

TEST REPORT

EUT Description	Convertible PC
Brand Name	HP
Model Name	TPN-Q273
FCC ID	B94TNQ273GPKV
ISED ID	21374-FM350GL
Date of Test Start/End	2022-07-12 / 2022-07-12
Features	WWAN (LTE,UMTS,NR-5G)

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Test Report identification	220512-01.TR04
Revision Control	Rev. 00 This test report replaces any previous versions of this test report (see Section 2)

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2. Document Revision History

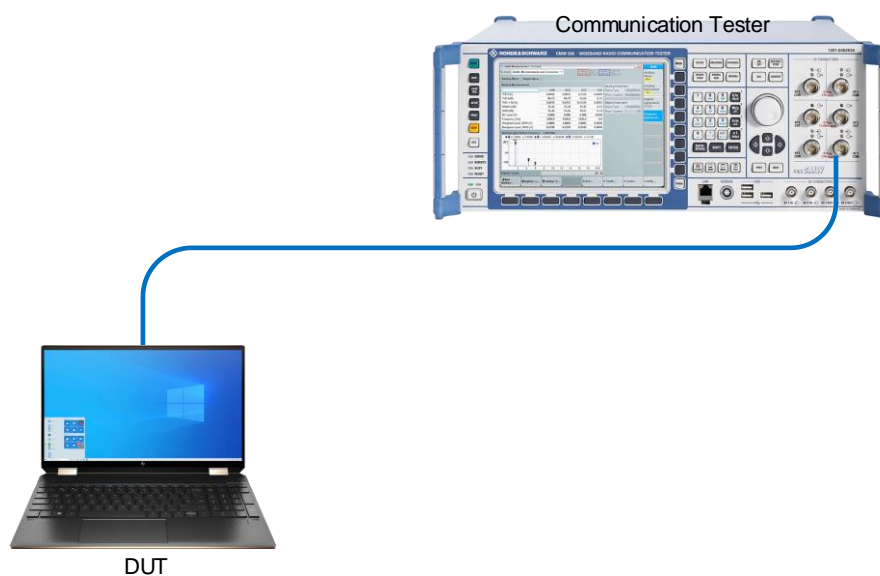
Revision #	Date	Modified by	Revision Details
Rev.00	2022-07-12	Tanguy MATHIEU	First Issue

3. Test Setup

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

- The DUT which FM350-GL cellular module is installed inside convertible PC from HP model TPN-Q273.
- 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 FM350-GL 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	220512-01.S04	Convertible PC	TPN-Q273	A5CD14161DG	-

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
179-000	Communication Tester	CMW500	163104	Rohde & Schwartz	2022-02-02	2024-02-02

6. Test Results

6.1. Tx Power Table Assignment

Device Mode	Lid Open Angle φ Lid close > NB > TB	Lid Open Angle φ TB > NB .-> Lid close	Radio Power control definition LTE Band 7 (dBm)		Power Measured LTE Band 7 (dBm)	
			Antenna 5	Antenna 8	Antenna 5	Antenna 8
Lid Close	$0^\circ \leq \varphi \leq 12.5^\circ$	$0^\circ \leq \varphi \leq 12.5^\circ$	14.5	13.5	Standby	Standby
Notebook	$12.5^\circ < \varphi \leq 200^\circ$	$12.5^\circ < \varphi \leq 160^\circ$	18.5	19.0	17.9	18.1
Tablet	$200^\circ < \varphi \leq 360^\circ$	$160^\circ < \varphi \leq 360^\circ$	14.5	13.5	13.9	12.6

6.2. Trigger lid angle detection and power verification

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

Mode	Lid Angle (degree)	Power measured LTE Band 7 (dBm)	
		Antenna 5	Antenna 8
Lid close	0	Standby	Standby
	8	Standby	Standby
	9	Standby	Standby
	10	Standby	Standby
	11	Standby	Standby
	12	Standby	Standby
	Notebook	13	17.9
14		17.9	18.1
15		17.9	18.1
16		17.9	18.1
17		17.9	18.1
20		17.9	18.1
30		17.9	18.1
40		17.9	18.1
50		17.9	18.1
60		17.9	18.1
70		17.9	18.1
80		17.9	18.1
90		17.9	18.1
100		17.9	18.1
110		17.9	18.1
120		17.9	18.1
130		17.9	18.1
140	17.9	18.1	
150	17.9	18.1	
160	17.9	18.1	
170	17.9	18.1	

Mode	Lid Angle (degree)	Power measured LTE Band 7 (dBm)		
		Antenna 5	Antenna 8	
Notebook	180	17.9	18.1	
	188	17.9	18.1	
	189	17.9	18.1	
	190	17.9	18.1	
	195	17.9	18.1	
	196	17.9	18.1	
	197	17.9	18.1	
	198	17.9	18.1	
	199	17.9	18.1	
	200	17.9	18.1	
	Tablet	201	13.9	12.6
		202	13.9	12.6
203		13.9	12.6	
204		13.9	12.6	
205		13.9	12.6	
210		13.9	12.6	
220		13.9	12.6	
230		13.9	12.6	
240		13.9	12.6	
250		13.9	12.6	
260		13.9	12.6	
270		13.9	12.6	
280		13.9	12.6	
290		13.9	12.6	
300		13.9	12.6	
310		13.9	12.6	
320		13.9	12.6	
330		13.9	12.6	
340	13.9	12.6		
360	13.9	12.6		

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

Mode	Lid Angle (degree)	Power measured LTE Band 7 (dBm)	
		Antenna 5	Antenna 8
Tablet	360	13.9	12.6
	350	13.9	12.6
	330	13.9	12.6
	320	13.9	12.6
	310	13.9	12.6
	300	13.9	12.6
	290	13.9	12.6
	280	13.9	12.6
	270	13.9	12.6
	260	13.9	12.6
	250	13.9	12.6
	240	13.9	12.6
	230	13.9	12.6
	220	13.9	12.6
	210	13.9	12.6
	200	13.9	12.6
190	13.9	12.6	
180	13.9	12.6	

Mode	Lid Angle (degree)	Power measured LTE Band 7 (dBm)	
		Antenna 5	Antenna 8
Tablet	170	13.9	12.6
	164	13.9	12.6
	163	13.9	12.6
	162	13.9	12.6
	161	13.9	12.6
	160	13.9	12.6
Notebook	159	17.9	18.1
	158	17.9	18.1
	157	17.9	18.1
	156	17.9	18.1
	155	17.9	18.1
	150	17.9	18.1
	140	17.9	18.1
	130	17.9	18.1
	120	17.9	18.1
	110	17.9	18.1
	100	17.9	18.1
	90	17.9	18.1
	80	17.9	18.1
	70	17.9	18.1
	60	17.9	18.1
	50	17.9	18.1
	40	17.9	18.1
	30	17.9	18.1
	20	17.9	18.1
	17	17.9	18.1
16	17.9	18.1	
15	17.9	18.1	
14	17.9	18.1	
13	17.9	18.1	
Lid close	12	Standby	Standby
	11	Standby	Standby
	10	Standby	Standby
	9	Standby	Standby
	8	Standby	Standby
	0	Standby	Standby