	12.5	12.2
	70	12.5	12.2
	80	12.5	12.2
	90	12.5	12.2
	100	12.5	12.2
	110	12.5	12.2
	120	12.5	12.2
	130	12.5	12.2
140	12.5	12.2	
150	12.5	12.2	
160	12.5	12.2	
170	12.5	12.2	
180	12.5	12.2	
Tent/Stand	190	12.5	10.4

Mode	Angle (degrees)	Power measured 5GHz-Ch120 (dBm)	
		AUX (1)	MAIN (2)
Tent/Stand	190	12.5	10.4
Notebook	185	12.5	12.2
	186	12.5	12.2
	187	12.5	12.2
	188	12.5	12.2
	189	12.5	12.2
	190	12.5	10.4
Tent/Stand	191	12.5	10.4
	192	12.5	10.4
	193	12.5	10.4
	194	12.5	10.4
	195	12.5	10.4
	200	12.5	10.4
	210	12.5	10.4
	220	12.5	10.4
	230	12.5	10.4
	240	12.5	10.4
	260	12.5	10.4
	270	12.5	10.4
	280	12.5	10.4
	290	12.5	10.4
	300	12.5	10.4
	310	12.5	10.4
	320	12.5	10.4
	330	12.5	10.4
340	12.5	10.4	
350	12.5	10.4	
Tablet	360	12.5	10.4
Tent/Stand	355	12.5	10.4
	356	12.5	10.4
	357	12.5	10.4
	358	12.5	10.4
	359	12.5	10.4
Tablet	360	12.5	10.4

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

Mode	Angle (degrees)	Power measured 5GHz-Ch120 (dBm)		
		AUX (1)	MAIN (2)	
Tablet	360	12.5	10.4	
Tent/Stand	350	12.5	10.4	
Tent/Stand	355	12.5	10.4	
Tablet	360	12.5	10.4	
Tent/Stand	359	12.5	10.4	
	358	12.5	10.4	
	357	12.5	10.4	
	356	12.5	10.4	
	355	12.5	10.4	
	354	12.5	10.4	
	353	12.5	10.4	
	352	12.5	10.4	
	351	12.5	10.4	
	350	12.5	10.4	
	340	12.5	10.4	
	330	12.5	10.4	
	320	12.5	10.4	
	310	12.5	10.4	
	300	12.5	10.4	
	290	12.5	10.4	
	280	12.5	10.4	
	270	12.5	10.4	
	260	12.5	10.4	
	240	12.5	10.4	
	230	12.5	10.4	
	220	12.5	10.4	
	210	12.5	10.4	
	200	12.5	10.4	
	190	12.5	10.4	
	Notebook	180	12.5	12.2
	Notebook	185	12.5	12.2
Tent/Stand	190	12.5	10.4	
Notebook	189	12.5	12.2	
	188	12.5	12.2	
	187	12.5	12.2	
	186	12.5	12.2	
	185	12.5	12.2	
	184	12.5	12.2	
	183	12.5	12.2	
	182	12.5	12.2	
181	12.5	12.2		
180	12.5	12.2		

Mode	Angle (degrees)	Power measured 1GHz-Ch120 (dBm)	
		AUX (1)	MAIN (2)
Notebook	180	12.5	12.2
	170	12.5	12.2
	160	12.5	12.2
	150	12.5	12.2
	140	12.5	12.2
	130	12.5	12.2
	120	12.5	12.2
	110	12.5	12.2
	100	12.5	12.2
	90	12.5	12.2
	80	12.5	12.2
	70	12.5	12.2
	60	12.5	12.2
	50	12.5	12.2
	40	12.5	12.2
	30	12.5	12.2
	20	12.5	12.2
	10	12.5	12.2
	Lid close(movement)	0	12.4
Notebook	5	12.5	12.2
	4	12.5	12.2
	3	12.5	12.2
	2	12.5	12.2
Lid close(movement)	1	12.5	12.2
Lid close(movement)	0	12.4	10.8
Lid close(stay)	0	17.6	17.9