TEST REPORT

EUT Description	**Convertible PC**
Brand Name	**Lenovo**
Model Name	**Yoga 9 2-in-1 14IMH9**
FCC ID	**PD9AX211D2**
ISED ID	**1000M-AX211D2**
Date of Test Start/End	**2023-12-14 / 2023-12-14**
Features	**IEEE 802.11a/b/g/n/ac/ax**

Applicant	**Intel Corporation SAS**
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Test Report identification	**231107-02.TR07**
Revision Control	**Rev. 01** **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

Digitally signed by Chei el IN
Date: 2024.01.19 14:30:15 +01'00'

Table of Contents

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	21.5ºC ± 0.2ºC
Humidity	42.4% ± 3.9%

4. Test Sample

Sample	ID #	Description	Model	Serial #	Note
#01	231107-02.S04	Convertible PC	Yoga 9 2-in-1 14IMH9	1894929400050	-

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	Lenovo
Model Name	Yoga 9 2-in-1 14IMH9
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-CH120			
			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°**	0°	16.0	16.0	15.9	15.9	14.0	14.0	13.8	13.9
Notebook	**0° - 359°**	0°	16.0	16.0	15.9	15.9	14.0	14.0	13.8	13.9
Tablet	**360°**	0°	16.0	16.0	15.8	15.9	12.5	11.5	12.1	10.9

8. Document Revision History

Revision #	Modified by	Revision Details
Rev.00	Cheiel I	First Issue
Rev. 01	Cheiel I	Modification of test report number

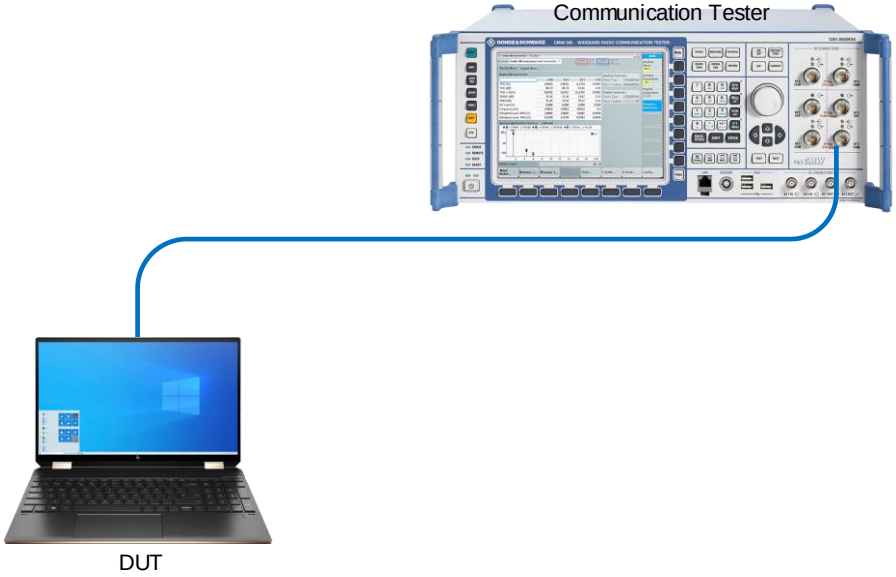
Annex A. Test & System description

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 *Lenovo* model *Yoga 9 2-in-1 14IMH9.* An *AX211D2W* 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.1.3.

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 (degree)	Measured Power 2.4GHz-Ch6 (dBm)	
		AUX(1)	MAIN(2)
Lid close	0	15.9	15.9
Notebook	10	15.9	15.9
	5	15.9	15.9
Lid close	0	15.9	15.9
Notebook	1	15.9	15.9
	2	15.9	15.9
	3	15.9	15.9
	4	15.9	15.9
	5	15.9	15.9
	10	15.9	15.9
	20	15.9	15.9
	30	15.9	15.9
	40	15.9	15.9
	50	15.9	15.9
	60	15.9	15.9
	70	15.9	15.9
	80	15.9	15.9
	90	15.9	15.9
	100	15.9	15.9
	110	15.9	15.9
	120	15.9	15.9
	130	15.9	15.9
	140	15.9	15.9
	150	15.9	15.9
	160	15.9	15.9
	170	15.9	15.9
	180	15.9	15.9
	190	15.9	15.9
	200	15.9	15.9
	210	15.9	15.9
	220	15.9	15.9

Mode	Angle (degree)	Power measured 2.4GHz-Ch6 (dBm)	
		AUX(1)	MAIN(2)
Notebook	230	15.9	15.9
	240	15.9	15.9
	250	15.9	15.9
	260	15.9	15.9
	270	15.9	15.9
	280	15.9	15.9
	290	15.9	15.9
	300	15.9	15.9
	310	15.9	15.9
	320	15.9	15.9
	330	15.9	15.9
	340	15.9	15.9
	350	15.9	15.9
Tablet	360	15.8	15.9
Notebook	355	15.9	15.9
	356	15.9	15.9
	357	15.9	15.9
	358	15.9	15.9
	359	15.9	15.9
Tablet	360	15.8	15.9

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

Mode	Angle (degree)	Power measured 2.4GHz-Ch6 (dBm)	
		AUX(1)	MAIN(2)
Tablet	360	15.8	15.9
Notebook	350	15.9	15.9
	355	15.9	15.9
Tablet	360	15.8	15.9
Notebook	359	15.9	15.9
	358	15.9	15.9
	357	15.9	15.9
	356	15.9	15.9
	355	15.9	15.9
	350	15.9	15.9
	340	15.9	15.9
	330	15.9	15.9
	320	15.9	15.9
	310	15.9	15.9
	300	15.9	15.9
	290	15.9	15.9
	280	15.9	15.9
	270	15.9	15.9
	260	15.9	15.9
	250	15.9	15.9
	240	15.9	15.9
	230	15.9	15.9

Mode	Angle (degree)	Power measured 2.4GHz-Ch6 (dBm)	
		AUX(1)	MAIN(2)
Notebook	220	15.9	15.9
	210	15.9	15.9
	200	15.9	15.9
	190	15.9	15.9
	180	15.9	15.9
	170	15.9	15.9
	160	15.9	15.9
	150	15.9	15.9
	140	15.9	15.9
	130	15.9	15.9
	120	15.9	15.9
	110	15.9	15.9
	100	15.9	15.9
	90	15.9	15.9
	80	15.9	15.9
	70	15.9	15.9
	60	15.9	15.9
	50	15.9	15.9
	40	15.9	15.9
	30	15.9	15.9
	20	15.9	15.9
	10	15.9	15.9
Lid close	0	15.9	15.9
Notebook	5	15.9	15.9
	4	15.9	15.9
	3	15.9	15.9
	2	15.9	15.9
	1	15.9	15.9
Lid close	0	15.9	15.9

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

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

Mode	Angle (degree)	Measured Power 5GHz-Ch120 (dBm)	
		AUX(1)	MAIN(2)
Lid Close	0	13.8	13.9
Notebook	10	13.8	13.9
	5	13.8	13.9
Lid Close	0	13.8	13.9
Notebook	1	13.8	13.9
	2	13.8	13.9
	3	13.8	13.9
	4	13.8	13.9
	5	13.8	13.9
	10	13.8	13.9
	20	13.8	13.9
	30	13.8	13.9
	40	13.8	13.9
	50	13.8	13.9
	60	13.8	13.9
	70	13.8	13.9
	80	13.8	13.9
	90	13.8	13.9
	100	13.8	13.9
	110	13.8	13.9
	120	13.8	13.9
	130	13.8	13.9
	140	13.8	13.9
	150	13.8	13.9
	160	13.8	13.9
	170	13.8	13.9
	180	13.8	13.9
	190	13.8	13.9
	200	13.8	13.9
	210	13.8	13.9
	220	13.8	13.9

Mode	Angle (degree)	Power measured 5GHz-Ch120 (dBm)	
		AUX(1)	MAIN(2)
Notebook	230	13.8	13.9
	240	13.8	13.9
	250	13.8	13.9
	260	13.8	13.9
	270	13.8	13.9
	280	13.8	13.9
	290	13.8	13.9
	300	13.8	13.9
	310	13.8	13.9
	320	13.8	13.9
	330	13.8	13.9
	340	13.8	13.9
	350	13.8	13.9
Tablet	360	12.1	10.9
Notebook	355	13.8	13.9
	356	13.8	13.9
	357	13.8	13.9
	358	13.8	13.9
	359	13.8	13.9
Tablet	360	12.1	10.9

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

Mode	Angle (degrees)	Measured Power 5GHz-Ch120 (dBm)	
		AUX(1)	MAIN(2)
Tablet	360	12.1	10.9
Notebook	350	13.8	13.9
	355	13.8	13.9
Tablet	360	12.1	10.9
Notebook	359	13.8	13.9
	358	13.8	13.9
	357	13.8	13.9
	356	13.8	13.9
	355	13.8	13.9
	350	13.8	13.9
	340	13.8	13.9
	330	13.8	13.9
	320	13.8	13.9
	310	13.8	13.9
	300	13.8	13.9
	290	13.8	13.9
	280	13.8	13.9
	270	13.8	13.9
	260	13.8	13.9
	250	13.8	13.9
	240	13.8	13.9
	230	13.8	13.9

Mode	Angle (degrees)	Measured Power 5GHz-Ch120 (dBm)	
		AUX(1)	MAIN(2)
Notebook	220	13.8	13.9
	210	13.8	13.9
	200	13.8	13.9
	190	13.8	13.9
	180	13.8	13.9
	170	13.8	13.9
	160	13.8	13.9
	150	13.8	13.9
	140	13.8	13.9
	130	13.8	13.9
	120	13.8	13.9
	110	13.8	13.9
	100	13.8	13.9
	90	13.8	13.9
	80	13.8	13.9
	70	13.8	13.9
	60	13.8	13.9
	50	13.8	13.9
	40	13.8	13.9
	30	13.8	13.9
	20	13.8	13.9
	10	13.8	13.9
Lid Close	0	13.8	13.9
Notebook	5	13.8	13.9
	4	13.8	13.9
	3	13.8	13.9
	2	13.8	13.9
	1	13.8	13.9
Lid Close	0	13.8	13.9