



RF Exposure Evaluation Declaration

FCC ID: 2AI9TOAW-AP156X
Applicant: ALE USA Inc.
Product: OmniAccess Stellar
Model No.: OAW-AP1561
Brand Name: Alcatel-Lucent Enterprise
FCC Rule Part(s): FCC Part 2.1091
Result: Complies
Evaluation Date: 2025-11-07

Reviewed By:

Vincent Yu

Vincent Yu

Approved By:

Robin Wu

Robin Wu



The test results relate only to the samples tested.

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report. Testing was performed in accordance with the applicable measurement procedures. The test results reported herein apply only to the specific item(s) tested.

The test report shall not be reproduced except in full without the written approval of MRT Technology (Suzhou) Co., Ltd.

Revision History

Report No.	Version	Description	Issue Date	Note
R25S1065098-U401	V01	Initial Report	2025-12-26	Valid

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1. General Information

1.1. Applicant

ALE USA Inc.
2000 Corporate Center Drive
Thousand Oaks, CA 91320

1.2. Manufacturer

ALE USA Inc.
2000 Corporate Center Drive
Thousand Oaks, CA 91320

1.3. Testing Facility

☒	Test Site - MRT Suzhou Laboratory	
	Laboratory Location (Suzhou - Wuzhong) D8 Building, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China	
	Laboratory Location (Suzhou - SIP) 4b Building, Liando U Valley, No.200 Xingpu Rd., Shengpu Town, Suzhou Industrial Park, China	
	Laboratory Location (Suzhou - Wujiang) Building 1, No.1 Xingdong Road, Wujiang, Suzhou, Jiangsu, People's Republic of China	
	Laboratory Accreditations	
	A2LA: 3628.01 FCC: CN1166	CNAS: L10551 ISED: CN0001
☐	Test Site - MRT Shenzhen Laboratory	
	Laboratory Location (Shenzhen) 1G, Building A, Junxiangda Building, Zhongshanyuan Road West, Nanshan District, Shenzhen, China	
	Laboratory Accreditations	
	A2LA: 3628.02 FCC: CN1284	CNAS: L10551 ISED: CN0105
☐	Test Site - MRT Taiwan Laboratory	
	Laboratory Location (Taiwan) No. 38, Fuxing 2nd Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)	
	Laboratory Accreditations	
	TAF: 3261 FCC: 291082, TW3261	ISED: TW3261

1.4. Product Information

Product Name	OmniAccess Stellar
Model No.	OAW-AP1561
Brand Name	Alcatel-Lucent Enterprise
Wi-Fi Specification	802.11a/b/g/n/ac/ax/be
GNSS Specification	BDS, Galileo, GLONASS, GPS, SBAS
Antenna Specification	Refer to clause 1.5
Operating Temp.	-40 ~ 70 °C
Power Supply	PoE Input
Accessory(ies)	
PoE #1	Model: POE60U-1BT-X (ALE P/N: POE60U-1BT-X-R) Input: 100-240 V ~ 1.5 A, 50-60 Hz Output: 56 V=0.535 A, 30 W PIN 3, 6+ PIN 1, 2 Return Output: 56 V=0.535 A, 30 W PIN 4, 5+ PIN 7, 8 Return
PoE #2	Model: POE075U-1BT Input: 100-240 V ~ 2.0 A, 50-60 Hz POE Output 1: 56 V=0.8 A, 45 W PIN 3, 6 - +56 V PIN 1, 2 - RETURN POE Output 2: 56 V=0.8 A, 45 W PIN 4, 5 - +56 V PIN 7, 8 - RETURN
Notes: 1. The information of the EUT (Equipment Under Test) was provided by the manufacturer. The accuracy, completeness, and validity of the information are solely the responsibility of the manufacturer. 2. PoE Injector are not marketed in conjunction with the device.	

1.5. Antenna Details

Antenna Type	Frequency (MHz)	TX Paths	Max. Directional Gain (dBi)		Antenna Gain above 30 degrees from the horizon (dBi)	
			Correlated	Uncorrelated	Correlated	Uncorrelated
Wi-Fi Antenna						
Dipole	2412 ~ 2462	2	6.77	6.77	--	--
	5150 ~ 5250	2	7.11	7.11	0.76	0.76
	5250 ~ 5350	2	7.26	7.26	--	--
	5470 ~ 5725	2	7.44/7.77	7.44/7.77	--	--
	5725 ~ 5850	2	7.17/7.71	7.17/7.71	--	--
Dipole	5925 ~ 6425	2	7.75	7.75	-2.51	-2.51
	6525 ~ 6875	2	6.70	6.70	-1.45	-1.45

Notes:

1. The EUT supports Cyclic Delay Diversity (CDD) mode, and CDD signals are correlated.
2. The EUT also supports Beam Forming mode, and the Beam Forming support 802.11n/ac/ax/be, not include 802.11a/b/g.
3. For beamforming operation, the software automatically backs power down based on CDD power.
4. The detail calculation method of directional gain refers to antenna report provided by the applicant.
5. Uncorrelated Directional Gain is for EIRP calculation, and Correlated Directional Gain is for PSD calculation.
6. For WLAN Config 2, Correlated Gain and Uncorrelated Gain of Frequency 5470 ~ 5725 MHz is 7.77 dBi, Correlated Gain and Uncorrelated Gain of Frequency 5725 ~ 5850 MHz is 7.71 dBi.

1.6. WLAN Configuration

Model No.	WLAN Antenna Port	WLAN Config 1 - Supporting Band	WLAN Config 2 - Supporting Band
OAW-AP1561	5GHz 2TX Port	5G Full Band: U-NII-1 (5150-5250 MHz) U-NII-2A (5250-5350 MHz) U-NII-2C (5470-5725 MHz) U-NII-3 (5725-5850 MHz)	5GL Band: U-NII-1 (5150-5250 MHz) U-NII-2A (5250-5350 MHz)
	2GHz 2TX Port	2412 to 2462 MHz	2412 to 2462 MHz
	6GHz 2TX Port	U-NII-5 (5925-6425 MHz) U-NII-7 (6525-6875 MHz)	5GH Band: U-NII-2C (5470-5725 MHz) U-NII-3 (5725-5850 MHz)

Note: WLAN Config 1 and WLAN Config 2 only differ in the software settings and there are no changes in the hardware.

1.7. Device Classification

According to the user manual, this device is classified as a Mobile Device. So, the RF exposure evaluation requirements of § 2.1091 for mobile device exposure conditions subject to MPE limits.

1.8. Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- FCC Part 2.1091
- KDB 447498 D04 Interim General RF Exposure Guidance v01

2. RF Exposure Evaluation

2.1. Limits

According to FCC §1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in §1.1307(b)

Limits For Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Average Time (Minutes)
(A) Limits for Occupational/ Control Exposures				
0.3 ~ 3.0	614	1.63	*(100)	≤6
3.0 ~ 30	1842/f	4.89/f	*(900/f ²)	<6
30 ~ 300	61.4	0.163	1.0	<6
300 ~ 1500	--	--	f/300	<6
1500 ~ 100000	--	--	5	<6
(B) Limits for General Population/ Uncontrolled Exposures				
0.3 ~ 1.34	614	1.63	*(100)	<30
1.34 ~ 30	824/f	2.19/f	*(180/f ²)	<30
30 ~ 300	27.5	0.073	0.2	<30
300 ~ 1500	--	--	f/1500	<30
1500 ~ 100000	--	--	1.0	<30

f= frequency in MHz. * = Plane-wave equivalent power density.

2.2. MPE Exemptions

For single RF sources (i.e., any single fixed RF source, mobile device, or portable device, as defined in paragraph §1.1307(b)(2) of this section): A single RF source is exempt if:

(Option A) The available maximum time-averaged power is no more than 1 mW, regardless of separation distance. This exemption may not be used in conjunction with other exemption criteria other than those in paragraph §1.1307(b)(3)(ii)(A) of this section.

Medical implant devices may only use this exemption and that in paragraph §1.1307(b)(3)(ii)(A);

(Option B) Or the available maximum time-averaged power or effective radiated power (ERP), whichever is greater, is less than or equal to the threshold P (mW) described in the following formula. This method shall only be used at separation distances (cm) from 0.5 centimeters to 40 centimeters and at frequencies from 0.3 GHz to 6 GHz (inclusive). P is given by:

$$P_{th}(mW) = \{ERP_{20cm}(d/20 \text{ cm})^x \quad d \leq 20 \text{ cm}$$

$$P_{th}(mW) = \{ERP_{20cm} \quad 20 \text{ cm} < d \leq 40 \text{ cm}$$

Where

$$x = -\log_{10} \left(\frac{60}{ERP_{20cm}\sqrt{f}} \right) \text{ and } f \text{ is in GHz;}$$

and

$$ERP_{20cm}(mW) = \{2040f \quad 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz}$$

$$ERP_{20cm}(mW) = \{3060 \quad 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz}$$

(Option C) Or using Table 1 and the minimum separation distance (R in meters) from the body of a nearby person for the frequency (f in MHz) at which the source operates, the ERP (watts) is no more than the calculated value prescribed for that frequency. For the exemption in Table 1 to apply, R must be at least $\lambda/2\pi$, where λ is the free-space operating wavelength in meters. If the ERP of a single RF source is not easily obtained, then the available maximum time-averaged power may be used in lieu of ERP if the physical dimensions of the radiating structure(s) do not exceed the electrical length of $\lambda/4$ or if the antenna gain is less than that of a half-wave dipole (1.64 linear value).

Table 1 to §1.1307(b)(3)(i)(C) - Single RF Sources Subject to Routine Environmental Evaluation

RF Source Frequency (MHz)	Threshold ERP (watts)
0.3 ~ 1.34	1920R ²
1.34 ~ 30	3450R ² /f ²
30 ~ 300	3.83R ²
300 ~ 1500	0.0128R ² f
1500 ~ 100000	19.2R ²

For multiple RF sources: Multiple RF sources are exempt if:

(A) The available maximum time-averaged power of each source is no more than 1 mW and there is a separation distance of two centimeters between any portion of a radiating structure operating and the nearest portion of any other radiating structure in the same device, except if the sum of multiple sources is less than 1 mW during the time-averaging period, in which case they may be treated as a single source (separation is not required). This exemption may not be used in conjunction with other exemption criteria other than those in paragraph §1.1307(b)(3)(i)(A) of this section. Medical implant devices may only use this exemption and that in paragraph §1.1307(b)(3)(i)(A).

(B) in the case of fixed RF sources operating in the same time-averaging period, or of multiple mobile or portable RF sources within a device operating in the same time averaging period, if the sum of the fractional contributions to the applicable thresholds is less than or equal to 1 as indicated in the following equation.

$$\sum_{i=1}^a \frac{P_i}{P_{th,i}} + \sum_{j=1}^b \frac{ERP_j}{ERP_{th,j}} + \sum_{k=1}^c \frac{Evaluated_k}{Exposure\ Limit_k} \leq 1$$

Where:

a = number of fixed, mobile, or portable RF sources claiming exemption using paragraph §1.1307(b)(3)(i)(B) of this section for P_{th} , including existing exempt transmitters and those being added.

b = number of fixed, mobile, or portable RF sources claiming exemption using paragraph §1.1307(b)(3)(i)(C) of this section for Threshold ERP, including existing exempt transmitters and those being added.

c = number of existing fixed, mobile, or portable RF sources with known evaluation for the specified minimum distance including existing evaluated transmitters.

P_i = the available maximum time-averaged power or the ERP, whichever is greater, for fixed, mobile, or portable RF source i at a distance between 0.5 cm and 40 cm (inclusive).

$P_{th,i}$ = the exemption threshold power (P_{th}) according to paragraph §1.1307(b)(3)(i)(B) of this section for fixed, mobile, or portable RF source i .

ERP_j = the ERP of fixed, mobile, or portable RF source j .

$ERP_{th,j}$ = exemption threshold ERP for fixed, mobile, or portable RF source j , at a distance of at least $\lambda/2\pi$ according to the applicable formula of paragraph §1.1307(b)(3)(i)(C) of this section.

$Evaluated_k$ = the maximum reported SAR or MPE of fixed, mobile, or portable RF source k either in the device or at the transmitter site from an existing evaluation at the location of exposure.

$Exposure Limit_k$ = either the general population/uncontrolled maximum permissible exposure (MPE) or specific absorption rate (SAR) limit for each fixed, mobile, or portable RF source k , as applicable from §1.1310 of this chapter.

2.3. Calculated Result

Product	OmniAccess Stellar (OAW-AP1561)
Test Item	RF Exposure Evaluation

Test Mode	Frequency Band (MHz)	Tune-up Conducted Power (dBm)	Antenna Gain (dBi)	Tune-up ERP (dBm)	Tune-up ERP (mW)
2.4 GHz	2400 ~ 2483.5	24.98	6.77	29.60	912.0108
5 GHz Full Band	5150 ~ 5850	22.30	7.44	27.59	574.1165
5G Low Band	5150 ~ 5350	22.28	7.44	27.57	571.4786
5G High Band	5470 ~ 5850	22.85	7.77	28.47	703.0723
6 GHz	5925 ~ 6425 6525 ~ 6875	22.83	7.75	28.43	696.6265

Notes:

1. The Tune-up Power is referenced from MRT original report No. R25S1065098-U201 & U202 & U204.
2. Tune-up ERP (dBm) = Tune up Conducted Power (dBm) + Antenna Gain (dBi) - 2.15.

For 2.4G Wi-Fi/5G Wi-Fi Antenna, Option B

Test Mode	Frequency Band (MHz)	R (m)	Tune-up ERP (mW)	Thresholds ERP (mW)
2.4 GHz	2400 ~ 2483.5	0.27	912.0108	3060.0
5 GHz Full Band	5150 ~ 5850	0.27	574.1165	3060.0
5GHz Low Band	5150 ~ 5350	0.27	571.4786	3060.0
5GHz High Band	5470 ~ 5850	0.27	703.0723	3060.0

Note: The distance R used in the MPE calculation is specified in the user manual.

For 6G Wi-Fi Antenna, Option C

Test Mode	Frequency Band (MHz)	$\lambda / 2 \pi$ (m)	R (m)	Tune-up ERP (mW)	Threshold ERP (mW)
6 GHz	5925 ~ 6425 6525 ~ 6875	0.04	0.27	696.6265	1399.7

Note: The distance R used in the MPE calculation is specified in the user manual.

For multiple RF sources

WLAN Configuration	Support Band	Tune-up ERP (mW)	Threshold ERP (mW)	Ratio
WLAN Config 1	2.4 GHz	912.0108	3060.0	0.2980
	5 GHz Full Band	574.1165	3060.0	0.1876
	6 GHz	696.6265	1399.7	0.4977
WLAN Config 2	2.4 GHz	912.0108	3060.0	0.2980
	5GHz Low Band	571.4786	3060.0	0.1868
	5GHz High Band	703.0723	3060.0	0.2298

Note:

For WLAN Config 1: Wi-Fi 2.4GHz, 5G Full Band, 6GHz and can transmit simultaneously.

So the Simultaneous Transmission ratio = $912.0108 / 3060 + 574.1165 / 3060 + 696.6265 / 1399.7 = 0.9833$

For WLAN Config 2: Wi-Fi 2.4GHz, 5G Low Band, 5GHz High Band can transmit simultaneously.

the Simultaneous Transmission ratio = $912.0108 / 3060 + 571.4786 / 3060 + 703.0723 / 3060 = 0.7146$

So the Max Simultaneous Transmission ratio = $0.9833 < 1$

CONCLUSION:

The device qualifies for RF exposure test exemption at 27 cm distance.

The End