

# TEST REPORT

EUT Description	Convertible PC
Brand Name	DELL
Model Name	P33T
FCC ID	PD9AX201D2
IC ID	1000M-AX201D2
Date of Test Start/End	2022-10-02 / 2022-10-07
Features	IEEE 802.11a/b/g/n/ac/ax

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Test Report identification	220817-01.TR02
Revision Control	Rev. 01 This test report replaces any previous versions of this test report (see Section 2)

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## 2. Document Revision History

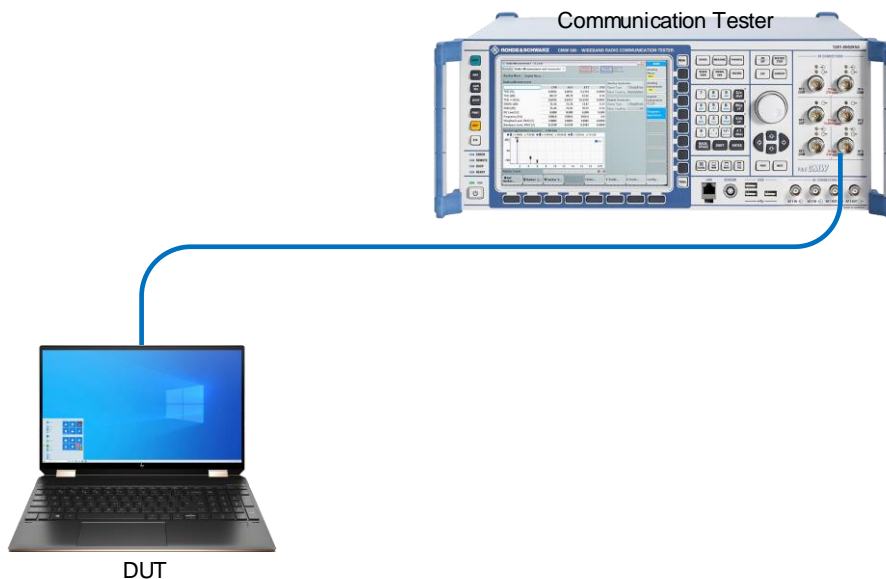
Revision #	Date	Modified by	Revision Details
Rev.00	2022-10-10	Tanguy MATHIEU	First Issue
Rev.01	2022-11-16	Cheiel In	Clarification of the triggering angle in annex B table test result per FCC comment

## 3. Test Setup

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

- The DUT which AX201D2W cellular module is installed inside convertible PC from Dell model P33T.
- 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 AX201D2W antenna port to the Call Box.

*Figure.1 – Validation using conducted power measurement test setup.*



#### 4. Test Sample

Sample	ID #	Description	Model	Serial #	Note
#1	220817-01.S03	Convertible PC	P33T	73259968000016	-

#### 5. 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	2021-04-12	2023-04-12

#### 6. Test Results

##### 6.1. Tx Power Table Summary

Device Mode	Lid Angle	LCD Direction	2.4Ghz-Ch6				5Ghz-Ch120			
			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° - 30°	0°	18	18	17.6	17.7	17.0	17.0	16.2	16.1
Notebook	30° - 190°	0°	18	18	17.6	17.7	17.0	17.0	16.2	16.1
Tablet	190° - 360°	0°	16.5	16.5	16.2	16.2	13.5	12.5	12.7	11.5

## 6.2. Trigger lid angle detection and power verification 2.4GHz

The lid is rotating from 0 to 360. The screen is vertical, LCD direction is 0 degree.

Mode	Angle (degrees)	Power measured 2.4GHz-Ch6 (dBm)		Mode	Angle (degrees)	Power measured 2.4GHz-Ch6 (dBm)	
		AUX	MAIN			AUX	MAIN
Lid close	0	17.6	17.7	Notebook	190	17.6	17.7
	10	17.6	17.7	Tablet	200	16.2	16.2
	20	17.6	17.7	Notebook	195	17.6	17.7
	30	17.6	17.7	Tablet	196	16.2	16.2
Notebook	40	17.6	17.7		197	16.2	16.2
Lid close	35	17.6	17.7		198	16.2	16.2
Notebook	36	17.6	17.7		199	16.2	16.2
	37	17.6	17.7		200	16.2	16.2
	38	17.6	17.7		210	16.2	16.2
	39	17.6	17.7		220	16.2	16.2
	40	17.6	17.7		230	16.2	16.2
	50	17.6	17.7		240	16.2	16.2
	55	17.6	17.7		250	16.2	16.2
	60	17.6	17.7		260	16.2	16.2
	70	17.6	17.7		270	16.2	16.2
	80	17.6	17.7		280	16.2	16.2
	90	17.6	17.7		290	16.2	16.2
	100	17.6	17.7		300	16.2	16.2
	110	17.6	17.7		310	16.2	16.2
	120	17.6	17.7		320	16.2	16.2
	130	17.6	17.7		330	16.2	16.2
	140	17.6	17.7		340	16.2	16.2
	150	17.6	17.7		350	16.2	16.2
	160	17.6	17.7	360	16.2	16.2	
170	17.6	17.7					
180	17.6	17.7					

The lid is rotating from 360 degrees to 0 degree. The screen is vertical, LCD direction to 0 degree.

Mode	Angle (degrees)	Power measured 2.4GHz-Ch6 (dBm)		Mode	Angle (degrees)	Power measured 2.4GHz-Ch6 (dBm)	
		AUX	MAIN			AUX	MAIN
Tablet	360	16.2	16.2	Notebook	170	17.6	17.7
	350	16.2	16.2		160	17.6	17.7
	340	16.2	16.2		150	17.6	17.7
	330	16.2	16.2		140	17.6	17.7
	320	16.2	16.2		130	17.6	17.7
	320	16.2	16.2		120	17.6	17.7
	310	16.2	16.2		110	17.6	17.7
	300	16.2	16.2		100	17.6	17.7
	290	16.2	16.2		90	17.6	17.7
	280	16.2	16.2		80	17.6	17.7
	270	16.2	16.2		70	17.6	17.7
	260	16.2	16.2		60	17.6	17.7
	250	16.2	16.2		50	17.6	17.7
	240	16.2	16.2		40	17.6	17.7
	230	16.2	16.2		30	17.6	17.7
	220	16.2	16.2		20	17.6	17.7
	210	16.2	16.2		25	17.6	17.7
	200	16.2	16.2		Lid close	30	17.6
190	16.2	16.2	29	17.6		17.7	
Notebook	180	17.6	17.7	Notebook	28	17.6	17.7
	185	17.6	17.7		27	17.6	17.7
Tablet	190	16.2	16.2	26	17.6	17.7	
	189	16.2	16.2	Lid close	25	17.6	17.7
	188	16.2	16.2		24	17.6	17.7
	187	16.2	16.2		23	17.6	17.7
	186	16.2	16.2		21	17.6	17.7
	185	16.2	16.2		20	17.6	17.7
Notebook	184	17.6	17.7		10	17.6	17.7
	183	17.6	17.7	0	17.6	17.7	
	182	17.6	17.7				
	181	17.6	17.7				
	180	17.6	17.7				

### 6.3. Trigger lid angle detection and power verification 5GHz

The lid is rotating from 0 to 360. The screen is vertical, LCD direction is 0 degree.

Mode	Angle (degrees)	Power measured 5GHz-Ch120 (dBm)	
		AUX	MAIN
Lid close	0	16.2	16.1
	10	16.2	16.1
	20	16.2	16.1
	30	16.2	16.1
Notebook	40	16.2	16.1
Lid close	35	16.2	16.1
Notebook	36	16.2	16.1
	37	16.2	16.1
	38	16.2	16.1
	39	16.2	16.1
	40	16.2	16.1
	50	16.2	16.1
	55	16.2	16.1
	60	16.2	16.1
	70	16.2	16.1
	80	16.2	16.1
	90	16.2	16.1
	100	16.2	16.1
	110	16.2	16.1
	120	16.2	16.1
	130	16.2	16.1
	140	16.2	16.1
150	16.2	16.1	
160	16.2	16.1	
170	16.2	16.1	
180	16.2	16.1	

Mode	Angle (degrees)	Power measured 5GHz-Ch120 (dBm)	
		AUX	MAIN
Notebook	190	16.2	16.1
Tablet	200	12.7	11.5
Notebook	195	16.2	16.1
Tablet	196	12.7	11.5
	197	12.7	11.5
	198	12.7	11.5
	199	12.7	11.5
	200	12.7	11.5
	210	12.7	11.5
	220	12.7	11.5
	230	12.7	11.5
	240	12.7	11.5
	250	12.7	11.5
	260	12.7	11.5
	270	12.7	11.5
	280	12.7	11.5
	290	12.7	11.5
	300	12.7	11.5
	310	12.7	11.5
320	12.7	11.5	
330	12.7	11.5	
340	12.7	11.5	
350	12.7	11.5	
360	12.7	11.5	

The lid is rotating from 360 degrees to 0 degree. The screen is vertical, LCD direction to 0 degree.

Mode	Angle (degrees)	Power measured 5GHz-Ch120 (dBm)		Mode	Angle (degrees)	Power measured 5GHz-Ch120 (dBm)	
		AUX	MAIN			AUX	MAIN
Tablet	360	12.7	11.5	Notebook	170	16.2	16.1
	350	12.7	11.5		160	16.2	16.1
	340	12.7	11.5		150	16.2	16.1
	330	12.7	11.5		140	16.2	16.1
	320	12.7	11.5		130	16.2	16.1
	320	12.7	11.5		120	16.2	16.1
	310	12.7	11.5		110	16.2	16.1
	300	12.7	11.5		100	16.2	16.1
	290	12.7	11.5		90	16.2	16.1
	280	12.7	11.5		80	16.2	16.1
	270	12.7	11.5		70	16.2	16.1
	260	12.7	11.5		60	16.2	16.1
	250	12.7	11.5		50	16.2	16.1
	240	12.7	11.5		40	16.2	16.1
	230	12.7	11.5		30	16.2	16.1
	220	12.7	11.5		20	16.2	16.1
	210	12.7	11.5		25	16.2	16.1
	200	12.7	11.5		Lid close	30	16.2
190	12.7	11.5	29	16.2		16.1	
Notebook	180	16.2	16.1	Notebook	28	16.2	16.1
	185	16.2	16.1		27	16.2	16.1
Tablet	190	12.7	11.5	Lid close	26	16.2	16.1
	189	12.7	11.5		25	16.2	16.1
	188	12.7	11.5		24	16.2	16.1
	187	12.7	11.5		23	16.2	16.1
	186	12.7	11.5		21	16.2	16.1
	185	12.7	11.5		20	16.2	16.1
Notebook	184	16.2	16.1	Notebook	10	16.2	16.1
	183	16.2	16.1		0	16.2	16.1
	182	16.2	16.1				
	181	16.2	16.1				
	180	16.2	16.1				