



Test Report No.: W7L-211129W001RF19

VARIANT FCC TEST REPORT

(PART 90)

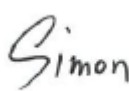

Applicant:	Honeywell International Inc Honeywell Safety and Productivity Solutions
Address:	9680 Old Bailes Road, Fort Mill, SC 29707 United States

Manufacturer or Supplier	Honeywell International Inc Honeywell Safety and Productivity Solutions
Address	9680 Old Bailes Road, Fort Mill, SC 29707 United States
Product	Mobile Computer
Brand Name	Honeywell
Model Name	CT45P-L1N-E
FCC ID	HD5-CT45PL1NE
Date of tests	Oct. 14, 2021 ~ Nov. 08, 2021

The tests have been carried out according to the requirements of the following standard:

- FCC Part 90, Subpart R, S ANSI/TIA/EIA-603- D
 FCC Part 2 ANSI/TIA/EIA-603-E ANSI C63.26-2015

CONCLUSION: The submitted sample was found to COMPLY with the test requirement

Prepared by Simon Wang Engineer / Mobile Department	Approved by Luke Lu Manager / Mobile Department
	
Date: Dec. 15, 2021	Date: Dec. 15, 2021

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
W7L-P21080006RF19	Original release	Sep. 01, 2021
W7L-P21080009RF19	Based on the original report W7L-P21080006RF19 Changing the SIM to 1 Nano SIM and 1 E-SIM	Sep. 09, 2021
W7L-P21110007RF19	Based on the original report W7L-P21080009RF19 Changing components, SW and HW version, added band CA_41C by Software.	Nov. 09, 2021
W7L-211129W001RF19	Based on the original report W7L-P21110007RF19 changing components.	Dec. 15, 2021



1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 90 & Part 2			
STANDARD SECTION	TEST TYPE AND LIMIT	RESULT	REMARK
2.1046 90.635(b)	Maximum Peak Output Power	Compliance (See Note 1)	Meet the requirement of limit.
2.1055 90.213	Frequency Stability	(See Note 2)	Meet the requirement of limit.
2.1049 90.209	Occupied Bandwidth	(See Note 2)	Meet the requirement of limit.
2.1051 90.691	Emission Masks	(See Note 2)	Meet the requirement of limit.
2.1051 90.691	Conducted Spurious Emissions	(See Note 2)	Meet the requirement of limit.
2.1053 90.691	Radiated Spurious Emissions	(See Note 2)	Meet the requirement of limit. Minimum passing margin is -17.14dB at 37.82MHz.

NOTE:

- 1. Per the change notice provide by manufactory, the difference is changing components,it takes no effect to the radio module . The power of worst case band has been retested,it's lower than the original report data,and this time only show the max power between the two report.
- 2. Please refer to original report W7L-P21110007RF19



1.1 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

MEASUREMENT	FREQUENCY	UNCERTAINTY
Conducted emissions	9kHz~30MHz	2.66dB
Radiated emissions	9KHz ~ 30MHz	2.68dB
	30MHz ~ 1GMHz	3.26dB
	1GHz ~ 18GHz	4.48dB
	18GHz ~ 40GHz	4.12dB

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.



1.2 TEST SITE AND INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
MXE EMI Receiver	KEYSIGHT	N9038A-544	MY54450026	Apr. 22,21	Apr. 21,22
EXA Signal Analyzer	KEYSIGHT	N9010A-544	MY54510355	Jun. 04,20	Jun. 03,21
EXA Signal Analyzer	KEYSIGHT	N9010A-544	MY54510355	Jun. 03,21	Jun. 02,22
Bilog Antenna	ETS-LINDGREN	3143B	00161965	Mar. 05,21	Mar. 04,22
Horn Antenna	ETS-LINDGREN	3117	00168728	Apr. 02,21	Apr. 01,22
Horn Antenna (18GHz-40GHz)	N/A	QWH-SL-18-40-K-SG/QMS-00361	15433	Aug. 26, 20	Aug. 25, 21
Horn Antenna (18GHz-40GHz)	N/A	QWH-SL-18-40-K-SG/QMS-00361	15433	Aug. 25, 21	Aug. 24, 22
Radio Communication Analyzer	ANRITSU	MT8820C	6201465426	Feb. 25,21	Feb. 24,22
Signal Pre-Amplifier	EMSI	EMC 9135	980249	Jun. 03,20	Jun. 02,21
Signal Pre-Amplifier	EMSI	EMC 9135	980249	Jun. 02,21	Jun. 01,22
Signal Pre-Amplifier	EMSI	EMC 012645B	980257	Jun. 04,20	Jun. 03,21
Signal Pre-Amplifier	EMSI	EMC 012645B	980257	Jun. 03,21	Jun. 02,22
Signal Pre-Amplifier	EMSI	EMC 184045B	980259	Apr. 22,21	Apr. 21,22
3m Semi-anechoic Chamber	ETS-LINDGREN	9m*6m*6m	Euroshieldpn-CT0001143-1216	May. 19,20	May. 18,23
Test Software	E3	V 9.160323	N/A	N/A	N/A
Test Software	ADT	ADT_Radiated_V 7.6.15.9.2	N/A	N/A	N/A
10dB Attenuator	JFW/USA	50HF-010-SMA	1505	Jun. 04,20	Jun. 03,21
10dB Attenuator	JFW/USA	50HF-010-SMA	1505	Jun. 03,21	Jun. 02,22
Power Meter	Anritsu	ML2495A	1506002	Apr. 07,21	Apr. 06,22
Power Sensor	Anritsu	MA2411B	1339352	May. 07,21	May. 06,22
Temperature Chamber	ESPEC	SH-242	93000855	Jun. 03,20	Jun. 02,21
Temperature Chamber	ESPEC	SH-242	93000855	Jun. 02,21	Jun. 01,22
MXG Analog Microwave Signal Generator	KEYSIGHT	N5183A	MY50143024	Mar. 05,21	Mar. 04,22
Power Divider	MCLI/USA	PS2-15	24880	N/A	N/A

- NOTE:**
1. The calibration interval of the above test instruments is 12 months or 36 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.
 2. The test was performed in 3m Semi-anechoic Chamber and RF Oven Room.
 3. The horn antenna is used only for the measurement of emission frequency above 1GHz if tested.
 4. The FCC Site Registration No. is 525120. The Designation No. is CN1171.

2 GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

EUT	Mobile Computer	
BRAND NAME	Honeywell	
MODEL NAME	CT45P-L1N-E	
TYPE NUMBER	3.85Vdc (Lithium-ion cell, battery)	
POWER SUPPLY	Portable Tablet Computer	
MODULATION TECHNOLOGY	LTE	QPSK, 16QAM, 64QAM
FREQUENCY RANGE	LTE Band 26 (Channel Bandwidth: 1.4MHz)	814.7MHz ~ 823.3MHz
	LTE Band 26 (Channel Bandwidth: 3MHz)	815.5MHz ~ 822.5MHz
	LTE Band 26 (Channel Bandwidth: 5MHz)	816.5MHz ~ 821.5MHz
	LTE Band 26 (Channel Bandwidth: 10MHz)	819MHz
EMISSION DESIGNATOR	LTE Band 26 (Channel Bandwidth: 1.4MHz)	QPSK: 1M09G7D
		16QAM: 1M09W7D
		64QAM: 1M09W7D
	LTE Band 26 (Channel Bandwidth: 3MHz)	QPSK: 2M69G7D
		16QAM: 2M69W7D
		64QAM: 2M68W7D
	LTE Band 26 (Channel Bandwidth: 5MHz)	QPSK: 4M47G7D
		16QAM: 4M47W7D
		64QAM: 4M48W7D
	LTE Band 26 (Channel Bandwidth: 10MHz)	QPSK: 8M92G7D
		16QAM: 8M91W7D
		64QAM: 8M91W7D
LTE Band 26 (Channel Bandwidth: 1.4MHz)	391.74mW	
LTE Band 26 (Channel Bandwidth: 3MHz)	389.05mW	
LTE Band 26 (Channel Bandwidth: 5MHz)	389.05mW	
LTE Band 26 (Channel Bandwidth: 10MHz)	239.88mW	
ANTENNA TYPE	PIFA Antenna	
ANTENNA GAIN	2.67dBi for LTE Band 26	
HW VERSION	V1.0	



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SW VERSION	OS.11.002-HON.11.002
I/O PORTS	Refer to user's manual
DATA CABLE	USB cable: unshielded without ferrite, 1.25 meter Earphone cable: unshielded without ferrite, 1.27 meter
EXTREME TEMPERATURE	-10-55 °C
EXTREME VOLTAGE	3.4V- 4.4V

NOTE:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
2. This product includes the following four SKU which hardware is exactly same, the difference is described as following, Sample 1 was full test, sample 2 verify the worst case,check worst case

Radiated emission:

SAMPLE	EUT CONFIGURATION INFORMATION
1	SKU ID:CT45-L1N-37D1E0G ,Assembled Scanner Imager: 7-S0703
2	SKU ID:CT45-L1N-38D1E0G ,Assembled Scanner Imager: 8 – N6803/S0803
3	SKU ID: CT45-L1N-38D1E0T , Assembled Scanner Imager: 8 – N6803/S0803 for Turkey Only
4	SKU ID: CT45-L1N-37D1E0T , Assembled with Scanner: 7-S0703 for Turkey Only

3. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.



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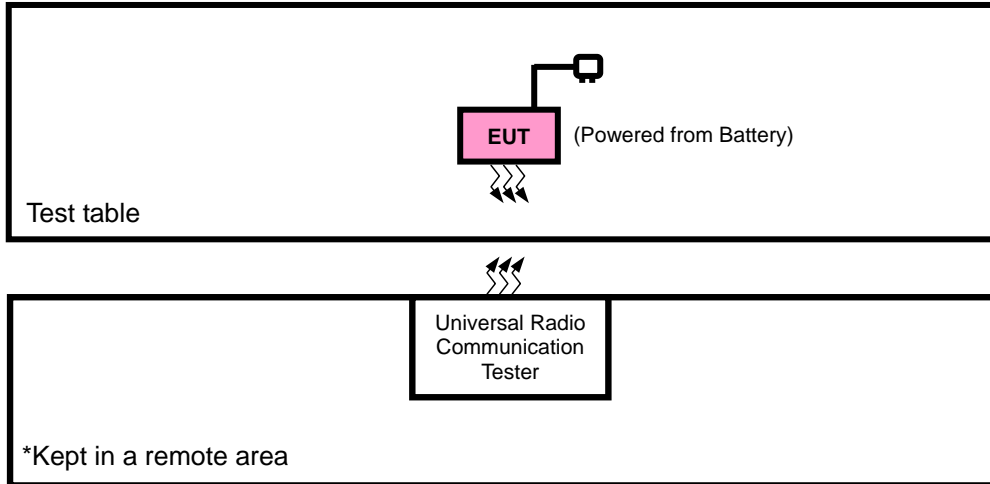
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List of Accessory:

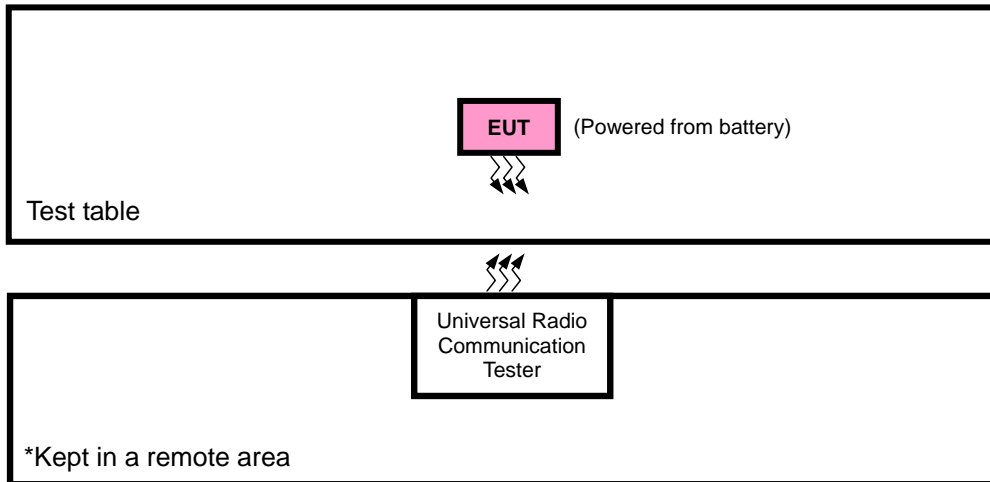
ACCESSORIES	BRAND	MODEL	SPECIFICATION
Battery	Honeywell	CT50-BTSC	Capacity : 3.85vdc 4020mAh
AC Adapter	HONOR	ADS-12B-06 05010E	I/P:100-240Vac, 0.3A O/P: 5Vdc, 2A
USB Cable	Honeywell	CT40-SN	Shielded, 1.25meter
Earphone	VIVO	N/A	Shielded, 1.27meter
LCD Panel	CASIL	CTM10801920T01	5.0" FHD(1928*1080)

2.2 CONFIGURATION OF SYSTEM UNDER TEST

FOR RADIATION EMISSION TEST



FOR CONDUCTED & E.R.P./E.I.R.P TEST





2.3 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	DC source	LONG WEI	PS-6403D	010934269	N/A

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	DC Line: Unshielded, Detachable 1.0m

2.4 DESCRIPTION OF TEST MODES

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, XYZ axis and antenna ports. The worst case in ERP/EIRP and radiated emission was found when positioned on X-plane for LTE. Following channel(s) was (were) selected for the final test as listed below:

EUT CONFIGURE MODE	DESCRIPTION
A	EUT + Adapter + USB Cable + with LTE link
B	EUT + Battery with LTE link

LTE BAND 26

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE		
B	ERP	26697 to 26783	26697, 26740, 26783	1.4MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset		
		26705 to 26775	26705, 26740, 26775	3MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset		
		26715 to 26765	26715, 26740, 26765	5MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset		
		26740	26740	10MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset		
B	FREQUENCY STABILITY	26697 to 26783	26697, 26783	1.4MHz	QPSK	1 RB / 0 RB Offset		
		26705 to 26775	26705, 26775	3MHz	QPSK	1 RB / 0 RB Offset		
		26715 to 26765	26715, 26765	5MHz	QPSK	1 RB / 0 RB Offset		
		26740	26740	10MHz	QPSK	1 RB / 0 RB Offset		
B	OCCUPIED BANDWIDTH	26697 to 26783	26697, 26740, 26783	1.4MHz	QPSK, 16QAM, 64QAM	6 RB / 0 RB Offset		
		26705 to 26775	26705, 26740, 26775	3MHz	QPSK, 16QAM, 64QAM	15 RB / 0 RB Offset		
		26715 to 26765	26715, 26740, 26765	5MHz	QPSK, 16QAM, 64QAM	25 RB / 0 RB Offset		
		26740	26740	10MHz	QPSK, 16QAM, 64QAM	50 RB / 0 RB Offset		
B	BAND EDGE	26697 to 26783	26697	1.4MHz	QPSK	1 RB / 0 RB Offset 6 RB / 0 RB Offset		
			26783	1.4MHz	QPSK	1 RB / 5 RB Offset 6 RB / 0 RB Offset		
		26705 to 26775	26705	3MHz	QPSK	1 RB / 0 RB Offset 15 RB / 0 RB Offset		
			26775	3MHz	QPSK	1 RB / 14 RB Offset 15 RB / 0 RB Offset		
		26715 to 26765	26715	5MHz	QPSK	1 RB / 0 RB Offset 25 RB / 0 RB Offset		
			26765	5MHz	QPSK	1 RB / 24 RB Offset 25 RB / 0 RB Offset		
		26740	26740	10MHz	QPSK	1 RB / 0 RB Offset 50 RB / 0 RB Offset		
			26740	10MHz	QPSK	1 RB / 49 RB Offset 50 RB / 0 RB Offset		
		B	CONDCUETED EMISSION	26697 to 26783	26697, 26740, 26783	1.4MHz	QPSK	1 RB / 0 RB Offset
				26705 to 26775	26705, 26740, 26775	3MHz	QPSK	1 RB / 0 RB Offset
				26715 to 26765	26715, 26740, 26765	5MHz	QPSK	1 RB / 0 RB Offset
				26740	26740	10MHz	QPSK	1 RB / 0 RB Offset
A	RADIATED EMISSION	26697 to 26783	26697, 26740, 26783	1.4MHz	QPSK	1 RB / 0 RB Offset		
		26705 to 26775	26740	3MHz	QPSK	1 RB / 0 RB Offset		
		26715 to 26765	26740	5MHz	QPSK	1 RB / 0 RB Offset		
		26740	26740	10MHz	QPSK	1 RB / 0 RB Offset		

Note: This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.



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TEST CONDITION:

TEST ITEM	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
EIRP(ERP)	24deg. C, 60%RH	DC 3.85V from Battery	Jace Hu
FREQUENCY STABILITY	24deg. C, 61%RH	DC 3.85V from Battery	Rain Wang
OCCUPIED BANDWIDTH	24deg. C, 61%RH	DC 3.85V from Battery	Rain Wang
BAND EDGE	24deg. C, 61%RH	DC 3.85V from Battery	Rain Wang
CONDCUDED EMISSION	24deg. C, 61%RH	DC 3.85V from Battery	Rain Wang
RADIATED EMISSION	23deg. C, 70%RH	DC 3.85V from Battery	Jace Hu

2.5 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC 47 CFR Part 2

FCC 47 CFR Part 90

ANSI/TIA/EIA-603-D

ANSI/TIA/EIA-603-E

ANSI C63.26-2015

NOTE: All test items have been performed and recorded as per the above standards.



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3 INFORMATION ON THE TESTING LABORATORIES

We, BV 7LAYERS COMMUNICATIONS TECHNOLOGY (SHENZHEN) CO. LTD., were founded in 2015 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

Shenzhen EMC/RF Lab:

Tel: +86-755-88696566

Fax: +86-755-88696577

Email: customerservice.sw@cn.bureauveritas.com

Web Site: www.adt.com.tw

The address and road map of all our labs can be found in our web site also.



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4 APPENDIX A – MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No modifications were made to the EUT by the lab during the test.

---END---