



Radio Frequency Exposure

Applicant : Ubiquiti Inc.

Address : 685 Third Avenue, New York, New York 10017, USA

Equipment : SuperLink Gateway

Model No. : USL-Gateway

Trade Name : UBIQUITI

FCC ID : SWX-UPSL

I HEREBY CERTIFY THAT :

The sample was received on Apr. 28, 2025 and the testing was completed on Jul. 29, 2025 at CerpPASS Technology Corp. The test result refers exclusively to the test presented test model / sample. Without written approval of CerpPASS Technology Corp., the test report shall not be reproduced except in full.

Approved by:

Mark Liao / Supervisor

Laboratory Accreditation:

CerpPASS Technology Corporation Test Laboratory





CONTENTS

1.	Summary of Test Procedure and Test Results	4
1.1.	Applicable Standards	4
2.	Test Configuration of Equipment under Test	5
2.1.	Feature of Equipment under Test.....	5
2.2.	General Information of Test.....	6
2.3.	Measurement Uncertainty	6
3.	Test Equipment and Ancillaries Used for Tests	7
4.	Radio Frequency Exposure	8
4.1.	Applicable Standards	8
4.2.	EUT Specification.....	9
4.3.	Test Result.....	9

**History of this test report**

Report No.	Issued Date	Description
24090195-TRFCC03	Dec. 02, 2024	Original
24090195-TRFCC03-A	Dec. 19, 2024	The supplied peripheral power supply is changed to peripheral.
25040656-TRFCC03	Jul. 29, 2025	1. Change Equipment Name. 2. Change Model No. 3. Add External Antenna. 4. Add DTS 500k.



1. Summary of Test Procedure and Test Results

1.1. Applicable Standards

FCC Rules and Regulations Part 2.1091

FCC Rule	Description of Test	Result
2.1091	Radio Frequency Exposure	PASS

*The lab has reduced the uncertainty risk factor from test equipment, environment and staff technicians which according to the standard on contract. Therefore, the test result will only be determined by standard requirement, measurement uncertainty evaluation is not considered.

*After engineering evaluation, the following item need to retest:

1. DTS 500k

2. BLE

Refer to original report for other test categories. Test report number:
24090195-TRFCC03-A



2. Test Configuration of Equipment under Test

2.1. Feature of Equipment under Test

Operation Frequency Range	BLE: 2400MHz-2483.5MHz LoRa: 915MHz – 928MHz
Center Frequency Range	BLE: 2402MHz-2480MHz FHSS LoRa: 915.2MHz ~ 927.8MHz DTS LoRa: 915.6MHz ~ 927.6MHz
Modulation Type	BLE: GFSK LoRa: GFSK
Modulation Technology	BLE: DTS LoRa: FHSS, DTS
Data Rate	BLE: 1Mbps
Antenna Type	Monopole Antenna (for original)
	Dipole Antenna (for added)
Antenna Gain	BLE: 3.0 dBi
	LoRa: 1.0 dBi (for original)
	BLE: 4.0 dBi LoRa: 7.0 dBi (for added)

Note:

1. LoRa: FHSS only support SF5 ~ SF12 / 125kHz.
2. LoRa: DTS only support SF5 ~ SF12 / 500kHz
3. LoRa worst case is SF5.
4. For more details, please refer to the User's manual of the EUT.



2.2. General Information of Test

Organization	CerpPASS Technology Corp.		
☒ Test Site	CerpPASS Technology Corporation Test Laboratory Address: No.10, Ln. 2, Lianfu St., Luzhu Dist., Taoyuan City 33848, Taiwan (R.O.C.) Tel: +886-3-3226-888 Fax: +886-3-3226-881		
	FCC	TW1439, TW1079	
	IC	4934E-1, 4934E-2	
Frequency Range Investigated	Conducted: from 150kHz to 30 MHz Radiation: from 9 kHz to 25,000MHz		
Test Distance	The test distance of radiated emission from antenna to EUT is 3 M.		

Test Item	Test Site	Test period	Environmental Conditions	Tested By
RF Conducted	RFCON01-NK	2025/05/29	24.1°C / 46%	Leon Huang
RF Conducted	RFCON01-NK	2025/06/02	25.1°C / 48%	Leon Huang
RF Conducted	RFCON01-NK	2025/07/05	25.9°C / 53%	Leon Huang
RF Conducted	RFCON01-NK	2025/07/09	24.1°C / 50%	Leon Huang
RF Conducted	RFCON01-NK	2025/07/23	25.3°C / 48%	Leon Huang
RF Conducted	RFCON01-NK	2025/07/29	25.5°C / 53%	Leon Huang

2.3. Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2))

Measurement Item	Uncertainty
AC Power Line Conduction(150K~30MHz)	±3.2dB
Radiated Spurious Emission(9KHz~30MHz)	±3.5dB
Radiated Spurious Emission(30MHz~1GHz)	±5.1dB
Radiated Spurious Emission(1GHz~40GHz)	±5.2dB
Conducted Spurious Emission	±2.1dB
6dB Bandwidth	±5.4%
20dB Bandwidth	±4.4%
Occupied Bandwidth	±4.5%
Peak Output Power(Conducted Power Meter)	±1.1dB
Dwell Time / Deactivation Time	±7.6%
Power Spectral Density	±2.0dB
Duty Cycle	±3.5%



3. Test Equipment and Ancillaries Used for Tests

For DTS 500k

Test Item	RF Conducted				
Test Site	RFCON01-NK				
Instrument	Manufacturer	Model No	Serial No	Calibration Date	Valid Date
Spectrum Analyzer	R&S	FSP 40	100047	2025/03/03	2026/03/02
Attenuator	KEYSIGHT	8491B	MY39250703	2025/02/12	2026/02/11
Cable-0.5m (30M-40G)	HUBER SUHNER	SUCOFLEX 102	28420/2	2024/10/24	2025/10/23
Power Meter	Anritsu	ML2495A	1224005	2025/02/12	2026/02/11
Power Sensor	Anritsu	MA2411B	1207295	2025/02/12	2026/02/11
Switch Box	Theda	1-4	TW5451159	NA	NA

For DTS 125k

Test Item	RF Conducted				
Test Site	RFCON01-NK				
Instrument	Manufacturer	Model No	Serial No	Calibration Date	Valid Date
Spectrum Analyzer	R&S	FSP 40	100047	2024/03/01	2025/02/28
Attenuator	KEYSIGHT	8491B	MY39250703	2024/02/20	2025/02/19
Cable-0.5m (1G-26.5G)	HUBER SUHNER	SUCOFLEX 102	28422/2	2024/05/13	2025/05/12
Power Meter	Anritsu	ML2495A	1224005	2024/02/17	2025/02/16
Power Sensor	Anritsu	MA2411B	1207295	2024/02/17	2025/02/16
Switch Box	Theda	1-4	TW5451159	NA	NA



4. Radio Frequency Exposure

4.1. Applicable Standards

□ §1.1307(b)(3)(i)(A)	The available maximum time-averaged power is no more than 1 mW, regardless of separation distance.																																																	
□ §1.1307(b)(3)(i)(c)	ERP is below a threshold calculated based on the distance , R between the person and the antenna / radiating structure, where $R > \lambda / 2 \pi$. TABLE B.1—THRESHOLDS FOR SINGLE RF SOURCES SUBJECT TO ROUTINE ENVIRONMENTAL EVALUATION <table><tr><th colspan="3">RF Source Frequency</th><th colspan="3">Minimum Distance</th><th>Threshold ERP</th></tr><tr><th>f_L MHz</th><th></th><th>f_H MHz</th><th>$\lambda_L / 2\pi$</th><th></th><th>$\lambda_H / 2\pi$</th><th>W</th></tr><tr><td>0.3</td><td>–</td><td>1.34</td><td>159 m</td><td>–</td><td>35.6 m</td><td>1,920 R²</td></tr><tr><td>1.34</td><td>–</td><td>30</td><td>35.6 m</td><td>–</td><td>1.6 m</td><td>3,450 R²/f^2</td></tr><tr><td>30</td><td>–</td><td>300</td><td>1.6 m</td><td>–</td><td>159 mm</td><td>3.83 R²</td></tr><tr><td>300</td><td>–</td><td>1,500</td><td>159 mm</td><td>–</td><td>31.8 mm</td><td>0.0128 R²f</td></tr><tr><td>1,500</td><td>–</td><td>100,000</td><td>31.8 mm</td><td>–</td><td>0.5 mm</td><td>19.2R²</td></tr></table> Subscripts L and H are low and high; λ is wavelength. From § 1.1307(b)(3)(i)(C), modified by adding Minimum Distance columns.	RF Source Frequency			Minimum Distance			Threshold ERP	f_L MHz		f_H MHz	$\lambda_L / 2\pi$		$\lambda_H / 2\pi$	W	0.3	–	1.34	159 m	–	35.6 m	1,920 R ²	1.34	–	30	35.6 m	–	1.6 m	3,450 R ² / f^2	30	–	300	1.6 m	–	159 mm	3.83 R ²	300	–	1,500	159 mm	–	31.8 mm	0.0128 R ² f	1,500	–	100,000	31.8 mm	–	0.5 mm	19.2R ²
RF Source Frequency			Minimum Distance			Threshold ERP																																												
f_L MHz		f_H MHz	$\lambda_L / 2\pi$		$\lambda_H / 2\pi$	W																																												
0.3	–	1.34	159 m	–	35.6 m	1,920 R ²																																												
1.34	–	30	35.6 m	–	1.6 m	3,450 R ² / f^2																																												
30	–	300	1.6 m	–	159 mm	3.83 R ²																																												
300	–	1,500	159 mm	–	31.8 mm	0.0128 R ² f																																												
1,500	–	100,000	31.8 mm	–	0.5 mm	19.2R ²																																												
☒ § 1.1307(b)(3)(i)(B).	Device operates between 300 MHz and 6 GHz and the maximum time-averaged power or effective radiated power (ERP), whichever is greater, $\leq P_{th}$ $P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases}$ Where $x = -\log_{10} \left(\frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right) \text{ and } f \text{ is in GHz;}$ and $ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases}$ d = the separation distance (cm);																																																	



4.2. EUT Specification

Frequency band (Operating)	☐ WLAN: 2412MHz ~ 2462MHz ☐ WLAN: 5150MHz ~ 5250MHz ☐ WLAN: 5250MHz ~ 5350MHz ☐ WLAN: 5470MHz ~ 5725MHz ☐ WLAN: 5725MHz ~ 5850MHz ☒ Bluetooth: 2402MHz ~ 2480MHz ☒ FHSS LoRa: 915.2MHz ~ 927.8MHz ☒ DTS LoRa: 915.6MHz ~ 927.6MHz
Device category	☐ Portable (<20cm separation) ☒ Mobile (>20cm separation)
Antenna diversity	☒ Single antenna ☐ Multiple antennas ☐ Tx diversity ☐ Rx diversity ☐ Tx/Rx diversity
Evaluation applied	☐ Blanket 1 mW Blanket Exemption ☐ MPE-based Exemption ☒ SAR-based Exemption
Remark: The maximum conducted output power is <u>26.86dBm (485.289mW) at 927.6MHz (with 7.00dBi antenna gain.)</u>	

4.3. Test Result

For 24090195

BLE						
Channel Frequency (MHz)	Max. Conducted output power (dBm)	Max. Tune up power (dBm)	Antenna Gain(dBi)	Max.Tune up e.r.p. Power (dBm)	Max. Tune up e.r.p power (mW)	Limit (mW)
2402-2480	18.90	19.40	3.00	20.25	105.93	3060

LoRa: 125k						
Channel Frequency (MHz)	Max. Conducted output power (dBm)	Max. Tune up power (dBm)	Antenna Gain(dBi)	Max.Tune up e.r.p. Power (dBm)	Max. Tune up e.r.p power (mW)	Limit (mW)
915.2	25.87	26.37	1.00	25.22	332.66	1867.01
921.6	26.91	27.41	1.00	26.26	422.67	1880.06
927.8	25.93	26.43	1.00	25.28	337.29	1892.71



For 25040656

BLE						
Channel Frequency (MHz)	Max. Conducted output power (dBm)	Max. Tune up power (dBm)	Antenna Gain(dBi)	Max.Tune up e.r.p. Power (dBm)	Max. Tune up e.r.p power (mW)	Limit (mW)
2402-2480	18.87	19.37	4.00	21.22	132.43	3060

LoRa: 125k						
Channel Frequency (MHz)	Max. Conducted output power (dBm)	Max. Tune up power (dBm)	Antenna Gain(dBi)	Max.Tune up e.r.p. Power (dBm)	Max. Tune up e.r.p power (mW)	Limit (mW)
915.2	25.87	26.37	7	31.22	1324.34	1867.01
921.6	26.91	27.41	7	32.26	1682.67	1880.06
927.8	25.93	26.43	7	31.28	1342.76	1892.71

LoRa: 500k, ANT Gain: 1.0 dBi						
Channel Frequency (MHz)	Max. Conducted output power (dBm)	Max. Tune up power (dBm)	Antenna Gain(dBi)	Max.Tune up e.r.p. Power (dBm)	Max. Tune up e.r.p power (mW)	Limit (mW)
915.6-927.6	26.86	27.36	1.00	26.21	417.83	1867.82

LoRa: 500k, ANT Gain: 7.0 dBi						
Channel Frequency (MHz)	Max. Conducted output power (dBm)	Max. Tune up power (dBm)	Antenna Gain(dBi)	Max.Tune up e.r.p. Power (dBm)	Max. Tune up e.r.p power (mW)	Limit (mW)
915.6-927.6	26.86	27.36	7.00	32.21	1663.41	1867.82

No non-compliance noted.

-----THE END OF REPORT-----